

City Council

Agenda

November 18, 2025

Council Chambers

749 Main Street

5:30 PM

Members of the public are welcome to attend and give comments remotely; however, the in-person meeting may continue even if technology issues prevent remote participation.

- You can call in to **+1 719 359 4580 or 877 853 5247 (toll free)**
Webinar ID **#876 9127 0986**.
- You can log in via your computer. Please visit the City's website [here](http://www.louisvilleco.gov/council) to link to the meeting: www.louisvilleco.gov/council

The Council will accommodate public comments during the meeting. Anyone may also email comments to the Council prior to the meeting at Council@LouisvilleCO.gov.

1. CALL TO ORDER & ROLL CALL

2. PLEDGE OF ALLEGIANCE

3. OATH OF OFFICE

- **JOSH COOPERMAN – WARD 1**
- **JUDI KERN – WARD 2**
- **DIETRICH HOEFNER – WARD 3**

4. EXECUTIVE SESSION – REAL PROPERTY ACQUISITIONS AND DISPOSITIONS

(Louisville Charter Section 5-2(c) and C.R.S. 24-6-402(4)(a))

The City Manager is Requesting the City Council Convene an Executive Session for the Purpose of Real Property Acquisitions and Dispositions Concerning Properties in Louisville Only as to Appraisals and Other Value Estimates and Strategy

- **Request for Executive Session**
- **City Clerk Statement**
- **City Attorney Statement of Authority**

City of Louisville

City Council 749 Main Street Louisville CO 80027
303.335.4574 (phone) www.LouisvilleCO.gov

- **City Council Action on Motion for Executive Session**
- **Council Convenes Executive Session**
- **Council Reconvenes in Open Meeting**

5. REPORT – DISCUSSION / DIRECTION / ACTION

***THE FOLLOWING MEETING ITEMS WILL START
NO EARLIER THAN 6 PM***

6. APPROVAL OF AGENDA

**7. PUBLIC COMMENTS ON ITEMS NOT ON THE AGENDA AND
ITEMS ON THE CONSENT AGENDA**

Public comments are limited to 3 minutes per speaker. When several people wish to speak on the same position on a given item, Council requests they select a spokesperson to state that position.

8. CONSENT AGENDA

The following items on the City Council Agenda are considered routine by the City Manager and shall be approved, adopted, accepted, etc., by motion of the City Council and voice vote unless the Mayor or a City Council person specifically requests an item be considered under "Regular Business." In such an event the item shall be removed from the "Consent Agenda" and Council action taken separately on said item in the order appearing on the Agenda. Those items so approved under the heading "Consent Agenda" will appear in the Council Minutes in their proper order.

- A.** Approval of Minutes: May 20, 2025; May 27, 2025; June 3, 2025; June 17, 2025; November 3, 2025
- B.** Resolution No. 93, Series 2025 – A Resolution Approving the 2025 Annual Contingency / Emergency Reserve Fund for the Historic Preservation Fund
- C.** Resolution No. 94, Series 2025 – A Resolution Approving an Intergovernmental Agreement Between the City of Louisville and the City and County of Broomfield for Leases of Fully Consumable Water to Each Other
- D.** Resolution No. 95, Series 2025 – A Resolution Approving a Construction Contract with Inliner Solutions, LLC
- E.** Resolution No. 96, Series 2025 – A Resolution Approving an Assignment of Purchase Contract to Buy and Sell Real Estate for 1016 Main Street
- F.** Council Committee Board and Commission Appointment Recommendations

**9. COUNCIL INFORMATIONAL COMMENTS AND COMMITTEE
REPORTS**

10. CITY MANAGER'S REPORT

11. REGULAR BUSINESS

A. RESOLUTION NO. 97, SERIES 2025 – A RESOLUTION DESIGNATING THE RESIDENCE LOCATED AT 1016 MAIN STREET A HISTORIC LANDMARK

- Mayor Opens the Public Hearing
- Staff Presentation
- Council Questions
- Public Comments (Please limit to three minutes each)
- Council Discussion
- Mayor Closes the Public Hearing
- Action

B. ORDINANCE NO. 1910, SERIES 2025 – AN ORDINANCE APPROVING A REZONING OF A PORTION OF THE CALEDONIA PLACE SUBDIVISION PLAT FROM COMMERCIAL COMMUNITY (C-C) AND RESIDENTIAL MEDIUM DENSITY (R-M) TO MIXED-USE RESIDENTIAL (MU-R) AND APPROVING AN AMENDMENT TO EXHIBIT A, LAND USE PLAN EXHIBIT, REFERENCED IN LOUISVILLE MUNICIPAL CODE CHAPTER 17.14 – MIXED USE ZONE DISTRICTS – 1ST READING, SET PUBLIC HEARING

- Introduction
- Staff Presentation
- Action

C. ORDINANCE NO. 1906, SERIES 2025 – AN ORDINANCE APPROVING THE 1ST AMENDMENT TO THE NORTH LOUISVILLE GENERAL DEVELOPMENT PLAN AT 2101 COURTESY ROAD – 2ND READING, PUBLIC HEARING (advertised City of Louisville website 10/08/25)

- Mayor Opens the Public Hearing
- Staff Presentation
- Public Comments (Please limit to three minutes each)
- Council Questions
- Public Comments (Please limit to three minutes each)
- Council Discussion
- Mayor Closes the Public Hearing
- Action

12. CITY ATTORNEY'S REPORT

13. UPCOMING AGENDA ITEMS AND IDENTIFICATION OF FUTURE AGENDA ITEMS

14. ADJOURN

**UPCOMING AGENDA ITEMS
12/02/2025 MEETING**

This list is not inclusive; items are subject to change; additional items may be added.

- PUD Application Redtail Ridge Lift Station
- 801 Grant (Center for the Arts) PUD Amendment
- Trestle Strategy Group Discussion – Affordable Housing Prioritization
- Boulder Office of Disaster Management IGA
- Approval of Extension of Utility Billing Contract
- Water Meter Replacement and AMI Project
- Award Access Control Contract
- Award Middle Mile Fiber Contract
- Emergency Operations Plan Approval
- Changes to Approved Signers for City Banking
- AVID Lease
- Kelly PC Contract Extension
- LRC Façade Improvement Program Agreement

Resident Information

If you wish to speak at the City Council meeting in person, please fill out a sign-up card and present it to the City Clerk at the meeting. If you are attending remotely, please use the “raise hand” icon to show you wish to speak in public comments.

Persons planning to attend the meeting who need sign language interpretation, translation services, assisted listening systems, Braille, taped material, or special transportation, should contact the City Clerk's Office (303.335.4574) or ClerksOffice@LouisvilleCO.gov. A forty-eight-hour notice is requested.

Si requiere una copia en español de esta publicación o necesita un intérprete durante la reunión del Consejo, por favor llame a la Ciudad al 303.335.4574 o email ClerksOffice@LouisvilleCO.gov.

City Council Meeting Minutes

**Tuesday, May 20, 2025
City Hall, Council Chambers
749 Main Street
6:00 PM**

Mayor Leh called the meeting to order at 6:00 p.m. Roll Call was taken, and the following members were present:

City Council: ***Mayor Chris Leh
Mayor Pro Tem Caleb Dickinson – Arrived at 6:05pm
Councilmember Josh Cooperman
Councilmember Deborah Fahey
Councilmember Barbara Hamlington
Councilmember Dietrich Hoefner
Councilmember Judi Kern***

Staff Present: ***Diana Langley, City Manager
Samma Fox, Deputy City Manager
Rob Zuccaro, Community Development Director
Matt Post, Senior Planner
Jeff Hirt, Planning Manager
Genny Kline, Interim City Clerk***

APPROVAL OF AGENDA (00:02:29)

Councilmember Hoefner moved to approve the agenda; seconded by Councilmember Kern.

Aye: Leh, Fahey, Cooperman, Hoefner, Kern, Hamlington

Nay: None

Absent: Dickinson

PUBLIC COMMENT ON ITEMS NOT ON THE AGENDA AND ITEMS ON THE CONSENT AGENDA (00:02:41)

- Sarah Staunton – Fire Station Block Party
- Nancy Kerr Armstrong – Cost of fire-hardening materials
- Dylan Roof – European Heritage Month

City of Louisville

***City Council 749 Main Street Louisville CO 80027
303.335.4536 (phone) www.LouisvilleCO.gov***

APPROVAL OF THE CONSENT AGENDA (00:12:26)

A. Resolution No. 29, Series 2025 – A Resolution Approving the HOME Consortium Intergovernmental Agreement

Councilmember Fahey moved to approve the consent agenda; seconded by Councilmember Kern.

Aye: Leh, Dickinson, Cooperman, Fahey, Hamlington, Hoefner, Kern

Nay: None

Absent: None

COUNCIL INFORMATIONAL COMMENTS AND COMMITTEE REPORTS (00:12:42)

None

CITY MANAGER'S REPORT (00:12:58)

City Manager Langley reported on the following: the City is seeking feedback on design and construction standards; Afternoon with Las Dahlias; Museum hosted Association of Northern Range Museums, which staff provided training on collections.

REGULAR BUSINESS

SWEARING IN OF LOUISVILLE PET MAYOR – HAZEL THE CAT (00:13:48)

Mayor Leh swore in Pet Mayor – Hazel the Cat

PRIDE MONTH PROCLAMATION (00:18:37)

Mayor Pro Tem Dickinson read and moved to approve the proclamation; seconded by Councilmember Kern.

Aye: Leh, Dickinson, Cooperman, Fahey, Hamlington, Hoefner, Kern

Nay: None

Absent: None

MEMORIAL DAY PROCLAMATION (00:22:39)

Mayor Leh read and moved to approve the proclamation; seconded by Councilmember Kern.

Aye: Leh, Dickinson, Cooperman, Fahey, Hamlington, Hoefner, Kern
Nay: None
Absent: None

NATIONAL GUN VIOLENCE AWARENESS DAY (00:24:45)

Councilmember Cooperman read and moved to approve the proclamation; seconded by Councilmember Kern.

Aye: Leh, Dickinson, Cooperman, Fahey, Hamlington, Hoefner, Kern
Nay: None
Absent: None

BUDGET AMENDMENT (00:27:19)

RESOLUTION NO. 30, SERIES 2025 – A RESOLUTION AMENDING THE 2025 BUDGET BY AMENDING APPROPRIATIONS IN THE GENERAL FUND, CONSERVATION TRUST-LOTTERY FUND, HISTORIC PRESERVATION FUND, RECREATION FUND, OPEN SPACE FUND, PARKS FUND, CAPITAL PROJECTS FUND, IMPACT FEE FUND, WATER UTILITY FUND, WASTEWATER UTILITY FUND, STORM WATER UTILITY FUND, SOLID WASTE & RECYCLING UTILITY FUND, TECHNOLOGY MANAGEMENT FUND, AND FLEET MANAGEMENT FUND FOR CARRY FORWARD OF APPROPRIATIONS AND ADDITIONAL APPROPRIATIONS WITHIN SUCH FUNDS AND ADJUSTING BUDGETED REVENUE IN THE GENERAL FUND, CAPITAL PROJECTS FUND, WASTEWATER UTILITY FUND, SOLID WASTE & RECYCLING UTILITY FUND AND GOLF COURSE FUND

RESOLUTION NO. 31, SERIES 2025 – A RESOLUTION AMENDING THE 2025 BUDGET BY AMENDING APPROPRIATIONS AND ADJUSTING BUDGETED REVENUE IN THE LOUISVILLE REVITALIZATION COMMISSION)

Mayor Leh introduced the items and opened the public hearing.

Finance Director Bailey presented the staff report.

Public Comment – None

Council Comments

Mayor Leh closed the public hearing.

Councilmember Hoefner moved to approve Resolution 30, Series 2025; seconded by Councilmember Kern.

Aye: Leh, Dickinson, Cooperman, Fahey, Hamlington, Hoefner, Kern

Nay: None

Absent: None

Councilmember Hoefner moved to approve Resolution 31, Series 2025; seconded by Councilmember Fahey.

Aye: Leh, Dickinson, Cooperman, Fahey, Hamlington, Hoefner, Kern

Nay: None

Absent: None

DISCUSSION / DIRECTION – ACCESSORY DWELLING UNIT TAP FEES (00:40:29)

Mayor Leh introduced the item.

City Manager Langley presented the staff report.

Public Comment

- Nancy Kerr Armstrong
- Peter Stewart

Council Questions and Comments

Council directed staff to proceed with the recommended option two: adopt an Urban Style Single Family Residential Tap Fee that considers a service line as a whole parcel or lot and allows for $\frac{3}{4}$ of 1" size service line servicing a primary residence and one accessory dwelling unit.

ORDINANCE NO. 1892, SERIES 2025 – AN ORDINANCE AMENDING TITLE 17 AND TITLE 13 OF THE LOUISVILLE MUNICIPAL CODE CONCERNING THE REGULATION OF ACCESSORY DWELLING UNITS IN THE CITY OF LOUISVILLE – 2ND READING PUBLIC HEARING – CONTINUED FROM 4/15/2025 (advertised City of Louisville website 03/21/2025) (01:05:03)

Mayor Leh reminded attendees that the public hearing remains open, as the item was continued from the April 15 Council Meeting.

Planning Manager Hirt provided a recap of the presentation.

Public Comment

- Michael Perkins

Council Questions and Discussion

Public Comment

- Nancy Armstrong
- Michael Perkins

Council Comment

Mayor Leh closed the public hearing.

Councilmember Kern moved to approve Ordinance 1892, Series 2025, with the amendment not to limit or distinguish between the lowest level, partial subterranean level of a home with walkout or not; seconded by Councilmember Fahey.

Council discussed the language regarding the motion for the proposed ordinance.

City Attorney Kelly provided direction regarding the motion on the floor; and offered proposed language for the motion.

Council continued their discussion regarding the proposed language of the ordinance.

Mayor Pro Tem Dickinson moved to end the debate; seconded by Councilmember Kern.

City Attorney Kelly proceeded to read the previously provided language for the motion: Subsection D - attached accessory dwelling units located in basements that are partially or fully below grade shall not count toward the maximum size limitations in this Subsection 3.

Aye: Leh, Dickinson, Fahey, Cooperman, Hoefner, Kern, Hamlington

Nay: None

Absent: None

Council recessed briefly.

RESOLUTION NO. 32, SERIES 2025 – A RESOLUTION APPROVING A PLANNED UNIT DEVELOPMENT AMENDMENT AND DEVELOPMENT AGREEMENT TO ALLOW A GROCERY STORE AND GASOLINE SERVICE STATION USE AT 1171 W. DILLON ROAD (02:10:51)

Mayor Leh introduced the item and opened the public hearing.

Senior Planner Post presented the staff report.

Dan Kraus, Galloway and Company, presented the applicant report.

Public Comment

- Jessi Deleplain
- Julie Avirett
- Josh Mitchell

Council Questions and Discussion

Traffic Study questions answered by Brian Horan with Galloway and Company; Brian Young, architect; and Karl Schmidtlein with Galloway; and Jeff Sheets with Cobalt and Company

Mayor Leh moved to approve Resolution 32, Series 2025; seconded by Councilmember Hoefner.

City Attorney Kelly read the following changes into the record: the title will be revised to delete “and development agreement”; the fourth and fifth recitals will be deleted, both of which pertain to the development agreement; Section One will be revised to read “the City Council of the City of Louisville, Colorado does hereby approve the application for a Planned Unit Development Amendment, subject to the following conditions: 1. The applicant shall include landscape screening on the property boundary by 85 McCaslin Boulevard, Murphy’s Tap House, recommend from staff; and 2. City Council approval of the development agreement,” and Section Two of the resolution would be deleted.

Mayor Leh withdrew his motion and closed the public hearing.

Mayor Leh moved to approve Resolution 32, Series 2025, with the modifications provided by City Attorney Kelly; seconded by Councilmember Kern.

Aye: Leh, Dickinson, Fahey, Cooperman, Hoefner, Kern, Hamlington

Nay: None

Absent: None

RESOLUTION NO. 33, SERIES 2025 – A RESOLUTION APPROVING A PLANNED UNIT DEVELOPMENT AMENDMENT TO ALLOW CONSTRUCTION OF A 16,294 SQUARE FOOT INDUSTRIAL / FLEX BUILDING AT 517 S. ARTHUR AVENUE (03:30:45)

Mayor Leh introduced the item and opened the public hearing.

Senior Planner Post presented the staff report.

Council Questions

Public Comment – None

Council Comments

Mayor Leh closed the public hearing.

Councilmember Kern moved to approve Resolution 33, Series 2025; seconded by Councilmember Hoefner.

Aye: Leh, Dickinson, Fahey, Cooperman, Hoefner, Kern, Hamlington

Nay: None

Absent: None

CONTRACTOR LICENSING (3:57:35)

ORDINANCE NO. 1895, SERIES 2025 – AN ORDINANCE AMENDING LOUISVILLE MUNICIPAL CODE CHAPTER 5.12 CONCERNING CONTRACTOR LICENSES – 2ND READING PUBLIC HEARING (advertised City of Louisville Website 05/09/2025) (03:57:36)

RESOLUTION NO. 34, SERIES 2025 – A RESOLUTION ESTABLISHING INSURANCE REQUIREMENTS FOR CONTRACTOR LICENSES

Mayor Leh introduced the items and opened the public hearing.

Community Development Director Zuccaro provided the staff report.

Public Comment – None

Council Questions

Public Comment – None

Mayor Leh closed the public hearing.

Mayor Pro Tem Dickinson moved to approve Ordinance 1895, Series 2025; seconded Councilmember Hoefner.

Council Discussion

Aye: Leh, Dickinson, Cooperman, Fahey, Hamlington, Hoefner, Kern

Nay: None
Absent: None

Councilmember Hoefner moved to approve Resolution 34, Series 2025; seconded by Mayor Pro Tem Dickinson.

Aye: Leh, Dickinson, Cooperman, Fahey, Hamlington, Hoefner, Kern
Nay: None
Absent: None

CITY ATTORNEY'S REPORT (04:19:11)

None

IDENTIFICATION OF FUTURE AGENDA ITEMS (04:19:15)

None

ADJOURN

Councilmember Kern moved to adjourn the meeting; seconded by Councilmember Hoefner.

Aye: Leh, Dickinson, Cooperman, Fahey, Hamlington, Hoefner, Kern
Nay: None
Absent: None

Members adjourned at 10:19 pm.

Christopher M. Leh, Mayor

Genny Kline, City Clerk

City Council

Special Meeting Minutes

May 27, 2025
Louisville Public Library Meeting Room
951 Spruce Street
6:00 PM

Mayor Leh called the meeting to order at 6:00 p.m. Roll Call was taken, and the following members were present:

City Council: ***Mayor Chris Leh***
Mayor Pro Tem Caleb Dickinson
Councilmember Josh Cooperman
Councilmember Deborah Fahey
Councilmember Barbara Hamlington
Councilmember Dietrich Hoefner
Councilmember Judi Kern

Staff Present: ***Diana Langley, City Manager***
Samma Fox, Deputy City Manager
Melinda Cully, Deputy City Attorney
Rob Zuccaro, Community Development Director
Kristen Bodine, Interim Cultural Services Director
Iris Belensky, Arts and Special Events Program Manager
Genny Kline, Interim City Clerk

2025 WORK PLAN UPDATE AND 2026 INITIAL WORK PLAN DISCUSSION (00:00:41)

Public Comment

- Jodi Ash, PPLAB Chair - pesticides
- Don Fletcher - sustainability & DEI
- Kathern Smith – ELSA, OSAB, acquisition process, & resident resources
- John Cowley – affordable housing, Cinebarre - CU Development transit, & internal decarbonization plan

Mayor Leh introduced the item.

City Manager Langley and Deputy City Manager Fox conducted the presentation. Meeting notes were captured and visually displayed.

Council Discussion / Direction

City Manager Langley provided the following recap: staff will prepare a draft document in advance. The draft will outline the four strategic priorities and the two guiding lenses for evaluation. The 2025 Work Plan will be reviewed and Items in progress or yet to be started will be transferred, and additional items will be incorporated. Staff will discuss what problems we are trying to solve, what is the measure of success, and what is the measure of progress. A graphic representation will be provided to support this discussion. Council will discuss whether and how to further refine the draft; and a follow-up discussion will be scheduled after the budget retreat to revisit and further refine these items.

ADJOURN (02:05:17)

Councilmember Kern moved to adjourn the meeting; seconded by Mayor Leh.

Aye: Leh, Dickinson, Kern, Fahey, Hamlington Cooperman, Hoefner

Nay: None

Absent: None

Members adjourned at 8:05 pm.

Christopher M. Leh, Mayor

Genny Kline, City Clerk

City Council Meeting Minutes

**June 3, 2025
City Hall, Council Chambers
749 Main Street
6:00 PM**

Mayor Leh called the meeting to order at 6:00 p.m. Roll Call was taken, and the following members were present:

City Council: ***Mayor Chris Leh
Mayor Pro Tem Caleb Dickinson – Remote at 6:12
Councilmember Josh Cooperman
Councilmember Deborah Fahey
Councilmember Barbara Hamlington
Councilmember Dietrich Hoefner - Remote
Councilmember Judi Kern***

Staff Present: ***Diana Langley, City Manager
Samma Fox, Deputy City Manager
Kurt Kowar, Public Works Director
Rob Zuccaro, Community Development Director
Emily Cline-Gibson, Planner II
Matt Post, Senior Planner
Adam Blackmore, Parks, Recreation, & Open Space Director
Paulina Bennett, Information Technology Director
Iris Belensky, Arts & Special Events Program Manager
Brandi Cummings, Cultural Services Director
Genny Kline, Interim City Clerk***

APPROVAL OF AGENDA (00:00:59)

Councilmember Kern moved to approve the agenda; seconded by Councilmember Fahey.

Aye: Leh, Cooperman, Fahey, Hamlington, Hoefner, Kern

Nay: None

Absent: Dickinson

**PUBLIC COMMENT ON ITEMS NOT ON THE AGENDA AND ITEMS ON THE
CONSENT AGENDA (1:15)**

- Laurel Cole - Library Board of Trustees, Summer Reading Programs & Summer Carnival
- Dallas Manaker, Broomfield resident - Redtail Ridge Development

APPROVAL OF THE CONSENT AGENDA (00:07:16)

- A.** Recreation & Senior Center Indoor Batting Cage Sole Source Request
- B.** Resolution No. 35, Series 2025 – A Resolution Approving an Intergovernmental Agreement for Youth Corps Program Services
- C.** Approval of Flatbed Truck Purchase
- D.** Approval of 2025 Vehicle Purchases from Ken Garff Ford (7) and Daniels Long Automotive (2)
- E.** Award Master Service Agreement Contracts for Engineering On-Call Services
- F.** Resolution No. 36, Series 2025 – A Resolution Approving a Management Agreement with the City of Boulder Concerning the Davidson Mesa Trail

Councilmember Cooperman moved to approve the consent agenda; seconded by Councilmember Fahey.

Aye: Leh, Fahey, Cooperman, Hoefner, Kern, Hamlington
Nay: None
Absent: Dickinson

COUNCIL INFORMATIONAL COMMENTS AND COMMITTEE REPORTS (00:08:00)

Councilmember Fahey attended the Rocky Mountain Municipal Airport (RMMA) Open House.

Councilmember Kern mentioned the Economic Vitality Committee participated in this month's Business Beat and provided a statement regarding the recent attack that occurred in Boulder.

Councilmember Hamlington noted the Street Faire Committee kicked off in June, and this year is the 25th Anniversary.

Mayor Leh noted the Economic Vitality Committee discussed concerns regarding tariffs and also addressed the recent violence that occurred in Boulder.

CITY MANAGER'S REPORT (00:16:06)

City Manager Langley reported on the following: launch of Louisville Lookahead, Bio-Blitz Survey, and Sales Tax Workshop.

REGULAR BUSINESS

ORDINANCE NO. 1896, SERIES 2025 – AN ORDINANCE AMENDING LOUISVILLE MUNICIPAL CODE SECTION 17.72.190 REGARDING YARD AND BULK REQUIREMENTS FOR GENERAL DEVELOPMENT PLANS – 1ST READING, SET PUBLIC HEARING (00:17:34)

Mayor Leh introduced the item.

Community Development Director Zuccaro presented the staff report.

Council Questions

Councilmember Fahey moved to approve the Ordinance 1896, Series 2025; seconded by Councilmember Hoefner.

Aye: Leh, Dickinson, Fahey, Cooperman, Hoefner, Kern, Hamlington
Nay: None
Absent: None

RESOLUTION NO. 37, SERIES 2025 – A RESOLUTION APPROVING A PLANNED UNIT DEVELOPMENT AMENDMENT TO REPLACE EXISTING FREESTANDING SIGNS AND ADD A NEW WALL SIGN ON THE AVISTA ADVENTIST HOSPITAL CAMPUS (00:41:53)

Mayor Leh introduced the item and opened the public hearing.

Planner Emily Cline-Gibson presented the staff report.

Public Comment – None

Council Questions and Comments

Councilmember Kern moved to approve Resolution 37, Series 2025; seconded by Councilmember Hoefner.

Aye: Leh, Dickinson, Fahey, Cooperman, Hoefner, Kern, Hamlington
Nay: None
Absent: None

Mayor Pro Tem Dickinson exited the meeting at 6:54 pm.

RESOLUTION NO. 38, SERIES 2025 – A RESOLUTION APPROVING A PLANNED UNIT DEVELOPMENT AGREEMENT TO ALLOW CONSTRUCTION OF A 7,150 SQUARE-FOOT INDUSTRIAL BUILDING AND A 7,000 SQUARE-FOOT INDUSTRIAL BUILDING AT 380 S TAYLOR AVENUE (00:54:44)

Mayor Leh introduced the item.

Planner Matt Post presented the staff report.

Council Questions

Public Comment – None

Council Comments

Councilmember Fahey moved to approve Resolution 38, Series 2025; seconded by Councilmember Kern.

Council Discussion

Aye: Leh, Fahey, Cooperman, Hoefner, Kern, Hamlington
Nay: None
Absent: Dickinson

ORDINANCE NO. 1897, SERIES 2025 – AN ORDINANCE AMENDING TITLE 17 OF THE LOUISVILLE MUNICIPAL CODE CONCERNING PARKING MINIMUMS FOR MULTIFAMILY AND ADAPTIVE REUSE DEVELOPMENT – 1ST READING, SET PUBLIC HEARING (01:21:56)

Mayor Leh introduced the item.

Planner Matt Post presented the staff report.

Council Questions

City Attorney Kelly provided information regarding HB 24-1304 Minimum Parking Requirements, and suggested Council address the requirements by the end of the month.

Council Discussion

Councilmember Hoefner moved to set the public hearing on Ordinance 1897, Series 2025, for July 8, 2025, and direct staff to provide further analysis on making the policy more broadly applicable to parking across the city.

City Attorney Kelly offered a friendly amendment to the motion to also adopt the ordinance on first reading.

Councilmember Hoefner accepted the friendly amendment.

Councilmember Hamlington seconded the motion.

The Council recessed briefly to verify the public hearing requirement related to the zoning notification.

Mayor Leh confirmed date of the public hearing of July 8, 2025; and Councilmember Hoefner restated the motion.

Aye: Leh, Fahey, Cooperman, Hoefner, Kern, Hamlington

Nay: None

Absent: Dickinson

LOUISVILLE CENTER FOR THE ARTS DIGITAL SIGN (02:27:33)

Mayor Leh introduced the item.

Arts & Special Events Program Manager Belensky provided the staff presentation.

Council Questions

Public Comments – None

Council Discussion

Mayor Leh moved to support the sign as presented; seconded by Councilmember Kern.

Council Discussion

Councilmember Cooperman offered a friendly amendment to instruct staff to perform a survey of residents and parkgoers.

Mayor Leh rejected the friendly amendment.

Aye: Leh, Fahey, Kern
Nay: Hoefner, Hamlington, Cooperman
Absent: Dickinson
Motion failed.

Councilmember Hoefner moved to table this item indefinitely.

Councilmember Cooperman moved to support staff recommendations and ask staff to perform a survey of neighborhood residents and parkgoers; Councilmember Kern seconded with an amendment to survey all residents.

Councilmember Cooperman accepted the amendment.

Council Discussion

City Manager Langley presented staff's recommendation that Council approve the concept of the digital sign, noting that staff could address most of the concerns raised; ultimately, the matter is a policy decision, whether Council wishes to support installation of the digital sign, which would require an exemption from the sign code.

Mayor Leh offered a substitute motion to approve the concept of a digital arts center sign and staff conduct a survey as described by Arts & Special Events Program Manager Iris Belensky; seconded by Councilmember Fahey.

Aye: Leh, Fahey, Cooperman, Kern
Nay: Hamlington, Hoefner
Absent: Dickinson

CITY ATTORNEY'S REPORT (03:32:17)

None

IDENTIFICATION OF FUTURE AGENDA ITEMS (03:32:22)

Councilmember Hamlington thanked and acknowledged City Attorney Kelly for keeping Council procedurally on task.

ADJOURN (03:33:32)

Councilmember Hoefner moved to adjourn the meeting; seconded by Councilmember Kern.

Aye: Leh, Fahey, Cooperman, Hoefner, Hamlington, Cooperman

Nay: None

Absent: Dickinson

Members adjourned at 9:33 pm.

Christopher M. Leh, Mayor

Genny Kline, City Clerk

City Council
Meeting Minutes
Tuesday, June 17, 2025
City Hall, Council Chambers
749 Main Street
6:00 PM

Mayor Leh called the meeting to order at 6:00 p.m. Roll Call was taken, and the following members were present:

City Council: ***Mayor Chris Leh***
 Mayor Pro Tem Caleb Dickinson
 Councilmember Josh Cooperman
 Councilmember Deborah Fahey
 Councilmember Barbara Hamlington
 Councilmember Dietrich Hoefner (Remote)
 Councilmember Judi Kern

Staff Present: ***Diana Langley, City Manager***
 Samma Fox, Deputy City Manager
 Rob Zuccaro, Community Development Director
 Jeff Hirt, Planning Manager
 Adam Blackmore, Parks, Recreation, & Open Space Director
 Bryon Weber, Parks Planning & Project Manager
 Brandi Cummings, Cultural Services Director
 Iris Belensky, Arts & Special Events Program Manager
 Gigi Yang, Museum Services Supervisor
 Genny Kline, Interim City Clerk

APPROVAL OF AGENDA (00:01:35)

Mayor Leh moved to approve the agenda; seconded by Councilmember Fahey.

Aye: Leh, Fahey, Dickinson, Cooperman, Hoefner, Kern, Hamlington

Nay: None

Absent: None

**PUBLIC COMMENT ON ITEMS NOT ON THE AGENDA AND ITEMS ON THE
CONSENT AGENDA (00:01:46)**

None

APPROVAL OF THE CONSENT AGENDA (00:03:10)

- A.** Resolution No. 39, Series 2025 – A Resolution Approving an Intergovernmental Agreement with the State of Colorado Concerning the Colorado Universal Preschool Program
- B.** Resolution No. 40, Series 2025 – A Resolution Approving a Development Agreement for the King Soopers Marketplace Planned Unit Development Amendment at 1171 W Dillon Road

Councilmember Cooperman moved to approve the consent agenda; seconded by Mayor Leh.

Aye: Leh, Fahey, Dickinson, Cooperman, Hoefner, Kern, Hamlington

Nay: None

Absent: None

COUNCIL INFORMATIONAL COMMENTS AND COMMITTEE REPORTS (00:03:25)

Mayor Leh mentioned he attended the Combating Antisemitism Symposium.

CITY MANAGER'S REPORT (00:05:11)

City Manager Langley reported on the Bio-Blitz event, and Louisville Look Ahead.

REGULAR BUSINESS

JUNETEENTH NATIONAL INDEPENDENCE DAY PROCLAMATION (00:06:41)

Mayor Pro Tem Dickinson read and moved to approve the proclamation; seconded by Councilmember Kern.

Aye: Leh, Dickinson, Fahey, Cooperman, Hoefner, Kern, Hamlington

Nay: None

Absent: None

AMERICA 250 COLORADO PROCLAMATION & PRESENTATION (00:10:27)

Mayor Leh introduced the item.

Arts & Special Events Program Manager Belensky and Museum Services Supervisor Yang conducted the presentation.

Mayor Leh read and moved to approve the Proclamation of America 250 Colorado 150; seconded by Councilmember Kern.

Aye: Leh, Fahey, Dickinson, Cooperman, Hoefner, Kern, Hamlington

Nay: None

Absent: None

UNIVERSITY OF COLORADO BOULDER INFORMATIONAL UPDATE (00:27:38)

Mayor Leh introduced the item.

Lori Call and Derek Silva, Associate Vice Chancellors, University of Colorado, conducted the presentation.

Council Questions

Public Comment

- Tess Weltzin
- Arthur Towber
- John Cowley
- Cindy Bedell
- Matt Jones
- Joann Speirs

Council Comments

RESOLUTION NO. 41, SERIES 2025 – A RESOLUTION APPROVING AN AGREEMENT FOR THE 2025 MEDIAN LANDSCAPE RENOVATIONS PROJECT (01:08:03)

Mayor Leh introduced the item.

Parks, Recreation, & Open Space Director Blackmore, Parks Planning & Project Manager Weber, and Parks Superintendent McNeal presented the staff report.

Council Questions

Public Comment

- Joann Speirs
- Cathern Smith
- Cindy Bedell

Council Comments

Councilmember Hoefner moved to approve Resolution 41, Series 2025; seconded by Councilmember Kern, and offered a friendly amendment – funds allocated into the phase will be utilized to repair danger points and high grasses, plants, and shrubs that are in phase I.

Councilmember Hoefner rejected the friendly amendment.

Aye: Leh, Fahey, Dickinson, Cooperman, Hoefner, Hamlington

Nay: Kern

Absent: None

Council recessed briefly.

COMPREHENSIVE PLAN PRELIMINARY DRAFT REVIEW (02:30:06)

Mayor Leh introduced the item.

Community Development Director Zuccaro conducted the presentation.

Council Questions

Public Comment

- Cathern Smith
- Tamar Krantz
- John Cowley
- Tiff Boyd
- Matt Jones

Council Discussion

Community Development Director Zuccaro continued with the presentation regarding the Future Land Use Map and types.

Public Comment

- Cathern Smith
- Matt Jones
- Tamar Krantz
- Cindy Bedell

Council Comments

Community Development Director Zuccaro continued the presentation regarding Plan Elements and Goals Summary.

City Manager Langley recommended that over the next three days, each person review this individually and submit their feedback to Community Development Director Zuccaro and Planning Manager Hirt; the Draft will reflect the initial feedback.

Council Discussion

City Manager Langley emphasized the importance of the document and urged the council to consider the proposed time frame carefully. She encouraged anyone feeling rushed or uncomfortable with the schedule to speak up so adjustments could be made to what is communicated publicly. City Manager Langley acknowledged the significant public input received and affirmed that such input should guide the council's policy decisions.

CITY ATTORNEY'S REPORT (04:34:30)

None

IDENTIFICATION OF FUTURE AGENDA ITEMS (04:34:34)

None

ADJOURN (04:34:47)

Councilmember Kern moved to adjourn the meeting; seconded by Mayor Leh.

Aye: Leh, Dickinson, Fahey, Cooperman, Hoefner, Kern, Hamlington

Nay: None

Absent: None

Members adjourned at 10:35pm.

Christopher M. Leh, Mayor

Genny Kline, City Clerk

City Council

Meeting Minutes

**Monday, November 3, 2025
Council Chambers
749 Main Street
6:00 PM**

Mayor Leh called the meeting to order at 6:06 p.m. Roll Call was taken, and the following members were present:

City Council: *Mayor Chris Leh
Mayor Pro Tem Caleb Dickinson
Councilmember Josh Cooperman
Councilmember Deborah Fahey
Councilmember Hamlington
Councilmember Dietrich Hoefner
Councilmember Judi Kern*

Staff Present: *Diana Langley, City Manager
Samma Fox, Deputy City Manager
Ryder Bailey, Finance Director
Mahyar Mansurabadi, Finance Analyst
Rob Zuccaro, Community Development Director
Matt Post, Senior Planner
Chad Root, Chief Building Official
Kathleen Kelly, City Attorney
Genny Kline, City Clerk*

APPROVAL OF AGENDA (00:00:58)

Councilmember Kern moved to approve the agenda; seconded by Councilmember Hamlington.

Aye: Leh, Dickinson, Cooperman, Fahey, Hamlington, Hoefner, Kern
Nay: None
Absent: None

**PUBLIC COMMENTS ON ITEMS NOT ON THE AGENDA AND ITEMS ON THE
CONSENT AGENDA (00:01:10)**

- None

APPROVAL OF THE CONSENT AGENDA (00:02:15)

- A.** Approval of Minutes: January 27, 2025; March 5, 2025; March 11, 2025; April 1, 2025; April 8, 2025; April 15, 2025; April 22, 2025; May 6, 2025; and May 13, 2025
- B.** Resolution No. 87, Series 2025 – A Resolution Approving a Construction Contract with DSRW Enterprises, Inc. d/b/a Calahan Construction Services
- C.** Resolution No. 88, Series 2025 – A Resolution Setting Certain Fees, Rates and Charges for the City of Louisville, CO
- D.** Resolution No. 89, Series 2025 – A Resolution Approving the Annual Budget for the Louisville Revitalization Commission for the Fiscal Year 2026.

Councilmember Fahey moved to approve the consent agenda; seconded by Mayor Pro Tem Dickinson.

Aye: Leh, Dickinson, Cooperman, Fahey, Hamlington, Hoefner, Kern

Nay: None

Absent: None

COUNCIL INFORMATIONAL COMMENTS AND COMMITTEE REPORTS (00:02:32)

Mayor Leh noted the Council is meeting tonight as tomorrow is Election Day. He mentioned that there were City Council races and ballot issues on the ballot. He encouraged everyone to exercise their right to be heard and get out there to vote.

CITY MANAGER'S REPORT (00:04:15)

City Offices will be closed next Tuesday, November 11 in observance of Veteran's Day.

The Recreation Center and Senior Center will be open.

Economic Vitality Day is Monday, November 10 at 8:30am-3:00pm at the library and there is an Economic Vitality meeting on Thursday.

The Rocky Mountain Metropolitan Airport will hold a Town Hall at 4:30pm on November 13.

The Mayor's State of the City Address will be at The Simon on November 17 at 9:30am.

REGULAR BUSINESS

ADOPTION OF 2026 BUDGET AND MILL LEVY CERTIFICATION (00:05:25)

- **RESOLUTION NO. 90, SERIES 2025 – A RESOLUTION SUMMARIZING EXPENDITURES AND REVENUES FOR EACH FUND AND ADOPTING A BUDGET FOR THE CITY OF LOUISVILLE, COLORADO FOR THE CALENDAR YEAR BEGINNING ON THE FIRST DAY OF JANUARY 2026 AND ENDING ON THE LAST DAY OF DECEMBER 2026**
- **RESOLUTION NO. 91, SERIES 2025 – ANNUAL APPROPRIATION RESOLUTION FOR THE CITY OF LOUISVILLE, COLORADO FOR THE CALENDAR YEAR BEGINNING JANUARY 1, 2026 AND ENDING DECEMBER 31, 2026**
- **RESOLUTION NO. 92, SERIES 2025 – A RESOLUTION LEVYING GENERAL PROPERTY TAXES FOR THE YEAR 2025, TO HELP DEFRAY THE COSTS OF GOVERNMENT FOR THE CITY OF LOUISVILLE, COLORADO FOR THE 2026 BUDGET YEAR**

Mayor Leh introduced the items.

Finance Director Bailey gave the staff report for all three items.

Public Comment

- None

Mayor Leh, Mayor Pro Tem Dickinson, and Councilmember Hoefner expressed their appreciation to staff and the Finance Committee for all the hard work that went into the budget process.

Councilmember Hoefner moved to approve Resolution No. 90, Resolution No. 91 and Resolution No. 92; seconded by Councilmember Kern.

Aye: Leh, Dickinson, Cooperman, Fahey, Hamlington, Hoefner, Kern

Nay: None

Absent: None

ORDINANCE NO. 1907, SERIES 2025 – AN ORDINANCE ADOPTING BY REFERENCE THE 2024 INTERNATIONAL BUILDING CODE, 2024 INTERNATIONAL RESIDENTIAL CODE, 2024 INTERNATIONAL MECHANICAL CODE, 2024 INTERNATIONAL FUEL GAS CODE, 2024 INTERNATIONAL FIRE CODE, 2024 INTERNATIONAL EXISTING BUILDING CODE, 2024 INTERNATIONAL PLUMBING CODE, 2024 INTERNATIONAL

PROPERTY MAINTENANCE CODE, 2024 INTERNATIONAL SWIMMING POOL AND SPA CODE, THE 1997 UNIFORM HOUSING CODE, AND THE 2024 INTERNATIONAL ENERGY CONSERVATION CODE – 2ND READING, PUBLIC HEARING (advertised *Boulder Daily Camera* 10/12/2025 and 10/26/2025) (00:12:45)

Mayor Leh introduced the item.

Community Development Director Zuccaro gave the staff report.

Mayor Leh asked how many original Marshall Fire property owners have not rebuilt, and Director Zuccaro estimated it was about 15-20.

Director Zuccaro also noted that an amendment from first reading was that any original Marshall Fire owner could opt out of the 2024 code and use the 2018 code.

Public Comment

- Patrick Haney
- Vahe Christianian
- Kim Christianian
- Matt Berry – BCBOA Member
- Allison Kay – LSAB Member

Council discussed the Cohort option, sprinklers in ADUs and incentives for electrification.

Public Comment

- Susan Loo
- John Willson – Chief, Louisville Fire Protection District

Director Zuccaro stated amendment language for Section 15.05.120 of “an automatic fire sprinkler system shall not be required as part of building permits filed by applicants who were owners of record of the property on December 31, 2021, and are applying to rebuild a residential property that was destroyed due to fire or other damage resulting from the Marshall Fire.”

Mayor Leh moved to approve Ordinance No. 1907, Series 2025, with the amendment to add an exemption to Section 15.05.120 as provided by Director Zuccaro; seconded by Councilmember Fahey.

Aye: Leh, Dickinson, Cooperman, Fahey, Hamlington, Hoefner, Kern
Nay: None
Absent: None

ORDINANCE NO. 1903, SERIES 2025 – AN ORDINANCE AMENDING TITLE 17 OF THE LOUISVILLE MUNICIPAL CODE CONCERNING DISTANCE RESTRICTIONS FOR NATURAL MEDICINE BUSINESSES IN THE CITY OF LOUISVILLE – 2ND READING, PUBLIC HEARING (advertised City of Louisville website 09/26/2025) (01:20:01)

Mayor Leh introduced the item.

Senior Planner Post gave the staff report.

Council members asked questions regarding natural medicine use and the impact on downtown Louisville.

Public Comment

- None

Council members had a brief discussion regarding matching the state language.

Public Comment

- None

Councilmember Hoefner moved to approve Ordinance No. 1903, Series 2025; seconded by Mayor Pro Tem Dickinson.

Aye: Leh, Dickinson, Cooperman, Fahey, Hamlington, Hoefner, Kern

Nay: None

Absent: None

ORDINANCE NO. 1909, SERIES 2025 – AN ORDINANCE AUTHORIZING THE SALE AND CONVEYANCE OF THE CITY-OWNED PROPERTY AT 1016 MAIN STREET – 2ND READING, PUBLIC HEARING (advertised City of Louisville website 10/27/2025) (01:34:15)

Mayor Leh introduced the item.

Community Development Director Zuccaro gave the staff report.

There were no questions by council members.

Public Comment

- None

Council members thanked staff for acting so quickly on this purchase and sale.

Public Comment

- None

There was no additional discussion.

Mayor Pro Tem Dickinson moved to approve Ordinance No. 1909, Series 2025; seconded by Councilmember Kern.

Aye: Leh, Dickinson, Cooperman, Fahey, Hamlington, Hoefner, Kern

Nay: None

Absent: None

COMMUNITY EVENT SPONSORSHIPS – JANUARY 2026 TO JUNE 2026 (01:39:53)

Mayor Leh introduced the item.

Deputy City Manager Fox gave the presentation.

Public Comment

- None

Council supports staff recommendations for the proposed sponsorships; indicated they do not support providing sponsorships for ticketed events, at this time; and asked staff to roll the unused funds from cycle one to cycle two of 2026.

DISCUSSION – FEDERAL GOVERNMENT SHUTDOWN – COMMUNITY IMPACTS (02:02:56)

Mayor Leh introduced the item.

Deputy City Manager Fox gave the staff report.

Public Comment - None

There was discussion regarding neighborhood initiatives; lunch at the Senior Center; food drives / donations to Community Food Share; efforts by churches and civic organizations; the opportunity for Council to spearhead fundraising; and advancing the 2026 grant program funds to non-profits now to assist with providing services.

Council directed staff to bring the advancement of 2026 grant funds to next Council meeting for deliberation and potential action.

CITY ATTORNEY'S REPORT (02:16:17)

None

IDENTIFICATION OF FUTURE AGENDA ITEMS (02:16:18)

Councilmember Hoefner reiterated his request to bring back the advancement of 2026 grant funds to the next Council meeting.

ADJOURN (02:20:58)

Members adjourned at 8:21pm.

CChristopher M. Leh, Mayor

Genny Kline, City Clerk

SUBJECT: RESOLUTION NO. 93, SERIES 2025 – A RESOLUTION
APPROVING THE 2025 ANNUAL CONTINGENCY / EMERGENCY
FUND FOR THE HISTORIC PRESERVATION FUND

DATE: NOVEMBER 18, 2025

PREPARED BY: JESS DANIELS, SENIOR PLANNER

PRESENTED BY: JESS DANIELS, SENIOR PLANNER

SUMMARY:

The request is for City Council to set the annual 2025 Annual Contingency/Emergency Reserve Funds for the Historic Preservation Fund (HPF) to 25% of the 2024 annual sales and use tax 1/8% revenue.

BACKGROUND / PRIOR DISCUSSIONS:

[Resolution No 17, Series 2019](#) regulates the administrative procedures for the Historic Preservation Fund (HPF). Section 3 requires the establishment of an annual Contingency/Emergency Reserve Fund for the HPF:

*In the first year of the existence of the HPF, 20% of the funds of the HPF shall be placed in a Contingency/Emergency Reserve. **On an annual basis, the Commission and City Council shall reevaluate how much should be allocated to this Reserve.** These funds shall be accessed only for incentives or acquisitions that become necessary due to exigent circumstances, upon the recommendation of the Commission and approval of City Council. "Exigent circumstances" for purposes of this section shall mean that the Commission has determined, with concurrence of City Council, that without urgent action, significant damage will be done to the historic fabric or character of Louisville.*

ANALYSIS:

The Contingency/Emergency Reserve fund has not been consistently re-evaluated by the Historic Preservation Commission (HPC) or Council, however the HPF has historically maintained a surplus. In the latter half of 2025, Community Development staff noted an increase in inquiries and applications pertaining to the request of historic grants from the HPF. In addition, the City purchased a historic property using HPF funds with the intent to landmark, resell and reimburse the fund. This context prompted the need to formally set the Contingency/Emergency Reserve fund in 2025 to ensure a minimum amount of funds are maintained in the HPF for the fiscal year.

As per Resolution No 17, Series 2019, reserve funds can only be accessed if the HPC and City Council determine urgent action is needed to prevent "significant damage...to the

historic fabric or character of Louisville.” The proposed reserve would provide emergency funds available for this purpose.

Historic Preservation Commission Recommendation

At the August 18, 2025, meeting, the Historic Preservation Commission approved a resolution to recommend that City Council establish an annual Contingency/Emergency Reserve Fund to be twenty-five percent (25%) of the 2024 1/8% sales and use tax revenue. [LINK: August 18, 2025 Historic Preservation Commission Communication](#)

As part of the 2025 HPC work plan, the grant program update may include a recommendation to establish an annual Contingency/Emergency Reserve in perpetuity for the HPF moving forward and a formula for doing so. This would then automatically set the reserve without the Commission and City Council having to take formal action on an annual basis.

2025 COUNCIL WORK PLAN:

This item is not on the 2025 City Council Work Plan.

FISCAL IMPACT:

Budgeted?: **Not Applicable**

The 2024 annual sales and use tax 1/8% revenue for the HPF is \$1,053,168.56. Twenty-five percent (25%) of this revenue is \$263,292.14. There is no fiscal impact to formalizing a reserve/emergency fund of \$263,292.14 from the existing balance of the fund, but it will better ensure fiscal sustainability of this fund.

ALTERNATIVE(S):

That Council provide direction to set the reserve/emergency fund to an alternative amount.

RECOMMENDATION:

Approval of Resolution No. 93, Series 2025, approving the 2025 annual Contingency/Emergency Reserve Fund for the Historic Preservation Fund (HPF) to be set at twenty-five percent (25%) of the 2024 1/8% sales and use tax revenue (or \$263,292.14).

ATTACHMENT:

1. Resolution No. 93, Series 2025

**RESOLUTION NO. 93
SERIES 2025**

**A RESOLUTION APPROVING THE 2025 ANNUAL CONTINGENCY / EMERGENCY
RESERVE FUND FOR THE HISTORIC PRESERVATION FUND**

WHEREAS, Resolution No 17, Series 2019 establishes an annual Contingency/Emergency Reserve Fund for the Historic Preservation Fund; and

WHEREAS, Section 3 of Resolution No 17, Series 2019 requires that on an annual basis, the Historic Preservation Commission and City Council shall re-evaluate how much should be allocated to the Contingency/Emergency Reserve Fund; and

WHEREAS, the Historic Preservation Commission passed a Resolution on August 18, 2025 recommending that City Council set the 2025 annual Contingency/Emergency Reserve Fund for the Historic Preservation Fund at twenty-five percent (25%) of the 2024 1/8% sales and use tax revenue.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF LOUISVILLE, COLORADO:

Section 1. The 2025 annual Contingency/Emergency Reserve Fund for the Historic Preservation Fund (HPF) is set at twenty-five percent (25%) of the revenues derived from the 2024 1/8% sales and use tax revenue.

PASSED AND ADOPTED this 18th day of November 2025.

By: _____
Christopher M. Leh, Mayor

ATTEST:

Genny Kline, City Clerk

SUBJECT: RESOLUTION NO. 94, SERIES 2025 – A RESOLUTION
APPROVING AN INTERGOVERNMENTAL AGREEMENT
BETWEEN THE CITY OF LOUISVILLE AND THE CITY AND
COUNTY OF BROOMFIELD FOR LEASES FOR FULLY
CONSUMABLE WATER TO EACH OTHER

DATE: NOVEMBER 18, 2025

PREPARED BY: CORY PETERSON, PUBLIC WORKS DEPARTMENT

PRESENTED BY: KURT KOWAR, PUBLIC WORKS DEPARTMENT

SUMMARY:

Staff recommends approval of the attached intergovernmental agreement (IGA) with the City and County of Broomfield (Broomfield) for the lease of fully consumable water.

BACKGROUND / PRIOR DISCUSSIONS:

Broomfield is the owner of certain water rights that are useful and advantageous to Louisville. Reciprocal to this, Louisville owns certain water rights that serve a need for Broomfield. The proposed IGA provides a mutually beneficial lease option for each community to utilize their existing water rights in trade to satisfy unmet water right requirements without relinquishing ownership. This is the first time the arrangement is being brought forward, as there have been no prior discussions with Council.

ANALYSIS:

The need for leased water will vary year to year and is based on the operations of each community's water rights portfolio. Leased water will be offset on a 1 to 1 basis as delivered and used. If one party uses more water over any consecutive two-year period, then that community will provide financial compensation to the other. A theoretical maximum annual lease payment, based on the 2025 rate, would be approximately \$75,000 with one party using the maximum amount of lease water and the other using none.

It is anticipated that in most years usage will be balanced and neither party will be required to make a lease payment. Any future lease payment will be projected based on need and will be included as an operational expense or as miscellaneous revenue within the Water Fund.

The proposed lease term is set at five years, with the option for mutual automatic renewal every five years thereafter. Staff discussions on this cooperative arrangement began around 2021 to address long standing operational challenges from as far back as 1992. The proposed IGA represents the first formal step toward establishing a durable and equitable framework for managing these water rights need.

2025 COUNCIL WORK PLAN:

This proposed IGA does not have a direct connection to the 2025 Council Work Plan. Nonetheless the IGA looks to support the City's Core Services by strengthening the reliability and resiliency of its water supply portfolio. Ensuring access to adequate replacement water is fundamental to delivering safe, consistent and compliant water service. By leveraging existing water rights assets through a mutually beneficial lease structure, the City can maintain operational continuity and reduce potential future risks associated with shortages or water supply gaps.

FISCAL IMPACT:

A series of temporary short-term leases have already been executed for 2024 and 2025. Broomfield is projected to make an approximate \$5,000 lease payment within the next month related to these short-term leases. There will be no fiscal impact in 2026 under the terms of the two-year provision within the IGA. For 2027, a new operational budget line item will be defined and coordinated with Finance as part of the 2027 budget process next year in preparation for a possible lease expense.

ALTERNATIVE(S):

Council may choose not to enter into the proposed IGA and continue operating under existing conditions. Under this option, the City incurs no new commitments or financial obligations, and current service levels and operational arrangements remain unchanged. City staff are actively engaged in negotiating at least two other potential water rights replacement opportunities, with the goal of securing multiple options to maintain operational flexibility and reliability. If these alternatives remain unsecured, long term water supply availability would decrease, and the City would need to identify and acquire supplemental replacement water to meet utility system buildout requirements with high level cost estimate exceeding \$1 million.

RECOMMENDATION:

Staff recommends approval of Resolution No. 94, Series 2025 for an intergovernmental agreement with the City and County of Broomfield to lease fully consumable water to each other.

ATTACHMENTS:

1. Resolution No. 94, Series 2025
2. Intergovernmental Agreement

**RESOLUTION NO. 94
SERIES 2025**

**A RESOLUTION APPROVING AN INTERGOVERNMENTAL AGREEMENT
BETWEEN THE CITY OF LOUISVILLE AND THE CITY AND COUNTY OF
BROOMFIELD FOR LEASES OF FULLY CONSUMABLE WATER TO EACH OTHER**

WHEREAS, an Intergovernmental Agreement has been proposed between Louisville and the City and County of Broomfield for leases of fully consumable water to each other; and

WHEREAS, the City is authorized to enter into this Agreement pursuant to state law, including but not limited to C.R.S. § 29-1-201 et seq., and the City Council by this Resolution desires to approve said Intergovernmental Agreement and authorize its execution.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF LOUISVILLE, COLORADO:

Section 1. The Intergovernmental Agreement between the City of Louisville and the City and County of Broomfield for Leases of Fully Consumable Water to Each Other (the "Agreement"), is hereby approved in essentially the same form as the copy of such Agreement accompanying this Resolution.

Section 2. The Mayor is authorized to execute the Agreement on behalf of the City, except that the Mayor is hereby further granted authority to negotiate and approve such revisions to said Agreement as the Mayor determines are necessary or desirable for the protection of the City, so long as the essential terms and conditions of the Agreement are not altered.

PASSED AND ADOPTED this 18th day of November 2025.

Christopher M. Leh, Mayor

ATTEST:

Genny Kline, City Clerk

INTERGOVERNMENTAL AGREEMENT BETWEEN THE CITY OF LOUISVILLE AND THE CITY AND COUNTY OF BROOMFIELD FOR LEASES OF FULLY CONSUMABLE WATER TO EACH OTHER

This INTERGOVERNMENTAL AGREEMENT BETWEEN THE CITY OF LOUISVILLE AND THE CITY AND COUNTY OF BROOMFIELD FOR LEASES OF FULLY CONSUMABLE WATER TO EACH OTHER (the "IGA") is made and entered into this 12 day of August, 2025, between the City of Louisville, a Colorado home rule municipality ("Louisville"), and the City and County of Broomfield, a Colorado county, home rule city and municipal corporation ("Broomfield"). Each entity may be referred to as a "Party" or collectively as the "Parties."

RECITALS

WHEREAS, the Parties are authorized to enter into this IGA pursuant to C.R.S. Section 29-1-201, *et. seq.*; and

WHEREAS, Broomfield owns and operates a municipal water system which supplies potable and non-potable water within its service area, as it may be revised from time to time, and extraterritorially by contract; and

WHEREAS, in furtherance of the development of water supplies for its municipal water system, Broomfield obtained a decree in Case No. 20CW3216, District Court, Water Division No. 1, for a change of water rights represented by 157.14 shares owned by Broomfield in the Marshall Lake Division of The Farmers Reservoir and Irrigation Company ("Broomfield's Marshall Shares"). The decree also confirms conditional rights to store or detain water for the purpose of appropriating waters of the State that are made available to the stream from the historical return flows associated with the subject Marshall Shares (referred to in the 20CW3216 decree and herein as the "Paragraph 15 Rights"); storage rights and underground water rights for ponds and reservoirs in which the changed Marshall shares and the Paragraph 15 Rights may be stored or detained; and a plan for augmentation including appropriative rights of substitution and exchange to replace out-of-priority stream depletions caused by the ponds and reservoirs; and

WHEREAS, Louisville filed a statement of opposition to Broomfield's application in Case No. 20CW3216 to ensure that the final decree contained terms and conditions that protect Louisville's interests; and

WHEREAS, Broomfield owns Siena Reservoir, whose legal description is in the S 1/2 of the NW 1/4, Section 8, Township 1 South, Range 68 West. The UTM coordinates (NAD83, Zone 13S) are 497349.35 m Easting and 4425608.80 m Northing. Pursuant to the 20CW3216 decree, Broomfield has an underground water right for Siena Reservoir, which intercepts groundwater, tributary to an unnamed tributary to Coal Creek (also known as and referred to herein as the "Tri-County Airport Drainage"). Siena Reservoir also stores local surface inflows that are tributary to the Tri-County Airport Drainage; and

WHEREAS, Broomfield also owns various ponds (“Anthem Ponds”) down gradient of Siena Reservoir on the Tri-County Airport Drainage and is also proposing to construct Broomfield Reservoir on another tributary of Coal Creek, slightly west of and south of Siena Reservoir; and

WHEREAS, Broomfield needs replacement water to meet augmentation obligations to Coal Creek associated with out-of-priority inflows to Siena Reservoir and out-of-priority depletions resulting from evaporation of groundwater in Siena Reservoir; and

WHEREAS, Broomfield also needs replacement water to augment the Anthem Ponds and the proposed Broomfield Reservoir; and

WHEREAS, Louisville owns and operates a municipal water system which supplies potable and non-potable water within its service area, as it may be revised from time to time, and extraterritorially by contract; and

WHEREAS, Louisville owns at least a total of 354.294 shares in the Marshall Lake Division of The Farmers Reservoir and Irrigation Company (“Louisville’s Marshall Shares”); and

WHEREAS, Louisville obtained decrees in Case Nos. 92CW79 and 07CW310, District Court, Water Division No. 1, changing Louisville’s Marshall Shares. The decrees in Case Nos. 92CW79 and 07CW310 quantified and granted Louisville the right to make additional and successive uses of its municipal return flow credits from the fully consumable portion of Louisville’s Marshall Shares that are discharged to Coal Creek from Louisville’s Wastewater Treatment Plant (“Louisville’s Fully Consumable Marshall Water”). Louisville has the right to use or lease, or will obtain the right to use or lease, its Fully Consumable Marshall Water consistent with the terms of Broomfield’s decree entered in Case No. 20CW3216 and Louisville’s decrees entered in Case Nos. 92CW79 and 07CW310; and

WHEREAS, in addition, Louisville can make additional and successive uses of certain of its municipal return flow credits from the fully consumable portion of Louisville’s decreed water rights and deliver those return flow credits to Coal Creek at the outfall of its wastewater treatment plant. Water delivered may include those return flow credits described in the decrees entered in Case Nos. W-8500-77, W-9193-77, 80CW451, 82CW305, 82CW375, 82CW376, 82CW467, 83CW319, 87CW327, and 99CW230, all in Water Division 1 (“South Boulder Creek Water Rights”) and CA 1768, W-4001, and 80CW108, adjudicated in Water Division 5 (“Windy Gap Water Rights”) (collectively, “Louisville’s Fully Consumable Water”). Prior to the use of water described in several of the decrees, Louisville may be required to seek additional approval either by the Water Court or the State Engineer’s Office prior to future reuse, successive use, augmentation, replacement, substitution, exchange, replacement of return flows or otherwise. Louisville will seek the approvals needed to facilitate the lease of such water to Broomfield pursuant to this IGA.

WHEREAS, the 92CW79 and 07CW310 decrees, among other things, require Louisville to meet historical return flow obligations to Big Dry Creek; and

WHEREAS, Louisville may seek changes of additional Marshall shares, which may also require Louisville to meet historical return flow obligations to Big Dry Creek; and

WHEREAS, Louisville needs replacement water to meet its present and potential future historical return flow obligations on Big Dry Creek; and

WHEREAS, Broomfield's Wastewater Treatment Facility discharges fully consumable effluent to Big Dry Creek. Broomfield's Fully Consumable Water that is the subject of this IGA is presently derived from Windy Gap Units, and may in the future include Broomfield's Marshall Shares and possibly additional shares in the Marshall Lake Division of The Farmers Reservoir and Irrigation Company, water rights that Broomfield changed in Case No. 05CW290, District Court, Water Division No. 1, and other water rights that may be changed or acquired by Broomfield ("Broomfield's Fully Consumable Water"). Broomfield has the right to use or lease Broomfield's Fully Consumable Water; and

WHEREAS, in settlement of Louisville's opposition in Broomfield's Case No. 20CW3216, the Parties agreed to enter into this IGA whereby Louisville leases Louisville's Fully Consumable Water to Broomfield to help meet Broomfield's present and future augmentation obligations on Coal Creek and Broomfield leases Broomfield's Fully Consumable Water to Louisville to help meet Louisville's present and potential future replacement obligations on Big Dry Creek; and

WHEREAS, this IGA will be of mutual benefit and convenience to Louisville and Broomfield.

NOW, THEREFORE, for and in consideration of the mutual promises and covenants contained herein, and other good and valuable consideration, the adequacy and sufficiency of which is hereby acknowledged, Louisville and Broomfield hereby agree as follows:

AGREEMENT

- 1. Effective Date and Term.** This Agreement shall be deemed effective as of the date it is signed by both Parties ("Effective Date"). The Agreement shall be for an initial term of five (5) years from the Effective Date. The Agreement shall automatically renew for an additional five year term upon the expiration date of the initial term, and for additional five year terms upon expiration of each additional term, unless and until one of the Parties provides written notice to the other party at least one year in advance of such expiration date that the party does not intend to renew the Agreement. In the event that one party provides such notice, this Agreement shall terminate at the end of the then-current term. The Parties may also terminate the Agreement upon mutual written agreement.

2. **Anthem Ponds Augmentation.** Broomfield shall file a request for approval of a Substitute Water Supply Plan ("SWSP") with the Colorado State Engineer and/or an application for approval of a plan for augmentation for the Anthem Ponds within five years of the Effective Date.
3. **Water Year.** For purposes of this Agreement, a Water Year shall commence on November 1 of one year and end on October 31 of the year immediately following.
4. **Louisville's Deliveries.** Subject to the terms and conditions more fully described herein, Louisville will deliver to Coal Creek, for Broomfield's benefit, a maximum of one hundred fifty (150) acre feet per Water Year of Louisville's Fully Consumable Water, subject to the monthly volumetric limits in Table 1, below.

Table 1

Monthly Volumetric Limits (acre-feet)												
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
4.5	5.25	8.25	13.5	18	21.75	22.5	20.25	15	10.5	6	4.5	150

- a. **Use and Approvals for Use.** Broomfield's use of the water shall be limited to: the augmentation requirements for Siena Reservoir set forth in the final decree issued in Case No. 20CW3216; and the augmentation requirements for the Anthem Ponds to be temporarily determined by the State Engineer pursuant to a request for SWSP approval and to be permanently determined by the water court pursuant to an application to be filed by Broomfield, and any decrees obtained by Broomfield in the future for Marshall shares that require return flow replacement to Coal Creek. If not already obtained, Broomfield shall be responsible for obtaining all necessary authorizations, approvals, water court decrees, and permits from any and all private entities, and local, state, and federal agencies, as may be required to effectuate use of the water delivered by Louisville pursuant to this Agreement. Louisville agrees that Broomfield may include and use such water supplied by Louisville in existing and/or future requests for SWSP approvals and water court applications and decrees for the purposes allowed by this Agreement. Louisville may oppose such requests and/or applications as necessary to protect its interests, provided that no such opposition shall assert any lack of right to use such water supplied by Louisville.
- b. **Location of Deliveries and Transit Loss.** The location at which Louisville currently delivers water to Coal Creek is the outfall of Louisville's Wastewater Treatment Plant ("Louisville WWTP"), which discharges to Coal Creek in the NW1/4 SE1/4 Section 9, Township 1 South, Range 69 West of the 6th P.M. The UTM coordinates (NAD83, Zone 13S) are 490050 m Easting and 4425135 m Northing. Broomfield shall be solely responsible for the carriage of water provided to it under this Agreement after release of the water from the Louisville

WWTP, including all evaporation and transmission losses. Louisville reserves the right to change the location of the above referenced delivery point; provided, however, that (1) if in the good faith exercise of its discretion Broomfield concludes that any such changed location does not comply with the final decree in Case No. 20CW3216 and that it is not reasonable or feasible to amend the decree to bring the changed location into decree compliance, then Broomfield may invoke the modification or termination provisions of Paragraph 1, above; and (2) if a new, decree-compliant location is more than one mile upstream of the current location, and Broomfield incurs additional stream transportation charges as a result of the change, Louisville shall be responsible for such additional stream transportation charges.

- c. **Request for Deliveries.** Broomfield must give Louisville 24 hours advance notice of the rate, volume, and timing of Louisville's Fully Consumable Water it wishes Louisville to deliver to Coal Creek. Within 24 hours of Broomfield's request, Louisville shall notify Broomfield of the rate, volume, and timing of the delivery it can and will provide, using best efforts to deliver the rates and volumes requested by Broomfield at the requested time. However, requests by Broomfield made with less than a 24-hour notice may be accommodated by Louisville at the discretion of Louisville. Broomfield anticipates that "calls" may be made by the State and Division Engineer's offices that require deliveries of Louisville's Fully Consumable Water in less than 24 hours. Broomfield is responsible for placing orders with Louisville for deliveries of Louisville's Fully Consumable Water based upon Broomfield's daily needs. In the absence of a change order, Broomfield shall be deemed to have ordered a delivery of Louisville's Fully Consumable Water at the rate, volume, and time last specified.
- d. **Broomfield's Accounting.** Broomfield shall report and account for deliveries of Louisville's Fully Consumable Water as required by its water court decree(s), SWSP approval(s), the Colorado State Engineer, the Division Engineer for Water Division 1, the Water Commissioner for Water District 6, or any other lawful authority. In connection therewith, on a monthly basis during the Water Year, Louisville shall provide Broomfield, and State water administration officials as may be required, with a written summary of the days during the month when Louisville's Fully Consumable Water was delivered to Coal Creek for Broomfield's benefit, as well as the daily rate(s) and volume. Louisville will provide such information by the fifteenth day of the month following the month when such water deliveries are made.
- e. **Quality of Water; No Guarantees or Representations.** Louisville does not warrant or guarantee any water quality standards with respect to Louisville's Fully Consumable Water to be delivered as provided for in this Agreement, and Broomfield hereby waives any such warranty or guarantee. Broomfield acknowledges that Louisville is providing no guarantees and makes no representations that the delivery of Louisville's Fully Consumable Water to Coal Creek, as described herein, will allow Broomfield to satisfy the replacement

obligations determined or to be determined by Broomfield's water court decrees and/or SWSP approvals. Broomfield is proceeding with this Agreement solely on the basis of its own investigations.

- f. **Future Water.** If after the Effective Date Broomfield requests inclusion of Broomfield Reservoir in the Agreement, the Parties agree to discuss such request, and Louisville agrees to consider making additional amounts of Louisville Fully Consumable Water available for Broomfield Reservoir. However, the Parties agree that Louisville is under no obligation to agree to include Broomfield Reservoir in the Agreement or to provide additional water for it and that the terms and conditions under which Broomfield Reservoir may be included and/or any additional water may be provided for it may be different from those contained in this Agreement.

5. **Broomfield's Deliveries.** Subject to the terms and conditions more fully described herein, Broomfield will deliver to Big Dry Creek, for Louisville's benefit, a maximum of one hundred fifty (150) acre feet per Water Year of Broomfield's Fully Consumable Water.

Table 2

Monthly Volumetric Limits (acre-feet)												
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1.40	1.40	1.40	1.40	16.50	26.00	33.00	35.50	20.5 0	10.00	1.45	1.45	150

- a. **Use and Approvals for Use.** Louisville's use of the water shall be limited to the return flow replacement requirements associated with Louisville's changed Marshall shares as set forth in the final decrees issued in Case Nos. 92CW79 and 07CW310, and any decrees obtained by Louisville in the future for Marshall shares that require return flow replacement to Big Dry Creek. If not already obtained, Louisville shall be responsible for obtaining all necessary authorizations, approvals, water court decrees, and permits from any and all private entities, and local, state, and federal agencies, as may be required to effectuate use of the water delivered by Broomfield pursuant to this Agreement. Broomfield agrees that Louisville may include and use such water supplied by Broomfield in existing and/or future requests for SWSP approvals and water court applications and decrees for the purposes allowed by this Agreement. Broomfield may oppose such requests and/or applications as necessary to protect its interests, provided that no such opposition shall assert any lack of right to use such water supplied by Broomfield.
- b. **Location of Deliveries and Transit Loss.** The location at which Broomfield currently delivers water to Big Dry Creek is the outfall of Broomfield's Wastewater Treatment Facility, which is located in the NW1/4 of the SE1/4 of

Section 32, T1S, R68W of the 6th P.M. (the UTM coordinates (NAD83, Zone 13S) are 498156.0 m Easting and m 4418914.0 Northing. Louisville shall be solely responsible for the carriage of water provided to it under this Agreement after release of the water from Broomfield's Wastewater Treatment Facility outfall, including all evaporation and transmission losses. Broomfield reserves the right to change the location of the above referenced delivery point; provided, however, that (1) if in the good faith exercise of its discretion Louisville concludes that any such changed location does not comply with the final decrees in Case Nos. 92CW79 and 07CW310 and that it is not reasonable or feasible to amend the decrees to bring the changed location into decree compliance, then Louisville may invoke the modification or termination provisions of Paragraph 1, above; and (2) if a new, decree-compliant location is more than one mile upstream of the current location, and Louisville incurs additional stream transportation charges as a result of the change, Broomfield shall be responsible for such additional stream transportation charges.

- c. **Request for Deliveries.** Louisville must give Broomfield 24 hours advance notice of the rate, volume, and timing of Broomfield's Fully Consumable Water it wishes Broomfield to deliver to Big Dry Creek. Within 24 hours of Louisville's request, Broomfield shall notify Louisville of the rate, volume, and timing of the delivery it can and will provide, using best efforts to deliver the rates and volumes requested by Louisville at the requested time. However, requests by Louisville made with less than a 24-hour notice may be accommodated by Broomfield at the discretion of Broomfield. Louisville anticipates that "calls" may be made by the State and Division Engineer's offices that require deliveries of Broomfield's Fully Consumable Water in less than 24 hours. Louisville is responsible for placing orders with Broomfield for deliveries of Broomfield's Fully Consumable Water based upon Louisville's daily needs. In the absence of a change order, Louisville shall be deemed to have ordered a delivery of Broomfield's Fully Consumable Water at the rate, volume, and time last specified.
- d. **Louisville's Accounting.** Louisville shall report and account for deliveries of Broomfield's Fully Consumable Water as required by its water court decree(s), SWSP approval(s), the Colorado State Engineer, the Division Engineer for Water Division 1, the Water Commissioner for Water District 2, or any other lawful authority. In connection therewith, on a monthly basis during the Water Year, Broomfield shall provide Louisville, and State water administration officials as may be required, with a written summary of the days during the month when Fully Consumable Water was delivered to Big Dry Creek for Louisville's benefit, as well as the daily rate(s) and volume. Broomfield will provide such information by the fifteenth day of the month following the month when such water deliveries are made.
- e. **Quality of Water; No Guarantees or Representations.** Broomfield does not warrant or guarantee any water quality standards with respect to Broomfield's Fully Consumable Water to be delivered as provided for in this Agreement, and

Louisville hereby waives any such warranty or guarantee. Louisville acknowledges that Broomfield is providing no guarantees and makes no representations that the delivery of Broomfield's Fully Consumable Water to Big Dry Creek, as described herein, will allow Louisville to satisfy the replacement obligations determined or to be determined by Louisville's water court decrees and/or SWSP approvals. Louisville is proceeding with this Agreement solely on the basis of its own investigations.

- f. **Future Water.** If after the Effective Date Louisville requests additional amounts of Broomfield's Fully Consumable Water from Broomfield for the purpose of meeting return flow obligations to Big Dry Creek or Little Dry Creek required by a future decree or decrees changing additional Marshall shares of Louisville, the Parties agree to discuss such request, and Broomfield agrees to consider making additional amounts of Broomfield's Fully Consumable Water available for such purpose. However, the Parties agree that Broomfield presently has no ability to provide Broomfield's Fully Consumable Water to Little Dry Creek for Louisville's benefit and is under no obligation to provide additional amounts of Broomfield's Fully Consumable Water to Big Dry Creek or any amounts of Broomfield's Fully Consumable Water to Little Dry Creek for Louisville's benefit and that the terms and conditions under which additional amounts of Broomfield's Fully Consumable Water may be provided may be different from those contained in this Agreement.

- 6. **Reconciliation of Different Annual Delivery Amounts.** If one party provides more Fully Consumable Water to the other party ("Higher Delivering Party") over a period of two consecutive Water Years, then the other party ("Lower Delivering Party") shall pay the Higher Delivering Party for the difference in deliveries for those two Water Years in an amount set forth below in paragraph 6.b. Commencing February, 2027, and continuing every two years thereafter, the Parties shall calculate the amount of Fully Consumable Water provided by each Party for the previous two years and what amount, if any, is owed by the Lower Delivering Party to the Higher Delivering Party for the previous two years. The amount determined by the reconciliation is referred to herein as the "Make-Up Payment."

- a. **Price.** The price per acre-foot for the Make-Up Payment shall be the price per acre-foot that Broomfield charges its water reuse customers, and shall be adjusted periodically based on changes in the price that Broomfield charges its reuse water customers. In January of each year, after price changes, if any, have taken effect, Broomfield will notify Louisville of the current price per acre-foot that Broomfield charges its water reuse customers.
- b. **Invoice.** The Party that is owed the Make-Up Payment will bill the other Party for the Make-Up Payment by March 31 of the Water Year in which the Make-Up Payment is calculated, commencing 2027 and every two years thereafter. The invoice will explain the basis of the Make-Up Payment. The Party owing the Make-Up Payment shall pay the invoice within thirty (30) days of receipt. In the

event that any portion of any invoice is in dispute, the undisputed amount shall be paid. The Parties shall attempt to resolve the dispute amicably and promptly. Upon determination of the correct billing or payment amount, the proper adjustment shall be paid or refunded within thirty (30) days of the determination.

7. **Force Majeure.** Neither Party shall be liable for any delay or failure to perform its obligations under this Agreement to the extent that such delay or failure is caused by events beyond the reasonable control of, and without the fault or negligence of the Party, including, without limitation drought, failure of facilities, flood, earthquake, storm, lightning, fire, epidemic, contamination, war, terrorist act, riot, civil disturbance, labor disturbance, accidents, sabotage, or restraint by court or restrictions by other public authority which delays or prevents performance (including but not limited to the adoption or change in any rule, policy, or regulation or environmental constraints imposed by federal, state or local governments), which the Party could not reasonably have avoided by exercise of due diligence and foresight. In such circumstances, the obligation of the Party shall be excused and suspended without penalty or damages.
8. **Notices and Payments.** All notices, payments and other communications under this Agreement shall be in writing, except as otherwise provided for in this Agreement. All such notices and communications and all payments shall be deemed to have been duly given on the date of service, if delivered and served personally, or served via electronic means (with respect to notices and communications only) on the person to whom notice is given; on the next business day after deposit for overnight delivery by a courier service such as Federal Express; or on the third day after mailing, if mailed to the Party to whom payment and notice is to be given by first class mail, postage prepaid, and properly addressed as follows:

CITY AND COUNTY OF BROOMFIELD:

Water Utilities Director
3951 West 144th Avenue
Broomfield, CO 80023

CITY OF LOUISVILLE:

Deputy Director of Utilities
749 Main Street
Louisville, CO 80027

Persons and addresses to which notices or payments are to be sent may be changed by the same method.

9. **Assignment.** Neither Party may assign its rights and obligations under this Agreement without the consent of the other Party, which consent may be conditioned or withheld in the sole discretion of said other Party.

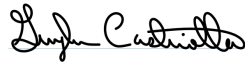
10. **Liability.** Each Party shall bear all responsibility for its use of the water delivered to it under this Agreement, together with the costs associated therewith.
11. **Default Remedies.** A default shall be deemed to have occurred if either Party breaches its obligations hereunder and fails to cure such breach within 30 days of written notice from the non-breaching Party specifying the breach. Waiver or failure to give notice of a particular default or defaults shall not be construed as condoning or acquiescing to any continuing or subsequent default.
12. **Enforcement.** This Agreement shall be construed and governed in accordance with the laws of the State of Colorado, and it shall be deemed performable in Boulder County and the City and County of Broomfield. This Agreement may be enforced in an action for specific performance, injunctive relief, or damages in the Boulder County District Court or the District Court, Broomfield County, State of Colorado, whichever is applicable. Neither Party shall be liable to the other Party for any consequential damages for its breach of this Agreement.
13. **Integration.** This instrument embodies the whole agreement for the Parties with respect to the subject matter contained herein. This Agreement shall supersede all previous communications, representations, or agreements, whether verbal or written, between the parties hereto. There shall be no modification of this Agreement nor waiver of any of its provisions except upon mutual agreement of the Parties expressed in writing, executed with the same formalities as this instrument.
14. **Authority.** The Parties warrant that they have taken all actions necessary or required by their own procedures, bylaws, or applicable law, to authorize their respective signatories to sign this Agreement for them and to bind them to its terms.
15. **Governmental immunity.** Nothing in this Agreement shall be construed to waive either Party's protection from liability or the limitations on its liability due to its sovereign immunity under the Colorado Governmental Immunity Act or otherwise.
16. **No beneficiaries.** This Agreement is for the sole benefit of and binds the Parties, their successors and assigns. This Agreement affords no claim, benefit, or right of action to any third party. Any person besides the Parties hereto receiving services or benefits under this Agreement is only an incidental beneficiary.
17. **Appropriations.** Notwithstanding anything to the contrary in this Agreement, each Party's financial obligations hereunder are subject to annual appropriations therefor under the Taxpayer Bill of Rights (TABOR), Colorado Constitution, Article X, Section 20.
18. **Non-severability; Effect of Invalidity.** Each paragraph and section in this Agreement is intertwined with the others and are not severable unless by mutual consent of the Parties or as provided below. If any provision or portion of this Agreement or the application thereof to any person or circumstance shall, at any time or to any extent, be declared invalid or unenforceable for any reason by a Court of competent jurisdiction, and the

basis for the transaction contemplated under this Agreement is not destroyed or rendered ineffective thereby, the remainder of this Agreement, or the application of such provision to persons or circumstances other than those to which is held invalid or unenforceable, shall not be affected thereby. In such event, the Parties shall negotiate in good faith to replace such invalidated provision if necessary to carry out the intent of the Parties in entering into this Agreement.

- 19. Attorneys' Fees.** In the event of an action to enforce the terms hereof or declare rights hereunder, the prevailing party in any such action, on trial or appeal, shall be entitled to an award of its reasonable attorney's fees and costs as determined by the Court.
- 20. Counterparts.** This Agreement may be executed in any number of counterparts, each of which shall be deemed an original, and all of which shall constitute one and the same Agreement. Electronic/facsimile signatures shall be acceptable and binding upon all Parties.
- 21. Headings.** All paragraph headings used herein are for the convenience of the Parties and shall have no meaning in the interpretation or effect of this Agreement.

IN WITNESS WHEREOF, the Parties hereto have executed, or caused to be executed by their duly authorized officials, two duplicate originals of this Agreement, each of which shall be deemed an original, on the date first written above.

THE CITY AND COUNTY OF BROOMFIELD,
a Colorado municipal corporation and county



Mayor

ATTEST:



City & County Clerk



APPROVED AS TO FORM:



City & County Attorney

LOUISVILLE'S SIGNATURE BLOCK TO BE PROVIDED

THE CITY OF LOUISVILLE,
a Colorado municipal corporation

By: _____
Christopher M. Leh, Mayor

ATTEST:

Genny Kline, City Clerk

APPROVED AS TO FORM:



City Water Attorney

**SUBJECT: RESOLUTION NO. 95, SERIES 2025 – A RESOLUTION
APPROVING AN AGREEMENT WITH INLINER SOLUTIONS, LLC**

DATE: NOVEMBER 18, 2025

PREPARED BY: TYLER TROJAN ENGINEER III

PRESENTED BY: KURT KOWAR, PUBLIC WORK DIRECTOR

SUMMARY:

Staff recommends approval and award of the 2025 Sanitary Sewer CIPP Project contract with Inliner Solutions, LLC for \$435,300.00 plus a 10% contingency in the amount of \$43,530 for a total authorized amount of \$478,830.00

BACKGROUND / PRIOR DISCUSSIONS:

City Staff identifies sewer pipes in need of repair or replacement by evaluating videos of sanitary sewer mains with known problematic materials (Clay, Orangeburg) or located in areas where sewer backups occur. Pipes are selected for repair or replacement based on the presence of structural deficiencies, ranging from levels three to five (on a zero to five scale, with five being the worst). An example of a level three structural deficiency would be the equivalent of a moderate circumferential or longitudinal crack. An example of a level five deficiency is a broken pipe with void visible.

Pipes selected for this year's lining project show clear signs of wear and damage and are considered a priority for maintenance to prevent future failures. Typical issues include cracks in the pipe or root intrusion. Lines included in the project have either significant damage or multiple areas of moderate damage.

Rehabilitating these lines through trenchless lining (Cured-in-Place Pipe, or CIPP) extends the life of the sewer system, reduces the risk of service disruptions, and is more cost-effective and less disruptive to the community than traditional excavation and replacement.

The sections of pipe and their respective scores for this year's project are as follow:

- Pipe ID 25015 (County Rd.) Score – 4
- Pipe ID 25016 (County Rd.) Score – 3
- Pipe ID 25017 (County Rd. to Lock St.) Score – 4
- Pipe ID 25150 (Front St.) Score – 4
- Pipe ID 25145 (Cannon St.) Score – 4
- Pipe ID 25625 (Johnson St.) Score – 4
- Pipe ID 25021 (Johnson St.) Score – 4
- Pipe ID 25067 (Lafarge Alley.) Score – 3
- Pipe ID 25608 (Spruce St.) Score – 2
- Pipe ID 25609 (Spruce St.) Score – 3

- Pipe ID 25610 (Spruce St.) Score – 3

On October 14, 2025 staff received and opened bids from contractors for the 2025 Sanitary Sewer CIPP project. The bids received are listed below:

CONTRACTOR	BASE BID
Inliner Solutions	435,300.00
Insituform DBA C&L Water Solutions	543,690.00

This year's CIPP Sewer Lining Project includes work on various sanitary sewer lines throughout the City identified in the attached project map. Detailed plans are available upon request.

The contract work will begin in December 2025 and finish in April 2026.

ANALYSIS:

Staff is requesting Council's approval of this contract as required by the City's purchasing policy for contracts in excess of \$100,000.

2025 COUNCIL WORK PLAN:

While this project is not specifically listed in the 2025 Council Work Plan, it does align with the Council priority of providing core services. Maintenance of the wastewater distribution system is critical to the goal of providing reliable core services to the residents of Louisville.

FISCAL IMPACT:

The costs of the 2025 Sanitary Sewer CIPP Project are included in the budget. A detailed breakdown of funding and projected expenses is provided below:

Project Funding

Description	Account	Budget Amount
Sanitary Sewer Rehab – Replacement	502498-660313	\$467,000.00
TOTAL:		\$467,000.00

Projected Expenses 502498-660313

Description	Amount
2025 Sanitary Sewer CIPP Project	(\$435,300.00)
2025 Sanitary Sewer CIPP - Contingency	(\$43,530.00)
Sewer Manhole Lining (Completed May 2025)	(\$16,050.00)
Total Expenses:	(\$494,880.00)
Remaining Funds:	(\$27,880.00)

BUDGET AMENDMENT:

This project will require additional funds that are not currently within the approved budget. This will require a future budget amendment of \$27,880.00 to establish the project budget, which has been discussed and coordinated with Finance and will be included with the next overall budget amendment. The wastewater fund has sufficient reserves for this adjustment and a rate increase will not be necessary.

ALTERNATIVE(S):

The alternative is to not perform the 2025 Sanitary Sewer CIPP. If maintenance is not performed, it is possible that the City will experience breaks in these lines causing sanitary sewer backups in these areas, leading to more costly emergency repairs. Maintenance of the system is recommended to eliminate more costly repairs in the future.

RECOMMENDATION:

Staff recommends approval and award of the 2025 Sanitary Sewer CIPP Project contract with Inliner Solutions, LLC for \$435,300.00 plus a 10% contingency in the amount of \$43,530 for a total authorized amount of \$478,830.00 and to authorize the Mayor, City Manager, Public Works Director, City Clerk, and Project Managers to sign and execute contract documents on behalf of the City.

ATTACHMENT(S):

1. Resolution No. 95, Series 2025
2. Map of Project Area
3. 2025 Sanitary Sewer CIPP Agreement

**RESOLUTION NO. 95
SERIES 2025**

A RESOLUTION APPROVING AN AGREEMENT WITH INLINER SOLUTIONS, LLC

WHEREAS, an Agreement has been proposed between the City and Inliner Solutions, LLC for the 2025 CIPP Sewer Lining Project (the "Project"); and

WHEREAS, by this resolution the City Council desires to approve the Agreement and to authorize additional contingency for the Project.

**NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY
OF LOUISVILLE, COLORADO:**

Section 1. The City Council hereby approves the Agreement between the City and Inliner Solutions, LLC for the Project (the "Agreement") in substantially the same form as the copy of such Agreement accompanying this Resolution.

Section 2. The Mayor is hereby authorized to execute the Agreement on behalf of the City, and the Mayor is hereby further authorized to negotiate and approve such revisions to the Agreement as the Mayor determines are necessary or desirable for the protection of the City, so long as the essential terms and conditions of the Agreement are not altered.

Section 3. The City Council hereby approves an additional 10% contingency for the Project in the amount of \$43,530, for a total authorized amount of \$478,830.00 for the Project. The City's Project Manager for the Agreement may approve change orders deemed necessary for the Project, subject to the cost limit set forth in this Resolution.

PASSED AND ADOPTED this 18th day of November 2025.

Christopher M. Leh, Mayor

ATTEST:

Genny Kline, City Clerk

AGREEMENT

THIS AGREEMENT is made and entered into this 18 day of November in the year 2025 by and between:

CITY OF LOUISVILLE, COLORADO
(hereinafter called **OWNER**)

and

INLINER SOLUTIONS, LLC
(hereinafter called **CONTRACTOR**)

OWNER and CONTRACTOR, in consideration of the mutual covenants hereinafter set forth, agree as follows.

ARTICLE 1. WORK

CONTRACTOR shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows:

PROJECT: 2025 CIPP SEWER LINING PROJECT
PROJECT NUMBER: 502498-660313

ARTICLE 2. CONTRACT TIMES

- 2.1 The CONTRACTOR shall substantially complete all work by March 27, 2026 and within **116 Contract Days** after the date when the Contract Time commences to run. The Work shall be completed and ready for final payment in accordance with paragraph 14.13 of the General Conditions within **136 Contract Days** after the date when the Contract Times commence to run. The Contract Times shall commence to run on the day indicated in the Notice to Proceed.
- 2.2 **LIQUIDATED DAMAGES.** The OWNER and the CONTRACTOR agree and recognize that time is of the essence in this contract and that the OWNER will suffer financial loss if the Work is not substantially complete by the date specified in paragraph 2.1 above, plus any extensions thereof allowed in accordance with the Article 12 of the General Conditions. OWNER and CONTRACTOR also agree that such damages are uncertain in amount and difficult to measure accurately. Accordingly, the OWNER and CONTRACTOR agree that as liquidated damages, and not as a penalty, for delay in performance the CONTRACTOR shall pay the OWNER **ONE THOUSAND FIVE HUNDRED DOLLARS (\$1,500)** for each and every **Contract Day** and portion thereof that expires after the time specified above for substantial completion of the Work until the same is finally complete and ready for final payment. The liquidated damages herein specified shall only apply to the CONTRACTOR's delay in performance, and shall not include litigation or attorneys' fees incurred by the OWNER, or other incidental or consequential damages suffered by the OWNER due to the CONTRACTOR's performance. If the OWNER charges liquidated damages to the CONTRACTOR, this shall not preclude the OWNER from commencing an action against the CONTRACTOR for other actual harm resulting from the CONTRACTOR's performance, which is not due to the CONTRACTOR's delay in performance.

ARTICLE 3. CONTRACT PRICE

- 3.1 The OWNER shall pay in current funds, and the CONTRACTOR agrees to accept in full payment for performance of the Work, subject to additions and deductions from extra and/or omitted work and determinations of actual quantities as provided in the Contract Documents, the Contract Price of Four Hundred Thirty Five Thousand and Three Hundred Dollars (\$435,300.00) as set forth in the Bid Form of the CONTRACTOR dated 10/14/2025.

As provided in paragraph 11.9 of the General Conditions estimated quantities are not guaranteed, and determinations of actual quantities and classification are to be made by ENGINEER as provided in paragraph 9.10 of the General Conditions. Unit prices have been computed as provided in paragraph 11.9 of the General Conditions.

ARTICLE 4. PAYMENT PROCEDURES

CONTRACTOR shall submit Applications for Payment in accordance with Article 14 of the General Conditions. Applications for Payment will be processed by OWNER as provided in the General Conditions.

- 4.1 PROGRESS PAYMENTS. OWNER shall make progress payments on the basis of CONTRACTOR's Applications for Payment as recommended by ENGINEER, on or about the third Wednesday of each month during construction as provided below. All progress payments will be on the basis of the progress of the Unit Price Work based on the number of units completed as provided in the General Conditions.

- 4.1.1.1 Prior to final completion and acceptance, progress payments will be made in the amount equal to 95 percent of the calculated value of completed Work, and/or 95 percent of materials and equipment not incorporated in the Work (but delivered, suitably stored and accompanied by documentation satisfactory to OWNER as provided in 14.2 of the General Conditions), but in each case, less the aggregate of payments previously made and such less amounts as ENGINEER shall determine, or OWNER may withhold, in accordance with paragraph 14.7 of the General Conditions.

If OWNER finds that satisfactory progress is being made in any phase of the Work, it may, in its discretion and upon written request by the CONTRACTOR, authorize final payment from the withheld percentage to the CONTRACTOR or subcontractors who have completed their work in a manner finally acceptable to the OWNER. Before any such payment may be made, the OWNER must, in an exercise of its discretion, determine that satisfactory and substantial reasons exist for the payment and there must be provided to the OWNER written approval from any surety furnishing bonds for the Work.

Nothing contained in this provision shall preclude the OWNER and CONTRACTOR from making other arrangements consistent with C.R.S. 24-91-105 prior to contract award.

- 4.2 FINAL PAYMENT. Upon final completion and acceptance of the Work in accordance with paragraph 14.13 of the General Conditions, OWNER shall pay the remainder of the Contract Price as provided in said paragraph 14.13 of the General Conditions.

ARTICLE 5. CONTRACTOR'S REPRESENTATIONS

In order to induce OWNER to enter into this Agreement CONTRACTOR makes the following representations:

- 5.1 CONTRACTOR has examined and carefully studied the Contract Documents, (including the Addenda listed in paragraph 6.10) and the other related data identified in the Bidding Documents including "technical".
- 5.2 CONTRACTOR has inspected the site and become familiar with and is satisfied as to the general, local and site conditions that may affect cost, progress, performance or furnishing of the Work.
- 5.3 CONTRACTOR is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress and furnishing of the Work.
- 5.4 CONTRACTOR has carefully studied all reports of exploration and tests of subsurface conditions at or contiguous to the site and all drawings of physical conditions relating to surface or subsurface structures at or contiguous to the site (Except Underground facilities) which have been identified in the General Conditions as provided in paragraph 4.2.1 of the General Conditions. CONTRACTOR accepts the determination set forth in paragraph 4.2 of the General Conditions. CONTRACTOR acknowledges that such reports and drawings are not Contract Documents and may not be complete for CONTRACTOR's purposes. CONTRACTOR acknowledges that OWNER and ENGINEER do not assume responsibility for the accuracy or completeness of information and data shown or indicated in the Contract Documents with respect to such reports, drawings or to Underground Facilities at or contiguous to the site. CONTRACTOR has conducted, obtained and carefully studied (or assume responsibility for having done so) all necessary examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the site or otherwise which may affect cost, progress, performance or furnishing of the Work or which relate to any aspect of the means, methods, techniques, sequences and procedures of construction to be employed by CONTRACTOR and safety precautions and programs incident thereto. CONTRACTOR does not consider that any additional examinations, investigations, explorations, tests, studies or data are necessary for the performance and furnishing of the Work at the Contract Price, within the Contract Times and in accordance with the other terms and conditions of the Contract Documents.
- 5.5 CONTRACTOR has reviewed and checked all information and data shown or indicated on the Contract Documents with respect to existing Underground Facilities at or contiguous to the site and assumes responsibility for the accurate location of said Underground Facilities. No additional examinations, investigations, explorations, tests, reports, studies or similar information or data in respect of said Underground Facilities are or will be required by CONTRACTOR in order to perform and furnish the Work at the Contract Price, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents, including specifically the provisions of paragraph 4.3 of the General Conditions.
- 5.6 CONTRACTOR is aware of the general nature of work to be performed by OWNER and others at the site that relates to the Work as indicated in the Contract Documents.
- 5.7 CONTRACTOR has correlated the information known to CONTRACTOR, information and observations obtained from visits to the site, reports and drawings identified in the Contract Documents and all additional examinations, investigations, explorations, tests studies and data with the Contract Documents.

- 5.8 CONTRACTOR has given ENGINEER written notice of all conflicts, errors, ambiguities or discrepancies that CONTRACTOR has discovered in the Contract Documents and the written resolution thereof by ENGINEER is acceptable to CONTRACTOR, and the Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing the Work.

ARTICLE 6. CONTRACT DOCUMENTS

The Contract Documents, which constitute the entire agreement between OWNER and CONTRACTOR concerning the Work, are all written documents, which define the Work and the obligations of the Contractor in performing the Work and the OWNER in providing compensation for the Work. The Contract Documents include the following:

- 6.1 Invitation to Bid.
- 6.2 Instruction to Bidders.
- 6.3 Bid Form.
- 6.4 This Agreement.
- 6.5 General Conditions.
- 6.6 Supplementary Conditions.
- 6.7 General Requirements.
- 6.8 Technical Specifications.
- 6.9 Drawings with each sheet bearing the title: **2025 CIPP SEWER LINING PROJECT**
- 6.10 Change Orders, Addenda and other documents which may be required or specified including:
 - 6.10.1 Addenda No. 1 to 2 exclusive
 - 6.10.2 Documentation submitted by CONTRACTOR prior to Notice of Award.
 - 6.10.3 Schedule of Subcontractors
 - 6.10.4 Anti-Collusion Affidavit
 - 6.10.5 Certification of EEO Compliance
 - 6.10.6 Notice of Award
 - 6.10.7 Performance Bond
 - 6.10.8 Labor and Material Payment Bond
 - 6.10.9 Certificates of Insurance
 - 6.10.10 Notice to Proceed
 - 6.10.11 Contractor's Proposal Request
 - 6.10.12 Contractor's Overtime Request
 - 6.10.13 Field Order
 - 6.10.14 Work Change Directive
 - 6.10.15 Change Order
 - 6.10.16 Application for Payment
 - 6.10.17 Certificate of Substantial Completion
 - 6.10.18 Claim Release
 - 6.10.19 Final Inspection Report

- 6.10.20 Certificate of Final Completion
- 6.10.21 Guarantee Period Inspection Report

- 6.11 The following which may be delivered or issued after the Effective Date of the Agreement and are attached hereto: All Written Amendments and other documents amending, modifying, or supplementing the Contract Documents pursuant to paragraphs 3.5 and 3.6 of the General Conditions.
- 6.12 In the event of conflict between the above documents, the prevailing document shall be as follows:
 - 1. Permits from other agencies as may be required.
 - 2. Special Provisions and Detail Drawings.
 - 3. Technical Specifications and Drawings. Drawings and Technical Specifications are intended to be complementary. Anything shown or called for in one and omitted in another is binding as if called for or shown by both.
 - 4. Supplementary Conditions.
 - 5. General Conditions.
 - 6. City of Louisville Design and Construction Standards.
 - 7. Reference Specifications.

In case of conflict between prevailing references above, the one having the more stringent requirements shall govern.

There are no Contract Documents other than those listed above in this Article 6. The Contract Documents may only be amended, modified or supplemented as provided in paragraphs 3.5 and 3.6 of the General Conditions.

ARTICLE 7. MISCELLANEOUS

- 7.1 Terms used in this Agreement, which are defined in Article 1 of the General Conditions, shall have the meanings indicated in the General Conditions.
- 7.2 No assignment by a party hereto of any rights under or interests in the Contract Documents will be binding on another party hereto without the written consent of the party sought to be bound; and specifically but without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment no assignment will release or discharge that assignor from any duty or responsibility under the Contract Documents.
- 7.3 OWNER and CONTRACTOR each binds itself, its partners, successors, assigns and legal representatives to the other party hereto, its partners, successors, assigns and legal representatives in respect to all covenants, agreements and obligations contained in the Contract Documents.

ARTICLE 8. OTHER PROVISIONS

IN WITNESS WHEREOF, OWNER and CONTRACTOR have signed this Agreement in duplicate. One counterpart each has been delivered to OWNER and CONTRACTOR. All portions of the Contract Documents have been signed, initialed or identified by OWNER and CONTRACTOR.

This Agreement will be effective on _____, 2025.

**OWNER: CITY OF LOUISVILLE,
COLORADO**

By: _____
Chris Leh, Mayor

(CORPORATE SEAL)

Attest: _____
Genny Kline, City Clerk

Address for giving notices:

749 Main Street
Louisville, Colorado
80027

Attention: City Engineer

**CONTRACTOR:
INLINER SOLUTIONS, LLC**

By: _____
Thomas Gottsegen, CLO/Asst. Secretary

(CORPORATE SEAL)

Attest: _____
Robbie Hille, II, CFO/Secretary

Address for giving notices:

7915 Cherrywood Loop
Kiowa, CO 80117



SUBJECT: RESOLUTION NO. 96, SERIES 2025 – A RESOLUTION
APPROVING AN ASSIGNMENT OF PURCHASE CONTRACT TO
BUY AND SELL REAL ESTATE FOR 1016 MAIN STREET

DATE: NOVEMBER 18, 2025

PREPARED BY: ROB ZUCCARO, COMMUNITY DEVELOPMENT DIRECTOR

PRESENTED BY: ROB ZUCCARO, COMMUNITY DEVELOPMENT DIRECTOR

SUMMARY:

Attached for consideration is a resolution approving the assignment of the purchase contract for 1016 Main Street from Marike and Gregory Fitzgerald to 1016 Main LLC.

BACKGROUND / PRIOR DISCUSSIONS:

The City recently purchased the single-family residential property on September 30, 2025 for \$1,400,000 using Historic Preservation Funds (HPF) with the intent to resell the property after it is designated as a local historic landmark. On October 7, 2025, the City entered into a contract to sell the property to new owners for \$1,400,000 (Attachment No. 2, Resolution No. 75, Series 2025). The contract provides that the transfer of property to the new owners will take place after the property is approved for landmark status while still under City ownership. The City Council landmark hearing is on this same agenda.

[LINK: October 7, 2025 City Council Communication](#)

ANALYSIS:

The Fitzgeralds have requested an assignment of the Contract to 1016 Main LLC rather than purchasing the property individually. The City has scheduled the closing for November 24, 2025.

2025 COUNCIL WORK PLAN:

This item is not on the 2025 City Council Work Plan.

FISCAL IMPACT:

Budgeted?: **Not Applicable**

The estimated unencumbered HPF fund balance is approximately \$2.1M following the purchase of 1016 Main Street, with around \$1M in revenues each year. Following the sale of 1016 Main Street, the unencumbered fund balance will be restored to approximately \$3.5M.

ALTERNATIVE(S):

Staff does not recommend any alternatives to this action item.

SUBJECT: RESOLUTION NO. 96, SERIES 2025

DATE: NOVEMBER 18, 2025

PAGE 2 OF 2

RECOMMENDATION:

Staff recommends approval of Resolution No. 96, Series 2025, approving an assignment of the purchase contract to buy and sell real estate for 1016 Main Street.

ATTACHMENT(S):

1. Resolution No. 96, Series 2025
2. Resolution No. 75, Series 2025
3. Assignment of Purchase Contract to Buy and Sell Real Estate

**RESOLUTION NO. 96
SERIES 2025**

**A RESOLUTION APPROVING AN ASSIGNMENT OF PURCHASE CONTRACT TO
BUY AND SELL REAL ESTATE FOR 1016 MAIN STREET**

WHEREAS, by this resolution, the City Council desires to approve an assignment of the Purchase Contract to Buy and Sell Real Estate for the sale of the City-owned property at 1016 Main Street.

**NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY
OF LOUISVILLE, COLORADO:**

Section 1. The City Council hereby approves the Assignment of Purchase Contract to Buy and Sell Real Estate between the City, Marike and Gregory Fitzgerald, and 1016 Main LLC (the "Assignment") in substantially the same form as the copy of such Assignment accompanying this Resolution.

Section 2. The Mayor is hereby authorized to execute the Assignment on behalf of the City, and the Mayor is hereby further authorized to negotiate and approve such revisions to the Contract as the Mayor determines are necessary or desirable for the protection of the City, so long as the essential terms and conditions of the Assignment are not altered.

PASSED AND ADOPTED this 18th day of November 2025.

Christopher M. Leh, Mayor

ATTEST:

Genny Kline, City Clerk

ASSIGNMENT OF PURCHASE CONTRACT TO BUY AND SELL REAL ESTATE

THIS ASSIGNMENT is made and entered into this ____ day of _____, 2025 (the “**Effective Date**”), by and between the CITY OF LOUISVILLE, a Colorado home rule municipal corporation (“**City**”), MARIKE FITZGERALD and GREGORY FITZGERALD (collectively, “**Assignor**”), and 1016 MAIN LLC, a Delaware limited liability company (“**Assignee**”).

WHEREAS, the City and Assignor are parties to that certain Purchase Contract to Buy and Sell Real Estate dated October 1, 2025 (“**Purchase Contract**”) concerning the purchase and sale of property located at 1016 Main Street in Louisville; and

WHEREAS, Assignor has formed a limited liability company to purchase the property and desires to assign the Purchase Contract to Assignee; and

WHEREAS, Section 22 of the Purchase Contract provides that Assignor may not assign the Purchase Contract to another party without the City’s prior written consent; and

WHEREAS, the City desires to approve such assignment and Assignee desires to accept such assignment as provided herein.

NOW, THEREFORE, for and in consideration of the promises, payment, covenants, and undertakings hereinafter set forth, and other good and valuable consideration, which is hereby acknowledged and receipted for, the parties agree as follows:

1. The foregoing recitals are incorporated herein.
2. Assignor hereby assigns to Assignee, and Assignee hereby assumes, all of Buyer’s obligations, duties, rights, title, and interest in, to, and under the Purchase Contract. Notwithstanding anything to the contrary herein or in the Purchase Contract, Assignor shall remain liable for all obligations and duties of Assignor under the Purchase Contract prior to the Effective Date.
3. The City hereby approves the foregoing assignment and delegation.
4. This Assignment may be executed in one or more counterparts, and when all counterparts are so signed, the sum of them shall be considered the original, and shall be deemed to have been signed as one integrated document.

IN WITNESS WHEREOF, the parties have caused this Assignment to be executed as of the date first above written above.

ASSIGNOR

**ASSIGNEE
1016 MAIN LLC**

Marike Fitzgerald

By: _____

Printed Name: _____

Gregory Fitzgerald

Title: _____

This Assignment is hereby approved by the City of Louisville:

CITY OF LOUISVILLE

By: _____
Christopher M. Leh, Mayor

ATTEST:

Genny Kline, City Clerk

**SUBJECT: COUNCIL COMMITTEE RECOMMENDATION OF APPLICANTS TO
APPOINT OR INTERVIEW FOR BOARD AND COMMISSION
VACANCIES – THIS ITEM WILL BE UPDATED WITH ADDITIONAL
INFORMATION AFTER THE COMMITTEE MAKES THEIR
DECISIONS**

DATE: NOVEMBER 18, 2025

PREPARED BY: GENNY KLINE, CITY CLERK

**PRESENTED BY: MAYOR LEH
COUNCILMEMBER FAHEY**

SUMMARY:

Annually the City Council appoints a two-member committee to review the applications that have been received for the following year's board and commission vacancies. The committee will then make recommendations to the full City Council on appointments without an interview and appointments with interviews to be conducted the second week in December.

The Committee makes the following recommendations for appointments, without an interview at the December 16 meeting:

Board of Adjustment

Building Code Board of Appeals

Cultural Advisory Board

Historic Preservation Commission

Historical Museum Advisory Board

Library Board of Trustees

Local Licensing Authority

Open Space Advisory Board

Parks & Public Landscaping Advisory Board

Planning Commission

Recreation Advisory Board

Revitalization Commission

Sustainability Advisory Board

The Committee makes the following recommendations to interview the following applicants on December 8 and 9:

Board of Adjustment

Building Code Board of Appeals

Cultural Advisory Board

Historic Preservation Commission

Historical Museum Advisory Board

Library Board of Trustees

Local Licensing Authority

Open Space Advisory Board

Parks & Public Landscaping Advisory Board

Planning Commission

Recreation Advisory Board

Revitalization Commission

Sustainability Advisory Board

The Committee also recommends 10-minutes interviews using the same questions from last year.

BACKGROUND / PRIOR DISCUSSIONS:

- October 7 – City Council appointed Mayor Leh and Councilmember Fahey to the committee.
- November 13 – Mayor Leh and Councilmember Fahey met to review the applications and finalize their recommendations.

ANALYSIS:

City Council should approve the final list of applicants for interview. After the interview, the Council will discuss a complete list of applicants for appointments. The Council will then vote on final board appointments on December 16. All appointments will be effective January 1, 2026.

2025 COUNCIL WORK PLAN:

Boards and Commissions are a core service for the City. Annually appointing residents to serve on the City's various Boards and Commissions ensures that government is inclusive, responsive, transparent, accessible, effective and efficient.

FISCAL IMPACT:

Budgeted?: **Not Applicable**

ALTERNATIVE(S):

Appointments need to be made at the December 16th Council meeting in order to have all appointments effective January 1, 2026.

RECOMMENDATION:

Staff recommends approval of a list of applicants to interview on the evenings of December 8 and 9 starting at 5:30pm

ATTACHMENT(S):

1. 2026 Board Recruitment Worksheet with current members, vacancies and applicants.
2. General applications and supplemental questionnaires
3. Board and Commission Overview and Duties

Boards and Commissions Descriptions & Job Duties

Board of Adjustment

A quasi-judicial board that hears and decides requests for variances from the City's zoning ordinances.

- Job Duties
 - Attends monthly meetings of the board
 - Hears and decides applications for variances from the Louisville Municipal Code
 - Hears and decides floodplain development permit requests for compatibility with the Louisville Municipal Code
 - Hears and decides requests to determine if a particular land use is allowed under the Louisville Municipal Code
 - Hears and decides appeals from administrative decisions of the Director of Planning and Building Safety
- Board Information
 - Seven (7) members, one is an alternate
 - Three-year terms
 - Staff liaison: Emily Cline-Gibson - EClineGibson@LouisvilleCO.gov - 303.335.4887
 - Meets the third Wednesday of each month, 6:30 pm, as needed

Building Code Board of Appeals

A quasi-judicial board that hears and decides appeals of orders, decisions, or determinations made by the Chief Building Official relative to the application of the building code.

- Job Duties
 - Attends monthly meetings of the board
 - Reviews appeals to the Chief Building Official's determinations regarding building codes.
 - Reviews building codes and makes recommendations to the City Council for adoption
 - Reviews suggested changes to the Louisville Municipal Code and makes recommendations to the City Council for adoption
- Board Information
 - Six (6) members, one is an alternate
 - Members must be qualified by experience and training to understand matters pertaining to building construction
 - Three-year terms
 - Staff liaison: Chad Root - CRoot@LouisvilleCO.gov - 303.335.4580
 - Meets the second Wednesday of each month, 1:30 pm, as needed

Cultural Advisory Board

The Board promotes arts and culture in Louisville; programs cultural events, advocates for and supports artists, and advises City Council. By doing so the board engages our diverse social, cultural and creative community.

- Job Duties
 - Attends monthly meetings of the board with additional subcommittee assignments as needed and staff CAB events
 - Advises the City Council on arts and cultural related matters
 - Plans and implements the outdoor concert series and other cultural events
 - Evaluates and awards grants to support the arts and other cultural activities
- Board Information
 - Seven (7) members
 - Three-year terms
 - Staff liaison: Iris Belensky – IBelensky@LouisvilleCO.gov – 303.335.4581
 - Meets the second Wednesday of each month, 6:30 pm

Historic Preservation Commission

A quasi-judicial board advising the City Council regarding historic landmarking of properties and on spending the Historic Preservation Fund.

- Job Duties
 - Attends monthly meetings of the board
 - Makes recommendations to City Council on landmarking of historic structures
 - Makes recommendations to City Council on the utilization of the Historic Preservation Fund
 - Advises City Council on incentives for historic preservation
 - Provides outreach and education on historic preservation issues
 - Makes decisions regarding alterations to and demolition of historic buildings
- Board Information
 - Seven (7) members (three must be preservation professionals, one must live in the Old Town Overlay District)
 - Three-year terms
 - Staff liaison: Jess Daniels – JDaniels@LouisvilleCO.gov – 303.335.4595
 - Meets the third Monday of each month, 6:30 pm

Historical Museum Advisory Board

Advises the City Council on matters related to the Louisville Historical Museum and promotes public awareness of the history of Louisville with an emphasis on the coal mining era.

- Job Duties
 - Attends bi-monthly meetings of the board
 - Advises the City Council on matters relating to the development and use of the Louisville Historical Museum
 - Promotes public awareness of the history of Louisville and its surrounding community
 - Establishes criteria for the collection, preservation, and display of historical artifacts, documents, and structures by the Museum
 - Works with Museum staff on such issues as deciding which items to accept into the Museum's permanent collection and establishing the Museum mission statement and Master Plan
 - Works with directors of the Louisville History Foundation, a private fundraising organization, on issues of common interest
 - Serves as a sounding board for City departments and local organizations on matters relating to local history
- Board Information
 - Seven (7) members
 - Four-year terms
 - Staff liaison: Gigi Yang - GYang@LouisvilleCO.gov - 303.335.4848
 - Meets the third Wednesday of odd-numbered months, 6:30 pm

Library Board of Trustees

Advises the City Council on matters related to the library and library policy.

- Job Duties
 - Attends monthly meetings of the board
 - Serves as advisors in the review and development of policies for the Louisville Public Library
 - Develops, reviews, and updates the Library's Strategic Plan
 - Liaises with City Council on matters relating to the Library
 - Promotes use of the Library within the community
 - Develops and performs outreach activities
 - Collaborates as needed with the Louisville Library Foundation
 - Has a Louisville Public Library card!
- Board Information
 - Seven (7) members, one representative appointed by Superior Board of Trustees
 - Four-year terms
 - Staff liaison: Brandi Cummings - BCummings@LouisvilleCO.gov - 303.335.4800
 - Meets the second Thursday of odd-numbered months, 6:30 pm

Local Licensing Authority

A quasi-judicial board that reviews applications for liquor licenses and retail and medical marijuana licenses. Also reviews alleged violations of City's liquor and marijuana codes.

- Job Duties
 - Attends monthly meetings of the board
 - Reviews and makes a determination on liquor and marijuana applications as well as modifications to existing licenses.
 - Reviews Police Department reports for possible violations
 - Participates in hearings to determine if licensees should be sanctioned
- Board Information
 - Six (6) members, one is an alternate
 - Four-year terms
 - Staff liaison: Genny Kline - GKline@LouisvilleCO.gov - 303.335.4574
 - Meets the fourth Monday of each month, 6:30 pm

Open Space Advisory Board

Advises City Council on the conservation, restoration, management, and acquisition of Open Space properties.

- Job Duties:
 - Attends monthly meetings of the board
 - Reviews and updates an inventory of City Open Space. This shall include existing Open Space as well as other undeveloped lands owned by the City that may be eligible for Open Space designation in the future
 - Provides recommendations for natural resource management, environmental education, and trails
 - Reviews and recommends revisions to the Open Space Master Plan as necessary
 - Provides comments to City Council and/or the Planning Commission on development proposals affecting Open Space and trails
 - Periodically reviews and make recommendations on Capital Improvement priorities
- Board Information
 - Eight (8) members
 - Three-year terms
 - Staff liaison: Ember Brignull - EmberB@LouisvilleCO.gov - 303.335.4729
 - Meets the second Wednesday of each month, 6:45 pm

Parks & Public Landscape Advisory Board

Advises the City Council on matters of interest related to parks and public landscaping within the City of Louisville.

- Job Duties
 - Attends monthly meetings of the board
 - Provides recommendations for parks, programs, and facilities
 - Reviews plans for parks and public landscapes maintenance, development, and redevelopment
 - Makes recommendations on the capital and operating budget as it relates to parks and public landscape maintenance
 - Advises the City on best practices related to parks and landscaping
 - Promotes and educates the public regarding healthy horticultural and forestry practices in public and private landscapes
 - Gives comments on city landscape master plans, landscape ordinances and other appropriate landscape documents
- Board Information
 - Seven (7) members
 - Three-year terms
 - Staff liaison: Erik Swiatek - ESwiatek@LouisvilleCO.gov - 303.335.4777
 - Meets the first Wednesday of each month, 6:30 pm

Planning Commission

A quasi-judicial board that evaluates land use proposals against municipal zoning regulations and makes recommendations to the City Council.

- Job Duties
 - Attends monthly meetings
 - Reviews land use applications, development applications, and annexation requests against zoning regulations and makes recommendations to City Council
 - Suggests Municipal Code amendments to the City Council
 - Advises the City Council on long-range planning and items such as design standards and small area plans.
- Board Information
 - Seven (7) members
 - Two 2-year terms, two 4-year terms, three 6-year terms
 - Staff liaison: Jeff Hirt - JHirt@LouisvilleCO.gov - 303.335.4591
 - Meets the second Thursday of each month, 6:30 pm

Recreation Advisory Board

Advises the City Council on matters of interest related to the Recreation/Senior Center and the Coal Creek Golf Course.

- Job Duties
 - Attends monthly meetings
 - Advises City Council on the community's needs and desires for recreation and golf facilities
 - Advises the City Council on maintenance, development, and redevelopment of recreation and golf facilities
 - Advises the City Council on the capital and operating budget for recreation and golf
 - Advises the City Council on programming and long-term planning for recreation and golf
- Board Information
 - Seven (7) members
 - Three-year terms
 - Staff liaison: Kathy Martin - KathyM@LouisvilleCO.gov - 303.335.4903
 - Meets the fourth Monday of each month, 6:30 pm

Revitalization Commission

Responsible for carrying out the Highway 42 Area Urban Renewal Plan adopted in 2006.

- Job Duties
 - Attends monthly meetings
 - Reviews and considers assistance for projects that address blight conditions within the Urban Renewal Area
 - Works to stimulate growth and reinvestment in the Urban Renewal Area and surrounding blocks and to reduce, eliminate and prevent the spread of blight in the Urban Renewal Area
- Board Information
 - Seven (7) members (one from City Council)
 - Five-year terms
 - Staff liaison: Vanessa Zarate - VZarate@LouisvilleCO.gov - 303.335.4531
 - Meets the third Wednesday of each month, 8 am

Sustainability Advisory Board

Advises City Council on such matters as natural resources and energy conservation proposals and measures; sustainable practices and policies; and sustainability related activities for the benefit of Louisville residents.

- Job Duties
 - Attends monthly meetings
 - Advises the City Council and staff on sustainability programs
 - Establishes goals and indicators with baseline values to measure progress towards sustainability targets
 - Identifies roles, responsibilities, and resources needed to implement sustainability programs
- Board Information
 - Seven (7) members
 - Four-year terms
 - Staff liaison: Hannah Miller - HMiller@LouisvilleCO.gov - 303.335.5046
 - Meets the third Wednesday of each month, 6:30 pm

Youth Advisory Board

Advises City Council on issues affecting the youth of Louisville

- Job Duties
 - Attends monthly meetings October – May
 - Participates in the board selected monthly volunteer event, October – May
 - Makes recommendations to the City Council regarding issues related to Louisville youth.
- Board Information
 - Thirteen (13) members
 - Two-year terms
 - Staff liaisons: Mandy Perera - MandyP@LouisvilleCO.gov - 303.335.4902 and Jessica Schwartz - JSchwartz@LouisvilleCO.gov - 303.335.4844
 - Meets the first Thursday of each month during the school year, 6:00-7:30 pm

SUBJECT: RESOLUTION NO. 97, SERIES 2025 – A RESOLUTION
DESIGNATING THE RESIDENCE LOCATED AT 1016 MAIN
STREET A HISTORIC LANDMARK

DATE: NOVEMBER 18, 2025

PREPARED BY: JESS DANIELS, SENIOR PLANNER

PRESENTED BY: JESS DANIELS, SENIOR PLANNER

SUMMARY:

The City, as applicant, is requesting:

- Landmark designation of the residence located at 1016 Main Street, to be named the Petrelli-Del Pizzo House.

Historic Preservation Commission (HPC) recommendation:

- HPC recommends approval of the Landmark request.

Staff recommendation:

- Staff recommend approval of the Landmark request.



Vicinity Map

BACKGROUND / PRIOR DISCUSSIONS:

1016 Main Street is one of twelve Louisville properties that were nominated for and received designation under the National Register of Historic Places in 1986. Following the review of an application for complete demolition of 1016 Main Street in April 2025, the

Historic Preservation Commission (HPC) placed a maximum-allowed 180-day stay on the demolition request, which expired on September 1, 2025. The demolition hearing garnered a high level of public interest and advocacy to preserve the historic home. After exploring preservation options with the property owner, the City Council entered into a contract to purchase 1016 Main Street for \$1,400,000 using the Historic Preservation Fund (HPF) at the August 5, 2025 meeting. The closing took place on September 30, 2025.

The City has since entered into a contract to sell the property, after landmarking, to a new owner. The City will reimburse the HPF with the proceeds of the sale. The future property owners will be subject to the preservation requirements for a locally landmarked home and be able to take advantage of HPF grants and zoning incentives to help maintain the home, and if desired, redevelop the property within the design requirements for historic homes. The \$5,000 Landmark Bonus Grant will be passed on to the new owner after the closing date. [LINK: October 7, 2025 City Council Communication](#).

HISTORICAL BACKGROUND:

Information from Gigi Yang, Louisville Historical Museum

The history of 1016 Main exemplifies the modest lives of Louisville residents in the late 19th and 20th centuries. The property was used by several generations of the Ashe and Petrelli families as a source of rental income and as a home. It provides a distinctive example of mail-order house construction and of the building industry.

The exact year of construction cannot be determined. Boulder County Records give 1910 as the house's date of construction, however, the County Assessor Card notes the house was 55 years old in 1950, placing the earliest date of construction at 1895. Numerous resources indicate that the house was constructed from a Sears and Roebuck kit. The Sears Catalog of Modern Homes, selling do-it-yourself kits for building a house, was available from 1908-1948, which would bring the earliest date of construction to 1908.

Mary Quillian Ashe purchased the home in 1910, after having previously lived as a next-door neighbor. Mary and her husband, Thomas Gregory Ashe, who was a superintendent of the Lucas mine near Broomfield, moved to Texas with their six sons in 1911. However, the Ashe family retained ownership of the house for the next 27 years and used it as a rental until Mary's death in 1934.

In 1938, the Ashe family sold the home to Victor and Mary Petrelli. Victor was born in Italy and came to the US in 1910. Mary was of Italian descent and born in New Jersey. The Petrellis spent their early years of marriage in Italy until coming back to the United States with their two sons. They moved from Wyoming to Louisville after purchasing the house at 1016 Main, and Victor and his eldest son, Eugene, found work at the Louisville Lafayette Coal Company. During World War II, Victor worked as a loader at the Centennial mine. Mary passed away in 1948 and Victor in 1961. The Petrelli family retained ownership of the property until 1982, when their three sons sold the property.

SUBJECT: RESOLUTION NO. 97, SERIES 2025

DATE: NOVEMBER 18, 2025

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See Attachment No. 2 for complete Social History Report.



Photo of 1016 Main Street dated ca. early 1900s.

CITY COUNCIL COMMUNICATION

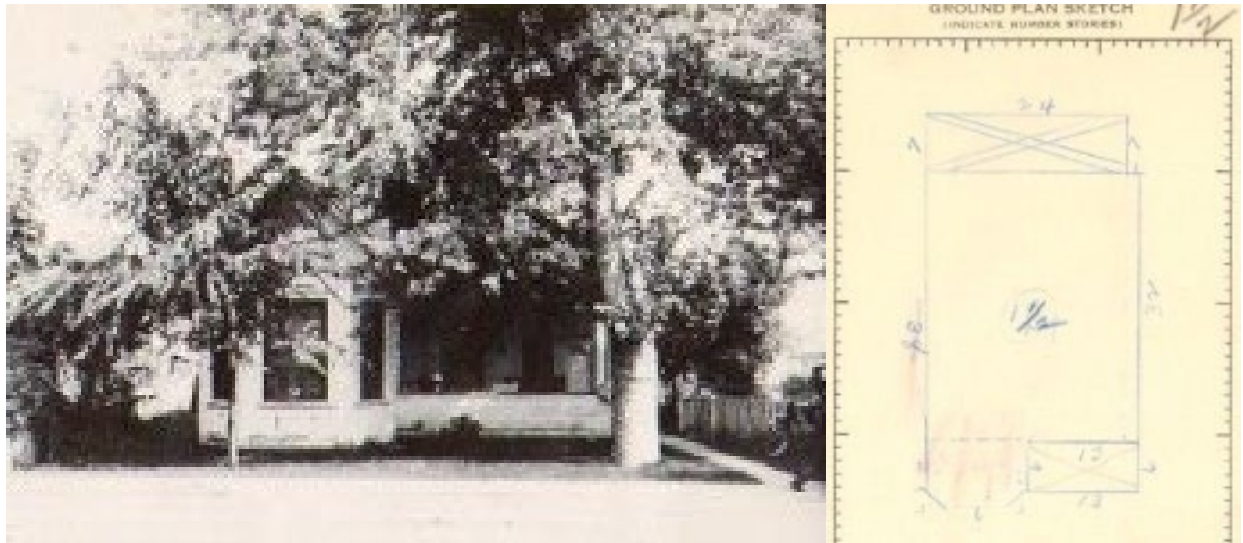


Photo and floor plan of 1016 Main from the 1948 Assessor's Card.

ARCHITECTURAL INTEGRITY:

1016 Main Street was documented in the [PaleoWest “Stories in Places”](#) residential context as displaying a Queen Anne architectural style, one of three in the Caledonia Place subdivision. It is likely that this building was constructed from a Sears and Roebuck house kit. The property exhibits a front-gabled roof and front porch. There is a single addition on the rear of the house that was added 1948 and was enclosed thereafter. Changes to the building also include a bay window and greenhouse on the south side, both added in 1989.

The house has maintained many of its original features, including the siding, windows, and trim. It is unclear if the front door is original, but it may be. Overall, the property exhibits a high level of architectural integrity. This block of Main Street also includes many historical homes as well as the Louisville Historical Museum Campus, adding to the historic character and architectural integrity overall of this section of Old Town.

SUBJECT: RESOLUTION NO. 97, SERIES 2025

DATE: NOVEMBER 18, 2025

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Current images of 1016 Main Street.

ANALYSIS:

CITY COUNCIL COMMUNICATION

In order to receive a City Landmark designation, landmarks must be at least 50 years old and meet one or more of the criteria for architectural, social or geographic/environmental significance as described in Louisville Municipal Code (LMC) Section 15.36.050(A).

Staff analysis of the criteria is as follows:

Criteria	Meets Criteria	Evaluation
<i>A. Landmarks must be at least 50 years old and meet one or more of the criteria for architectural, social or geographic/environmental significance as described in this chapter.</i>	Yes	1016 Main Street was constructed ca. 1895-1910, making it approximately 114-129 years old.
1. a. Architectural. 1) Exemplifies specific elements of an architectural style or period. 2) <i>Example of the work of an architect or builder who is recognized for expertise nationally, statewide, regionally, or locally.</i> 3) <i>Demonstrates superior craftsmanship or high artistic value.</i> 4) <i>Represents an innovation in construction, materials or design.</i> 5) <i>Style particularly associated with the Louisville area.</i> 6) <i>Represents a built environment of a group of people in an era of history that is culturally significant to Louisville.</i> 7) <i>Pattern or grouping of elements representing at least one of the above criteria.</i> 8) <i>Significant historic remodel.</i>	Yes	Architectural Significance - <i>Exemplifies specific elements of an architectural style or period.</i> • Queen Anne style is relatively rare in Louisville. • The property has maintained its Queen Anne architectural style and front-gabled roof. • The property was likely a kit house.

Criteria	Meets Criteria	Evaluation
1. b. Social. 1) Site of historic event that had an effect upon society. 2) Exemplifies cultural, political, economic or social heritage of the community. 3) Association with a notable person or the work of a notable person.	Yes	Social Significance - <i>Exemplifies cultural, political, economic or social heritage of the community.</i> The social history of 1016 Main Street includes association with: • Italian immigration history • Mining history
1. c. Geographic/environmental. 1) Enhances sense of identity of the community. 2) An established and familiar natural setting or visual feature that is culturally significant to the history of Louisville.	Yes	• The historic location of the house on Main Street helps to create a sense of community identity. • The high level of public interest and advocacy to preserve the historic home reflects its value and identity in the community.

Criteria	Meets Criteria	Evaluation
3. <i>All properties will be evaluated for physical integrity and shall meet one or more of the following criteria:</i> a. <i>Shows character, interest or value as part of the development, heritage or cultural characteristics of the community, region, state, or nation.</i> b. <i>Retains original design features, materials and/or character.</i> c. <i>Remains in its original location, has the same historic context after having been moved, or was moved more than 50 years ago.</i> d. <i>Has been accurately reconstructed or restored based on historic documentation.</i>	Yes	<i>Retains original design features, materials and/or character.</i> • The house appears to have remained in the same location and setting since its construction. • The property has maintained its Queen Anne architectural style and front-gabled roof

Historic Preservation Commission (HPC) Recommendation

The Historic Preservation Commission (HPC) held a public hearing on the application at the September 15, 2025 meeting. The Commissioners voted to recommend approval of the local landmark designation. [LINK: September 15, 2025 Historic Preservation Commission Communication.](#)

2025 COUNCIL WORK PLAN:

This item is not on the 2025 City Council Work Plan.

FISCAL IMPACT:**Budgeted?: Not Applicable**

There is no fiscal impact for the landmark request. The \$5,000 landmark incentive grant will be passed on to the new property owner. The new property owner may apply for Historic Preservation Fund grants within 3 years of the purchase date of the property.

SUBJECT: RESOLUTION NO. 97, SERIES 2025

DATE: NOVEMBER 18, 2025

PAGE 9 OF 9

ALTERNATIVE:

That Council does not approve Resolution No. 97, Series 2025, approving the landmark designation at 1016 Main Street. If the landmarking is not approved, the City Council and the contract purchaser of the property will also need to amend the purchase and sale contract for the property, since it specifically references landmarking of the property prior to closing. This alternative action would not align with the recommendation of the Historic Preservation Commission and prior City Council action, and the new owner would not be eligible to receive the \$5000 landmark incentive or any other zoning or financial preservation incentives as part of the City's historic preservation program.

RECOMMENDATION:

Approval of Resolution No. 97, Series 2025, approving the landmark designation at 1016 Main Street, to be named the Petrelli-Del Pizzo House.

ATTACHMENTS:

1. Resolution No. 97, Series 2025
2. Social History Report
3. Historic Structure Assessment

**RESOLUTION NO. 97
SERIES 2025**

**A RESOLUTION DESIGNATING THE RESIDENCE LOCATED AT 1016 MAIN
STREET A HISTORIC LANDMARK**

WHEREAS, there has been submitted to the City Council an application requesting a landmark eligibility determination for a historical residential structure located at 1016 Main Street on property legally described as Lot 10, Block 17, Caledonia Place, City of Louisville, County of Boulder, State of Colorado; and

WHEREAS, City staff and the Louisville Historic Preservation Commission have reviewed the application and found it to be in compliance with Chapter 15.36 of the Louisville Municipal Code; and

WHEREAS, the Louisville Preservation Commission held a properly noticed public hearing on the proposed landmark application and has forwarded to the City Council its recommendation of approval; and

WHEREAS, the City Council has duly considered the proposed landmark application and the Commission's recommendation and report, and has held a properly noticed public hearing on the application; and

WHEREAS, the City Council finds the residence at 1016 Main Street meets the criteria set forth in Section 15.36.050.A.1.a of the Louisville Municipal Code for architectural significance because of the architectural integrity that is representative of the built environment in late 1800s and early 1900s Louisville; and

WHEREAS, the City Council finds the residence at 1016 Main Street meets the criteria set forth in Section 15.36.050.A.1.b of the Louisville Municipal Code for social significance because it exemplifies the cultural, political, economic, or social heritage of the community considering its association with various Louisville families and Louisville's cultural history; and

WHEREAS, the City Council finds this architectural and social significance justifies the approval of the historic landmark application.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF LOUISVILLE, COLORADO:

Section 1. The proposed historic landmark application for the residence located at 1016 Main Street is hereby approved and is hereby designated a historic landmark to be preserved and named the Petrelli-Del Pizzo House and as such is eligible for incentives offered by the City for historic landmarks.

Section 2. The City Clerk shall provide written notification of such designation to the property owners and cause a copy of this resolution to be recorded with the Boulder County Clerk and Recorder.

PASSED AND ADOPTED this 18th day of November 2025.

Christopher M. Leh, Mayor

ATTEST:

Genny Kline, City Clerk



1016 Main St. History

Legal Description: LOT 10 BLK 17 CALEDONIA PLACE

Year of Construction: c. 1895-1910

Summary: The history of 1016 Main exemplifies the modest lives of Louisville residents in the late 19th and 20th centuries. The property was used by several generations of the Ashe and Petrelli families as a source of rental income and as a home. It provides a distinctive example of mail-order house construction and of the building industry.

Development of the Caledonia Place Subdivision

The subdivision in which this property is located was originally part of Caledonia Place which was platted and recorded with Boulder County in 1890 by James Cannon, Howard Morris, and Henry Brooks. It was the fourth addition to original Louisville, which had been platted in 1878.

Early Property Ownership

The earliest transaction for this property occurred in 1892 when J.C. Williams purchased Lot 10 Block 17 from Howard Morris, James Cannon Jr., and Henry Brooks- the original developers of Caledonia Place. J.C. Williams was an early developer in Louisville who owned many properties throughout downtown. He was a Superintendent for Northern Colorado and Coke and the Rocky Mountain Fuel Company.

Williams promptly resold the property to George B. Cannon, a Lafayette florist and brother of James Cannon, Jr. Within a year, in 1894, Cannon sold the property to the McAllister Lumber & Supply Company. At that time Frank L Boyd was the manager of the Louisville office of McAllister Lumber. McAllister Lumber provided building supplies to the mines and cities and had begun dabbling in the real estate market, purchasing and selling lots in Louisville and Lafayette. Nine years later, in 1904, through a quit claim deed, Frank Boyd acquired the property for \$40.

Joseph H. and Elizabeth Fearn Ownership, 1905-1910

Joseph and Elizabeth Fearn purchased the property from Frank Boyd in 1905 for \$1200. The Fearn family came to Louisville from Illinois and had been living in Louisville since 1895. They had two children – Ernest (b.1896) and Lela (b.1900). Joseph Fearn is listed as a coal miner in the 1900 and 1910 census and ran for Trustee of Louisville on the socialist ticket in 1910. The photo below is dated c. early 1900s and is most likely of the Fearn family outside 1016 Main.



Dates of Construction

It is possible a house was constructed on the lot while the property was owned by McAllister Lumber or Frank Boyd, however the year of construction cannot be accurately determined. Boulder County's online records give 1910 as the house's date of construction. However, the County has sometimes been found to be in error with respect to the date of construction of houses in the area, so other evidence is looked to. In this case, the date offered by the County contradicts the information, including information on the County Assessor card itself, which notes the house was 55 years old in 1950. This would place the earliest date of construction at 1895, around the time that McAllister Lumber acquired the property.

Later reports and newspaper articles related to the listing of 1016 Main on the National Register of Historic Places, notes the date of construction as 1892 (*Louisville Times*, October 1, 1986) and as built by John L. Ashe in 1910 (*Louisville Times*, November 9, 1986). Numerous resources, including the Louisville Times, the National Register application, a [2005 Louisville Historian article on Sears Homes](#), and

anecdotal evidence all indicate that 1016 Main was constructed from a Sears and Roebuck kit. The *Sears Catalog of Modern Homes*, selling do-it-yourself kits for building a house, was available from 1908-1948, which would bring the earliest date of construction to 1908.

The 1909 Drumm's Map of Louisville shows a house located on Lot 10 Block 17 which also indicates that the house was constructed prior to 1909.



Ashe Family Ownership, 1910-1938

In 1910, the Fearn family moved to Nebraska and sold 1016 Main to their next-door neighbor, Mary Quillian Ashe (1882-1934). Mary Quillian was born in Colorado in 1882. Her parents came to Colorado in 1869 and her father, Asbury H. Quillian was a Protestant minister who travelled throughout Colorado. In 1906, Mary married Thomas Gregory Ashe (1875-1969). Thomas Ashe was of Irish descent and was a farmer in Iowa before coming to Colorado. By 1910, Mary and Thomas were renting a house on Main Street and Thomas was working as the superintendent of the Lucas mine near Broomfield. Two of their six sons were born in Louisville before the family moved to Texas in 1911. However, the Ashe family

retained ownership of the house for the next 27 years. It appears the Ashes rented the property from the 1910s-1930s until Mary's death in 1934, leaving the house to her sons. In 1936, her children transferred ownership to their father, Thomas Ashe until he sold the property to Victor and Mary Petrelli in 1938. Obituary notices note that Mary Ashe was active in the Methodist Church, Eastern Star, and Women's Christian Temperance Union, but it does not appear that she ever lived in Louisville again after 1911.

Petrelli Family Ownership, 1938-1982

Victor Petrelli and Mary Fallone Petrelli purchased 1016 Main in 1938. Victor Petrelli (1881-1978) was born in Italy and came to the US in 1910. Mary Fallone (1898-1948), also of Italian descent, was born in New Jersey. She married Victor in 1915 when she was 17 years old. It appears that Victor and Mary either met in Italy or returned to Italy for their wedding and lived there for the first few years of their marriage. Their eldest two sons, Eugene (1915-1995) and Emelio (1919-1965) were born in Italy. By 1920, the Petrellis had returned to the US and were living in Wyoming where Victor worked at a garage and their third son, Alfred (1922-1993) was born. They moved to Louisville in 1929 where Victor and his oldest son, Eugene, found work at the Louisville Lafayette Coal Company. Mary and Victor's two younger sons, Alfred and Joseph (1932-2002) would have grown up at 1016 Main and attended Louisville schools.



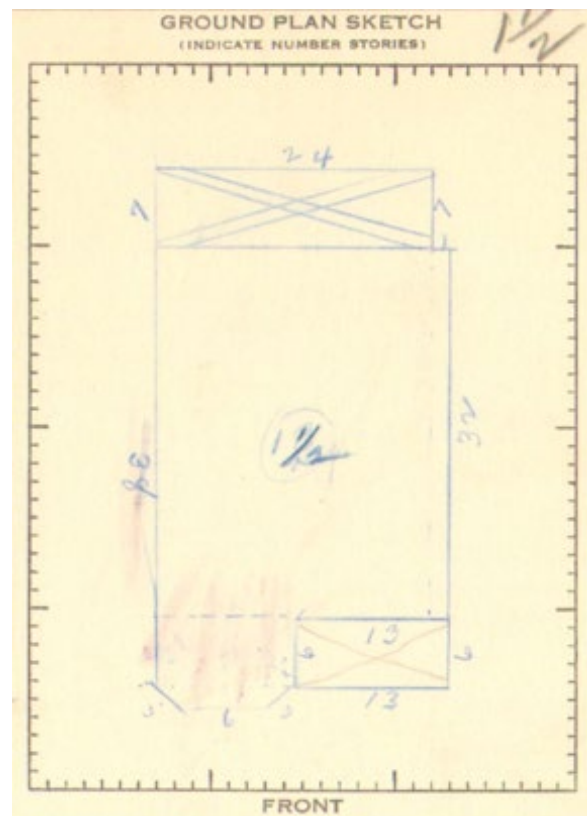
1947 Louisville Boys Baseball team at Miners Field.
Joe Petrelli is the first boy from the left in the back row.

During World War II, Victor worked as a loader at the Centennial Mine and their son Emelio joined the Army. In 1943, Emelio Petrelli was awarded the Soldier's Medal for clearing mine fields in Guadalcanal. Mary Petrelli died in 1948. Victor continued to live at 1016 Main and advertisements in the Louisville Times over the next decade show that he engaged in numerous enterprises including selling fryer rabbits

and taking in boarders at 1016 Main. He was also renting out additional properties at 1021 Main and 1314 Main.



1950 Boulder County Assessor card photo of 1016 Main and floorplan.



In 1961, Victor remarried to Josephine Distolla. Josephine had six daughters from a previous marriage. Victor passed away in March of 1978 and Josephine died later the same year in December.

In 1982, three Petrelli sons- Eugene, Alredo, and Joseph sold 1016 Main to Barbara Bobinski and Randall Urnovitz. In 1986, during Bobinski and Urnovitz ownership, Louisville's Historic Preservation Commission identified 1016 Main as one of twelve Louisville properties that were added to the National Register of Historic Places. 1016 Main was recognized as an example of a Sears Roebuck house in the Queen Anne style.

Recent Ownership

1989-2005 – Jay A. Berger and Maureen Ivy

2005-2022 – Emily O'Brien Jasiak and Michael Jasiak

2022- present – Keith Wegen and TWSS Main LLC



Current photo of 1016 Main from Boulder County Assessor records.

The preceding research is based on a review of relevant and available online County property records, census records, oral history interviews, Louisville directories, and Louisville Historical Museum maps, files, and obituary records.

HISTORIC STRUCTURAL ASSESSMENT

1016 Main Avenue, LOUISVILLE, COLORADO

December 4, 2024



Evaluated by:

Andy Johnson, AIA
DAJ Design
922A Main Street, Louisville, CO 80027
303-527-1100; andy@dajdesign.com

This Project was paid for by the Louisville Preservation Fund grant.

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1.0 INTRODUCTION

1.1 RESEARCH BACKGROUND / PROJECT PARTICIPANTS

DAJ Design conducted an Historic Structural Assessment for the structure located at 1016 Main Avenue, Louisville, Colorado to determine its feasibility as a candidate for historic landmark designation as defined under the Historic Preservation program of the City of Louisville. The structure is a residential property. The City of Louisville Historic Preservation Commission found probable cause that the building may be eligible for landmarking under criteria in section 15.36.050 of the Louisville Municipal Code. Therefore, the Commission approved the Historic Structural Assessment to be paid for by the Louisville Preservation Fund grant.



The primary purpose of this HSA is to evaluate the property's current condition and to identify preservation priorities for the best use of rehabilitation funds. DAJ Design inspected 1016 Main visually to identify areas of necessary maintenance and repair. It is possible that complications exist that were not visible and therefore it is recommended that the property owner includes contingency funding in any repair budget.

DAJ Design inspected 1016 Main Avenue on October 8th, 2024, with GFE Structural. The weather for the site visit was warm with clear skies and no recent rain or snow. Adequate access to the basement was available, though not all areas were entirely visible. The attic is a finished second floor space and therefore assessment of the roof structure was limited.

LIST OF CONSULTANTS AND SOURCES:

STRUCTURAL ENGINEER

Vignan Beesam, M.S.

Reviewed By: Billy Schoelman, P.E.

GFE STRUCTURAL

PO BOX 20708

BOULDER, CO 80308

303.554.9591

SOURCES

"Louisville Historic Preservation Commission Staff Report," November 18, 2024.

1.2 BUILDING LOCATION

VICINITY MAP



LEGAL DESCRIPTION

Lot 10, Block 17, Caledonia Place

2.0 HISTORY AND USE

The following report was written by Gigi Yang of the Louisville Historical Museum.

1016 Main St. History

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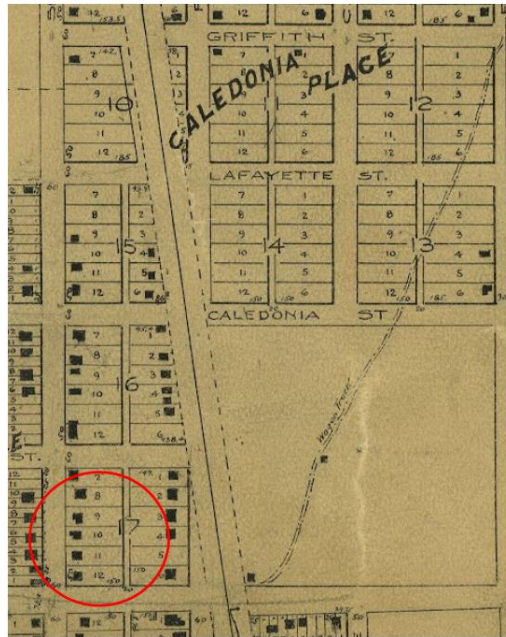


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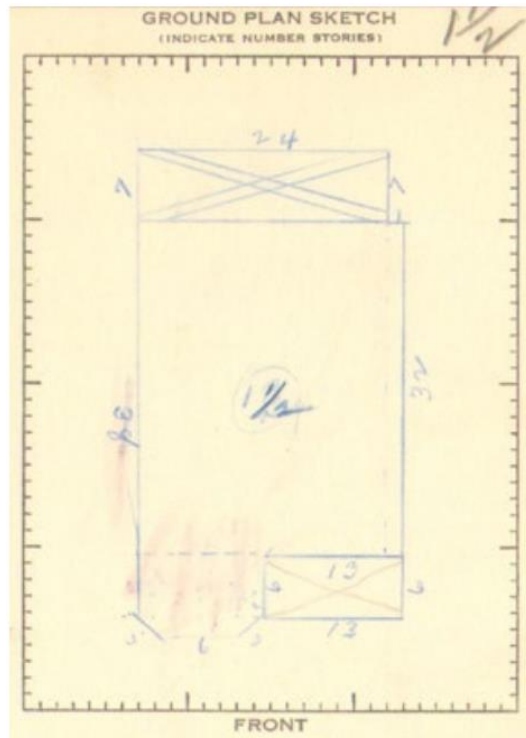


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Current photo of 1016 Main from Boulder County Assessor records.

The preceding research is based on a review of relevant and available online County property records, census records, oral history interviews, Louisville directories, and Louisville Historical Museum maps, files, and obituary records.

2.1 ARCHITECTURAL SIGNIFICANCE & CONSTRUCTION HISTORY

The residential property at 1016 Main was built sometime around between 1895 and 1910 with very few modifications made to the structure since then. A single addition to the east was added as a deck prior to 1948 and enclosed sometime after. The east addition is minimally visible from Main Street with a form and materials that are different than the original house. Later additions include a bay window and greenhouse on the south side, both added in 1989. The upper floor was remodeled in 1992, but it is unclear if the attic area was usable space prior to then.

An early 1900's photograph shows that the house as it exists in 2024 has many original aspects. Other than the structural elements of the house, other original items include the siding, windows, trim, ornamentation, and possibly the windows and front door. The original form of the house is still intact and is apparent when viewed from any direction. The primary façade faces west to Main Street with the north and south elevations partially visible from the street as well.

The building is a typical wood frame vernacular structure of the Louisville area. The structure was originally built as a house and has been used as such ever since. The earliest available photograph of the house is from the early 1900's with another photograph from 1948. The combination of historic photographs, available building records, and observations made during the site visit present clear evidence of the construction history and modifications made to the structure over the years.

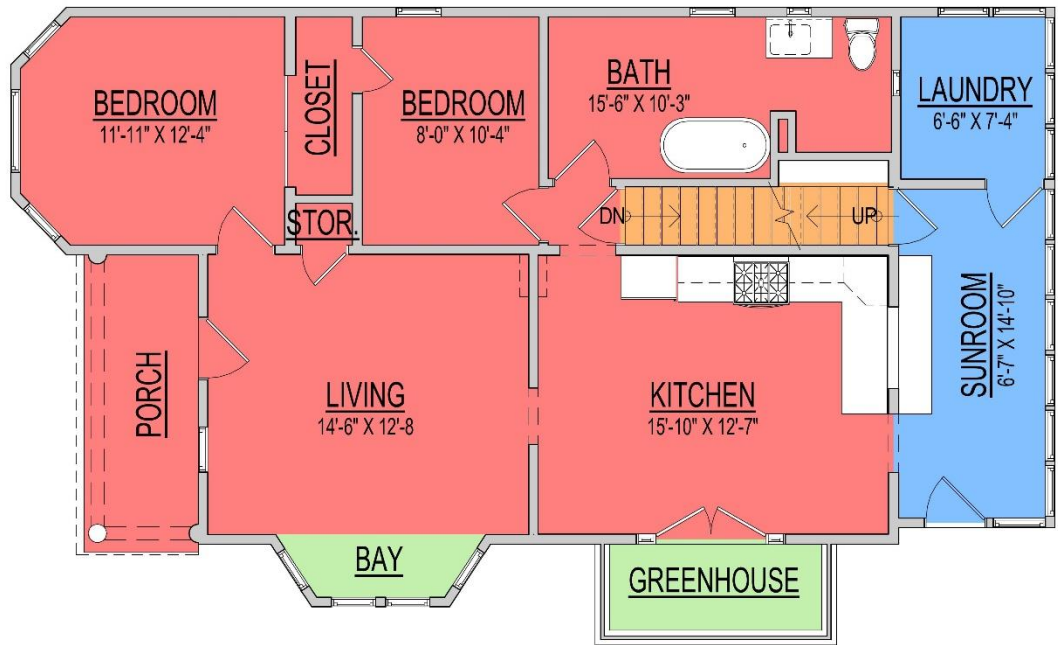
Other smaller changes over time include a new roof with skylights, gutters, and downspouts. The grading around the house sits higher than the original grade, likely due to Main Street being raised in elevation when it was paved. A garage is located at the back of the property, facing the alley, that likely meets the age minimum for historic consideration. There is also a studio that was built in 1995 and various other low-impact elements such as patios, decks, and trellis structures.

1016 Main has the potential to be restored to a high degree of architectural integrity when compared to historic photos. Overall, the building is well maintained, with items that require prioritization, as outlined in the analysis of this report. The original structure is essentially intact with very few modifications since the early construction phases in the first half of the 1900's. 1016 Main is listed on the National Register.

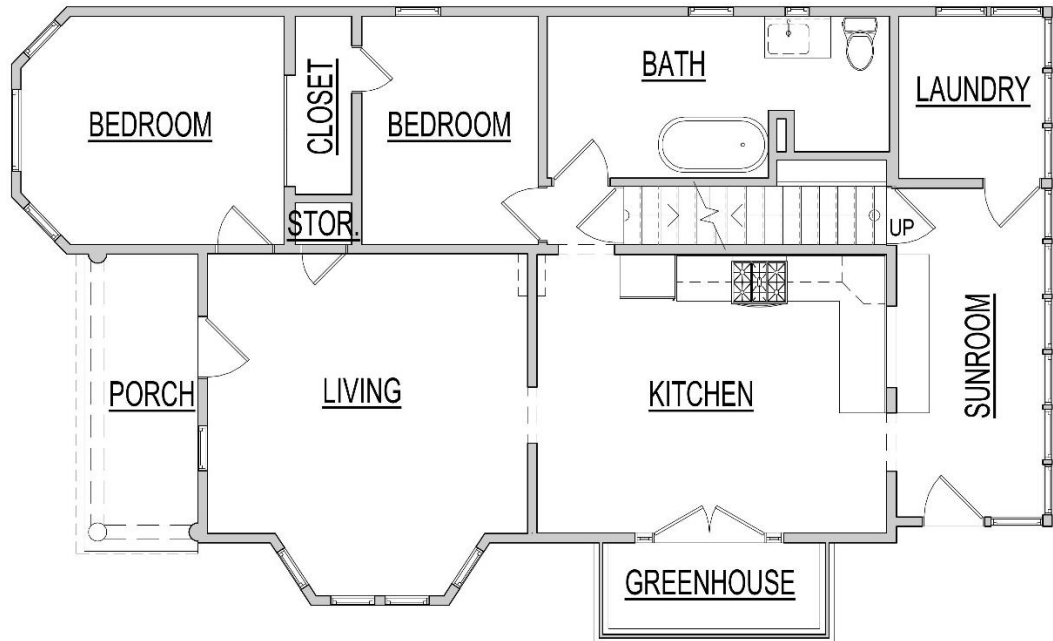


Primary Changes Occurring Over Time:

- Original house (RED): ca. 1895 - 1910
- Original front porch (RED): ca. 1895 - 1910
- East addition (BLUE): Unknown, prior to 1948, enclosed after 1948
- Bay window (GREEN): 1989
- Greenhouse (GREEN): 1989
- Upper floor remodel (ORANGE): 1992, may have been habitable space prior



2.2 FLOOR PLANS



Main Level Floor Plan



Upper Level Floor Plan

2.3 PROPOSED USE

There is no proposed change of use at this time.

3.0 STRUCTURE CONDITION ASSESSMENT

3.1 SITE

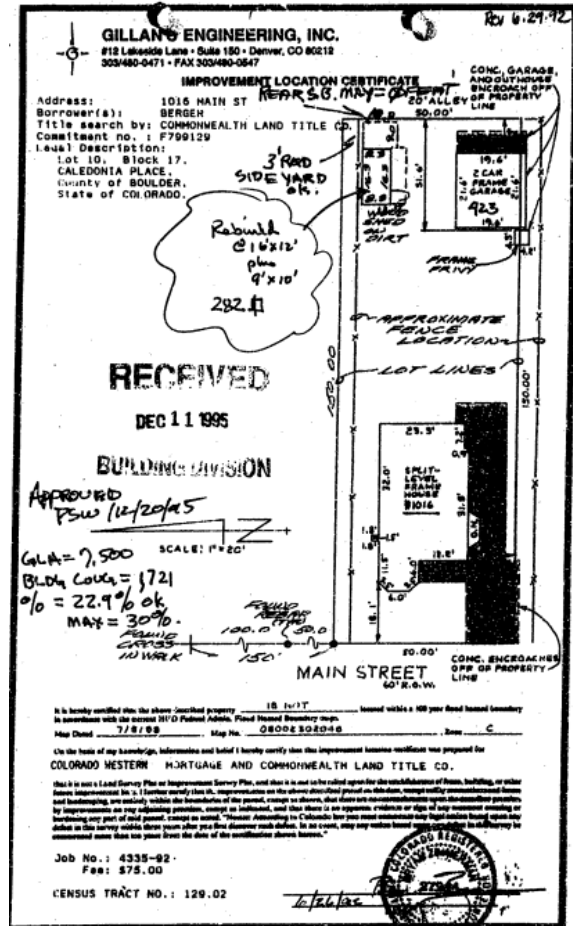
ASSOCIATED LANDSCAPE FEATURES

Description:

1016 Main is set on a typical lot in downtown Louisville that is approximately 50 feet wide by 150 feet deep, running lengthwise in the east-west direction and totaling approximately 7,500 sf. The property is bordered on the west by Main Street, on the north and south by residential properties, and on the east by an alley. The house sits on the western half of the property with a garage in the southeast property corner and a studio in the northeast corner.

The studio in the northeast corner of the property appears to have been built in 1995. There was a shed in this location prior, and plans indicate that the shed was expanded and remodeled as a studio, although it may have been altogether rebuilt. As this structure was built in 1995, it does not meet the minimum requirements for historic designation, nor is it listed on any register. Therefore, the structure was minimally assessed.

At the front of the house the property opens up to Main Street with a small yard and two mature trees. A six-foot painted wood fence is set back from the front façade that obscures much of the view of the sides of the house. Various wood and metal fences enclose the north, east, and south sides of the property as well as provide for a small private yard space on the south side of the studio. It appears that some of the fencing was replaced in 1996, though the various materials indicate that the fences are all from different periods.



Site plan indicating a shed in the northwest property corner that was rebuilt and expanded.

Approximately one quarter of the lot is covered by the footprints of the main house, garage, and studio. On the south side of the house there is a wood deck and a concrete patio in the southeast corner. There is also a flagstone patio on the east side of the house with a flagstone path to the garage and studio. The remainder of the property is primarily sod, with areas of mulch. There are several mature trees along the north property line, several smaller plants throughout, and vines growing on trellis structures around the house. Additionally, there is a groundcover vine at the west side of the house, a concrete planter on the west side of the front porch, and a concrete driveway in the southwest corner of the property.

Condition Evaluation:

Overall, the landscape features are in fair condition. The trees and large plants appear to be healthy and well maintained. The vines appear to have been trimmed away from the house roof but there are some around the northwest part of the house that are grown around the foundation and partially up the face of the house. There are some larger shrubs throughout the property that are overgrown but do not pose a risk to any of the structures. Furthermore, some of the hardscape walking surfaces throughout the site may pose tripping hazards as they are not level throughout but again, they do not pose any danger to the buildings.

Recommendations:

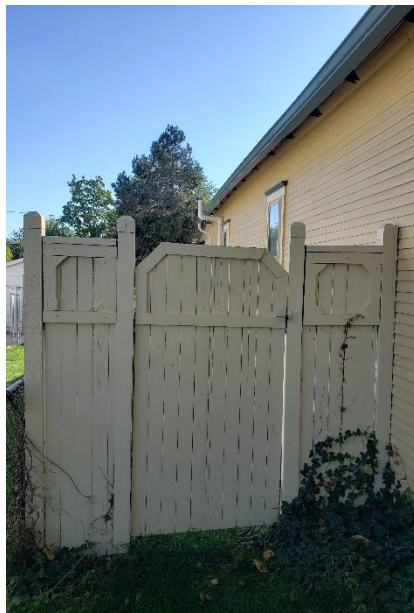
1. Work with a licensed arborist to maintain the mature trees and shrubs. Ensure that growth does not interfere with the house roof, siding, or foundation.
2. Keep overgrowth trimmed away from the house and overhead electrical lines and remove any overhead branches. The ground covers should be trimmed away from the house foundation and should not be allowed to grow up the house walls.
3. Consider replacing the hardscape walking surfaces throughout the rear and side yards with new surfaces that are level.



Ground covers growing on the house and the foundation.



Rear yard looking towards the garage & studio.



6-foot painted wood fence & gate.



Vines growing on trellis structure.

GRADING

Description:

Overall, the site is relatively flat with a slight downward slope to the east. Grading around the house appears to drain away from the foundation, though minimally in most areas. No areas of negative drainage towards the house foundation were observed. Finished grade sits below the finish materials of the house in all areas, though minimally along the west side of the house. The original grading would have sat lower than current grade as can be seen in the early 1900's photograph. The grade was likely raised when the streets of Louisville were also raised to be paved.



Condition Evaluation:

The overall site grading is in poor condition. It is important that the grading around the house should be a minimum of 6 inches below the top of the foundation and slope away from the foundation for at least the first 5 feet. Due to the nature of the lot, it is difficult to meet these requirements without a large amount of regrading, especially on the west side of the property. Regrading would also be difficult along the north and south sides of the house as there is little room to direct water away from the house and not onto the neighboring property. Bringing the top of the foundation up to allow for regrading is an option that would also be consistent with the historic aspect of the house relative to finished grade.

The effects of poor grading are difficult to determine in one site visit. However, no areas of water infiltration into the basement were observed or noted by the homeowner.



There is a slight downward grade slope to the east. The top of the foundation is minimally above grade at most locations. Also seen is the concrete foundation of an exterior chimney that was removed.

Recommendations:

1. Continue to monitor the drainage around the perimeter of the house. The perimeter should be observed after snow and significant rain events to assess for all areas of pooling water.
2. The top of the foundation relative to the top of grade should be determined around the entire perimeter of the house, especially at the west side of the house. If the top of the foundation is determined to be at or below the existing grade, new grading should occur to bring the grade down below the top of the foundation, as prescribed by a licensed structural engineer.
3. Finished grade around the house perimeter should be re-graded to create positive drainage away from the house. The top of finished grade should be a minimum of 6 inches below the top of the foundation and slope away from the foundation for at least the first 5 feet. Coordinate the slope with a licensed geotechnical engineer. This option may be difficult at the north, west, and south sides of the house as significant grading is necessary and there is little room to create new grading due to the proximity of the property lines.
4. The house foundation could be replaced to bring the top of the foundation at least six inches above finished grade. This option would allow for the best outcome of finished grade away from the house foundation and would ensure that the wood structure and wood siding are not susceptible to rot. Coordinate with a licensed structural engineer and a licensed geotechnical engineer. Construct a new foundation at either a basement or crawlspace depth below frost, or a combination of basement and crawlspace depths. New foundation walls should be designed by a licensed structural engineer and supported with proper footings.
 - a. A new foundation should be set high enough to allow for proper drainage away from the foundation as prescribed by a geotechnical engineer. To pour a new concrete foundation, the house will need to be temporarily lifted or moved to a temporary location by a licensed house mover. The location of the house on the site should not vary from the current, historic location. The top of the foundation will need to be increased to create proper drainage. This will minimally increase the height of the house but will reflect the original grade.
5. The wood floor framing members including the sill plate, rim board, floor joists, and floor sheathing should be inspected for rot caused by poor drainage. If rot is found in any of these members, the affected flooring should be replaced as prescribed by a licensed structural engineer. Rot was not observed during the site visit. However, many of the susceptible areas, primarily at the house perimeter, were not visible for analysis due to insulation in the basement.



The top of grade sits at or near the top of the foundation on the west side of the house.



PARKING

Description:

In the southeast corner of the property there is a 21 ½' x 19 ½' garage facing east towards the alley that appears to encroach on the south property line. This garage appears to be listed on the 1948 Boulder County Assessor's card and the construction techniques are of that time, but the exact construction date is unknown.

The garage has a concrete foundation of unknown depth and a concrete slab floor. The garage walls are framed with 2x4 studs with a single top plate and a single bottom plate that is embedded in the concrete foundation. The garage roof is constructed of 2x6 rafters at 20-inches on-center spacing, forming a gable roof running east-west. There are newer 2x collar ties and newer sheathing at the ridge, indicating that the roof may have been failing and new members were added as support. There are also a few 2x4 ceiling joists that appear to have been added only to create storage space. The gable end walls are extended up with 2x4 studs above the top plate. Additionally, there is painted wood shiplap siding attached directly to the wall studs and the siding matches that found on the east addition with a Dutch cove profile. The garage roof is composite asphalt shingles and there are k-style gutters and 2x3 downspouts.

The garage faces the alley with a small, deteriorating concrete slab between the alley and the garage. There is a single overhead garage door and two swing doors, all facing the ally. There is a person door and a window on the west elevation and a single window on the north elevation. The garage allows for two parking spaces, though access through the swing door would be difficult.

In the southwest corner of the property there is a concrete parking area off of Main Street. The parking appears to be made up of two sets of concrete wheel tracks and gravel. This parking provides access to the front porch and part of the parking area appears to be on top of a coal room below grade. The uncovered parking area provides one parking space.



Parking area in the southwest corner of the property.

Condition Evaluation:

The entire garage is in poor condition. The framing does not meet the current code by today's standards. The roof appears to be sagging and unsupported and the walls are set into the concrete foundation with unsupported gable end walls above the top plate. The concrete foundation and concrete slab are in poor condition with numerous cracks, and it is unclear how deep the foundation is or how it is supported. Additionally, the person door and overhead door appear to work but the two swing doors facing the alley do not appear to be operable or create proper seals.

The uncovered concrete parking space in the southwest corner of the property is in poor condition. The concrete is well beyond the expected lifespan with numerous cracks. Additionally, it appears that some of the parking area may be on top of the coal room below and therefore not properly supported.

Recommendations:

The garage likely meets the age to qualify as a historic element of the site. However, the garage was not originally constructed in a manner to have a long-life expectancy and has subsequently been minimally maintained. The size and location of the overhead garage door only provides one on-site parking space, and the condition of the roof poses a safety concern. For these reasons, we recommend removing the garage or extensive structural repair to the existing framing should occur to meet current code standards.

Similarly, the parking area on the west side of the house should be removed. On-site parking could be accommodated in this location with a new concrete slab or wheel tracks. However, no parking should occur above the coal room and the coal room should be further assessed prior to any above grade work.



Garage and studio viewed from the alley.

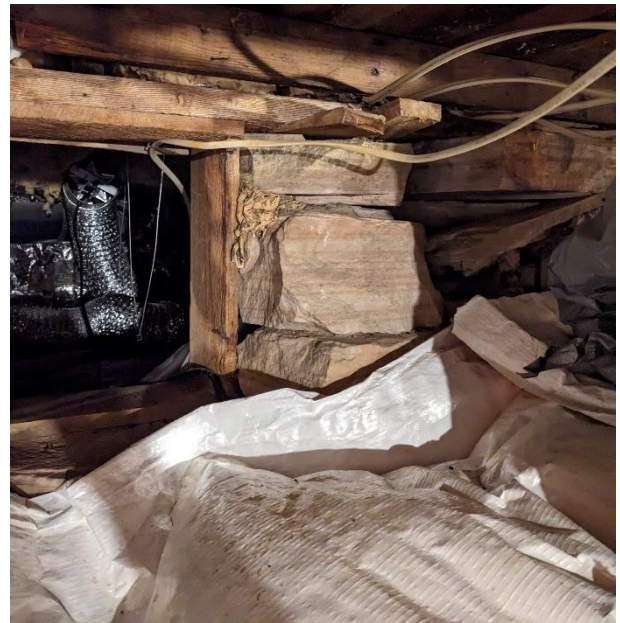
3.2 STRUCTURAL SYSTEM

FOUNDATION SYSTEMS

Description:

The foundation walls are visible above grade at the outside perimeter of the building as well as visible from within a dug-out basement space. However, there are some areas of the foundation that are not entirely visible for analysis as the basement transitions to crawlspace to the east with limited visibility and there are parts of the foundation that sit below grade. Additionally, there are layers of insulation throughout the basement that limit visibility of the foundation walls. This analysis is only for the visible portions of the foundation, however some assumptions can be made for the non-visible portions of the foundation and they are likely constructed in a similar manner to those that are visible. Access to the basement is through an interior stair towards the east end of the original house and the basement sits below the central part of the original construction. There is a crawlspace beneath the east addition, the wast bay area, and along the house perimeter on the south, west, and north sides.

When viewed from the exterior, the foundation walls appear to be concrete. However, for the original construction the concrete is only an inch or two thick and applied on top of an original stone foundation. The original stone foundation is visible from the interior and the concrete is flush with the siding, indicating that it was added later than the original construction and was likely added to help with waterproofing the stone foundation. The original stone foundation is at a crawlspace depth but the depth below grade or the presence of a footing could not be determined. The original house was probably built entirely over a shallow crawlspace with the basement area being dug out at a later date. The digging out of a central basement area was common throughout Louisville, oftentimes as a means of accommodating a coal furnace.



The original stone foundation is only exposed in some areas inside the basement but is mostly covered with insulation.



A jog in the foundation shows the concrete face over the original stone foundation (right) relative the concrete foundation of the east addition (left).

The 1948 Boulder County Assessor's card indicates that at that time there was a basement that was 80% excavated (likely referring to the amount of area beneath the house footprint) and that the basement was not finished but had dirt walls and a dirt floor. In 2024 the basement floor is a concrete slab of unknown depth and it could not be determined when the slab was poured. The retaining walls at the perimeter of the basement are 8-inch thick concrete walls that retain the soil at the crawlspace areas. The presence of a footing beneath the retaining walls could not be determined due to the concrete slab floor. The height of the retaining walls stops roughly at the height of the crawlspace grade and there are various wood posts bearing on the retaining walls that help to support the main level floor.

There is an area off of the southwest corner of the basement that extends beyond the west exterior wall below grade. This area is open to the basement but with a slightly raised concrete floor and a concrete ceiling. It appears that this would have originally been a coal storage room, which are commonly found throughout old town Louisville, but the coal storage room was later opened up to the basement.

The east addition foundation walls are concrete of unknown thickness and depth. There is a crawlspace beneath the east addition that is difficult to access from the basement but where visible concrete walls can be seen from the interior. Furthermore, there is a jog in the exterior face of foundation at the east addition indicating that the concrete foundation is original to this addition, and that this area was added after the original construction of the house.

Condition Evaluation:

Overall, the various foundation elements appear to be in fair to poor condition, but our assessment is limited. The foundation walls extend below grade and the presence of any footings cannot be determined without destructive investigation; it is likely that a footing does not exist. It is also likely that the original foundation does not extend to a minimum frost depth of three feet below grade. There is a layer of concrete on the exterior face of the original stone foundation that is in fair condition, but this obscures visibility of the stone foundation to determine its condition. The concrete layer on top of the stone foundation does not provide adequate waterproofing of the foundation and appears to run minimally below grade. Some of the crawlspace areas at the east and west ends of the house have limited access and limited visibility to be able to determine the condition at all locations. Finally, there is a layer of vinyl drape insulation that obscures most of the foundation walls on the interior face. Where observed, the stone foundation requires tuck-pointing and it is presumed that this is true of the entire stone foundation.



The foundation is minimally exposed as it is covered by insulation. The original foundation appears to be stone.



The basement wall insulation is in good condition and appears to have been added within the last 20 years. There are no visible areas of the foundation that appear to be in poor condition, and, without further deconstructive investigation to determine otherwise, it is likely that the non-visible portions of the foundation are in a similar condition to those areas that are exposed.



The concrete retaining walls are minimally exposed as they are covered by insulation.

Recommendations:

1. The basement and crawlspace foundation walls showed various signs of damage that require further evaluation. No additional load should be added to the existing foundation system without a full analysis of the current foundation walls/footings. Additional strengthening of existing crawlspace walls may be needed as determined by a licensed structural engineer to meet current code specifications.
2. Continually monitor the main floor walls for signs of foundation distress such as cracking or improper door operation. Cracks were not observed within the finishes on the main level. If signs of cracking are detected, these areas should be evaluated by a licensed engineer and repaired as needed.
3. The concrete on the exterior face of the stone foundation showed various signs of cracking. Further investigation is required to determine if the cracking is related to foundation movement in the stone foundation or if the cracking is caused by improper application of the concrete face.
4. The concrete face on the exterior side of the stone foundation should be removed. The stone foundation will need to be tuck-pointed and waterproofed. The depth of the stone foundation and the size of the footing (if any) should be determined and evaluated by a licensed structural engineer.
5. The concrete retaining walls in the basement need further investigation by a licensed structural engineer. These walls are covered with vinyl insulation that will need to be temporarily removed to determine how the retaining walls are supported. Further support of the retaining walls may be required as prescribed by a licensed structural engineer. Also, destructive investigation may be needed to verify the presence of footings below the retaining walls and additional strengthening to the footings may be necessary.



6. New footings are likely needed to support the point and distributed loads from the roof and floor framing as specified in the recommendations below. New foundation support below any new beam and posts supporting the floor and roof framing should be coordinated with a licensed structural engineer.
7. Alternatively, the foundation walls (including the perimeter and interior walls) could be replaced with a new concrete foundation at either a basement or crawlspace depth below frost, or a combination of basement and crawlspace depths. New foundation walls should be designed by a licensed structural engineer and supported with proper footings.
 - a. A new foundation should be set high enough to allow for proper drainage away from the foundation as prescribed by a geotechnical engineer.
 - b. To pour a new concrete foundation, the house will need to be temporarily lifted or moved to a temporary location by a licensed house mover. The location of the house on the site should not vary from the current, historic location. The top of the foundation will need to be increased to create proper drainage. This will minimally increase the height of the house.
 - c. A new concrete foundation will benefit the overall structure of the house with minimal impact to the exterior appearance of the house. Benefits include a foundation that has a proper footing set below the minimum frost depth; new waterproofing of a concrete foundation will prolong the overall lifespan of the structure; will eliminate the need to remove the existing concrete facing to tuck-point and waterproof the existing stone foundation; a new concrete foundation will support the gravity and lateral loading of the house as well as support the required structural elements needed to support the floor structure, walls, and roof as described below.



The concrete face over the stone foundation is cracked and does not extend below grade in most areas.

FLOOR & CEILING SYSTEMS

Description:

The floor framing of the main floor was not entirely exposed for analysis. The floor framing is mostly visible from beneath within the basement area but the east and west sides of the house sit over a crawlspace that extends to areas that are difficult to see. There is also insulation material that obscures the floor framing, mostly the connections at the perimeter walls. Therefore, our analysis is only for the visible portions of the floor framing. However, it is likely that the non-visible floor framing is constructed in a similar manner to those areas that are visible. The basement is unfinished and therefore much of the floor framing in this area was exposed for review.



The floor framing of the original house is constructed with 2x6 floor joists at 24-inches on-center, spanning in the north-south direction and spliced over a central beam line. The joist sizing is roughly 1 3/4" x 5 1/2", indicating that the joists are of older construction and likely original. The 1948 Boulder County Assessor's card also states 2x6 floor joists at 24-inch spacing. The joists found in the east addition are also 2x6 but span in the east-west direction. On the south side of the original house there is a bay window that is an addition. The floor framing of the bay window is partially visible as newer 2x6 floor joists back spanning into the basement and sistered to the original floor joists.



Floor joist supports bearing on a retaining wall.

The original floor joists were constructed to bear on the exterior walls and spliced on a central beam line. The central beam was replaced when the basement was dug out, but a new beam supports the floor joist splice. The newer beam is constructed of a triple-ply 2x6 with an additional 4x6 member added to the center span of the beam. The beam is supported by three large wood columns that appear to bear on the concrete slab floor. There is a second beam line supporting the floor joists on the south side that is constructed of a two-ply 2x6 and supported by adjustable steel pipe columns. The steel columns also bear on the concrete slab floor but are not connected to the floor or the beam. The floor joists on the north side of the central beam are supported by wood columns that bear on the concrete retaining wall.

The floor sheathing beneath the bathroom is OSB whereas the original floor sheathing is 1x3 tongue-and-groove wood flooring that was the original finish floor. The OSB sheathing was added in 2021 as part of a bathroom remodel. The floor sheathing of the east addition could not be determined as there is insulation within the floor joist bays, obscuring the floor sheathing. The floor sheathing of the east addition may be different as this addition was not always enclosed, as seen in the 1948 floor plan sketch, and as is often the case found on similar houses throughout Louisville. There are different types of finish flooring (possibly multiple layers) on the main floor on top of the floor sheathing.

The area that was originally a coal room has a concrete ceiling with various metal supports cast in the concrete. The concrete ceiling is typical of coal rooms throughout Louisville, but normally these are found on either side of a house and not beneath a covered front porch, which is the case at 1016 Main.

The floor framing of the upper floor was not exposed as it is covered with finish materials above and below. Site measurements indicate that the upper floor joists are 2x6 and they likely span in the north-south direction, matching the gable roof rafters. Building records show that the upper floor was remodeled in 1992. However, it is unclear if the upper floor was finished and used as floor space prior to 1992 or if it was an attic.



Condition Evaluation:

Our evaluation of the floor structure is somewhat limited as not all of the structure was exposed for analysis. This includes thickness of the floor sheathing, inaccessible crawlspace areas on the east and west ends of the house, and the upper floor framing. Our assessment is for the portions of the floor framing that were visible. However, it is likely that the non-visible areas are framed in a similar manner and are in a similar condition to the areas that were visible. It is also noted that the floor framing materials and methods are typical of wood framed buildings constructed around the same timeframe in the Louisville area.

The 2x6 floor joists are in fair condition and are often found in houses built around the same time in the Louisville area. The joist sizing and spacing may not meet the minimum IRC code requirements for today's standards. The main level floor felt similar to homes of this era, and no significant areas of bulging or sagging were observed.

The beams supporting the floor joists are in poor condition. The spacing and sizing of the beams are not adequate for the current loads that they are supporting. The beams are not properly attached to their supports, nor extend the full length of the floor system. The beam sizing, spacing, and spans may not meet the minimum IRC code requirements for today's standards.

The floor joist supports bearing on the concrete retaining wall are in poor condition as well. The columns are not properly attached to the floor joists, and it is unclear how they are attached to the retaining wall or how the retaining wall is supported.

The floor sheathing appears to be in fair condition. The sheathing appears to be performing adequately, but the extent of the sheathing and the number of layers on top of the sheathing could not be determined. The floor sheathing does meet the minimum IRC code requirements for today's standards and appears to be performing adequately.

An evaluation of the second floor framing is not possible without further deconstructive investigation. It appears that the upper floor joists are 2x6, likely at 24-inches on-center spacing, and spliced on a central bearing wall. These are all assumptions and based on the assumptions, the upper floor joists do not meet the minimum IRC code requirements for today's standards.



Original floor joists and floor sheathing.



Concrete ceiling in what was previously a coal room.

The basement insulation is in good condition with insulation covering nearly all of the foundation walls in the basement and insulation in the floor system of the east addition.

Recommendations:

1. The beams and beam supports should be replaced or reinforced as prescribed by a licensed structural engineer. The best method is to construct new beams and beam supports that support the existing floor joists and remove the existing beams and beam supports as prescribed by a licensed structural engineer. These new supports should bear on footings, or any other type of foundation as prescribed by a licensed structural engineer and located at a depth and soil bearing capacity as specified by a licensed geotechnical engineer.
2. The floor framing should be further observed by a licensed engineer and repaired as needed. The existing floor joists may be over spanned per current IRC code. New floor joists could be sistered to the existing floor joists or new beam lines should be added to the main floor system to support the existing floor joists as mentioned above. Special attention should be given to the connections between the foundation walls, floor joists, beams, and beam supports. The floor joists are not suitable for additional load resulting from a remodel or addition.
3. It is likely that the non-visible portions of the floor structure are constructed in a similar manner to those areas that are exposed. However, the entire floor structure should be verified and evaluated by a licensed structural engineer prior to any remodel or addition.
4. If the main floor deflection is inadequate, consult a licensed structural engineer for additional support design options.
5. New beams may need to be added to support the point and distributed loads from the roof framing as specified in the recommendations of the 'Roof Framing Systems' section of this report.
6. The front porch appeared to be a concrete slab over basement/crawl space below. The slab at this location appears to span between the exterior foundation wall and interior floor structure. The thickness of the slab and connections at the ends were not visible for our review. Also, the reinforcing of the slab is visible when looking at the underside of the slab from the basement. This does not meet the minimum IRC code specifications of today's standards. The slab at this location and the connections at the ends of the slab shall be replaced or modified as prescribed by a licensed structural engineer to meet the minimum IRC code specifications of today's standards.



Two beam lines supporting the main floor joists with columns bearing on a concrete slab floor.

ROOF FRAMING SYSTEMS

Description:

Nearly all of the roof framing is not exposed for analysis. There is an upper floor built into the attic space that is finished, and the remaining attic spaces do not have access hatches. The only roof structure that is partially visible are the exposed rafter tails on the east addition. For this reason all of our roof framing analysis is based on assumptions. Some site measurements suggest roof member sizing, but the spacing, support, and attachments cannot be known at this time. Our assumptions are also based on typical building techniques and materials used on similar houses built around the same timeframe in the Louisville area.



The original house has a main roof gable that runs east-west with a smaller gable over the west build-out. This gable has a steep pitch and is continuous for the length of the original house. Measurements inside of the skylights indicate that the rafters are either 2x6 or 2x8 and they are likely on a regular spacing of 16 or 24-inches. There may be a 1x ridge joinder as is sometimes the case but likely not a ridge beam. It appears that there are collar ties in the upper 1/3 of the roof that are likely either at every or every-other rafter. The flat ceiling in the upper floor appears to be attached to these collar ties. It also appears that there is an inaccessible attic space above the collar ties, as there are roof vents near the ridge. The entire main gable appears to be acting as a rafter and ceiling joist system with what appear to be 2x6 ceiling joists, probably at 16 or 24-inches on-center spacing and possibly spliced on a central bearing wall. At the north and south sides of the upper floor there are stem walls that have attic space beyond, but these are not accessible, and appear to have been constructed in 1992 to define the livable space and create storage areas.

The gable roof over the west build-out is likely framed in a similar way to what is described above. However, there is no attic access to this area. Similarly, there is no access to view the roof over the covered front porch. This roof is a hipped roof with a flat top that appears to be constructed as an upper deck but without access.

The east addition has a low-pitch shed roof. This roof appears to be constructed with 4x6 rafters, as the rafter tails are exposed, and the rafters are at 24-inch on-center spacing. The rafters appear to be supported by a beam and columns within the wall structure.



The roof pitch, flat roof, and skylight depth indicate what the roof structure might be.

Condition Evaluation:

Without exposing the roof structure, we are unable to give an evaluation. The roof is probably constructed of typical materials and methods for houses built around the same time in the Louisville area. The roof member sizing, spans, and spacing likely do not meet the minimum IRC code for today's standards. The type and amount of roof insulation could also not be determined.

Recommendations:

The roof and ceiling structure is not to current code standards. Since Louisville did not likely have a building code at the time of construction, we are unable to determine if it was built to a code or engineered. The original roof is probably built to a similar standard of other buildings typical of this type and age.

All new repairs should be specified by a licensed structural engineer. Repair details should be provided and submitted to the City of Louisville for review and be observed by the engineer and city inspectors during construction.

1. Deconstructive investigation is necessary to fully analyze the roof structure. Coordinate locations to remove finish materials to view the roof structure with a licensed structural engineer.
2. Hurricane clips (or toe-nails) may need to be added where roof framing members bear on exterior walls to meet the minimum IRC code requirements of today.
3. Additional collar ties may be needed to be in compliance with current IRC code for prescriptive roof framing.
4. Diagonal braces and purlins may be needed to strengthen the existing rafters to be in compliance with the current IRC code for prescriptive roof framing.
5. Additional beams may be needed in the attic area to support the above-mentioned diagonal braces and purlins. This is mainly needed approximately at the mid-span of the roof rafters. These beams will require support in the wall system and likely would require new foundation support in the crawlspace and basement. This must be coordinated with a licensed structural engineer.
6. Attic insulation should be added to achieve an R-value as close as possible to current code standards. The maximum insulation possible should be added at the perimeter of the roof as the roof depth in this location does not allow for the minimum required by code. Any energy upgrades, such as increased insulation in the attic, could result in prolonged snow retention on the roof and could ultimately affect roof performance without first completing structural reinforcement.
7. It is not recommended to add additional roofing materials such as an additional layer of shingles, or solar panels without the additional structural support mentioned above.



The original roof is a steep gable & the east addition roof is a low pitch with exposed rafter tails.

3.3 ENVELOPE – EXTERIOR WALLS

EXTERIOR WALL CONSTRUCTION

Description:

The main level wall framing was not exposed for review. The wall framing is likely a 2x4 stud wall with studs on regular spacing as site measurements support this assumed wall thickness. The 1948 Boulder County Assessor's card indicates wood framing with no sheathing. It is likely that the wood siding is attached directly to the studs without an additional layer of sheathing. This construction method is typical of similar houses built around the same time in the Louisville area. It is also likely that there is minimal to no insulation in the original house walls.

It appears that the central interior wall running east-west is a load bearing wall for the upper floor framing and that this wall is supported by beams in the basement as described above. Further analysis of these walls should be complete prior to their removal or modification.

Condition Evaluation:

Since the wall structure was not exposed for observation, we are unable to evaluate the condition or determine if there is any structural damage. The wall heights are approximately 9 ½ feet tall, which is at the upper height limit for 2x4 wood stud construction. Wall finish cracks were observed on some of the interior wall and ceiling surfaces. The cause of this cracking could be from foundation movement or from improper application of textured surfaces of the original plaster over gypsum board. Furthermore, the insulation type and R-value within the walls could not be determined if any is present. It is likely that there is minimal to no wall insulation.

Recommendations:

1. Without the opportunity to observe the exterior wall structure, we do not have any recommendations currently. If the opportunity presents itself, the exterior walls should be assessed by a licensed structural engineer. The owner is to note that the walls will need to be evaluated if any remodels or additional load is to be added, including the interior walls as several of these walls appear to be load bearing. Also, if any remodel or addition plan is in place, new braced wall lines may be added by adding OSB or gypsum board on the interior side of exterior walls to resist wind loading.
2. Wall cavity insulation should be added to achieve an R-value as close as possible to current code standards. Any energy upgrades, such as increased insulation in the attic, could result in prolonged snow retention on the roof and could ultimately affect roof performance without first completing structural reinforcement.

EXTERIOR FINISHES

Description:

The original house is clad in painted wood clapboard siding that runs from the top of the foundation to the bottom of the roof eaves. The same clapboard siding is also present on the main roof gable ends on the east and west sides. However, the smaller gable end above the west bay has decorative painted wood shingle siding with a diamond face. The clapboard siding and the shingle siding appear to be original as both are seen in an early 1900's photograph of the house. The east addition siding is painted wood shiplap siding with a Dutch cove profile. This type of siding is commonly found throughout Louisville and is likely original to when this part of the house was enclosed.



Wood shingle siding in the smaller gable end.

Condition Evaluation:

Overall, the painted wood siding is in fair condition and appears to have been well maintained. However, the siding is likely original and there are some areas that show signs of deterioration that would be expected of wood siding over 100 years old.

Recommendations:

Scrape, repair, refinish, or replace the original wood clapboard, shiplap, and shingle siding as necessary.

EXTERIOR MASONRY

Description:

In 2024 there is no exterior masonry on the house, and it does not appear that any exterior masonry existed as part of the original construction or the east addition. At some point a brick chimney was added to the exterior face of the north wall. This chimney is visible in Google Street View images in 2012 but was removed by 2015. The location of the chimney is partially visible where patches were made to the siding and roof. The images of the chimney show that it was in poor condition, and it was likely removed as it was no longer being used, likely was not structurally stable, and was not historic.

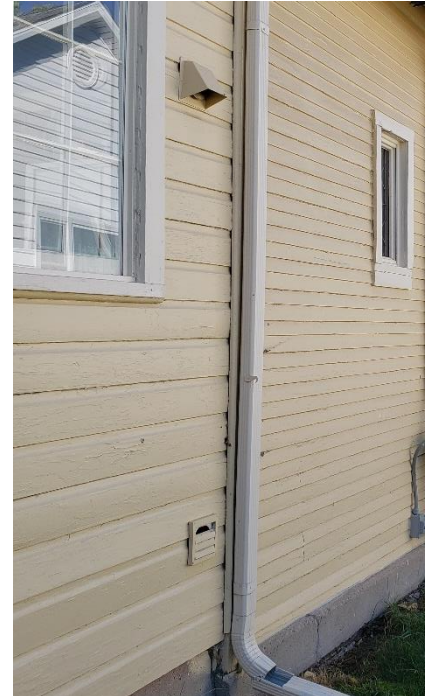
Recommendations:

No recommendations at this time.

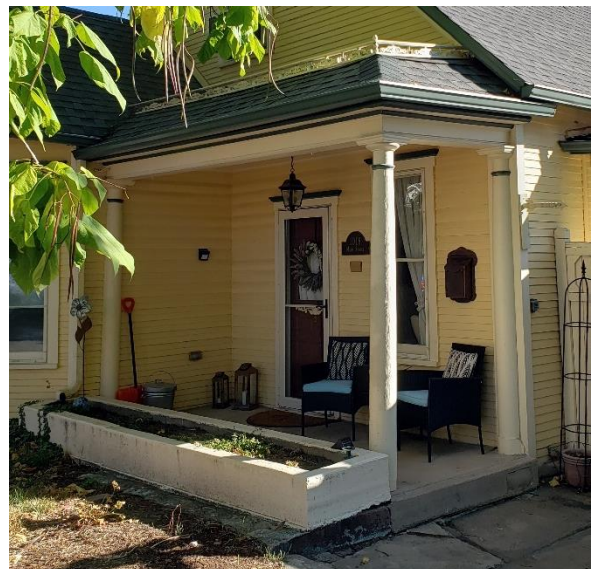
EXTERIOR APPENDAGES

Description:

The original house had a covered front porch attached to the west side that is still intact in 2024. The front porch is a poured concrete slab that likely replaced an original wood deck at some point. The front porch partially sits on top of the coal storage room and the porch floor may have been redone when the coal room was added or at the time that the coal room was no longer being used. The porch roof is a hipped roof with what appears to be intended as a balcony, though there is no access. The roof is supported by wood-wrapped beams supported by a turned wood column in the southwest corner and attached columns at the house. In 1948, the porch was wrapped with a knee wall that was later removed and there is currently a concrete planter on the west side of the porch.



Clapboard siding (right) on the original house and shiplap (left) on the addition.

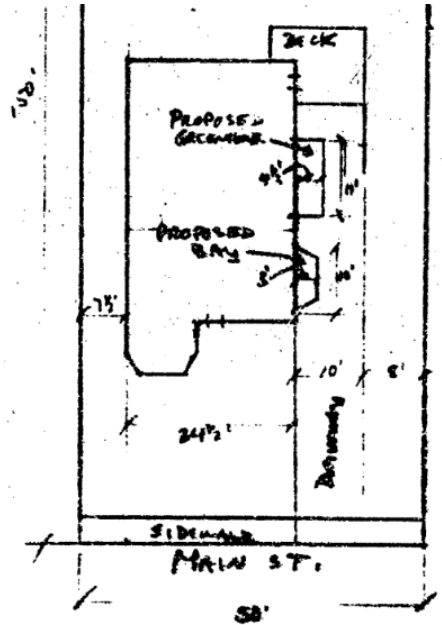


The covered front porch is mostly original with a concrete floor and planter that are not original.

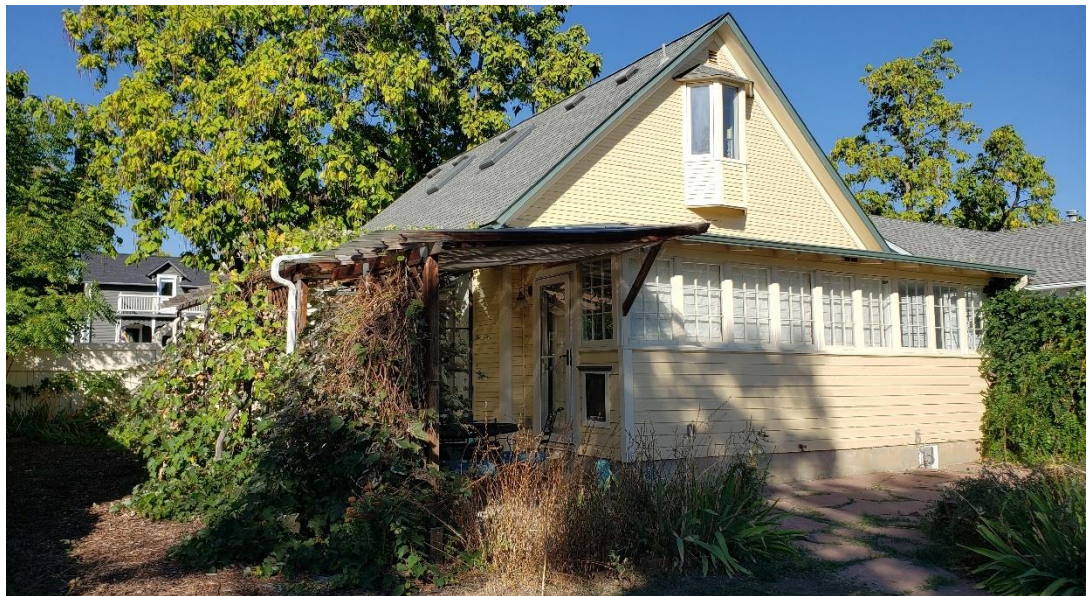


There are several appendages on the south side of the house, none of which are original. In 1967, a concrete patio was added at the southeast corner with a stained wood trellis structure and corrugated sheet roofing. The trellis is attached to and supported on the north side by the house. In 1989, a bay window and greenhouse were also added to the south wall of the original house. The bay window was designed to look like the original house, with siding, windows, and trim that all match the appearance of the original house. The bay window has a hipped roof that sits below the main gable roof and the floor is cantilevered. The greenhouse has a concrete foundation that supports a metal frame with single-pane glass windows, some of which are operable. The greenhouse is only accessible from within the house and has a wood deck floor.

The second floor was remodeled in 1992 which included adding insulation, a bathroom and a dormer. Building records indicate that the dormer was on the south side of the house. However, the dormer was never built. There is a bay window on the east side of the second floor that was likely part of the 1992 remodel, possibly replacing the original design to have a south side dormer. The east bay window is designed to look like the original construction with clapboard siding and trim that match the original house. The east bay window has a hipped roof and a cantilevered floor.



1989 site plan showing proposed bay and greenhouse additions.



A trellis structure in the southeast corner and a bay window on the upper floor, neither of which are original.

Condition Evaluation:

The covered front porch is mostly original, with the concrete slab floor and concrete planter as the only replacements. The structure of the porch was not exposed for analysis due to finish materials and no access to view the roof members. Therefore, our analysis of the structural elements is limited. The porch roof does appear to be sagging and is therefore likely not properly supported. The wood finish materials and the wood columns are in fair condition, similar to the exposed wood elements found elsewhere on the house.

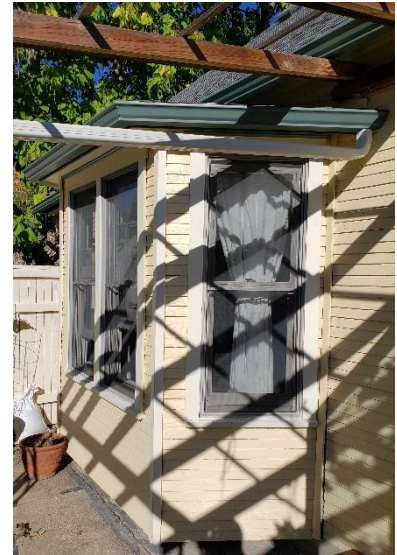
The concrete patio and trellis structure that were added in 1967 are in fair condition. The concrete slab is cracked but relatively level and does not slope water to the house foundation. The wood trellis appears to be properly supported, partially by the house, but the wood stain is weathered, especially on the members that are not covered by the corrugated roof. There are also numerous vines growing on the trellis, but these do not appear to be encroaching on the original house nor do they appear to be damaging the trellis.

The south side bay window is in good condition. This element was added in 1989 and appears to be well maintained, though not historic. The greenhouse, also added in 1989, is in good condition. The bay window structure and the foundation of the greenhouse were only partially visible for analysis. Building details found in the building records indicate how both of these elements were constructed, and it appears that both were engineered to a code at the time of construction.

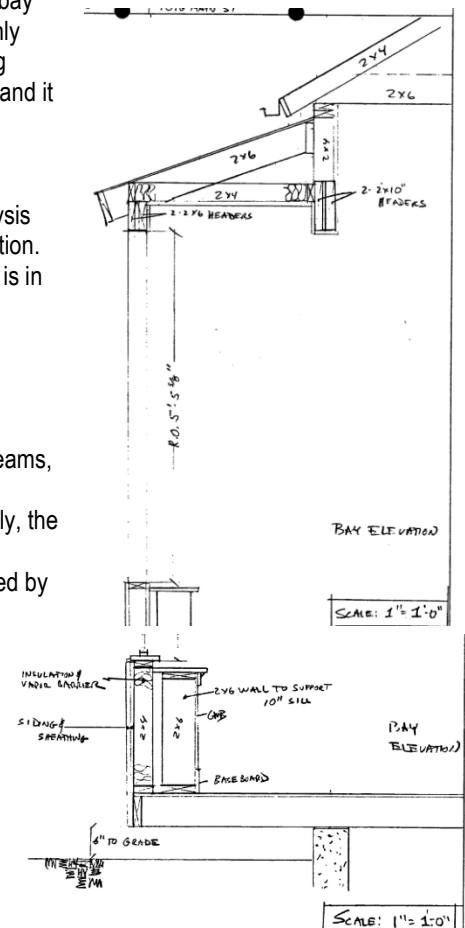
The structure of the east bay window was not exposed for analysis due to finish materials and there are no records of this construction. The east bay window appears to have been added in 1992 and is in good condition, but not historic.

Recommendations:

1. Further deconstructive investigation is necessary to properly analyze the covered front porch. The roof, beams, columns, and attachments need to be verified and analyzed by a licensed structural engineer. Additionally, the porch floor is sitting on top of the coal room, and it is unclear how it is supported. Further analysis is required by a licensed structural engineer to determine how the concrete porch slab is supported. The condition of all these elements needs to be verified with deconstructive investigation.
2. The concrete planter on the west side of the porch should be removed. This planter is not historic and may cause poor drainage away from the house foundation or from the coal room area below.
3. Consider removing the trellis structure on the south side of the house. This is not an historic element of the house and is attached to the house structure.



The bay window was designed to match the historic house.



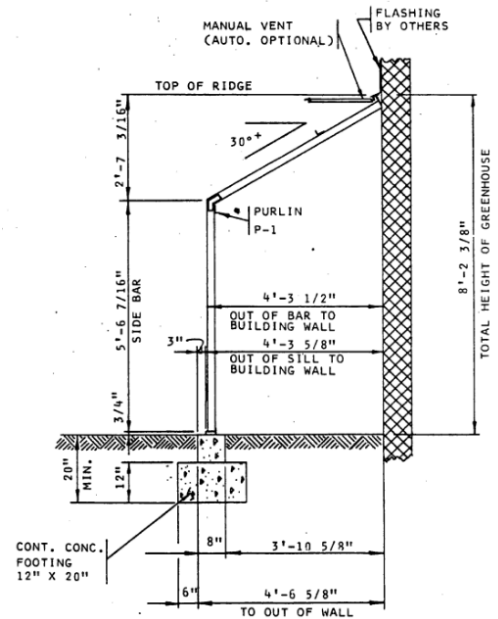
Bay window construction details.



4. Consider removing the greenhouse on the south side of the house. This is not an historic element of the house and is attached to the house. The doors accessing the greenhouse should also be removed with the removal of the greenhouse as these are not historic nor in a historic location.
5. The south side bay window should be removed. This is not an historic element though the appearance was intended to match the historic house. The bay window should be removed, and new windows should be added in this location that match the windows seen in the early 1900's photograph.
6. Consider removing the east side bay window on the second floor. This is not an historic element though the appearance was intended to match the historic house. However, the bay window is on the rear of the house and therefore is not visible when the house is viewed from Main Street, therefore the visual impact on the original house is minimal. If the east bay window is removed, consider adding a window in this location that matches the window in the west gable end. It is unclear if there was originally a window in this location and all evidence would be lost, but it is possible that the original structure had windows at both gable end walls.



Greenhouse attached to the south of the house.



Details for the greenhouse added in 1989.

3.4 ENVELOPE – ROOFING & WATERPROOFING

ROOFING SYSTEMS

Description:

The house roof is covered with an asphalt composite shingle roof that was added in 2018, according to building records. Building records indicate that the previous roof was removed down to the decking. In 2002 an asphalt roof was added on top of two layers of single-ply roof as was previously allowed by code. There is a small area of membrane roof at the covered front porch that is partially visible from the upper floor but is not accessible. The same type of membrane roof is also found on top of the low-pitch east addition roof. Building records state that the membrane roof is a single-ply torch down roof that was added in 2002. It does not appear that this roof was replaced in 2018. The 1948 Boulder County Assessor's card indicates that the shingles at that time were wood, which is typical for similar houses throughout Louisville.

There are several mushroom-style roof vents near the gable roof ridge on the south roof aspect. These vents appear to have been added in 2018. There is no lower roof, mid-roof, or soffit venting on the house. The roof vents appear to be venting a small attic space in the uppermost part of the gable as there is a finished second floor within the roof structure. There is no attic access to fully analyze roof insulation or venting. Painted aluminum drip edges along the rakes and eaves were also likely added in 2018 as drip edges were required by code during that time.



Asphalt shingle roof with roof venting near the ridge.



Condition Evaluation:

The asphalt composition shingle roof is in good condition. The areas of membrane roof appear to be in good condition but were not accessible during the site visit. The roof venting appears to be adequate for a small attic in the upper portion of the roof. However, this attic was not accessible and therefore assessment is limited.



Membrane roof at the covered front porch that is also found on the east addition.

Recommendations:

1. The membrane roof should be further inspected by a licensed professional. The roof was visible from within the house on the second floor, but not all areas were visible. Where visible, the roof appears to be in good condition and it was likely inspected in 2018 and deemed to be in good condition at that time as well, as it does not appear that it was replaced.
2. Keep all areas clear of debris, especially the low-pitch roof locations that are susceptible to debris build-up.
3. It appears that there is a small attic space in the upper part of the gable. This area was not accessible during the site visit to analyze the roof structure, insulation, and attic venting. Provide an attic access hatch and have the attic analyzed by a licensed structural engineer and licensed architect.

SHEET METAL FLASHING

Description:

Sheet metal flashing was not observed during the site visit. It is possible that sheet metal flashing exists beneath finish materials in several locations. Areas where sheet metal flashing may be found include where exterior low roofs meet exterior wall faces at the covered front porch, east addition, and bay window roofs. There is also likely flashing around the skylights beneath the asphalt shingles.

Condition Evaluation:

Since no sheet metal flashing was exposed, we do not have an evaluation currently. Since the roof was replaced in 2018, it is likely that sheet metal flashing was installed, replaced, or inspected as required by code at that time.

Recommendations

We do not have any recommendations at this time. If sheet metal flashing is exposed in the future with the removal of finish materials, the condition should be evaluated by a licensed professional.

PERIMETER FOUNDATION DRAINAGE

Description:

A perimeter foundation drain was not observed during the inspection. Due to the construction period and construction methods used, it is unlikely that a perimeter foundation drain exists.

Recommendations

No recommendations at this time.



DRAINAGE SYSTEM, GUTTERS & DOWNSPOUTS

Description:

Painted k-style gutters are found throughout the house. Gutters are located at the end of all roof eaves in appropriate locations and of appropriate lengths for adequate water collection. The roof eaves of the gable roofs are square-cut and therefore the gutters are attached with standoffs at regular spacing.

2x3 downspouts are located throughout and appear to be of an adequate amount for proper drainage where located. Downspouts have downspout extensions at all locations to direct water away from the foundation. There are downspouts on the south side that are routed across the trellis structure to direct water beyond the south side patio. Part of the trellis has a corrugated metal roof that does not have gutters or downspouts, but water is carried by the roof away from the house foundation.

Gutters and downspouts are not visible in the photographs from the first half of the 1900's and it is unclear when the k-style gutters and downspouts were added. Gutters may have been added after 1950 and the current gutters and downspouts may be replacements.



Typical K-style gutter, downspout, & downspout extension.

Condition Evaluation:

Overall, the gutters are in fair condition. Gutters can be difficult to assess outside of significant rain or snow events, but they appear to be properly attached, and no visible signs of leaking were present. Since we were unable to observe the gutters from above, it could not be determined whether the gutters are kept clear of debris or if any areas of standing water were present.

The downspouts are in fair condition as they appear to be of an adequate amount and in proper locations. Downspouts have extensions or are otherwise routed to direct water well beyond the house foundation.

Recommendations:

1. Ensure that all gutters, downspouts, and downspout extensions are maintained to discharge water away from the building foundation and are kept clear of debris.
2. Consider replacing the gutters with half-round gutters to match the historic style typical of Louisville. Downspouts should be replaced with round downspouts.

SKYLIGHTS / CUPOLAS

Description:



Skylights are visible in Google Street images as far back as 2012 and are present in 2024. It is unclear when the skylights were added but they are not original. Building records do not mention when the skylights were installed, but they may have been part of a re-roof that occurred in 2002. There are two skylights on the south aspect and one skylight on the north aspect of the main house gable. All three skylights are manually operable skylights.

Condition Evaluation:

Overall, the skylights appear to be in good condition and create proper seals, but operability was not tested. There is likely flashing around the skylights that were inspected or replaced in 2018 as part of a re-roof that would have been required by code.

Recommendations

We do not have any recommendations at this time. If sheet metal flashing is exposed in the future with the removal of finish materials, the condition should be evaluated by a licensed professional.



Operable skylights on the south roof aspect.

3.5 WINDOWS & DOORS

DOORS

Description:

The front door is a painted wood panel door with a 1/3 lite and a dentil beneath the glass panel. The front door has two panels above and five panels below the glass panel. In addition, there is a decorative trim below the dentil and a manual doorbell in the door panel. The front door faces west off the covered front porch and appears to be in an original location. There are no available historic photographs that show the front door. However, the current front door is likely historic, and possibly the original door. The front door has an aluminum full-lite storm door that is not historic.

There is a second exterior door in the southeast corner of the house facing south. The door in this location is a painted wood door with five panels. This location is likely original to the east addition and while it is difficult to determine if this door is the original door slab, the current door is likely historic. This door also has an aluminum full-lite storm door that is not historic.

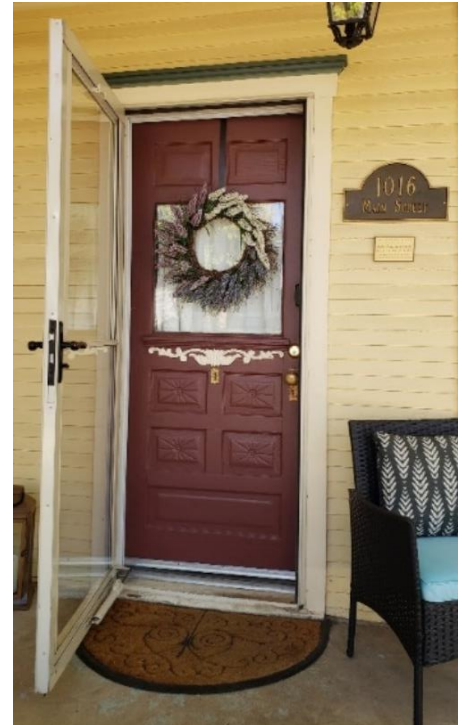
Also on the south side of the house is a double-panel French door that accesses the greenhouse. There are two single-pane side lites on either side of the French door and a stained-glass transom. This door and door location are not original. The doors may have existed prior to the greenhouse, providing access to a deck, or they might have been added in 1989 when the greenhouse was constructed.

There is door hardware throughout the house, including the handles, hinges, locking mechanisms, and the doorbell, that are likely historic elements.

Condition Evaluation:

The front door is in good condition. This door has been well maintained and the lifespan has been extended by the covered front porch and aluminum storm door.

The rear door is in fair condition. This door works properly and appears to create an acceptable seal. The rear door was exposed to elements prior to the construction of the trellis and added storm door but appears to have been well maintained.



Front door.



Double doors to greenhouse.



Door at east addition.

The French doors accessing the greenhouse are in good condition. These doors, along with the transom and sidelites appear to have been added relatively recently, possibly in 1989, and are protected from weather by the greenhouse.

Recommendations:

The painted wood rear door facing south should be fully restored. The wood door parts should be further inspected and repaired with replacement parts used only where necessary. All of the wood should be painted and sealed to resist weathering. The door hardware should also be repaired to remain functional. The weatherstripping around the doors should be replaced to create proper seals.



Interior doorknob that could be original.



Door handle and doorbell at front door. Both could be original.

WINDOWS

Description:

Most of the windows throughout the house are painted wood with single-pane glass. The windows in the original house are double-hung windows and the windows in the south bay window are single-hung. The east addition windows are all fixed three-over-three windows that are fixed, except for one casement window on the north side. There is also a fixed window on the north side of the original house with frosted glass. This window is in the bathroom and appears to be a replacement window, possibly in an original location, but does not match the original size. Two of the three windows in the upper floor bay window are casement windows while the third window is fixed.

Most of the windows appear to be original except for the windows on the second floor, the south bay windows, and one of the windows on the north side in the bathroom. The original double-hung windows have aluminum framed storm and screen windows. There is also evidence of exterior hardware that was previously used to attach screens that no longer exist.

Condition Evaluation:

Overall, the windows are in various conditions based on their time of construction. The newer windows on the upper floor and the south bay window are all in good condition as these would have all been added in 1989 or 1992. The windows on the original house and east addition are in fair condition. These windows are all well beyond the expected lifespan of painted wood windows. However, these windows appear to have been well maintained over the years and the aluminum storm windows have likely prolonged their lifespan.



Exterior hardware previously used to hold window screens.



Wood window with aluminum frame storm window and screen.



Single-pane 3-over-3 fixed windows at the east addition.

Recommendations:

1. The original wood double-hung and fixed windows should be properly restored as described below. Windows should be made to be operable, create proper seals, and only use replacement parts where no other option is available.
 - a. Remove and replace all window putty.
 - b. Clean and restore all glass panes with special care given to stained glass.
 - c. Repair and refurbish all wood window sash elements including stiles, rails, and muntins.
 - d. Repair and refurbish all wood window frames.
 - e. Repair and refurbish all counterweights and restore to operability.
 - f. Repair and refurbish all hardware including locking mechanisms.
 - g. Install new storm and screen windows with minimal frames.
2. Alternatively, all of the windows could be replaced with fiberglass or aluminum-clad wood windows. The replacement windows should match the size, location, and style of each existing window.
3. The bay windows should be removed as described above in section 3.3. The bay windows are not original and therefore should be removed. Paired double-hung windows should replace the south bay window as seen in the photograph from the early 1900's. A single window should be added to the east gable end that matches the window on the upper level in the west gable end.



Double-hung wood windows with aluminum frame screen windows.

3.6 EXTERIOR DETAILS

SOFFIT & FASCIA

Description:

The soffits on the original house gable rakes and eaves are painted 1x wood boards attached to the rafters. These match the soffits seen in the earliest photograph of the house and are likely original. The south bay window also has painted 1x wood soffits that are original to the bay that was added in 1989. There are painted wood beadboard soffits on the house that are likely original. The beadboard soffits are located at the covered front porch ceiling and where the roof overhangs the west bay. The east addition has exposed rafter tails on the east side that are painted.

The fascia throughout the house is minimally exposed as it is covered at nearly all locations with gutters and painted aluminum drip edge. The fascia is partially exposed from underneath, but assessment is limited. The fascia appears to be 1x wood fascia and attached to square-cut rafter ends. The painted wood fascia on the original house is likely original.

Condition Evaluation:

Overall, the soffits are in fair condition. The soffits have been well maintained and are protected from the elements. However, it is likely that the soffits are original and therefore the painted wood is over 100 years old. Some chipping and cracking of the wood is present and some of the seams are not flush.

The fascia was minimally exposed for analysis due to being covered by gutters and aluminum drip edge. Where visible the fascia is in good condition. Further analysis is required when the k-style gutters are removed.

Recommendations:

1. Scrape, repair, refinish, or replace all painted wood soffits.
2. The fascia should be fully evaluated when the k-style gutters are removed. The fascia may need to be repaired or replaced and properly reinforced for new gutter attachment.



Painted wood 1x soffit & fascia at the eaves and rakes with beadboard soffit at some locations.



Exposed painted rafter tails at the east addition.

TRIM

Description:

The house has 1x4 painted wood corner trim throughout on the original house as well as the subsequent additions. The original house also has painted wood decorative ogee trim at the top of the corner trim that matches the window head trim. Additionally, there are painted wood frieze boards of various sizes throughout the entire house.

The window trim on all the original house window locations is painted wood 5-piece trim. The windowsills are 2x6 with 1x4 jamb and head trim and a decorative ogee header. This window trim is also what is found on the front door and was copied for the south bay windows.

The east addition windows have a painted wood 2x6 sill with painted wood 1x picture frame jamb and head trim. The east addition door also has painted wood 1x picture frame trim.

The trim throughout the house generally matches that seen in the 1948 image. However, the details of the window and door trim are difficult to determine in historic photographs. It is likely that the current window and door trim is original with some possible modifications made over time, particularly where the bathroom window was replaced.



Decorative painted wood trim is found at the windows, doors, corners, and gable ends.

Condition Evaluation:

Overall, the painted wood trim is in fair condition. The wood trim has been well maintained over its lifespan and has been protected by the roof overhangs. There are some signs of chipping and cracking as would be expected of wood trim that is likely over 100 years old.

Recommendations:

Repair, restore or replace all of the painted wood trim as necessary.

ORNAMENTATION

Description:

The ornamentation found on the house is in the detail of the wood trim and the front door panel as discussed above. There is also a decorative painted wood railing on top of the covered front porch roof. The railing is original and gives the impression that this area is an upper floor deck, but it is not accessible. Other ornamentation is found at the front porch column capitals, the painted wood ogee trim at the gable roofs, and the shingle siding in the upper gable end of the smaller west facing gable.

Condition Evaluation:

Overall, the painted wood ornamentation elements are in fair condition. The wood trim has been well maintained over its lifespan and has been protected by the roof overhangs. There are some signs of chipping and cracking as would be expected of wood trim that is likely over 100 years old. The painted wood railing on top of the front porch roof is less protected from weather and is therefore further deteriorated. There is also a small dip in the front porch roof structure that is noticeable in the railing.

Recommendations:

Repair, restore, or replace all of the painted wood ornamentation as necessary.



Decorative painted wood railing and column capitals at the front porch roof.

3.7 MECHANICAL SYSTEMS

HEATING & AIR-CONDITIONING

Description:

Heating is provided to the entire house through a gas-fired forced-air furnace located in the basement. Building records do not indicate when the furnace was replaced but it appears to have been installed within the last ten years. The furnace is direct-vented out of the north wall of the basement. Air conditioning is not part of the forced-air system, but window air conditioning units were installed during the site visit. The furnace sits on the concrete slab floor in the basement with adequate space for servicing. A combination of rigid and insulated flexible ductwork runs throughout the basement to floor vents servicing the main floor. There are wall registers on the upper floor that also appear to be served by the basement furnace. Building records indicate that in 1996, a gas line was run, and a free-standing stove was installed. This appears to refer to the studio.

Condition Evaluation:

The furnace and air delivery system appear to be in good condition but were not tested. As the furnace is a newer unit, it is likely that performance is adequate for the current size of the house. Insulation upgrades mentioned elsewhere in this report will increase heating and cooling efficiency.

Recommendations:

1. Continue to perform routine maintenance on the furnace to prolong the lifespan.
2. If heating or cooling does not perform to the homeowner's satisfaction, consult with a licensed mechanical designer for upgrade options.



Furnace and ductwork in the basement.

WATER SERVICE, PLUMBING, & SEWER UTILITIES

Description:

A standard 50-gallon gas-fired water heater is located in the basement and is atmospherically vented through the roof. Building records indicate that the unit was installed in 2006. Building records also indicate that there was water damage in the bathroom which required new sheathing, insulation, plaster/drywall, and finishes. These support what was seen for floor sheathing as noted in the *Structural System* part of this report. The water delivery system is a combination of copper and PEX pipes with the waste lines being PVC, ABS plastic and cast-iron. The sewer line exits the house as cast iron on the east side, at a relatively low depth which is common for similar houses in Louisville. Building records state that the sewer line was replaced and a water line was run to the garage in 2009. It appears that the water line and sewer were actually run to the studio at the time that it was remodeled with a bathroom added. The extent of the sewer line replacement and the material used could not be determined. Additionally, there is no fire sprinkler system in the house.



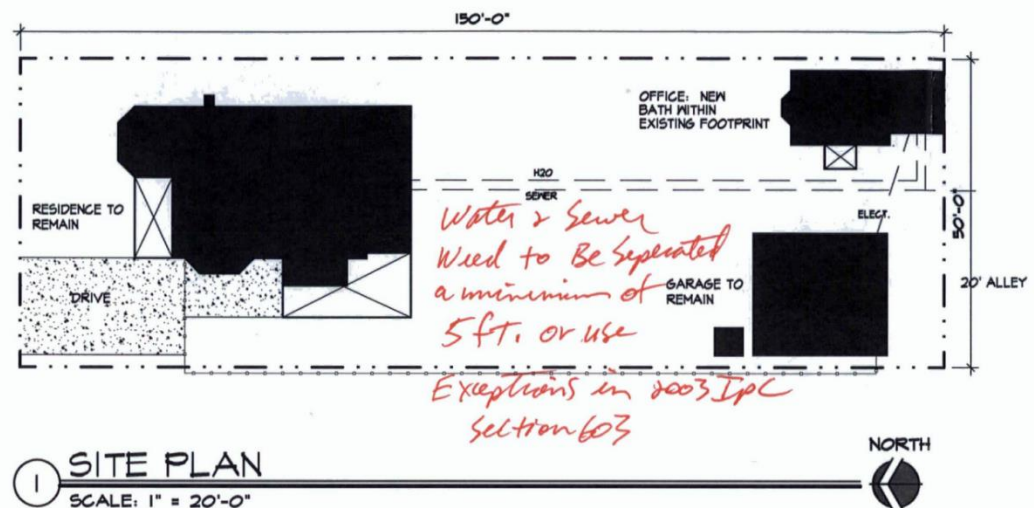
Water heater, supply, and waste lines in the basement.

Condition Evaluation:

The water heater, supply and waste lines, and sewer appear to be in good condition, but were not tested. Building records indicate that the water heater was installed in 2006, therefore, the water heater may be nearing the end of an expected lifespan.

Recommendations:

Consider replacing the water heater with a high-efficiency unit with a sealed combustion intake/exhaust system.



Site plan from 2009 indicating new sewer and water lines running to the studio.

3.8 ELECTRICAL SYSTEMS

ELECTRICAL SERVICE & PANELS

Description:

Electrical service is brought in overhead to the east side of the garage from an electrical pole located in the alley. The electrical meter is located on the exterior face of the north side of the garage and the main electrical panel is on the interior side of the garage. Building records indicate that the electrical panel was moved in 1992, and it appears that the panel was upgraded to a 200-amp service at that time. The electrical panel and meter were likely previously located on the house and then relocated to the garage, with an underground electrical line running to the house. There is a sub-panel located in the basement of the house, and it appears that there is also a sub-panel in the studio, though this could not be located due to limited access.

Condition Evaluation:

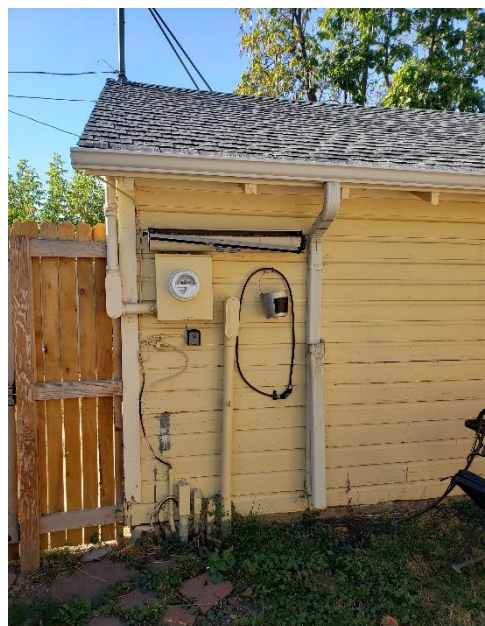
The electrical service was not tested during the site visit but appears to be in working condition. The panel appears to be sized appropriately for the existing house and studio requirements.

Recommendations:

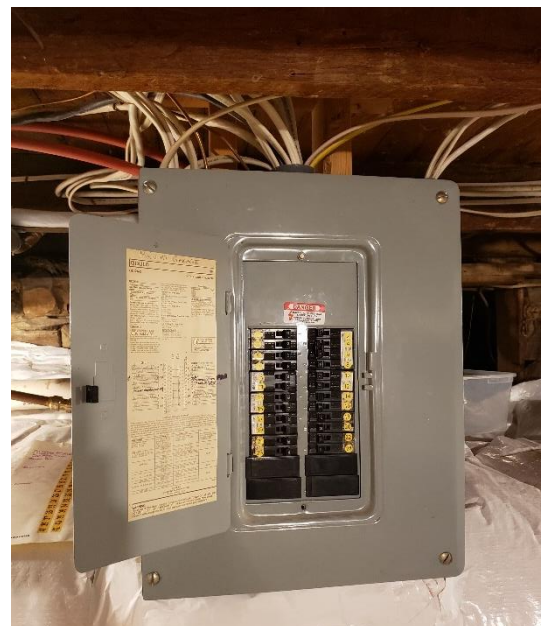
We do not have any recommendations at this time. Any future plans to remove the garage or construct a new garage should keep the main electrical panel on the garage with sub-panels in the house and studio. Future electrical work should be performed by a licensed electrical engineer and shall meet all applicable building codes.



Main electrical panel in the garage.



Electrical meter on the north side of the garage.



Sub-panel in the house basement.

ELECTRICAL DISTRIBUTION SYSTEM

Description

Electrical distribution throughout is Romex wiring that is visible in the basement and garage. It appears that this wiring serves the entire house, though not all areas are visible for analysis. It is likely that knob-and-tube wiring was originally used, as was common with similar houses in the Louisville area, and there are remnants of abandoned knob and tube wiring in the basement and in the garage. It appears that all the knob-and-tube wiring has been abandoned and is no longer in use. Building records indicate that in 1984, electrical wiring was added to the garage and modified in the kitchen and living room as part of a remodel.



Condition Evaluation:

The electrical distribution was not tested during the site visit but appears to be in good condition.

Recommendations:

No recommendations at this time.



Romex wiring next to abandoned knob-and-tube wiring in the garage.

LIGHTING

Description:

There is a pendant light fixture located at the covered front porch. An early 1900's photograph shows a light fixture in this location but the fixture in 2024 is a replacement, added at an unknown time. The wiring for this light fixture could not be determined as there is no access to the front porch roof. There is also an exterior wall sconce located next to the south facing door. This fixture location might be original to when this addition was enclosed sometime after 1948. At the rear of the house, in the southeast corner, there is a flood light that appears to be equipped with motion and light detection. None of the light fixtures were tested but appear to be in working condition. The front porch light and the wall sconce appear to be on interior switched circuits while the east light fixture appears to be motion controlled.

Condition Evaluation:

The light fixtures were not tested but appear to be in working condition. None of the exterior light fixtures are historic but the light fixture at the front porch is a replacement fixture in a historic location and the wall sconce on the south side of the house might be in an original location as well.

Recommendations:

Consider installing new exterior lighting that complies with Dark Sky regulations.



Pendant light fixture at the front porch.



Wall sconce at the east addition.



Flood light at east exterior wall.

4.0 ANALYSIS AND COMPLIANCE

4.1 HAZARDOUS MATERIALS

Due to the age of the building, the finish coatings may contain lead-based paint and asbestos may be present in the plaster topcoat. A professional evaluation should be conducted to determine the presence of any hazardous materials.

4.2 MATERIALS ANALYSIS

Does not apply.

4.3 ZONING CODE COMPLIANCE

Notes:

- It is recommended that the owner have a survey of the property conducted to verify the *Lot Size*. All *Lot Coverage* and *Floor Area Ratio* percentages are based on the actual property size and are subject to change from what is specified in this report.
- Building area square footages are taken from:
 - Boulder County Property Records (R)
 - As-built measurements as measured from the interior face of wall, by DAJ Design (M)
- Some areas are taken from the Boulder County Property Records. These records are found to be inaccurate at times. All areas are subject to change based on actual measurements.
- Only the main floor and upper floor of the house were measured by DAJ Design as this is the main historic structure located on the specified property.

Legal Description:

Lot 10, Block 17, Caledonia Place

Year Built (Main House):

City of Louisville, County of Boulder, State of Colorado

Lot Dimensions:

c. 1895-1910

Lot Size:

Approx. 50' x 150'

Zoning:

7,500 sf (ILC)

[RM](#) (one residential unit per 3,500sf)

Property is subject to the [Old Town Overlay Zoning District Regs](#)

Areas of levels in square feet (sf):

First level (above ground) finished area:	988 sf (M)
Upper level finished area:	392 sf (M)
Covered front porch area:	70 sf (M)
Attached greenhouse area:	50 sf (M)
Garage area:	420 sf (M)
Studio area:	282 sf @
Shed area:	18 sf (M)

Allowable Building Height (from existing grade):

Primary Structure:	27'
Accessory Structure:	20'

Lot Coverage:

Existing:	1,888 sf	25%	House, Front Porch, Studio, Garage, & Shed
Landmark:	3,000 sf	40%	1,112 sf remain

Floor Area Ratio:

Existing:	2,150 sf	29%	First Floor, Studio, Garage, & Shed
Landmark:	3,375 sf	45%	1,225 sf remain

Setbacks:

Front:	20'	(could be different depending on the front of neighboring house locations)
Front Porch:	14'	(6' encroachment into front yard & street side yard setback)
Rear:	25'	
Side (interior lot line):	5'	
Accessory Rear:	3'	
Accessory Side:	3'	



5.0 PRESERVATION PLAN

5.1 PRIORITIZED WORK

CRITICAL DEFICIENCY

One or more of the following indicate a critical deficiency:

1. *Advanced deterioration has resulted in failure of the building element, feature, or space, or will result in its failure if not corrected within two years.*
2. *Accelerated deterioration of adjacent or related building materials has occurred as a result of the feature or element's deficiency.*
3. *The feature or element poses a threat to the health and/or safety of the user.*
4. *The feature or element fails to meet a code/compliance requirement.*



- The top of the foundation relative to the top of grade should be determined around the entire perimeter of the house, especially at the west side of the house. If the top of the foundation is determined to be at or below the existing grade, new grading should occur to bring the grade down below the top of the foundation, as prescribed by a licensed structural engineer.
- Finished grades around the house perimeter should be re-graded to create positive drainage away from the house. The top of finished grade should be a minimum of 6 inches below the top of the foundation and the beginning of any wood framing, and the grade slope away from the foundation for at least the first 5 feet. Coordinate the slope with a licensed geotechnical engineer. This option may be difficult at the north, west, and south sides of the house as significant grading is necessary and there is little room to create new grading due to the proximity of the property lines.
- The house foundation could be replaced to bring the top of the foundation at least six inches above finished grade. This option would allow for the best outcome of finished grade away from the house foundation and would ensure that the wood structure and wood siding are not susceptible to rot. Coordinate with a licensed structural engineer and a licensed geotechnical engineer. Construct a new foundation at either a basement or crawlspace depth below frost, or a combination of basement and crawlspace depths. New foundation walls should be designed by a licensed structural engineer and supported with proper footings.
- A new foundation should be set high enough to allow for proper drainage away from the foundation as prescribed by a geotechnical engineer. To pour a new concrete foundation, the house will need to be temporarily lifted or moved to a temporary location by a licensed house mover. The location of the house on the site should not vary from the current, historic location. The top of the foundation will need to be increased to create proper drainage. This will minimally increase the height of the house but will reflect the original grade.
- The concrete on the exterior face of the stone foundation showed various signs of cracking. Further investigation is required to determine if the cracking is related to foundation movement in the stone foundation or if the cracking is caused by improper application of the concrete face.
- The concrete face on the exterior side of the stone foundation should be removed. The stone foundation will need to be tuck-pointed and waterproofed. The depth of the stone foundation and the size of the footing (if any) should be determined and evaluated by a licensed structural engineer.
- The concrete retaining walls in the basement need further investigation by a licensed structural engineer. These walls are covered with vinyl insulation that will need to be temporarily removed to determine how the retaining walls are supported. Further support of the retaining walls may be required as prescribed by a licensed structural engineer. Also, destructive investigation may be needed to verify the presence of footings below the retaining walls and additional strengthening to the footings may be necessary.
- New footings are likely needed to support the point and distributed loads from the roof and floor framing as specified in the recommendations below. New foundation support below any new beam and posts supporting the floor and roof framing should be coordinated with a licensed structural engineer.



- Alternatively, the foundation walls (including the perimeter and interior walls) could be replaced with a new concrete foundation at either a basement or crawlspace depth below frost, or a combination of basement and crawlspace depths. New foundation walls should be designed by a licensed structural engineer and supported with proper footings.
 - A new foundation should be set high enough to allow for proper drainage away from the foundation as prescribed by a geotechnical engineer.
 - To pour a new concrete foundation, the house will need to be temporarily lifted or moved to a temporary location by a licensed house mover. The location of the house on the site should not vary from the current, historic location. The top of the foundation will need to be increased to create proper drainage. This will minimally increase the height of the house.
 - A new concrete foundation will benefit the overall structure of the house with minimal impact to the exterior appearance of the house. Benefits include a foundation that has a proper footing set below the minimum frost depth; new waterproofing of a concrete foundation will prolong the overall lifespan of the structure; will eliminate the need to remove the existing concrete facing to tuck-point and waterproof the existing stone foundation; a new concrete foundation will support the gravity and lateral loading of the house as well as support the required structural elements needed to support the floor structure, walls, and roof as described below.
- The beams and beam supports should be replaced or reinforced as prescribed by a licensed structural engineer. The best method is to construct new beams and beam supports that support the existing floor joists and remove the existing beams and beam supports as prescribed by a licensed structural engineer. These new supports should bear on footings, or any other type of foundation as prescribed by a licensed structural engineer and located at a depth and soil bearing capacity as specified by a licensed geotechnical engineer.
- The front porch appeared to be a concrete slab over basement/crawl space below. The slab at this location appears to span between the exterior foundation wall and interior floor structure. The thickness of the slab and connections at the ends were not visible for our review. Also, the reinforcing of the slab is visible when looking at the underside of the slab from the basement. This does not meet the minimum IRC code specifications of today's standards. The slab at this location and the connections at the ends of the slab shall be replaced or modified as prescribed by a licensed structural engineer to meet the minimum IRC code specifications of today's standards.
- Scrape, repair, refinish, or replace the original wood clapboard, shiplap, and shingle siding as necessary.
- The south side bay window should be removed. This is not an historic element though the appearance was intended to match the historic house. The bay window should be removed, and new windows should be added in this location that match the windows seen in the early 1900's photograph.
- The membrane roof should be further inspected by a licensed professional. The roof was visible from within the house on the second floor, but not all areas were visible. Where visible, the roof appears to be in good condition and it was likely inspected in 2018 and deemed to be in good condition at that time as well, as it does not appear that it was replaced.
- The painted wood rear door facing south should be fully restored. The wood door parts should be further inspected and repaired with replacement parts used only where necessary. All of the wood should be painted and sealed to resist weathering. The door hardware should also be repaired to remain functional. The weatherstripping around the doors should be replaced to create proper seals.
- The original wood double-hung and fixed windows should be properly restored as described below. Windows should be made to be operable, create proper seals, and only use replacement parts where no other option is available.
 - Remove and replace all window putty.
 - Clean and restore all glass panes with special care given to stained glass.
 - Repair and refurbish all wood window sash elements including stiles, rails, and muntins.
 - Repair and refurbish all wood window frames.
 - Repair and refurbish all counterweights and restore to operability.
 - Repair and refurbish all hardware including locking mechanisms.
 - Install new storm and screen windows with minimal frames.

- Alternatively, all of the windows could be replaced with fiberglass or aluminum-clad wood windows. The replacement windows should match the size, location, and style of each existing window.
- Scrape, repair, refinish, or replace all painted wood soffits.
- Repair, restore or replace all of the painted wood trim as necessary.
- Repair, restore, or replace all of the painted wood ornamentation as necessary.

SERIOUS DEFICIENCY

One or more of the following indicate a serious deficiency:

1. *Deterioration, if not corrected within two to five years, will result in failure of the feature or element.*
2. *Deterioration of a feature or element, if not corrected within two to five years, may pose a threat to the health and/or safety of the user.*
3. *Deterioration of adjacent or related building materials and/or systems will occur as a result of the deficiency of the feature or element.*



- Keep overgrowth trimmed away from the house and overhead electrical lines and remove any overhead branches. The ground covers should be trimmed away from the house foundation and should not be allowed to grow up the house walls.
- Continue to monitor the drainage around the perimeter of the house. The perimeter should be observed after snow and significant rain events to assess for all areas of pooling water.
- The wood floor framing members including the sill plate, rim board, floor joists, and floor sheathing should be inspected for rot caused by poor drainage. If rot is found in any of these members, the affected flooring should be replaced as prescribed by a licensed structural engineer. Rot was not observed during the site visit. However, many of the susceptible areas, primarily at the house perimeter, were not visible for analysis due to insulation in the basement.
- The garage likely meets the age to qualify as a historic element of the site. However, the garage was not originally constructed in a manner to have a long-life expectancy and has subsequently been minimally maintained. The size and location of the overhead garage door only provides one on-site parking space, and the condition of the roof poses a safety concern. For these reasons, we recommend removing the garage or extensive structural repair to the existing framing should occur to meet current code standards.
- Similarly, the parking area on the west side of the house should be removed. On-site parking could be accommodated in this location with a new concrete slab or wheel tracks. However, no parking should occur above the coal room and the coal room should be further assessed prior to any above grade work.
- The basement and crawlspace foundation walls showed various signs of damage that require further evaluation. No additional load should be added to the existing foundation system without a full analysis of the current foundation walls/footings. Additional strengthening of existing crawlspace walls may be needed as determined by a licensed structural engineer to meet current code specifications.
- New footings are likely needed to support the point and distributed loads from the roof and floor framing as specified in the recommendations below. New foundation support below any new beam and posts supporting the floor and roof framing should be coordinated with a licensed structural engineer.
- The floor framing should be further observed by a licensed engineer and repaired as needed. The existing floor joists may be over spanned per current IRC code. New floor joists could be sistered to the existing floor joists or new beam lines should be added to the main floor system to support the existing floor joists as mentioned above. Special attention should be given to the connections between the foundation walls, floor joists, beams, and beam supports. The floor joists are not suitable for additional load resulting from a remodel or addition.
- It is likely that the non-visible portions of the floor structure are constructed in a similar manner to those areas that are exposed. However, the entire floor structure should be verified and evaluated by a licensed structural engineer prior to any remodel or addition.
- New beams may need to be added to support the point and distributed loads from the roof framing as specified in the recommendations of the 'Roof Framing Systems' section of this report.
- Deconstructive investigation is necessary to fully analyze the roof structure. Coordinate locations to remove finish materials to view the roof structure with a licensed structural engineer.



- Hurricane clips (or toenails) may need to be added where roof framing members bear on exterior walls to meet the minimum IRC code requirements of today.
- Additional collar ties may be needed to be in compliance with current IRC code for prescriptive roof framing.
- Diagonal braces and purlins may be needed to strengthen the existing rafters to be in compliance with the current IRC code for prescriptive roof framing.
- Additional beams may be needed in the attic area to support the above-mentioned diagonal braces and purlins. This is mainly needed approximately at the mid-span of the roof rafters. These beams will require support in the wall system and likely would require new foundation support in the crawlspace and basement. This must be coordinated with a licensed structural engineer.
- Attic insulation should be added to achieve an R-value as close as possible to current code standards. The maximum insulation possible should be added at the perimeter of the roof as the roof depth in this location does not allow for the minimum required by code. Any energy upgrades, such as increased insulation in the attic, could result in prolonged snow retention on the roof and could ultimately affect roof performance without first completing structural reinforcement.
- Wall cavity insulation should be added to achieve an R-value as close as possible to current code standards. Any energy upgrades, such as increased insulation in the attic, could result in prolonged snow retention on the roof and could ultimately affect roof performance without first completing structural reinforcement.
- Further deconstructive investigation is necessary to properly analyze the covered front porch. The roof, beams, columns, and attachments need to be verified and analyzed by a licensed structural engineer. Additionally, the porch floor is sitting on top of the coal room, and it is unclear how it is supported. Further analysis is required by a licensed structural engineer to determine how the concrete porch slab is supported. The condition of all these elements needs to be verified with deconstructive investigation.
- The concrete planter on the west side of the porch should be removed. This planter is not historic and may cause poor drainage away from the house foundation or from the coal room area below.
- Remove the greenhouse on the south side of the house. This is not an historic element of the house and is attached to the house. The doors accessing the greenhouse should also be removed with the removal of the greenhouse as these are not historic nor in a historic location.
- Consider removing the east side bay window on the second floor. This is not an historic element though the appearance was intended to match the historic house. However, the bay window is on the rear of the house and therefore is not visible when the house is viewed from Main Street, therefore the visual impact on the original house is minimal. If the east bay window is removed, consider adding a window in this location that matches the window in the west gable end. It is unclear if there was originally a window in this location and all evidence would be lost, but it is possible that the original structure had windows at both gable end walls.
- It appears that there is a small attic space in the upper part of the gable. This area was not accessible during the site visit to analyze the roof structure, insulation, and attic venting. Provide an attic access hatch and have the attic analyzed by a licensed structural engineer and licensed architect.
- Consider replacing the gutters with half-round gutters to match the historic style typical of Louisville. Downspouts should be replaced with round downspouts.
- The fascia should be fully evaluated when the k-style gutters are removed. The fascia may need to be repaired or replaced and properly reinforced for new gutter attachment.

MINOR DEFICIENCY

One or more of the following indicate a minor deficiency:

1. *Standard preventive maintenance practices and building conservation methods have not been followed.*
2. *A reduced life expectancy of affected or related building materials and/or systems will result.*
3. *A condition exists with long-term impact beyond five years.*



- Work with a licensed arborist to maintain the mature trees and shrubs. Ensure that growth does not interfere with the house roof, siding, or foundation.
- Consider replacing the hardscape walking surfaces throughout the rear and side yards with new surfaces that are level.
- Continually monitor the main floor walls for signs of foundation distress such as cracking or improper door operation. Cracks were not observed within the finishes on the main level. If signs of cracking are detected, these areas should be evaluated by a licensed engineer and repaired as needed.
- If the main floor deflection is inadequate, consult a licensed structural engineer for additional support design options.
- Without the opportunity to observe the exterior wall structure, we do not have any recommendations currently. If the opportunity presents itself, the exterior walls should be assessed by a licensed structural engineer. The owner is to note that the walls will need to be evaluated if any remodels or additional load is to be added, including the interior walls as several of these walls appear to be load bearing. Also, if any remodel or addition plan is in place, new braced wall lines may be added by adding OSB or gypsum board on the interior side of exterior walls to resist wind loading.
- Remove the trellis structure on the south side of the house. This is not an historic element of the house and is attached to the house structure.
- Ensure that all gutters, downspouts, and downspout extensions are maintained to discharge water away from the building foundation and are kept clear of debris.
- Continue to perform routine maintenance on the furnace to prolong the lifespan.
- If heating or cooling does not perform to the homeowner's satisfaction, consult with a licensed mechanical designer for upgrade options and/or all-electric heating and cooling options.
- Consider replacing the water heater with a high-efficiency unit with a sealed combustion intake/exhaust system or an all-electric heat pump water heater.
- Consider installing new exterior lighting that complies with Dark Sky regulations.

5.2 PHASING PLAN

A phasing plan is not available at this time.

5.3 ESTIMATE OF PROBABLE COST OF CONSTRUCTION

A probable cost of construction is not available at this time.

6.0 PHOTOGRAPHS AND ILLUSTRATIONS



c. early 1900s view from Main Street



1950 West Elevation



2024 West Elevation



2024 View from the Southwest



2024 View from the Northwest



2024 View from the Southeast



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Structural Engineering Consultants
P.O. Box 20708
Boulder, Colorado 80308
303.554.9591

December 2, 2024

Attn: Josh Johnston
DAJ Design
Louisville, CO

Dear Josh,

We visited the building at 1016 Main Street, Louisville, CO on October 8, 2024, to review the existing building for the purpose of documenting and evaluating the existing structure. It was at this time that we reviewed the building with DAJ Design and coordinated our findings with the report created by DAJ Design.

On December 2, 2024, we reviewed the final report and made any necessary modifications to the structural sections. All findings, evaluations and recommendations are in the report. Below, in this letter, are our structural conclusions and a summary of our scope of work. Please feel free to contact us for any further information.

Structural Conclusions:

A. In our professional opinion, the building's structure is adequate for its continued safe use. The construction does not meet all modern code standards; however, it has performed adequately up to this point. We recommend that a licensed Structural Engineer be retained to further evaluate the structure, provide the repairs recommended in each of the sections of this report and assist in any modifications to the structure proposed by the owner and an architect.

Please see the recommendations sections of the report for any required or recommended structural recommendations, to be completed by a licensed structural engineer and contractor.

It is also important to note that a significant portion of the building's structure was not exposed for our review. There may be damaged structure that we were not able to observe due to finish materials. Also, additional cosmetic imperfections could arise, which is normal for an old structure.

B. An extreme event occurring at the site, such as a tornado, a serious (rare) earthquake or other unforeseen event could significantly damage the structure. But this is also true for most old structures in Louisville and is only mentioned for completeness of this report.

C. The drainage around the home should be addressed to allow for water to flow away from the building. Poor drainage could result in water infiltration or excessive movement and damage to the foundation and wood framing.



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P.O. Box 20708
Boulder, Colorado 80308
303.554.9591

Summary and Limitations:

A. Summary:

1. The goal of our site observation and the structural portion of the report is to provide an overview of the building's structure and foundation and identify areas where remedial work in the near future is prudent.
2. The recommended remedial measures are intended to promote the building's continued safe use and are not intended to eliminate all existing and potential future cosmetic defects.

B. Limitations:

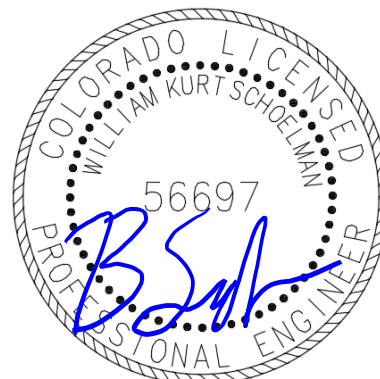
1. The information contained in the report is the author's professional opinion based on visual evidence readily available at the site, without the removal of existing finish materials. Of course, this means there could be hidden defects which are not discoverable at this time, without demolition of finish materials. That is true for most buildings, and an inherent limitation for this kind of report. Should additional information become available or additional movement is perceived, we recommend that our firm be contacted for further review.
2. The issuance of the report does not provide the building's current or future owners with a guarantee, certification, or warranty of future performance. Acceptance and use of this report do not transfer financial liability for the building or the property to the author or this engineering firm.
3. The report is also only preliminary to make note of areas that need to be addressed. A licensed Structural Engineer should be retained to provide a more thorough investigation and provide appropriate repair details for all necessary repairs.

Prepared by,

Vignan Beesam, M.S.

Reviewed by,

Billy Schoelman, P.E.



12/02/2024

1016 Main Street - Landmarking Designation Request

Background

- National Register of Historic Places Designation (1986)
- 180-day demolition expired on September 1, 2025.
- Contract to purchase entered into by City Council using the Historic Preservation Fund (HPF) at the August 5, 2025 meeting.
- Intent to landmark 1016 Main Street, list it for sale, reimburse the HPF, and pass the preservation incentives on to new property owner.
- Currently under contract.

Landmark Criteria

Age

- ca. 1895-1910 (approximately 114-129 years old)

Architectural Significance

- Queen Anne Style

Physical Integrity

- Maintained its Queen Anne architectural style and front-gabled roof.

Social Significance

- Mining history
- Italian immigration

HPC Recommendation

- Public Hearing - September 15, 2025
- Recommended approval of the local landmark designation.

Staff Recommendation

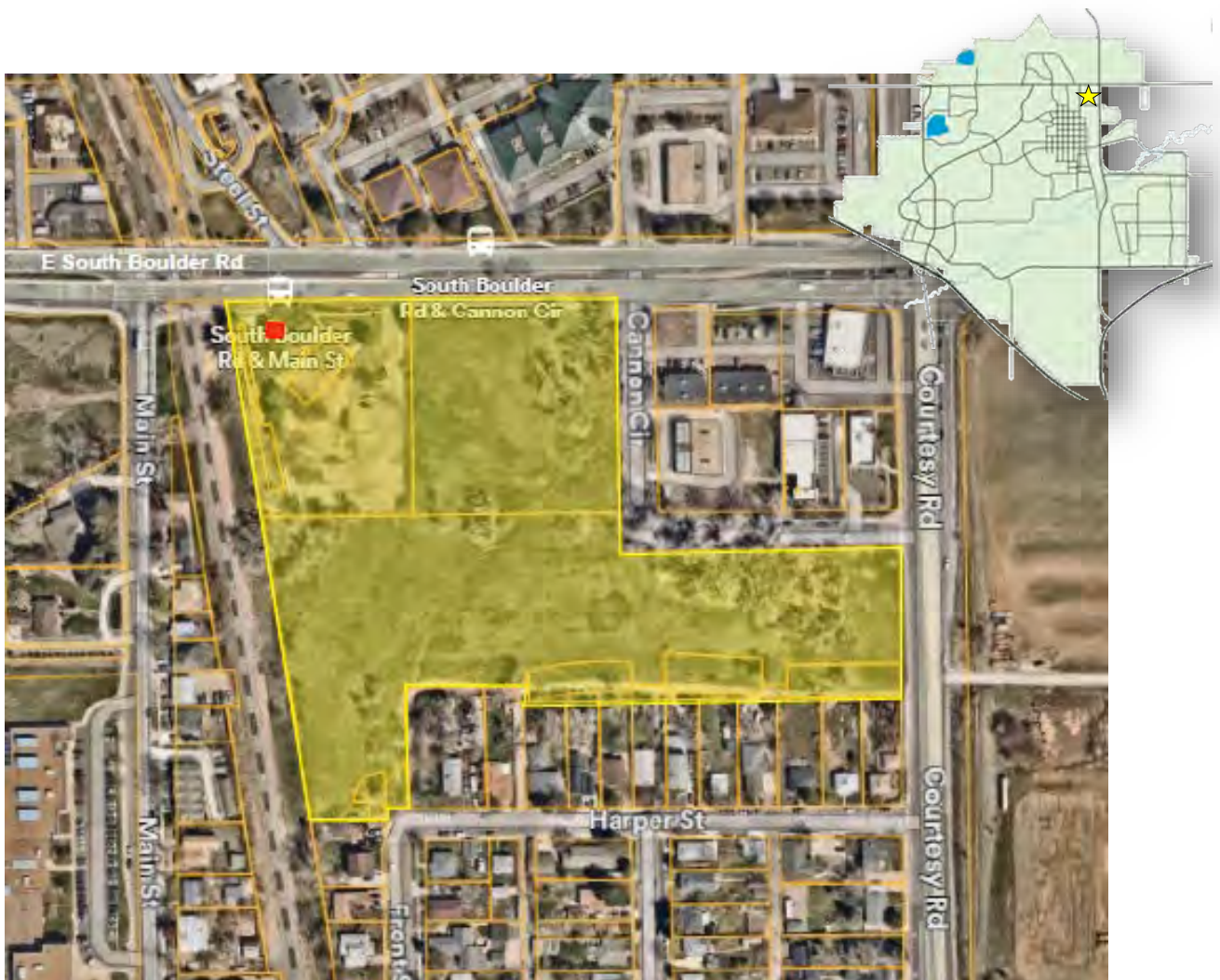
- Approval of Resolution No. XX, Series 2025, approving the landmark designation at 1016 Main Street, to be named the Petrelli-Del Pizzo House.

SUBJECT: ORDINANCE NO. 1910, SERIES 2025 – AN ORDINANCE APPROVING A REZONING OF A PORTION OF THE CALEDONIA PLACE SUBDIVISION PLAT FROM COMMERCIAL COMMUNITY (C-C) AND RESIDENTIAL MEDIUM DENSITY (R-M) TO MIXED-USE RESIDENTIAL (MU-R) AND APPROVING AN AMENDMENT TO EXHIBIT A, LAND USE PLAN EXHIBIT, REFERENCED IN LOUISVILLE MUNICIPAL CODE CHAPTER 17.14 – MIXED USE ZONE DISTRICTS – 1ST READING, SET PUBLIC HEARING

DATE: NOVEMBER 18, 2025

PREPARED BY: MATT POST, AICP, SENIOR PLANNER

PRESENTED BY: MATT POST, AICP, SENIOR PLANNER



SUMMARY:

The applicant, Ripley Design Inc., is requesting a rezoning of a portion of the property from the CC-MU (Commercial Community – Mixed Use) and R-M (Residential Medium Density) zoning districts to the MU-R (Residential Mixed Use) zoning district. The MU-R district permits a combination of residential and non-residential uses, including townhomes and apartments up to a maximum gross density of 20 dwelling units per acre, and requires properties over five acres in size to incorporate at least two distinct principal uses.

To implement the proposed rezoning, the applicant must also amend the Land Use Plan, Exhibit A, referenced in Louisville Municipal Code Chapter 17.14 (Mixed-Use Zone Districts). The existing Land Use Plan designates the property as CC-Mixed Use, R-M, and Park, and would be updated to classify the entire property as MU-R to align with the requested zoning change.

This First Reading staff report provides analysis and a recommendation on the proposed rezoning and Land Use Map amendment. It also includes the proposal and analysis for the associated Preliminary Planned Unit Development (PUD), Preliminary Plat, and Special Review Use (SRU) applications, which collectively enable future development of the property with an approved rezoning. Rezoning and zoning map amendments, which require adoption by ordinance, are considered by City Council at a first and second reading, with the second reading serving as the public hearing. This report is intended to serve as the First Reading for the rezone and Land Use Map amendment application. For clarity and continuity, the Preliminary PUD, Preliminary Plat, and SRU proposal and analysis are included within this staff report, as all applications have been reviewed simultaneously, and consideration will occur concurrently. With approval of this first reading, City Council will set the public hearing for January 6, 2026, at which time the second reading of the ordinance and consideration of all applications will occur.

BACKGROUND / PRIOR DISCUSSIONS:

The property is located in the Highway 42 Revitalization Area. In 2003, the City adopted the [Highway 42 Revitalization Area Framework Plan](#) and the [Highway 42 Revitalization Area Comprehensive Plan Amendment](#). In order to implement these adopted plans the City created a [Mixed Use Overlay District \(Zoning Chapter 17.14\)](#) and the [Mixed Use Development Design Standards and Guidelines \(MUDDSG\)](#), which govern development of properties within the Mixed Use district.

The Urban Renewal Plan for the Highway 42 Urban Renewal Area was later adopted by the City and the Louisville Revitalization Commission to address blight, encourage reinvestment, and guide appropriate land uses consistent with community objectives.

In accordance with LMC Sec. 17.14.020, properties within the Revitalization Area must be rezoned consistent with the adopted Land Use Plan when developed or redeveloped. In 2013, City Council approved Ordinance No. 1641-2013, rezoning the subject property from Commercial Business (CB) to Mixed-Use Residential (MU-R), Commercial Community

(CC), and Residential Medium Density (R-M) concurrent with approval of a Preliminary PUD and Plat.

A Final PUD and Plat, known as Coal Creek Station, was subsequently approved in 2016 to allow 51 residential units and 29,472 square feet of commercial space. However, the Final PUD and Plat were never executed, and eligibility for permit issuance expired on May 17, 2019.

Planning Commission Review of Current Application

This application was reviewed by the Planning Commission at three separate meetings held in 2024 and 2025 ([September 12, 2024](#), [October 10, 2024](#), and [October 9, 2025](#)) during which staff presented findings, public comment was received, and the Commission deliberated on the proposal. At the October 10, 2024, hearing, the Commission directed that an updated Traffic Impact Study (TIS) be prepared to address additional considerations and provide a more comprehensive evaluation of the project's impacts, including a rezone for portions of the subject property.

Following that action, staff met with the applicant to establish the scope for the revised TIS. The study was then prepared by the applicant, submitted, and reviewed in accordance with the agreed scope, incorporating updated traffic counts and expanded analyses requested by the Planning Commission. The revised scope included:

- Analysis of traffic impacts with and without the proposed Front Street connection.
- Incorporation of traffic projections from the Delo Boom development, a mixed-use project proposed and currently under review south of the subject property.
- Inclusion of six additional intersections in the study area - Main Street/South Boulder Road, Main Street/Griffith Street, Front Street/Griffith Street, Cannon Street/Griffith Street, SH 42/Griffith Street, and SH 42/Harper Street.
- Evaluation of the Cannon Circle/South Boulder Road intersection as a potential $\frac{3}{4}$ movement configuration.
- Updated, objective directional distribution assumptions.
- Application of a 1,000 vehicle-per-day (vpd) threshold for local street capacity (Front Street only) based on neighborhood livability considerations rather than maximum roadway capacity.

The revised TIS (Attachment 6) evaluated existing and projected traffic conditions for 2026 and 2045, with and without the proposed connection of Front Street between South

Boulder Road and Griffith Street. The new study assumed the same development intensity as the last study. New traffic counts were collected during weekday morning and evening peak hours in November 2024 and during the Saturday mid-day peak in November 2022 under normal conditions, updating and replacing the previous 2020 and 2022 volumes.

The development is projected to generate approximately 1,839 daily vehicle trips through four (4) access points around the site, with 220 AM peak hour (7:00AM – 9:00AM) trips and 244 PM peak hour (4:00pm – 6:00PM) trips.

The revised TIS evaluated the Front Street connection using a 1,000 vpd threshold, which is generally recognized by most jurisdictions as the most conservative standard for local residential street classification. The City's [2013 Comprehensive Plan](#) identifies local streets carrying more than 1,000 vpd as candidates for traffic-calming measures (p. 41), but not for reclassification. The TIS projects traffic volumes on Front Street below the 1,000 vpd threshold (p.66). However, in response to community concerns regarding the connection, the applicant has agreed to proactively install traffic-calming measures along Front Street and at the Front Street/Harper Street intersection (Attachment 7).

The results of the revised TIS indicate that the Front Street connection is necessary for maintaining circulation and safe vehicular operations. The site fronts South Boulder Road, where turning movements are restricted due to heavy through volumes. Without the connection, eastbound U-turn volumes on South Boulder Road are projected to increase by 40–85% in the long term, requiring weaving movements across multiple lanes within a limited distance of the signalized intersection, which present unacceptable safety risks. The revised TIS and City staff both recommend construction of the Front Street connection, which would provide transportation redundancy, support a safer gridded street system consistent with prior planning efforts, implement adopted plan policies, and distribute traffic more evenly across the network.

At the October 9, 2025, hearing, the Planning Commission recommended approval with conditions as recommended by staff, adding in an **additional condition that the Front Street connection at Harper Street be open to emergency access only**, including pedestrians and bicycles. This condition is tied to the Preliminary PUD and is not a consideration of the rezoning and Land Use Map amendment application.

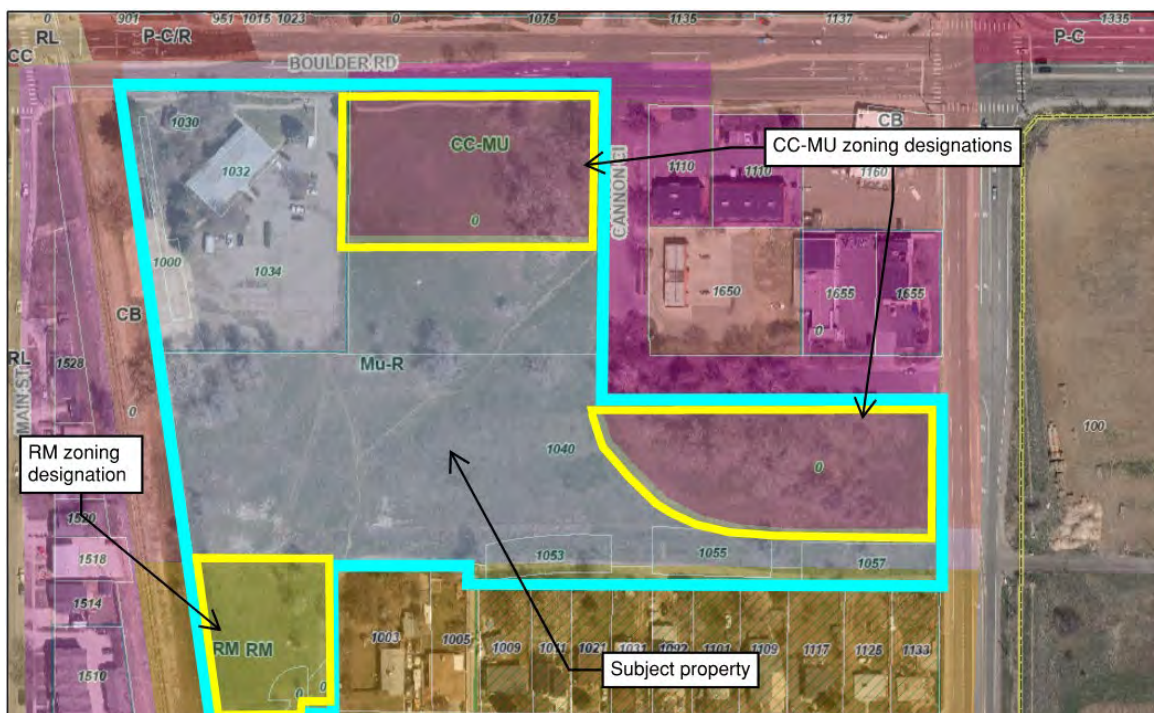
DEVELOPMENT PROPOSAL:

Rezoning

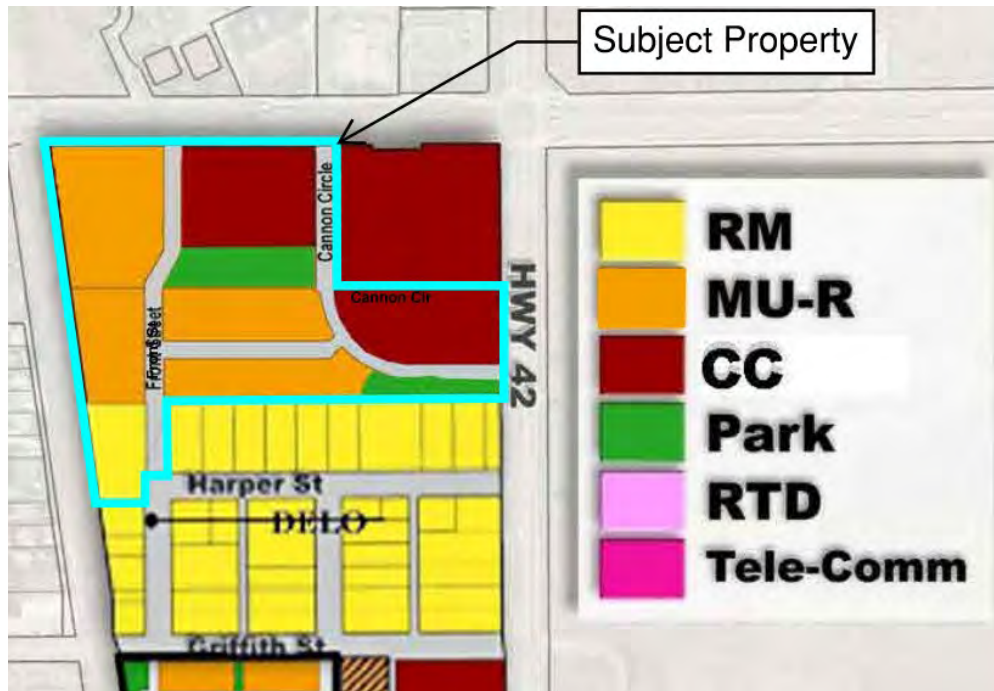
The current zoning designation of CC-MU on the north and east sides of the site prohibits residential uses. The applicant is requesting to rezone the portions of the property zoned CC-MU and RM to MU-R to allow for a mix of uses and housing types. This is a discretionary request from the applicant as the mandatory rezone requirement for redevelopment of the subject property was satisfied with the approved 2013 rezoning.

In the narrative provided, the applicant asserts that the proposed rezoning will support the City's goals as outlined in the Highway 42 Revitalization Area Framework Plan, the City of Louisville Housing Plan, and the MUDDSG by developing a variety of housing types while providing additional commercial space along South Boulder Road. The applicant notes that the area has changed since the initial rezoning, and that the current CC-MU zoning is commercially focused and does not support needed housing in the community.

The applicant provided an updated market analysis by CBRE (Attachment 5), indicating that both retail and office sectors in Metro Denver remain challenged, with limited support for speculative new development. Retail conditions are stable but stagnant with modest new completions, and demand focused on smaller pad users such as gas/convenience, quick-service restaurants, and financial services, while larger-format tenants remain scarce. The office market faces even greater headwinds, with vacancy at 27.4%, and new construction at historic lows as conversions and demolitions outpace new projects. These trends suggest that large-scale retail and office development are not viable under current conditions, and that smaller-scale retail paired with residential and mixed-use development represents the most feasible path forward.



existing zoning designations are consistent with those outlined in the current Land Use Plan.



Preliminary Plat

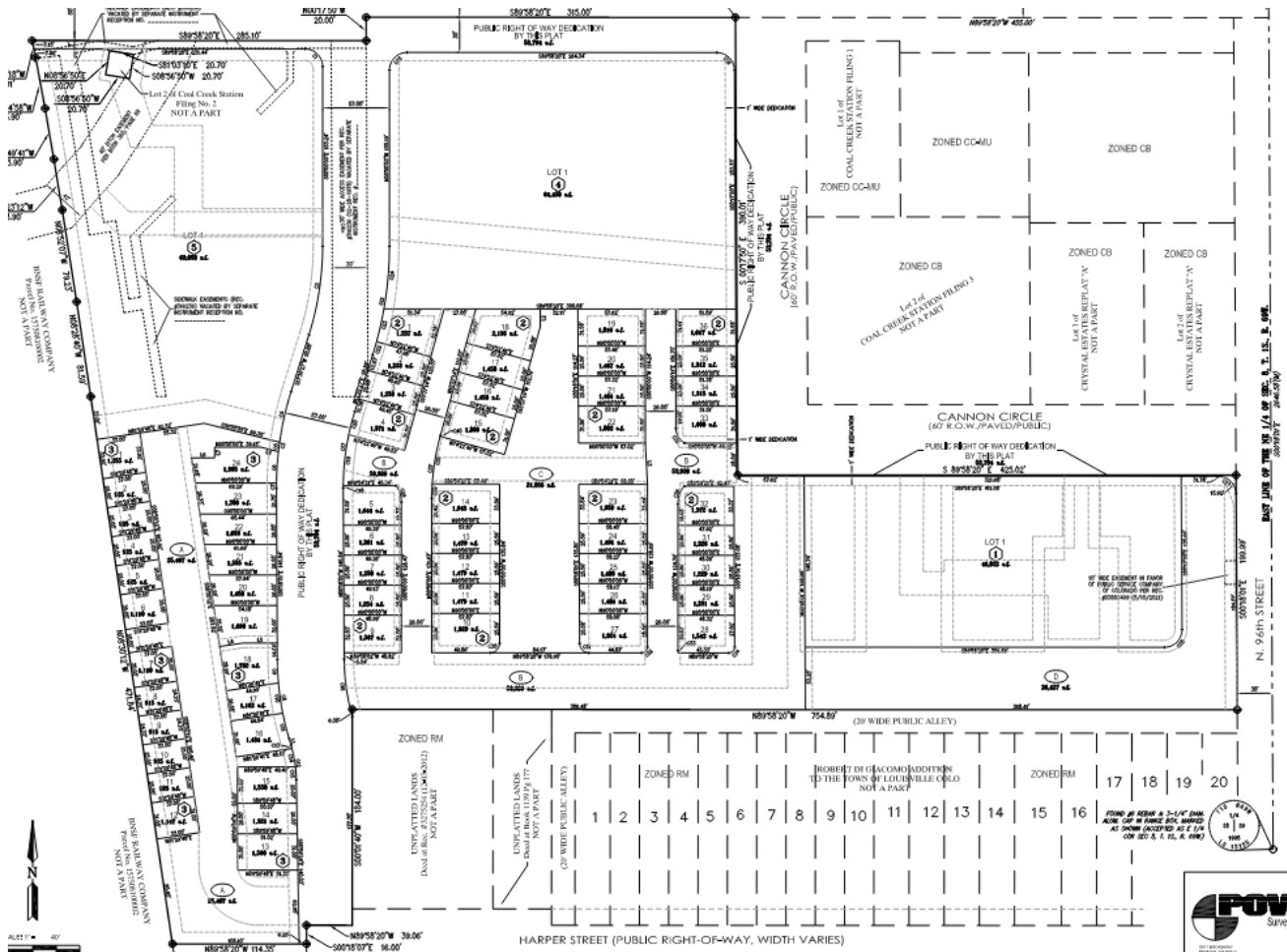
The request includes a proposal to subdivide the existing 10.7 acre property into five blocks that will accommodate the anticipated development. Further subdivision of the townhome blocks (blocks 2 & 3) into individual lots will allow for the fee-simple sale of those units. The plat sets aside four Outlots totaling 2.9 acres in size that include private roads, drainage and detention areas, utilities, open space and parks. The Outlots will be shared areas that are maintained by a required owner's association. The City will accept 1.2 acres of right-of-way, dedicated via this plat, that will allow for the construction of Front Street and Cannon Circle. The total right-of-way dedication includes additional area along South Boulder Road that will align the property boundary with the edge of public improvements. A Subdivision Improvement Agreement will be entered into during the Final Plat review process outlining maintenance and improvement responsibilities.

A portion of the plat will include the Coal Creek Station Filing No. 2 subdivision; a previously subdivided portion of the property on the northwest corner of the site. That plat created Lot 2 (also depicted on this Preliminary Plat), which is currently developed and occupied by The Argentos Empanada and maintained under separate ownership. The proposed subdivision will maintain the current boundary and configuration of Lot 2.

A portion of the south side of the site, occupied by Outlot D, will include a 26,397 square-foot detention and water quality pond. Outlot C is proposed as a 20,908 square-foot park

in the center of the site that will be privately owned and maintained by the required owner's association.

Sixty townhome lots are proposed in Blocks 2 and 3 of the plat, all accessed by private drives which are contained in Outlots A and B, respectively. Blocks 4 and 5 include two multifamily and two mixed-use buildings, while Block 1 contains "micro townhome units". Staff find that the Preliminary Plat complies with the design standards in the LMC Sec. 16.16.



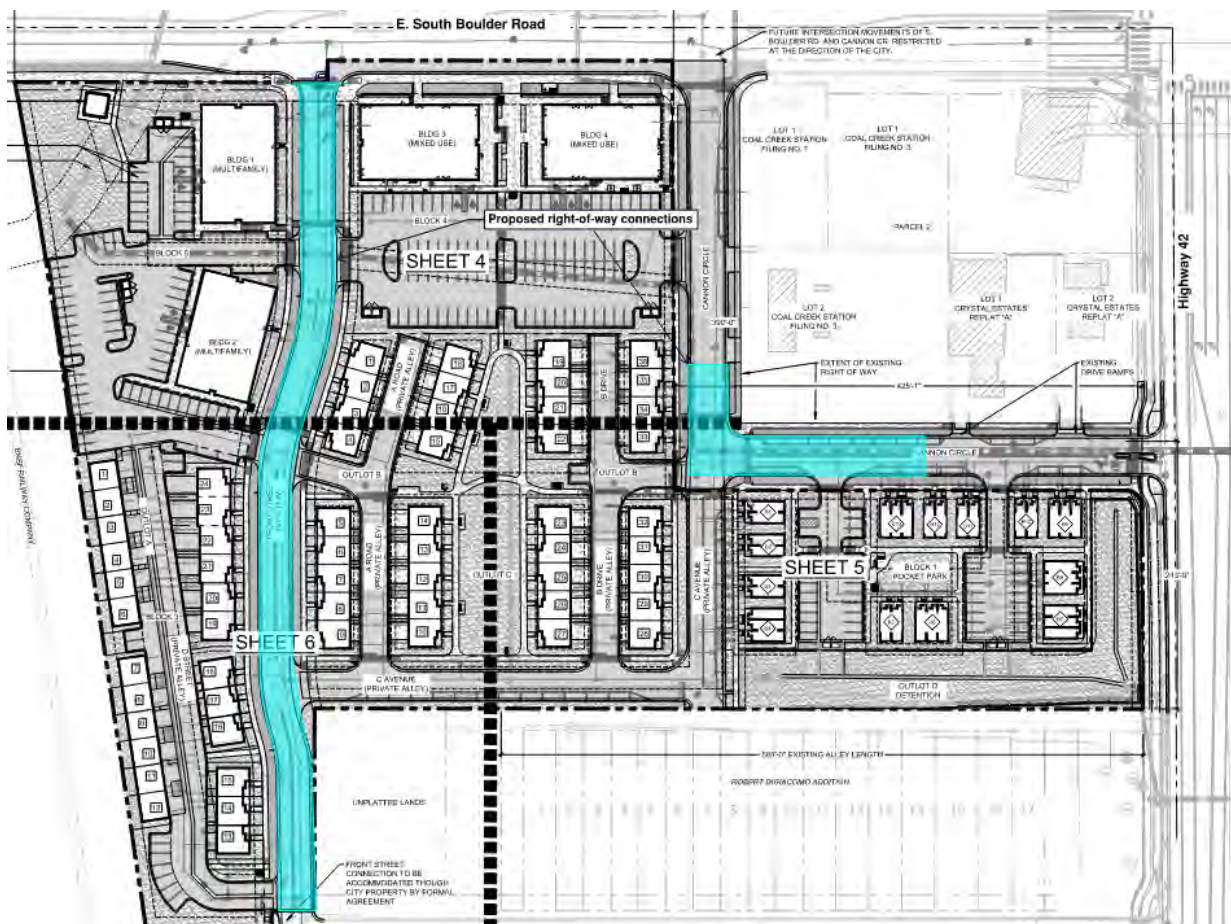
Preliminary Plat

Preliminary PUD

The Preliminary PUD plan includes 188 dwelling units and 13,534 square feet of commercial space. The 188 dwelling units include 60 townhomes, 96 apartments, and 32 "micro-townhome units," which are defined by the applicant as 350-400 square-foot homes designed to be offered at "attainable" rates. The proposal features two, three-story mixed-use buildings near South Boulder Road (buildings 3 & 4), with commercial space on the

ground floor and studios, one- and two-bedroom apartments on the second and third floors. A plaza space is provided between the mixed-use buildings in accordance with MUDDSG standards. Two additional three-story multifamily buildings (buildings 1 & 2) are planned for the interior of the site along Front Street, each offering 24 units ranging from 500 to 900 square feet in size.

The development will require the dedication, construction, and connection of Front Street from its north terminus on the south side of the site to E. South Boulder Road, where right-in right-out access is proposed. Cannon Circle, on the northeast side of the site, will also be dedicated, constructed, and connected providing access to the site from Highway 42 and South Boulder Road. According to the future Land Use Plan, Exhibit A, both Front Street and Cannon Circle are planned to connect through the site to improve overall connectivity in this part of the city.



Site Plan with Right-of-way Connections Shown in Blue

The full extent of both Front Street and Cannon Circle will include 5-foot detached sidewalks with 8-foot tree lawns, while similarly designed detached walks are provided adjacent to private alleys throughout the site.

The site is appropriately parked, with all proposed townhomes designed with alley-loaded garages that account for 120 total spaces on site. 316 parking spaces are provided with a minimum of 304 required by the LMC to support all uses on site. The apartments, mixed-use buildings, and micro townhomes include surface parking internal to their respective blocks and located behind buildings so as not to be prominent from the street.

A 20,908 square-foot park is located on Outlot C, which is designed to accommodate the main entrance of 18 townhomes on site, while a smaller, 2,350 square-foot pocket park is provided within the micro townhome block.

Landscaping includes low-water shrubs, grasses, perennials, and trees in common areas, open space areas, the detention area, and within the public and private tree lawns through the site. The applicant has proposed some high-demand water areas on site that utilize turf as a landscape material. Recently adopted [Colorado SB24-005](#) states that, on or after January 1, 2026, local governments are prohibited from allowing the installation of “nonfunctional turf” with certain development proposals. Due to the timescale of this project, staff will work with applicant through the Final PUD and Plat process to ensure compliance with this measure.

Block 1 of the development includes 32 micro townhome units, proposed to be 350-400 square feet in size and designed at an “attainable” scale, consisting of three-unit and two-unit townhomes to a maximum height of 25 feet.

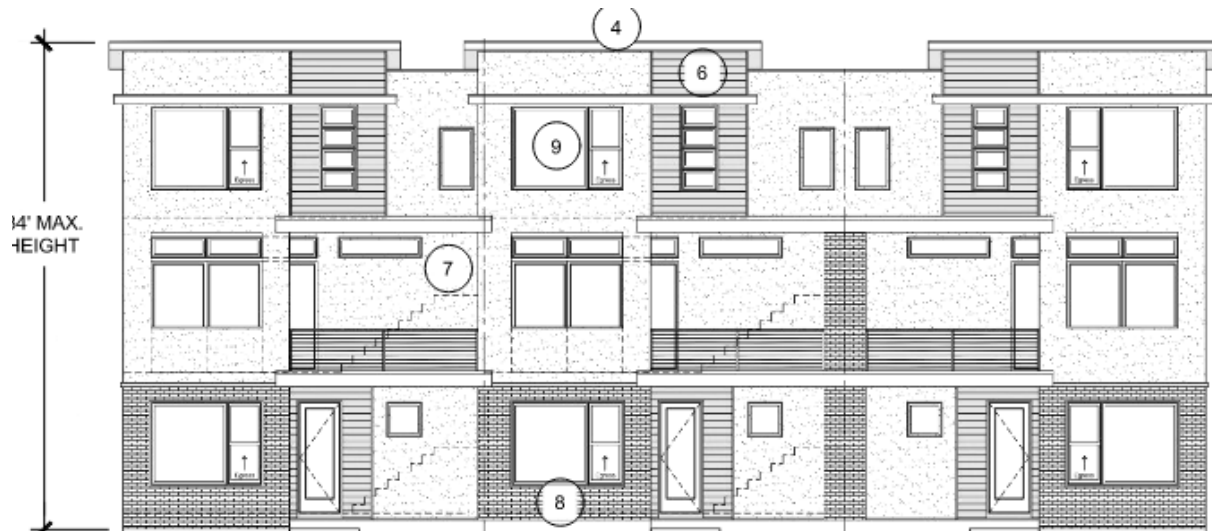


Block 2 of the development includes four- and five-unit townhomes, each 40 feet tall, arranged around a proposed central park. All units include alley-loaded garages.



Block 2 - four-unit townhomes

Block 3 of the development includes three- and six-unit townhomes. The six-unit dwellings are proposed at 40 feet tall, while the three-unit dwellings are adjacent to the west side of the existing single-family homes in the Little Italy neighborhood and are limited to 34 feet in height in accordance with height transition standard in MUDDSG Chapter 8.



Block 3 - height restricted, three-unit dwellings



Block 3 - six-unit dwellings

Blocks 4 and 5 of the development include the mixed-use and multifamily buildings with associated site improvements, including surface parking and a plaza space between buildings



Mixed-use building

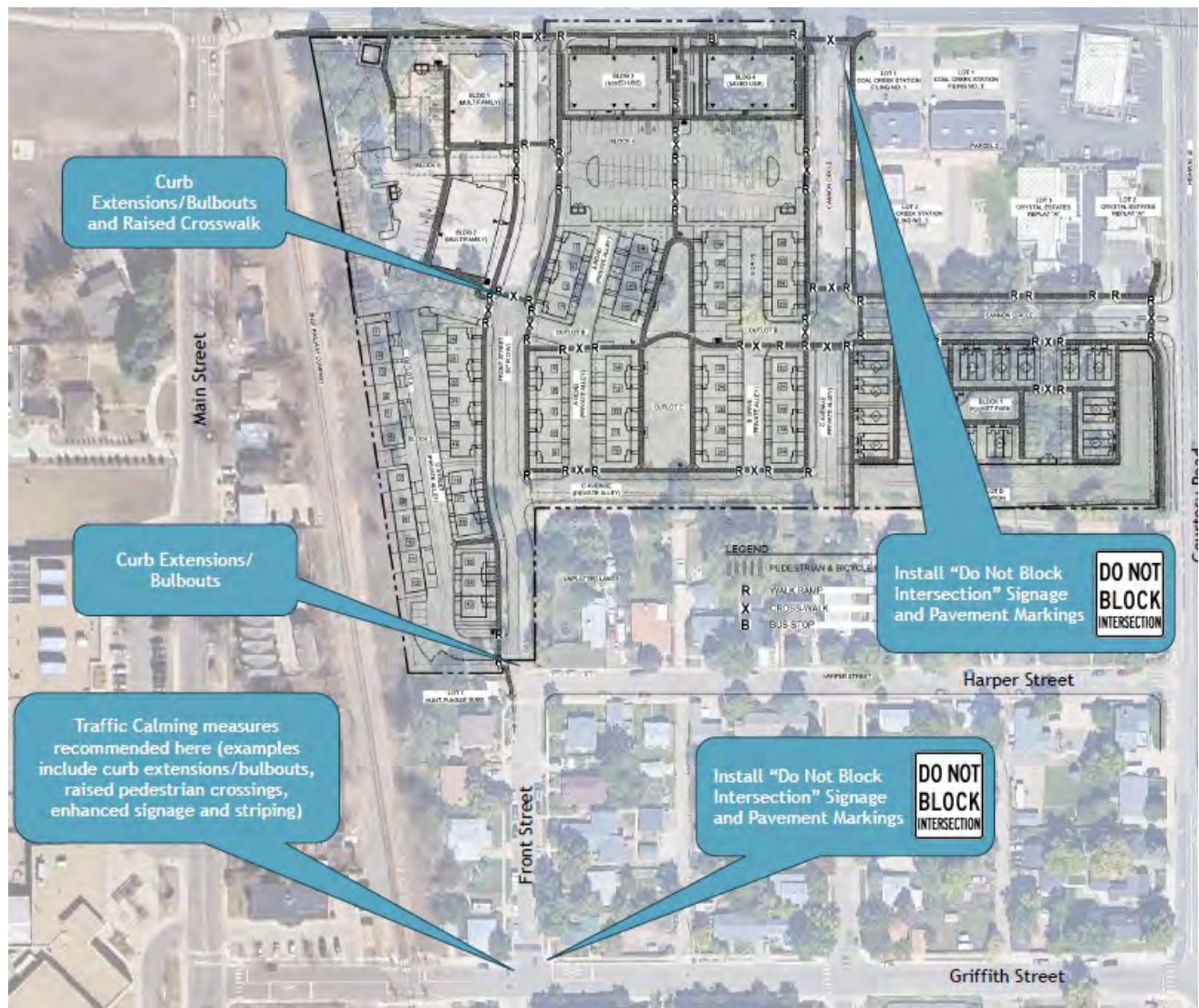
In addition to the Front Street connection, the updated TIS analyzed additional intersections in the vicinity of the development site to evaluate projected Levels of Service (LOS), a standard measure of intersection delay. LOS “A” represents little or no delay (0–10 seconds per vehicle), while LOS “E” and “F” indicate failing intersections, typically exceeding 55 seconds of delay per signal cycle during peak hours. The analysis shows that, when comparing background conditions with total projected traffic, most intersections are expected to continue operating at an acceptable LOS of “D” or better, with some intersections projected to improve, while others worsen. Several intersections currently operate at LOS “E” or “F” during certain peak periods, and the majority of those locations are projected to remain at lower LOS levels in future conditions. Background (existing) LOS counts are provided on p. 29 of the updated TIS, while projected LOS counts with the Front Street connection are presented on p. 61 of the revised TIS and here for reference.

In response to concerns raised by neighboring community members most directly impacted by the development, the applicant has elected to proactively implement the traffic-calming measures recommended in the TIS. These measures include bulb-outs, curb extensions, and a raised crosswalk along the new portion of Front Street, as well as crosswalk and pavement marking improvements at the Griffith Street/Front Street intersection. In

#	Intersection	Traffic Control	Approach	Year 2026 Total with Front Street Level of Service (Delay in Seconds)			Year 2045 Total with Front Street Level of Service (Delay in Seconds)		
				AM	PM	SAT	AM	PM	SAT
1	South Boulder Road & Main Street	Signal	EBT	A (8.2)	A (10.0)	A (7.0)	A (9.4)	B (13.1)	A (7.2)
			EBR	A (1.4)	A (2.5)	A (1.5)	A (2.2)	A (3.3)	A (1.5)
			WBL	A (5.2)	A (9.3)	A (3.4)	A (4.9)	B (12.8)	A (3.5)
			WBT	A (5.8)	A (6.2)	A (3.3)	A (7.0)	A (7.6)	A (3.4)
			NBL	E (58.4)	E (61.8)	D (48.4)	E (56.2)	E (59.2)	D (47.7)
			NBR	B (13.7)	C (32.8)	B (13.9)	B (13.8)	D (49.3)	B (14.3)
2	South Boulder Road & Front Street	3/4, NB/SB Stop	WBL	B (11.6)	C (18.5)	B (12.1)	B (13.3)	D (26.8)	B (14.2)
			NB	B (12.4)	C (16.9)	B (12.7)	B (14.1)	C (22.1)	B (14.5)
			SB	C (15.5)	B (13.6)	B (12.2)	C (19.4)	C (16.0)	B (13.9)
3	South Boulder Road & Cannon Circle	3/4 NB/SB Stop	EBL	C (17.1)	C (18.0)	B (13.0)	D (26.0)	D (29.8)	C (16.7)
			WBL	B (10.7)	C (16.8)	B (10.9)	B (12.3)	D (25.4)	B (12.6)
			NB	B (12.6)	C (19.2)	B (12.9)	B (14.5)	D (26.6)	B (15.0)
			SB	C (16.1)	C (15.3)	B (13.2)	C (20.8)	C (19.4)	C (15.4)
4	SH 42 (Courtesy Road) & South Boulder Road	Signal	EBL	F (545.3)*	F (953.6)*	F (596.3)*	F (953.0)*	F (1559.4)*	F (964.2)*
			EBT	C (30.5)	D (45.8)*	C (25.7)	C (29.3)	D (41.9)*	C (26.1)
			EBR	-	-	-	A (9.8)	A (6.7)	A (1.2)
			WBL	E (61.5)	F (106.4)*	E (75.6)*	E (65.1)*	F (167.8)*	F (99.5)*
			WBT	D (42.8)	D (48.1)	C (33.8)	D (49.0)*	E (58.5)*	D (35.1)
			WBR	A (4.9)	A (7.8)	A (3.8)	A (8.5)	B (14.5)	A (3.7)
			NBL	E (63.3)	F (191.3)*	F (187.7)*	F (568.5)*	F (379.1)*	F (341.8)*
			NBT	C (32.6)	E (76.8)*	C (26.6)	D (36.8)	D (48.2)*	C (24.9)
			NBR	-	-	-	B (10.1)	B (13.2)	A (7.4)
			SBL	F (193.3)*	F (240.4)*	F (94.1)*	F (321.4)*	F (372.3)*	F (152.0)*
			SBT	D (37.0)	D (38.6)	C (29.2)	D (39.2)	D (40.2)	C (29.1)
			SBR	C (22.3)	A (8.2)	A (6.0)	D (40.4)*	B (16.4)	B (11.1)
5	SH 42 (Courtesy Rd) & Cannon Circle	EB Stop	EB	B (12.6)	B (13.1)	B (11.2)	B (14.6)	C (15.3)	B (12.3)
			NBL	B (11.6)	B (11.1)	B (10.1)	-	-	-
6	SH 42 (Courtesy Road) & Griffith Street	EB/WB Stop	EB	F (81.6)	F (96.8)	E (35.4)	-	-	-
			WB	F (77.4)	F (137.2)	D (27.7)	-	-	-
			NB	A (0.5)	A (0.3)	A (0.3)	-	-	-
			SB	A (0.0)	A (0.0)	A (0.1)	-	-	-
6	SH 42 (Courtesy Road) & Griffith Street	Signal	EBL	-	-	-	C (27.1)	C (25.6)	C (20.4)
			EBT	-	-	-	A (1.0)	A (1.0)	A (9.1)
			WBL	-	-	-	C (24.0)	C (24.0)	B (18.5)
			WBT	-	-	-	C (21.0)	C (21.0)	B (13.3)
			NBL	-	-	-	C (26.8)	C (25.6)	B (17.8)
			NBT	-	-	-	A (4.4)	A (5.7)	A (4.8)
			SBL	-	-	-	C (28.8)	C (33.0)	B (17.6)
			SBT	-	-	-	A (5.1)	A (6.8)	A (4.7)
7	Griffith Street & Cannon Street	NB/SB Stop	EB	A (0.0)	A (0.2)	A (0.0)	A (0.0)	A (7.5)	A (0.0)
			WB	A (1.0)	A (0.0)	A (1.4)	A (1.0)	A (0.0)	A (1.4)
			NB	B (10.1)	B (10.6)	A (9.6)	A (9.7)	B (10.2)	A (9.3)
			SB	A (8.9)	B (11.0)	A (9.2)	A (8.9)	B (11.1)	A (9.3)
8	Griffith Street & Front Street	NB/SB Stop	EB	A (0.5)	A (1.3)	A (1.2)	A (0.6)	A (1.3)	A (1.3)
			WB	A (0.2)	A (0.2)	A (0.1)	A (0.2)	A (0.2)	A (0.1)
			NB	B (10.3)	B (10.4)	B (10.1)	B (10.2)	B (10.3)	A (10.0)
9	Griffith Street & Main Street	WB Stop	WB	C (15.2)	B (13.7)	B (11.6)	B (14.8)	B (13.6)	B (11.5)
			SB	A (1.2)	A (0.0)	A (0.9)	A (1.2)	A (0.0)	A (0.7)
10	Harper Street & Front Street	WB Stop	WB	A (9.6)	A (9.7)	A (9.5)	A (9.7)	A (9.7)	A (9.6)
			SB	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)
11	SH 42 (Courtesy Rd) & Harper Street	EB Stop	EB	D (33.7)	F (118.0)	E (40.9)	B (14.5)	C (17.7)	B (12.7)
			NBL	B (10.4)	B (10.7)	A (9.3)	-	-	-

Total Traffic LOS with Front Street Connection

addition, a unique traffic-calming treatment is proposed at the Front Street/Harper Street intersection, consisting of a mountable, roll-over curb intended to discourage cut-through traffic from South Boulder Road to Griffith Street.



Traffic Calming Exhibit

ANALYSIS:

Rezoning

The purpose of the Mixed Use Zone District is to implement the Highway 42 Revitalization Area to support potential development of a commuter rail station. The intent is to transition the historically industrial and vacant properties within the district to mixed-use **Preliminary**

Plat Analysis

developments with multi-modal transportation and walkability oriented to the rail station. While the commuter rail station has not yet materialized as planned, RTD recently

completed a feasibility study to bring “Peak Service” rail (limited rail service to support peak hour commuting on a single track) to the Northwest Rail corridor. In addition, the State has initiated a new effort to support “Peak Service” commuter rail through the Northwest region with a stop in Louisville. There are new funding sources for this segment of commuter rail line that the State approved in 2024 and a partnership with the Front Range Passenger Rail District that may make it feasible to start rail service in Louisville as early as 2029.

Per LMC Sec. 17.14.030, the MU-R zoning district is *intended to implement the residential mixed use land use and planning goals depicted and discussed in the Highway 42 Revitalization Area Plan. Areas zoned MU-R should be used predominantly for higher density multi-family residential, with subsidiary commercial uses and civic uses that cater to the needs of residents and transit commuters.*

LMC Sec. 17.44.050 establishes four potential policies for rezoning. Any request for a rezoning should meet one or more of the established policies. Staff recommend a finding that the following policy is met with the requested rezoning:

- *The area for which rezoning is requested has changed or is changing to such a degree that it is in the public interest to encourage a redevelopment of the area;*

Staff find that changed conditions include the lack of market feasibility for purely commercial uses on the current CC-MU parcels. This is due to ongoing weak market conditions that do not support additional large-scale retail or office development. According to the provided market analysis (Attachment 5), retail demand remains limited. Modest new completions and tenant interest are concentrated in smaller pad users such as gas/convenience, quick-service restaurants, and financial services, while larger-format users are scarce. Office conditions remain even more constrained, with vacancy at 27.4%, and construction activity at historic lows as conversions and demolitions outpace new development. These findings confirm that speculative, large-scale commercial development is less feasible under current conditions, and that more viable opportunities are likely to center on smaller-scale retail paired with residential and mixed-use development.

The public interest for rezoning this property is to stimulate development of the vacant areas around Highway 42 and South Boulder Road to achieve the desired mixed-use environment, boost economic activity, and provide additional housing in the City of Louisville. Rezoning the CC-MU portions of this property will allow for development that will support surrounding commercial uses by activating this site and adding residences to the neighborhood, addressing the goals of the Highway 42 Revitalization Area Framework Plan.

Additional residential development on site will support the implementation of the recently adopted [Louisville Housing Plan](#), the primary goals of which include increasing development opportunities in Louisville by expanding, maintaining, and diversifying Louisville's housing stock.

Staff also note that the Highway 42 Revitalization Area Comprehensive Plan Amendment envisioned mixed-use residential development adjoining Highway 42 in addition to commercial development and specifically shows mixed-use residential development in the vicinity of the subject property.

Preliminary Plat Analysis

Section 16.12.075 of the LMC establishes the following criteria for consideration of Preliminary Plats by Planning Commission and City Council:

1. *Whether the plat conforms to all of the requirements of Title 16 (Subdivisions);*
 - No modifications have been requested by the applicant, and the plat conforms to all other requirements of Title 16. Further and more detailed review will occur at the Final Plat stage.
2. *Whether approval of the plat will be consistent with the city's comprehensive plan, applicable zoning requirements, and other applicable federal, state and city laws;*
 - The application is consistent with the City of Louisville Comprehensive Plan. The area lies within an urban neighborhood designation in the plan, which is characterized by smaller blocks and lots with a street orientation. The plat provides a design that supports this urban development pattern.
3. *Whether the proposed subdivision will promote the purposes set forth in Section 16.04.020 of this Code and comply with the standards set forth in Chapter 16.16 of this Code and this title.*
 - Staff find that the proposal promotes the purposes set forth in the LMC Title 16, including the assurance that public services are available, that character and economic stability of the City is protected, that there is safe and efficient circulation of traffic, and that the plat provides appropriate regulation of the use of land in the City. New public right-of-way is proposed to be dedicated and constructed and easements will be established for utility service and drainage areas. The plat allows for a residential and mixed-use development and meets permitted densities for the net site area.
 - LMC Sec. 16.16.060 states that a public land dedication of 15% for residential land and 12% for commercial land, or cash in lieu, is required when property is subdivided for development. The LMC states that public dedication requirements "shall not apply in cases where satisfactory

dedication arrangements were made and approved by the city council at the time of annexation or previous subdivision of the same property.” The entirety of this property was originally platted as part of the [Caledonia Place](#) subdivision in 1890 and the [Coal Creek Station Filing No. 2](#) subdivision in 1978. There was not a previous public land dedication made with the 1890 Caledonia Place subdivision. Additionally, staff could not locate any record of a public land dedication being made as part of the 1978 Coal Creek Station Filing No 2 subdivision or any of the other Coal Creek Station subdivision filings. The Coal Creek Station Filing No. 2 subdivision had previously been developed as a commercial center, which has since been demolished, and the remaining portion of the property covered by the Caledonia Place subdivision has never been developed. Based on these previous subdivisions and the development of portions of the subject property, when the City approved a final PUD and subdivision in 2016, the City did not require a public land dedication. However, the 2016 approvals were never finalized and recorded. Staff has processed this application with the same assumptions as the 2016 approval, that the previous subdivisions and development of the property resulted in not having a new requirement for public land dedication. However, if City Council determines that satisfactory arrangements were not made as part of one or both previous subdivisions, then Council could require additional public land dedications authorized under LMC Sec. 16.16.060.

Staff find the Preliminary Plat to be consistent with the criteria in LMC Chapters 16 and 17 and recommend approval.

Preliminary PUD Analysis

The site design is regulated by LMC Chapter [17.14](#) and [17.28](#), the [Mixed Use Design Standards and Guidelines \(MUDDSG\)](#), and Comprehensive and adopted City Plans.

MUDDSG

The MUDDSG apply to the design and development of this site, establishing requirements for street and block design, vehicle and pedestrian circulation, site planning, parking, open space, landscaping, and building design. The MUDDSG are intended to ensure that new development within the MU-R district contributes to a connected, multimodal, and high-quality built environment.

With consideration given to the waiver requests described below, staff find that the proposal satisfies the applicable standards of the MUDDSG. The project provides appropriate site planning and building orientation, incorporates adequate off-street parking consistent with the standards, and demonstrates compliance with building massing, design, and material requirements. Open space and landscaping features are provided in accordance with Section 6 of the MUDDSG, and the proposal includes pedestrian and bicycle circulation improvements that align with the connectivity standards. Collectively,

the application demonstrates conformance with the MUDDSG requirements and achieves the overall intent of creating a cohesive mixed-use development.

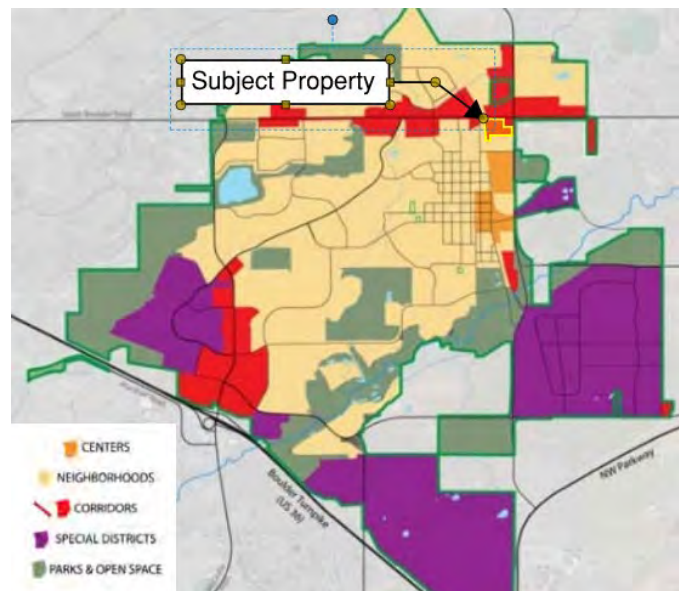
The street and block standards are a foundational element in establishing a multimodal, mixed-use development. These standards are intentionally modeled on the existing street grid in Downtown Louisville to promote development in the MU-R zone district as a logical extension of Downtown (p. 6). By requiring a connected grid, the standards ensure present and future opportunities for vehicle, pedestrian, bike, and visual access between districts, supporting circulation, walkability, and integration with surrounding neighborhoods.

Inclusionary Housing

The applicant has indicated their intent to satisfy the requirements of LMC Chapter 17.16 by providing on-site affordable housing pursuant to LMS Sec. 17.76.050.A, which will require that at least 12 percent of the units on-site to be deed restricted, which would total 23 of the 186 planned units. A minimum of half of the affordable housing shall be limited to those households at or below 60 percent of the area median income (AMI), with the remainder limited to those persons between 60 percent and 80 percent AMI, as calculated by the United States Department of Housing and Urban Development.

Comprehensive and Small Area Plans

This property is referenced in both the 2013 [Comprehensive Plan](#) and the [South Boulder Road Small Area Plan](#). Within the Comprehensive Plan, the property is located in the Highway 42 and South Boulder Road Urban Center (p. 29) with an Urban Corridor designation. The Urban Pattern (p. 19) calls for an interconnected street network with multimodal transportation opportunities, development on smaller parcels, and street-oriented building placement with an emphasis on pedestrian scale and massing. The identified neighborhood development types are predominately residential and may range from low-



density to high-density multifamily communities. Based on this guidance, the Urban Neighborhood designation at this location would support a mid- to high-density multifamily project. The Corridor development type calls for strong retail, commercial, and multifamily development types (P. 22). The Urban Corridor designation of this property supports the mix of uses adjacent to South Boulder Road, with a focus on multifamily density.

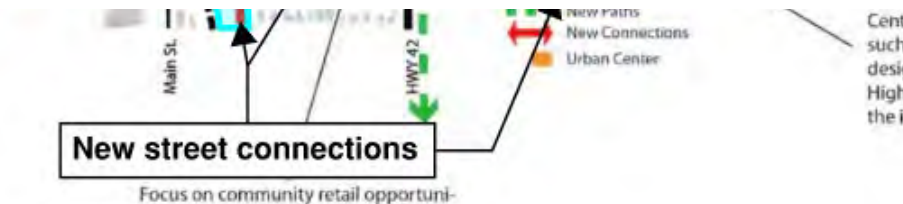
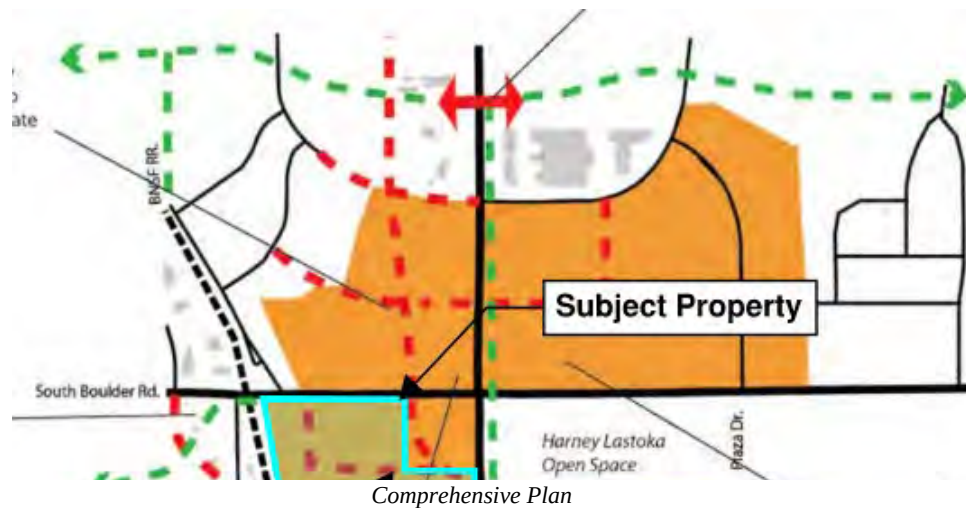
The Highway 42 and South Boulder Road Urban Center is intended to bring the separate parcels surrounding the intersection into one cohesive center. As properties redevelop, new roadway connections should be introduced to create a more connected street grid with smaller parcels that relate to one another in an urban and walkable mixed-use environment (p. 29). As redevelopment occurs, the introduction of a roadway network will enable a variety of redevelopment possibilities and connect the Highway 42 and South Boulder Road Urban Center to the rest of Louisville (p. 29, Policy 5). New commercial retail services are encouraged in the Urban Center where the location and scale of such

Comprehensive Plan

development is appropriate for the area.

The proposal is also consistent with policies in the Comprehensive Plan's Neighborhoods and Housing, and Economic Development framework, including:

- **PRINCIPAL NH-3.1** - Streets shall form an interconnected network (p. 37).



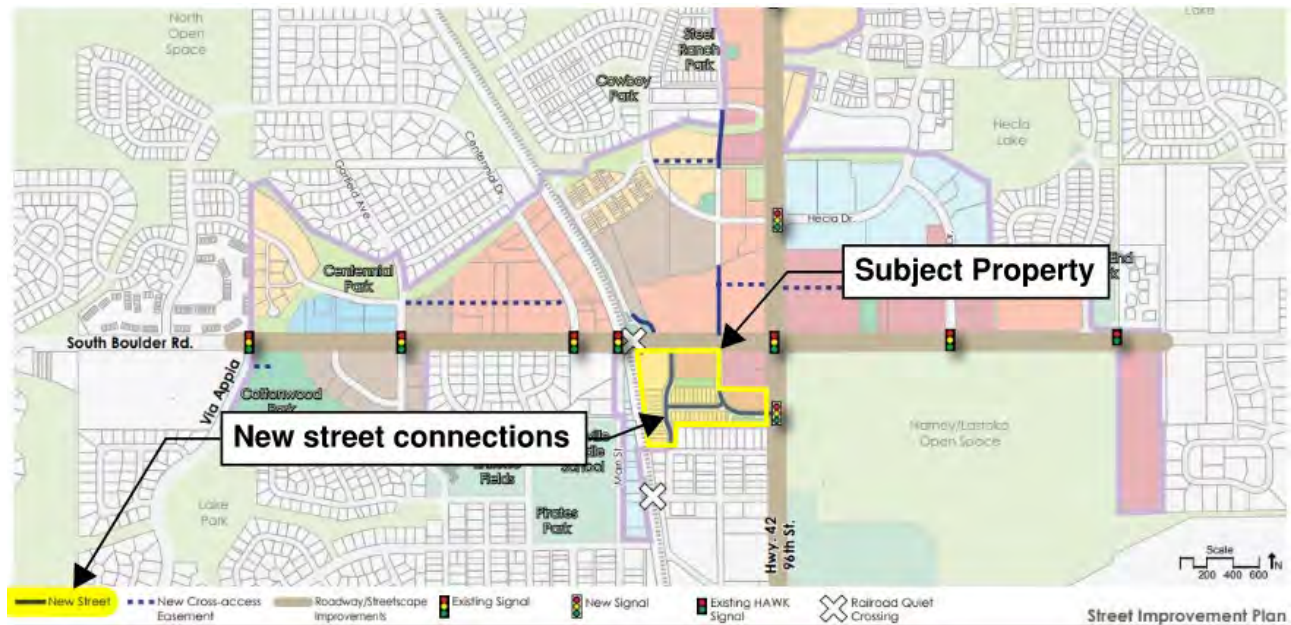
- **POLICY NH-3.4** - Diverse housing opportunities shall be available for residents of varying income levels (p. 38).
- **PRINCIPLE NH-4** - The character and identity of existing residential neighborhoods should be maintained while allowing for evolution and reinvestment (p. 38).
- **POLICY NH-4.7** - Housing should support vibrant retail and commercial centers that serve local residents (p. 38).
- **PRINCIPLE NH-5** - There should be a mix of housing types and pricing to meet changing economic, social, and multi-generational needs of those who reside, and would like to reside, in Louisville (p. 38).

- POLICY NH-5.3 - Higher density housing should be located primarily in the centers and corridors of the Framework (p. 38).
- PRINCIPAL ED-3 - The City should be responsive to market opportunities as they occur and maintain and enhance the City's competitive position to attract development that adheres to the Community Vision (p. 38).

The proposal is consistent with the policies in the Neighborhoods and Housing, and Economic Development framework because:

- The proposal provides additional street connectivity;
- It provides a variety of housing types for varying income levels, including deed-restricted affordable housing;
- The proposal allows for the redevelopment of a vacant site adjacent to existing residential;
- The housing is relatively close to Downtown and the South Boulder Road commercial corridor. The resulting customer base supports vibrant retail and commercial centers that serves local residents;
- The proposed housing ensures a variety of housing types to meet changing social needs of current and future residents;
- Higher density housing would be established within the Highway 42 and South Boulder Road Urban Center and South Boulder Road Corridor; and
- The proposal is appropriate due to current market conditions.

The South Boulder Road Small Area Plan designates the property for medium-density residential development and retail/office (p. 21). Medium density residential is defined by the Plan as a density range of 10 to 20 dwelling units per acre, while the retail/office use is contemplated where the property is currently zoned CC-MU. Further, the Plan contemplates additional street connections, specifically the Front Street connection, as improving overall connectivity in the street network (p. 11).



South Boulder Road Small Area Plan

Transportation Plan

The [Transportation Plan](#), adopted in 2019, provides a City-wide framework for managing and improving Louisville's transportation system. It evaluates existing conditions, establishes goals, and identifies policies, projects, and programs to create a safe, efficient, and multimodal network that serves all users. The plan is intended to guide both near- and long-term transportation decisions, ensure consistency with community values and land use goals, and enhance connectivity for driving, walking, biking, and transit while supporting economic vitality, environmental health, and overall quality of life. The TMP includes a number of goals to which this application satisfies:

- Efficient and safe transportation systems (p. 1.6) – this application includes additional vehicular, bicycle, and pedestrian connectivity that, when implemented with the development, will minimize conflict on the broader transportation network.
- Cohesive and layered system of streets and trails for walking, biking, and driving (p. 1.6) – this application introduces connectivity to the transportation network for all modes of transportation.

- Complete streets that are inviting, enhance livability, and respect the City's small-town atmosphere (p. 1.7) – the proposed Front Street connection completes a through design that will benefit all modes of transportation with proactive traffic calming measures and pedestrian crossing improvements.

Housing Plan

This application is consistent with the [Louisville Housing Plan](#) (May 2024). The Housing Plan establishes three primary goals, which are to increase opportunities for residential development in appropriate locations, to expand and maintain access to affordable housing, and to diversify the housing stock by encouraging mixed-use and mixed-income neighborhoods with a wider range of housing types to serve different household sizes, incomes, and demographics (p. 26).

The plan further identifies the importance of supporting housing opportunities in the City of Louisville. Strategies and findings to provide more housing include:

- *Action 1.1 Establish Criteria and Identify Areas for Zoning Changes to Support Additional Residential Development:* The Plan recommends rezoning underutilized commercial properties to increase residential capacity and address housing demand (p. 31–32).
- *Action 3.2 Expand Allowances for More Housing Types:* This action calls for expanding allowances for multifamily housing in commercial zones and considering stand-alone residential development in appropriate commercial areas (p. 46–47).
- The Housing Needs Assessment (included as an addendum to housing plan) indicates a need to prioritize diversifying the City's housing stock to adequately meet the needs of future residents (p. 2).

Staff find that the proposed development and associated improvements are consistent with the City's adopted policy framework, including the Comprehensive Plan, the South Boulder Road Small Area Plan, the Transportation Plan, and the Louisville Housing Plan. Collectively, these plans emphasize the creation of connected, multimodal, mixed-use environments and the expansion of housing opportunities to meet community needs. The proposal advances these adopted goals by aligning with the City's long-term vision for coordinated growth, improved mobility, and enhanced quality of life.

Traffic Impact Study

The updated Traffic Impact Study (TIS), submitted with this application and reviewed by staff, incorporated new traffic counts, expanded intersection analysis, and evaluation of long-term conditions both with and without the Front Street connection. The findings

demonstrate that the proposed development can be successfully integrated into the existing roadway network with the Front Street connection in place, maintaining safe and efficient operations while mitigating traffic impacts on adjacent streets.

The Front Street connection is an essential component for maintaining circulation and safe vehicular operations associated with the proposed development. Its construction would provide necessary transportation redundancy, support a safer and more efficient gridded street network consistent with prior planning efforts, and distribute traffic more evenly across the surrounding roadway system. For these reasons, staff conclude that the Front Street connection is crucial to achieving acceptable traffic conditions and ensuring compatibility with the broader transportation system.

PUD Waiver Compliance with LMC Sec. 17.28.110 Analysis

Section 17.28.110 sets forth the PUD waiver process and criteria. The applicant requests zoning waivers from the MU-R zoning requirements and MUDDSG design requirements as set forth below.

WAIVERS*			
	CODE SECTION	REQUIREMENT	PROPOSED
1	MUDDSG 1.3.A.1 MUDDSG 1.3.B.1	EAST/ WEST BLOCK WIDTH = 270 - 320' NORTH/ SOUTH BLOCK WIDTH = 300 - 400'	BLOCK ONE: EAST AND WEST SIDES =146', NORTH AND SOUTH SIDES =321'; BLOCK TWO: EAST AND WEST SIDES =293', NORTH AND SOUTH SIDES =333'; BLOCK THREE: EAST AND WEST SIDES =443', NORTH AND SOUTH SIDES =155'; BLOCK FOUR: EAST AND WEST SIDES =221', NORTH AND SOUTH SIDES 295'; BLOCK FIVE: EAST AND WEST SIDES = 332', NORTH AND SOUTH SIDES = 246'
2	MUDDSG 5.4.B	ALL PUBLIC SIDEWALKS SHALL BE A MINIMUM OF TEN (10) FEET WIDE INCORPORATING TREE PLANTING INTO THE RIGHT OF WAY (ROW).	ALONG FRONT STREET AND CANNON CIRCLE: 5' WIDE DETACHED SIDEWALK AND AN 8' TREE LAWN
3	MUNICIPAL CODE 17.14.060 - TABLE 3: DIMENSIONAL AND BULK STANDARDS	MINIMUM LOT WIDTH = 40 FEET	TOWNHOME LOTS VARY FROM 24'-6" TO 32 FEET WIDE.
4	MUNICIPAL CODE 17.14.060 - TABLE 3: DIMENSIONAL AND BULK STANDARDS	MINIMUM BUILDING COVERAGE (SF) = 40%	BUILDING COVERAGE PROVIDED = 21.2%
5	MUNICIPAL CODE 17.14.060 - TABLE 3: DIMENSIONAL AND BULK STANDARDS	20-FOOT MINIMUM SETBACK FROM REAR PROPERTY LINE.	TOWNHOME REAR YARD SETBACK RANGES FROM 6-20 FEET.
6	MUNICIPAL CODE 17.14.060 - TABLE 3: DIMENSIONAL AND	MINIMUM 70% OF STREET FACING PROPERTY LINES MUST CONTAIN A BUILDING OR BUILDING WALL.	58.6% OF STREET FACING PROPERTY LINES CONTAIN A BUILDING OR BUILDING WALL.

Waiver table

In the MU-R zone district, there is a 40% minimum lot coverage requirement, a requirement that at least 70% of the street-facing property lines contain buildings, and a minimum lot width of 40 feet. The total proposed lot coverage for the entire development is 21.2%, allowing for more open space and pedestrian connectivity. The 70% frontage requirement adds additional challenges as the project will construct new public streets. The total percentage of buildings along the street-facing property lines is 58.6%. Considering the reduced density, these modifications to the yard and bulk standards are justified to make an attractive and functional development.

The applicant is requesting a waiver from the required internal sidewalk width of eight feet to allow sidewalks to be 5 feet wide, with an 8-foot tree lawn. Staff support the request, as

the [National Association of City Transportation Engineers](#) recommends residential walk widths between 5-7 feet.

The request for waiver from block length standards will allow the development to more closely align with proposed access points while ensuring that traffic is dispersed through and out of the site, while the addition of detached sidewalks along all streets and some private alley ways allows for accessible and safe pedestrian circulation.

The requested waiver for rear setback standards will have little to no impact on adjacent properties. The western-most townhomes abut the BNSF rail right-of-way, and there are no rear setbacks adjacent to the Little Italy neighborhood to the south.

Strict adherence to the dimensional standards of the MU-R zone district would limit the number of dwellings permitted, resulting in larger units on fewer lots. The intent of the MU-R zoning district is to provide higher density multi-family residential, with subsidiary commercial uses that cater to the needs of residents and transit commuters (LMC Sec. 17.14.030). The requested waivers will support the intent of the zoning district by allowing a reasonable, modern density of townhouses and apartments while still maintaining the character of development in Louisville with less building coverage proposed on site. Staff recommend approval of the requested waivers.

Staff find that the applicant has satisfied the standards for Preliminary PUD review and recommend approval with the conditions listed below.

Special Review Use Analysis

An SRU is required to establish dwelling units on the ground floor of the proposed mixed-use buildings in the MU-R zoning district. SRUs are reviewed against the criteria and conditions for approval presented in LMC Sec. 17.40.100. The criteria include ensuring the use meets the following:

- Satisfies the intent of the Comprehensive Plan and LMC Chapter 17
- The use is economically stable and compatible with surrounding areas
- The design promotes safety and welfare, including appropriate site layout
- External and negative impacts on adjacent properties are controlled for and reduced
- Adequate pedestrian walks and landscape areas are provided, including accommodations for public transportation.

A further, in-depth analysis of the SRU will occur during the Final PUD and Plat stage for final approvals. Staff have reviewed the proposal as part of the preliminary package and found that the application for SRU satisfies all relevant standards at this time.

2025 COUNCIL WORK PLAN:

This rezoning application supports the City Council's 2025 Work Plan priority to advance housing through implementation of the City of Louisville Housing Plan. The Council's Work Plan emphasizes Housing Plan implementation through code updates, City-initiated rezonings, and policies that expand attainable and affordable housing options. The proposed rezoning from CC-MU and R-M to MU-R will facilitate the construction of new housing units, including on-site affordable units, consistent with policy directives to increase housing supply and diversity.

FISCAL IMPACT:

Budgeted?: **Not Applicable**

ALTERNATIVE(S):

The City Council may approve or deny the rezoning application. Denial of the request would maintain the existing CC-MU and R-M zoning designations on portions of the site.

PLANNING COMMISSION RECOMMENDATION:

On October 9, 2025, the Planning Commission recommended approval of an ordinance rezoning portions of Caledonia Place Subdivision Plat from CC-MU (Commercial Community – Mixed Use) and R-M (Residential Medium Density) to MU-R (Residential Mixed Use) and Amending Exhibit A, Land Use Exhibit, Referenced in LMC Chapter 17.14. The video of that meeting is available [here](#).

For consideration of a Second Reading and Public Hearing on January 6, 2026: On October 9, 2025, the Planning Commission adopted Resolution No. 15, Series 2025, recommending approval of the Preliminary Planned Unit Development, Preliminary Plat, and Special Review Use applications to develop the subject property, with staff-recommended conditions and an additional condition imposed by the Commission requiring that the intersection of Front Street and Harper Street be limited to emergency, bicycle, and pedestrian access only. The video of that meeting is available [here](#).

STAFF RECOMMENDATION:

Staff recommend approval of Ordinance No. 1910, Series 2025, rezoning portions of Caledonia Place Subdivision Plat from CC-MU (Commercial Community – Mixed Use) and R-M (Residential Medium Density) to MU-R (Residential Mixed Use) and Amending Exhibit A, Land Use Exhibit, Referenced in LMC Chapter 17.14.

ATTACHMENT(S):

1. Ordinance No. 1910, Series 2025
2. Resolution No. 15, Series 2025

SUBJECT: ORDINANCE NO. 1910, SERIES 2025

DATE: NOVEMBER 18, 2025

PAGE 25 OF 25

3. Application Materials
4. Land Use Plan, Exhibit A
5. Market Analysis
6. Traffic Impact Study
7. Traffic Calming Exhibit
8. Change.org Petition
9. Presentation

**ORDINANCE NO. 1910
SERIES 2025**

**AN ORDINANCE APPROVING A REZONING OF A PORTION OF THE CALEDONIA
PLACE SUBDIVISION PLAT FROM COMMERCIAL COMMUNITY (C-C) AND
RESIDENTIAL MEDIUM DENSITY (R-M) TO MIXED-USE RESIDENTIAL (MU-R) AND
APPROVING AN AMENDMENT TO EXHIBIT A, LAND USE PLAN EXHIBIT,
REFERENCED IN LOUISVILLE MUNICIPAL CODE CHAPTER 17.14 – MIXED USE
ZONE DISTRICTS**

WHEREAS, Coal Creek Village, LLC is the owner of certain real property, described in the legal description attached hereto as Exhibit A, which constitutes a portion of the Caledonia Place Subdivision Plat; and

WHEREAS, the land owner has requested rezoning of the property from Commercial Community – Mixed Use (CC-MU) and Residential Medium Density (R-M) to Mixed Use Residential (MU-R), and approval of an amendment to the Land Use Plan, as depicted in the document attached hereto as Exhibit B, pursuant to Chapter 17.14 of the Louisville Municipal Code – Mixed-Use Zone Districts; and

WHEREAS, the Louisville Planning Commission has held a duly-noticed public hearing on October 9, 2025 to review the proposed rezoning and has forwarded a recommendation to the City Council to approve the rezoning and amendment to Land Use Plan; and

WHEREAS, the City Council held a duly-noticed public hearing on _____, 2025 to consider the proposed rezoning and amendment to the Land Use Plan; and

WHEREAS, the City Council finds that the rezoning and amendment to the Land Use Plan are consistent with Louisville Municipal Code Sec. 17.44.050.A.2, Declaration of Policy for Rezoning, which states that the *area for which rezoning is requested has changed or is changing to such a degree that it is in the public interest to encourage a redevelopment of the area*; and

WHEREAS, the City Council finds that conditions of the property have changed, including potential market feasibility of commercial-only development on the parcel and changes to vehicular access plans that are not supportive of highway-oriented commercial development; and

WHEREAS, the City Council finds that it is in the public interest to support redevelopment of the property which is located in the Highway 42 Revitalization Area and rezoning of the property will support the goal of the Urban Renewal Plan to reduce,

eliminate and prevent the spread of blight, to stimulate growth and redevelopment, and promote appropriate land uses.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF LOUISVILLE, COLORADO:

Section 1. Pursuant to the zoning ordinance of the City, that certain property described in the legal description attached hereto as Exhibit A, which constitutes a portion of the Caledonia Place Subdivision Plat is hereby rezoned from Commercial Community – Mixed Use (CC-MU) and Residential Medium (R-M) to Mixed Use Residential (MU-R).

Section 2. The Land Use Plan referenced in Louisville Municipal Code Chapter 17.14 – Mixed Use Zone Districts, is hereby amended as reflected in Exhibit B to this ordinance.

Section 3. If any portion of this ordinance is held to be invalid for any reason, such decision shall not affect the validity of the remaining portions of this ordinance. The City Council hereby declares that it would have passed this ordinance and each part hereof irrespective of the fact that any one part be declared invalid.

Section 4. The repeal or modification of any provision of the Municipal Code of the City of Louisville by this ordinance shall not release, extinguish, alter, modify, or change in whole or in part any penalty, forfeiture, or liability, either civil or criminal, which shall have been incurred under such provision, and each provision shall be treated and held as still remaining in force for the purpose of sustaining any and all proper actions, suits, proceedings, and prosecutions for the enforcement of the penalty, forfeiture, or liability, as well as for the purpose of sustaining any judgment, decree, or order which can or may be rendered, entered, or made in such actions, suits, proceedings, or prosecutions.

Section 5. All other ordinances or portions thereof inconsistent or conflicting with this ordinance or any portion hereof are hereby repealed to the extent of such inconsistency or conflict.

INTRODUCED, READ, PASSED ON FIRST READING AND ORDERED PUBLISHED this 18th day of November 2025.

Christopher M. Leh, Mayor

ATTEST:

Genny Kline, City Clerk

**PUBLIC HEARING AND SECOND READING WILL BE THE 6th DAY OF
JANUARY 2026, AT 6:00 P.M. AT LOUISVILLE CITY HALL, 749 MAIN STREET,
LOUISVILLE, CO 80027.**

**PASSED AND ADOPTED ON SECOND AND FINAL READING, this ____ day of
_____, 2026.**

Christopher M. Leh, Mayor

ATTEST:

Genny Kline, City Clerk

APPROVED AS TO FORM:
Kelly PC

Kathleen Kelly, City Attorney

EXHIBIT A
LAND DESCRIPTION
SHEET 1 OF 4

A PORTION OF COAL CREEK STATION FILING NO. 1, LYING WITHIN THE NORTHEAST QUARTER (NE 1/4) OF SECTION 8, TOWNSHIP 1 SOUTH, RANGE 69 WEST OF THE SIXTH PRINCIPAL MERIDIAN, CITY OF LOUISVILLE, COUNTY OF BOULDER, STATE OF COLORADO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEARINGS ARE BASED ON THE NORTH LINE OF THE NORTHEAST QUARTER OF SECTION 8, TOWNSHIP 1 SOUTH, RANGE 69 WEST OF THE SIXTH PRINCIPAL MERIDIAN, CITY OF LOUISVILLE, COUNTY OF BOULDER, STATE OF COLORADO, BEING MONUMENTED AT THE NORTHEAST CORNER BY A FOUND 2" ILLEGIBLE BRASS CAP IN RANGE BOX AND AT THE NORTH QUARTER CORNER BY A FOUND 2-1/2" ILLEGIBLE ALUMINUM CAP IN RANGE BOX. SAID NORTH LINE BEARS NORTH 89°58'20" WEST A DISTANCE OF 2642.02 FEET (AS-MEASURED) WITH ALL BEARINGS HEREON BEING RELATIVE THERETO.

COMMENCING AT THE NORTHEAST CORNER OF SAID SECTION 8;
THENCE NORTH 89°58'20" WEST, ALONG THE NORTH LINE OF THE NORTHEAST QUARTER OF SAID SECTION 8, A DISTANCE OF 395.00 FEET TO THE POINT OF BEGINNING;

THENCE DEPARTING SAID NORTH LINE, SOUTH 00°17'50" EAST, A DISTANCE OF 360.00 FEET;
THENCE SOUTH 89°58'20" EAST, A DISTANCE OF 395.02 FEET TO A POINT ON THE EAST LINE OF THE NORTHEAST QUARTER OF SAID SECTION 8;
THENCE SOUTH 00°18'01" EAST, ALONG SAID EAST LINE, A DISTANCE OF 154.87 FEET;
THENCE DEPARTING SAID EAST LINE, NORTH 89°58'57" WEST, A DISTANCE OF 360.55 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT, SAID CURVE HAVING A RADIUS OF 95.00 FEET, A DELTA ANGLE OF 89°41'07" WITH A CHORD WHICH BEARS NORTH 45°08'23" WEST A DISTANCE OF 133.98 FEET;

THENCE ALONG THE ARC OF SAID CURVE A DISTANCE OF 148.70 FEET;

THENCE NORTH 00°17'50" WEST, A DISTANCE OF 360.00 FEET;
THENCE SOUTH 90°00'00" WEST, A DISTANCE OF 316.05 FEET;
THENCE NORTH 00°00'15" EAST, A DISTANCE OF 200.18 FEET TO A POINT ON THE NORTH LINE OF THE NORTHEAST QUARTER OF SAID SECTION 8;

THENCE SOUTH 89°58'20" EAST, ALONG SAID NORTH LINE, A DISTANCE OF 375.00 FEET TO THE POINT OF BEGINNING.

CONTAINING: ±153,315 SQ. FT. OR ±3.520 ACRES.



FRANK ZWOLINSKI, P.L.S.
Colorado License No. 38060
For and on behalf of
Power Surveying Company, Inc.



DRAWING BY: MB DATE: 06/14/2022
PROJECT NO. 16-216

EXHIBIT A
LAND DESCRIPTION
SHEET 3 OF 4

A PARCEL OF LAND LYING WITHIN THE NORTHEAST QUARTER (NE 1/4) OF SECTION 8, TOWNSHIP 1 SOUTH, RANGE 69 WEST OF THE SIXTH PRINCIPAL MERIDIAN, CITY OF LOUISVILLE, COUNTY OF BOULDER, STATE OF COLORADO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEARINGS ARE BASED ON THE NORTH LINE OF THE NORTHEAST QUARTER OF SECTION 8, TOWNSHIP 1 SOUTH, RANGE 69 WEST OF THE SIXTH PRINCIPAL MERIDIAN, CITY OF LOUISVILLE, COUNTY OF BOULDER, STATE OF COLORADO, BEING MONUMENTED AT THE NORTHEAST CORNER BY A FOUND 2" ILLEGIBLE BRASS CAP IN RANGE BOX AND AT THE NORTH QUARTER CORNER BY A FOUND 2-1/2" ILLEGIBLE ALUMINUM CAP IN RANGE BOX. SAID NORTH LINE BEARS NORTH 89°58'20" WEST A DISTANCE OF 2642.02 FEET (AS-MEASURED) WITH ALL BEARINGS HEREON BEING RELATIVE THERETO.

COMMENCING AT THE NORTHEAST CORNER OF SAID SECTION 8;
THENCE SOUTH 48°46'01" WEST, A DISTANCE OF 1243.37 FEET TO THE NORTHWEST CORNER OF LOT 1 HUNT-PUKSAS SUBDIVISION AND THE POINT OF BEGINNING;
THENCE NORTH 08°30'12" WEST, A DISTANCE OF 202.14 FEET;
THENCE NORTH 90°00'00" EAST, A DISTANCE OF 183.31 FEET;
THENCE SOUTH 00°01'40" WEST, A DISTANCE OF 184.00 FEET;
THENCE NORTH 89°58'20" WEST, A DISTANCE OF 39.06 FEET;
THENCE SOUTH 00°18'07" EAST, A DISTANCE OF 16.00 FEET;
THENCE NORTH 89°58'20" WEST, A DISTANCE OF 114.35 FEET TO THE POINT OF BEGINNING.

CONTAINING: ±33,032 SQ. FT. OR ±0.758 ACRES.



FRANK ZWOLINSKI, P.L.S.
Colorado License No. 38060
For and on behalf of
Power Surveying Company, Inc.

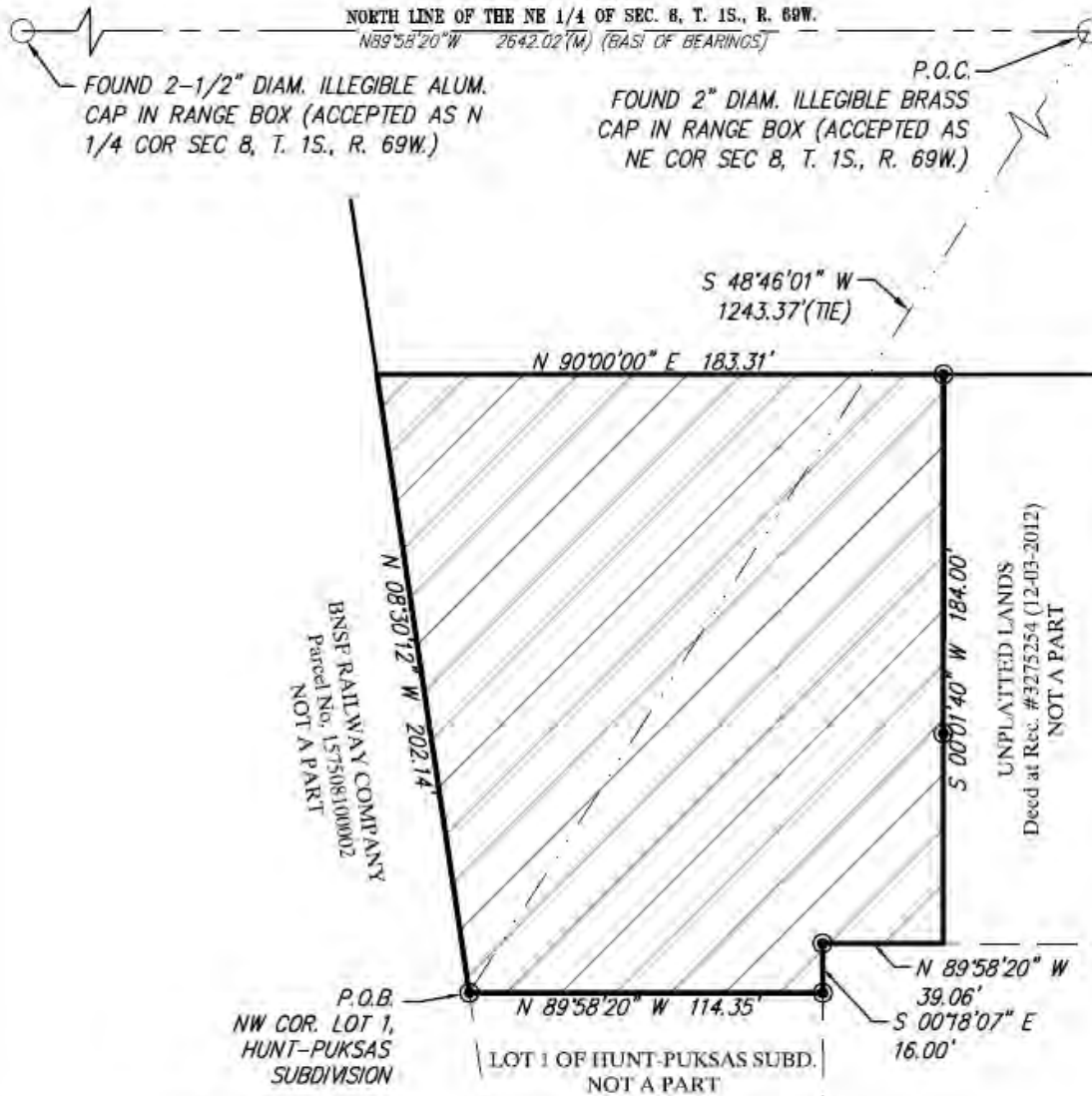


DRAWING BY: MB DATE: 06/14/2022
PROJECT NO. 16-216

EXHIBIT A

EXHIBIT OF LAND DESCRIPTION

SHEET 4 OF 4



LEGEND

- FOUND MONUMENT AS NOTED
- (M) AS MEASURED
- (R) PER RECORD
- P.O.B. POINT OF BEGINNING
- P.O.C. POINT OF COMMENCEMENT

SCALE: 1" = 50'



POWERTM
 Surveying Company, Inc.

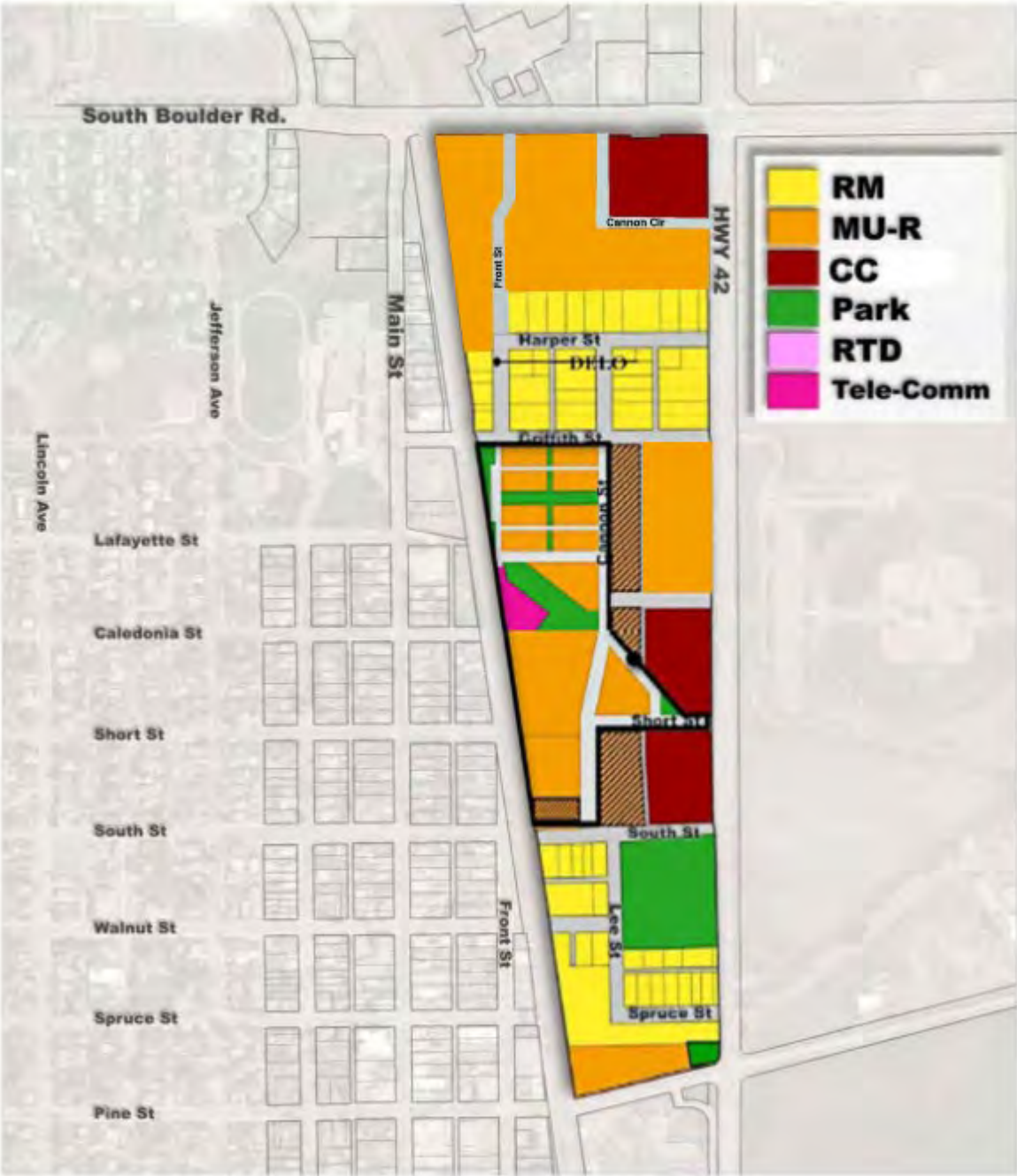
Established 1948

5911 BROADWAY
 DENVER, COLORADO 80221

PH. 303.702.1611
 FAX. 303.702.1699
 WWW.POWERSURVEYING.COM

DRAWING BY: MB DATE: 06/14/2022
 PROJECT NO. 16-216

Exhibit B



**RESOLUTION NO. 10
SERIES 2025**

**A RESOLUTION RECOMMENDING APPROVAL OF A PRELIMINARY PLANNED
UNIT DEVELOPMENT AND PRELIMINARY PLAT TO ALLOW A 188 DWELLING
UNIT AND 13,755 SQUARE FEET OF COMMERCIAL SPACE IN A MIXED-USE
DEVELOPMENT AT 1030, 1042, 1034 AND 1040 SOUTH BOULDER ROAD**

WHEREAS, there has been submitted to the Louisville Planning Commission an application for a preliminary planned unit development to allow construction 188 dwelling unit mixed-use development and 13,755 square feet of commercial space at 1030, 1042, 1034 and 1040 South Boulder Road; and

WHEREAS, there has been submitted to the Louisville Planning Commission an application for a preliminary plat to subdivide the existing property at 1030, 1042, 1034 and 1040 South Boulder Road; and

WHEREAS, a rezoning application is under concurrent review to permit the proposed uses; and

WHEREAS, City staff has reviewed the information submitted and found that, with the six requested waivers and four conditions, the application complies with the Louisville zoning regulations and other applicable sections of the Louisville Municipal Code; and

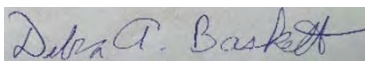
WHEREAS, the Planning Commission has considered the application at a duly noticed public hearing on October 9, 2025, where evidence and testimony were entered into the record.

NOW THEREFORE, BE IT RESOLVED that the Planning Commission of the City of Louisville, Colorado does hereby recommend approval of a preliminary planned unit development and preliminary plat with conditions to allow 188 dwelling-units and 13,755 square feet in a mixed-use development at 1030, 1042, 1034 and 1040 South Boulder Road .

PASSED AND ADOPTED this 9th day of October, 2025

By: 

Steve Brauneis, Chair
Planning Commission

Attest: 

Debra Baskett, Secretary
Planning Commission

Coal Creek Village PUD

Project Narrative

Introduction

Coal Creek Village, (formerly called Coal Creek Station) is a proposed mixed-use development located southwest of the intersection of South Boulder Road (SBR) and Highway 42. The proposed development plan is supported by the City's goals for the Highway 42 revitalization area and is consistent with the intent and purposes of the Mixed-Use Development Design Standards and Guidelines (MUDDSG) as well as the requirements contained in Section 17.14 of the Municipal Code created for mixed-use development.

Site Description

Commercial development exists at the southwest corner of the SBR and Highway 42 intersection. The Coal Creek Village PUD is proposed on vacant property located south and west of the commercial area. The Argentos Empanadas Shop exists near the northwest corner on a separate lot. The BNSF Railroad borders the site on the west and the existing "Little Italy" residential neighborhood is located to the south. The Louisville Sports Complex is located to the east on the other side of Highway 42. The Goodhue Ditch cuts through the property diagonally at the northwest corner and the site slopes to the south with thickets of unmaintained vegetation. No significant natural features exist on the site.

Project Description

The Applicant proposes to develop a vibrant mixed-use project including 13,534 square feet of commercial use adjacent to South Boulder Road along with a unique mix of medium to high density residential development. With over 19,000 vehicle trips per day along South Boulder Road the commercial is expected to do well. The small-scale commercial uses expected to include retail, restaurants, offices and personal service shops would benefit from drive-by traffic and be supported by neighborhood residents.

The site is also well suited to residential development for the following reasons:

- Shopping and Restaurants
There is existing retail and service shops located at the intersection corner. In addition, historic downtown Louisville, with its many restaurants, shops and breweries is located one half mile to the south, easily accessible by car, bicycle or on foot.
- Recreation
Just west of the railroad tracks residents will have trail access to Pirates Park, Lawrence Enrietto Park, Lake Park and eventually the Coyote Run Open Space. The Louisville Sports Complex is located to the east along with acres of open space and an interconnected trail system.

- Schools

Louisville Middle School is located to the west of the railroad tracks within easy walking distance. Centaurus High School is located to the east and is accessible by car or bicycle via trails east of the Louisville Sports Complex.

The Applicant is proposing a wide a variety of housing choices that are architecturally exciting, energy efficient and most of all attainable. Specific product types are described as follows:

- Two 3-story **mixed-use buildings** are proposed to be located along South Boulder Road. Commercial space occupies the 1st floor, with residential units on the 2nd and 3rd floors. The commercial spaces face South Boulder Road and to the interior of the site, creating attractive and inviting architectural space on both sides. Each building contains twenty-four studios, 1- and 2-bedroom units ranging in size from 500-800 square feet. The residential units are served by an elevator that provides for many accessible units. Parking for the commercial uses and residents is provided south of the buildings.
- Two 3-story **multi-family buildings** face Front Street and create an attractive pedestrian-oriented streetscape at the entrance to the neighborhood. These buildings each have twenty-four residential units ranging in size from 500-900 square feet.
- Further south along Front Street **alley-loaded townhomes** continue the architecturally cohesive streetscape. The townhomes are 3-stories with a garage on the first level accessed from the alley. Living and bedroom spaces are located above the garage.
- The **micro townhome condominiums** located south of the existing commercial area form an ideal transition between the existing commercial uses and the existing "Little Italy" residential neighborhood to the south. These unique townhome dwelling units organized as duplexes and triplexes are located on a shared lot and share common amenities including a central park space, benches, dog waste station, bicycle parking and landscaping. These homes at 300-450 square feet are the most attainable homes in the neighborhood.

The proposed street pattern is logical and conforms to the street pattern proposed in the Highway 42 Revitalization Framework Plan. It is designed to be convenient and safe for both motorists and pedestrians. Front Street connects to the existing Front Street located to the south, providing neighborhood continuity. Streets and curb-cuts are aligned where possible and pedestrian crosswalks prioritize the pedestrian.

All the public streets have detached sidewalks and street trees that provide an attractive interconnected pedestrian system throughout the neighborhood. Wherever possible, buildings are located along the streetscape making the walking experience more interesting and comfortable. Parking lots are located behind buildings where possible and attractively screened with a variety of trees, shrubs and ornamental grasses.

Coal Creek Village PUD

Narrative

Park, open space and a variety of site amenities are provided throughout the project. A plaza space between the mixed-use buildings along South Boulder Road provides shade, benches and opportunities for outdoor dining. The Applicant plans to pipe the Goodhue Ditch which runs diagonally through the northwest corner allowing the area to be seeded, enhanced with additional plant material and utilized as a passive recreation space. A sidewalk will provide access to the existing empanada shop. There is a centrally located park that will allow residents to have expansive recreation space without the responsibility of having to maintain a large landscape on their own individual lot/ property. The park is connected to the proposed mixed-use buildings via multiple sidewalk connections.

Small families, young professionals, singles, and older adults that prefer urban living will welcome this innovative community in Louisville. All the housing types are energy efficient utilizing heat pumps, tankless hot water heaters and tight construction. The dwelling units are small making them more energy efficient, easy to maintain and most importantly attainable. The Applicant expects the proposed micro townhome condominiums to be especially popular because they will allow first time buyers to own their own home, an important step in gaining long term financial stability.

The project is planned to be phased. While the design of the project adheres to the majority of the standards and design guidelines contained in the MUDDSG and the Municipal Code, there are a few specific instances where waivers are requested. Narratives detailing the waivers along with justifications are included in this Submittal package.

Conclusion

The design of the project is supported by the Purpose and Intent of the Highway 42 Revitalization Plan and the MUDDSG. As the last major development in the Highway 42 Revitalization Area the project will implement the goals and objectives of the Plan in the following ways:

- Mixed-use development that includes commercial uses and a variety of housing types.
- Provides medium to high density residential development within walking distance of historic downtown Louisville.
- Creates pedestrian connections that are safe, comfortable and interesting.
- Establishes streetscapes that enhance adjacent architecture with detached sidewalks, street trees, and attractive parkways.
- Provides dynamic and sustainable architecture that will complement existing development within the Revitalization Plan area.
- Offers diverse product choices that are attractive, energy efficient and attainable for both buyers and renters.

- Provides publicly accessible parks, natural areas and urban plaza space that include seating, shade, seasonal plantings, outdoor dining opportunities, and doggie stations.
- Provides a comfortable land use transition between the existing Little Italy neighborhood and the commercial area to the north.

In conclusion, we believe the commercial uses proposed along South Boulder Road are consistent with the commercial use proposed in the original Revitalization Plan. The urban-style housing offered in this project at 16.5 DU/AC is well above the minimum density requirement of 12 DU/AC. The medium to high density proposed will ensure the success of the commercial uses and provide residents with a variety of housing choices to rent or to buy. It is the kind of housing described in the Revitalization Plan for this area and is needed in Louisville now more than ever.

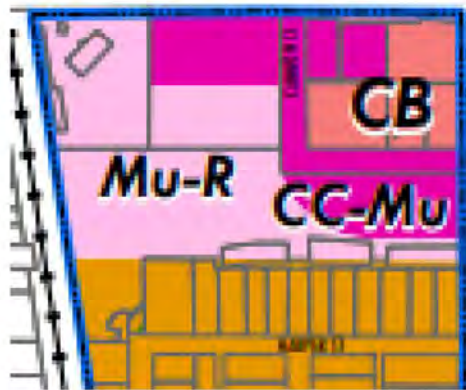
Coal Creek Village

Markel Homes

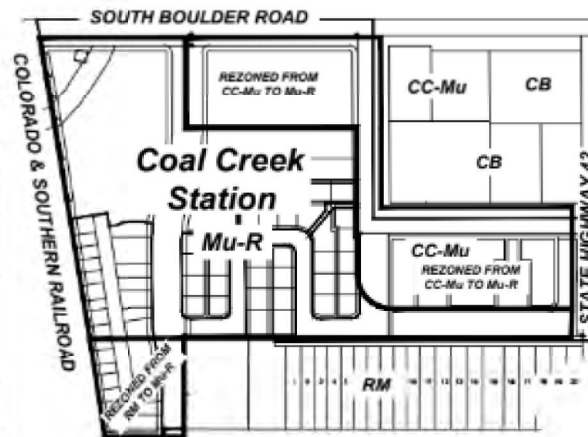
Request to Rezone

August 2023

The Applicant is requesting that two areas of the City's existing zoning map be changed. The existing zoning and the proposed changes are depicted on the graphics below. Land to the west of Cannon Circle and land to the south of Cannon Circle, connected by Cannon Circle, are proposed to be rezoned from CC-Mu to Mu-R. In addition, the land at the extreme southwest corner of the property is proposed to be rezoned from RM to Mu-R. The proposed changes are consistent with the proposed revisions to Exhibit A in the **Highway 42 Revitalization Area Framework Plan** (see separate request to revise Exhibit A).



Existing Zoning



Proposed Zoning

Proposed Rezoning Criteria

The rezonings allow for commercial uses along South Boulder Road as originally intended and expands areas of the site to be utilized for higher density residential development. Most small-scale commercial establishments, like restaurants, personal service shops and offices are allowed within the Mu-R district. Since these are the types of commercial uses that the Highway 42 Revitalization Plan envisioned for the area, this proposed rezoning will not result in a loss of commercial use, but will significantly increase residential density in the area to ensure success of the proposed commercial uses.

The City's Municipal Code lists four criteria for considering a rezoning (17.44.050):

1. The land to be rezoned was zoned in error and as presently zoned is inconsistent with the policies and goals of the city's comprehensive plan;

2. The area for which rezoning is requested has changed or is changing to such a degree that it is in the public interest to encourage a redevelopment of the area;

3. The proposed rezoning is necessary in order to provide land for a community-related use which was not anticipated at the time of the adoption of the city's comprehensive plan, and such rezoning will be consistent with the policies and goals of the comprehensive plan; or

4. The rezoning would only permit development which, if evaluated as a proposed annexation under the annexation standards and procedures codified in [title 16](#), would qualify for annexation.

We believe the proposed rezonings associated with the Coal Creek Village PUD meet Criteria 2 and 3, for the following reasons:

2. The area for which rezoning is requested has changed or is changing to such a degree that it is in the public interest to encourage a redevelopment of the area;

We believe that **significant change** has occurred both in the vicinity of the site and in the housing marketplace.

- i. The property was rezoned in 2007 to fit a proposed development plan that was never approved. The result is the existing zoning now dictates a specific design that matches what was proposed in 2007 but never carried forward. The fact that the land was rezoned based on a particular development plan, Coal Creek Station, that never happened, makes it difficult for subsequent developers to propose different, and perhaps more successful plans.
- ii. Major improvements to State Highway 42 and the potential development of a commuter rail station in Louisville were the impetus for the City to create mixed-use zoning in the Highway 42 Revitalization Area. A commuter rail station would significantly increase the number of people arriving to and leaving from the neighborhood. Those additional people would all be potential customers for commercial uses. In reality though, the commuter rail station has not come to fruition. The absence of a commuter rail station undeniably lessens the viability of the site for stand-alone commercial development.
- iii. The prime commercial property, based on visibility, is located at the intersection of South Boulder Road and State Highway 42. At this point in time, the site is both under-developed and aging. We believe that additional housing in the neighborhood will spur the redevelopment of the corner in years ahead.

- iv. The need for housing inventory across all price points has grown significantly in recent years. The housing crisis in Boulder County is well documented and was only exacerbated in recent years by market conditions and the tragic Marshall Fire. This plan seeks to bring units to the market across a variety of price points and can fill the needs of current and future residents.

3. The proposed rezoning is necessary in order to provide land for a community-related use which was not anticipated at the time of the adoption of the city's comprehensive plan, and such rezoning will be consistent with the policies and goals of the comprehensive plan;

According to the Urban Land Institute, the industry definition of attainable, for-sale housing is unsubsidized, profitable housing developments that meet the needs of those with incomes between 80% and 120% of the Area Median Income. ULI's latest Emerging Trends in Real Estate report provides recommendations and strategies for creating more attainable housing. Coal Creek Village utilizes several of these recommendations including:

- Offering innovative product types
- Combining product types in developments
- Creating smaller homes
- Creating more middle income attached housing

The report concludes with *"It is as important as ever for the industry to build all types of housing, and especially to find ways to build nonsubsidized housing for middle-class buyers," says the report. "Ultimately, this type of housing – attainable housing – will relieve the current downward pressure on the market that has kept renters from becoming homeowners and has made housing increasingly unaffordable for Americans at lower income levels."*

These rezonings efforts are needed to provide more housing inventory than is possible without the them, thus making the designs more efficient and the prices more attainable. Essentially the residential units proposed above ground floor commercial uses along South Boulder Road would not be possible under the current zoning. We believe that the lack of housing is a community-related use that was not as extreme when the Comprehensive Plan was adopted.

Applicable City of Louisville Plans and Policies

Simply stated, the Coal Creek Village project cannot move forward without the proposed rezoning. The rezoning is critical to allowing the vertical mixed-use proposed along South Boulder Road (SBR). The residential above supports the commercial use and

increases the overall density on the site. Higher densities make site amenities more affordable and helps to create a sense of community. The proposed rezoning also creates a better land use transition for the Little Italy neighborhood. The proposed rezoning allows the developer to create a mixed-use project that we believe will be both innovative and successful. The following City Plans and Policies support the proposed rezoning and the project.

2013 Comprehensive Plan (sections relevant to SBR and Highway 42)

The 2013 Comprehensive Plan clarifies and illustrates the City's expectations regarding land use function, form and character. The Framework proposed by the Comprehensive Plan puts the Coal Creek site in the "urban" development pattern, defined as follows:

Streets are interconnected and form small walkable blocks. Residences are alley-loaded and alternative modes of travel including walking, biking and transit are viable and encouraged. Vehicular speeds are reduced, and development parcels are smaller. Buildings are oriented to the street and are designed with human scale in mind. Civic and public infrastructure is integrated, multi-purpose and the landscape is formal.

The comprehensive Plan further separates Louisville into development types – Centers, Corridors, Neighborhoods, Special Districts and Parks/Open Space. The Coal Creek Village project falls within a Corridor, specifically the SBR Corridor. The following description of anticipated land use development in the Corridor describes Coal Creek Village as well.

"As properties redevelop in this area, attention will be paid to introducing a more connected street grid creating smaller parcels which relate to one another in an urban and walkable mixed-use environment. Commercial land uses and higher density residential uses will concentrate along the South Boulder Road and Highway 42 intersection while lower density residential uses should locate away from the main arterials to provide a transition to the existing neighborhoods".

The proposed rezoning and development plan for Coal Creek Village are supported by the following policies related to the Highway 42 and SBR Corridor:

1. *Include a mix of low to higher density residential and commercial neighborhood services.*
The rezoning would allow a mix of low to higher density housing along with development of commercial neighborhood services.
2. *Transition from higher intensity uses at the core of the center to lower density uses at the neighborhoods on the periphery of the center*
Development will transition from high intensity along SBR to lower intensity adjacent to the existing Little Italy neighborhood.

3. *To encourage the economic health of existing shopping centers, leverage public investment for infrastructure improvements and business assistance packages to stimulate private redevelopment.*
New commercial uses and additional residential development in the neighborhood will help existing commercial development on the corner become more successful.
4. *Focus on community retail opportunities at the intersection of South Boulder Road and HWY 42 which serve a smaller trade area than those found at a regional retail center.*
The commercial development proposed along SBR will focus on small scale shops providing goods and services to the local neighborhood.
5. *Introduce new roadway network in the center to enable the area to operate as a connected urban center. Medium to high density residential areas should be located with proximity to and pedestrian access to public transportation, neighborhood parks and trail connections and commercial services.*
New roadways that connect the various component of the neighborhood will be developed.
6. *As redevelopment occurs, introduce roadway network to enable a variety of redevelopment possibilities. The City should cooperate with the City of Lafayette and Boulder County to secure access between Hecla Lake, Waneka Lake, and Coal Creek.*
The proposed roadway network will support the existing and proposed commercial development.
7. *Create a high degree of trail and open space connectivity reinforcing the east/west connectedness of a regional trail system to Hecla Lake and north/south connectedness to Downtown and Coal Creek regional trail.*
A system of detached sidewalks and connecting walkways link the proposed neighborhood to trail systems located to the west and to the east across Highway 42 as well as to Downtown.
8. *Explore realigning Main Street on the western edge of the urban center to consolidate access near the railroad tracks and introduce a Gate way to the HWY 42 and South Boulder Road urban center and Downtown Louisville.*
The proposed rezoning would not affect the City's ability to realign Main Street.
9. *Connect the Highway 42 and South Boulder Road Urban Center to the rest of Louisville by the introduction of new roads, trail connections, and pedestrian crossings of the railroad tracks, South Boulder Road, and HWY 42.*
The extension of Front Street will provide a needed connection between SBR and Downtown Louisville.

10. Encourage development of new commercial retail services in the Urban Center where the location and scale of such development is consistent with design standards developed for the HWY 42 corridor and the character of the immediate neighborhood.

The proposed rezoning will allow the development of commercial uses along SBR with housing above that will be in scale and in character with the neighborhood.

11. Louisville Plaza shopping center should not include any Mixed-Use streets.
Not applicable.

Transportation Master Plan

The City's Transportation Master Plan (TMP) completed in 2019 describes four policies that support the TMP goals. The design and development of Coal Creek Village will help advance these policies and help the City achieve its transportation goals.

Policy 1: Great Streets

Great streets are those designed to be safe and accessible for all users regardless of ability, age, or mode. The streets in Coal Creek Village are engineered and designed to be safe, functional and attractive. Detached sidewalks keep the pedestrian a safe distance from vehicular traffic and crosswalks provide increased safety at points of conflict. Handicap ramps are provided at all street crossings. Sidewalks provide walkable access to all areas of the neighborhood and connect the pedestrian to the larger community at its edges along SBR, Highway 42 and Front Street.

Policy 2: Guidelines for Walkable and Bikeable Places

Coal Creek Village is designed to be walkable and bikeable. The mixed-use development is located within walking and biking distance of schools, employment opportunities, shopping, and recreation. The neighborhood itself is designed to encourage walking and biking by providing safe streets with detached sidewalks and street trees. Alley-loaded residential products eliminate driveways and enhance the walking experience along streets. Green spaces, parks, plazas are provided throughout the neighborhood, making it a comfortable place to walk around and explore.

Policy 3: Transit Oriented Development Guidelines

Residents at Coal Creek Village will have access to bus stops at SBR and Garfield Street and along Main Street at Griffith Street.

Policy 4: Applications for Technology

The residential projects at Coal Creek Village will have Homeowner Associations that can work the City to publicize City programs like "safe routes to school" and "ride share programs" designed to make walking and biking safer and more fun. Smart technology can be used to disseminate information to neighborhood residents, easily and quickly.

South Boulder Road Small Area Plan

The South Boulder Road Small Area Plan (Plan) provides general guidelines for development in the SBR corridor and suggests design concepts for new development within the corridor. We believe that Coal Creek Village exemplifies the Community Design Principles and Placemaking Concepts contained in the Plan as outlined below:

Community Design Principles

- Providing places to go and to stay
Coal Creek Villages provides spaces that encourage gathering and interaction. Retail shops along SBR with entrances front and back have a central outdoor plaza with seating and shade. A natural area is planned behind the existing coffee shop on SBR as well. In addition to tree lined streets and detached sidewalks there are several green, park-like spaces provided throughout the community that serve the residents with amenities such as play equipment, benches, doggie stations, lawns and plants that provide seasonal interest.
- Easy to get to and easy to get around
The proposed project provides vehicular links to the larger community at four existing access points. Two on SBR, one on to Highway 42 and one connecting to Front Street and linking the project to Downtown Louisville. Safe and convenient pedestrian circulation is provided throughout the community along tree-line streets with detached sidewalks. Pedestrians can walk to nearby Louisville Middle School and to Downtown.
- Knitting the community together
Tree-lined sidewalks are provided along SBR and Hwy 42 frontages. Community residents can cross SBR at Main Street just west of the site and also at the HWY42/SBR intersection. Highway 42 can be crossed at SBR and at Short Street approximately 1/3 mile south of the project.
- Development that contributes
Coal Creek Village contributes to the community by providing an appropriate mix of commercial development and housing that targets middle income residents. The proposed buildings are both architecturally exciting and energy efficient.

Placemaking Concepts

- Parking rooms
The proposed parking lot is located to the interior of the site and designed to be well landscaped and pedestrian friendly.

- Traditional streets
A network of public streets and private drives knit the community together. Streets are enhanced with detached sidewalks and periodic green spaces which promote walking around the neighborhood. Alley-loaded residential projects contribute to the walkability of the neighborhood because of fewer driveways to cross.
- Pedestrian refuges
The project provides a pedestrian refuge along SBR between the two mixed-use buildings. A well landscape plaza with street furniture is provided for shoppers and pedestrians alike.
- Views into the community
Views into the community occur at three locations along SBR. West of the existing coffee shop a shaded natural open space gives a peek into the project. Front Street with detached sidewalks lined with street trees offers an inviting view into the neighborhood and the plaza between the mixed-use buildings provides a view into the central green space.

Highway 42 Framework and Comprehensive Plan Amendment

The design of the project is supported by the Highway 42 Revitalization Area Framework Plan and the MUDDSG. As the last major development in the Highway 42 Revitalization Area the project will implement the goals and objectives of the Plan in the following ways:

- Mixed-use development that includes commercial uses and a variety of housing types.
- Provides medium to high density residential development within walking distance of historic downtown Louisville.
- Creates pedestrian connections that are safe, comfortable and interesting.
- Establishes streetscapes that enhance adjacent architecture with detached sidewalks, street trees, and attractive parkways.
- Provides dynamic and sustainable architecture that will complement existing development within the Revitalization Plan area.
- Offers diverse product choices that are attractive, energy efficient and attainable for both buyers and renters.
- Provides publicly accessible parks, natural areas and urban plaza space that include seating, shade, seasonal plantings, outdoor dining opportunities, and doggie stations.

- Provides a comfortable land use transition between the existing Little Italy neighborhood and the commercial area to the north.

Conclusion

In conclusion, we believe the proposed rezonings are necessary and desirable because of changes in the area and because the proposed project would help alleviate a community need by providing more attainable housing, two of the criteria for consideration of rezoning. The Coal Creek Village project is overwhelmingly supported by the City's Plans and Policies that have created the community vision for Louisville. The proposed rezoning is in alignment with the regulatory requirements defined in the Municipal Code Section 17.14 Mixed Use Zone Districts specifically created to guide development in the Highway 42 Revitalization Area. By supporting the proposed rezonings the decision-makers will be allowing Coal Creek Village to move forward.

Coal Creek Village PUD

Requested Waivers

Coal Creek PUD conforms to the majority of the standards and guidelines created for the City of Louisville and specifically for the Highway 42 Revitalization Area, however, there are some instances where conforming to the standard would not be possible because of existing conditions or, would not serve the best interest of the City. We believe that in each case that a waiver is requested, the proposed design is superior to a design that would strictly adhere to the standard. The City of Louisville anticipated this situation and included the following rule in the Municipal Code:

"General rule allowing waiver or modification of standards. Unless otherwise limited by this section, the city may waive or modify all applicable stated Mixed Use Development Design Standards and Guidelines stated in this chapter, or other generally applicable design standards and provision of this [Title 17](#), if the decision-making body finds that the proposed development represents an improvement in site and building design over that which could be accomplished through strict compliance with otherwise applicable district standards. Unless specifically waived or modified during the review and approval process, the zoning, use, bulk, dimensional, development, and design standards stated in this chapter and the Mixed Use Design Standards and Guidelines shall apply."

The Applicant respectfully requests the following Waivers:

Waiver Number 1

City Document: Implementation of the Highway 42 Revitalization Area Plan - Appendix A
Mixed Use Development Design Standards and Guidelines (MUDDSG)

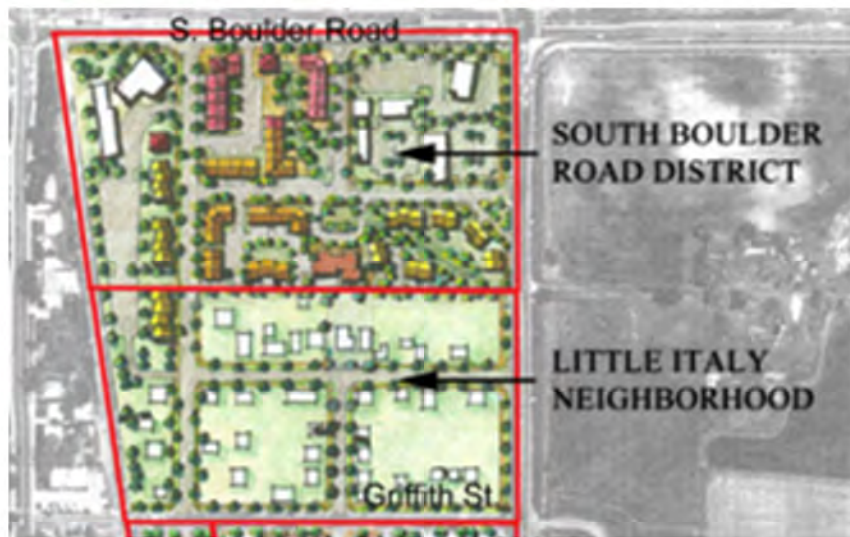
Requirement: MUDDSG 1.3.A.1 East and west sides of blocks to be 270-320 feet.
MUDDSG 1.3.B.1 North and south sides of blocks to be 300-400 feet.

Proposed:	Block One	<u>East and west sides 146 feet</u> North and south sides 321 feet
	Block Two	East and west sides 293 feet North and south sides 333 feet
	Block Three	<u>East and west sides 443 feet</u> North and South side 155 feet
	Block Four	<u>East and west sides 221 feet</u> <u>North and south sides 295 feet</u>
	Block Five	<u>East and west sides 332 feet</u> <u>North and south sides 246 feet</u>

Justification:

The intent of the Street and Block Design Standards is to encourage a synergistic mix of uses within the MU-R and CC Districts, complement existing Downtown development, to disperse and distribute traffic to multiple access points and to create a pedestrian-oriented and pedestrian friendly district.

Furthermore *"Street alignment within the MU-R and CC Districts shall generally conform to the street pattern adopted in the Highway 42 Plan to the maximum extent practicable."*



From the Highway 42 Revitalization Area Framework Plan

The street layout and resulting block sizes are largely determined by existing access points along South Boulder Road and Highway 42. In addition, the Front Street alignment connecting to the south is consistent with the Highway 42 Revitalization Area Framework Plan depicted above. The fact that the site is bordered by the Colorado and Southern Railroad on the west further puts limitations on block size.

While not all the specific block dimensions are consistent with requirements, the street layout and blocks do meet the intent of the MUDDSG. Traffic is dispersed and distributed in a logical fashion consistent with the Highway 42 Framework Plan shown above. The site plan proposes sidewalks and tree lawns along all public streets and provides for safe, convenient and attractive pedestrian connections throughout.

Waiver Number 2

City Document: Implementation of the Highway 42 Revitalization Area Plan - Appendix A
Mixed Use Development Design Standards and Guidelines (MUDDSG)

Requirement: **MUDDSG 5.4. Public Sidewalk Design Standards**

B. In the MU-R and CC Districts, all public sidewalks shall be a minimum of ten (10) feet wide incorporating tree planting within the right-of-way. The right-of-way shall be landscaped with street trees and other living plant material or, as an alternative, tree grates for street trees combined with decorative paving and/or moveable planters may be utilized.

Proposed: Along Front Street and Canon Circle, a 5-foot-wide detached sidewalk with an 8-foot parkway is provided.

Justification:

Coal Creek PUD meets the pedestrian connectivity standards stated in the MUDDSG by providing well-defined pedestrian connections through out the site and to off-site locations. Walkways are designed to be direct and efficient creating opportunities for residents to walk to commercial areas along SBR and Hwy 42, as well as to on-site parks, open space and amenities. The public sidewalks are all detached with adjacent tree lawns. We believe the proposed 5-foot and 8-foot sidewalk widths will be adequate for the numbers of pedestrians anticipated and will provide a more comfortable human scale than 10-foot sidewalks would.

The proposed sidewalk widths are also consistent with recommendations of the National Association of City Transportation Officials. *"The pedestrian through zone is the primary, accessible pathway that runs parallel to the street. The through zone ensures that pedestrians have a safe and adequate place to walk and should be 5–7 feet wide in residential settings and 8–12 feet wide in downtown or commercial areas."* (NACTO)

Waiver Number 3

City Document: **Municipal Code 17.14.060**
 Table 3: Mixed Use Zoning District Dimensional and Bulk Standards

Requirement: **Minimum Lot Width 40 feet**

Proposed: **Townhome lots vary from 24'-6" to 32 feet wide.**

Justification:

The proposed townhomes are designed for residents that desire urban scale living, that is attractive, low maintenance, energy efficient, architecturally exciting and attainable. By reducing lot size the developer can lower the cost of the dwelling unit, making it more attainable. densities that utilize public infrastructure and land more effectively, helping to lower housing costs as well. In Smaller lot sizes also help to create more efficient addition, small lots fit the lifestyle of active adults and are preferred by many urban dwellers. A few examples of contemporary townhome design that utilize the narrower lot width include the following communities: North End (Louisville), Northfield Commons (Boulder), and Dakota Ridge – Northbriar (Boulder).

Waiver Number 4

City Document: Municipal Code 17.14.060
Table 3: Mixed Use Zoning District Dimensional and Bulk Standards

Requirement: Minimum Building Coverage 40%

Proposed: 21.2%

Justification:

The dimensional and bulk standards are intended to encourage and allow more "urban scale" development within the Highway 42 Revitalization Area consistent with planning goals for that area. Compared to other commercial and residential development allowed in Louisville, "urban scale" generally means taller buildings like those found in downtown Louisville, greater lot coverage, and buildings pushed close to the front property line.

We believe that Coal Creek Village PUD accomplishes the intent of the standard. Most of the buildings in the development are 3-stories tall and are brought close to the front property line with parking enclosed in garages or located to the back side. However, it's hard to imagine how the proposed project could achieve 40% building coverage without providing structured parking. Figure 6 (below) was provided to help clarify the standard. The example illustrates 1-story buildings, and it only achieves 36% coverage. The proposed mixed-use buildings (3 & 4) and the multi-family buildings (1&2) are 3-story buildings and require more parking than a 1-story building would. Additional parking means more circulation drives and the additional pavement requires additional stormwater detention. The overall residential density of 16.5 DU/AC necessitates the need for additional site amenities, parks and open space. Additionally, Figure 6 alludes to the use of structured parking to help achieve the standard – but the cost to construct structured parking is so great that the use of structured parking would remove the middle-class attainability aspect of the proposed development. Given the nature of the proposed mixed-use project, we believe achieving 40% lot coverage is not necessary nor practical as demonstrated by Figure 6.

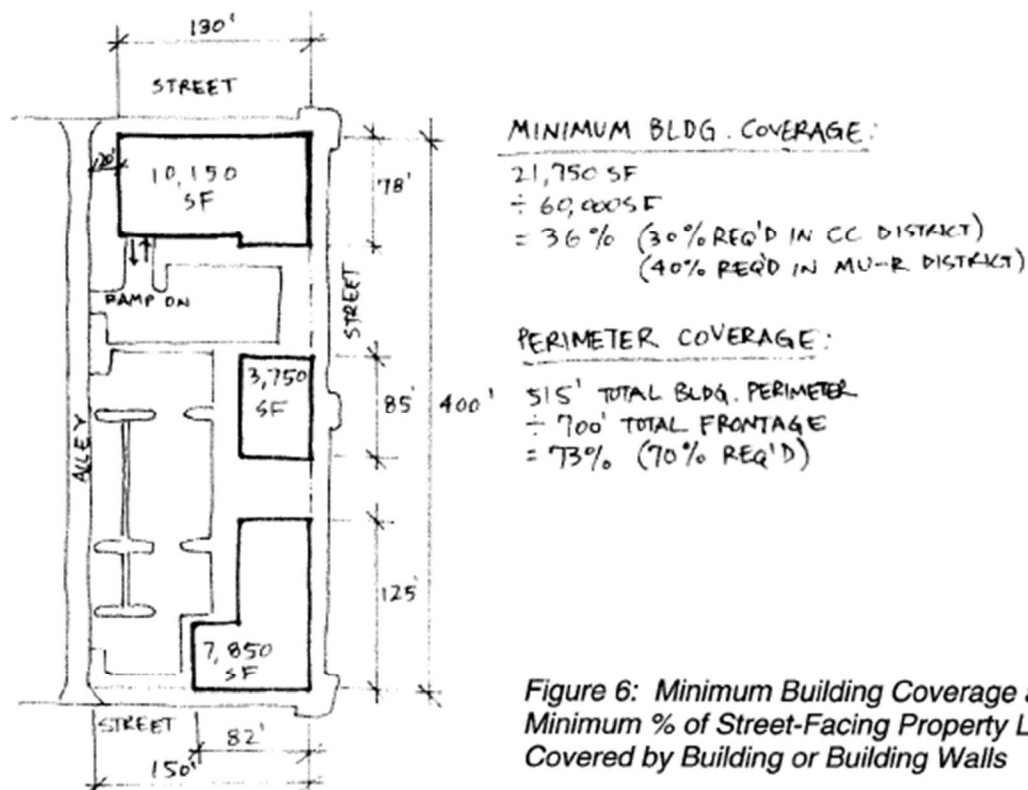


Figure 6: Minimum Building Coverage and Minimum % of Street-Facing Property Line(s) Covered by Building or Building Walls

Waiver Number 5

City Document: **Municipal Code 17.14.060**
 Table 3: Mixed Use Zoning District Dimensional and Bulk Standards

Requirement: 20-Foot Minimum Setback from Rear Property Line

Proposed: Townhome and Micro Cottages rear yard setbacks from 6-20 feet

Justification:

The townhome and micro cottages proposed for Coal Creek PUD are designed for residents that desire urban scale living, that is attractive, low maintenance, energy efficient, architecturally exciting and attainable. Smaller back yards that still provide opportunities for outdoor dining and relaxation without the need to mow or water a lawn fit the lifestyle of many urban dwellers. Smaller back yards also help create more efficient densities that utilize public infrastructure and land more effectively, helping to lower housing costs.

Waiver Number 6

City Document:

Municipal Code 17.14.060

Table 3: Mixed Use Zoning District Dimensional and Bulk Standards

Requirement: Minimum 70% of Street Facing Property Lines must contain a Building or Building Wall

Proposed: 58.6%

Justification:

The standard is intended to support a pedestrian friendly environment along the district's streets. Buildings pushed closer to the street edge provide a sense of enclosure for the pedestrian, making the district a more inviting place to walk. The 70% is a very high standard that is difficult to achieve particularly when site amenities and landscaped open space is left out of the equation. We believe that a variety of building types and scales that are interspersed with a plaza, park and landscaped open space create a diverse and pleasant streetscape for pedestrians to enjoy. The walking experience proposed throughout Coal Creek Village PUD is further enhanced by street trees that are provided in tree lawns along all the public streets.

Additionally, the City of Louisville has adopted Appendix D of the International Fire Code which has a component related to dead-end fire apparatus access on roads within a new development. This means that a fire truck access path shall go no further than 150' without a means to turn around or exit the access road. On the site plan, this creates the need for additional access points along public streets to comply with this IFC requirement and thus reduces the percentage of street facing property lines that contain a building or building wall.

TOTAL BUILDING FRONTAGE/COVERAGE CALCULATIONS				
STREET	APPLICABLE STREET FRONTAGE(FT)	TOTAL BUILDING FRONTAGE(FT)	% BUILDING FRONTAGE	TOTAL BUILDING COVERAGE(SF)
SOUTH BOULDER ROAD	543	304	56.0	80070
EAST OF FRONT STREET	262	216	73.2	
WEST OF FRONT STREET	248	88	35.5	
FRONT STREET	1240	825	66.5	
EAST SIDE	533	297	55.8	
WEST SIDE	708	528	74.6	
CANNON CIRCLE	692	320	46.2	
NORTH/ SOUTH LEG	383	170	46.8	
EAST/ WEST LEG	420	150	45.6	
HIGHWAY 42	147	90	61.2	
TOTALS	5097	2988	58.6 *	80070
TOTAL % BUILDING COVERAGE (USING TOTAL NET SITE ACREAGE 8.66 AC)				21.2% *



COAL CREEK STATION FILING NO.4, LYING WITHIN THE NORTHEAST QUARTER (NE 1/4) OF SECTION 8, TOWNSHIP 1 SOUTH, RANGE 69 WEST OF THE SIXTH PRINCIPAL MERIDIAN, CITY OF LOUISVILLE, COUNTY OF BOULDER, STATE OF COLORADO.

Plotted By: Megan McGregor Layout: S1 COVER SHEET Printed On: 3/26/2024 10:27 AM File Name: SITE PLAN.dwg

GROSS DENSITY	
GROSS AREA* (ACRES)	11.378
TOTAL DWELLING UNITS	188
GROSS DENSITY (DU/AC)	16.5

*AREA OF DENSITY CALCULATION INCLUDES PLATTED ACREAGE AND ½ THE AREA OF ANY ADJACENT STREET PER SECTION 17, 14.060, C.1.A.

DWELLING UNIT BREAK DOWN	
DWELLING TYPE	DU#
MULTI-FAMILY	96
ALLEY-LOADED TOWNHOME UNITS	60
MICRO TOWNHOME UNITS	32
TOTAL	188

SETBACKS & HEIGHT PER LOT		MINIMUM SETBACK PROVIDED			
DWELLING TYPE / BLOCK	HEIGHT (FT.)	STORIES	FRONT (FT.)	SIDE (FT.)	REAR (FT.)
MIXED USE (BLOCK 4)	45'	3	10'-1"	10'	20'+
TOWNHOMES (BLOCK 3)	(2)	3	1'	0'	8'
MULTI-FAMILY (BLOCK 5)	45'	3	10'	13'	20'+
TOWNHOMES (BLOCK 2)	40'	3	8'-7"	0'	8'-9"
MICRO-TOWNHOMES (BLOCK 1)	25'	1.5	10'	(1)	8'

(1) 8' AT STREET OR OUTLOT, 10' BETWEEN BUILDINGS.

(2) TYPICAL 40'-0" MAXIMUM BUILDING HEIGHT. FOR TOWNHOMES #13-18, WHICH ARE LOCATED IN RM DISTRICT TRANSITIONAL HEIGHT SETBACK. MAXIMUM HEIGHT SHALL BE 35'-0".

TOTAL BUILDING FRONTAGE/COVERAGE CALCULATIONS				
STREET	APPLICABLE STREET FRONTAGE(FT)	TOTAL BUILDING FRONTAGE(FT)	% BUILDING FRONTAGE	TOTAL BUILDING COVERAGE(SF)
SOUTH BOULDER ROAD	543	304	55.9853	
EAST OF FRONT STREET	295	216	73.2203	
WEST OF FRONT STREET	248	88	35.4839	
FRONT STREET	1240	825	66.5323	
EAST SIDE	532	297	55.8271	
WEST SIDE	706	528	74.5763	
CANNON CIRCLE	692	320	46.2428	
NORTH SOUTH LEG	363	170	46.8320	
EAST WEST LEG	329	150	45.5927	
HIGHWAY 42	147	90	61.2245	
TOTALS:		5097	58.6227	80070
TOTAL % BUILDING COVERAGE (USING TOTAL NET SITE ACREAGE 8.66 AC):				21.2% *

* WAIVER REQUEST INCLUDED WITH THIS APPLICATION.

DIMENSIONAL STANDARDS	
RESIDENTIAL DENSITY	REQUIRED BY CODE
	MIN: 12 UNITS/GROSS ACRE
	MAX: 20 UNITS/GROSS ACRE
MINIMUM LOT AREA	NA
MINIMUM LOT WIDTH	40'-0"
MINIMUM BUILDING COVERAGE	40%
MINIMUM LANDSCAPE COVERAGE	10%
BUILDING SETBACKS FROM PROPERTY LINES:	
MINIMUM MAXIMUM SETBACKS FROM PROPERTY LINE ADJACENT TO HWY. 42 AND SOUTH BOULDER ROAD:	NA
MINIMUM MAXIMUM SETBACKS FROM ALL OTHER STREET-FACING PROPERTY LINES:	MIN: 0
MINIMUM SIDE-YARD SETBACK	MAX: 10'-0"
MINIMUM REAR-YARD SETBACK	0
MAXIMUM BUILDING HEIGHT (PRINCIPAL BUILDINGS)	2-STORIES: 20'-0"
	3-STORIES: 35'-0"
MAXIMUM GROUND FLOOR BUILDING FOOTPRINT	(1)
MAXIMUM BUILDING LENGTH ALONG STREET FRONTAGE	FRONTING HWY. 42: NA
	ALL OTHER BUILDINGS: 200'-0"
MINIMUM % OF STREET-FACING PROPERTY LINES THAT MUST FRONT A BUILDING OR BUILDING WALL	70%

(1) 10,000 SQ. FT. OPTION: SPECIAL REVIEW REQUIRED FOR BUILDINGS > 10,000 SQ. FT.

* AREA OF DENSITY CALCULATION INCLUDES PLATTED ACREAGE AND ½ THE AREA OF ANY ADJACENT STREET PER SECTION 17, 14.060, C.1.A.

** WAIVER REQUEST INCLUDED WITH THIS APPLICATION.
*** 31% (OR 3.53 ACRES) OF THE SITE IS DEDICATED TO LANDSCAPE AREA (1.87 ACRES ARE DEDICATED TO LANDSCAPED PLANT MATERIAL AND 1.66 ACRES ARE HARDSCAPED). IT IS THE APPLICANT'S UNDERSTANDING THAT THE SITE IS COMPLIANT WITH MUODSG SEC. 7.4 & 1.8 AS HARDSCAPE ELEMENTS MAKE UP LESS THAN ½ OF THE LANDSCAPE AREA REQUIREMENT.

WAIVERS*		
CODE SECTION	REQUIREMENT	PROPOSED
1	MUODSG 1.3 A.1 MUODSG 1.3 B.1	EAST/ WEST BLOCK WIDTH + 270 - 320' NORTH/ SOUTH BLOCK WIDTH + 300 - 400' ALL PUBLIC SIDEWALKS SHALL BE A MINIMUM OF TEN (10) FEET WIDE INCORPORATING TREE PLANTING INTO THE RIGHT OF WAY (ROW). BLOCK ONE: EAST AND WEST SIDES +146', NORTH AND SOUTH SIDES +321'; BLOCK TWO: EAST AND WEST SIDES +291', NORTH AND SOUTH SIDES +333'; BLOCK THREE: EAST AND WEST SIDES +443', NORTH AND SOUTH SIDES +150'; BLOCK FOUR: EAST AND WEST SIDES +221', NORTH AND SOUTH SIDES +205'; BLOCK FIVE: EAST AND WEST SIDES + 332', NORTH AND SOUTH SIDES + 246'
2	MUODSG 5.4 B	ALONG FRONT STREET AND CANNON CIRCLE: 5' WIDE DETACHED SIDEWALK AND AN 8' TREE LAWN.
3	MUNICIPAL CODE 17.14.060 - TABLE 3: DIMENSIONAL AND BULK STANDARDS	MINIMUM LOT WIDTH + 40 FEET TOWNHOME LOTS VARY FROM 24'-6" TO 32 FEET WIDE.
4	MUNICIPAL CODE 17.14.060 - TABLE 3: DIMENSIONAL AND BULK STANDARDS	MINIMUM BUILDING COVERAGE (SF) = 40% BUILDING COVERAGE PROVIDED = 21.2%
5	MUNICIPAL CODE 17.14.060 - TABLE 3: DIMENSIONAL AND BULK STANDARDS	20-FOOT MINIMUM SETBACK FROM REAR PROPERTY LINE. TOWNHOME REAR YARD SETBACK RANGES FROM 6-20 FEET.
6	MUNICIPAL CODE 17.14.060 - TABLE 3: DIMENSIONAL AND BULK STANDARDS	MINIMUM 70% OF STREET FACING PROPERTY LINES MUST CONTAIN A BUILDING OR BUILDING WALL. 58.6% OF STREET FACING PROPERTY LINES CONTAIN A BUILDING OR BUILDING WALL.

* PLEASE REFER TO WAIVER REFERENCE DIAGRAMS INCLUDED WITH SUBMITTAL PACKAGE AND DESCRIPTIONS IN WAIVER REQUEST DOCUMENT FOR MORE INFORMATION.

SITE PLAN NOTES

- REFER TO UTILITY PLANS FOR LOCATIONS OF STORM DRAINAGE STRUCTURES, UTILITY MARKS AND SERVICES.
- REFER TO THE CIVIL ENGINEERING PLANS FOR DETAILED INFORMATION OF PROPOSED TOPOGRAPHY, UTILITY, AND STREET IMPROVEMENTS.
- REFER TO THE PLAT FOR LOT AREAS, TRACT SIZES, EASEMENTS, LOT DIMENSIONS, UTILITY EASEMENTS, OTHER EASEMENTS, AND OTHER SURVEY INFORMATION.
- ALL SIDEWALKS AND RAMPS WILL CONFORM TO CITY STANDARDS. ALL HANDICAP PARKING SPACES AND RAMPS ARE TO BE VERIFIED WITH CIVIL ENGINEER FOR GRADING, DRAINAGE, AND ACCESSIBLE ROUTE CONSIDERATIONS. HANDICAP PARKING SPACES SHOULD SLOPE NO MORE THAN 1:48 IN ANY DIRECTION. ALL ACCESSIBLE ROUTES SHOULD SLOPE NO MORE THAN 1:50 IN DIRECTION OF TRAVEL, AND NO MORE THAN 1:48 IN CROSS SLOPE.
- ACCESSIBLE RAMPS TO BE PROVIDED AT ALL STREET AND DRIVE INTERSECTIONS AND AT ALL DESIGNATED ACCESSIBLE PARKING SPACES.
- PLACEMENT OF ALL LANDSCAPING SHALL BE IN ACCORDANCE WITH THE SIGHT DISTANCE CRITERIA AS SPECIFIED BY THE CITY OF LOUISVILLE. NO STRUCTURES OR LANDSCAPE ELEMENTS GREATER THAN 24" SHALL BE ALLOWED WITHIN THE SIGHT DISTANCE TRIANGLE OF EASEMENT WITH THE EXCEPTION OF DECIDUOUS TREES PROVIDING THE LOWEST BRANCH IS AT LEAST 6' FROM GRADE. ANY FENCES WITHIN THE SIGHT DISTANCE TRIANGLE OR EASEMENT SHALL BE NO MORE THAN 42" IN HEIGHT AND AT LEAST 80% OPEN.
- MARKED CROSSWALK PAVEMENT MARKING AND SIGNAGE SHOWN ON PRIVATE DRIVES SHALL BE MAINTAINED BY HOA, UNLESS OTHERWISE NOTED.
- PRIVATE ALLEYS/DRIVES/ CONCRETE APRONS SHALL BE MAINTAINED BY HOA AS SHOWN. THIS INFORMATION SHALL BE SHOWN ON THE PUD.
- HOA CAP RAMPS THAT CROSS PRIVATE DRIVES SHALL BE MAINTAINED BY THE HOA.
- DRAINAGE FACILITIES WITHIN PRIVATE PROPERTY SHALL BE MAINTAINED BY THE HOA. CITY WILL MAINTAIN DRAINAGE FACILITIES THAT ARE ACCESSIBLE VIA PUBLIC DRAINAGE FACILITY IN THE RIGHT OF WAY.
- HOA SHALL PROVIDE SNOW REMOVAL FROM PUBLIC WALKS WITHIN RIGHT OF WAY. SNOW REMOVAL FROM PRIVATE DRIVES AND STOCKPILE ON PRIVATE PROPERTY SHALL BE PROVIDED BY HOA. SNOW REMOVAL FROM PRIVATE DRIVES SHALL NOT BE DEPOSITED WITHIN THE PUBLIC RIGHT OF WAY. SNOW STOCKPILES ON CITY STREETS BY THE HOA SHALL BE PROMPTLY REMOVED. CITY MAY REMOVE SNOW STOCKPILES ON PUBLIC STREETS AT HOA EXPENSE.
- HOA RESPONSIBLE FOR SURFACE MAINTENANCE WITHIN EUE DAMAGED/ DISTURBED DURING CITY MAINTENANCE OF PUBLIC UTILITY LINES.
- FUTURE INTERSECTION MOVEMENTS AT SH-42 AND SOUTH BOULDER ROAD MAY BE RESTRICTED AT THE DISCRETION OF THE CITY.

COAL CREEK VILLAGE

PRELIMINARY PUD AND SRU

LOUISVILLE, COLORADO

PREPARED BY:



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ORIGINAL SIZE 24X36

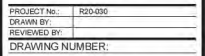
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2	PRELIMINARY PUD RD 2	06/01/2021
3	PRELIMINARY PUD RD 3	06/07/2022
4	PRELIMINARY PUD RD 4	10/23/2022
5	PRELIMINARY PUD RD 5	08/04/2023
6	PRELIMINARY PUD RD 6	09/14/2024
REVISIONS		
No.	DESCRIPTION	DATE

SITE PLAN DATA AND NOTES

SEAL:



PROJECT No.: R20-039
DRAWN BY:
REVIEWED BY:
DRAWING NUMBER:



5 OF 32

LOUISVILLE, COLORADO
PREPARED BY:



PLANNER / LANDSCAPE ARCHITECT

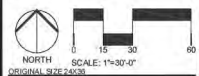
RIPLEY DESIGN INC.
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[illegible]

SITE PLAN
ENLARGEMENT

SEAL:



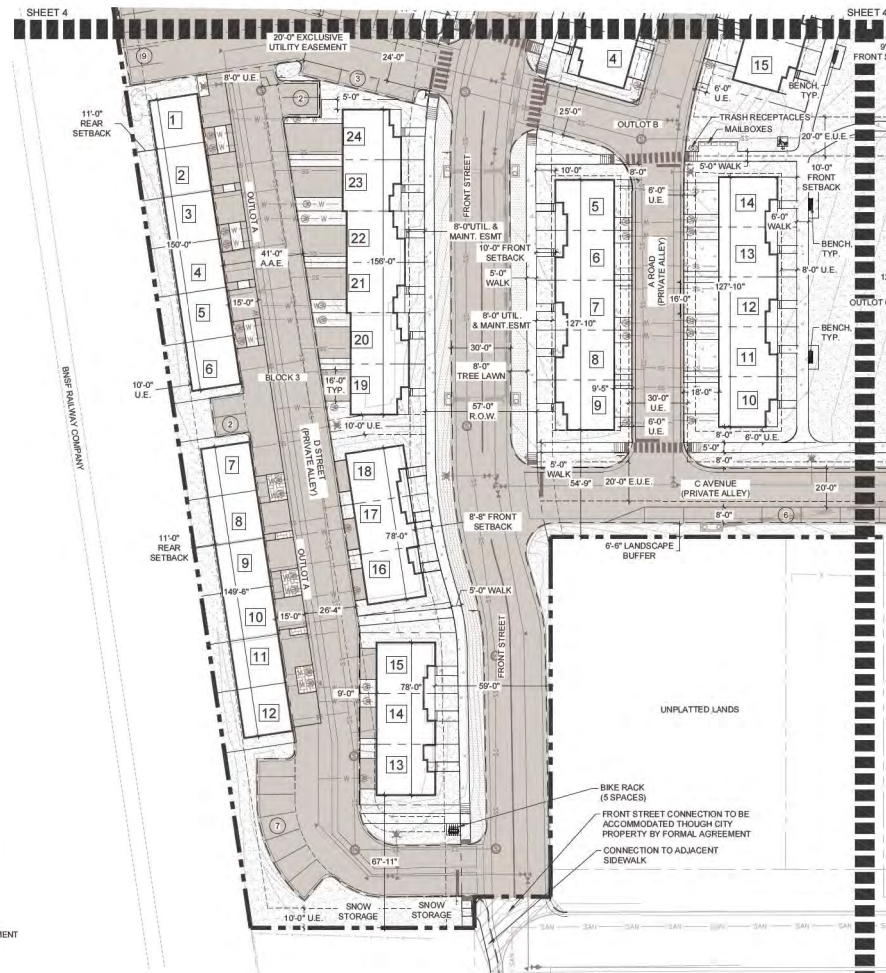
PROJECT No.:	R20-030
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DRAWN BY:	
REVIEWED BY:	

DRAWING NUMBER:

DRAWING NUMBER:

6 OF 32



LEGEND

SYMBOL	DESCRIPTION		PROPERTY BOUNDARY
	DRIVES AND PARKING		FIBER OPTIC UTILITY
	OPEN SPACE & LANDSCAPE AREA - HOA		GAS UTILITY
	LANDSCAPE AREA - R.O.W.		STORM DRAIN UTILITY
	WALK AREA, DRIVEWAYS & PORCHES		SANITARY SEWER UTILITY
	TRASH & RECYCLE ENCLOSURE		TELEPHONE UTILITY
	BIKE RACK (5 SPACES)		UNDERGROUND ELECTRIC UTILITY
	DOG WASTE STATION		WATER LINE UTILITY
	TREE		EASEMENT
	PROPOSED SIGN		PROPOSED FENCING OR HANDRAIL, REFER TO FENCING PLAN
	INLET GRATE		PROPOSED RETAINING WALL
	WATER METER		ALLEY LOAD TOWNHOME LOT NUMBER
	FIRE HYDRANT		MICRO TOWNHOME BUILDING NUMBER
	STREET LIGHT		U.E. UTILITY EASEMENT
	TRANSFORMER		D.E. DRAINAGE EASEMENT
			E.A.E. EMERGENCY ACCESS EASEMENT
			U.S.M.E. UTILITY, SIDEWALK, & MAINTENANCE EASEMENT
			E.U.E. EXCLUSIVE UTILITY EASEMENT

NOTE:
+ CONCEPTUAL IMPROVEMENTS FOR HIGHWAY 42 SHOWN. DESIGN OF HIGHWAY 42 IMPROVEMENTS BY OTHERS.

PRELIMINARY PUD
AND SRU

LOUISVILLE, COLORADO
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ORIGINAL: 5/26/2024

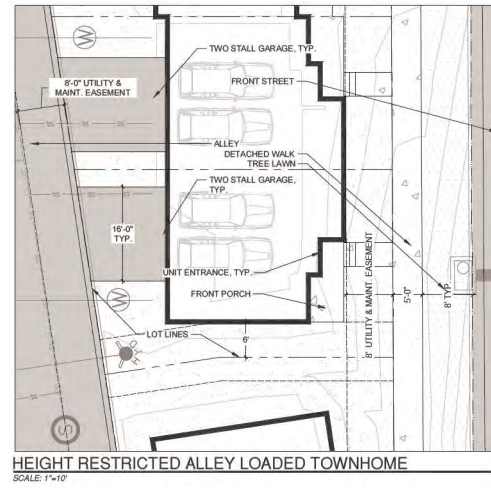
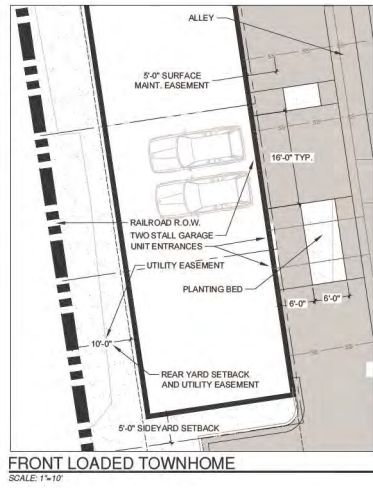
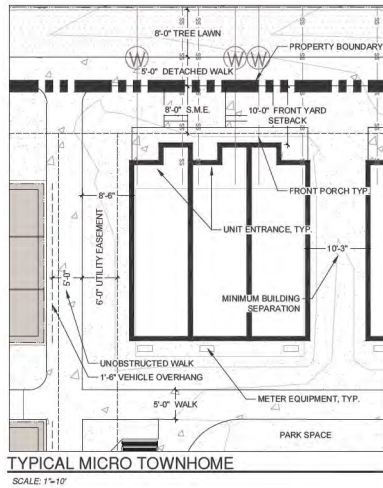
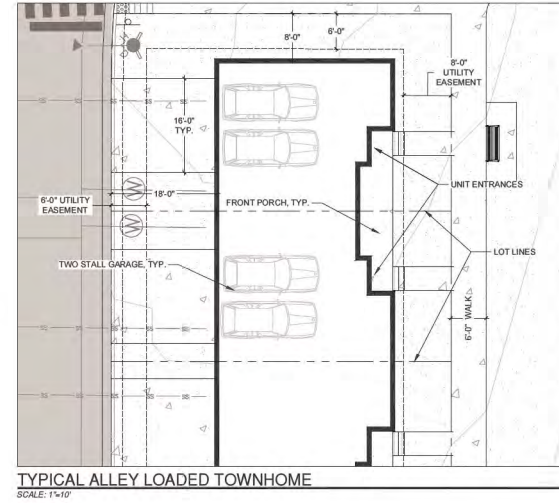
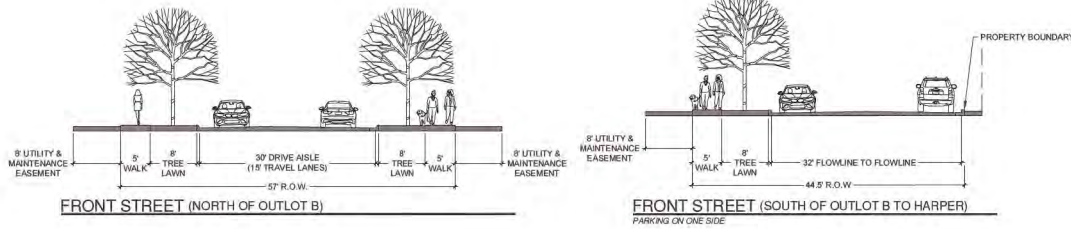
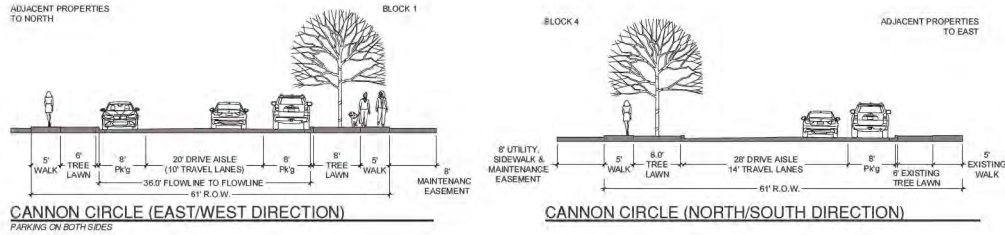
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2. PRELIMINARY PUD RD 2	06/21/2021
3. PRELIMINARY PUD RD 3	09/17/2022
4. PRELIMINARY PUD RD 4	12/23/2022
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6. PRELIMINARY PUD RD 6	09/14/2024
REVISIONS	DATE
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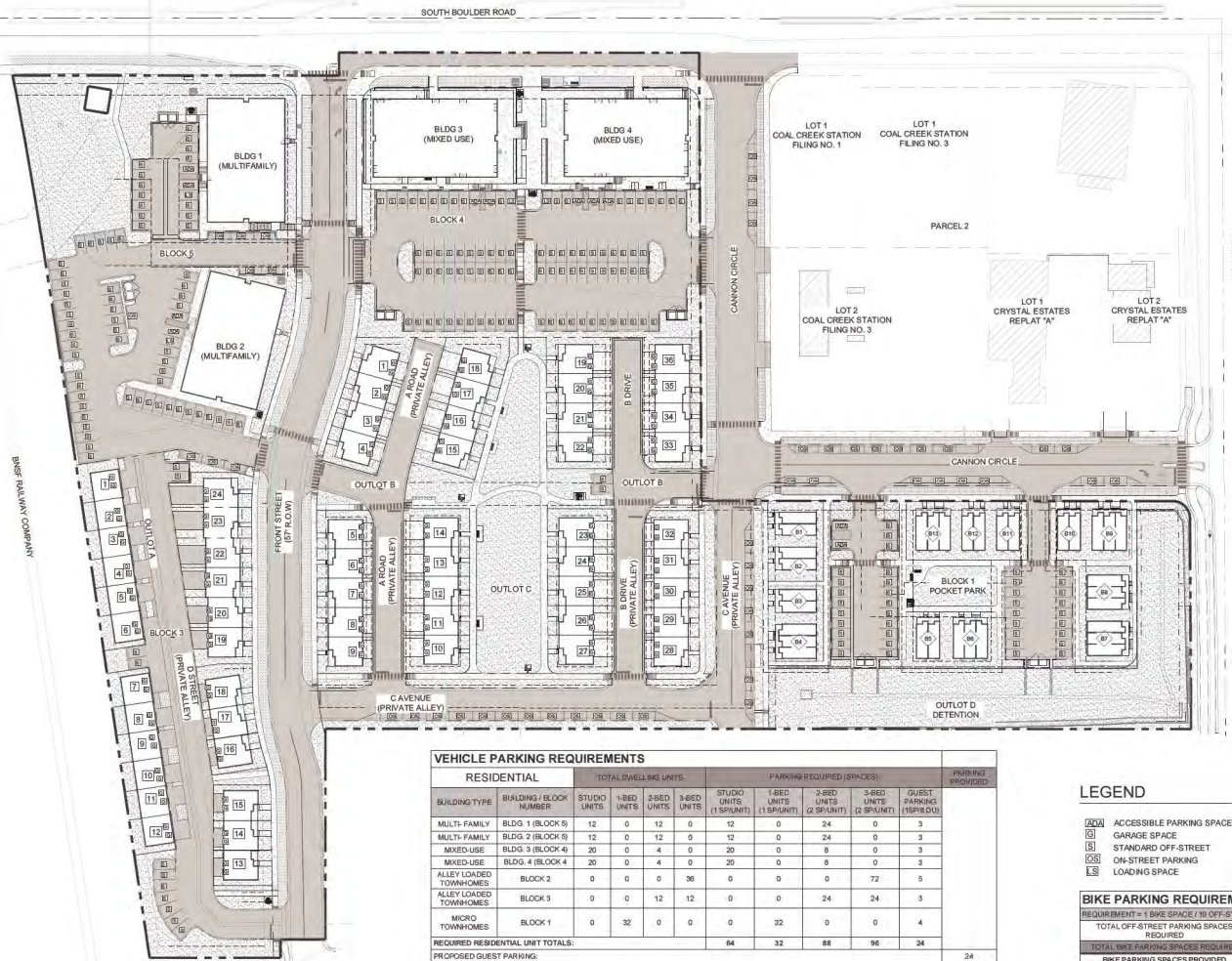
PLANNING STREET
SECTIONS AND
TYPICALS

SEAL:



PROJECT NO: R20-030
DRAWN BY:
REVIEWED BY:
DRAWING NUMBER:





VEHICLE PARKING REQUIREMENTS											PARKING PROVIDED
RESIDENTIAL		TOTAL DWELLING UNITS				PARKING REQUIRED (SPACES)					
BUILDING TYPE	BUILDING / BLOCK NUMBER	STUDIO UNITS	1-BED UNITS	2-BED UNITS	3-BED UNITS	STUDIO UNITS (1 SLP/UNIT)	1-BED UNITS (1 SLP/UNIT)	2-BED UNITS (2 SLP/UNIT)	3-BED UNITS (3 SLP/UNIT)	GUEST PARKING (1 SLP/2 UNITS)	
MULTI-FAMILY	BLDG 1 (BLOCK 5)	12	0	12	0	12	0	24	0	3	
MULTI-FAMILY	BLDG 2 (BLOCK 5)	12	0	12	0	12	0	24	0	3	
MIXED-USE	BLDG 3 (BLOCK 4)	20	0	4	0	20	0	8	0	3	
MIXED-USE	BLDG 4 (BLOCK 4)	20	0	4	0	20	0	8	0	3	
ALLEY LOADED TOWNHOMES	BLOCK 2	0	0	0	36	0	0	0	72	5	
ALLEY LOADED TOWNHOMES	BLOCK 3	0	0	12	12	0	0	24	24	3	
MICRO TOWNHOMES	BLOCK 1	0	32	0	0	0	32	0	0	4	
REQUIRED RESIDENTIAL UNIT TOTALS:						64	32	88	96	24	
PROPOSED GUEST PARKING:										24	
PROPOSED GARAGE PARKING:										120	
PROPOSED OFF-STREET PARKING:										172	
TOTAL PARKING REQUIRED FOR RESIDENTIAL								304		318	

VEHICLE PARKING REQUIREMENTS				
COMMERCIAL				
BUILDING TYPE	BUILDING / BLOCK NUMBER	TOTAL COMMERCIAL AREA (S.F.)	PARKING REQUIRED (1 SPACE/ 300 S.F.)	PARKING PROVIDED
MIXED-USE	BLDG. 3 (BLOCK 4)	6767	22	
MIXED-USE	BLDG. 4 (BLOCK 4)	6767	22	
	EXISTING BUILDING LOT 2	428	2	
TOTAL PARKING REQUIRED FOR COMMERCIAL			46	

VEHICLE PARKING TOTALS	
TOTAL PARKING REQUIRED FOR RESIDENTIAL	316
TOTAL PARKING REQUIRED FOR COMMERCIAL	46
TOTAL PROJECT PARKING REQUIRED	362
TOTAL PROJECT PARKING PROVIDED	384*

*TOTAL INCLUDES 21 SPACES PROVIDED ON PUBLIC STREETS

OFF STREET LOADING SPACES	
OFF-STREET LOADING SPACES PROVIDED	4

*A minimum of one (1) dedicated, off-street loading space is required for nonresidential uses greater than 50,000 square feet in gross leasable area and for multi-family residential uses containing more than fifteen (15) units, per MUDDSG Sec. 4.3

LEGEND

- ACCESSIBLE PARKING SPACE
- GARAGE SPACE
- STANDARD OFF-STREET
- ON-STREET PARKING
- LOADING SPACE

BIKE PARKING REQUIREMENTS	
REQUIREMENT = 1 BIKE SPACE / 10 OFF-STREET PARKING SPACES REQUIRED	
TOTAL OFF-STREET PARKING SPACES REQUIRED	351
TOTAL BIKE PARKING SPACES REQUIRED	20
BIKE PARKING SPACES PROVIDED	35

*MUDDSG 5.5 A. 1: "Provide one (1) bicycle parking space for every ten (10) required off-street automobile parking spaces up to a total of twenty (20) bicycle parking spaces. (57)

COAL CREEK VILLAGE

PRELIMINARY PUD AND SRU

LOUISVILLE, COLORADO

PREPARED BY:



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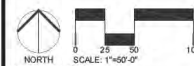
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ORIGINAL SIZE 24x36

ISSUED	
No.	DESCRIPTION
1	PRELIMINARY PUD
2	PRELIMINARY PUD RD 2
3	PRELIMINARY PUD RD 3
4	PRELIMINARY PUD RD 4
5	PRELIMINARY PUD RD 5
6	PRELIMINARY PUD RD 6
REVISIONS	
No.	DESCRIPTION
1	
2	
3	
4	
5	
6	

PARKING PLAN

SEAL:



PROJECT No. R20-030

DRAWN BY: J. Wehner

REVIEWED BY: M. Marks

DRAWING NUMBER:

Plotted By: Megan McCreary Layout: SS MICRO COTTAGE CONDO ELEVATIONS Printed On: 3/26/2024 10:29 AM File Name: ELEVATIONS_MICRO-HOMES.rvt



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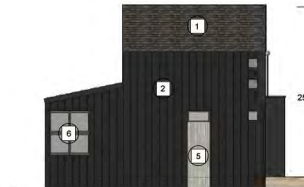


MODEL B

FRONT ELEVATIONS



MODEL A



MODEL B

LEFT ELEVATIONS



MODEL A

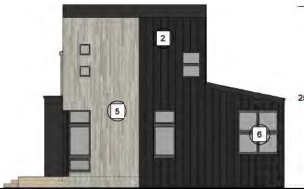


MODEL B

REAR ELEVATIONS



MODEL A

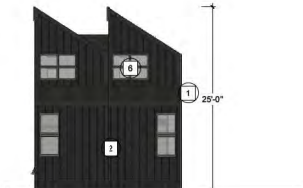


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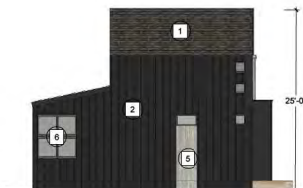
RIGHT ELEVATIONS



FRONT ELEVATION



REAR ELEVATION



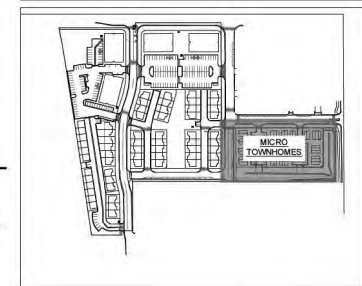
LEFT ELEVATION



RIGHT ELEVATION

MICRO TOWNHOME UNITS, DUPLEX

KEY MAP



MATERIAL LEGEND

KEY - ITEM	MATERIAL - ITEM
1	ASPHALT SHINGLES
2	BOARD & BATTEN SIDING
3	LAP SIDING
4	PANEL OR STUCCO
5	SYNTHETIC MASONRY VENEER
6	VINYL WINDOWS

COAL CREEK VILLAGE

PRELIMINARY PUD
AND SRU

LOUISVILLE, COLORADO
PREPARED BY:



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ORIGINAL SIZE 24X36

ISSUED	No.	DESCRIPTION	DATE
1	PRELIMINARY PUD	01/22/2021	
2	PRELIMINARY PUD SD 2	06/21/2021	
3	PRELIMINARY PUD SD 3	06/21/2022	
4	PRELIMINARY PUD SD 4	12/23/2022	
5	PRELIMINARY PUD SD 5	08/04/2023	
6	PRELIMINARY PUD SD 6	05/14/2024	
REVISIONS	No.	DESCRIPTION	DATE

MICRO TOWNHOME
ELEVATIONS

SEAL:



PROJECT No.: R20-030
DRAWN BY:
REVIEWED BY:
DRAWING NUMBER:

Printed By: Megan McCreary Layout: 58 TOWN HOME ELEVATIONS Printed On: 3/25/2024 10:31 AM File Name: ELEVATIONS_TOWNHOMES.dwg



MODEL A



MODEL B

FRONT ELEVATIONS

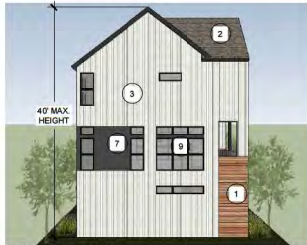


MODEL A



MODEL B

REAR ELEVATIONS



LEFT ELEVATION

MODEL A



RIGHT ELEVATION

MODEL A



LEFT ELEVATION

MODEL B



RIGHT ELEVATION

MODEL B

END ELEVATIONS

ALLEY LOADED TOWNHOME (4-PLEX)



LEFT ELEVATION

FRONT ELEVATION

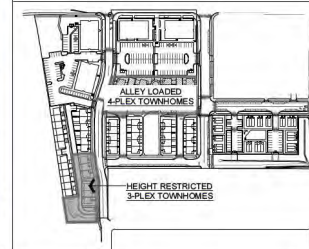


RIGHT ELEVATION

REAR ELEVATION

HEIGHT RESTRICTED, ALLEY LOADED TOWNHOME (3-PLEX)

KEY MAP



MATERIAL LEGEND

KEY - ITEM	MATERIAL - ITEM
1	ARCHITECTURAL PANEL & LAP SIDING/STUCCO
2	ASPHALT SHINGLES
3	BOARD & BATTEN SIDING
4	EPDM ROOF
5	GARAGE DOORS WITH WINDOWS
6	LAP SIDING
7	PANEL OR STUCCO
8	SYNTHETIC MASONRY VENEER
9	VINYL WINDOWS

COAL CREEK VILLAGE

PRELIMINARY PUD AND SRU

LOUISVILLE, COLORADO

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ORIGINAL SIZE 24X36

ISSUED	No.	DESCRIPTION	DATE
1	PRELIMINARY PUD	01/22/2021	
2	PRELIMINARY PUD TO 2	06/21/2021	
3	PRELIMINARY PUD TO 3	09/17/2021	
4	PRELIMINARY PUD TO 4	12/23/2022	
5	PRELIMINARY PUD TO 5	08/04/2023	
6	PRELIMINARY PUD TO 6	05/14/2024	

ALLEY LOADED TOWNHOME ELEVATIONS

SEAL:



PROJECT No.: R20-030

DRAWN BY:

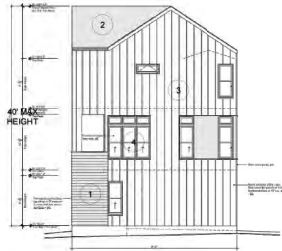
REVIEWED BY:

DRAWING NUMBER:

Plotted By: Megan McCreight Layout: S10 ALLEY LOADED TOWN HOME ELEVATIONS Printed On: 3/26/2024 2:33 PM File Name: ELEVATIONS - TOWNHOMES.dwg



LEFT ELEVATION



RIGHT ELEVATION



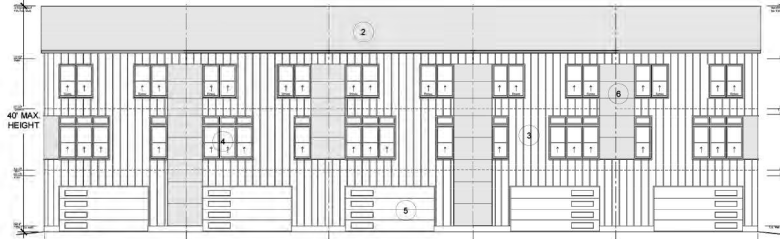
FRONT ELEVATION

ALLEY LOADED TOWNHOME (5-PLEX) - FARMHOUSE

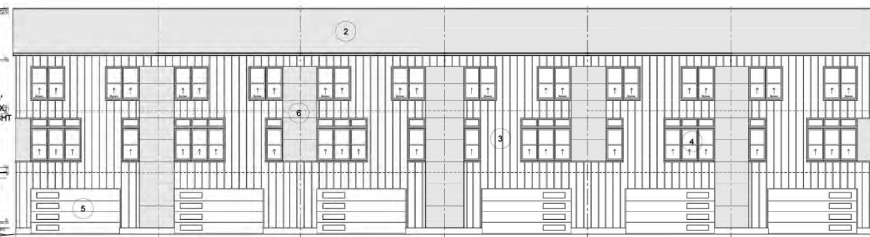


FRONT ELEVATION

ALLEY LOADED TOWNHOME (6-PLEX) - FARMHOUSE

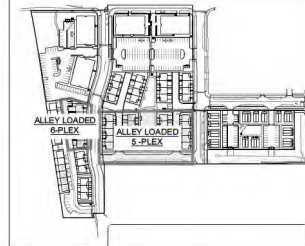


REAR ELEVATION



REAR ELEVATION

KEY MAP



MATERIAL LEGEND	
KEY - ITEM	MATERIAL - ITEM
1	ARCHITECTURAL PANEL & LAP SIDING/STUCCO
2	ASPHALT SHINGLES
3	BOARD & BATTEN SIDING
4	VINYL WINDOWS
5	GARAGE DOORS WITH WINDOWS
6	PANEL OR STUCCO

COAL CREEK VILLAGE

PRELIMINARY PUD
AND SRU

LOUISVILLE, COLORADO
PREPARED BY:



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ORIGINAL SIZE 24X36

ISSUED		DATE
No.	DESCRIPTION	
1	PRELIMINARY PUD	01/22/2021
2	PRELIMINARY PUORD 2	06/12/2021
3	PRELIMINARY PUORD 3	09/17/2022
4	PRELIMINARY PUORD 4	12/30/2022
5	PRELIMINARY PUORD 5	08/04/2023
6	PRELIMINARY PUORD 6	05/14/2024
REVISIONS		DATE
No.	DESCRIPTION	

ALLEY LOADED
TOWNHOME
ELEVATIONS

SEAL:



PROJECT No.: R20-030
DRAWN BY:
REVIEWED BY:
DRAWING NUMBER:

Plotted By: Megan McGregor Layout: S11 ALLEY LOADED TOWN HOME ELEVATIONS Printed On: 3/26/2024 2:38 PM File Name: ELEVATIONS_TOWNHOMES.dwg



LEFT ELEVATION



RIGHT ELEVATION



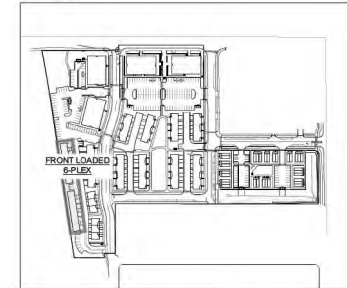
FRONT ELEVATIONS



REAR ELEVATIONS

FRONT LOADED TOWNHOME (6-PLEX) - MODERN

KEY MAP



MATERIAL LEGEND	
KEY - ITEM	MATERIAL - ITEM
1	BRICK OR TILE VENEER
2	PANELOR STUCCO
3	EPDM ROOF
4	GARAGE DOCKS WITH WINDOWS
5	LAP SIDING
6	VINYL WINDOWS

COAL CREEK VILLAGE

PRELIMINARY PUD AND SRU

LOUISVILLE, COLORADO

PREPARED BY:



APPLICANT:

RIPLY DESIGN INC.
Joel Wehler
410 Canyon Ave. Suite 200
Fort Collins, CO 80521
p. 970.224.5628

OWNER:

COAL CREEK VILLAGE LLC
Michael Morley
6723 ARAPAHO AVE
BOULDER, COLORADO 80503
P. 303.775.5558

ENGINEER:

ROCKY RIDGE CIVIL ENGINEERING
Joel Swanson
420 21ST AVENUE, SUITE 01
LONGMONT, COLORADO 80501
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ORIGINAL SIZE 24X36

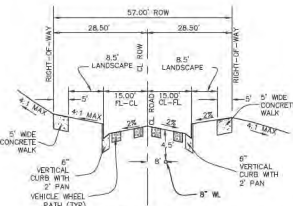
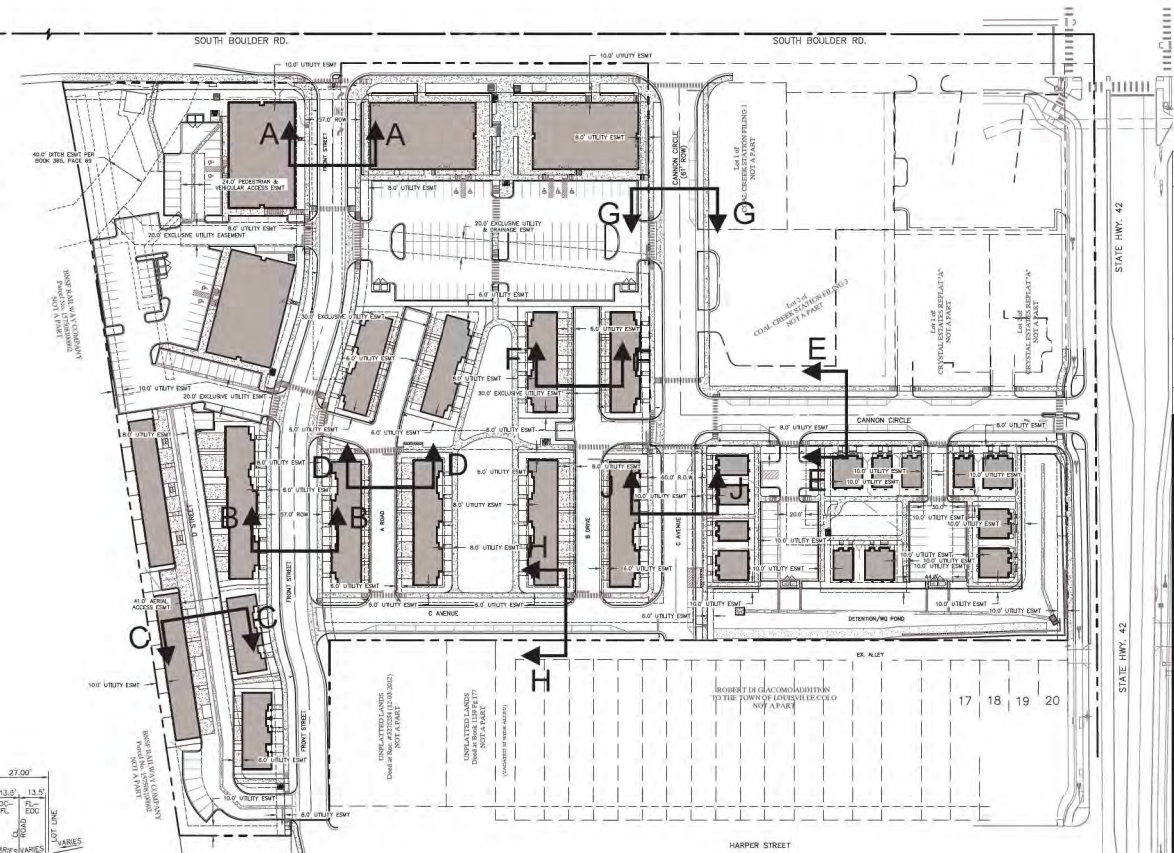
ISSUED		
No.	DESCRIPTION	DATE
1	PRELIMINARY PUD	01/22/2021
2	PRELIMINARY PUDRD 2	06/21/2021
3	PRELIMINARY PUDRD 3	09/17/2022
4	PRELIMINARY PUDRD 4	12/23/2022
5	PRELIMINARY PUDRD 5	08/04/2023
6	PRELIMINARY PUDRD 6	05/14/2024
REVISIONS		
No.	DESCRIPTION	DATE

FRONT LOADED TOWNHOME ELEVATIONS

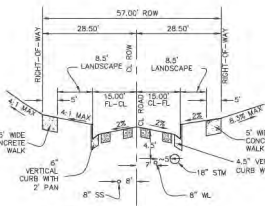
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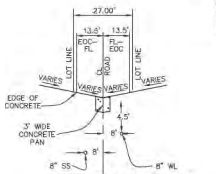
PROJECT No.: R20-030
DRAWN BY:
REVIEWED BY:
DRAWING NUMBER:



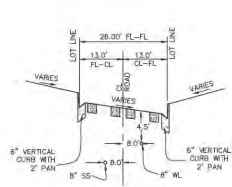
SECTION A-A
FRONT STREET



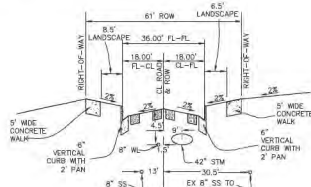
SECTION B-B
FRONT STREET



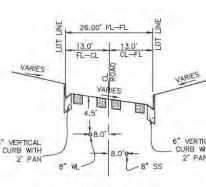
SECTION C-C
PRIVATE DRIVE D



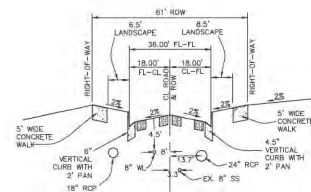
SECTION D-D
PRIVATE DRIVE A



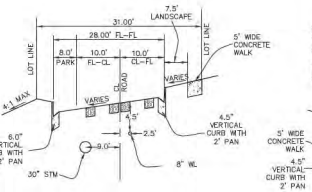
SECTION E-E
CANNON CIRCLE



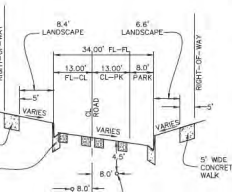
SECTION F-F
PRIVATE DRIVE B



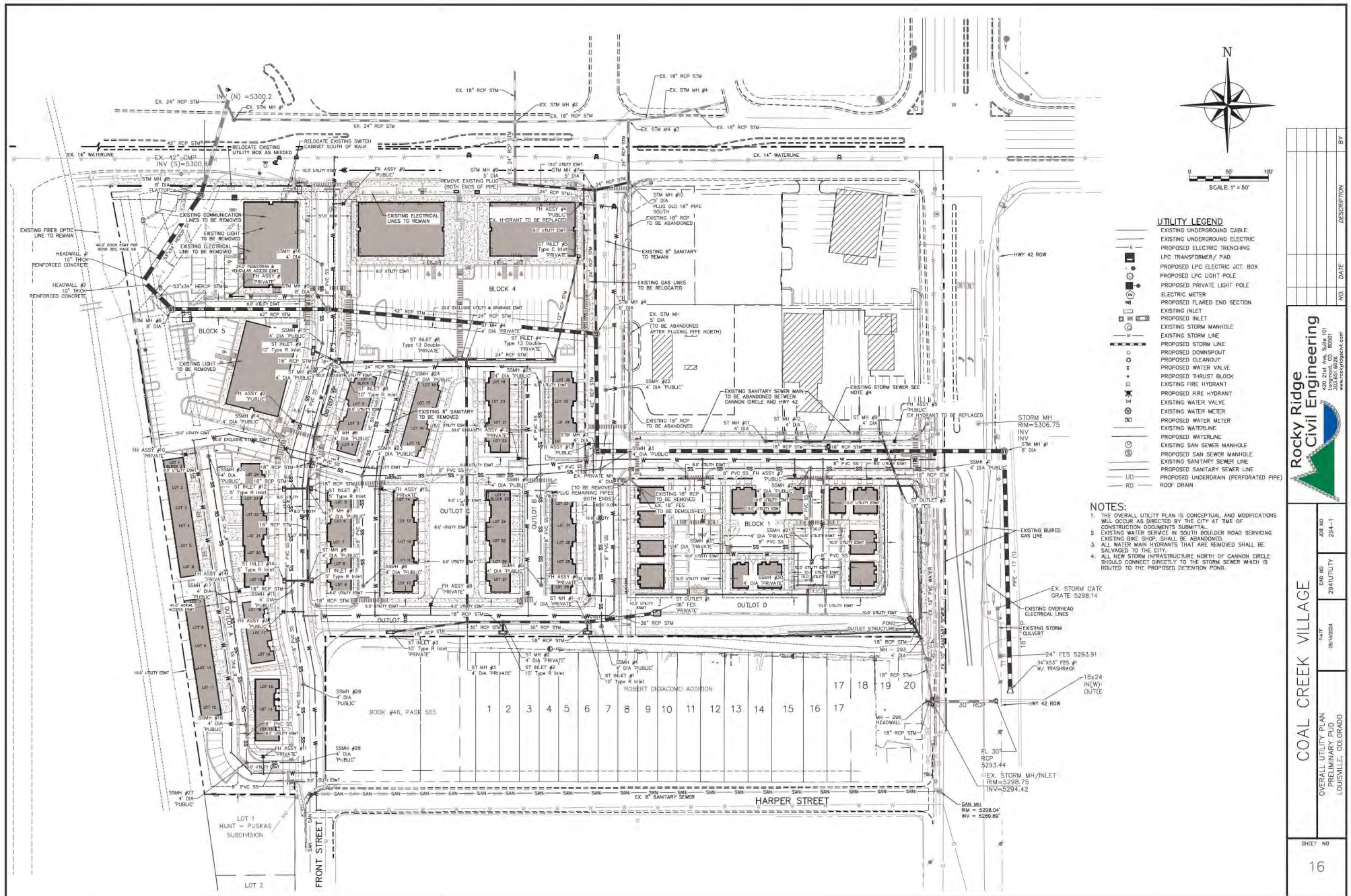
SECTION G-G
CANNON CIRCLE



SECTION H-H
PRIVATE DRIVE C



SECTION J-J
PRIVATE DRIVE C



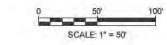
- UTILITY LEGEND**
- EXISTING UNDERGROUND CABLE
 - EXISTING UNDERGROUND ELECTRIC
 - PROPOSED ELECTRIC TRENCHING
 - LPC TRANSFORMER / PAD
 - PROPOSED LPT ELECTRIC ACT. BOX
 - PROPOSED LPT ELECTRIC POLE
 - PROPOSED PRIVATE LIGHT POLE
 - ELECTRIC METER
 - PROPOSED FLARED END SECTION
 - EXISTING INLET
 - EXISTING STORM MANHOLE
 - EXISTING STORM LINE
 - PROPOSED STORM LINE
 - PROPOSED DOWNPOUT
 - PROPOSED CLEANOUT
 - PROPOSED WATER VALVE
 - PROPOSED THRUST BLOCK
 - EXISTING FIRE HYDRANT
 - PROPOSED FIRE HYDRANT
 - EXISTING WATER VALVE
 - EXISTING WATER METER
 - PROPOSED WATER METER
 - EXISTING WATERLINE
 - PROPOSED WATERLINE
 - EXISTING SAN SEWER MANHOLE
 - PROPOSED SAN SEWER MANHOLE
 - EXISTING SANITARY SEWER LINE
 - PROPOSED SANITARY SEWER LINE
 - PROPOSED UNDERDRAIN (PERFORATED PIPE)
 - RD - ROOF DRAIN

- NOTES:**
1. THE OVERALL UTILITY PLAN IS CONCEPTUAL AND MODIFICATIONS WILL OCCUR AS DIRECTED BY THE CITY AT TIME OF CONSTRUCTION DOCUMENTS SUBMITAL.
 2. EXISTING WATER SERVICE IN SOUTH BOULDER ROAD SERVING EXISTING BKE SHOP, SHALL BE ABANDONED.
 3. ALL WATER MAIN HYDRANTS THAT ARE REMOVED SHALL BE SALVAGED TO THE CITY.
 4. ALL NEW STORM INFRASTRUCTURE NORTH OF CANNON CIRCLE SHOULD CONNECT DIRECTLY TO THE STORM SEWER WHICH IS ROUTED TO THE PROPOSED DETENTION POND.

Rocky Ridge Civil Engineering 1200 JIM CO. RD. #201 BOULDER, CO 80501 www.rockyridgecivil.com		DATE	08/16/2024
		BY	
SHEET NO		254-1	
OVERALL UTILITY PLAN PRELIMINARY PUD LOUISVILLE, COLORADO		254-1	
SHEET NO		16	

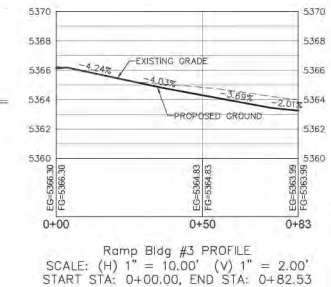
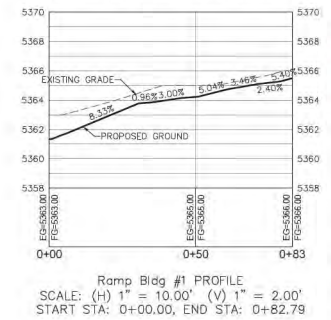
LEGEND

- 5075 --- EXISTING 5' CONTOUR
- 5074 --- EXISTING 1' CONTOUR
- 5075 --- PROPOSED 5' CONTOUR
- 5074 --- PROPOSED 1' CONTOUR



DRAINAGE SUMMARY TABLE

Design Point	Basin	Area	Q (10-yr)	Q (100-yr)
1	P	0.60	1.9	3.6
3	A	0.63	2.0	3.7
4	B	0.37	1.2	2.2
6	C	0.48	1.5	2.8
8	D	0.95	3.0	5.6
7	E	0.63	1.9	3.6
9	F	0.77	2.4	4.6
11	I	1.06	3.3	6.3
12	OS7	0.54	1.8	3.4
13	J	0.30	0.9	1.8
14	K	1.30	4.1	7.7
16	M	0.15	0.5	0.9
17	OS5	0.20	0.1	0.7
18	OS6	0.30	0.2	1.8
19	OS1	0.76	0.6	2.9
20	OS2	1.82	1.2	6.6
21	OS8	0.22	0.8	1.4
22	OS9	0.08	0.3	0.5
23	OS10	0.14	0.5	0.9
24	N3	0.10	0.3	0.6
25	N2	0.27	0.9	1.6
26	N1	0.10	0.3	0.6
28	Q	0.76	2.4	4.5
29	G	1.30	4.1	7.7
30	OS3	0.38	1.3	2.4
31	OS6	0.18	0.1	0.6
35	OS11	0.13	0.3	0.6



DRAINAGE LEGEND

- W BASIN OR SUB-BASIN
- C VALUE 10-YR STORM
- C VALUE 100-YR STORM
- DESIGN POINT
- BASIN LIMIT
- RUNOFF FLOW DIRECTION

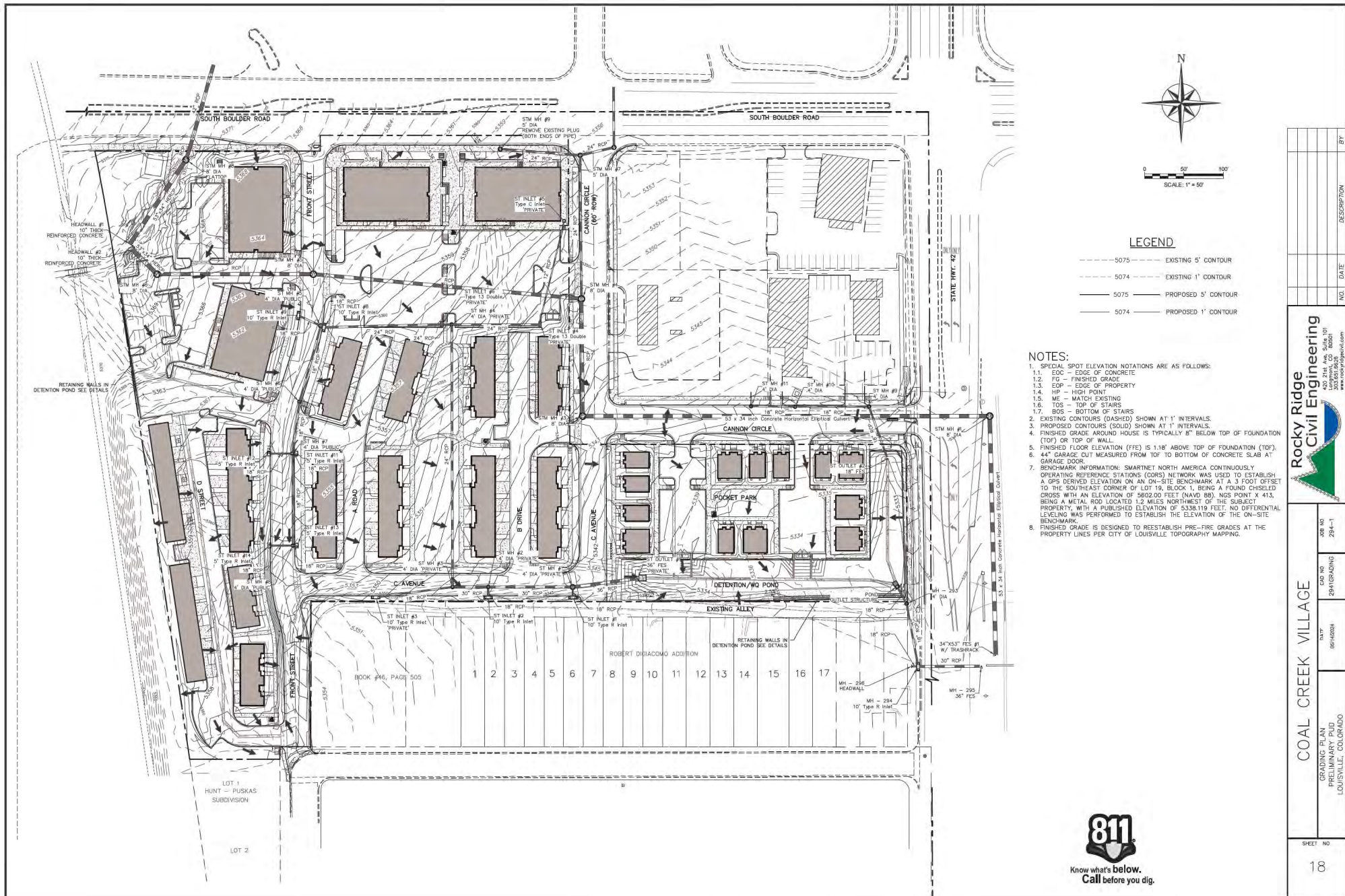
Rocky Ridge Civil Engineering
200 WEST CO. ROAD
LOUISVILLE, CO 80026
www.rockyridgecivil.com

COAL CREEK VILLAGE

DRAINAGE & GRADING PLAN
PRELIMINARY PUD
LOUISVILLE, COLORADO

SHEET NO

17



LEGEND

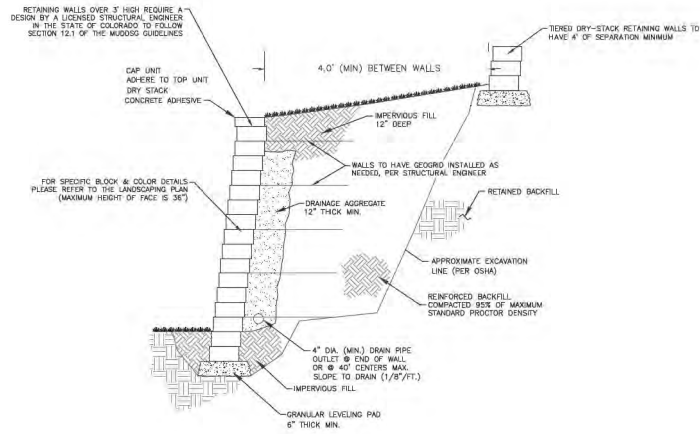
- 5075 --- EXISTING 5' CONTOUR
- 5074 --- EXISTING 1' CONTOUR
- 5075 --- PROPOSED 5' CONTOUR
- 5074 --- PROPOSED 1' CONTOUR

NOTES:

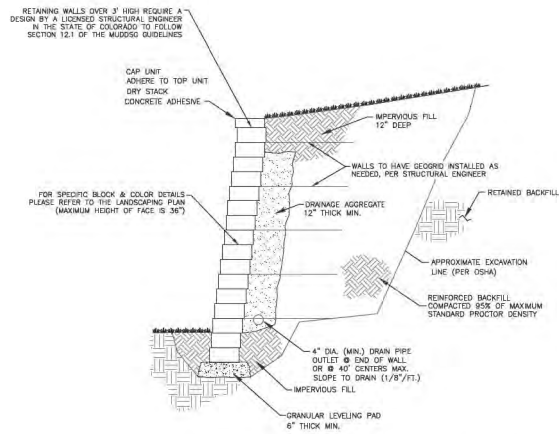
1. SPECIAL SPOT ELEVATION NOTATIONS ARE AS FOLLOWS:
 - 1.1. EOC - EDGE OF CONCRETE
 - 1.2. FG - FINISHED GRADE
 - 1.3. EOP - EDGE OF PROPERTY
 - 1.4. HP - HIGH POINT
 - 1.5. ME - MATCH EXISTING
 - 1.6. TOS - TOP OF STAIRS
 - 1.7. BOS - BOTTOM OF STAIRS
2. EXISTING CONTOURS (DASHED) SHOWN AT 1' INTERVALS.
3. PROPOSED CONTOURS (SOLID) SHOWN AT 1' INTERVALS.
4. FINISHED GRADE AROUND HOUSE IS TYPICALLY 8" BELOW TOP OF FOUNDATION (TOF) OR TOP OF WALL.
5. FINISHED FLOOR ELEVATION (FFE) IS 1.18' ABOVE TOP OF FOUNDATION (TOF).
6. 44' GARAGE OUT MEASURED FROM TOF TO BOTTOM OF CONCRETE SLAB AT GARAGE DOOR.
7. BENCHMARK INFORMATION: SMARTNET NORTH AMERICA CONTINUOUSLY OPERATING REFERENCE STATIONS (CORS) NETWORK WAS USED TO ESTABLISH A GPS DERIVED ELEVATION ON AN ON-SITE BENCHMARK AT A 3 FOOT OFFSET TO THE SOUTHEAST CORNER OF LOT 18, BLOCK 1, BEING A FOUND CHISELED CROSS WITH AN ELEVATION OF 5602.00 FEET (NAVD 83). NOS POINT X 413, BEING A METAL ROD LOCATED 1.2 MILES NORTHWEST OF THE SUBJECT PROPERTY, WITH A PUBLISHED ELEVATION OF 5338.119 FEET. NO DIFFERENTIAL LEVELING WAS PERFORMED TO ESTABLISH THE ELEVATION OF THE ON-SITE BENCHMARK.
8. FINISHED GRADE IS DESIGNED TO REESTABLISH PRE-FIRE GRADES AT THE PROPERTY LINES PER CITY OF LOUISVILLE TOPOGRAPHY MAPPING.

 Rocky Ridge Civil Engineering		DATE 08/14/2024	JOB NO. 20415BRADINS	SHEET NO. 294-1	BY [Signature]
		COAL CREEK VILLAGE			
GRADING PLAN PRELIMINARY PLD LOUISVILLE, COLORADO					
SHEET NO. 18					





TYPICAL SECTION--DRY STACK RETAINING WALL
(LOCATED IN DETENTION POND)
SCALE: NONE



TYPICAL SECTION--DRY STACK RETAINING WALL
(LOCATED ON WEST PROPERTY LINE)
SCALE: NONE

NO.	DATE	DESCRIPTION	BY

Rocky Ridge Civil Engineering
200 West 10th Street, Suite 101
Louisville, CO 80202
www.rockyridgecivil.com

PROJECT NO.	294-1
CAD NO.	29415RADN3
DATE	08/14/2024
RETAINING WALL DETAILS PRELIMINARY PUD LOUISVILLE, COLORADO	



PLANNER / LANDSCAPE ARCHITECT

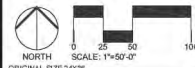
RIPLEY DESIGN INC.
Joel Weikert
419 Canyon Ave. Suite 200
Fort Collins, CO 80521
p. 970.224.5825

OWNER _____

COAL CREEK VILLAGE LLC
Michael Markel
5723 ARAPAHOE AVE.
BOULDER, COLORADO 80303
P.303.775.5524

ENGINEER

ROCKY RIDGE CIVIL ENGINEERING
Joel Seimons
420 21ST AVENUE, SUITE 101
LONGMONT, COLORADO 80501
P. 303.651.6626



ISSUED

No.	DESCRIPTION	DATE
1	PRELIMINARY PUD	01/22/2021
2	PRELIMINARY PUD RD 2	06/21/2021
3	PRELIMINARY PUD RD 3	06/17/2022
4	PRELIMINARY PUD RD 4	12/23/2022
5	PRELIMINARY PUD RD 5	08/04/2023
6	PRELIMINARY PUD RD 6	08/04/2023

6	PRELIMINARY PUD RD B	05/14/2024
REVISIONS		
No.	DESCRIPTION	DATE

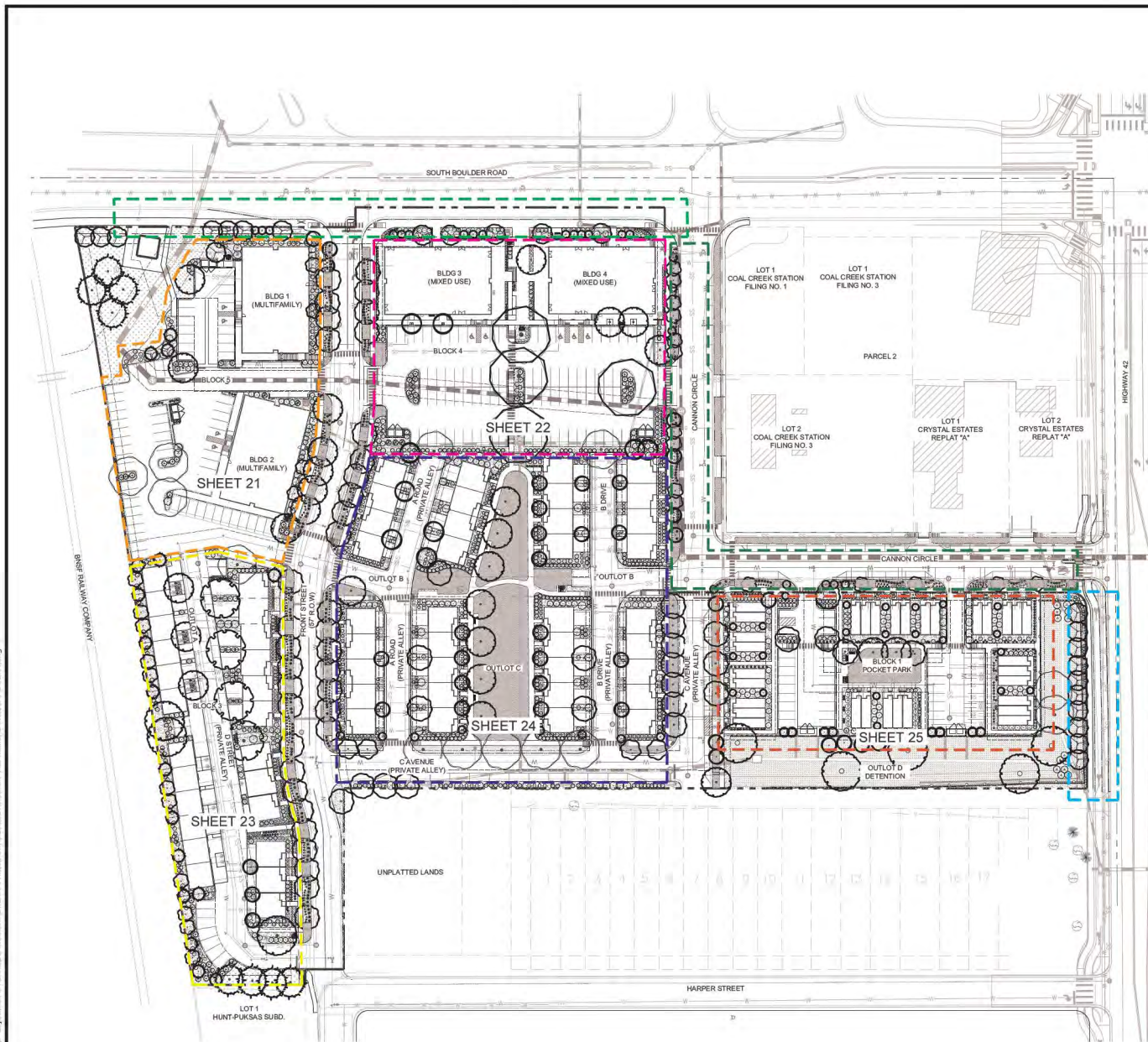
OVERALL LANDSCAPE
PLAN

SEAL:

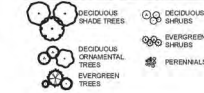


PROJECT No.:	R20-030
DRAWN BY:	RDI
REVIEWED BY:	RDI
DRAWING NUMBER:	

20 OF 32



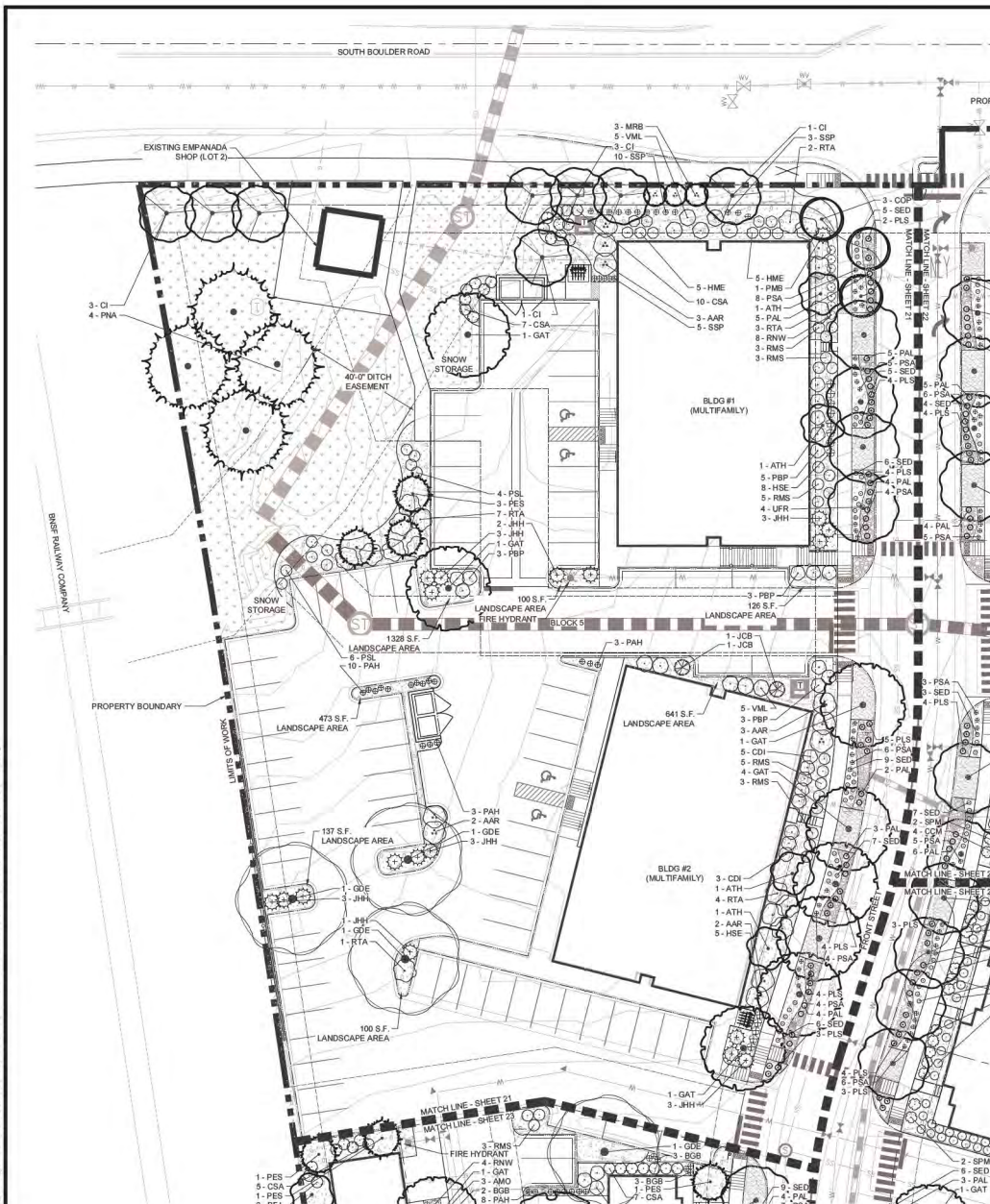
LANDSCAPE LEGEND



LANDSCAPE MATERIAL LEGEND	
SYMBOL	DESCRIPTION
	2-3" RIVER ROCK MULCH
	NATIVE GRASS, UPLAND BLEND
	NATIVE GRASS, WET-MEADOW BLEND
	IRRIGATED TURF
	COBBLE ROCK MULCH

LANDSCAPE REQUIREMENTS

CODE SECTION						
REQUIRED PLANT MATERIAL - SOUTH BOULDER ROAD						
SUB-SECTION	AREA / ITEM	REQUIREMENT	REQUIRED AREA	PROVIDED AREA	DIFFERENCE	NOTES
5.4.B.1	REQ STREET TREES	1 TREE / 25 L.F.	17.00 / 36.05	27 TREES		
REQUIRED PLANT MATERIAL - HIGHWAY 42						
SUB-SECTION	AREA / ITEM	REQUIREMENT	REQUIRED AREA	PROVIDED AREA	DIFFERENCE	NOTES
5.4.B.1	REQ STREET TREES	1 TREE / 25 L.F.	187.7 / 9.58	10 TREES		
REQUIRED PLANT MATERIAL - CANNON CIRCLE						
SUB-SECTION	AREA / ITEM	REQUIREMENT	REQUIRED AREA	PROVIDED AREA	DIFFERENCE	NOTES
5.4.B.1	REQ STREET TREES	1 TREE / 25 L.F.	250.7 / 2.94	10 TREES		
REQUIRED PLANT MATERIAL - BLOCK 4 OVERALL & PARKING						
CODE SECTION	AREA / ITEM	REQUIREMENT	REQUIRED AREA	PROVIDED AREA	DIFFERENCE	NOTES
7.4.B.1	LANDSCAPE AREA	1% OVERALL OF 34.00 AC	4.00 SF	13.00 SF (18%)		
7.4.B.1.1	HARDSCAPED AREA	HARDSCAPED AREA MUST BE LESS THAN 20% OF TOTAL LANDSCAPE AREA	4.2425 SF	3.875 SF		
7.3.B.2.1	PARKING (TOTAL L.S. AREA)	1% BUFFER OF 33.00 SF	1.81 SF	0 SF		
7.3.B.1	PARKING PERMITTER	0 BUFFER / PERMITTER	0 BUFFER	0 BUFFER		
7.4.B.1.2	LANDSCAPE ISLAND	1% BUFFER OF 33.00 SF	0 BUFFER	0 BUFFER		
REQUIRED PLANT MATERIAL - BLOCK 5 OVERALL & PARKING						
CODE SECTION	AREA / ITEM	REQUIREMENT	REQUIRED AREA	PROVIDED AREA	DIFFERENCE	NOTES
7.4.B.1	LANDSCAPE AREA	1% OVERALL OF 32.00 SF	1.00 SF	10.01 SF (20%)		
7.4.B.1.1	HARDSCAPED AREA	HARDSCAPED AREA MUST BE LESS THAN 20% OF TOTAL LANDSCAPE AREA	2.5005 SF	0 SF		
7.3.B.2.1	PARKING (TOTAL L.S. AREA)	1% BUFFER OF 33.00 SF	1.51 SF	0 SF (0%)		
7.3.B.1	PARKING PERMITTER	0 BUFFER / PERMITTER	0 BUFFER	0 BUFFER		
7.3.E	LANDSCAPE ISLAND	1 TREE / 25 L.F. OF 33.00 SF	3.0000 / 11	11		
REQUIRED PLANT MATERIAL - BLOCK 1 OVERALL & PARKING						
CODE SECTION	AREA / ITEM	REQUIREMENT	REQUIRED AREA	PROVIDED AREA	DIFFERENCE	NOTES
7.4.B.1	LANDSCAPE AREA	1% OVERALL OF 32.00 SF	0.75 SF	17.25 SF (21%)		
7.4.B.1.1	HARDSCAPED AREA	HARDSCAPED AREA MUST BE LESS THAN 20% OF TOTAL LANDSCAPE AREA	0.5300 SF	0 SF		
7.3.B.2.1	PARKING (TOTAL L.S. AREA)	1% BUFFER OF 12.00 SF	0.50 SF	1.00 SF (16%)		
7.3.B.1	PARKING PERMITTER	0 BUFFER / PERMITTER	0 BUFFER	0 BUFFER		
7.3.E	LANDSCAPE ISLAND	1 TREE / 25 L.F. OF 33.00 SF	2.2600 / 14	12		
REQUIRED PLANT MATERIAL - BLOCK 3 OVERALL						
CODE SECTION	AREA / ITEM	REQUIREMENT	REQUIRED AREA	PROVIDED AREA	DIFFERENCE	NOTES
7.4.B.1	LANDSCAPE AREA	1% OVERALL OF 17.00 SF	1.1000 SF	34.00 SF (17%)		
7.4.B.1.1	HARDSCAPED AREA	HARDSCAPED AREA MUST BE LESS THAN 20% OF TOTAL LANDSCAPE AREA	7.7500 SF	10.00 SF		
REQUIRED PLANT MATERIAL - BLOCK 2 OVERALL						
CODE SECTION	AREA / ITEM	REQUIREMENT	REQUIRED AREA	PROVIDED AREA	DIFFERENCE	NOTES
7.4.B.1	LANDSCAPE AREA	1% OVERALL OF 17.00 SF	1.1000 SF	14.00 SF (17%)		
7.4.B.1.1	HARDSCAPED AREA	HARDSCAPED AREA MUST BE LESS THAN 20% OF TOTAL LANDSCAPE AREA	7.7500 SF	10.00 SF		



PLANT LEGEND

CODE	QTY	BOTANICAL / COMMON NAME	CONT	CAL	SIZE
DECIDUOUS TREES					
COP	3	CELTIS OCCIDENTALIS / PRAIRIE SENTINEL / PRAIRIE SENTINEL HACKBERRY	B & B	2.5" CAL	
GAT	8	QUERCUS TRACANTHOS / SKYLINE / SKYLINE HONEY LOCUST	B & B	2.5" CAL	
GDE	3	GYMNOCLADUS DIOICA / ESPRESSO / SEEDLESS KENTUCKY COFFEETREE	B & B	2.5" CAL	
UFR	4	ULMUS / FRONTIER / FRONTIER ELM	B & B	2.5" CAL	

EVERGREEN TREES					
JGB	2	CELTIS CHINENSIS / BLUE POINT / BLUE POINT JUNIPER	B & B		6' HT
PES	3	PRUNUS EDULIS / PRAYON PINE	B & B		6' HT
PNA	4	PRUNUS NIGRA / AUSTRALIAN PINE	B & B		6' HT

ORNAMENTAL TREES					
ATH	4	ACER TATARICUM / HOT WINGS / HOT WINGS MAPLE	B & B	1.5" CAL	
CI	8	CRATAEGUS CRUS-GALLI / INERMIS / THORNLESS COCKSPUR HAWTHORN	B & B	1.5" CAL	
MRB	3	MALUS X RED BARRON / RED BARRON CRAB APPLE	B & B	1.5" CAL	

CODE	QTY	BOTANICAL / COMMON NAME	SIZE	HYDROZONE
------	-----	-------------------------	------	-----------

DECIDUOUS SHRUBS				
AAS	10	AMELANCHIER ALNIFOLIA / REGENT / REGENT SERVICEBERRY	5 GAL	
CSA	17	CORNUS SERICEA / ARCTIC FIRE / ARCTIC FIRE RED TWIG DOGWOOD	5 GAL	
CDI	8	COTONEASTER DIVARICATUS / SPREADING COTONEASTER	5 GAL	
HME	10	HYDRANGEA MACROPHYLLA / ENDLESS SUMMER / ENDLESS SUMMER HYDRANGEA	5 GAL	
PAL	23	PEROVSKIA ATRIPICIFOLIA / LUSITANICA / LACEY BLUE RUSSIAN SAGE	5 GAL	
PBL	10	PHYSCALOPUS OPULIFOLIA / LITTLE DEVIL / DWARF NINEBARK	5 GAL	
PBP	14	PRUNUS BESSEYI / PANNIER BUTTES / DWARF WESTERN SAND-CHERRY	5 GAL	
RTA	17	RHUS TRILOBATA / GRO LOW / SKUNKBUSH SUMAC	5 GAL	
RMS	10	ROSA SHRUB / MORDEN SUNRISE / MORDEN SUNRISE SHRUB ROSE	5 GAL	
RNW	8	ROSA X NEARLY WILD / NEARLY WILD SHRUB ROSE	5 GAL	
VML	10	VEURNUM LENTAGO / HANNY BERRY	5 GAL	

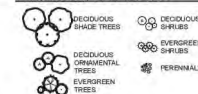
EVERGREEN SHRUBS				
JHH	18	JUNIPERUS HORIZONTALIS / HUGHES / HUGHES JUNIPER	5 GAL	
PLS	26	PRUNUS LEUCODERMIS / SMITTY / DWARF GLOBE BOSNIAN PINE	5 GAL	
PMB	1	PRUNUS MUGO / BIG TUNA / BIG TUNA MUGO PINE	10 GAL	

PERENNIALS				
HSE	13	HEUCHOTRICHON SEMPERVIRENS / BLUE AVENA GRASS	1 GAL	
PAH	16	PENNSETUM ALPEGROIDES / HAMELIN / DWARF FOUNTAIN GRASS	1 GAL	
PSA	31	PENNSETUM SETACEUM / ALBA / WHITE FOUNTAIN GRASS	5 GAL	
SSP	18	SCHIZACHYRIUM SCOPARIUM / PHAIRE BLUES / LITTLE BLUESTEM GRASS	1 GAL	
SED	38	SEDUM X DAZZLEBERRY / DAZZLEBERRY STONECROP	1 GAL	

REQUIRED PLANT MATERIAL - BLOCK 4 OVERALL & PARKING

CODE SECTION	AREA / ITEM	REQUIREMENT	REQUIRED AREA	PROVIDED AREA
7.4.B.1.a	LANDSCAPED AREA	10% AREA REQ. OF 64,608 S.F.	6,460 S.F.	10,365 S.F. (16%)
7.4.B.1.b	HARDESCAPED AREA	HARDESCAPED AREA MUST BE LESS THAN 20% OF MIN. LANDSCAPED AREA REQ.	4,263 S.F.	3,875 S.F.
7.3.B.2.b.i	PARKING INTERIOR L.S. AREA	5% AREA REQ. OF 33,018 S.F.	1,651 S.F.	4,608 S.F. (7%)

LANDSCAPE LEGEND



SYMBOL	DESCRIPTION
○	2" RIVER ROCK MULCH
○	NATIVE GRASS, UPLAND BLEND
○	NATIVE GRASS, WET MEADOW BLEND
○	IRRIGATED TURF
○	COBBLE ROCK MULCH

COAL CREEK VILLAGE

PRELIMINARY PUD AND SRU

LOUISVILLE, COLORADO

PREPARED BY:



PLANNER / LANDSCAPE ARCHITECT

MIKE WILSON

JOHN WILSON

4100 Canyon Ave, Suite 100

Fort Collins, CO 80521

P: 970.224.5626

OWNER:

COAL CREEK VILLAGE LLC

Michael Wilson

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P: 303.773.5054

ENGINEER:

ROCKY RIDGE CIVIL ENGINEERING

Jeff Sorenson

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LONGMONT, COLORADO 80501

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SCALE: 1" = 20' 0"

ORIGINAL SIZE 24" X 36"

ISSUED:

NO. DESCRIPTION DATE

1 PRELIMINARY PUD 01/22/2021

2 PRELIMINARY PUD RD 2 06/21/2021

3 PRELIMINARY PUD RD 3 09/17/2021

4 PRELIMINARY PUD RD 4 12/03/2022

5 PRELIMINARY PUD RD 5 08/04/2023

6 PRELIMINARY PUD RD 6 09/14/2024

REVISIONS:

NO. DESCRIPTION DATE

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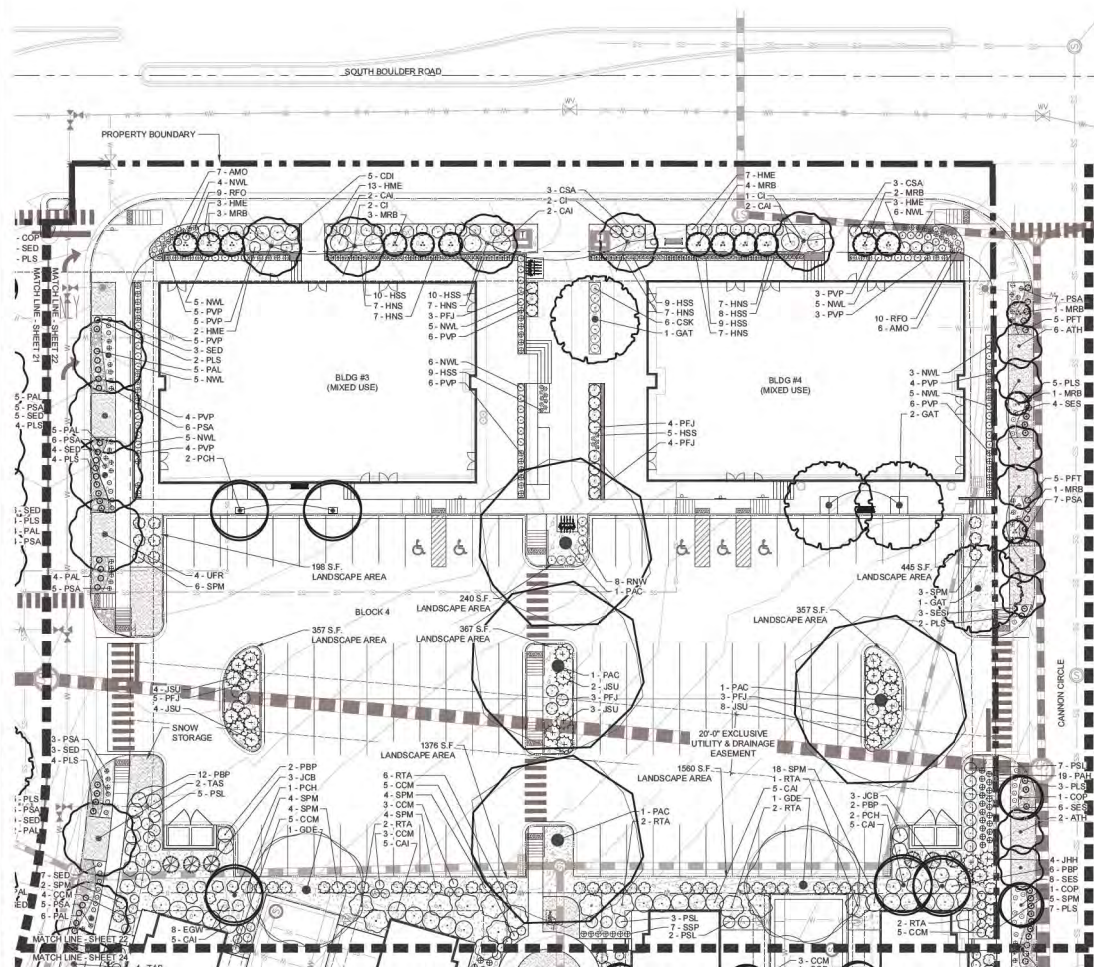
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PLANT LEGEND

CODE	QTY	BOTANICAL / COMMON NAME	CONT	CAL	SIZE
DECIDUOUS TREES					
COP	2	CELTIS OCCIDENTALIS 'PRAIRIE SENTINEL' / PRAIRIE SENTINEL HACKBERRY	8 B & B	2.5' CAL	
GAT	4	GLUEDITSIA TRIACANTHOS 'SKYLINE' / SKYLINE HONEY LOCUST	8 B & B	2.5' CAL	
GDE	2	GYMNOCLADUS DROICA 'ESPRESSO' / SEEDLESS KENTUCKY COFFEETREE	8 B & B	2.5' CAL	
PAC	4	PLATANUS X ACERIFOLIA 'BLOODGOOD' / BLOODGOOD LONDON PLANETREE	8 B & B	2.5' CAL	
TAS	2	TILIA AMERICANA 'SENTRY' / AMERICAN LINDEN	8 B & B	2.5' CAL	
UFR	4	ULMUS 'FRONTIER' / FRONTIER ELM	8 B & B	2.5' CAL	

EVERGREEN TREES					
JCB	6	JUNPERUS CHINENSIS 'BLUE POINT' / BLUE POINT JUNPER	8 B & B		6' HT

ORNAMENTAL TREES					
ATH	8	ACER TATARICUM 'HOT WINGS' / HOT WINGS MAPLE	8 B & B	1.5' CAL	
CI	5	CRATAEGUS CRUS-GALLI 'HERMES' / THORLESS COCKSPUR HAWTHORN	8 B & B	1.5' CAL	
MRB	15	MALUS X 'RED BARRON' / RED BARRON CRAB APPLE	8 B & B	1.5' CAL	
PCH	5	PYRUS CALLERYANA 'CHANTICLEER' / CHANTICLEER ORNAMENTAL PEAR	8 B & B	1.5' CAL	

CODE	QTY	BOTANICAL / COMMON NAME	SIZE	HYDROZONE
DECIDUOUS SHRUBS				
CAI	25	CARYOPTERIS X CLANDONENSIS 'BLUE MIST' / BLUE MIST SPIREA	5 GAL	
CAI	25	CORNUS ALBA 'IVORY HALO' / IVORY HALO VARIEGATED DOGWOOD	5 GAL	
CSA	6	CORNUS SERICEA 'ARCTIC FIRE' / ARCTIC FIRE RED TWIG DOGWOOD	5 GAL	
CSA	6	CORNUS SERICEA 'KELSEY' / KELSEY DWARF DOGWOOD	5 GAL	
CDI	5	COTONEASTER DIVARICATUS / SPREADING COTONEASTER	5 GAL	
HME	25	HYDRANGEA MACROPHYLLA 'ENDLESS SUMMER' / ENDLESS SUMMER HYDRANGEA	5 GAL	
PAL	20	PEROVSKIA ATROPICIFOLIA 'LUSITANY' / LACEY BLUE RUSSIAN SAGE	5 GAL	
PSL	17	PHYSCARPUS OPULIFOLIUS 'LITTLE DEVIL' TM / DWARF NINEBARK	5 GAL	
PFJ	22	POTENTILLA FRUTICOSA 'JACKMAN' / JACKMAN POTENTILLA	5 GAL	
PTT	11	POTENTILLA FRUTICOSA 'TANGERINE' / TANGERINE BUSH CINQUEFOIL	5 GAL	
PBP	22	PRUNUS BESSEYI 'PAWNEE BUTTES' / DWARF WESTERN SAND CHERRY	5 GAL	
RTA	15	RHUS TRILOBATA 'GRO LOW' / SKUNKBUSH SUMAC	5 GAL	
RNW	8	ROSA 'NEARLY WILD' / NEARLY WILD SHRUB ROSE	5 GAL	
SPM	50	SYRINGA PATULA 'MISS KIM' / MISS KIM DWARF LILAC	5 GAL	

EVERGREEN SHRUBS				
EGW	8	EUCONYMUS FORTUNEI 'EMERALD GAUITY' TM / EMERALD GAUITY WINTERCREEPER	5 GAL	
JHH	4	JUNPERUS HORIZONTALIS 'HUGHES' / HUGHES JUNPER	5 GAL	
JSU	21	JUNPERUS SABINA 'BUFFALO' / BUFFALO JUNPER	5 GAL	
PLS	27	PIRUS LEUCODERMIS 'SMOOTH' / DWARF GLOBE BOSNIAN PINE	5 GAL	

PERENNIALS				
AMO	13	ACHILLEA X 'MOONSHINE' / MOONSHINE YARROW	1 GAL	
HNS	42	HEUCHERA SANGUINEA 'SNOW ANGEL' / VARIEGATED CORAL BELLS	1 GAL	
HSS	60	HEUCHERA SANGUINEA 'SNOW ANGEL' / VARIEGATED CORAL BELLS	1 GAL	
NWL	49	NEPETA X 'AASSEN' / WALKERS LOW / WALKERS LOW CATMINT	1 GAL	
PVP	51	PANICUM VIRGATUM 'PRAIRIE FIRE' / RED SWITCH GRASS	5 GAL	
PAH	20	PENNISETUM ALOPECUROIDES 'HAEMEL' / DWARF FOUNTAIN GRASS	1 GAL	
PSA	40	PENNISETUM SETACEUM 'ALBA' / WHITE FOUNTAIN GRASS	5 GAL	
RFO	19	RUDBECKIA FULGIDA 'GOLDSTURM' / BLACK-EYED SUSAN	1 GAL	
SSP	7	SCHIZACHYRIUM SCOPARIUM 'PRAIRIE BLUES' / LITTLE BLUESTEM GRASS	1 GAL	
SED	17	SEDUM X 'DAZZLEBERRY' / DAZZLE BERRY STONECROP	1 GAL	
SES	21	SEDUM X 'KNIGHT RIDER' / KNIGHT RIDER STONECROP	1 GAL	

REQUIRED PLANT MATERIAL - BLOCK 4 OVERALL & PARKING

CODE SECTION	AREA / ITEM	REQUIREMENT	REQUIRED AREA	PROVIDED AREA
7.4.B.1.a	LANDSCAPED AREA	10% AREA REQ. OF 64,608 S.F.	6,460 SF	10,365 SF (16%)
7.4.B.1.b	HARDSCAPED AREA	HARDSCAPED AREA MUST BE LESS THAN 2.0% OF MIN. LANDSCAPED AREA REQ.	< 4,263 SF	3,875 SF
7.3.B.2.b.i	PARKING INTERIOR L.S. AREA	5% AREA REQ. OF 33,018 S.F.	1,651 SF	4,806 SF (7%)
7.1.B.1	PARKING PERIMETER	5' BUFFER @ PERIMETER	5' BUFFER MIN	5' BUFFER
7.3.E	LANDSCAPE ISLANDS	1 TREE / 300 SF OF LANDSCAPED AREA	2,453/300=8	9

LANDSCAPE LEGEND

	DECIDUOUS TREE
	DECIDUOUS SHRUB
	EVERGREEN TREE
	EVERGREEN SHRUB
	PERENNIAL

SYMBOL	DESCRIPTION
	2-3" RIVER ROCK MULCH
	NATIVE GRASS, UPLAND BLEND
	NATIVE GRASS, WET MEADOW BLEND
	IRRIGATED TURF
	COBBLE ROCK MULCH

COAL CREEK VILLAGE

PRELIMINARY PUD AND SRU

LOUISVILLE, COLORADO

PREPARED BY:



PLANNER / LANDSCAPE ARCHITECT

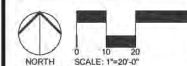
RIPLY DESIGN INC.
Michael Marnett
4119 Canyon Ave. Suite 200
Fort Collins, CO 80521
P: 970.224.5626

OWNER:

COAL CREEK VILLAGE LLC
Michael Marnett
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Fort Collins, CO 80521
P: 970.224.5626

ENGINEER:

ROCKY RIDGE CIVIL ENGINEERING
Jeff Sanderson
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LONGMONT, COLORADO 80501
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NO.	DESCRIPTION	DATE
1	PRELIMINARY PUD	01/22/2021
2	PRELIMINARY PUD RD 2	06/21/2021
3	PRELIMINARY PUD RD 3	09/17/2021
4	PRELIMINARY PUD RD 4	12/03/2021
5	PRELIMINARY PUD RD 5	08/04/2023
6	PRELIMINARY PUD RD 6	09/14/2024

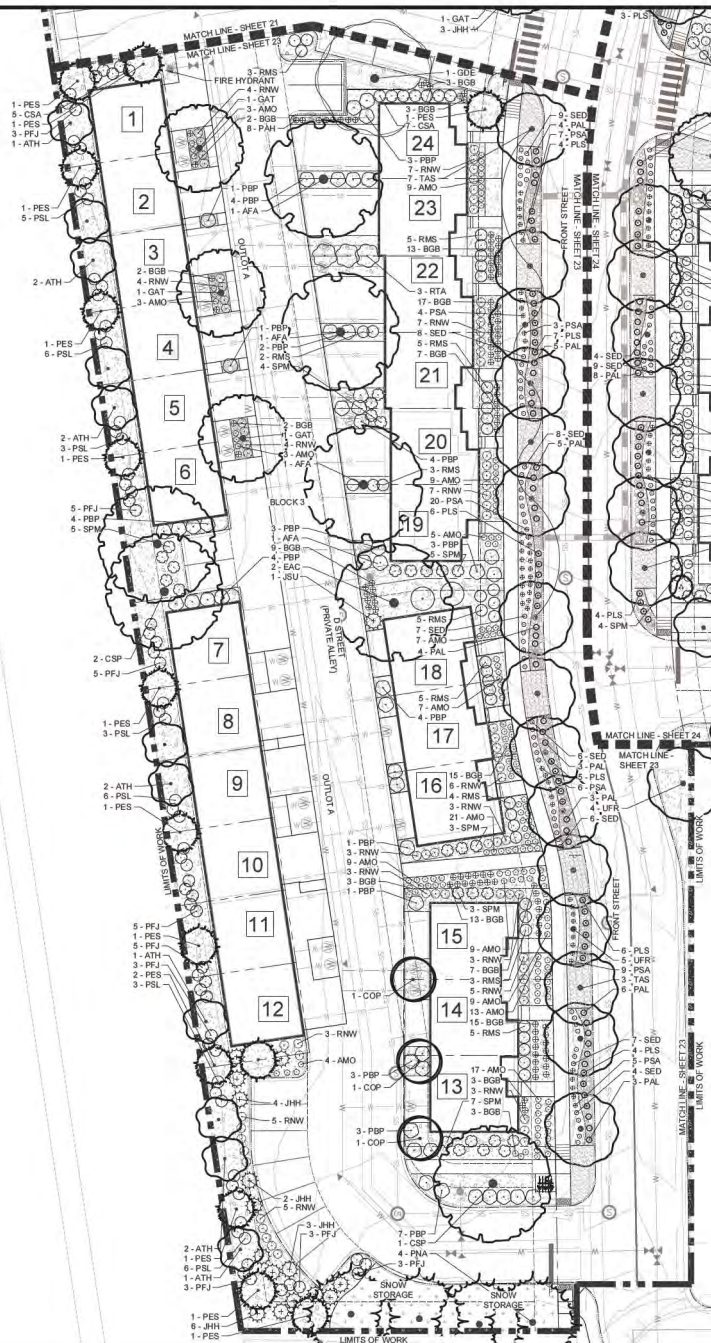
LANDSCAPE PLAN ENLARGEMENT

SEAL:



PROJECT NO.: R20-6390
DRAWN BY:
REVIEWED BY:
DRAWING NUMBER:

RIPLEY PALMIST COMPANY



PLANT LEGEND

CODE	QTY	BOTANICAL / COMMON NAME	CONT	CAL	SIZE
DECIDUOUS TREES					
AFA	4	ACER X FREEMANII AUTUMN BLAZE / AUTUMN BLAZE MAPLE	B & B	2.5" CAL	
CSP	3	CATALPA SPECIOSA / WESTERN CATALPA	B & B	2.5" CAL	
COP	3	CEDRUS OCCIDENTALIS 'PRINCE SENTINEL' / PRINCE SENTINEL HACKBERRY	B & B	2.5" CAL	
GAT	3	GLEDITSIA TRICANTHOS 'SKYLINE' / SKYLINE HONEY LOCUST	B & B	2.5" CAL	
GDE	1	GYMNOCLADUS DIOICA 'ESPRESSO' / SEEDLESS KENTUCKY COFFEETREE	B & B	2.5" CAL	
TAS	10	TEILA AMERICANA 'SENTRY' / AMERICAN LINDEN	B & B	2.5" CAL	
UFR	5	ULMUS FRONTALIS / FRONTIER ELM	B & B	2.5" CAL	
EVERGREEN TREES					
PES	14	PRINUS EDULIS / PINTON PINE	B & B		6' HT
PNA	4	PRINUS NIGRA/ AUSTRALIAN PINE	B & B		6' HT
ORNAMENTAL TREES					
ATH	11	ACER TATARICUM 'HOT WINGS' / HOT WINGS MAPLE	B & B	1.5" CAL	
CODE	QTY	BOTANICAL / COMMON NAME	SIZE	HYDROZONE	
DECIDUOUS SHRUBS					
CSA	12	CORNUS SERICEA 'ARCTIC FIRE' / ARCTIC FIRE RED TWIG DOGWOOD	5 GAL		
EAC	2	EUONYMUS ALATUS 'COMPACTUS' / DWARF BURNING BUSH	5 GAL		
PAL	33	PEROVSKIA ATRIPLEXIFOLIA 'LISLETT' / LACEY BLUE RUSSIAN SAGE	5 GAL		
PSL	32	PHYSCARPUS OPULIFOLIOS 'LITTLE DEVIL' TM / DWARF NINEBARK	5 GAL		
PFJ	35	POTENTILLA FRUTICOSA 'JACKMAN' / JACKMAN POTENTILLA	5 GAL		
PBP	48	PRUNUS BESSEYI 'PAWNEE BUTTES' / DWARF WESTERN SAND CHERRY	5 GAL		
RTA	3	RHUS TRILOBATA 'GRO LOW' / SKUNKHUSH SUMAC	5 GAL		
RMS	40	ROSA SHRUB 'MORDEN SUNRISE' / MORDEN SUNRISE SHRUB ROSE	5 GAL		
RNW	72	ROSA X 'NEARLY WILD' / NEARLY WILD SHRUB ROSE	5 GAL		
SPM	27	SYRINGA PATULA 'MISS KIM' / MISS KIM DWARF LILAC	5 GAL		
EVERGREEN SHRUBS					
JHH	15	JUNIPERUS HORIZONTALIS 'HUGHES' / HUGHES JUNIPER	5 GAL		
JSU	1	JUNIPERUS SABINA 'BUFFALO' / BUFFALO JUNIPER	5 GAL		
PLS	32	PRUNUS LEUCODERMIS 'SMITTY' / DWARF GLOBE BOSSIAN PINE	5 GAL		
PERENNIALS					
AMO	128	ACHILLEA X 'MOONSHINE' / MOONSHINE YARROW	1 GAL		
BGB	117	BOUTELOUA GRACILIS 'BLONDE AMBITION' / BLONDE AMBITION GRAMA GRASS	1 GAL		
PAH	8	PENISTETUM ALOPECUROIDES 'HAMELY' / DWARF FOUNTAIN GRASS	1 GAL		
PSA	54	PENISTETUM SETACEUM ALBA / WHITE FOUNTAIN GRASS	5 GAL		
SED	55	SEDUM X 'DAZZLEBERRY' / DAZZLEBERRY STONECROP	1 GAL		

REQUIRED PLANT MATERIAL - BLOCK 5 OVERALL

CODE SECTION	AREA / ITEM	REQUIREMENT	REQUIRED AREA	PROVIDED AREA
7 A B 1 a	LANDSCAPED AREA	100% (SEE LIST OF PLANTS)	5,000 SF	50,717 SF (277%)
7 A B 1 b	UNDESIGNATED AREA	RE LEAVE UNDESIGNATED OR RE-DESIGN UNDESIGNATED AREA	10,741 SF	50 SF

LANDSCAPE LEGEND



LANDSCAPE MATERIAL LEGEND

SYMBOL	DESCRIPTION
[Symbol]	2-3" RIVER ROCK MULCH
[Symbol]	NATIVE GRASS, UPLAND BLEND
[Symbol]	NATIVE GRASS, WET MEADOW BLEND
[Symbol]	IRRIGATED TURF
[Symbol]	COBBLE ROCK MULCH

COAL CREEK VILLAGE

PRELIMINARY PUD AND SRU

LOUISVILLE, COLORADO

PREPARED BY:



PLANNER / LANDSCAPE ARCHITECT

RIPLY DESIGN INC.

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OWNER:

COAL CREEK VILLAGE LLC

Michael Marini

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P: 303.441.6666

ENGINEER:

ROCKY RIDGE CIVIL ENGINEERING

Jim Swanson

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P: 303.441.6666



ORIGINAL SIZE 24"X36"

ISSUED:

No. DESCRIPTION DATE

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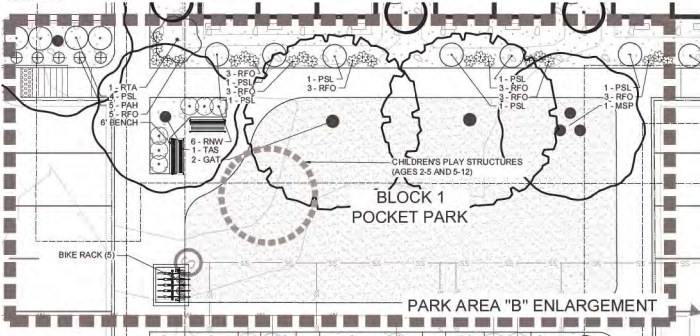
6 PRELIMINARY PUD RD 6 06/14/2024

REVISIONS:

No. DESCRIPTION DATE

PARK AREA "B" - ENLARGMENT

SCALE: 1"=10'-0"

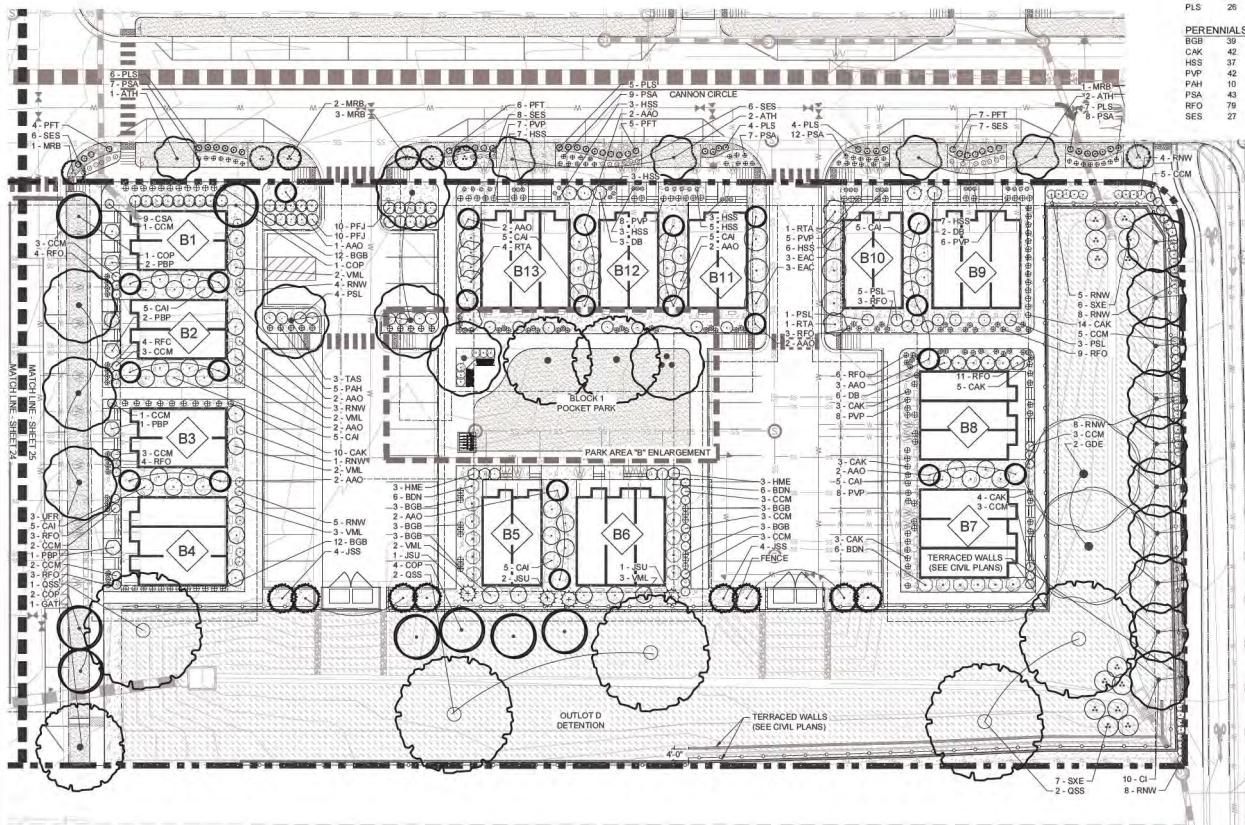


PLANT LEGEND (PARK AREA "B" ENLARGEMENT)

CODE	QTY	BOTANICAL / COMMON NAME	CONT	CAL
DECIDUOUS TREES				
GAT	2	GLEDETIA TRIACANTHOS 'SKYLINE' SKYLINE HONEY LOCUST	B & B	2.5' CAL
TAS	2	40-50 HT. 30'-40" W. TILIA AMERICANA 'SENTRY' AMERICAN LINDEN	B & B	2.5' CAL
ORNAMENTAL TREES				
AAO	3	AMELANCHIER ALNFOLIA 'OBELISK' STANDING OVATION SERVICEBERRY	B & B	1.5' CAL
MSP	1	12-15' HT. 5-7" W. MALLUS 'SPRING SNOW' SPRING SNOW CRAB APPLE	B & B	1.5' CAL
DECIDUOUS SHRUBS				
PSL	11	PHYSCARPUS OPULOFOLIUS 'LITTLE DEVIL' TM	5 GAL	
RTA	1	DWARF NINEBARK 3'-4' HT. 3'-4" W. RHUS TRILOBATA 'GRO LOW' SKUNKBUSH SUMAC	5 GAL	
RNW	6	2-3' HT. 6'-8" W. ROSA X 'NEARLY WILD' NEARLY WILD SHRUB ROSE	5 GAL	
PERENNIALS				
PAH	5	PENNISTEMUM ALOPECUROIDES 'HAMELN' DWARF FOUNTAIN GRASS	1 GAL	
RFO	23	1'-2' HT. 12"-18" W. RUDECKIA FULGIDA 'GOLDSTURM' BLACK-EYED SUSAN	1 GAL	

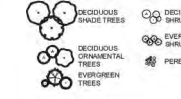
PLANT LEGEND

CODE	QTY	BOTANICAL / COMMON NAME	CONT	CAL	SIZE
DECIDUOUS TREES					
COP	8	CELTIS OCCIDENTALIS 'PRAIRIE SENTINEL' / PRAIRIE SENTINEL HACKBERRY	B & B	2.5' CAL	
GAT	3	GLEDETIA TRIACANTHOS 'SKYLINE' / SKYLINE HONEY LOCUST	B & B	2.5' CAL	
GDE	2	GYMNOCLADUS DIOICA 'ESPRESSO' / SEEDLESS KENTUCKY COFFEETREE	B & B	2.5' CAL	
QSS	5	QUERCUS SHUMARDI / SHUMARD RED OAK	B & B	2.5' CAL	
TAS	4	TILIA AMERICANA 'SENTRY' / AMERICAN LINDEN	B & B	2.5' CAL	
UFR	3	ULMUS 'FRONTIER' / FRONTIER ELM	B & B	2.5' CAL	
EVERGREEN TREES					
JSS	8	JUNIPERUS SCOPULORUM / ROCKY MOUNTAIN JUNPER	B & B		6' HT
ORNAMENTAL TREES					
ATH	5	ACER TATARICUM 'HOT WINGS' / HOT WINGS MAPLE	B & B	1.5' CAL	
AAO	22	AMELANCHIER ALNFOLIA 'OBELISK' / STANDING OVATION SERVICEBERRY	B & B	1.5' CAL	
CI	10	CRATAEGUS CRUS-GALLI INERMIS / THORNLESS COCKSPUR HAWTHORN	B & B	1.5' CAL	
MSP	1	MALLUS 'SPRING SNOW' / SPRING SNOW CRAB APPLE	B & B	1.5' CAL	
MSB	7	MALUS X 'RED BARRON' / RED BARRON CRAB APPLE	B & B	1.5' CAL	
DECIDUOUS SHRUBS					
BON	18	BUFFELA DAVIDI NANHOENSIS 'PETITE SNOW' / COMPACT BUTTERFLY BUSH	5 GAL		
COM	40	CARYOPHTERIS CLANDONENSIS 'BLUE MIST' / BLUE MIST SPIREA	5 GAL		
CAI	40	CORNUS ALBA 'VORY HALO' / VORY HALO VAREGATED DOGWOOD	5 GAL		
CSA	9	CORNUS SERICEA 'ARCTIC FIRE' / ARCTIC FIRE RED TWIG DOGWOOD	5 GAL		
DB	11	DAPHNE X BURKWOODII 'CAROL MACKIE' / CAROL MACKIE DAPHNE	5 GAL		
EAC	6	EUONYMUS ALATUS 'COMPACTUS' / DWARF BURNING BUSH	5 GAL		
HME	6	HYDRANGEA MACROPHYLLA 'ENDLESS SUMMER' / ENDLESS SUMMER HYDRANGEA	5 GAL		
PSL	24	PHYSCARPUS OPULOFOLIUS 'LITTLE DEVIL' TM / DWARF NINEBARK	5 GAL		
PEJ	20	POTENTILLA FRUTICOSA 'JACKMAN' / JACKMAN POTENTILLA	5 GAL		
PFT	22	POTENTILLA FRUTICOSA 'TANGERINE' / TANGERINE BUSH CINQUEFOIL	5 GAL		
PRP	6	PRINUS BESSER 'PAWNE BUTTES' / DWARF WESTERN SAND CHERRY	5 GAL		
RTA	7	RHUS TRILOBATA 'GRO LOW' / SKUNKBUSH SUMAC	5 GAL		
RNW	52	ROSA X 'NEARLY WILD' / NEARLY WILD SHRUB ROSE	5 GAL		
SKE	13	SALEK ENGLUA / COYOTE WILLOW	5 GAL		
VNL	14	VEURNUM LENTAGO / NANNYBERRY	5 GAL		
EVERGREEN SHRUBS					
JSU	4	JUNIPERUS SABINA 'BUFFALO' / BUFFALO JUNPER	5 GAL		
PLS	26	PINUS LEUCODERMIS 'SMIDTII' / DWARF GLOBE BOSNIAN PINE	5 GAL		
PERENNIALS					
BGB	39	BOULETELOUA GRACILIS 'BLONDE AMBITION' / BLONDE AMBITION GRAMA GRASS	1 GAL		
CAK	42	CALAMAGROSTIS X ACUTIFLORA 'KARL FOERSTER' / FEATHER REED GRASS	1 GAL		
HBS	37	HEUCHERA SANGUINEA 'SNOW ANGEL' / VARIATED CORAL BELLS	1 GAL		
PVP	42	PANICUM VIRGATUM 'PRAIRIE FIRE' / RED SWITCH GRASS	5 GAL		
FAH	10	PENNISTEMUM ALOPECUROIDES 'HAMELN' / DWARF FOUNTAIN GRASS	1 GAL		
PSA	43	PENNISTEMUM SETACEUM 'ALEX' / WHITE FOUNTAIN GRASS	5 GAL		
RFO	79	RUDECKIA FULGIDA 'GOLDSTURM' / BLACK-EYED SUSAN	1 GAL		
SES	27	SEDUM X 'KNIGHT RIDER' / KNIGHT RIDER STONECROP	1 GAL		



CODE	SECTION	AREA (SQ. FT.)	REQUIRED	PROPOSED AREA	PROPOSED AREA
TA8.1a	LANDSCAPED AREA	65,448.00	65,448.00	65,448.00	17,790.00 (27%)
TA8.1b	LANDSCAPED AREA	65,448.00	65,448.00	65,448.00	17,790.00 (27%)
TA8.2a	PARKING INTERIOR L.S. AREA	1,320.00	1,320.00	1,320.00	1,320.00 (100%)
T1.8.1	PARKING PERIMETER	1,320.00	1,320.00	1,320.00	1,320.00 (100%)
T3.8	LANDSCAPE ISLANDS	1,320.00	1,320.00	1,320.00	1,320.00 (100%)

LANDSCAPE LEGEND



SYMBOL	DESCRIPTION
	2-3" RIVER ROCK MULCH
	NATIVE GRASS, UPLAND BLEND
	NATIVE GRASS, WET MEADOW BLEND
	IRRIGATED TURF
	COBBLE ROCK MULCH

COAL CREEK VILLAGE

PRELIMINARY PUD AND SRU

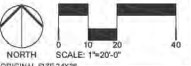
LOUISVILLE, COLORADO
PREPARED BY:



PLANNER / LANDSCAPE ARCHITECT
RIPLEY DESIGN INC.
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Joe Winkler
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OWNER
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P: 303.773.5554

ENGINEER
ROCKY RIDGE CIVIL ENGINEERING
Joni Lindstrom
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LONGMONT, COLORADO 80501
P: 303.481.6666



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6	PRELIMINARY PUD RD 6	09/14/2024

LANDSCAPE PLAN ENLARGEMENT

SEAL:

ENTITLEMENT DRAWINGS NOT FOR CONSTRUCTION

PROJECT NO: R20-030
DRAWN BY:
REVIEWED BY:
DRAWING NUMBER:

PLANT SCHEDULE

SYMBOL	CODE	QTY	REMARKS	BOTANICAL / COMMON NAME	CONT	CAL	SIZE	SYMBOL	CODE	QTY	REMARKS	BOTANICAL / COMMON NAME	SIZE
DECIDUOUS TREES								DECIDUOUS SHRUBS					
	AFA	4	40'-50' HT. 30'-40' W.	ACER X FREEMANII AUTUMN BLAZE / AUTUMN BLAZE MAPLE	B & B	2.5"	CAL		AAR	10	6'-8' HT. 6'-8' W.	AMELANCHIER ALNIFOLIA 'REGENT' / REGENT SERVICEBERRY	5 GAL
	CSP	3	40'-60' HT. 30'-50' W.	CATALPA SPECIOSA / WESTERN CATALPA	B & B	2.5"	CAL		BDN	18	4'-6' HT. 4'-5' W.	BUDDLEIA DAVIDI NANOENSIS 'PETITE SNOW' / COMPACT BUTTERFLY BUSH	5 GAL
	COP	38	35'-45' HT. 10'-12' W.	CELTIS OCCIDENTALIS 'PRAIRIE SENTINEL' / PRAIRIE SENTINEL HACKBERRY	B & B	2.5"	CAL		CCM	389	3'-4' HT. 2'-3' W.	CARYOPTERIS X CLANDONENSIS 'BLUE MIST' / BLUE MIST SPIREA	5 GAL
	GAT	26	40'-50' HT. 30'-40' W.	GLEDITSIA TRIACANTHOS 'SKYLINE' / SKYLINE HONEY LOCUST	B & B	2.5"	CAL		CAI	66	5'-6' HT. 5'-6' W.	CORNUS ALBA 'IVORY HALO' / IVORY HALO VARIEGATED DOGWOOD	5 GAL
	GDE	13	50'-60' HT. 40'-50' W.	GYMNOCLADUS DIOICA 'ESPRESSO' / SEEDLESS KENTUCKY COFFEETREE	B & B	2.5"	CAL		CSA	44	3'-4' HT. 3'-4' W.	CORNUS SERICEA 'ARCTIC FIRE' / ARCTIC FIRE RED TWIG DOGWOOD	5 GAL
	PAC	4	70'-100' HT. 65'-80' W.	PLATANUS X ACERIFOLIA 'BLOODGOOD' / BLOODGOOD LONDON PLANETREE	B & B	2.5"	CAL		CSK	6	2'-3' HT. 2'-3' W.	CORNUS SERICEA 'KELSEY' / KELSEY DWARF DOGWOOD	5 GAL
	QSS	5	40'-50' HT. 30'-40' W.	QUERCUS SHUMARDII / SHUMARD RED OAK	B & B	2.5"	CAL		CDI	13	4'-6' HT. 6'-8' W.	COTONEASTER DIVARICATUS / SPREADING COTONEASTER	5 GAL
	TAS	28	60'-80' HT. 30'-50' W.	TILIA AMERICANA 'SENTRY' / AMERICAN LINDEN	B & B	2.5"	CAL		DB	11	3'-5' HT. 3'-5' W.	DAPHNE X BURKWOODII 'CAROL MACKIE' / CAROL MACKIE DAPHNE	5 GAL
	UFR	31	25'-35' HT. 15'-25' W.	ULMUS 'FRONTIER' / FRONTIER ELM	B & B	2.5"	CAL		EAC	28	6'-8' HT. 6'-8' W.	EUONYMUS ALATUS 'COMPACTUS' / DWARF BURNING BUSH	5 GAL
EVERGREEN TREES									HME	44	3'-5' HT. 3'-5' W.	HYDRANGEA MACROPHYLLA 'ENDLESS SUMMER' / ENDLESS SUMMER HYDRANGEA	5 GAL
	JCB	8	8'-12' HT. 5'-6' W.	JUNIPERUS CHINENSIS 'BLUE POINT' / BLUE POINT JUNIPER	B & B		6' HT		PAL	95	18-24" X 18-24" W.	PEROVSKIA ATRIPLICIFOLIA 'LISSUTT' / LACEY BLUE RUSSIAN SAGE	5 GAL
	JSS	8	20'-30' HT. 10'-15' W.	JUNIPERUS SCOPULORUM / ROCKY MOUNTAIN JUNIPER	B & B		6' HT		PSL	140	3'-4' HT. 3'-4' W.	PHYSCARPUS OPULIFOLIUS 'LITTLE DEVIL' TM / DWARF NINEBARK	5 GAL
	PES	17	20'-30' HT. 10'-20' W.	PINUS EDULIS / PINYON PINE	B & B		6' HT		PFJ	93	2'-3' HT. 3'-4' W.	POTENTILLA FRUTICOSA 'JACKMANII' / JACKMAN POTENTILLA	5 GAL
	PNA	6	40'-60' HT. 30'-40' W.	PINUS NIGRA / AUSTRIAN PINE	B & B		6' HT		PFT	43	18-24" X 18-24" W.	POTENTILLA FRUTICOSA 'TANGERINE' / TANGERINE BUSH CINQUEFOIL	5 GAL
ORNAMENTAL TREES									PBP	90	15'-30' HT. 4'-6' W.	PRUNUS BESSEYI 'PAWNEE BUTTES' / DWARF WESTERN SAND CHERRY	5 GAL
	ATH	30	18'-20' HT. 15'-20' W.	ACER TATARICUM 'HOT WINGS' / HOT WINGS MAPLE	B & B	1.5"	CAL		RTA	63	2'-3' HT. 6'-8' W.	RHUS TRILOBATA 'GRO LOW' / SKUNKBUSH SUMAC	5 GAL
	AAO	22	12'-15' HT. 9'-7' W.	AMELANCHIER ALNIFOLIA 'OBELISK' / STANDING OVATION SERVICEBERRY	B & B	1.5"	CAL		RMS	59	2'-4' HT. 2'-3' W.	ROSA SHRUB 'MORDEN SUNRISE' / MORDEN SUNRISE SHRUB ROSE	5 GAL
	CI	23	15'-25' HT. 15'-20' W.	CRATAEGUS CRUS-GALLI INERMIS / THORNLESS COCKSPUR HAWTHORN	B & B	1.5"	CAL		RNW	140	2'-3' HT. 2'-3' W.	ROSA X 'NEARLY WILD' / NEARLY WILD SHRUB ROSE	5 GAL
	MSP	1	20'-25' HT. 20'-25' W.	MALUS 'SPRING SNOW' / SPRING SNOW CRAB APPLE	B & B	1.5"	CAL		SXE	13	6'-12' HT. 4'-8' W.	SALIX EXMUGA / COYOTE WILLOW	5 GAL
	MRB	33	15'-18' HT. 7'-8' W.	MALUS X 'RED BARRON' / RED BARRON CRAB APPLE	B & B	1.5"	CAL		SPM	352	3'-5' HT. 3'-5' W.	SYRINGA PATULA 'MISS KIM' / MISS KIM DWARF LILAC	5 GAL
	PCH	9	20'-30' HT. 15'-20' W.	PYRUS CALLERYANA 'CHANTICLEER' / CHANTICLEER ORNAMENTAL PEAR	B & B	1.5"	CAL		VML	24	8'-15' HT. 6'-8' W.	VIBURNUM LENTAGO / NANNYBERRY	5 GAL
	SRE	4	15'-25' HT. 15'-20' W.	SYRINGA RETICULATA / JAPANESE LILAC TREE	B & B	1.5"	CAL	EVERGREEN SHRUBS					
									EGW	8	18'-24" HT. 3'-4' W.	EUONYMUS FORTUNEI 'EMERALD GAIEITY' TM / EMERALD GAIEITY WINTERCREEPER	5 GAL
									JHH	37	1'-2' HT. 5'-8' W.	JUNIPERUS HORIZONTALIS 'HUGHES' / HUGHES JUNIPER	5 GAL
									JSU	26	12'-18" HT. 6'-8' W.	JUNIPERUS SABINA 'BUFFALO' / BUFFALO JUNIPER	5 GAL
									PLS	137	1-2H X 1-2W	PINUS LEUCODERMIS 'SMIDTII' / DWARF GLOBE BOSNIAN PINE	5 GAL
									PMB	1	6'-8' HT. 5'-6' W.	PINUS MUGO 'BIG TUNA' / BIG TUNA MUGO PINE	10 GAL
								PERENNIALS					
									AMO	141	24"-30" HT. 18"-24" W.	ACHILLEA X 'MOONSHINE' / MOONSHINE YARROW	1 GAL
									BGB	156	30"-36" HT. 20"-24" W.	BOUTELOUA GRACILIS 'BLONDE AMBITION' / BLONDE AMBITION GRAMA GRASS	1 GAL
									CAK	42	4'-5' HT. 18"-24" W.	CALAMAGROSTIS X ACUTIFLORA 'KARL FOERSTER' / FEATHER REED GRASS	1 GAL
									HSE	13	2'-3' HT. 18"-24" W.	HELIOTRICHON SEMPERVIRENS / BLUE AVENA GRASS	1 GAL
									HNS	42	2'-3' HT. 2'-3' W.	HELIOTRICHON SEMPERVIRENS / BLUE OAT GRASS	1 GAL
									HSS	97	12"-18" HT. 10"-15" W.	HEUCHERA SANGUINEA 'SNOW ANGEL' / VARIEGATED CORAL BELLS	1 GAL
									NWL	49	18"-24" HT. 2'-3' W.	NEPETA X FAASSENII 'WALKERS LOW' / WALKERS LOW CATMINT	1 GAL
									PVP	93	4-5H X 2W	PANICUM VIRGATUM 'PRAIRIE FIRE' / RED SWITCH GRASS	5 GAL
									PAH	58	1'-2' HT. 12"-18" W.	PENNISETUM ALOPECUROIDES 'HAMELIN' / DWARF FOUNTAIN GRASS	1 GAL
									PSA	201	1-2H X 12-18"W	PENNISETUM SETACEUM 'ALBA' / WHITE FOUNTAIN GRASS	5 GAL
									RFO	98	18"-24" HT. 18"-24" W.	RUDBECKIA FULGIDA 'GOLDSTURM' / BLACK-EYED SUSAN	1 GAL
									SSP	25	3'-4' HT. 15"-18"	SCHIZACHYRIUM SCOPARIUM 'PRAIRIE BLUES' / LITTLE BLUESTEM GRASS	1 GAL
									SED	144	6-8"H X 15-18"W	SEDUM X 'DAZZLEBERRY' / DAZZLEBERRY STONECROP	1 GAL
									SES	53	20-24"H X 12-18"W	SEDUM X 'KNIGHT RIDER' / KNIGHT RIDER STONECROP	1 GAL

COAL CREEK VILLAGE

PRELIMINARY PUD AND SRU

LOUISVILLE, COLORADO
PREPARED BY:



PLANNING / LANDSCAPE ARCHITECT

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ORIGINAL SIZE 24X36

ISSUED		DATE
No.	DESCRIPTION	
1	PRELIMINARY PUD	01/22/2021
2	PRELIMINARY PUD RD 2	06/21/2021
3	PRELIMINARY PUD RD 3	09/17/2021
4	PRELIMINARY PUD RD 4	12/03/2022
5	PRELIMINARY PUD RD 5	08/04/2023
6	PRELIMINARY PUD RD 6	09/14/2024
REVISIONS		DATE
No.	DESCRIPTION	

PLANT SCHEDULE

SEAL



PROJECT NO.: R20-050
DRAWN BY:
REVIEWED BY:
DRAWING NUMBER:

HYDROZONE	AREA (SF)	WATER NEEDED (GALLONS/SF)	ANNUAL WATER USE (GALLONS)
HIGH	33,072	18	595,296
MODERATE	62,786	14	879,004
LOW	38,836	8	310,688
TOTAL	134,694	13.25	1,784,988

Printed By: Megan McCreary Layout: TREE INVENTORY Printed On: 3/26/2024 4:52 PM File Name: TREE INVENTORY.dwg

TREE MITIGATION LEGEND



NOTES:
1. THIS PLAN IS REPRESENTATIVE ONLY. FIELD VERIFY BEFORE REMOVAL OF ANY TREE.
2. TREES SHOWN ON PLAN BUT NOT IDENTIFIED IN MITIGATION TABLE WERE DEEMED AS INVASIVE AND ARE TO BE REMOVED BY ARBORIST. INVASIVE TREE SPECIES INCLUDE: SIBERIAN ELM (*ULMUS PUMILA*) AND RUSSIAN OLIVE (*ELAEAGNUS ANGUSTIFOLIA*)

COAL CREEK VILLAGE

PRELIMINARY PUD AND SRU

LOUISVILLE, COLORADO
PREPARED BY:



PLANNER / LANDSCAPE ARCHITECT

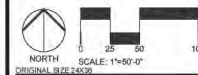
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ORIGINAL SIZE 24"X36"

ISSUED	NO.	DESCRIPTION	DATE
1	PRELIMINARY PUD	01/22/2021	
2	PRELIMINARY PUD RD 2	06/21/2021	
3	PRELIMINARY PUD RD 3	09/17/2021	
4	PRELIMINARY PUD RD 4	12/03/2022	
5	PRELIMINARY PUD RD 5	08/04/2023	
6	PRELIMINARY PUD RD 6	06/14/2024	

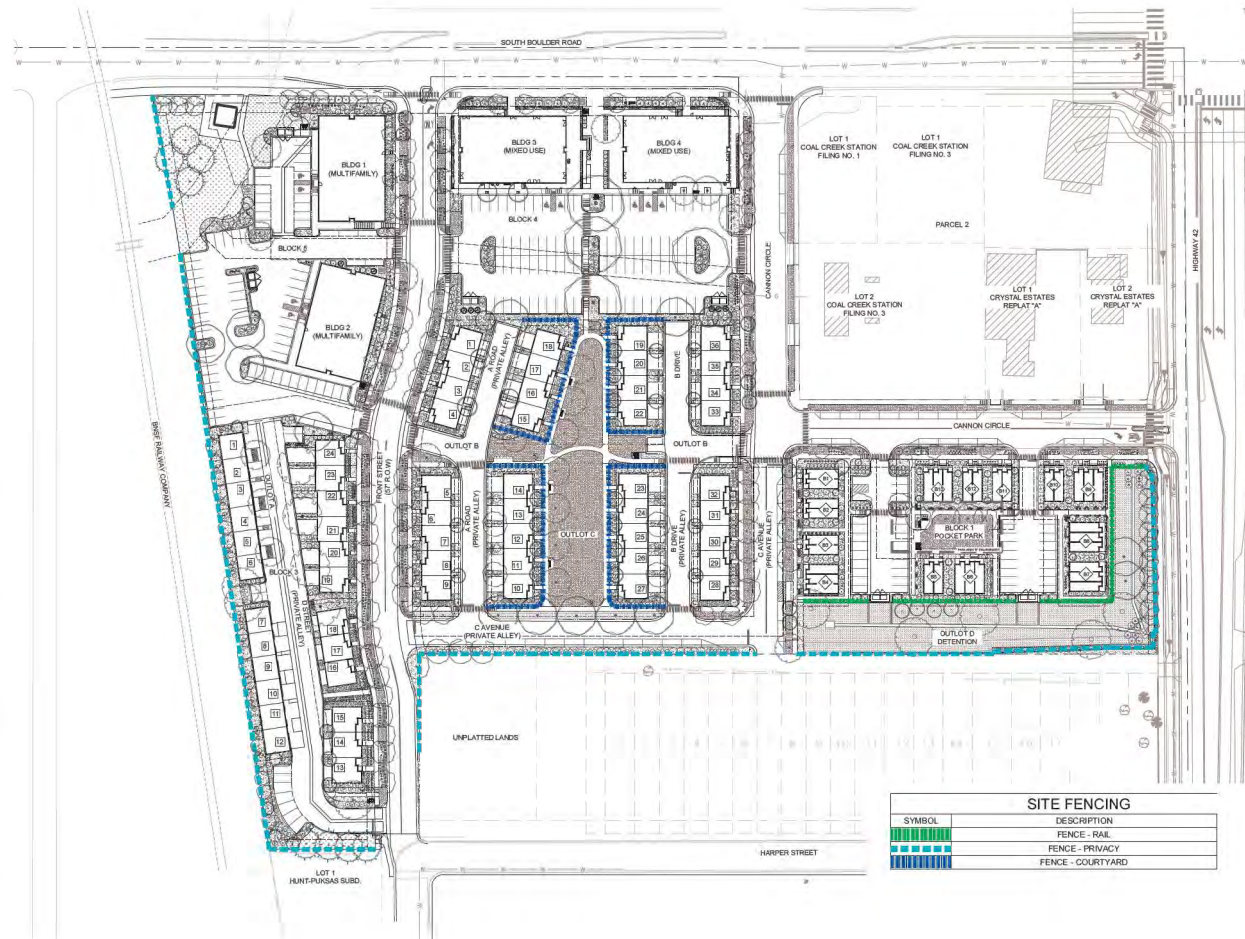
REVISIONS	NO.	DESCRIPTION	DATE

TREE INVENTORY PLAN

SEAL:



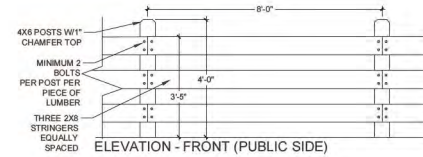
PROJECT NO.: R20-030
DRAWN BY:
REVIEWED BY:
DRAWING NUMBER:



SYMBOL	DESCRIPTION
[Green dashed line]	FENCE - RAIL
[Blue dashed line]	FENCE - PRIVACY
[Red dashed line]	FENCE - COURTYARD



- NOTE:
1. UNLESS OTHERWISE REQUESTED ALL WOOD TO BE EITHER STAINED RED CEDAR OR COMPOSITE WOOD SUCH AS TREX OR SIMILAR BRAND.
 2. ALL FASTENERS & GLUES TO BE WEATHER PROOF TOP OF FENCE TO BE LEVEL BOTTOM OF FENCE TO STEP WITH GRADE AS NEEDED FENCE MAY STEP DOWN AT POSTS IN 6" INCREMENTS IF NECESSARY



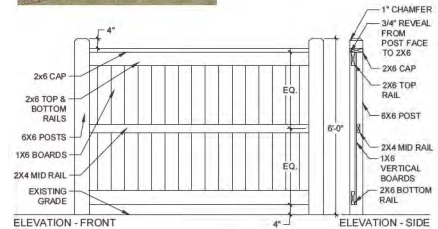
1 RAIL FENCE

1/2" = 1'-0"

CP-S-05



- NOTE:
1. UNLESS OTHERWISE REQUESTED ALL WOOD TO BE EITHER STAINED RED CEDAR OR COMPOSITE WOOD SUCH AS TREX OR SIMILAR BRAND.
 2. ALL FASTENERS & GLUES TO BE WEATHER PROOF TOP OF FENCE TO BE LEVEL BOTTOM OF FENCE TO STEP WITH GRADE AS NEEDED FENCE MAY STEP DOWN AT POSTS IN 6" INCREMENTS IF NECESSARY



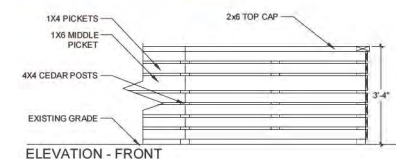
2 PRIVACY FENCE

1/2" = 1'-0"

CP-S-07



- NOTE:
1. UNLESS OTHERWISE REQUESTED ALL WOOD TO BE EITHER STAINED RED CEDAR OR COMPOSITE WOOD SUCH AS TREX OR SIMILAR BRAND.
 2. ALL FASTENERS & GLUES TO BE WEATHER PROOF TOP OF FENCE TO BE LEVEL BOTTOM OF FENCE TO STEP WITH GRADE AS NEEDED FENCE MAY STEP DOWN AT POSTS IN 6" INCREMENTS IF NECESSARY



3 COURTYARD FENCE

1/2" = 1'-0"

CP-S-08

COAL CREEK VILLAGE

PRELIMINARY PUD AND SRU

LOUISVILLE, COLORADO

PREPARED BY:



PLANNER / LANDSCAPE ARCHITECT

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ORIGINAL SIZE 24"x36"

ISSUED	DESCRIPTION	DATE
1	PRELIMINARY PUD	5/12/2024
2	PRELIMINARY PUD RD 2	5/12/2024
3	PRELIMINARY PUD RD 3	5/12/2024
4	PRELIMINARY PUD RD 4	5/12/2024
5	PRELIMINARY PUD RD 5	5/12/2024
6	PRELIMINARY PUD RD 6	5/12/2024

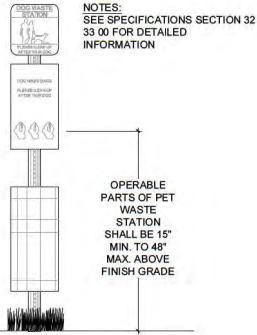
REVISIONS	DESCRIPTION	DATE

FENCING PLAN

SEAL:



PROJECT NO.: R20-030
DRAWN BY:
REVIEWED BY:
DRAWING NUMBER:



NOTES:
SEE SPECIFICATIONS SECTION 32
33 00 FOR DETAILED
INFORMATION

OPERABLE
PARTS OF PET
WASTE
STATION
SHALL BE 15"
MIN. TO 48"
MAX. ABOVE
FINISH GRADE

1 DOG WASTE STATION.
12" x 1'-0"

OP-C03-33



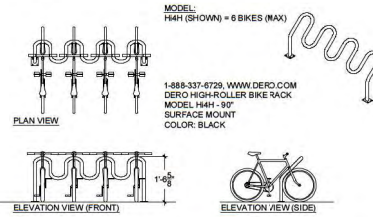
MANUFACTURER: ANOVA FURNISHINGS
MODEL: MADISON 6' RECYCLED PLASTIC CONTOUR
BENCH
PLASTIC SLAT COLOR: CEDAR
FRAME COLOR: TEXTURED BLACK

NOTE: THIS SPECIFICATION SHALL SERVE AS A BASIS OF DESIGN.

2 BENCH
NTS

OP-C03-01

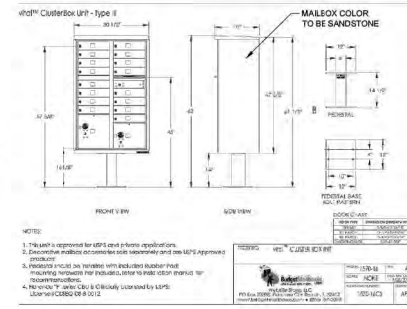
NOTE: THIS SPECIFICATION SHALL SERVE AS A BASIS OF DESIGN.



MODEL:
H4H (SHOWN) = 6 BIKES (MAX)
1-888-337-6729, WWW.DERO.COM
DERO HIGH-ROLLER BIKE RACK
MODEL: H4H - 30"
SURFACE MOUNT
COLOR: BLACK

3 BIKE RACK
102" x 1'-0"

OP-C03-05



NOTES:
1. This unit is designed for USPS use in home applications.
2. Installation and location shall be determined by the local post office.
3. Mailbox must be installed with backdoor location (not
mounting) required for installation. Letter to be made within 10"
height maximum.
4. The unit is a "series C" and is classified as a USPS
Letter Mailbox (LMB) 100-100.

4 MAILBOX
12" x 1'-0"

OP-N02-17



MANUFACTURER: ANOVA FURNISHINGS
MODEL: MADISON 35 GAL RECYCLED PLASTIC
RECEIPTABLE OPEN HOOD TOP
PLASTIC SLAT COLOR: CEDAR
FRAME COLOR: TEXTURED BLACK
LID COLOR: TEXTURED BLACK

NOTE: THIS SPECIFICATION SHALL SERVE AS A BASIS OF DESIGN.

5 TRASH CAN
NTS

OP-C03-02

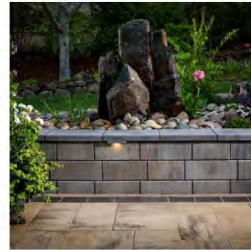


MANUFACTURER: PLANTERS UNLIMITED
MODEL: MODERN FIBERGLASS TAPERED ROUND PLANTER
COLOR: BLACK
SIZE: 36" DIAMETER, 30" HEIGHT

NOTE: THIS SPECIFICATION SHALL SERVE AS A BASIS OF DESIGN.

6 PLANTER
NTS

OP-C03-03



COLOR: PEWTER

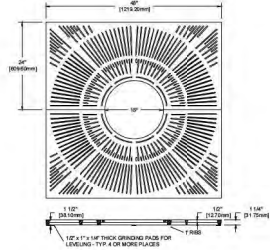
MANUFACTURER: BELGARD
MODEL: MELVILLE TANDEM
BLOCK COLOR: PEWTER
CAP COLOR: PEWTER

NOTE: THIS SPECIFICATION SHALL SERVE AS A BASIS OF DESIGN.

7 RUNNING BOND BLOCK RETAINING WALL
NTS

OP-C03-04

TREE GRATE #M4814-1
STYLE: STARBURST
SERIES 1

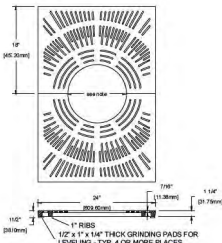


NOTES:
SLOT WIDTH IS 1/4" MAXIMUM. MEETS ADA COMPLIANCE.
GRATE CAST FROM GRAY IRON OR ALUMINUM.
TREE OPENING SIZE: 16", 18", OR 20"
STEEL ANGLE FRAME REQUIRED FOR INSTALLATION. USE MODEL M4800F.
SEE SIDE WALK CHASE DETAIL A CIVIL DWG.
OUTER FRAME DIM. IS 3/4" x 1/8" GREATER THAN GRATE.

8 IRONSMITH STARBURST SERIES 1 TREE GRATE
31" x 1'-0"

OP-AIS-05

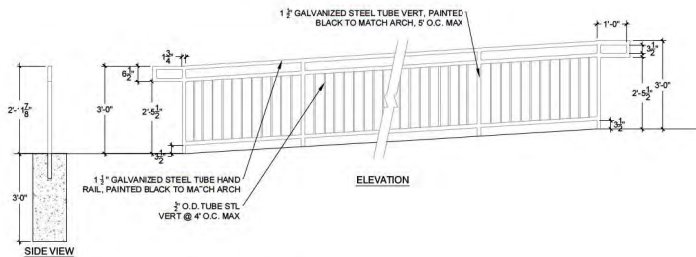
TREE GRATE #M3654-1
STYLE: STARBURST
RECTANGULAR
SERIES 1



NOTES:
SLOT WIDTH IS 1/4" MAXIMUM. MEETS ADA COMPLIANCE.
GRATE CAST FROM GRAY IRON OR ALUMINUM.
TREE OPENING SIZE: 16", 18", OR 20"
STEEL ANGLE FRAME REQUIRED FOR INSTALLATION. USE MODEL M24X36F
OUTER FRAME DIM. IS 3/4" x 1/8"
GREATER THAN GRATE.

9 IRONSMITH STARBURST SERIES 1 TREE GRATE
1" x 1'-0"

OP-C03-06



10 SURFACE MOUNTED RAMP RAILING
102" x 1'-0"

OP-C03-07

COAL CREEK VILLAGE

PRELIMINARY PUD AND SRU

LOUISVILLE, COLORADO
PREPARED BY:



PLANNER / LANDSCAPE ARCHITECT

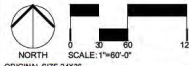
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ORIGINAL SIZE 24X36

ISSUED	No.	DESCRIPTION	DATE
1	PRELIMINARY PUD	01/22/2021	
2	PRELIMINARY PUD NO 2	06/01/2021	
3	PRELIMINARY PUD NO 3	06/17/2022	
4	PRELIMINARY PUD NO 4	12/23/2022	
5	PRELIMINARY PUD NO 5	08/04/2023	
6	PRELIMINARY PUD NO 6	09/14/2024	

SITE DETAILS

SEAL:

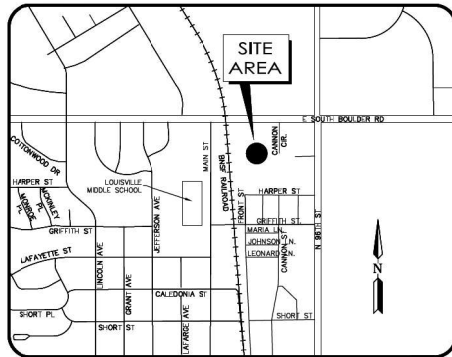


PROJECT No.: R20-030
DRAWN BY:
REVIEWED BY:
DRAWING NUMBER:

COAL CREEK VILLAGE

PRELIMINARY PLAT

A RESUBDIVISION OF PORTIONS OF COAL CREEK STATION FILING NO 1 AND CALEDONIA PLACE, TOGETHER WITH ALL OF COAL CREEK STATION FILING NO. 2, ALSO TOGETHER WITH OTHER LANDS, LYING WITHIN THE NORTHEAST QUARTER (NE 1/4) OF SECTION 8, TOWNSHIP 1 SOUTH, RANGE 69 WEST OF THE SIXTH PRINCIPAL MERIDIAN, CITY OF LOUISVILLE, COUNTY OF BOULDER, STATE OF COLORADO
SHEET 1 OF 5



VICINITY MAP
Not to scale

INDEX TO SHEETS

- 1 COVER SHEET
- 2 HISTORIC PLATTING INFORMATION
- 3 PRELIMINARY PLAT PLAN
- 4 NEW EASEMENT INFORMATION
- 5 LINE AND CURVE TABLES

LAND USE SUMMARY

	AREA	USE	OWNERSHIP	MAINTENANCE
OUTLOT A	0.585 AC.	PRIVATE ROAD, DRAINAGE, PUBLIC UTILITY & MAINTENANCE, LANDSCAPE, ACCESS EASEMENT	HOA	HOA
OUTLOT B	1.238 AC.	PRIVATE ROAD, DRAINAGE, PUBLIC UTILITY & MAINTENANCE, LANDSCAPE, ACCESS EASEMENT	HOA	HOA
OUTLOT C	0.483 AC.	DRAINAGE, UTILITY, LANDSCAPE, PEDESTRIAN ACCESS, PARK	HOA	HOA
OUTLOT D	0.606 AC.	PRIVATE ROAD, DRAINAGE, UTILITY, LANDSCAPE, PEDESTRIAN ACCESS & EMERGENCY ACCESS EASEMENT	HOA	HOA
RIGHT OF WAY DEDICATION	1.235 AC.	PUBLIC STREETS	CITY	CITY

OWNER / SUBDIVIDER

COAL CREEK VILLAGE LLC
1723 ASPENWAY AVE., SUITE B2
BOULDER, CO 80301
(303) 449-8889

CONTACT: MICHAEL MARKEL / CHAD KIPPER

CIVIL ENGINEER

ROCKY RIDGE CIVIL ENGINEERING
420 31ST AVENUE, SUITE 101
LONGMONT, CO 80501
(303) 651-6626

LEGAL DESCRIPTION

KNOW ALL MEN BY THESE PRESENTS, THAT RIDGELINE DEVELOPMENT CORPORATION, BEING THE OWNERS OF THE LANDS DESCRIBED HEREIN, LYING WITHIN THE NORTHEAST QUARTER (NE 1/4) OF SECTION 8, TOWNSHIP 1 SOUTH, RANGE 69 WEST OF THE SIXTH PRINCIPAL MERIDIAN, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

A PORTION OF THE NORTHEAST QUARTER (NE 1/4) OF SECTION 8, TOWNSHIP 1 SOUTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, CITY OF LOUISVILLE, COUNTY OF BOULDER, STATE OF COLORADO, DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHEAST CORNER OF SAID NORTHEAST QUARTER (NE 1/4), FROM WHENCE THE NORTHWEST CORNER OF SAID NORTHEAST QUARTER (NE 1/4) BEARS NORTH 89°58'20" WEST A DISTANCE OF 2642.02 FEET, WITH ALL BEARINGS HEREIN RELATED THERE TO;
THENCE ALONG THE EAST LINE OF SAID NORTHEAST QUARTER (NE 1/4), SOUTH 00°18'01" EAST, 30.00 FEET TO THE SOUTH LINE OF SAID BOULDER ROAD;
THENCE LEAVING SAID EAST LINE, ALONG SAID SOUTH LINE OF SAID BOULDER ROAD, NORTH 89°58'20" WEST, 455.00 FEET TO THE WEST LINE OF CANNON CIRCLE, AND BEING THE POINT OF BEGINNING;

THENCE ALONG SAID WEST LINE OF CANNON CIRCLE, SOUTH 00°17'50" EAST, 380.01 TO A POINT OF INTERSECTION WITH THE SOUTH LINE OF CANNON CIRCLE;

THENCE ALONG SAID SOUTH LINE, SOUTH 89°58'20" EAST, 425.02 FEET TO THE WEST LINE OF NORTH 96TH STREET;

THENCE ALONG SAID WEST LINE, SOUTH 00°18'01" EAST, 199.89 FEET TO THE NORTHEAST CORNER OF THE ROBERT D' GIACOMO SUBDIVISION, SAID POINT ALSO BEING ON THE NORTH LINE OF A 20 FOOT WIDE PUBLIC ALLEY;

THENCE ALONG SAID NORTH LINE, NORTH 89°58'20" WEST, 754.89 FEET TO THE NORTHWEST CORNER OF A PARCEL OF LAND DESCRIBED AND CONVEYED IN THAT CERTAIN OUTCLAIM DEED RECORDED DECEMBER 14, 2014 AT RECEPTION No. 03275254;

THENCE ALONG THE WEST LINE OF SAID PARCEL, SOUTH 00°01'40" WEST, 184.00 FEET TO THE SOUTHWEST CORNER OF SAID PARCEL, SAID POINT ALSO BEING ON THE NORTH LINE OF HARPER STREET;

THENCE ALONG SAID NORTH LINE, NORTH 89°58'20" WEST, 39.06 FEET TO A POINT OF INTERSECTION WITH THE WEST LINE OF FRONT STREET;

THENCE ALONG SAID WEST LINE, SOUTH 00°18'07" EAST, 16.00 FEET TO A POINT OF INTERSECTION WITH THE NORTH LINE OF LOT 1 OF HUNT-PUKASAS SUBDIVISION;

THENCE ALONG SAID NORTH LINE, NORTH 89°58'20" WEST, 114.35 FEET TO A POINT ON THE EAST LINE OF THE B.N.S.F. RAILROAD RIGHT-OF-WAY;

THENCE ALONG SAID EAST LINE THE FOLLOWING SEVEN (7) COURSES:

1. NORTH 08°30'12" WEST, 471.84 FEET TO A POINT;
2. NORTH 08°28'40" WEST, 61.59 FEET TO A POINT;
3. NORTH 08°32'07" WEST, 78.23 FEET TO A POINT;
4. NORTH 08°23'12" WEST, 43.90 FEET TO A POINT;
5. NORTH 08°49'41" WEST, 43.90 FEET TO A POINT;
6. NORTH 10°34'58" WEST, 43.90 FEET TO A POINT;
7. NORTH 11°44'18" WEST, 15.01 FEET TO A POINT ON THE SOUTH LINE OF SOUTH BOULDER ROAD;

THENCE ALONG SAID SOUTH LINE THE FOLLOWING THREE (3) COURSES:

1. SOUTH 89°58'20" EAST, 265.10 FEET TO A POINT;
2. NORTH 00°17'50" WEST, 26.00 FEET TO A POINT;
3. SOUTH 89°58'20" EAST, 315.00 FEET TO THE POINT OF BEGINNING.

EXCEPTING THEREFROM ALL OF LOT 2 OF COAL CREEK STATION FILING NO. 2.

CONTAINING 440,180 TOTAL SQUARE FEET OR 10.105 TOTAL ACRES OF LAND, MORE OR LESS.

GENERAL NOTES

1. NOTICE: ANY PERSON WHO KNOWINGLY REMOVES, ALTERS OR DEFACES ANY PUBLIC LAND SURVEY MONUMENT, OR LAND BOUNDARY MONUMENT OR ACCESSORY, COMMITS A CLASS 2 MISDEMEANOR PURSUANT TO STATE STATUTE 18-4-508 C.R.S.
2. NOTICE: ACCORDING TO COLORADO LAW YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATION SHOWN HEREON.
3. THE LINEAR UNIT OF MEASUREMENT FOR THIS SUBDIVISION PLAT IS THE U.S. SURVEY FOOT, DEFINED AS EXACTLY 1200/3937 METERS
4. THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY POWER SURVEYING INC. FOR INFORMATION REGARDING BOUNDARY, EASEMENTS AND TITLE POWER SURVEYING RELIED UPON OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY TITLE COMMITMENT NO. AB270663385-4, WITH AN EFFECTIVE DATE OF MAY 27, 2021 AT 5:00 P.M.
5. ALL SINGLE FAMILY DETACHED, FEE SIMPLE LOTS HAVE 5' DRAINAGE EASEMENTS ALONG SHARED/COMMON LOT LINES TO ALLOW FOR CONVEYANCES OF STORM WATER RUNOFF, CONSTRUCTION OF IMPROVEMENTS, BEYOND THOSE DEPICTED ON THE CITY APPROVED CONSTRUCTION PLANS, OR MODIFICATION OF LOT DRAINAGE CHARACTERISTICS IS STRICTLY PROHIBITED.
6. THE CITY OF LOUISVILLE SHALL REVIEW AND APPROVE THE LOCATIONS OF UTILITY LINES, PEDESTALS AND CABINETS WITHIN PUBLIC PROPERTY AND WITHIN CITY OF LOUISVILLE EXCLUSIVE WATER, STORM AND SANITARY SEWER EASEMENTS.
7. THE MINIMUM SEPARATION BETWEEN WATER AND SANITARY SHALL BE 10" OUTSIDE OF PIPE TO OUTSIDE OF PIPE SEPARATION BETWEEN ALL OTHER UTILITIES SHALL NOT BE LESS THAN 7" TO THE EXTENT PRACTICAL BASED ON CONSTRUCTIBILITY, COST, RIGHT-OF-WAY AND ASSOCIATED STREET WIDTHS, ETC. THE CITY WILL WORK WITH THE SUBDIVIDER TO GENERATE PRACTICAL SOLUTIONS FOR AREAS OF UTILITY SEPARATION CONCERNS.
8. EXCLUSIVE CITY UTILITY EASEMENTS ARE RESERVED FOR CITY OF LOUISVILLE EXCLUSIVE USE FOR CITY WATER, SANITARY SEWER AND STORM SEWER FACILITIES. DRY UTILITIES COMPANIES AND/OR PRIVATE OWNERS OF STORM DRAINAGE AND IRRIGATION LINES MUST OBTAIN PRIOR WRITTEN APPROVAL FROM THE CITY FOR ANY PROPOSED CROSSING OF ANY CITY WET UTILITY EASEMENTS AND MUST EXECUTE AN AGREEMENT WHICH STIPULATES THE DRY UTILITIES, STORM DRAINAGE AND/OR IRRIGATION LINES APPROVED TO CROSS CITY EASEMENTS ARE SUBJECT TO RELOCATION AT THE COMPANY'S OR OWNERS' EXPENSE AT THE DIRECTION OF THE CITY. DRY UTILITIES, STORM DRAINAGE AND/OR IRRIGATION LINES THAT ARE APPROVED TO CROSS CITY EASEMENTS SHALL DO SO AT SUBSTANTIALLY RIGHT ANGLES. WET UTILITIES MAY TRANSVERSE DRY UTILITY EASEMENTS WITHOUT REQUIREMENT FOR FURTHER PERMISSION, NO JOINT USE OF ANY CITY EXCLUSIVE UTILITY EASEMENT IS PERMITTED WITHOUT EXPRESS WRITTEN APPROVAL OF THE CITY AND EXECUTION OF A JOINT USE AGREEMENT, WHICH SHALL BE AT THE CITY'S DISCRETION.
9. UTILITY EASEMENTS ARE DEDICATED TO THE CITY OF LOUISVILLE FOR THE BENEFIT OF THE APPLICABLE UTILITY PROVIDERS FOR THE INSTALLATION, MAINTENANCE AND REPLACEMENT OF ELECTRIC, GAS, TELEVISION, CABLE, AND TELECOMMUNICATIONS FACILITIES (DRY UTILITIES) UTILITY EASEMENTS SHALL ALSO BE GRANTED WITHIN ANY ACCESS EASEMENTS AND PRIVATE STREETS IN THE SUBDIVISION. PERMANENT STRUCTURES, IMPROVEMENTS, OBJECTS, BUILDINGS, WELLS, WATER METERS AND OTHER OBJECTS THAT MAY INTERFERE WITH THE UTILITY FACILITIES OR USE THEREOF (INTERFERING OBJECTS) SHALL NOT BE PERMITTED WITHIN SAID UTILITY EASEMENTS AND THE UTILITY PROVIDERS, AS GRANTEES, MAY REMOVE ANY INTERFERING OBJECTS AT NO COST TO SUCH GRANTEES, INCLUDING, WITHOUT LIMITATION, VEGETATION. PUBLIC SERVICE COMPANY OF COLORADO (PSCo) AND ITS SUCCESSORS RESERVE THE RIGHT TO REQUIRE ADDITIONAL EASEMENTS AND TO REQUIRE THE PROPERTY OWNER TO GRANT PSCo AN EASEMENT ON ITS STANDARD FORM.
10. THE EXISTING 30' WIDE ACCESS EASEMENT AND PUBLIC SIDEWALK EASEMENTS THAT WERE ORIGINALLY GRANTED PER THE PLAT OF COAL CREEK STATION FILING NO. 2 WERE VACATED BY ORDINANCE No. _____, THAT CERTAIN PORTION OF CANNON CIRCLE RIGHT OF WAY DEDICATED PER THE PLAT OF COAL CREEK STATION FILING NO. 1 WAS VACATED PER ORDINANCE No. _____.
11. THE CITY OF LOUISVILLE IS GRANTED A 4' WIDE MAINTENANCE ACCESS EASEMENT BEYOND RIGHT OF WAY FOR MAINTENANCE OF CURB AND WALK. MINIMUM SURFACE DISTURBANCE IS ALLOWED WITHIN THIS EASEMENT.
12. A 10' WIDE MAINTENANCE ACCESS EASEMENT ALLOWED ON EITHER SIDE OF EXCLUSIVE UTILITY EASEMENTS OR 5' ON EACH SIDE OF THE EXCLUSIVE UTILITY EASEMENTS.
13. PEDESTRIAN EASEMENTS AND ACCESS EASEMENTS ARE HEREBY GRANTED FOR BLOCKS 1, 4 & 5 OVER ALL PAVED SURFACES, SUCH AS PARKING LOTS AND SIDEWALKS.

MAINTENANCE NOTE

FOUR FOOT WIDTH (4') WILL BE ASSUMED OUTSIDE EDGE OF WALK TO BE USED FOR MAINTENANCE OF THE WALKS BY THE CITY OF LOUISVILLE.

FLOODPLAIN STATEMENT

THE SUBJECT PROPERTY LIES ENTIRELY WITHIN ZONE X (AREAS OF MINIMAL FLOOD HAZARD; AREAS DETERMINED TO BE OUTSIDE THE 0.2% PERCENT ANNUAL CHANCE FLOODPLAIN), AS SHOWN ON F.I.M. PANEL #08013 C 0502K, WITH AN EFFECTIVE DATE OF AUGUST 15, 2019.

BASIS OF BEARINGS

NORTH 89°58'20" WEST, BEING THE BEARING OF THE NORTH LINE OF THE NORTHEAST QUARTER (NE 1/4) OF SECTION 8, TOWNSHIP 1 SOUTH, RANGE 69 WEST OF THE SIXTH PRINCIPAL MERIDIAN, AS DEFINED AND MEASURED BETWEEN A FOUND 2" DIAMETER ILLEGIBLE BRASS CAP IN RANGE BOX AT THE NORTHEAST CORNER OF SAID NORTHEAST QUARTER (NE 1/4) AND A FOUND 2-1/2" DIAMETER ILLEGIBLE ALUMINUM CAP IN RANGE BOX AT THE NORTHWEST CORNER OF SAID NORTHEAST QUARTER (NE 1/4).

SURVEYOR'S CERTIFICATE

I, RICHARD BRUCE GABRIEL, A LICENSED PROFESSIONAL LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY CERTIFY THAT THE SURVEY REPRESENTED HEREIN WAS MADE UNDER MY DIRECT RESPONSIBILITY, SUPERVISION AND CHECKING; THE MONUMENTS SHOWN THEREON ACTUALLY EXIST; THE PLAT ACCURATELY REPRESENTS SAID SURVEY; AND THIS SUBDIVISION PLAT WAS MADE IN ACCORDANCE WITH C.R.S. 35-51-101.

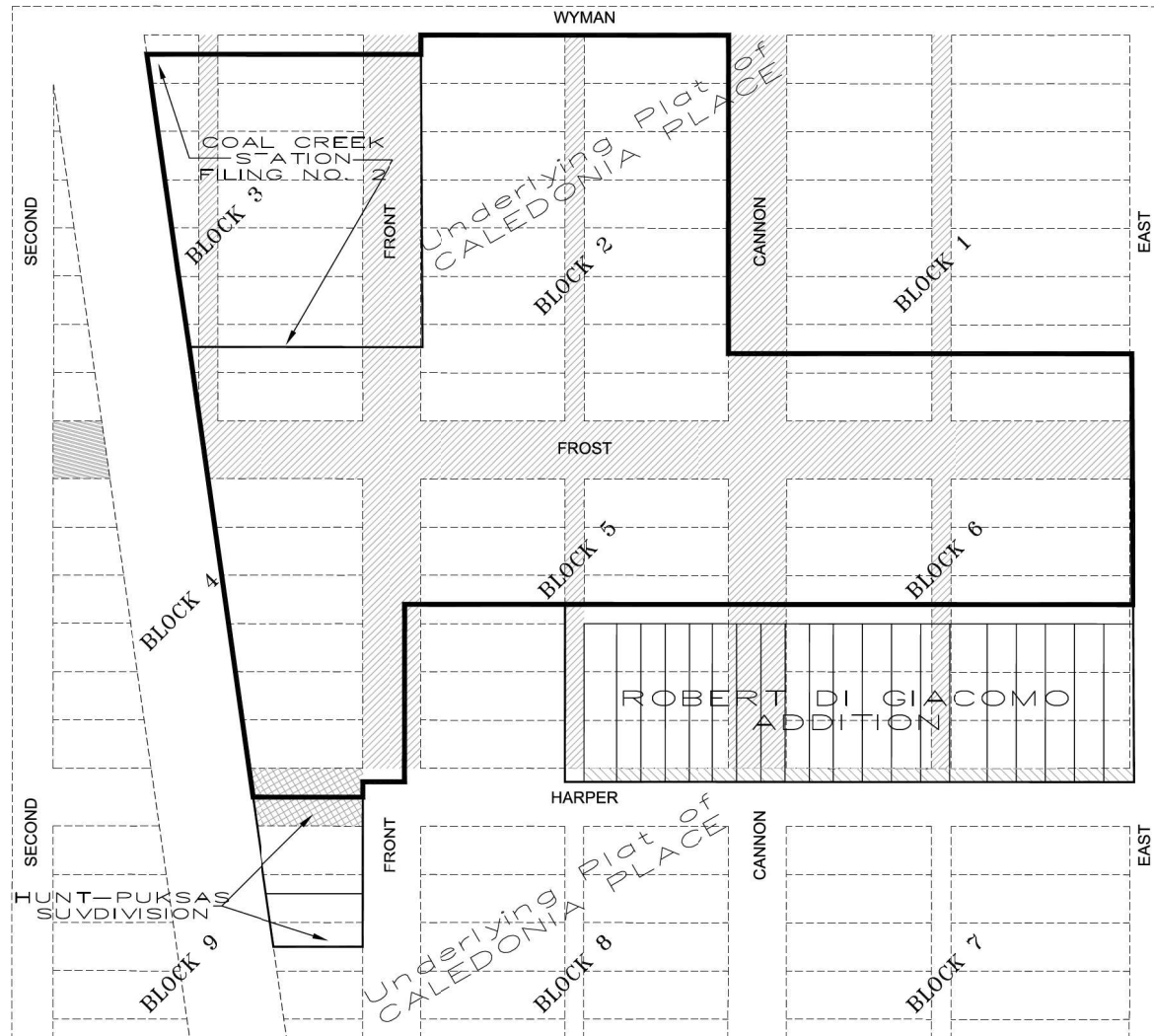
RICHARD BRUCE GABRIEL, P.L.S.
Colorado License No. 37929
for and on behalf of
Power Surveying Company, Inc.

COVER SHEET

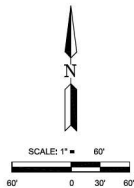
 Established 1949 SEVERELY BOULDER, CO 80501	TYPE OF SUBMITTAL:	PRELIMINARY PLAT
	PREPARATION DATE:	DECEMBER 22, 2022
	REVISION DATE:	FEBRUARY 5, 2024
	REVISION DATE:	
	REVISION DATE:	
	REVISION DATE:	
JOB NO. 16-216	DRAWN BY: MB	REVIEWED BY: FZ
SHEET 1 OF 5		

COAL CREEK VILLAGE

PRELIMINARY PLAT
SHEET 2 OF 5



-  1901 VACATION OF CERTAIN STREETS AND ALLEYS IN CALEDONIA PLACE
-  14' WIDE VACATION OF A PORTION OF HARPER STREET PER ORDINANCE 352
-  80' WIDE VACATION OF A PORTION OF FROST STREET PER ORDINANCE 369
-  60' WIDE VACATION OF A PORTION OF HARPER STREET PER ORDINANCE 599



HISTORIC PLATING INFORMATION

 POWER Surveying Company, Inc. <i>Established 1948</i> 881 BRIDGEMAN DRIVE, CO 80221 PH: 303-425-1417 FAX: 303-425-1488 www.powerinc.com	TYPE OF SUBMITTAL:	PRELIMINARY PLAT
	PREPARATION DATE:	DECEMBER 22, 2022
	REVISION DATE:	FEBRUARY 5, 2024
	REVISION DATE:	
	REVISION DATE:	
	REVISION DATE:	
	REVISION DATE:	
	DRAWN BY: MB	REVIEWED BY: FZ
	JOB NO. 16-216	001-16-26 PP 2022-12-22.dwg

SHEET 2 OF 5

COAL CREEK VILLAGE
PRELIMINARY PLAT
SHEET 5 OF 5

LINE TABLE

LINE	BEARING	LENGTH
L1	S16°33'03"E	6.11'
L2	N00°01'40"E	15.33'
L3	N02°50'04"W	35.18'
L4	S81°25'48"W	15.91'
L5	S90°00'00"W	29.43'
L6	N90°00'00"E	19.74'
L7	N00°00'00"E	9.12'
L8	S78°00'00"E	15.73'
L9	N90°00'00"E	25.50'
L10	S90°00'00"E	25.50'
L11	N00°00'00"E	43.21'
L12	S00°00'21"W	10.00'
L13	N89°54'11"W	17.91'
L14	N00°00'21"E	37.38'
L15	N90°00'00"W	44.00'
L16	S45°11'56"E	34.69'
L17	S41°37'52"W	20.03'
L18	N45°11'56"W	27.55'
L19	N90°00'00"E	42.00'
L20	S17°41'27"E	35.89'
L21	S08°57'00"W	31.60'
L22	N08°36'50"E	26.58'
L23	N82°00'04"W	5.07'
L24	N17°41'27"W	58.20'
L25	N90°00'00"W	37.29'
L26	S00°00'00"W	43.19'
L27	S89°58'20"E	29.34'

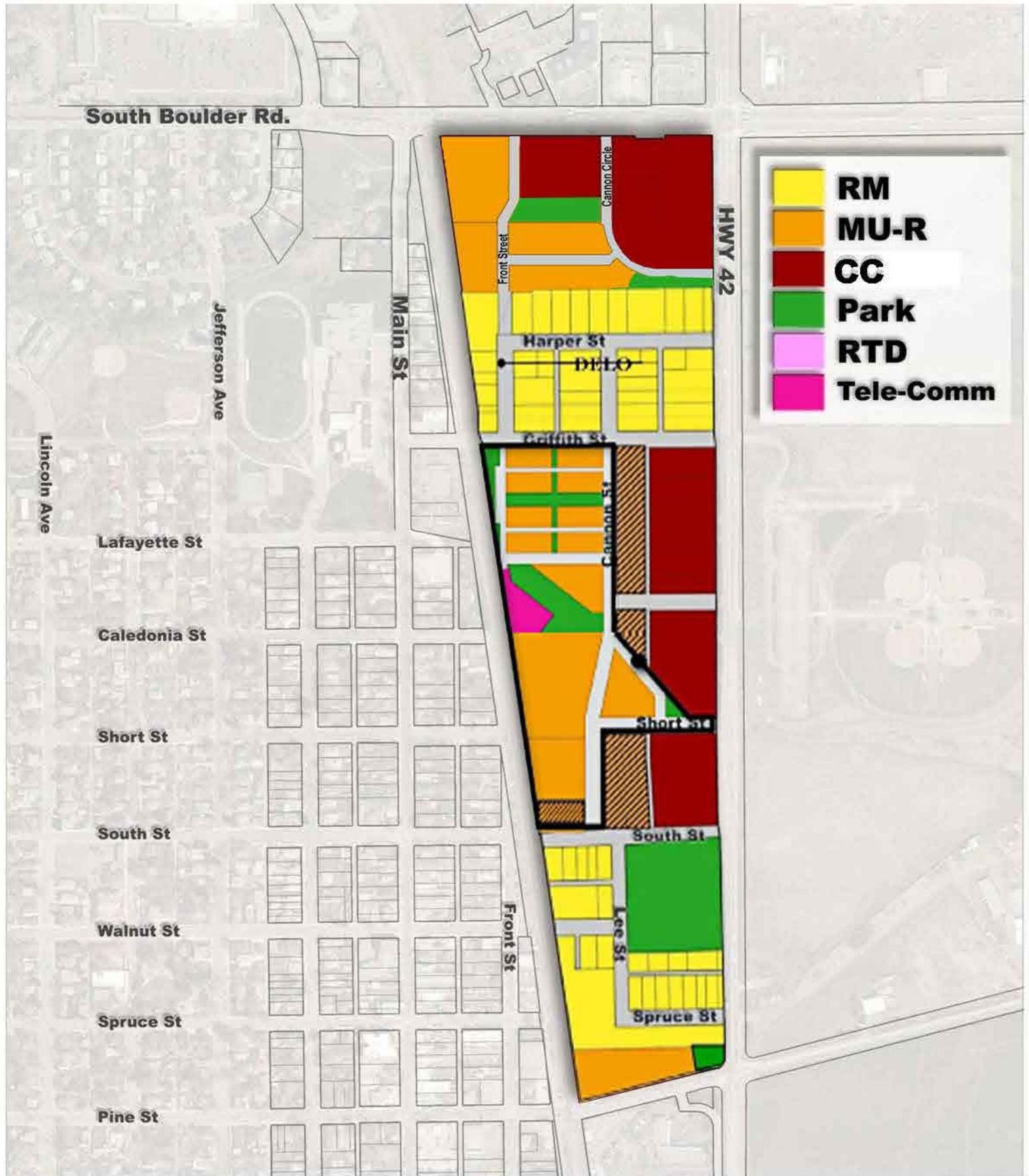
CURVE TABLE

CURVE	RADIUS	DELTA	LENGTH	CHORD BRC	CHORD LENGTH
C1	15.00'	89°58'20"	23.55'	N44°59'10"W	21.21'
C2	250.58'	17°30'27"	78.57'	N08°45'14"E	76.27'
C3	269.82'	17°46'28"	83.86'	S08°36'13"W	83.52'
C4	269.82'	97°122"	44.30'	S12°46'16"W	44.25'
C5	269.82'	142°39"	8.06'	S07°14'46"W	8.06'
C6	269.82'	511°42"	28.82'	S03°32'35"W	28.81'
C7	269.82'	079°46"	4.69'	S00°11'52"W	4.69'
C8	240.00'	185°100"	68.07'	S08°23'32"E	87.84'
C9	240.00'	446°05"	19.97'	S02°41'04"E	19.97'
C10	240.00'	6°2'37"	26.01'	S08°10'29"E	26.00'
C11	240.00'	9°8'20"	22.08'	S13°54'53"E	22.08'
C12	110.00'	153°3'38"	59.87'	N08°46'14"W	59.78'
C13	110.00'	113°27"	2.99'	N15°46'19"W	2.99'
C14	110.00'	8°7'38"	15.92'	N10°50'47"W	15.91'
C15	110.00'	512°34"	10.86'	N03°50'41"W	10.86'
C16	183.00'	153°3'21"	49.68'	S08°04'41"E	49.53'
C17	212.82'	17°48'28"	66.15'	S08°36'13"W	65.98'
C18	212.82'	071°52'	1.97'	S00°02'05"E	1.97'
C19	212.82'	115°01'5"	43.97'	S08°08'59"W	43.89'
C20	212.82'	576°21"	20.20'	S14°47'17"W	20.30'
C21	307.58'	17°30'27"	83.99'	N08°45'14"E	83.62'
C22	307.58'	2°0'09"	11.65'	N16°25'22"E	11.64'
C23	307.58'	5°9'58"	28.63'	N12°40'18"E	28.62'
C24	307.58'	100°19"	53.71'	N05°00'09"E	53.64'
C25	15.00'	90°01'40"	23.57'	S45°00'50"W	21.22'
C26	15.00'	89°40'30"	23.48'	N45°08'05"W	21.15'
C27	15.00'	89°40'30"	23.48'	N45°08'05"W	21.15'
C28	15.00'	90°19'30"	23.65'	N44°51'55"E	21.27'
C29	25.00'	334°7'40"	14.75'	N16°53'50"W	14.53'
C30	8.00'	90°01'40"	12.57'	N45°00'50"E	11.37'
C31	8.00'	89°40'19"	12.52'	S45°08'11"E	11.28'
C32	5.00'	90°01'40"	7.86'	N45°00'50"E	7.07'
C33	15.00'	77°9'22"	1.98'	S03°53'30"E	1.98'
C34	5.00'	90°19'41"	7.86'	N44°51'49"E	7.09'
C35	15.00'	58°16'42"	15.26'	S30°41'11"E	14.61'
C36	25.00'	380°3'16"	16.60'	S19°01'38"W	16.30'
C37	198.50'	153°7'14"	54.12'	S07°46'37"W	53.95'
C38	198.50'	372°05"	12.25'	S01°46'02"W	12.24'
C39	198.50'	115°3'18"	41.19'	S05°28'44"W	41.11'
C40	198.50'	071°52"	0.68'	S15°31'18"W	0.68'
C41	9.00'	90°19'30"	14.19'	N44°51'55"E	12.76'

LINE AND CURVE TABLES

 881 S BRIDGEMAN DENVER, CO 80201 <i>Established 1948</i> P.O. BOX 10117 FAX: 303.735.1188 www.powerinc.com	TYPE OF SUBMITTAL:	PRELIMINARY PLAT
	PREPARATION DATE:	DECEMBER 22, 2022
	REVISION DATE:	FEBRUARY 5, 2024
	REVISION DATE:	
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	DRAWN BY: MB	REVIEWED BY: FZ
	JOB NO. 16-216	001-16-26 PP 2022-12-22.dwg
SHEET 5 OF 5		

Land Use Plan Exhibit A



Martin Roth
Executive Vice President

Capital Markets, Land Service
Licensed Real Estate Broker



1225 17th Street, Suite 3200, Denver
CO 80202
Tel +1 303 628 1700
Fax +1 303 628 1751
Martin.Roth@cbre.com
www.cbre.com

August 11, 2025

Re: Coal Creek Village

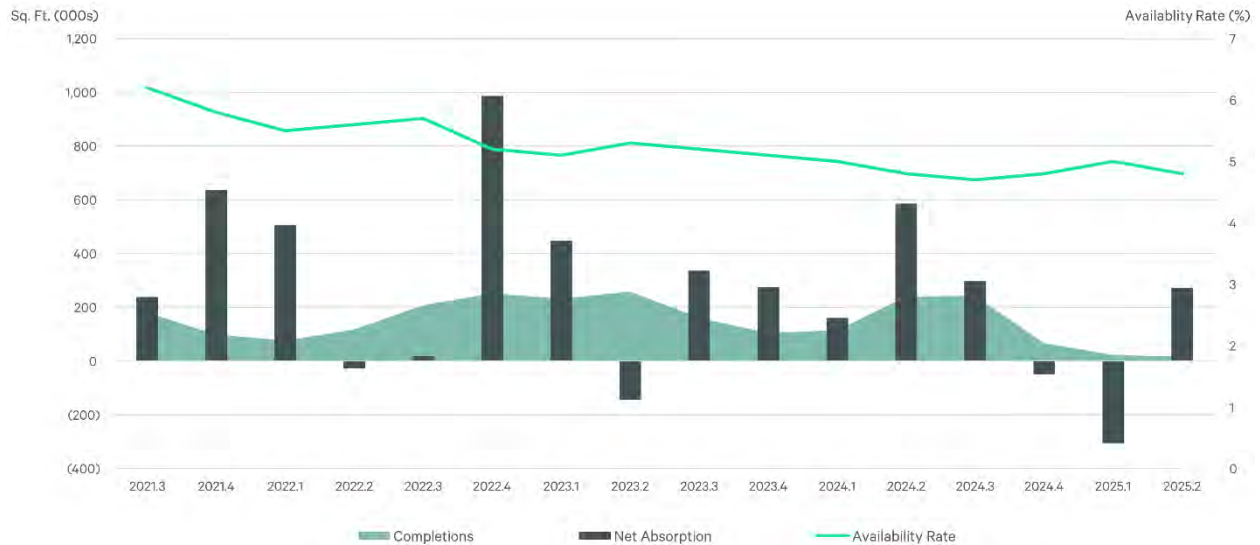
Dear City of Louisville Planning Department,

The Metro Denver commercial real estate market is showing conditions that call for a highly selective approach to new development. Current fundamentals in both retail and office suggest that speculative projects face significant headwinds.

Retail

In retail, the story has been one of stability rather than growth. As of the second quarter of 2025, availability in the Denver market sits at 4.8%, essentially unchanged from a year ago. Net absorption did rebound this quarter, but at 272,000 square feet it remains well off the pace we saw in 2024. New deliveries have been modest—just 348,000 square feet in the past year—and the bulk of leasing interest is coming from smaller pad users like gas/convenience, quick service restaurants, and a handful of financial institutions. Larger-format retail users are scarce, and while average asking rents have reached \$21.65 per square foot, the highest level in five years, much of that growth is a function of limited quality space in prime corridors rather than robust tenant expansion. Many communities are recognizing this reality and are choosing to bolster their existing retail cores with nearby residential density instead of risking oversaturation.

Per the statistical data below, retail completions* have been modest for several years, with most quarters since 2021 delivering fewer than 250,000 square feet. Despite this limited new supply, availability has eased only slightly—from 5.2% in late 2022 to 4.8% today—showing that demand has not been strong enough to materially tighten the market. Net absorption has been inconsistent over the past several years, with positive quarters often followed by periods of giveback. Tenant growth has not been consistent enough to establish a clear upward trend.



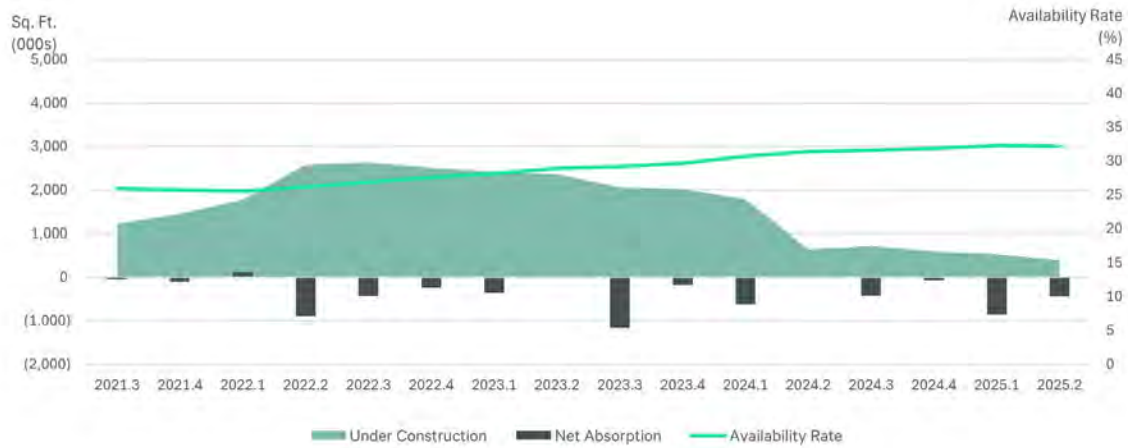
Source: CBRE Economic Advisors & CBRE Research, Q2 2025

*CBRE no longer reports construction data for retail properties, replacing it with completions data.

Office

The headwinds are even stronger in office. Vacancy has inched up to 27.4%, and although absorption has improved compared to earlier this year, the market remains in negative territory. Leasing activity has slowed materially, under-construction volume has dropped to just under 400,000 square feet, and rents, averaging \$33.86 full-service gross, often fall short of the levels needed to underwrite new projects. Companies are still adjusting to hybrid and remote work, which is keeping a lid on expansion plans and contributing to elevated sublease space. At the same time, we are seeing conversions and demolitions begin to outpace new office construction—a sign that the market is working through existing oversupply before it can support meaningful new development.

Per the statistical data below, the office sector's long-term trajectory underscores these challenges. The pipeline of space under construction has fallen sharply—from a recent peak of 2.6 million square feet in Q3 2022 to just 394,000 square feet today. Net absorption has been negative in 13 of the past 16 quarters, and availability has climbed from 26% in late 2021 to 32% currently. These figures highlight a market still digesting excess inventory, with more space being removed through repurposing than added through new construction.



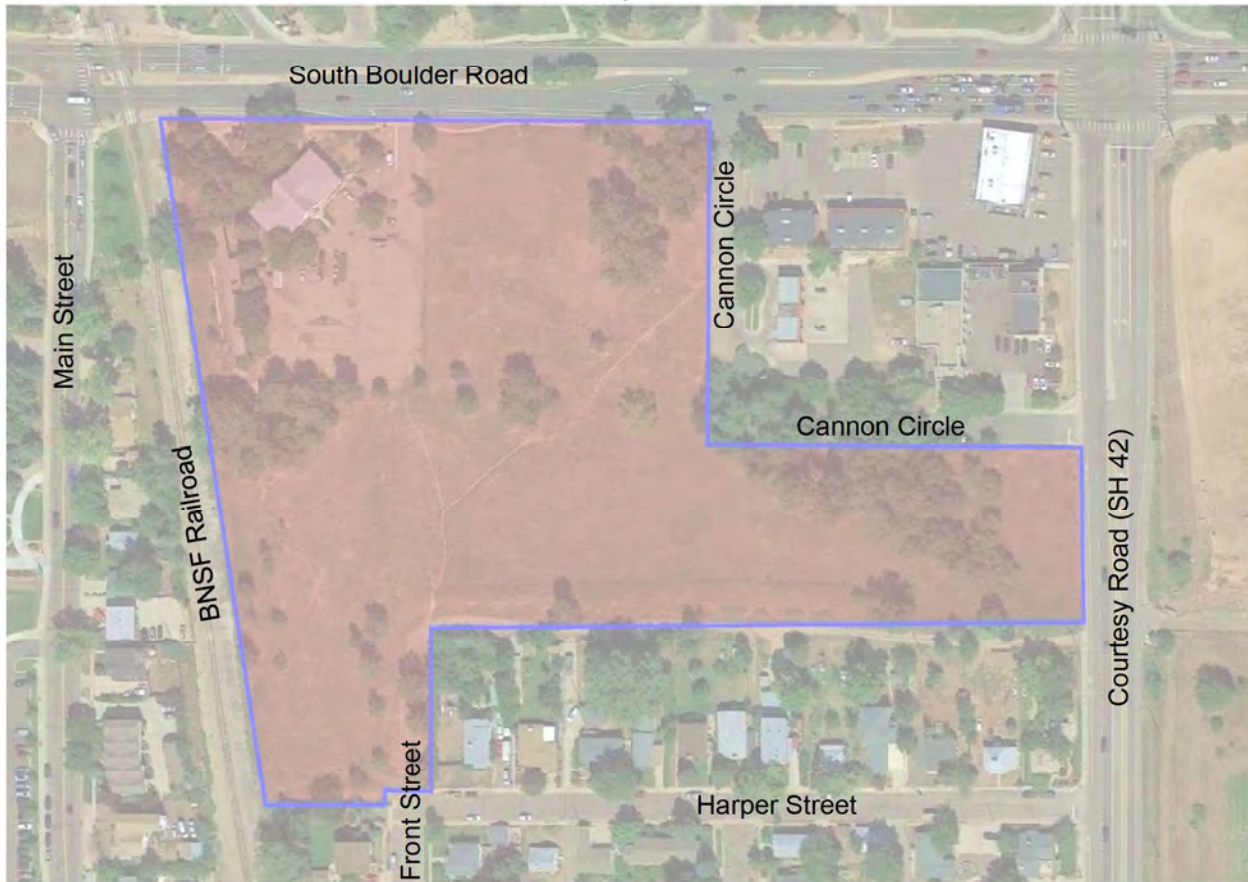
Source: CBRE Research, Q2 2025

Please feel free to call me with any questions.

Sincerely,

Martin Roth
CBRE, Inc.

**Transportation Impact Study
Coal Creek Village
Louisville, Colorado**



January 14, 2021
Revised: June 9, 2025
Revised: July 18, 2025

PREPARED FOR:
Markel Homes
5723 Arapahoe Avenue, Ste 2B
Boulder, CO 80303
(303) 339-6116
Contact: Jason Markel

PREPARED BY:
McDowell Engineering, LLC
PO Box 4259
Eagle, CO 81631
970.623.0788
Contact: Kari J. McDowell Schroeder, PE, PTOE
Project Number: M1475 & M1663

CITY OF LOUISVILLE APPROVAL BY:  DATE: <u>08/14/2025</u> DOCUMENT APPROVAL EXPIRES ONE YEAR FROM APPROAL DATE THIS DOCUMENT WAS REVIEWED FOR CONFORMANCE WITH THE CITY OF LOUISVILLE DESIGN AND CONSTRUCTION STANDARDS. CITY APPROVAL DOES NOT RELIEVE OWNER, DESIGN ENGINEER, OR CONTRACTOR OF RESPONSIBILITY TO CORRECT ERRORS OR OMISSIONS RELATING TO THIS DOCUMENT
--

Statement of Engineering Qualifications

Kari J. McDowell Schroeder, PE, PTOE is a Transportation and Traffic Engineer for McDowell Engineering, LLC. Ms. McDowell Schroeder has over twenty-eight years of extensive traffic and transportation engineering experience. She has completed numerous transportation studies and roadway design projects throughout Colorado. Ms. McDowell Schroeder is a licensed Professional Engineer in the State of Colorado and has her certification as a Professional Traffic Operations Engineer from the Institute of Transportation Engineers.

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1.0 Executive Summary

Coal Creek Village is a proposed residential development located southwest of the intersection of South Boulder Road and Colorado State Highway 42. The development proposes the following land uses:

Land Use Category	Qty	Units
Multifamily Housing	188	dwelling units
Commercial/Retail	13,530	square feet
Existing Empanada Shop (1030 E. South Boulder Road.)	430	square feet

Trip Generation: The proposed development is expected to generate a total of 1,839 vehicle trips on the adjacent roadway network over the course of an average weekday (vpd). This includes 220 vehicle trips per hour (vph) during the morning peak hour, 244vph during the evening peak hour, and 144vph during the Saturday peak hour.

Internal Site Circulation: The proposed street configuration for Coal Creek Village provides good internal circulation as well as providing alternate routes to access adjacent arterial streets. Drivers wanting to go west on South Boulder Road or north on SH 42 may need to alter their travel routes, as left turns out of the site are prohibited onto these two roadways.

Sidewalks are proposed throughout the development. Adjacent access to transit is provided at South Boulder Road and Main Street.

Site Access: The new Coal Creek Village is proposing four access locations. Three of the four accesses exist, and the fourth access will need to be constructed. Two accesses will have direct connectivity to South Boulder Road, one access will have direct connectivity to State Highway 42, and the fourth access will have direct connectivity to Front Street. The four accesses are listed below. Refer to the site plan in **Figure 2**.

1. Front Street and South Boulder Road
2. Cannon Circle and South Boulder Road
3. Cannon Circle and State Highway 42
4. Front Street and Harper Street (with and without the Front Street connection)

This study analyzes the transportation impacts with and without the Front Street connection.

Intersection Analysis: Year 2026 and Year 2045 background and total traffic conditions were modeled and analyzed. Total traffic conditions were analyzed with and without

the Front Street connection from South Boulder Road to Griffith Street. Additionally, future access control, infrastructure improvements, and traffic from the Delo Boom development were factored into these projections.

Infrastructure recommendations based upon future traffic conditions, access restrictions, and operations are detailed in **Section 7.0**. A summary of the necessary improvements is included below.

Front Street Connection: This TIS includes analysis of scenarios with and without the Front Street connection. Due to the sites' direct access to S. Boulder Road with heavy through volumes, the site accesses will have restricted turning movements. Without the Front Street connection, more vehicles access South Boulder Road from the Cannon Circle access creating additional weave and U-turn movements that present safety concerns. Both the City staff and the TIS recommendations are to include the Front Street connection.

The Front Street connection provides numerous benefits to the Louisville community. The Front Street connection will allow for transportation redundancy as part of a gridded street network. Gridded networks have more capacity and increase circulation with narrower roadways that are safer for pedestrians and other multimodal traffic. It also aligns with the City's previous planning efforts.

Without the Front Street connection, there is anticipated to be an additional 25% of the exiting site distribution that would use the eastbound U-turn, which amounts to between 8 to 18vph. This equates to an anticipated increase of between 40% and 85% for the eastbound U-turn movements on South Boulder Road in the long-term traffic scenarios. This includes a difficult weave movement across two or three lanes of traffic in the 400 feet between the northern site accesses to the eastbound left turn lane at the signalized intersection.

Under both scenarios, Front Street is anticipated to stay within Front Street's local residential street capacity.

With the Front Street connection, it is recommended that traffic calming measures are constructed to attenuate operations on Front Street. Several measures that may be considered are described in the City of Louisville's *Transportation Master Plan*. This document's Neighborhood Traffic Management Program (NTMP) focuses on neighborhood-level traffic calming and safety improvements. These improvements help maintain the City's family-friendly small-town character. Examples of tools utilized within an NTMP include, but are not limited to the following.

- Enhanced or raised pedestrian crossings
- Medians and/or entry islands
- Curb extensions

- Speed humps or cushions
- Speed monitoring and enforcement campaigns
- Education campaigns

Intersection #2 - South Boulder Road and Front Street Intersection: With the development of Coal Creek Village, the eastbound right turn lane needs to be extended to include 75' of storage and a 13.5:1 taper to accommodate the anticipated site-generated traffic. Alternately, the construction of a bay taper would be acceptable and may help facilitate the addition of an adjacent transit stop. The westbound left turn lane is constrained by the back-to-back turn lane to the adjacent access.

The northbound movement is restricted to right turn movements. Therefore, the northbound movement out of the site does not require a separate turn lane. No acceleration lane is required for this movement onto South Boulder Road.

Intersection #3 - South Boulder Road and Cannon Circle intersection: The City is considering the restriction of the left turns from the side streets at the South Boulder Road and Cannon Circle intersection as mentioned in the *South Boulder Road Corridor Evaluation*. Per the analysis included in this report, McDowell Engineering recommends that the left turn and through movements are restricted at Cannon Street at the time of Coal Creek Village buildout. This can be accomplished with the construction of a raised center median at the intersection.

With the development of Coal Creek Village, an eastbound right turn lane needs to be constructed to include 50' of storage and a 13.5:1 taper to accommodate the anticipated site-generated traffic. Alternately, the construction of a bay taper would be acceptable. The westbound left turn lane is constrained by the back-to-back turn lane to the adjacent access. The 95th percentile queue for this movement is less than the available storage length + taper length. Therefore, no changes are recommended to the westbound left deceleration lanes.

The northbound movement is restricted to right turn movements. Therefore, the northbound movement out of the site does not require a separate turn lane.

Intersection #4 – South Boulder Road and SH 42 intersection: The City's *Future 42* plan proposes improvements to this intersection in the future. This analysis supports the City's planned improvements.

Intersection #5 - SH 42 and Cannon Circle intersection: With the construction of Coal Creek Village, this intersection will be restricted to a $\frac{3}{4}$ movement by extending the existing center median in SH 42. The median should be installed per the *Future 42* plan and align with the SH 42 Trail and Bike Lane designs.

The eastbound movement will be restricted to right turn only movements. Therefore, no deceleration lane is needed for this movement.

This intersection and the median should be installed per the implementation of the *Future 42* plan, including the trail and bike lane components.

A new State Highway Access Permit is required for this access onto SH 42.

Intersection #6 – SH 42 and Griffith Street intersection: The City's *Future 42* Plan proposes a future traffic signal installation at this intersection. The additional traffic from Coal Creek Village will not meet MUTCD traffic signal warrants at this intersection, future conditions with other growth likely will. This analysis supports the City's planned improvements.

Intersection #7 – Griffith Street and Front Street Intersection: No improvements are required at this intersection.

Intersection #8 – Griffith Street and Front Street intersection: This is a full-movement intersection with stop-control on the north and south legs. No additional turn lanes are required.

It is recommended that with the Front Street connection, additional traffic calming features are incorporated such as curb extensions/bulbouts and raised pedestrian crossings, enhanced signage and striping per further discussion with City Staff. The applicant has prepared a separate, schematic traffic control plan to be included in the application.

Additionally, with the Front Street connection, this intersection should have 'Do Not Block Intersection' signage and striping added that will assist with traffic accessing Front Street. Intersection of Griffith Street and the BNSF Railroad: This at-grade railroad crossing sees multiple trains crossings per day, with each impacting the crossing for three to five minutes at a time. During the crossing, traffic queues on Griffith Street back up in either direction. As described above, it is recommended that the intersection of Griffith Street and Front Street has 'Do Not Block Intersection' signage and striping added that will assist with traffic accessing Front Street.

Intersection #9 – Griffith Street and Main Street Intersection: No improvements are required at this intersection.

Intersection #10 – Front Street and Harper Street intersection with the Front Street Connection: This is currently a free-flowing intersection. There is an unimproved alley access as a third, north leg. With the buildout of Coal Creek Village and a connection of Front Street from South Boulder Road to Griffith Street, it is recommended that Front Street is designed as the through street and Harper Street is stop-controlled

with a stop sign and stop bar on this east leg. The north leg of this intersection is recommended to have a painted pedestrian crosswalk.

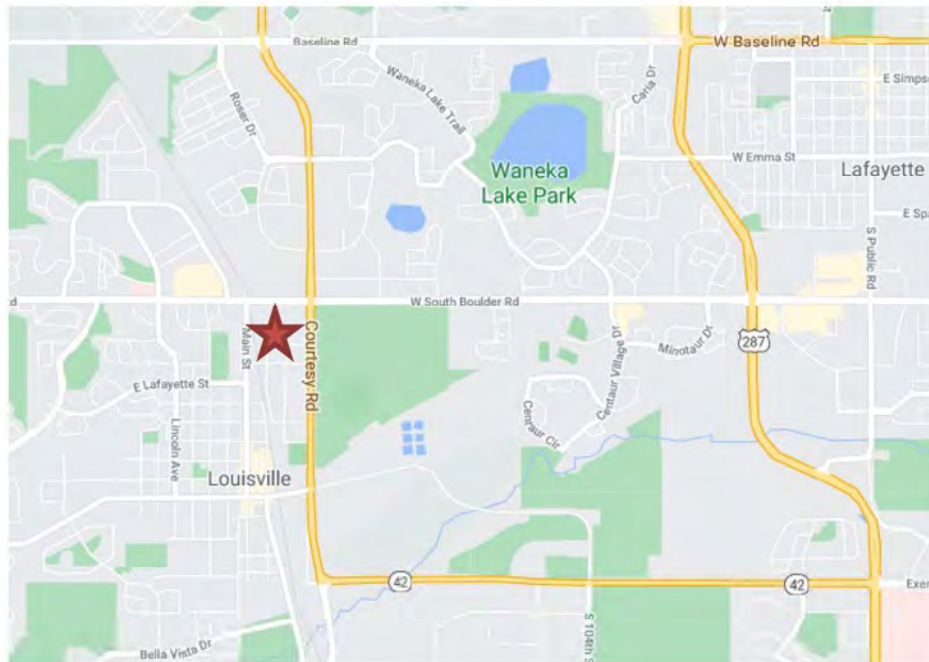
Intersection #11 – SH 42 and Harper Street intersection: The existing volume of eastbound right turns from Harper Street onto SH 42 exceeds the *Access Code's* requirement to construct an acceleration lane for this movement. With the implementation of the *Future 42 Plan*, this volume is anticipated to increase because current traffic making the eastbound left movement will likely make a right turn instead. Coal Creek Village's site traffic is not anticipated to impact this movement. At a minimum, the construction of an acceleration lane should be incorporated into the implementation of Future 42 plans.

2.0 Project Description

Coal Creek Village is a proposed mixed-use residential and commercial development in Louisville, located southwest of the intersection of South Boulder Road and Courtesy Road (Colorado State Highway 42, SH 42), as shown in **Figure 1**. The site is bounded by the BNSF Railroad on the west. The current site plan for the development is shown in **Figure 2**. A full-size copy of the site plan is included in the **Appendix**. The existing commercial parcels north and east of Cannon Circle are not part of the development.

The existing building located at 1032 East South Boulder Road was demolished in 2022. The existing building at 1030 East South Boulder Road remains in operation as an Empanada shop.

Figure 1: Vicinity Map

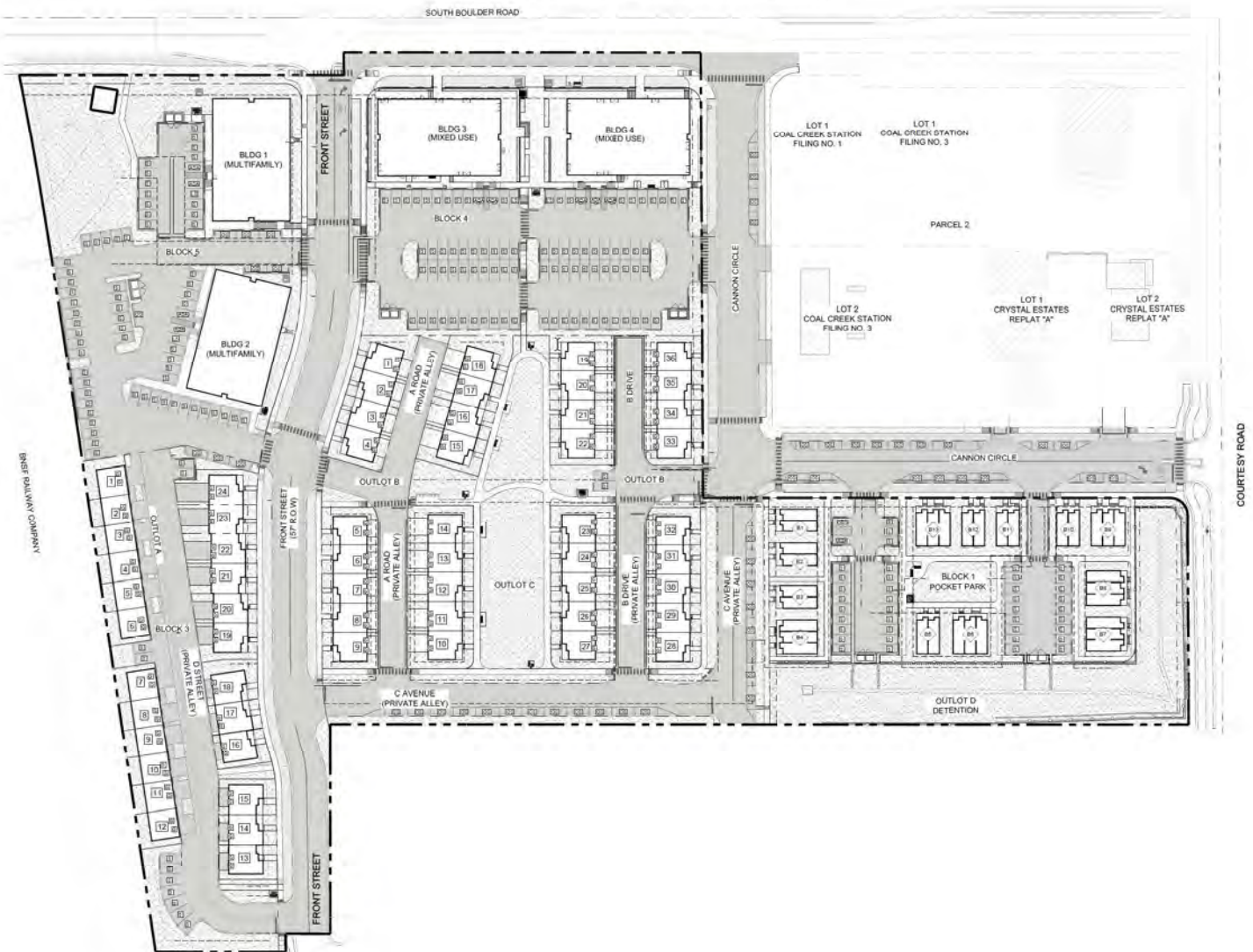


The development proposes the following land uses.

Table 1: Coal Creek Village Land Use

Land Use Category	Qty	Units
Multifamily Housing	188	dwelling units
Commercial/Retail	13,530	square feet
Existing Empanada Shop (1030 E. South Boulder Road.)	430	square feet

Figure 2: Current Site Plan



2.1 Recent Capital Improvements and Studies

Recent South Boulder Road Access Restrictions: The City of Louisville restricted northbound and southbound left turns at the intersection of South Boulder Road and Front Street by extending the raised median in Summer 2022. The westbound left turn is still allowed.

(Courtesy Road) Future 42 Corridor Plan: The City of Louisville completed *Future 42*⁹, a SH 42 corridor study, in December 2022. The study recommended improvements to the intersection of South Boulder Road and SH 42 as well as the SH 42 corridor that may impact construction of walk/detention pond/retaining wall at southwest corner of Cannon Circle. The Year 2045 background traffic and Year 2045 total traffic conditions assume additional turn lanes at the intersection of South Boulder Road and SH 42 per the *Future 42* plan. Refer to an excerpt in the **Appendix**.

Future 42 includes a recommendation that the intersection of SH 42 and Griffith Street is signalized in the future. Therefore, this analysis assumes that this intersection is signalized in both the Year 2045 background traffic and Year 2045 total traffic conditions.

Future 42 includes a recommendation that the intersections of SH 42 with Cannon Circle and Harper Street, are restricted to right-in, right-out only movements in the future. Therefore, this analysis assumes that this intersection is restricted in both the Year 2045 background traffic and Year 2045 total traffic conditions.

Refer to a table of the access restriction assumptions for each analysis scenario in **Table 2**.

Transportation Master Plan: The *City of Louisville Transportation Master Plan*¹⁰ identifies recommended improvements for the South Boulder Road corridor. Key considerations were bus rapid transit, improvements to bus stops and frequency of transit service, eliminating right-turn lanes, and providing underpasses and at-grade pedestrian crossings. Refer to an excerpt in **Appendix G**.

South Boulder Road Corridor Evaluation: The City of Louisville also prepared a *South Boulder Road Corridor Evaluation*¹¹. This analysis determined that signalization is not appropriate at Cannon Circle due to spacing constraints to the SH 42 traffic signal. Therefore, pedestrian and signage improvements at the Canon Circle intersection were recommended. Additionally, the Commercial Driveway extension to the north was suggested as an alternative roadway connection.

2.2 Proximate Development Projects

The Delo Boom project is proposed to be located on the southeast corner of the Griffith Street and Cannon Street intersection in Louisville, Colorado. The project is proposed to include 36 townhomes, 99 multifamily units, and 4,000 square feet of retail space. It is expected that the project will be completed in the next couple of years. The anticipated traffic associated with the proposed Delo Boom project is included in the short-term and long-term background traffic projections. Data from the *Delo Boom Traffic Impact Study*¹² was used for these projections. Figures for the Year 2026 and Year 2045 Delo Boom traffic assignment are included in the **Appendix**.

2.3 Project Access Locations

The new Coal Creek Village is proposing four access locations. Three of the four accesses exist, and the fourth access will need to be constructed. Two accesses will have direct connectivity to South Boulder Road, one access will have direct connectivity to State Highway 42, and the fourth access will have direct connectivity to Front Street. The four accesses are listed below. Refer to the site plan in **Figure 2**.

5. Front Street and South Boulder Road
6. Cannon Circle and South Boulder Road
7. Cannon Circle and State Highway 42
8. Front Street and Harper Street

This study analyzes the transportation impacts with and without the Front Street connection. Refer to **Section 3.2** of the report for more information on the two alternatives modeling the anticipated transportation network impacts with and without the Front Street connection.

2.4 Intersection Analysis Locations

This report also studies several additional off-site intersections. The analysis locations and modeling methodology were discussed with City of Louisville Engineering staff before performing the analysis.

1. Main Street & South Boulder Road
2. Front Street & South Boulder Road (Existing Site Access)
3. Cannon Circle & South Boulder Road (Existing Site Access)
4. Courtesy Road & South Boulder Road
5. Cannon Circle & Courtesy Road (SH 42) (Existing Site Access)
6. Griffith Street & Courtesy Road (SH 42)
7. Griffith Street & Cannon Street
8. Griffith Street & Front Street
9. Griffith Street & Main Street
10. Front Street & Harper Street (Proposed Site Access – Modeled with and without this connection.)
11. Harper Street & Courtesy Road (SH 42)

3.0 Existing Transportation System

3.1 Description of Existing Transportation System

Highway 42 (SH 42 / Courtesy Road): SH 42 is a north/south major arterial street that is classified as an NR-A roadway by CDOT's *Online Transportation Information System*¹ (OTIS). Within the City of Louisville, the local street name is Courtesy Road. It is a four-lane street with auxiliary lanes north of South Boulder Road and narrows to a two-lane street with auxiliary lanes south of the development site. The posted speed limit is 45 mph in both directions in the vicinity of the site. There is a southbound bike lane on the segment of the highway adjacent to this development.

The *Future 42* Plan adopted by the City of Louisville (See **Section 2.1**) informs the different intersection improvement scenarios (See **Section 3.2**) that are studied in this TIS.

South Boulder Road: South Boulder Road is a four-lane divided, east/west major arterial street with auxiliary lanes at some intersections. It is owned and operated by the City of Louisville. The roadway has high traffic volumes, local transit service, on-street bike lanes, and several traffic generators. The speed limit is 35 mph in both directions in the vicinity of the site.

Front Street: Front Street is a two-lane north/south local residential street. As a residential street within the City of Louisville, its speed limit is 25 mph.

Within the development, Front Street will be a dedicated public street replacing the south driveway and connecting to the existing street to the south.

Cannon Circle: Cannon Circle is a local street that loops around the west and south sides of the commercial properties at the southwest corner of SH 42 and South Boulder Road. A portion of the street has not been constructed. The north-south segment extends 290 feet south from South Boulder Road. The east-west segment extends 200 feet west from SH 42.

Griffith Street: Griffith Street is a two-lane, east-west street that connects Main Street to SH 42. Griffith Street has on-street parking. It has sidewalks on a majority of the roadway. The BNSF railroad has an at-grade crossing of Griffith Street between Main Street and Front Street.

Harper Street: Harper Street is a two-lane, east-west street that connects Front Street to SH 42. Harper Street has sidewalks on both sides and on-street parking. It provides access to the residences in the areas.

¹ Colorado Department of Transportation, Online Transportation Information System.

Main Street: Main Street is a busy two-lane road that is central to Downtown and connects to South Boulder Road. Main Street is lined with retail and parking in Downtown and provides direct access to Louisville Middle School. It has a posted speed limit of 25mph.

BNSF Railroad: The BNSF Railroad has an active freight line through Louisville. Both at-grade crossings at South Boulder Road and Griffith Street have crossbucks and warning systems installed.

3.2 Transportation Network Access Control and Infrastructure Improvement Implementation

There are several anticipated access control changes in both the background traffic and total traffic scenarios. Intersection access control is summarized in **Table 2**. These assumptions were reviewed with City staff.

Table 2: Intersection Access Control

#	Intersection	Year 2024 Existing	Year 2025 Background	Year 2045 Background	Year 2025 Total - With Front Street Connection	Year 2045 Total - With Front Street Connection	Year 2025 Total - Without Front Street Connection	Year 2045 Total - Without Front Street Connection
1	Main Street & South Boulder Road	Signal	Signal	Signal	Signal	Signal	Signal	Signal
2	Front Street & South Boulder Road	3/4 Movement	3/4 Movement	3/4 Movement	3/4 Movement	3/4 Movement	3/4 Movement	3/4 Movement
3	Cannon Circle & South Boulder Road	Full Movement	Full Movement	Full Movement	3/4 Movement	3/4 Movement	3/4 Movement	3/4 Movement
4	Courtesy Road & South Boulder Road	Signal - Exist	Signal - Exist	Signal - Future 42 Conditions	Signal - Exist	Signal - Future 42 Conditions	Signal - Exist	Signal - Future 42 Conditions
5	Cannon Circle & SH 42 (Courtesy Road)	Full Movement	Full Movement	RIRO ³	3/4 Movement	RIRO ³	3/4 Movement	RIRO ³
6	Griffith Street & SH 42 (Courtesy Road)	Full Movement	Full Movement	Signal	Full Movement	Signal	Full Movement	Signal
7	Griffith Street & Cannon Street	Full Movement	Full Movement	Full Movement	Full Movement	Full Movement	Full Movement	Full Movement
8	Griffith Street & Front Street	Full Movement	Full Movement	Full Movement	Full Movement	Full Movement	Full Movement	Full Movement
9	Griffith Street & Main Street	Full Movement	Full Movement	Full Movement	Full Movement	Full Movement	Full Movement	Full Movement
10	Front Street & Harper Street	Full Movement ¹	Full Movement ¹	Full Movement ¹	Full Movement ²	Full Movement ²	Full Movement ¹	Full Movement ¹
11	Harper Street & SH 42 (Courtesy Road)	Full Movement	Full Movement	RIRO ³	Full Movement	RIRO ³	Full Movement	RIRO ³

Scenario	A	A	B	C	D	E	F
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Notes: ¹Not Stop Controlled (Free Flowing)

²Westbound Stop Controlled

³RIRO = Right-In-Right-Out

Key infrastructure improvement assumptions used in the traffic modeling analyses are summarized below.

- Intersection #3 - South Boulder Road and Cannon Circle
 - Developer constructs a ¾ movement intersection at site development

- Intersection #4 - South Boulder Road and SH 42
 - City constructing signalized intersection improvements in future
- Intersection #5 - SH 42 and Cannon Circle intersection
 - Developer constructs a $\frac{3}{4}$ movement intersection at site development
 - City restricts to RIRO movements in the future with signalization of Intersection #6
- Intersection #6 - SH 42 and Griffith Street
 - City constructs a traffic signal in the future
- Intersection #10 – Front Street and Harper Street
 - With Front Street Connection: Developer constructs a north leg and installs a stop sign for westbound Harper Street
 - Without Front Street Connection: No change from existing conditions
- Intersection #11 – SH 42 and Harper Street
 - City restricts to RIRO movements in the future with signalization of SH 42 and Griffith Street

Key infrastructure improvements are described in detail below.

Intersection #1 - South Boulder Road and Main Street Intersection: This 3-legged intersection is signalized. The signal is coordinated with the BNSF Railroad crossing that is located on the eastern leg of the intersection.

The City of Louisville's *Louisville South Boulder Road Connectivity Plan* and the *DRCOG South Boulder Road Corridor Study*¹⁷ both identify a future pedestrian underpass on the western leg of the intersection.

Intersection #2 - South Boulder Road and Front Street Intersection: This intersection serves a private driveway to an apartment complex to the north and the site's existing commercial driveway to the south. In the Summer of 2022, the City of Louisville made changes to the configuration of the South Boulder Road and Front Street intersection by restricting the northbound and southbound left turns.

No additional changes to this intersection are expected.

Intersection #3 - South Boulder Road and Cannon Circle intersection: This full-movement intersection currently serves a commercial driveway to the north and

Cannon Circle to the south. This intersection has westbound and eastbound left turn lanes.

The City of Louisville completed a *South Boulder Road Corridor Evaluation*¹¹. The resulting recommendations determined that signalization is not appropriate at Cannon Circle due to spacing constraints to the SH 42 traffic signal. Refer to an excerpt in the **Appendix**.

With the buildout of Coal Creek Village, this intersection will be restricted to a $\frac{3}{4}$ movement, with left turns out of the site restricted. Therefore, all total traffic scenarios are modeled with the northbound left turn lane restricted.

Intersection #4 - South Boulder Road and SH 42 intersection: This is a full-movement, signalized intersection. The intersection is owned by CDOT and maintained by the City of Louisville. There are double left-turn lanes on all four legs of the intersection. There are westbound and southbound right-turn lanes. U-turns are permitted.

The *Future 42* plan depicts intersection improvements that include northbound and eastbound channelized right turn lanes. The Year 2045 background and total traffic scenarios are modeled assuming the westbound and southbound right turn lanes are constructed.

Intersection #5 - SH 42 and Cannon Circle intersection: This is currently a full-movement "T" intersection. This intersection has a single auxiliary turn lane: northbound left. Southbound SH 42 is two lanes wide through the intersection. Northbound SH 42 has a single through-lane approaching the intersection, then widens to two lanes north of the intersection.

With the buildout of Coal Creek Village, this intersection will be restricted to a $\frac{3}{4}$ movement, with left turns out of the site restricted. Therefore, Year 2026 total traffic scenarios are modeled with the eastbound left turns restricted.

Per the *Future 42* Plan, the TIS assumes that the Cannon Circle access allows right-in, right-out movements only. This improvement would likely coincide with the signalization of the SH 42 and Griffith Street intersection. Therefore, Year 2045 background and total traffic scenarios are modeled with the northbound and eastbound left turns restricted.

Intersection #6 - SH 42 and Griffith Street intersection: This is currently a full-movement intersection. The east and west legs are stop-controlled. Griffith Street is a public roadway that has an at-grade railroad crossing and accesses Main Street. The east leg of this intersection accesses the Louisville Sports Complex. This intersection currently has southbound and northbound left turn lanes and a southbound right turn lane.

Per the *Future 42 Plan*, the TIS assumes that this intersection will be signalized in the future. Therefore, Year 2045 background and total traffic scenarios are modeled with a traffic signal.

Intersection #7 – Griffith Street and Cannon Street intersection: This is a full-movement intersection with stop-control on the north and south legs.

No additional changes to this intersection are expected.

Intersection #8 – Griffith Street and Front Street intersection: This is a full-movement intersection with stop-control on the north and south legs.

No additional changes to this intersection are expected.

Intersection #9 – Griffith Street and Main Street intersection: This is a full-movement “T” intersection. The north and south legs are stop-controlled.

No additional changes to this intersection are expected.

Intersection #10 – Front Street and Harper Street intersection: This is currently a free-flowing intersection. There is unimproved alley access as a third, north leg. All background scenarios assume no change in the current configuration.

This intersection is modeled with two scenarios.

In the Year 2026 and Year 2045 total traffic scenarios with the Front Street connection, it is recommended that Front Street becomes the through street, resulting in the installation of westbound stop-control. This connection aligns with the City of Louisville’s previous *The Highway 42 Revitalization Area Framework Plan*¹⁴ and *42 Gateway Alternative Analysis Report*¹⁵ plans to connect South Boulder Road and Griffith Street via Front Street. Excerpts from these reports are included in the **Appendix**.

Intersection #11 - SH 42 and Harper Street intersection: This is currently an eastbound stop-controlled full-movement “T” intersection. This intersection is located within SH 42’s transition area between two southbound through lanes at South Boulder Road and a separate single southbound through lane and southbound right turn lane on SH 42 for Griffith Street. There is a double yellow stripe for northbound through traffic at the intersection. Vehicles are still making left turns into and out of Harper Street across the double yellow stripe.

Per the *Future 42 Plan*, the TIS assumes that the Harper Street access allows right-in, right-out movements only. This improvement would likely coincide with the signalization of the SH 42 and Griffith Street intersection. Therefore, Year 2045 background and total traffic scenarios are modeled with the northbound and eastbound left turns restricted.

3.3 Traffic Data Collection

Existing Traffic Volumes: Both weekday and weekend peak traffic operations were studied at the study area intersections. Weekday morning peak hour turning movement counts were collected on Tuesday, November 5, 2024, from 7:00am to 9:00am. Weekday evening peak hour turning movement counts were collected on Tuesday, November 5, 2024, from 4:00pm to 6:00pm. Saturday mid-day peak hour turning movement counts were collected on Saturday, November 2, 2022 from 11:00am to 1:00pm. During the data collection, the weather was clear and school was in session. This data replaces and updates previous traffic data that was collected in August 2020 and November 2022.

Traffic movements at the intersection of SH 42 and Harper Street were determined from the counts collected at the adjacent intersections of SH 42 with Cannon Circle and Griffith Street.

The traffic data collection showed that the peak traffic occurred from 7:45am to 8:45am and 4:00pm to 5:00pm during the weekday. Saturday peak hour traffic occurred from 11:30am to 12:30pm. Raw traffic data is included in the **Appendix**.

4.0 Future Background Traffic Projections

Background traffic refers to the anticipated future traffic without the development of the proposed Coal Creek Village project.

The existing traffic counts are used to determine the forecasted background traffic volumes using industry-standard background annual traffic growth rates, additional adjacent development traffic, and travel route adjustments for modified access control scenarios.

4.1 Background Annual Traffic Growth

Growth factors for South Boulder Road, SH 42, and Main Street were derived from the traffic volume projections for 2020 and 2050 published by the *Denver Regional Council of Governments*² (DRCOG). The resulting average annual growth rate was 1.30% for these corridors. Calculations are included in the **Appendix**.

All properties served by the opposing driveways on the north side of South Boulder Road, the east side of SH 42, and along Griffith Street are assumed to be built out. Therefore, no growth rate was applied to these access points.

4.2 Proximate Development Projects

As described in **Section 2.2**, the Delo Boom project is anticipated to impact the analysis intersections. Data from the *Delo Boom Traffic Impact Study*¹² was used for all future Year 2026 and Year 2045 traffic projections. Figures for the Year 2026 and Year 2045 Delo Boom traffic assignment are included in the **Appendix**.

4.3 Travel Route Adjustments for Modified Access Control Scenarios

As described in **Section 3.2**, there are several anticipated access control changes in both the background traffic and total traffic scenarios. Modifications to the allowed turning movements at the analysis intersections, future construction of a traffic signal at SH 42 and Griffith Street, and scenarios with and without Front Street connection from South Boulder Road to Griffith Street will impact the travel routes of both existing and future traffic.

- Background and total traffic modifications for each applicable scenario were calculated based on data from DRCOG and the *Louisville Transportation Masterplan*. Data referencing residents' and visitors' origins and destinations was compared to anticipated travel time differences. Additionally, South Boulder Road and SH 42 are already at capacity during peak traffic hours. This makes it difficult to make certain left and through movements from side streets. Long signal cycle

² Denver Regional Council of Governments, 2020 & 2050 Model Assigned All-Day Volumes. August 2022.

lengths (120 seconds) at the intersection of SH 42 and South Boulder Road can cause substantial side street delay along these corridors. The delay caused by this difficulty impacts the travel route and travel time.

Gravity-based travel time calculations were used to determine ideal origin and destination routes based upon both distance and trip time. Travel time tools for existing routes were compared using Google Maps and Apple Maps - two mobile apps that are regularly utilized by drivers to route them to their destination efficiently.

City of Louisville's *Transportation Master Plan* provided statistics on the community's activity centers, areas of future development potential, locations of where Louisville residents work, and locations of where Louisville employees live.

- Currently, 40% of all trips made within, to, or from Louisville are work-related.³
- Approximately 93% of Louisville employees live outside of Louisville, and 7% live within the City, which has influences on commuting corridors including US 36, US 287, and Hwy 119⁴
- Louisville residents work in Boulder (28%) and Denver (14%). Approximately 89% of employed residents work outside of Louisville, which has influences on commuting corridors including US 36, US 287, and Hwy 119⁵
- Anticipated increased queuing distance, delays, and congestion along South Boulder Road with increased background traffic growth, since South Boulder Road is already at capacity

Most of the study area intersections are impacted by the access modifications described below. Specific modifications for each applicable scenario are included in the **Appendix**.

Intersection #3 - South Boulder Road and Cannon Circle intersection: With the development of Coal Creek Village, this intersection will be restricted to a $\frac{3}{4}$ movement, with left turns out of the site restricted. Vehicles desiring to make a northbound left turn movement out of the site were redistributed on South Boulder Road. Details of this shift can be found in the **Appendix**.

Intersection #4 - South Boulder Road and SH 42 intersection: Due to the restriction of left turns out of the site at Cannon Circle with the development of Coal Creek Village, additional U-turn movements are anticipated at this signalized intersection. A significant weave motion between the site accesses and the SH 42 traffic signal are anticipated to accommodate both U-turns at the signal and eastbound left turn

³ Louisville TMP, August 2019, Page 3-17

⁴ Louisville TMP, August 2019, Page 3-16

⁵ Louisville TMP, August 2019, Page 3-15

movements onto SH 42 to use an alternate route to access destinations north and west of the site.

Intersection #5 - SH 42 and Cannon Circle intersection: With the buildout of Coal Creek Village, this intersection will be restricted to a $\frac{3}{4}$ movement, with left turns out of the site restricted. Per the *Future 42 Plan*, the Cannon Circle access will allow right-in, right-out movements only in Year 2045 background and total traffic scenarios.

Vehicles desiring to make left turns at this access were re-routed on SH 42. Details of this shift can be found in the **Appendix**.

Intersection #6 - SH 42 and Griffith Street intersection: Per the *Future 42 Plan*, this intersection will be signalized in the future. Therefore, it will be easier to make an eastbound left turn movement in the future at this intersection. Details of this shift can be found in the **Appendix**.

At current intersection volumes, no signal warrants are met. Nor is the intersection anticipated to meet MUTCD warrant volumes with the long-term buildout conditions of Coal Creek Village. The City should monitor the intersection volumes in the future to determine when the intersection may meet MUTCD signal warrant volumes.

Intersection #10 – Front Street and Harper Street intersection: This is currently a free-flowing intersection. There is an unimproved alley access as a third, north leg. All background scenarios assume no change in the current configuration.

This intersection is modeled with two scenarios.

In the Year 2026 and Year 2045 total traffic scenarios with the Front Street connection, it is recommended that Front Street becomes the through street, resulting in the installation of westbound stop-control. Additional traffic are anticipated to utilize the Front Street connection. Details of this shift can be found in the **Appendix**.

Intersection #11 - SH 42 and Harper Street intersection: Per the *Future 42 Plan*, the Harper Street access will allow right-in, right-out movements only in Year 2045 background and total traffic scenarios. Vehicles desiring to make left turns at this access were re-routed on SH 42. Details of this shift can be found in the **Appendix**.

4.4 Year 2026 Background Traffic Forecasts

The forecasted Year 2026 background traffic is the combination of the November 2024 existing traffic volumes with the applied average annual traffic growth on the mainline streets and Delo Boom traffic assignment. This calculation methodology is depicted in **Figure 3**. The resulting projected Year 2026 background traffic volumes can be seen in **Figure 5**.

Figure 3: 2026 Background Schematic Diagram



4.5 Year 2045 Background Traffic Forecasts

The forecasted Year 2045 background traffic is the combination of the November 2024 existing traffic volumes with the applied average annual traffic growth on the mainline streets, Delo Boom traffic assignment, and redistributed traffic for the anticipated access control changes. This calculation methodology is depicted in **Figure 4**. The resulting projected Year 2026 background traffic volumes can be seen in **Figure 6**.

Figure 4: 2045 Background Schematic Diagram

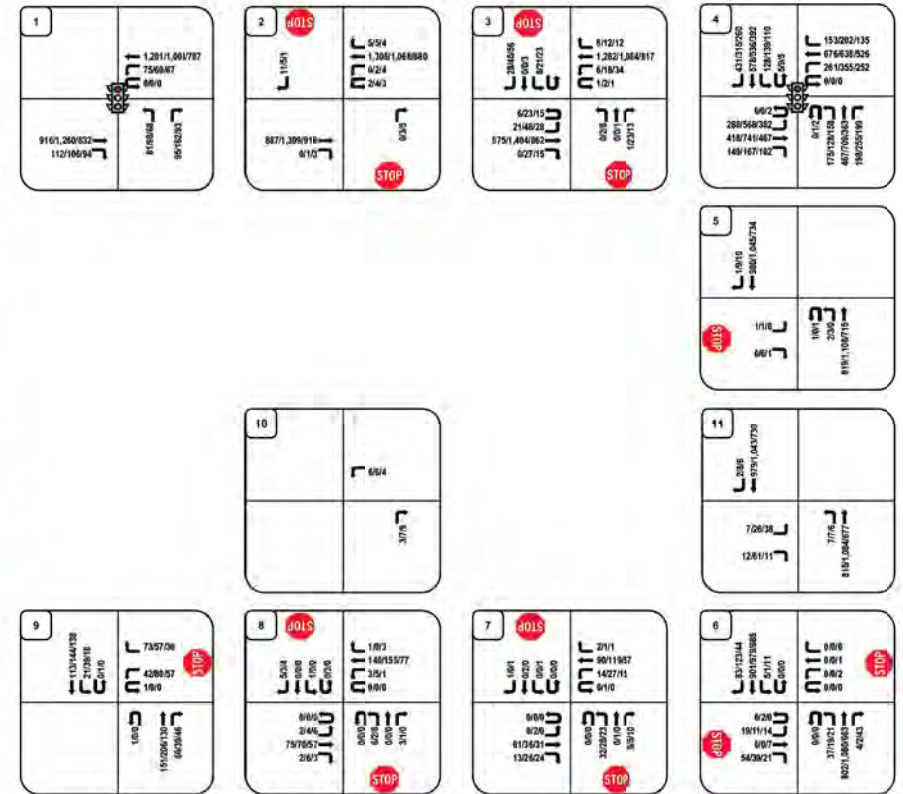


Table 3 summarizes the background traffic intersection scenarios and the corresponding figures used to calculate them.

Table 3: Background Traffic Figures Summary

Scenario (from Table 2)	Existing Traffic	Annual Growth Rate	Delo Boom Traffic	Travel Route Adjustments Figures	Background Traffic Figures
Scenario A: Year 2026 Background Traffic	Appendix Figure AP01: Year 2024 Existing Traffic	Section 4.1	Appendix Figure AP02: Year 2026 Background Traffic (Delo Boom Development)	Appendix Figure AP04: Year 2045 Background Adjust (Int #5 & #6 Redistribution)	Figure 5: Year 2026 Background Traffic
Scenario B: Year 2045 Background Traffic	Appendix Figure AP01: Year 2024 Existing Traffic	Figure 16: Project Generated Traffic Assignment – Scenario D (Residential & Retail)	Appendix Figure AP03: Year 2045 Background Traffic (Delo Boom Development)	Appendix Figure AP04: Year 2045 Background Adjust (Int #5 & #6 Redistribution)	Figure 6: Year 2045 Background Traffic

Figure 5: Year 2026 Background Traffic



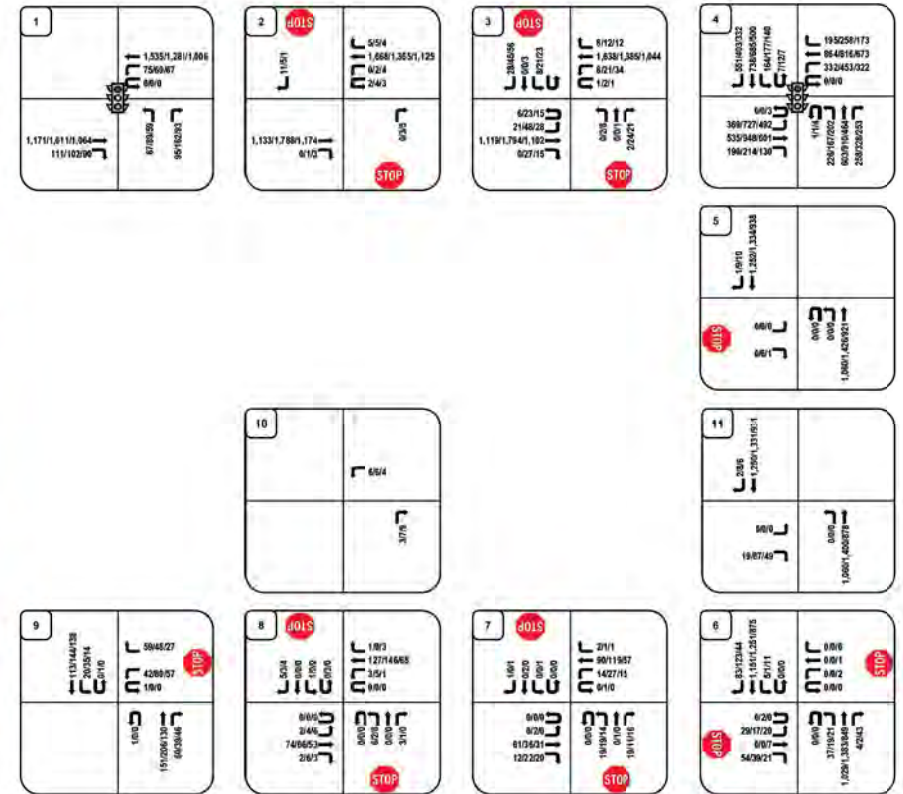
Coal Creek Station
Louisville, CO

LEGEND:
Directional Distribution = Inbound% (Outbound %)
AM/PM/SAT Volumes = XX/XX/XX VPH (in PCEs)
Turning Movements



Project Number M1663
Prepared By GWS
4/23/2025

Figure 6: Year 2045 Background Traffic



Coal Creek Station
Louisville, CO

LEGEND:
Directional Distribution = Inbound% (Outbound %)
AM/PM/SAT Volumes = XX/XX/XX VPH (in PCEs)
Turning Movements



Project Number M1663
Prepared By GWS
4/23/2025

4.6 Background Traffic Level of Service

Using *Highway Capacity Manual*⁶ (HCM) methodology, Synchro Version 10 software was used to determine the delay and Level of Service (LOS.) HCM LOS is defined by the following criteria:

Table 4: HCM Level of Service Criteria

LOS	Expected Delay to Minor Street Traffic	Average Signal Delay (Seconds/Vehicle)	Average Stop-Controlled Delay (Seconds/Vehicle)
A	Little or no delay.	0-10	0-10
B	Short traffic delays.	>10-20	>10-15
C	Average traffic delays.	>20-35	>15-25
D	Long traffic delays.	>35-55	>25-35
E	Very long traffic delays.	>55-80	>35-50
F	When volume exceeds the capacity of the lane extreme delays will be encountered with queuing that may cause severe congestion affecting other traffic movements in the intersection. This condition usually warrants improving the intersection.	>80	>50

Table 5 shows the resulting LOS as determined by HCM analysis. The Synchro reports for the background level of service analysis can be found in the **Appendix**. These projections reflect the peak morning and evening traffic in Year 2026 and Year 2045.

⁶ Highway Capacity Manual, 6th Edition. Transportation Research Board, 2016.

Table 5: Background Traffic Level of Service

#	Intersection	Traffic Control	Approach	Year 2026 Background Level of Service (Delay in Seconds)			Year 2045 Background Level of Service (Delay in Seconds)		
				AM	PM	SAT	AM	PM	SAT
1	South Boulder Road & Main Street	Signal	EBT	A (7.5)	A (9.6)	A (6.6)	A (8.5)	B (10.8)	A (7.0)
			EBR	A (1.3)	A (2.4)	A (1.4)	A (2.1)	A (3.0)	A (1.4)
			WBL	A (5.1)	A (7.4)	A (3.1)	A (5.1)	A (9.5)	A (2.9)
			WBT	A (5.9)	A (6.6)	A (3.2)	A (7.3)	A (7.9)	A (2.9)
			NBL	D (55.0)	E (55.3)	D (47.5)	D (53.1)	E (59.8)	D (47.0)
			NBR	B (13.9)	B (15.3)	B (14.4)	B (14.1)	C (29.0)	B (15.0)
2	South Boulder Road & Front Street	3/4, NB/SB Stop	WBL	C (15.3)	C (24.3)	B (12.9)	C (20.5)	E (41.3)	C (16.3)
			NB	A (0.0)	C (15.9)	B (12.3)	A (0.0)	C (20.1)	B (14.0)
			SB	C (15.3)	B (13.3)	B (12.0)	C (19.1)	C (15.6)	B (13.6)
3	South Boulder Road & Cannon Circle	NB/SB Stop	EBL	C (16.6)	C (16.9)	B (12.5)	C (24.8)	D (25.8)	C (15.6)
			WBL	B (10.9)	C (16.2)	B (10.6)	B (12.5)	C (23.2)	B (12.2)
			NB	B (12.0)	E (47.6)	E (44.3)	B (13.6)	F (186.8)	F (91.1)
			SB	E (50.0)	F (324.2)	F (53.2)	F (194.7)	F (1776.7)	F (216.3)
4	SH 42 (Courtesy Road) & South Boulder Road	Signal	EBL	E (55.1)	F (121.1)*	F (505.8)*	E (63.8)*	F (215.3)*	F (863.0)*
			EBT	C (30.2)	D (46.2)*	C (25.2)	C (29.4)	D (41.7)*	C (25.8)
			EBR	-	-	-	B (11.3)	A (9.1)	A (1.8)
			WBL	E (61.5)	F (109.4)*	E (75.6)*	E (65.1)*	F (167.8)*	F (99.5)*
			WBT	D (42.5)	D (47.3)	C (33.7)	D (48.4)*	E (56.6)*	C (34.9)
			WBR	A (4.9)	A (7.8)	A (1.8)	A (8.5)	B (14.5)	A (3.7)
			NBL	E (63.0)	F (180.8)*	F (183.0)*	F (529.6)*	F (305.6)*	F (313.5)*
			NBT	C (32.6)	E (76.8)*	C (26.6)	D (35.5)	D (48.8)*	C (25.0)
			NBR	-	-	-	A (9.4)	B (12.2)	A (7.4)
			SBL	F (193.3)*	F (240.4)*	F (94.1)*	F (321.4)*	F (372.3)*	F (152.0)*
			SBT	D (37.0)	D (38.6)	C (29.2)	D (39.2)	D (40.2)	C (29.1)
			SBR	B (17.0)	A (6.0)	A (5.4)	C (31.8)*	A (9.2)	A (6.9)
5	SH 42 (Courtesy Rd) & Cannon Circle	EB Stop	EB	F (65.1)	D (28.5)	E (38.2)	A (0.0)	C (15.2)	B (12.2)
			NBL	B (14.1)	B (11.0)	C (15.7)	-	-	-
6	SH 42 (Courtesy Road) & Griffith Street	EB/WB Stop	EB	F (76.4)	F (96.9)	E (39.2)	-	-	-
			WB	F (70.2)	F (115.0)	D (26.5)	-	-	-
			NB	A (0.5)	A (0.2)	A (0.3)	-	-	-
			SB	A (0.0)	A (0.0)	A (0.1)	-	-	-
6	SH 42 (Courtesy Road) & Griffith Street	Signal	EBL	-	-	-	C (26.7)	C (25.3)	C (20.5)
			EBT	-	-	-	A (0.7)	A (0.5)	B (11.0)
			WBL	-	-	-	C (24.0)	C (24.0)	B (18.5)
			WBT	-	-	-	C (21.0)	C (21.0)	B (13.3)
			NBL	-	-	-	C (26.5)	C (25.1)	B (17.7)
			NBT	-	-	-	A (3.9)	A (4.9)	A (4.8)
			SBL	-	-	-	C (29.0)	C (32.0)	B (17.5)
			SBT	-	-	-	A (4.4)	A (5.2)	A (4.7)
7	Griffith Street & Cannon Street	NB/SB Stop	EB	A (0.0)	A (0.2)	A (0.0)	A (0.0)	A (0.3)	A (0.0)
			WB	A (1.0)	A (0.0)	A (1.5)	A (1.0)	A (0.0)	A (1.5)
			NB	A (9.9)	B (10.3)	A (9.4)	A (9.6)	A (9.9)	A (9.2)
			SB	A (8.9)	B (10.7)	A (9.1)	A (8.9)	B (10.7)	A (9.2)
8	Griffith Street & Front Street	NB/SB Stop	EB	A (0.2)	A (0.4)	A (0.7)	A (0.2)	A (0.4)	A (0.7)
			WB	A (0.2)	A (0.2)	A (0.1)	A (0.2)	A (0.2)	A (0.1)
			NB	A (9.9)	A (10.0)	A (9.8)	A (9.8)	A (9.9)	A (9.7)
			SB	A (9.3)	A (9.2)	A (8.8)	A (9.3)	A (9.2)	A (8.8)
9	Griffith Street & Main Street	WB Stop	WB	B (13.9)	B (12.9)	B (11.2)	B (13.6)	B (12.8)	B (11.2)
			SB	A (1.3)	A (0.0)	A (0.9)	A (1.2)	A (0.0)	A (0.7)
10	Harper Street & Front Street	None	WB	-	-	-	-	-	-
			SB	-	-	-	-	-	-
11	SH 42 (Courtesy Rd) & Harper Street	EB Stop	EB	D (33.7)	F (118.0)	E (40.9)	B (14.7)	C (18.2)	B (12.9)
			NBL	B (10.4)	B (10.7)	A (9.3)	-	-	-

* Indicates LOS F with volume exceeding capacity (delays in seconds likely not accurate due to modelling limitations)

As can be seen in **Table 5**, unsignalized intersections on South Boulder Road and SH 42 will continue to see longer wait times/delay as traffic on these arterial streets continue to grow and there are less gaps in traffic to make a left turn movement onto the larger road. Left turns at the South Boulder Road and SH 42 traffic signal continue to be starved for time, resulting in failing LOS for these movements. These degradations and failures will occur with or without the addition of the proposed Coal Creek Village traffic.

Intersection #1 - South Boulder Road and Main Street Intersection: This 3-legged intersection is signalized. The signal is coordinated with the BNSF Railroad crossing that is located on the eastern leg of the intersection.

This intersection will see acceptable LOS A and B on all mainline eastbound and westbound movements. As is typical with side streets to major arterials, the side street receives less green time from the traffic signal. As the signal timing is currently set, Main Street is anticipated to operate with failing LOS E and F. Overall intersection LOS is B or better through Year 2045 background traffic conditions.

Intersection #2 - South Boulder Road and Front Street Intersection: This unsignalized intersection is anticipated to operate at an acceptable overall intersection LOS A for Year 2026 background traffic conditions and LOS B through Year 2045 background traffic conditions.

The northbound right turn movement is anticipated to operate LOS C or better through background Year 2045 conditions.

The westbound left turn is currently operating at an acceptable LOS C. By Year 2045 background traffic conditions, this movement is anticipated to degrade to a LOS E, as gaps in South Boulder Road traffic decrease.

Intersection #3 - South Boulder Road and Cannon Circle intersection: This full-movement intersection currently serves a commercial driveway to the north and Cannon Circle to the south. All mainline South Boulder Road movements are anticipated to operate at an acceptable LOS of D or better through Year 2045 background traffic conditions.

As is typical with unsignalized side street traffic accessing a major arterial, side street traffic operations for left and through movements will continue to degrade over time as traffic volumes on South Boulder Road continue to grow. The northbound and southbound movements are anticipated to experience failing LOS F operations.

The City of Louisville completed a *South Boulder Road Corridor Evaluation*¹¹. The resulting recommendations determined that signalization is not appropriate at Cannon Circle due to spacing constraints to the SH 42 traffic signal. Refer to an excerpt in the **Appendix**.

Intersection #4 - South Boulder Road and SH 42 intersection: This is a full-movement, signalized intersection. The *Future 42* plan depicts intersection improvements that include northbound and eastbound channelized right turn lanes. The Year 2045 background and total traffic scenarios are modeled assuming the westbound and southbound right turn lanes are constructed. Even with these future improvements, this intersection has movements that are anticipated to operate at a failing LOS F for both Year 2026 and Year 2045 background conditions. The overall intersection LOS is between D and F for these scenarios.

This intersection has below acceptable LOS due to the high traffic volumes it handles. The current traffic volumes are too high to be flushed out of the intersection within one cycle during peak traffic hours. This causes vehicles to wait in queues for more than one cycle. LOS on the north and south legs of SH 42 are slightly better than on the South Boulder Road's east and west legs. This is due to CDOT's prioritization of SH 42 and giving the highway more green time.

Intersection #5 - SH 42 and Cannon Circle intersection: This is currently a full-movement "T" intersection. Mainline SH 42 is anticipated to operate at good LOS in Year 2026 background traffic conditions. However, the eastbound leg is already experiencing failing LOS F during peak traffic hours.

Future 42 identifies that this access will be restricted to right-in, right-out only movements in the future. This improvement would likely coincide with the signalization of the SH 42 and Griffith Street intersection. With the access restriction, this access will operate at acceptable LOS C or better through Year 2045 background traffic conditions.

Intersection #6 - SH 42 and Griffith Street intersection: This is currently a full-movement intersection. Mainline SH 42 is anticipated to operate at acceptable LOS A under short-term background traffic conditions. However, the side streets are currently seeing significant delays during peak traffic. The west leg is currently operating at a LOS F due to the delay experienced turning out onto SH 42.

Per the *Future 42* Plan, the TIS assumes that this intersection will be signalized in the future. Year 2045 background and total traffic scenarios are modeled with a traffic signal. The signal timing used assumed a half-cycle (from the South Boulder Road intersection) of 60 seconds for the morning and evening peak hours and 50 seconds for the Saturday peak hour. The green time on SH 42 was prioritized. The maximum bandwidth was used to coordinate the signals with the SH 42 and South Boulder Road intersection. This improved the northbound LOS at the SH 42 and South Boulder Road intersection. The southbound movement into this intersection was limited by the constraints of the upstream South Boulder Road cycle.

The side street operations are anticipated to improve to LOS C with signalization. Mainline SH 42 may degrade due to the added delay to the corridor. SH 42 is

anticipated to operate at a LOS D or better through Year 2045 background traffic conditions.

Intersection #7 – Griffith Street and Cannon Street intersection: This is a full-movement intersection with stop-control on the north and south legs. This intersection is anticipated to operate at acceptable LOS A or B for all movements for both Year 2026 and Year 2045 background conditions.

Intersection #8 – Griffith Street and Front Street intersection: This is a full-movement intersection with stop-control on the north and south legs. This intersection is anticipated to operate at LOS A for all movements for both Year 2026 and Year 2045 background conditions.

Intersection #9 – Griffith Street and Main Street intersection: This is a full-movement “T” intersection. The east leg is stop-controlled. This intersection is anticipated to operate at LOS B or better for all movements for both Year 2026 and Year 2045 background conditions.

Intersection #10 – Front Street and Harper Street intersection: This is currently a free-flowing intersection. There is an unimproved alley access as a third, north leg. All background scenarios assume no change in the current configuration. All legs of this intersection are anticipate to operate at a LOS A.

Intersection #11 – SH 42 and Harper Street intersection: Left turns at this intersection currently experience delay into and out of the site during peak traffic on SH 42. Currently, through movements on SH 42 are operating at a LOS A. Eastbound Harper Street is operating at a LOS F during the evening peak hour.

Per the *Future 42* Plan, the Harper Street access will be restricted to right-in, right-out movements by the Year 2045 background traffic conditions. With this scenario, the eastbound movement is anticipated to improve to a LOS C.

5.0 Project Traffic

5.1 Trip Generation

The Institute of Transportation Engineers' (ITE) *11th Edition of the Trip Generation Manual*⁷ (*Trip Generation Manual*) was used to determine the anticipated trip generation for the Coal Creek Village development. Site-generated traffic volumes were determined for the weekday morning peak hour, the weekday afternoon peak hour, and the Saturday midday peak hour.

The trip generation analysis used the following ITE Land Uses:

Table 6: ITE Land Use Codes

ITE Code	Land Use Category	Size	
220	Multifamily Housing (Low-Rise)	188	Dwelling Units
822	Retail Plaza (<40K)	13.53	1000 Sq. Ft. GFA [*]
930	Fast Casual Restaurant (Existing Empanada Shop)	0.43	1000 Sq. Ft. GFA [*]

GFA = Gross Floor Area

As per ITE's *Trip Generation Handbook*⁸ methodology, the trip generation regression equations and average rates were utilized as part of this analysis.

Existing Empanada Shop: As previously mentioned, the existing Empanada shop was operating during the November 2024 traffic data collection. Therefore, the existing and background traffic counts already include the empanada shop's traffic.

It is anticipated that with the buildout of the Coal Creek Village project, a portion of Coal Creek Village's residents and patrons will access the empanada shop. Therefore, an internal capture reduction is applied to the existing empanada shop's traffic in the total traffic scenarios.

Multimodal Reduction: A five percent (5%) multimodal reduction was applied to all the proposed land uses. The development is within walking and biking distance to Louisville Middle School, Fairview Montessori School, the Louisville Sports Complex, and various commercial facilities. There are bike lanes on South Boulder Road and on SH 42. There are bus stops for the RTD DASH Route adjacent to the development on South Boulder Road.

Internal Capture: Internal capture traffic refers to trips that occur within a mixed-use development (like trips between a residential area and a retail area within the same site), rather than trips that originate or end outside the development. This capture

⁷ Trip Generation Manual, 11th Edition. Institute of Transportation Engineers, 2021.

⁸ Trip Generation Handbook, 3rd Edition. Institute of Transportation Engineers, 2017.

reduces the overall number of trips that would otherwise use the external road network.

The ITE *Trip Generation Handbook*⁹ was used to determine the internal capture reductions for the proposed residential and commercial developments. Internal reduction calculations for the average weekday, AM peak hour, and PM peak hour are included in the **Appendix**. Data for the Saturday peak hour was not available. Therefore, the internal reductions rates for the PM peak hour were used for the Saturday peak hour.

Project Trip Generation: The proposed development is expected to generate a total of 1,839 vehicle trips on the adjacent roadway network over the course of an average weekday (vpd). This includes 175 vehicle trips per hour (vph) during the morning peak hour, 244vph during the evening peak hour, and 144vph during the Saturday peak hour.

The existing empanada shop is already generating traffic, as detailed in the traffic counts and **Table 7**. The additional development is anticipated to generate an additional 1,779 vehicle trips on the adjacent roadway network over the course of an average weekday (vpd). This includes 173 vehicle trips per hour (vph) during the morning peak hour, 238vph during the evening peak hour, and 132vph during the Saturday peak hour.

⁹ Trip Generation Handbook, 2nd Edition. Institute of Transportation Engineers, 2004.

Table 7: Project Trip Generation

ITE Trip Generation Equation ³								Average Weekday	Morning Peak Hour		Evening Peak Hour		Saturday Peak Hour	
ITE Code	Units ²		Eg. Coef	Avg. Weekday	AM Peak Hour	PM Peak Hour	Sat. Peak Hour	Trips (vpd)	% Trips	Trips (vph)	% Trips	Trips (vph)	% Trips	Trips (vph)
Existing Land Use														
Empanada Shop (Actual Derived Rate Equations) ⁶	0.43	kSF	Type a= b=	Rate 139.53	Rate 4.65	Rate 13.95	Rate 27.91	60	50%	1	50%	1	50%	3
Existing External Restaurant Vehicular Trips								60		1		1		3
Internal Capture Reduction ⁴								-23		0		0		-1
External Restaurant Vehicular Trips with Buildout of Coal Creek Station ⁷								37		1		1		2
										2		2		4
														8
Proposed Residential Land Use														
#220 - Multifamily Housing (Low-Rise)	188	DU	Type a= b=	A 6.41	A 0.35	A 0.42	Rate 0.41	1,280	24%	23	76%	71	62%	71
Multi-Modal Reduction		-5%		75.31	28.13	34.78		-64		-1		-4		-2
Vehicular Trips								1,216		22		67		41
Internal Capture Reduction ⁴								-82		-3		-2		-10
Project External Residential Vehicular Trips								1,134		19		65		32
										84		89		62
Proposed Commercial Land Use														
#822 - Retail Plaza ⁵	13.53	kSF	Type a= b=	A 42.20	Rate 7.60	Rate 13.24	Rate 6.57	801	50%	51	50%	51	54%	97
Multi-Modal Reduction		-5%		229.68				-40		-3		-3		-5
Vehicular Trips								761		48		48		92
Internal Capture Reduction ⁴								-93		-3		-4		-9
Project External Commercial Vehicular Trips								668		45		44		83
										89		151		68
														74
Project Trip Generation Summary														
Existing External Restaurant Vehicular Trips								60		1		1		3
External Restaurant Vehicular Trips with Buildout of Coal Creek Station ⁷								37		1		1		2
										2		2		4
														8
Project External Residential Vehicular Trips								1,134		19		65		32
										84		89		62
Project External Commercial Vehicular Trips (Less Empanada Shop Internal Capture)								645		45		44		82
										89		149		67
														70
Project Total New Vehicular Trips (Restaurant's new internal capture + residential + commercial)								1,779		64		109		139
										173		238		99
														132
Project Total Vehicular Trips (Including Existing Restaurant + Restaurant's new internal capture + residential + commercial)								1,839		65		110		142
										175		244		102
														144

Notes:

¹ Values obtained from *Trip Generation, 11th Edition*, Institute of Transportation Engineers, September 2021.

² vpd = vehicle trips per day, vph = vehicle trips per hour, DU = Dwelling Units, kSF = 1,000 Square Feet

³ Fitted curve equations from ITE Land Uses - Equation Type A is $T = a * X + b$, Equation Type B is $\ln(T) = a * \ln(X) + b$, Rate is $T = a * X$

⁴ Internal capture reductions were obtained from the *ITE Trip Generation Handbook*, Second Edition, June 2004. See calculations in Appendix.

⁵ The ITE Trip Generation Manual did not have available data for the directional distribution of the Saturday peak hour. Therefore, the distribution from mid-rise multifamily housing was used.

⁶ Trip generation rates were calculated from existing traffic counts onsite. Weekday rates were estimated by using a 10% DHV rate based upon the PM Peak hour. A minimum of 1vph inbound/outbound was used for the AM peak (Actual counts were 0vph inbound and 0vph outbound)

⁷ External Restaurant Vehicular Trips are the sum of the empanada shop existing traffic with the anticipated internal capture traffic reduction that will occur at project buildout.

5.2 Trip Distribution

The distribution of project-generated vehicular traffic on adjacent roadways is influenced by several factors including the following:

- The location of the site relative to other commercial and healthcare facilities and the roadway network.
- The configuration of the existing and proposed adjacent roadway network
- Relative location of neighboring population centers.
- The proposed development has four accesses.
 - Distributions per access are dependent upon the general origin/destination of traffic.
 - Access restrictions are being imposed for Coal Creek Village's two accesses onto South Boulder Road and access onto SH 42. This will significantly impact Coal Creek Village's residents and patrons that wish to make the following movements:
 - Westbound on South Boulder Road
 - Northbound on SH 42
- Access control variations for each analysis scenario (from **Table 2**), with consideration for travel times and access configurations and restrictions.

From the review of the traffic data, TMP data, and factors described above; it was determined that generally 30% of site traffic is coming from/going to the west on South Boulder Road, 20% has destinations/origins to the north on SH 42, 20% has destinations/origins to the south on SH 42, 20% has destinations/origins to the south in the Main Street area, and 10% has destinations/origins to the east on South Boulder Road.

5.3 Internal Site Circulation

The proposed street configuration for Coal Creek Village provides good internal circulation and alternate routes to access adjacent arterial streets. Access restrictions will require that drivers wanting to go west on South Boulder Road or north on SH 42 may need to adjust their travel routes, as left turns out of the site are prohibited onto these two roadways.

Sidewalks are proposed throughout the development. Adjacent access to transit is provided at South Boulder Road and Main Street.

5.4 Front Street Connection Analysis Scenarios

This study analyzes the transportation impacts with and without the Front Street connection. Refer to **Section 3.2** of the report for more information on the two alternatives modeling the anticipated transportation network impacts with and without the Front Street connection.

With the Front Street Connection: In the Year 2026 and Year 2045 total traffic scenarios with the Front Street connection, it is recommended that Front Street becomes the through street, resulting in the installation of westbound stop-control. This connection aligns with the City of Louisville's previous *The Highway 42 Revitalization Area Framework Plan*¹⁴ and *42 Gateway Alternative Analysis Report*¹⁵ plans to connect South Boulder Road and Griffith Street via Front Street. Excerpts from these reports are included in the **Appendix**.

Additionally, per Louisville's *Transportation Master Plan*, "Louisville's transportation network is focused on a few major corridors, for which there aren't many readily available substitutes. This means it may be difficult to shift travel to lesser-traveled routes that would help handle additional future capacity."

Front Street is an example of an alternative roadway connector that can provide the traditional gridded street network that is more efficient and has more capacity for the area. This also allows for narrower street sections that benefit pedestrian and multimodal travel. The Front Street connection provides redundancy for Louisville's transportation network in the event of an emergencies, such as fire and other emergency response providers.

As traffic volumes on South Boulder Road and SH 42 are significant and anticipated to increase over time, the City of Louisville is implementing access control restrictions on side streets. As access restrictions are being imposed for Coal Creek Village's two accesses onto South Boulder Road and access onto SH 42, some site traffic is anticipated to utilize Front Street to access their destinations. Details are of the site traffic's anticipated directional distribution and background traffic's travel route adjustments are documented in the **Appendix**.

Without the Front Street Connection: In the Year 2026 and Year 2045 total traffic scenarios without the Front Street connection, no changes from the current conditions are considered. Thus, no additional traffic volume is anticipated on Front Street.

Combined with the South Boulder Road and SH 42 access restrictions, Coal Creek Village's residents and patrons that wish to make westbound movements on South Boulder Road and northbound movements on SH 42 will be required to make weave movements across South Boulder Road to access the eastbound left turn lane at the SH 42 traffic signal to make U-turns or left turns onto SH 42 for an alternate travel route.

5.5 Travel Route Adjustments for Modified Access Scenarios

As detailed in **Section 4.3**, modifications to the allowed turning movements at the analysis intersections, future construction of a traffic signal at SH 42 and Griffith Street, and scenarios with and without Front Street connection from South Boulder

Road to Griffith Street will impact the travel routes of both existing and future traffic. Specific modifications for each applicable scenario are included in the **Appendix**.

5.6 Site-Generated Traffic

When the anticipated project trip generation (**Table 7**) is applied for the anticipated retail and residential distributions, the result is the new anticipated traffic assignment for the proposed Coal Creek Village. Traffic assignment for each analysis scenario is a combination of the following trip generation and directional distribution as shown below in **Table 8**.

For instance, for Scenario C (Year 2025 Total Traffic with a Front Street connection), the anticipated vehicular traffic assignment (**Figure 13**) is the result of applying the anticipated trip generation (**Table 7**) to the residential distribution (**Figure 11**) and the retail distribution (**Figure 12**).

5.7 Total Traffic

The forecasted Year 2026 and Year 2045 total traffic is the combination of the background traffic forecasts with Coal Creek Village's anticipated traffic assignment, and travel route adjustments for that scenario. Both the short-term and long-term projections include scenarios with and without the Front Street connection.

Figure 7: Year 2026 Total – With Front Street Connection Schematic Diagram



Figure 8: Year 2045 Total – With Front Street Connection Schematic Diagram



Figure 9: Year 2026 Total – Without Front Street Connection Schematic Diagram

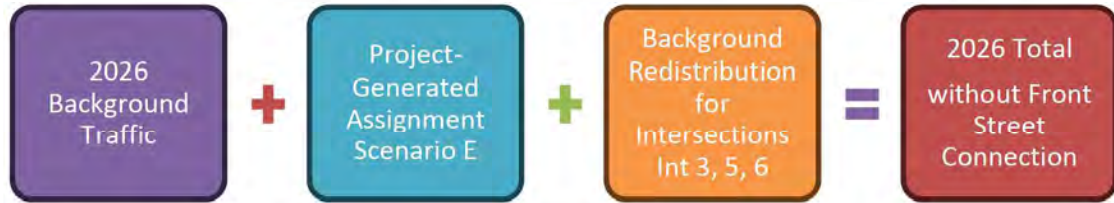


Figure 10: Year 2045 Total – Without Front Street Connection Schematic Diagram

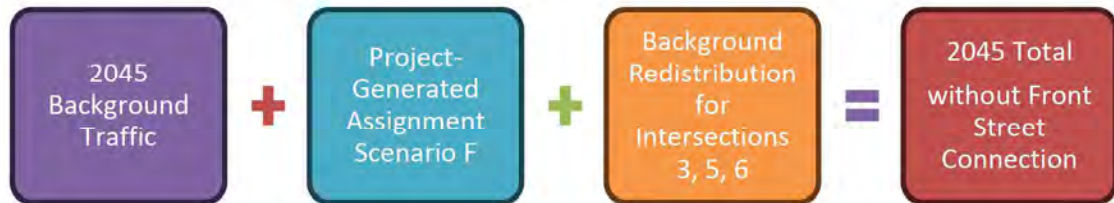


Table 8 summarizes the background traffic intersection scenarios and the corresponding figures used to calculate them.

Table 8: Total Traffic Figures Summary

Scenario (from Table 2)	Distribution Figures	Assignment Figures	Travel Route Adjustments Figures	Total Traffic Figures
Scenario C: Year 2026 Total Traffic with Front Street Connection	Figure 11: Project Generated Traffic Distribution – Scenario C (Residential) Figure 12: Project Generated Traffic Distribution – Scenario C (Retail)	Figure 13: Project Generated Traffic Assignment – Scenario C (Residential & Retail)	Appendix Figure AP05: Background Adjust for Total (Int #3 Redistribution) Appendix Figure AP06: Front Street Diverted Traffic (Year 2026)	Figure 7: Year 2026 Total – With Front Street Connection Schematic Diagram
Scenario D: Year 2045 Total Traffic with Front Street Connection	Figure 14: Project Generated Traffic Distribution – Scenario D (Residential) Figure 15: Project Generated Traffic Distribution – Scenario D (Retail)	Figure 16: Project Generated Traffic Assignment – Scenario D (Residential & Retail)	Appendix Figure AP05: Background Adjust for Total (Int #3 Redistribution) Appendix Figure AP07: Front Street Diverted Traffic (Year 2045)	Figure 8: Year 2045 Total – With Front Street Connection <u>Schematic</u> Diagram
Scenario E: Year 2026 Total Traffic without Front Street Connection	Figure 17: Project Generated Traffic Distribution – Scenario E (Residential) Figure 18: Project Generated Traffic Distribution – Scenario E (Retail)	Figure 19: Project Generated Traffic Assignment – Scenario E (Residential & Retail)	Appendix Figure AP05: Background Adjust for Total (Int #3 Redistribution)	Figure 9: Year 2026 Total – Without Front Street Connection Schematic Diagram
Scenario F: Year 2045 Total Traffic without Front Street Connection	Figure 20: Project Generated Traffic Distribution – Scenario F (Residential) Figure 21: Project Generated Traffic Distribution – Scenario F (Retail)	Figure 22: Project Generated Traffic Assignment – Scenario F (Residential & Retail)	Appendix Figure AP05: Background Adjust for Total (Int #3 Redistribution)	Figure 10: Year 2045 Total – Without Front Street Connection Schematic Diagram

Figure 11: Project Generated Traffic Distribution - Scenario C (Residential)

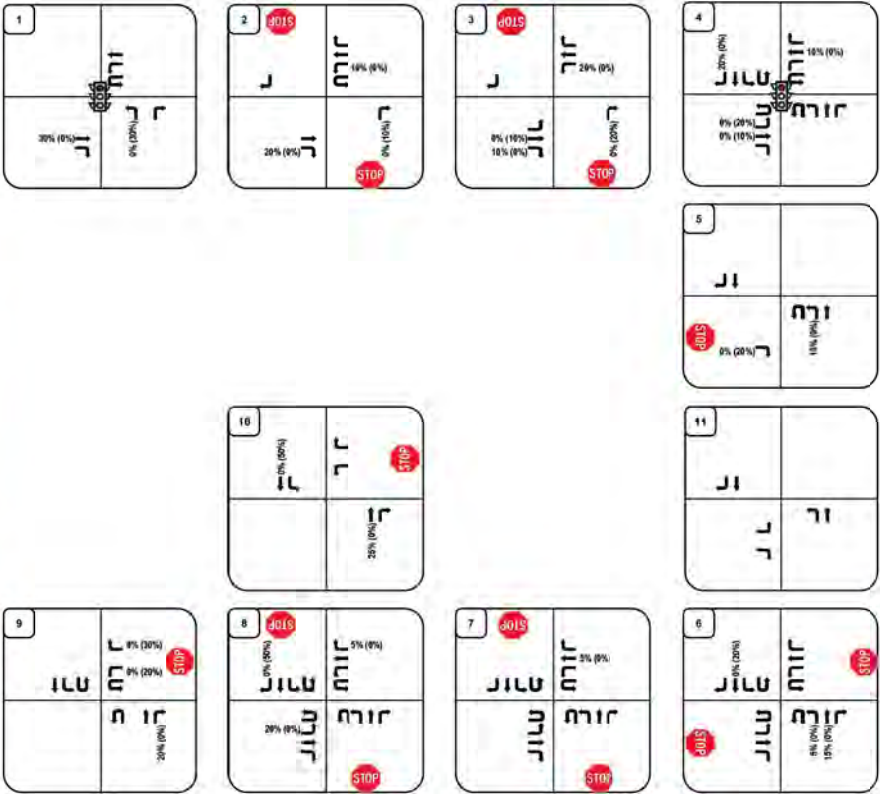


Figure 12: Project Generated Traffic Distribution - Scenario C (Retail)

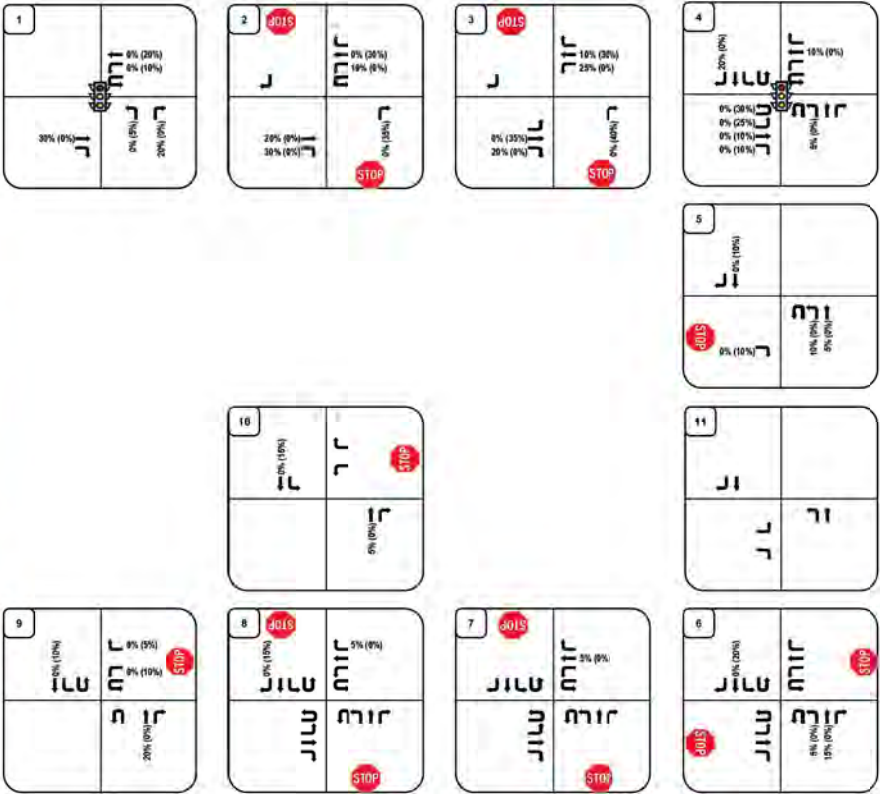


Figure 13: Project Generated Traffic Assignment - Scenario C (Residential & Retail)

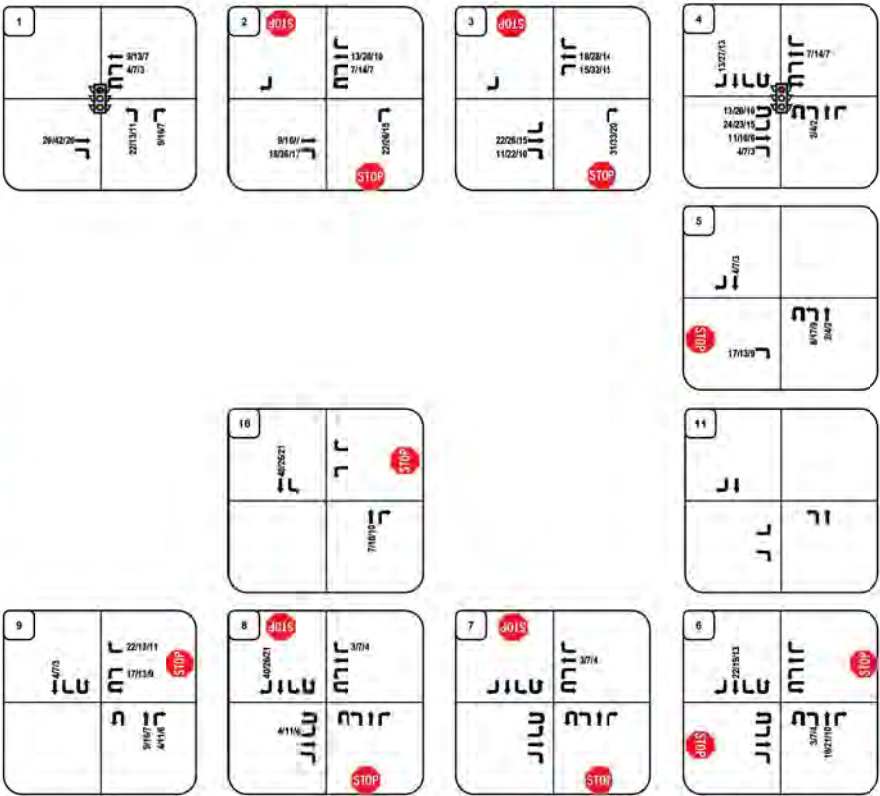


Figure 14: Project Generated Traffic Distribution - Scenario D (Residential)

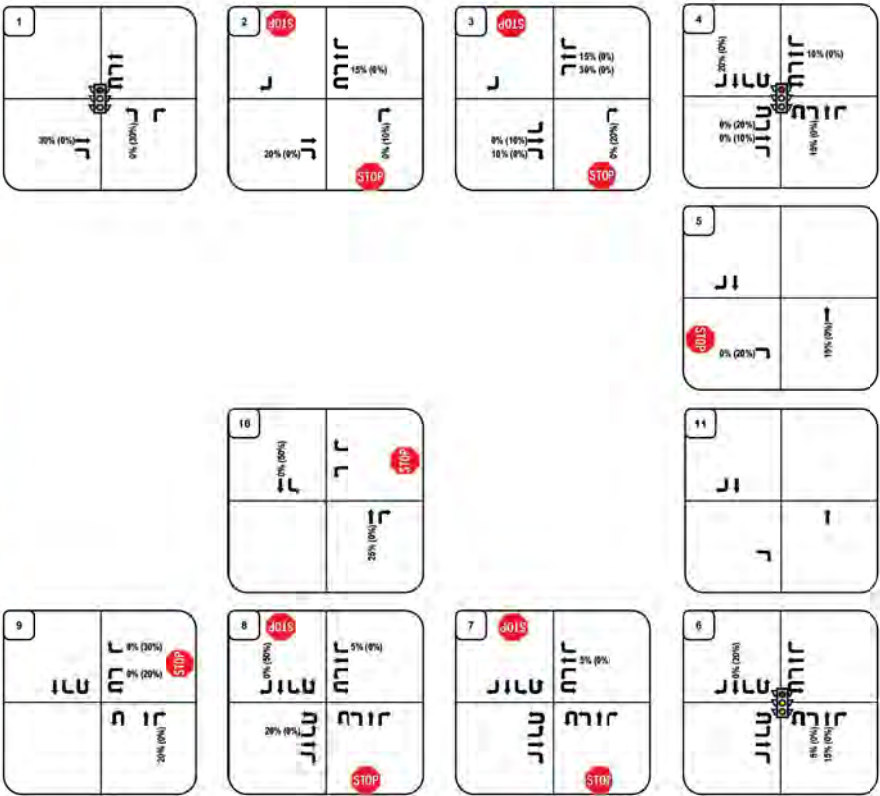


Figure 15: Project Generated Traffic Distribution - Scenario D (Retail)

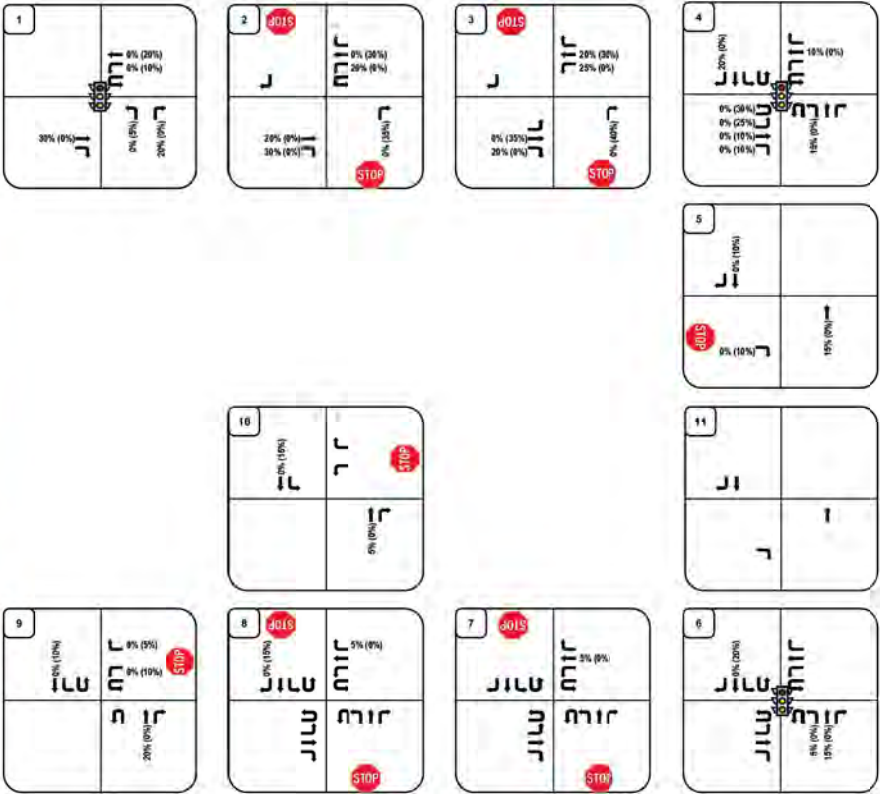


Figure 16: Project Generated Traffic Assignment - Scenario D (Residential & Retail)

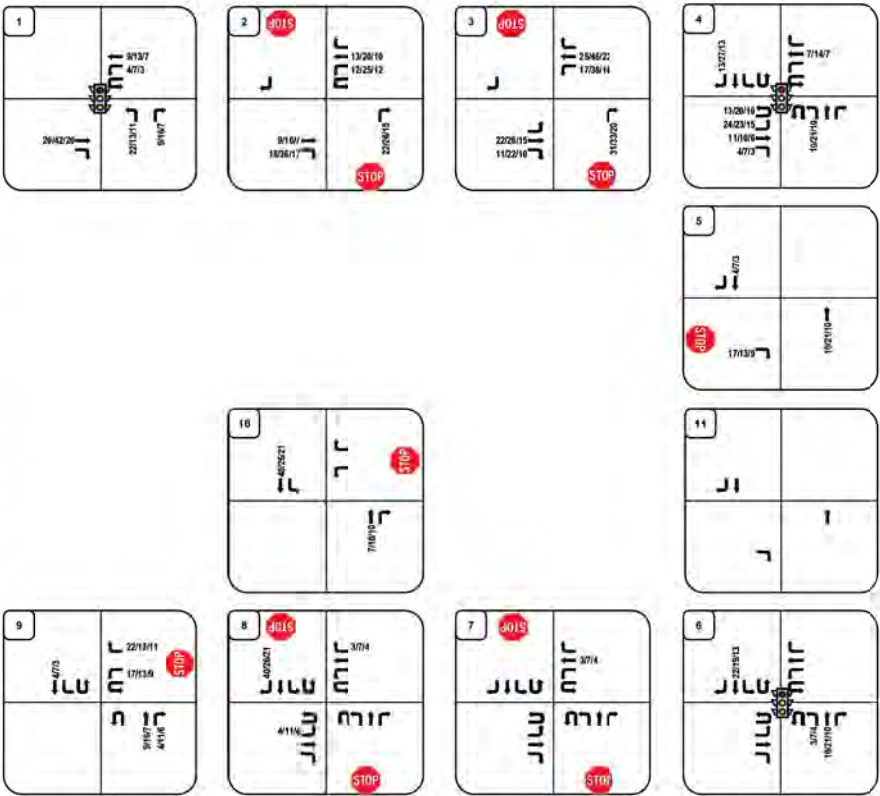


Figure 17: Project Generated Traffic Distribution - Scenario E (Residential)

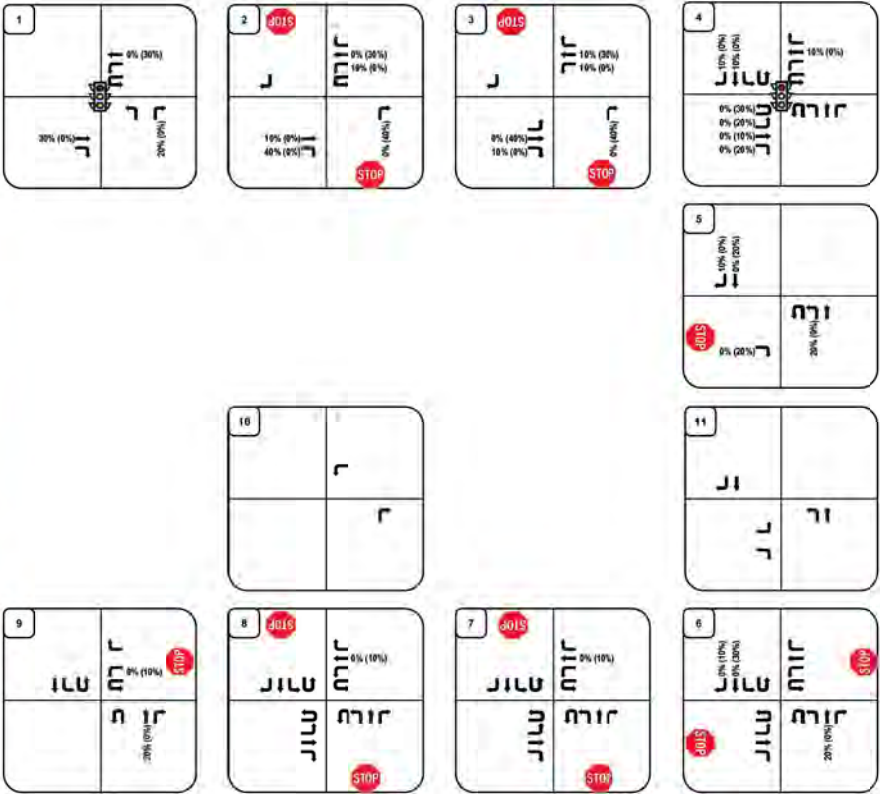


Figure 18: Project Generated Traffic Distribution - Scenario E (Retail)

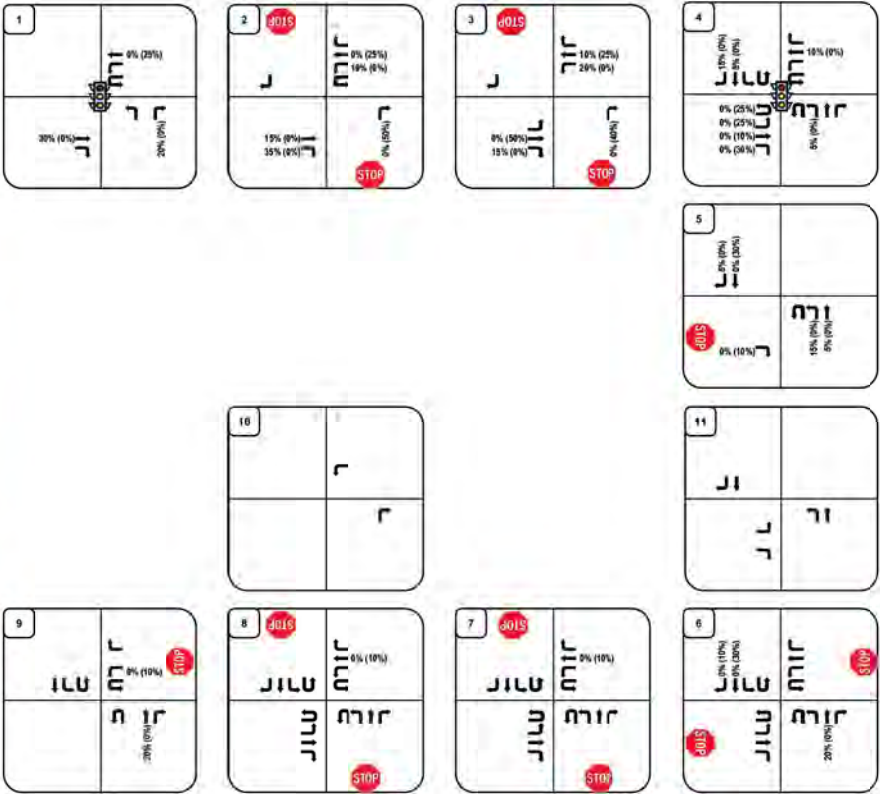


Figure 19: Project Generated Traffic Assignment - Scenario E (Residential & Retail)

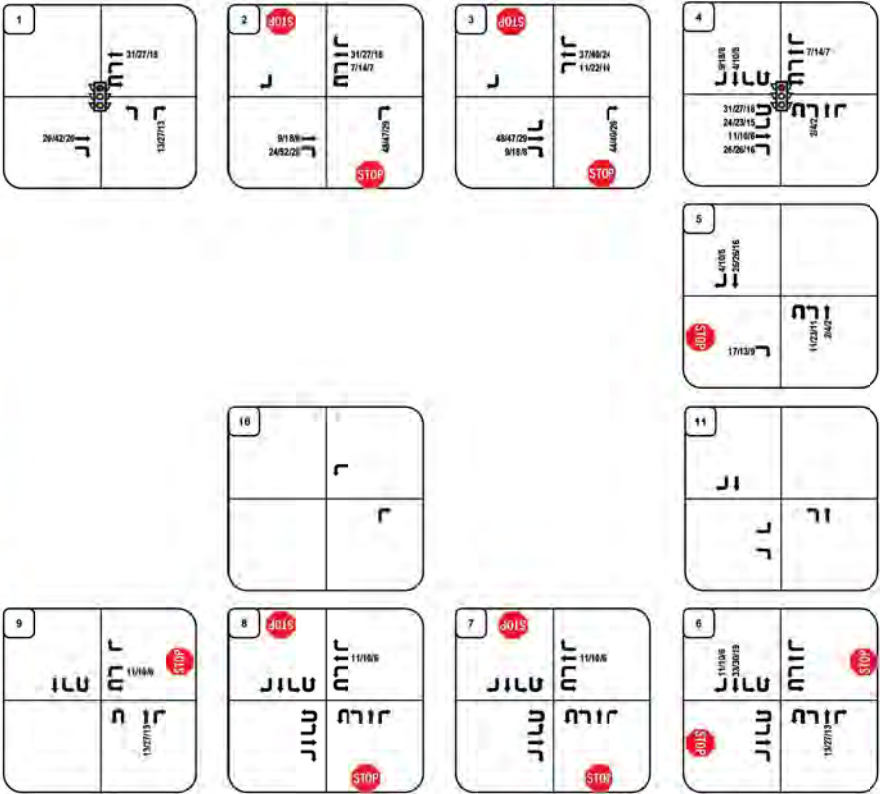


Figure 20: Project Generated Traffic Distribution - Scenario F (Residential)

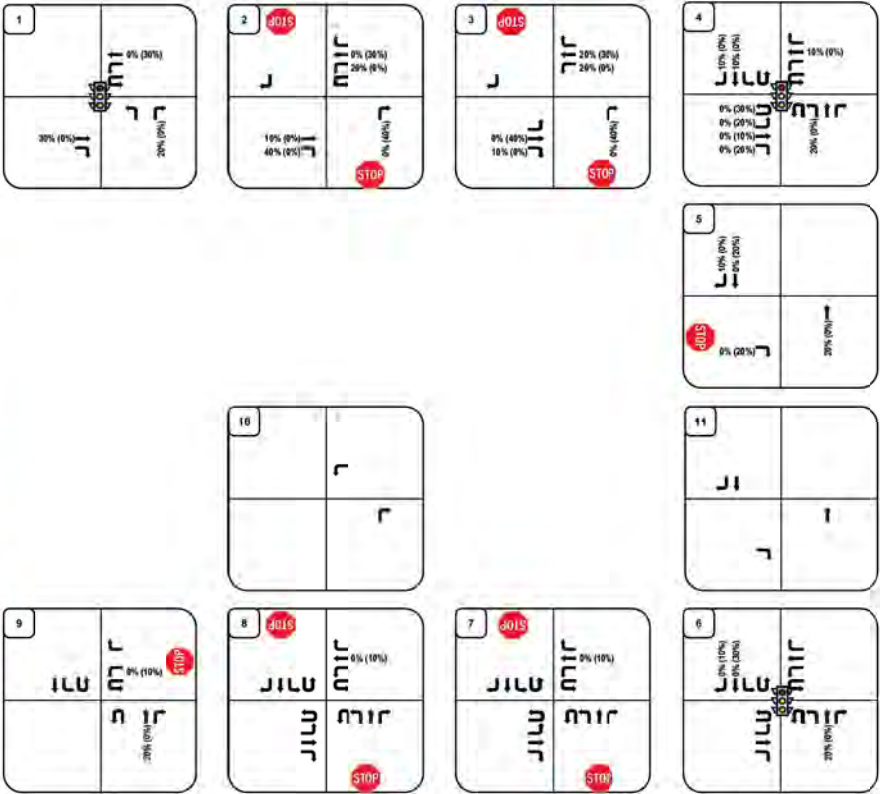


Figure 21: Project Generated Traffic Distribution - Scenario F (Retail)

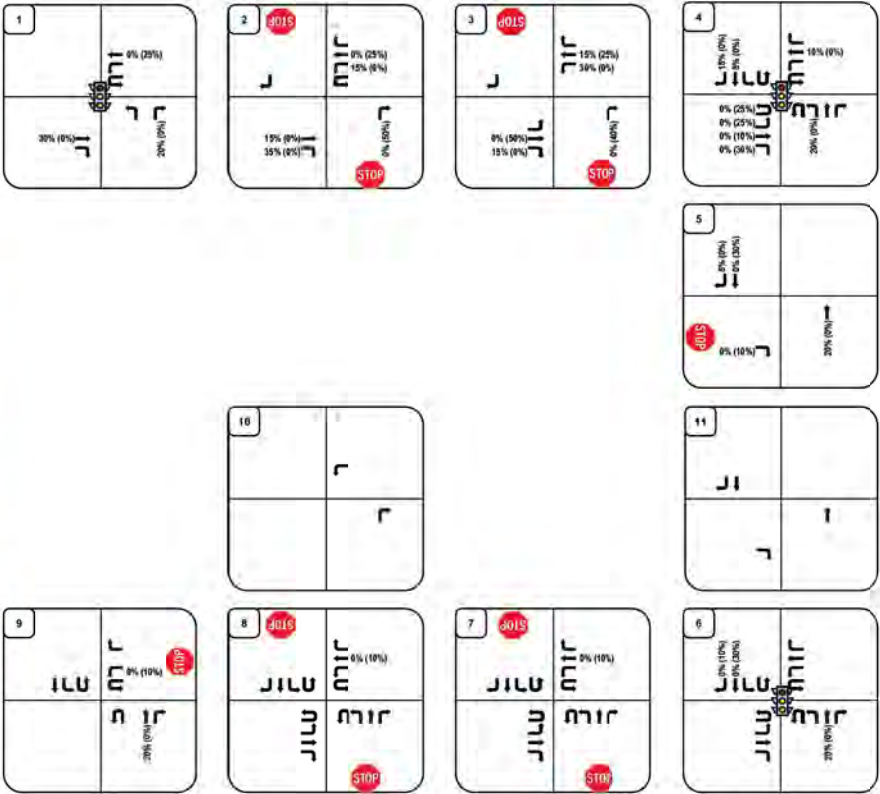


Figure 22: Project Generated Traffic Assignment - Scenario F (Residential & Retail)

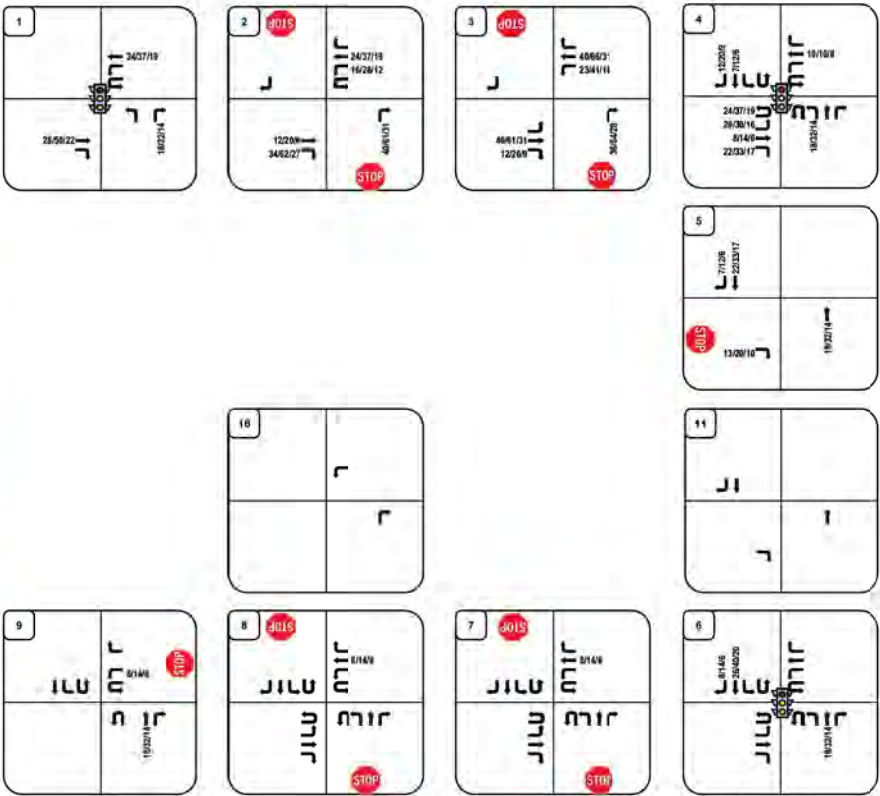


Figure 23: Year 2026 Total Traffic (With Front St Connection)

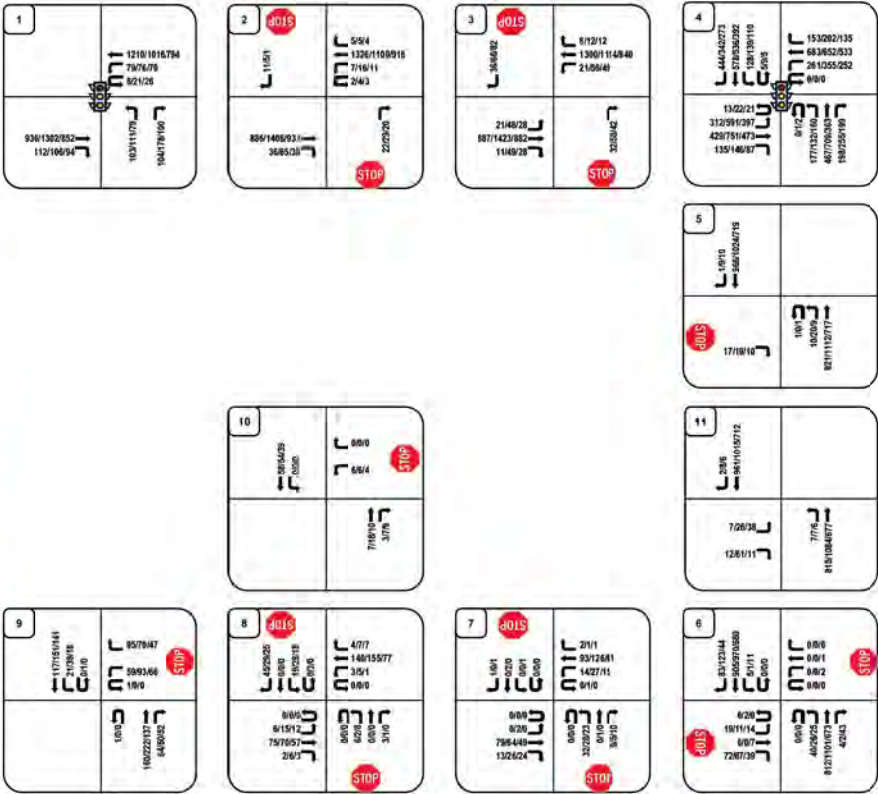
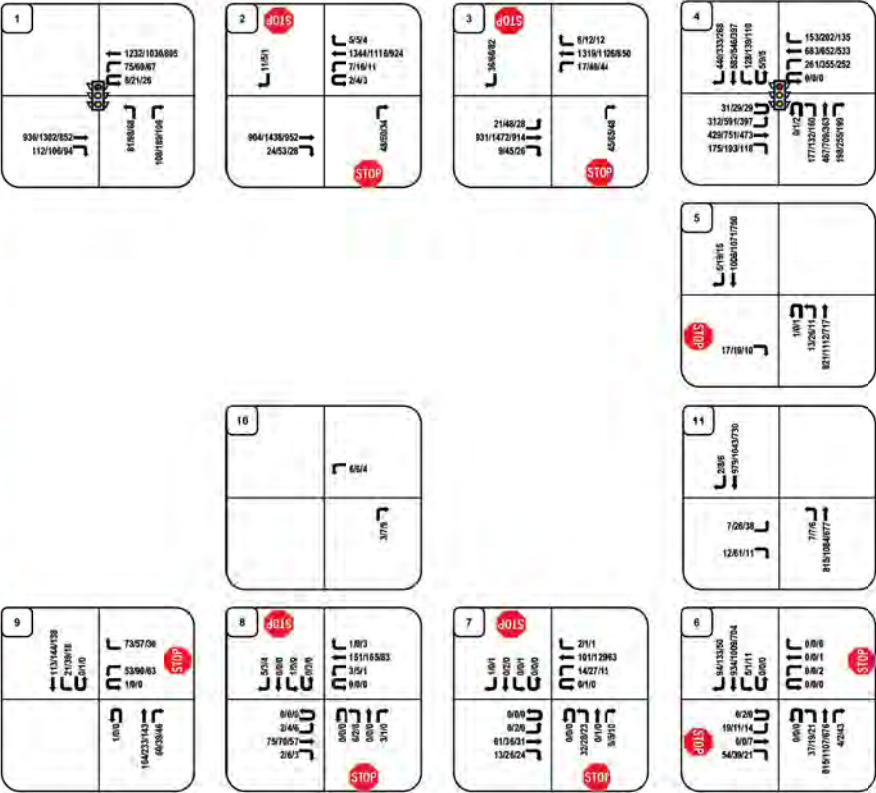


Figure 24: Year 2026 Total Traffic (Without Front St Connection)



Coal Creek Station
Louisville, CO

LEGEND:
Directional Distribution = Inbound% (Outbound %)
AM/PM/SAT Volumes = XX/XX/XX VPH (in PCEs)
Turning Movements

Project Number M1663
Prepared By GWS
4/23/2025

Figure 25: Year 2045 Total Traffic (With Front St Connection)

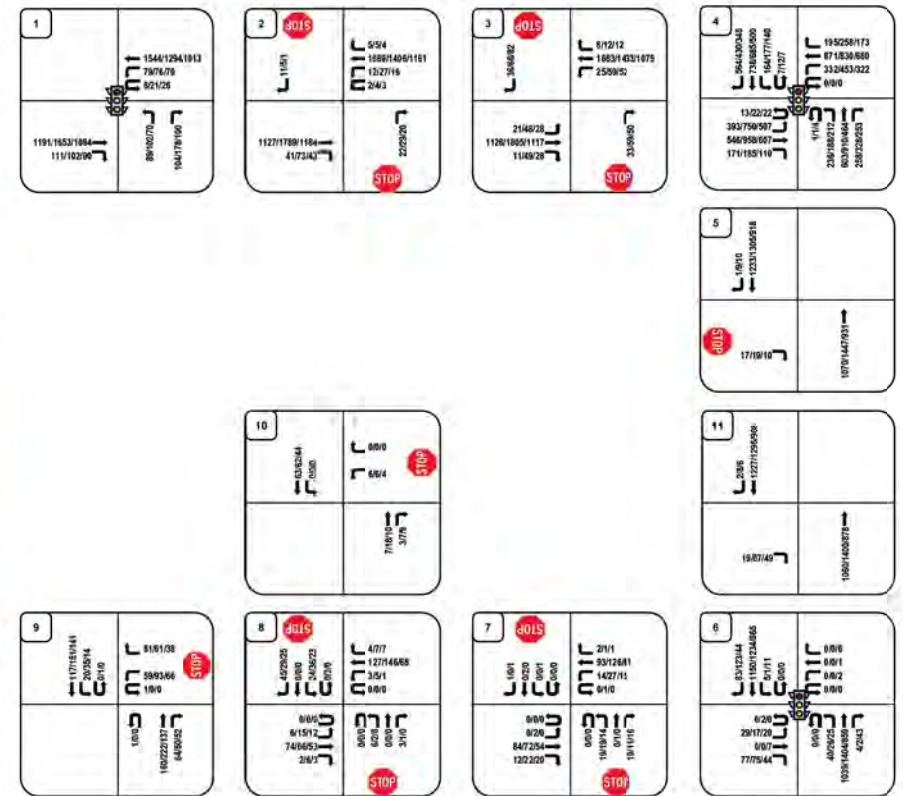
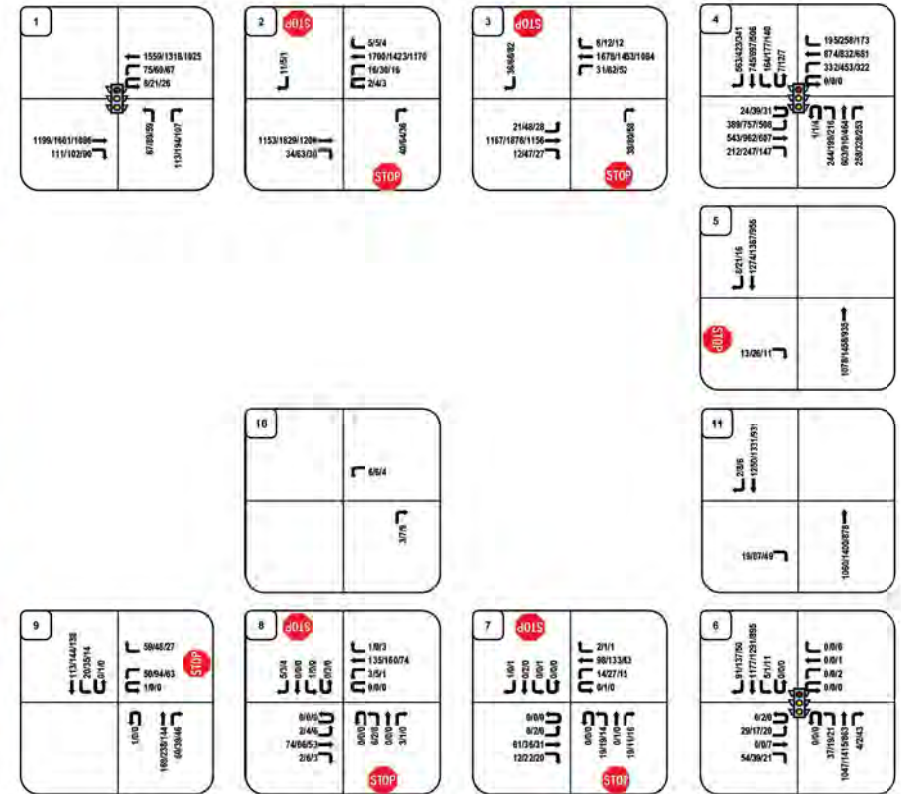


Figure 26: Year 2045 Total Traffic (Without Front St Connection)



6.0 Transportation Impact Analysis

6.1 Total Traffic Level of Service

An *HCM* analysis under total traffic conditions was performed for the proposed site access under both short-term Year 2026 and long-term Year 2045 traffic conditions. Scenarios with and without the Front Street connection were analyzed. The results can be seen in **Table 9**. The Synchro reports for the total traffic level of service analysis can be found in the **Appendix**.

Intersection #1 - South Boulder Road and Main Street Intersection: This 3-legged intersection is signalized. The signal is coordinated with the BNSF Railroad crossing that is located on the eastern leg of the intersection.

With the addition of project-generated traffic, the operations on Main Street will slightly degrade.

The City's proposed future pedestrian underpass of South Boulder Road should allow for better signal timing at this intersection. It is recommended that the City update the corridor's signal timing plans every five years. The future pedestrian underpass will increase the mainline efficiency by eliminating pedestrian signal calls.

Intersection #2 - South Boulder Road and Front Street Intersection: This unsignalized intersection is anticipated to operate at an acceptable overall intersection LOS through Year 2045 total traffic conditions.

With the construction of Coal Creek Village, the westbound left turn lane is anticipated to degrade to a LOS C with long-term Year 2045 total traffic conditions with the Front Street connection. Without the Front Street connection, this movement anticipated to operate at a LOS D or better through the same time period. Total traffic conditions have less opposing traffic for this movement. Additionally, more traffic making the northbound right movement. Therefore, the northbound LOS result is higher than that of background traffic with a lower northbound volume.

As South Boulder Road traffic continues to increase over time, the City should observe the corridor for necessary access control revisions.

Intersection #3 - South Boulder Road and Cannon Circle intersection: This full-movement intersection currently serves a commercial driveway to the north and Cannon Circle to the south.

A Synchro HCM analysis was conducted by not restricting the northbound movement (allowing the left, through, and right northbound movements). This analysis demonstrated that a 95th percentile queue length of nine vehicles, as well as a LOS F

delay in excess of 300 seconds would occur. Therefore, McDowell Engineering recommends that this access is restricted at the time of development.

With the recommend access restriction, eastbound and westbound left turns will still be permitted. With these restrictions, the eastbound and westbound left turns are anticipated to be able to use the gaps in South Boulder traffic created by the adjacent traffic signal during peak hours. These movements are anticipated to experience a LOS D or better with or without the Front Street connection. This is a better LOS than background operations due to the elimination of the difficult through and left turns from the side streets.

Without the Front Street connection, there is anticipated to be 45% more eastbound U-turn movements on South Boulder Road. This includes a weave movement from the northern site accesses to the eastbound left turn lane at the signalized intersection.

Intersection #4 - South Boulder Road and SH 42 intersection: This is a full-movement, signalized intersection. The *Future 42* plan depicts intersection improvements that include northbound and eastbound channelized right turn lanes. The Year 2045 total traffic scenario is modeled assuming the westbound and southbound right turn lanes are constructed. Even with these future improvements, this intersection has movements that are anticipated to operate at a failing LOS F for both Year 2026 and Year 2045 background and total traffic conditions.

This intersection has below acceptable LOS due to the high traffic volumes it handles. The current traffic volumes are too high to be flushed out of the intersection within one cycle during peak traffic hours. This causes vehicles to wait in queues for more than one cycle. LOS on the north and south legs of SH 42 are slightly better than on the South Boulder Road's east and west legs. This is due to CDOT's prioritization of SH 42 and giving the highway more green time.

The addition of Coal Creek Village traffic can anticipate slightly lower LOS from the background traffic conditions. Without the Front Street connection, there is anticipated to be a significant weave movement from project traffic egressing the site to access the eastbound left turn lane at the SH 42 traffic signal. Additional eastbound to westbound U-turn volume at the signal is also anticipated due to the site's access restrictions on South Boulder Road.

Intersection #5 - SH 42 and Cannon Circle intersection: This is currently a full-movement "T" intersection. With the buildout of Coal Creek Village, this intersection will be restricted to a $\frac{3}{4}$ movement, with left turns out of the site restricted. With the restriction of this difficult movement, Year 2026 total traffic operations are anticipated to be LOS B or better with or without the Front Street connection.

Per the *Future 42 Plan*, this TIS assumes that the Cannon Circle access is restricted to right-in, right-out movements only. Therefore, Year 2045 total traffic scenarios are anticipated to be LOS C or better with or without the Front Street connection.

Intersection #6 - SH 42 and Griffith Street intersection: This is currently a full-movement intersection. With the buildout of Coal Creek Village, short-term Year 2026 total traffic operations are anticipated to continue to degrade. SH 42 is anticipated to continue to operate at a LOS B or better. Side street traffic is anticipated to continue to operate at a LOS F with or without the project-generated traffic and with or without the Front Street connection. This will occur with or without the Front Street connection.

Signalization of the SH 42 and Griffith Street intersection will improve the side street LOS to an acceptable LOS C in Year 2045 total traffic conditions. Mainline SH 42 is likely to degrade to a lower LOS E with the additional delay caused by the signal construction.

Intersection #7 – Griffith Street and Cannon Street intersection: This is a full-movement intersection with stop-control on the north and south legs. With the buildout of Coal Creek Village, operations are anticipated to remain acceptable LOS A or B through Year 2045 total traffic conditions. The additional traffic is anticipated to have a nominal impact on the intersection delay with or without the Front Street connection.

Intersection #8 – Griffith Street and Front Street intersection: This is a full-movement intersection with stop-control on the north and south legs. With the buildout of Coal Creek Village, operations are anticipated to remain acceptable LOS A or B through long-term total traffic conditions. With the Front Street connection, the anticipated LOS of the north leg is LOS B through Year 2045 total traffic conditions. Without the Front Street connection, the anticipated LOS of the north leg is LOS A through Year 2045 total traffic conditions. The additional traffic is anticipated to have a nominal impact on the intersection delay with or without the Front Street connection.

Intersection #9 – Griffith Street and Main Street intersection: This is a full-movement “T” intersection. The east leg is stop-controlled.

With the buildout of Coal Creek Village, operations are anticipated to remain acceptable through long-term total traffic conditions. Main Street will continue to operate at an acceptable LOS A through Year 2045 total traffic conditions. With the Front Street connection, the anticipated LOS of the east leg is LOS B through Year 2045 total traffic conditions. Without the Front Street connection, the anticipated LOS of the east leg is LOS C during the morning peak hour through Year 2045 total traffic conditions.

These results are comparable to the anticipated operations with or without the addition of the Coal Creek Village traffic. The additional traffic is anticipated to have a nominal impact on the intersection delay with or without the Front Street connection.

Intersection #10 – Front Street and Harper Street intersection: This is currently a free-flowing intersection. There is an unimproved alley access as a third, north leg. Scenarios E and F analyze total traffic conditions without the Front Street connection.

With the buildout of Coal Creek Village and with or without the connection of Front Street, all legs of this intersection are anticipate to operate at a LOS A.

Intersection #11 – SH 42 and Harper Street intersection: Both with and without the construction of Coal Creek Village, left turns at this intersection currently experience delay into and out of the site during peak traffic on SH 42. Currently, through movements on SH 42 are operating at a LOS A. Eastbound Harper Street is operating at a LOS F during the evening peak hour.

Per the *Future 42* Plan, the Harper Street access will be restricted to right-in, right-out movements by the Year 2045 total traffic conditions. With this scenario, the eastbound movement is anticipated to improve to a LOS C.

Table 9: Total Traffic LOS (with the Front Street Connection)

#	Intersection	Traffic Control	Approach	Year 2026 Total with Front Street Level of Service (Delay in Seconds)			Year 2045 Total with Front Street Level of Service (Delay in Seconds)		
				AM	PM	SAT	AM	PM	SAT
1	South Boulder Road & Main Street	Signal	EBT	A (8.2)	A (10.0)	A (7.0)	A (9.4)	B (13.1)	A (7.7)
			EBR	A (1.4)	A (2.5)	A (1.5)	A (2.2)	A (3.3)	A (1.5)
			WBL	A (5.2)	A (9.3)	A (3.4)	A (4.9)	B (12.8)	A (3.5)
			WBT	A (5.8)	A (6.2)	A (3.3)	A (7.0)	A (7.6)	A (3.4)
			NBL	E (58.4)	E (61.8)	D (48.4)	E (56.2)	E (59.2)	D (47.7)
2	South Boulder Road & Front Street	3/4, NB/SB Stop	NBR	B (13.7)	C (32.8)	B (13.9)	B (13.8)	D (49.3)	B (14.3)
			WBL	B (11.6)	C (18.5)	B (12.1)	B (13.3)	D (26.8)	B (14.2)
			NB	B (12.4)	C (16.9)	B (12.7)	B (14.1)	C (22.1)	B (14.5)
3	South Boulder Road & Cannon Circle	3/4 NB/SB Stop	SB	C (15.5)	B (13.6)	B (12.2)	C (19.4)	C (16.0)	B (13.9)
			EBL	C (17.1)	C (18.0)	B (13.0)	D (26.0)	D (29.8)	C (16.7)
			WBL	B (10.7)	C (16.8)	B (10.9)	B (12.3)	D (25.4)	B (12.6)
4	SH 42 (Courtesy Road) & South Boulder Road	Signal	NB	B (12.6)	C (19.2)	B (12.9)	B (14.5)	D (26.6)	B (15.0)
			SB	C (16.1)	C (15.3)	B (13.2)	C (20.8)	C (19.4)	C (15.4)
			EBL	F (545.3)*	F (953.6)*	F (596.3)*	F (953.0)*	F (1559.4)*	F (964.2)*
			EBT	C (30.5)	D (45.8)*	C (25.7)	C (29.3)	D (41.9)*	C (26.1)
			EBR	-	-	-	A (9.8)	A (6.7)	A (1.2)
			WBL	E (61.5)	F (109.4)*	E (75.6)*	E (65.1)*	F (167.8)*	F (99.5)*
			WBT	D (42.8)	D (48.1)	C (33.8)	D (49.0)*	E (58.5)*	D (35.1)
			WBR	A (4.9)	A (7.8)	A (1.8)	A (8.5)	B (14.5)	A (3.7)
			NBL	E (63.3)	F (191.3)*	F (187.7)*	F (568.5)*	F (379.1)*	F (341.8)*
			NBT	C (32.6)	E (76.8)*	C (26.6)	D (36.8)	D (48.2)*	C (24.9)
5	SH 42 (Courtesy Rd) & Cannon Circle	EB Stop	NBR	-	-	-	B (10.1)	B (13.2)	A (7.4)
			SBL	F (193.3)*	F (240.4)*	F (94.1)*	F (321.4)*	F (372.3)*	F (152.0)*
			SBT	D (37.0)	D (38.6)	C (29.2)	D (39.2)	D (40.2)	C (29.1)
			SBR	C (22.3)	A (8.2)	A (6.0)	D (40.4)*	B (16.4)	B (11.1)
			EB	B (12.6)	B (13.1)	B (11.2)	B (14.6)	C (15.3)	B (12.3)
6	SH 42 (Courtesy Road) & Griffith Street	EB/WB Stop	NBL	B (11.6)	B (11.1)	B (10.1)	-	-	-
			EB	F (81.6)	F (96.8)	E (35.4)	-	-	-
			WB	F (77.4)	F (137.2)	D (27.7)	-	-	-
			NB	A (0.5)	A (0.3)	A (0.3)	-	-	-
6	SH 42 (Courtesy Road) & Griffith Street	Signal	SB	A (0.0)	A (0.0)	A (0.1)	-	-	-
			EBL	-	-	-	C (27.1)	C (25.6)	C (20.4)
			EBT	-	-	-	A (1.0)	A (1.0)	A (9.1)
			WBL	-	-	-	C (24.0)	C (24.0)	B (18.5)
			WBT	-	-	-	C (21.0)	C (21.0)	B (13.3)
			NBL	-	-	-	C (26.8)	C (25.6)	B (17.8)
			NBT	-	-	-	A (4.4)	A (5.7)	A (4.8)
			SBL	-	-	-	C (28.8)	C (33.0)	B (17.6)
7	Griffith Street & Cannon Street	NB/SB Stop	SBT	-	-	-	A (5.1)	A (6.8)	A (4.7)
			SBR	-	-	-	A (0.6)	A (2.0)	A (0.7)
			EB	A (0.0)	A (0.2)	A (0.0)	A (0.0)	A (7.5)	A (0.0)
			WB	A (1.0)	A (0.0)	A (1.4)	A (1.0)	A (0.0)	A (1.4)
8	Griffith Street & Front Street	NB/SB Stop	NB	B (10.1)	B (10.6)	A (9.6)	A (9.7)	B (10.2)	A (9.3)
			SB	A (8.9)	B (11.0)	A (9.2)	A (8.9)	B (11.1)	A (9.3)
			EB	A (0.5)	A (1.3)	A (1.2)	A (0.6)	A (1.3)	A (1.3)
			WB	A (0.2)	A (0.2)	A (0.1)	A (0.2)	A (0.2)	A (0.1)
9	Griffith Street & Main Street	WB Stop	NB	B (10.3)	B (10.4)	B (10.1)	B (10.2)	B (10.3)	A (10.0)
			SB	A (9.9)	B (10.4)	A (9.4)	A (9.9)	B (10.5)	A (9.5)
10	Harper Street & Front Street	WB Stop	WB	C (15.2)	B (13.7)	B (11.6)	B (14.8)	B (13.6)	B (11.5)
			SB	A (1.2)	A (0.0)	A (0.9)	A (1.2)	A (0.0)	A (0.7)
11	SH 42 (Courtesy Rd) & Harper Street	EB Stop	WB	A (9.6)	A (9.7)	A (9.5)	A (9.7)	A (9.7)	A (9.6)
			SB	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)
11	SH 42 (Courtesy Rd) & Harper Street	EB Stop	EB	D (33.7)	F (118.0)	E (40.9)	B (14.5)	C (17.7)	B (12.7)
			NBL	B (10.4)	B (10.7)	A (9.3)	-	-	-

* Indicates LOS F with volume exceeding capacity (delays in seconds likely not accurate due to modelling method limitations)

Table 10: Total Traffic LOS (without the Front Street Connection)

#	Intersection	Traffic Control	Approach	Year 2026 Total without Front Street Level of Service (Delay in Seconds)			Year 2045 Total without Front Street Level of Service (Delay in Seconds)		
				AM	PM	SAT	AM	PM	SAT
1	South Boulder Road & Main Street	Signal	EBT	A (8.0)	A (9.7)	A (6.8)	A (9.2)	B (13.6)	A (7.5)
			EBR	A (1.4)	A (2.4)	A (1.4)	A (2.3)	A (3.3)	A (1.5)
			WBL	A (5.0)	A (8.4)	A (3.2)	A (4.7)	B (11.6)	A (3.2)
			WBT	A (5.5)	A (6.1)	A (3.1)	A (6.8)	A (7.7)	A (3.3)
			NBL	D (55.0)	E (59.9)	D (47.5)	D (53.1)	E (55.1)	D (47.0)
2	South Boulder Road & Front Street	3/4, NB/SB Stop	NBR	B (13.9)	D (38.7)	B (14.4)	B (14.0)	E (55.7)	B (15.0)
			WBL	B (11.9)	C (19.5)	B (12.3)	B (13.4)	D (29.7)	B (14.6)
			NB	B (13.0)	C (18.3)	B (13.1)	B (14.8)	D (26.6)	C (15.2)
3	South Boulder Road & Cannon Circle	3/4 NB/SB Stop	SB	C (15.6)	B (13.6)	B (12.3)	C (19.5)	C (16.2)	B (13.9)
			EBL	C (17.4)	C (18.3)	B (13.2)	D (26.5)	D (31.2)	C (16.9)
			WBL	B (11.0)	C (17.4)	B (11.0)	B (12.7)	D (28.8)	B (13.0)
			NB	B (13.2)	C (20.3)	B (13.2)	B (15.0)	D (32.3)	C (15.6)
4	SH 42 (Courtesy Road) & South Boulder Road	Signal	SB	C (16.4)	C (15.4)	B (13.3)	C (21.0)	C (19.6)	C (15.5)
			EBL	F (597.4)*	F (969.9)*	F (615.7)*	F (977.5)*	F (1631.4)*	F (990.3)*
			EBT	C (30.9)	D (52.9)*	C (25.8)	C (29.6)	D (42.6)*	C (26.2)
			EBR	-	-	-	B (11.9)	A (9.6)	A (2.6)
			WBL	E (61.5)	F (109.4)*	E (75.6)*	E (65.1)*	F (167.8)*	F (99.5)*
			WBT	D (42.8)	D (48.1)	C (33.8)	D (49.2)*	E (58.8)*	D (35.2)
			WBR	A (4.9)	A (7.8)	A (1.8)	A (8.5)	B (14.5)	A (3.7)
			NBL	E (63.3)	F (191.3)*	F (187.7)*	F (597.5)*	F (421.6)*	F (356.1)*
			NBT	C (32.6)	E (76.8)*	C (26.6)	D (35.5)	D (48.6)*	C (25.0)
			NBR	-	-	-	A (9.4)	B (12.1)	A (7.4)
			SBL	F (193.3)*	F (240.4)*	F (94.1)*	F (321.4)*	F (372.3)*	F (152.0)*
5	SH 42 (Courtesy Rd) & Cannon Circle	EB Stop	SBT	D (37.1)	D (38.8)	C (29.3)	D (39.4)	D (40.6)	C (29.2)
			SBR	C (27.1)	A (8.8)	A (6.9)	D (45.7)	B (19.9)	B (12.5)
6	SH 42 (Courtesy Road) & Griffith Street	EB/WB Stop	EB	B (12.9)	B (13.5)	B (11.3)	B (14.9)	C (16.3)	B (12.5)
			NBL	B (11.7)	B (11.5)	B (10.2)	-	-	-
			EB	F (85.8)	F (110.3)	E (41.9)	-	-	-
			WB	A (0.0)	A (0.0)	D (27.3)	-	-	-
6	SH 42 (Courtesy Road) & Griffith Street	Signal	NB	A (0.5)	A (0.2)	A (0.3)	-	-	-
			SB	A (0.0)	A (0.0)	A (0.1)	-	-	-
			EBL	-	-	-	C (26.7)	C (24.9)	C (20.4)
			EBT	-	-	-	A (0.7)	A (0.5)	B (11.0)
			WBL	-	-	-	C (24.0)	C (24.0)	B (18.5)
			WBT	-	-	-	C (21.0)	C (21.0)	B (13.3)
			NBL	-	-	-	C (26.5)	C (25.1)	B (17.7)
			NBT	-	-	-	A (3.9)	A (5.0)	A (4.8)
7	Griffith Street & Cannon Street	NB/SB Stop	SBL	-	-	-	C (29.0)	C (32.0)	B (17.8)
			SBT	-	-	-	A (4.4)	A (5.2)	A (4.7)
			SBR	-	-	-	A (0.6)	A (1.7)	A (0.8)
			EB	A (0.0)	A (0.2)	A (0.0)	A (0.0)	A (0.3)	A (0.0)
8	Griffith Street & Front Street	NB/SB Stop	WB	A (0.9)	A (0.0)	A (1.4)	A (0.9)	A (0.0)	A (1.4)
			NB	A (10.0)	B (10.4)	A (9.4)	A (9.6)	A (10.0)	A (9.2)
			SB	A (8.9)	B (10.8)	A (9.2)	A (8.9)	B (10.8)	A (9.2)
			EB	A (0.2)	A (0.4)	A (0.7)	A (0.2)	A (0.4)	A (0.7)
9	Griffith Street & Main Street	WB Stop	WB	A (0.1)	A (0.2)	A (0.1)	A (0.2)	A (0.2)	A (0.1)
			NB	A (10.0)	A (10.0)	A (9.8)	A (9.9)	A (10.0)	A (9.7)
			SB	A (9.4)	A (9.3)	A (8.8)	A (9.3)	A (9.3)	A (8.8)
			WB	B (14.4)	B (13.6)	B (11.6)	B (14.0)	B (13.7)	B (11.5)
10	Harper Street & Front Street	None	SB	A (1.3)	A (0.0)	A (0.9)	A (1.2)	A (0.0)	A (0.7)
			WB	-	-	-	-	-	-
11	SH 42 (Courtesy Rd) & Harper Street	EB Stop	SB	-	-	-	-	-	-
			EB	D (33.7)	F (118.0)	E (40.9)	B (14.7)	C (18.2)	B (12.9)
11	SH 42 (Courtesy Rd) & Harper Street	EB Stop	NBL	B (10.4)	B (10.7)	A (9.3)	-	-	-
			NBL	B (10.4)	B (10.7)	A (9.3)	-	-	-

* Indicates LOS F with volume exceeding capacity (delays in seconds likely not accurate due to modelling method limitations)

6.2 Intersection Queues

Synchro's HCM modeling software was used to analyze intersection operations, including estimated 95th Percentile Queues for each scenario. A table detailing the traffic queues is included in the **Appendix**.

Intersection #1 - South Boulder Road and Main Street Intersection: This signalized intersection has excessive queues. The eastbound queues are anticipated to back up past Centennial Drive. Westbound queues can reach Steele Street. Northbound queues can exceed 500 feet, but are rarely anticipated to impact the private driveway to the south of the signal.

Train crossing events will increase these anticipated queues.

The City's proposed future pedestrian underpass of South Boulder Road should allow for better signal timing at this intersection. It is recommended that the City update the corridor's signal timing plans every five years. The future pedestrian underpass will increase the mainline efficiency by eliminating pedestrian signal calls.

Intersection #2 - South Boulder Road and Front Street Intersection: Intersection queues are anticipated to be less than two vehicles. The queues are accommodated by existing infrastructure.

Intersection #3 - South Boulder Road and Cannon Circle intersection: This intersection is currently experiencing a 75 feet northbound queue and 250 feet southbound queues. With Coal Creek Village's conversion of this access to $\frac{3}{4}$ movement, the left turn is restricted and all queues are anticipated to be less than two vehicles.

Intersection #4 - South Boulder Road and SH 42 intersection: Existing conditions at this signal are currently experiencing left turn movement volumes that exceed the intersection's capacity.

Currently, eastbound queues reach 350 feet. In the future, it is anticipated that the queues could reach 750 feet. The westbound left queue is anticipated to reach approximately 550 feet.

The northbound queue is anticipated to reach 500 feet during evening peak traffic. Southbound queues are anticipated to reach 500 feet during the morning peak hour.

The *Future 42* plan depicts intersection improvements that include northbound and eastbound channelized right turn lanes that will improve operations at the intersection.

Intersection #5 - SH 42 and Cannon Circle intersection: All queues are anticipated to be less than one vehicle.

Intersection #6 - SH 42 and Griffith Street intersection: This is currently a stop-controlled, full-movement intersection. The eastbound queue reaches five vehicles during the evening peak hour.

Signalization of the SH 42 and Griffith Street intersection will improve the side street queues. The added mainline delay on SH 42 will create a queue of 275 feet for the northbound left turn during the evening peak hour. Dependent upon the signal timing implemented when the signal is constructed, the queue associated with the Louisville Sports Complex could reach 250 feet.

Intersection #7 – Griffith Street and Cannon Street intersection: With all scenarios, the northbound queue is anticipated to be less than one vehicle.

Intersection #8 – Griffith Street and Front Street intersection: With the front street connection, the southbound queue is anticipated to be one vehicle or less. Without the Front Street connection, the southbound queue is minimal.

Intersection #9 – Griffith Street and Main Street intersection: The southbound left turn can anticipate a queue of less than one vehicle in all scenarios. During school pick up and drop off or train crossings, the queues can be anticipated to be longer. Refer to the additional train analysis in **Section 6.6**.

Intersection #10 – Front Street and Harper Street intersection: With all scenarios, the northbound queue is anticipated to be less than one vehicle.

Intersection #11 – SH 42 and Harper Street intersection: Under current conditions, queues are anticipated for the eastbound left movement. With the Future 42 access restriction implemented, the eastbound queue is anticipated to be less than one vehicle.

6.3 Site Design and Traffic Circulation Evaluation

The proposed street configuration for Coal Creek Village provides good internal circulation and alternate routes to access adjacent arterial streets. Access restrictions will require that drivers wanting to go west on South Boulder Road or north on SH 42 may need to adjust their travel routes, as left turns out of the site are prohibited onto these two roadways.

Analysis Scenario with the Front Street Connection: The current site plan includes a Front Street connection. This connection aligns with the City of Louisville’s previous *The Highway 42 Revitalization Area Framework Plan*¹⁴ and *42 Gateway Alternative Analysis Report*¹⁵ plans to connect South Boulder Road and Griffith Street via Front Street. Excerpts from these reports are included in the **Appendix**.

The Front Street connection will allow for transportation redundancy as part of a gridded street network. Gridded networks have more capacity with narrower roadways that are safer for pedestrians and other multimodal traffic.

In the Year 2026 and Year 2045 total traffic scenarios with the Front Street connection, it is recommended that Front Street becomes the through street, resulting in the installation of westbound stop-control on Harper Street.

With the Front Street connection, it is recommended that traffic calming measures are constructed to attenuate operations on Front Street. Several measures that may be considered are described in the City of Louisville's *Transportation Master Plan*. This document's Neighborhood Traffic Management Program (NTMP) focuses on neighborhood-level traffic calming and safety improvements. These improvements help maintain the City's family-friendly small-town character. Examples of tools utilized within an NTMP include, but are not limited to the following.

- Enhanced or raised pedestrian crossings
- Medians and/or entry islands
- Curb extensions
- Speed humps or cushions
- Speed monitoring and enforcement campaigns
- Education campaigns

Analysis Scenario without the Front Street Connection: A second scenario does not include vehicular access from the proposed Coal Creek Village to Front Street. With this option, pedestrian and multimodal connectivity are still encouraged.

In the Year 2026 and Year 2045 total traffic scenarios without the Front Street connection, no changes from the current conditions are considered. Therefore, there no additional vehicular traffic is anticipated without the Front Street connection.

Without the Front Street connection, both Coal Creek Village and other surrounding background traffic will have travel paths impacted by the access control on South Boulder Road and SH 42. Drivers are more likely to make weave movements egressing the South Boulder Road accesses to reach the eastbound left turn lane at the signalized intersection of South Boulder Road and SH 42. Without the Front Street connection, there is anticipated to be 45% more eastbound U-turn movements on South Boulder Road. This includes a weave movement from the northern site accesses to the eastbound left turn lane at the signalized intersection.

Table 11: Anticipated Front Street Traffic Volumes with and without the Connection between South Boulder Road and Griffith Street

Scenario	Traffic Volume in vph (vehicle trips per hour)			Time between vehicles (average gap time)		
	AM	PM	SAT	AM	PM	SAT
Total 2045 With Front St Connection	79 vph	93 vph	67 vph	1 car every 45 seconds	1 car every 38 seconds	1 car every 53 seconds
Total 2045 Without Front St Connection	9 vph	13 vph	13 vph	1 car every 400 seconds (6.5 minutes)	1 car every 276 seconds (4.6 minutes)	1 car every 276 seconds (4.6 minutes)

The anticipated total Year 2045 daily traffic volume on Front Street was calculated at a location directly north of Griffith Street. The same methodology graphically represented in

Figure 8 and **Figure 10** was used for the scenarios with and without the Front Street connection, respectively.

Front Street is anticipated to have less than 1,000vpd, which is considered the local residential roadway capacity for livability. In actuality, the roadway can technically handle a much larger volume of vehicles. Different municipalities typically use 1,000 – 1,500vpd as the capacity of a local residential roadway. This analysis conservatively uses the 1,000vpd capacity.

The following figures provide a breakdown of the anticipated future Year 2045 traffic volumes on Front Street with and without the Front Street connection. The total daily capacity is considered to be a conservative 1,000vpd. The total hourly capacity, using a design hourly volume of 10%, is considered to be 100vph.

Figure 27: Year 2045 Total Daily Traffic (vpd) (With Front Street Connection)

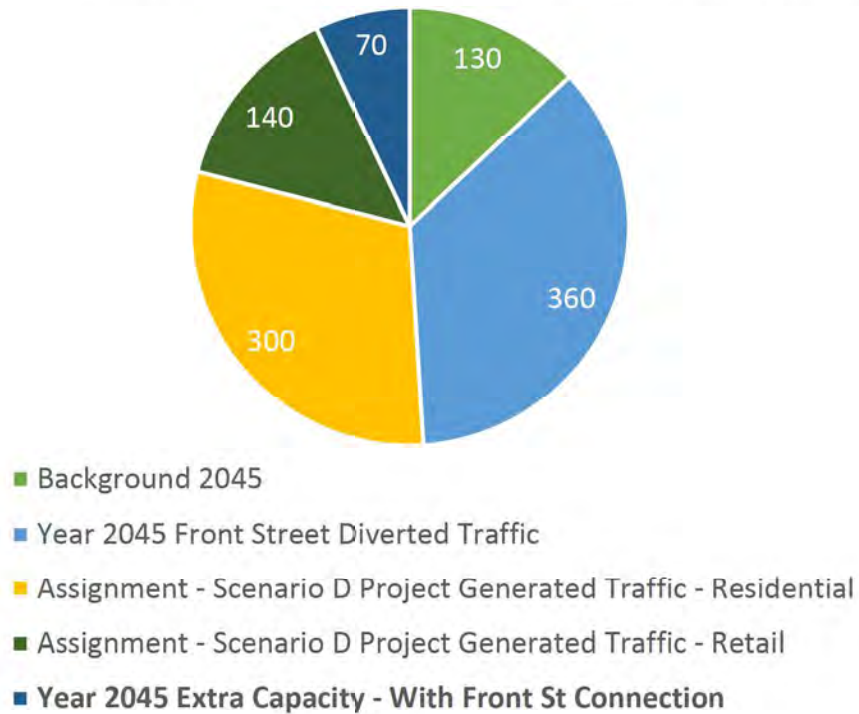
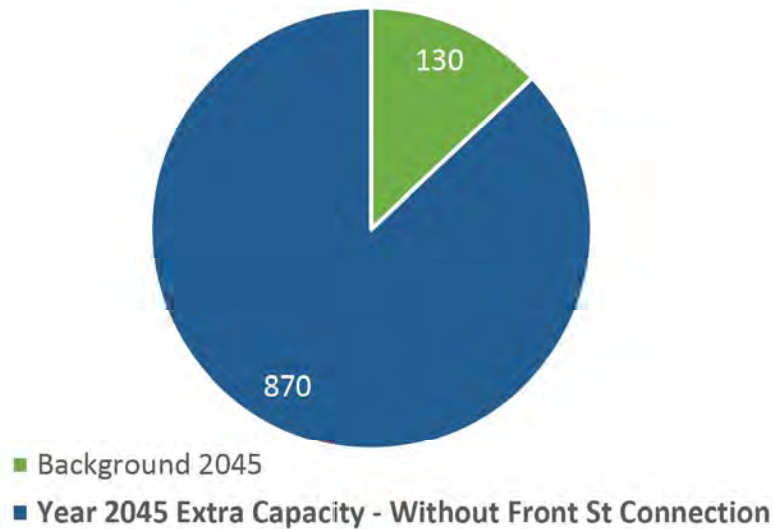


Figure 28: Year 2045 Total Daily Traffic (vpd) (Without Front Street Connection)



The excess capacity on Front Street in each of these scenarios is depicted in bold and dark blue.

Similarly, the anticipated total Year 2045 hourly peak traffic volumes were calculated at a location directly north of Griffith Street. Front Street is anticipated to have less than 100vph, which is considered the local residential roadway capacity for livability.

Figure 29: Year 2045
Total Morning Peak Hour
Traffic (vph) (With Front
Street Connection)

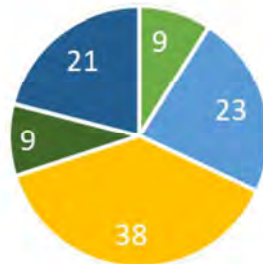


Figure 30: Year 2045
Total Evening Peak Hour
Traffic (vph) (With Front
Street Connection)

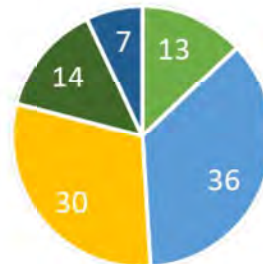
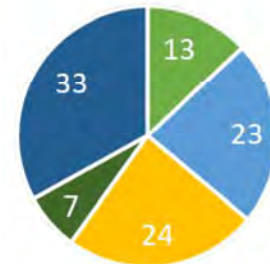


Figure 31: Year 2045
Total Saturday Peak Hour
Traffic (vph) (With Front
Street Connection)



- Background 2045
- Year 2045 Front Street Diverted Traffic
- Assignment - Scenario D Project Generated Traffic - Residential
- Assignment - Scenario D Project Generated Traffic - Retail
- Year 2045 Extra Capacity - With Front St Connection

Cannon Circle Access: Cannon Circle will also provide two of the accesses to the development. Cannon Circle is platted as an L-shaped City street. The north-south leg intersects South Boulder Road one block west of SH 42. The east-west leg intersects SH 42 one block south of South Boulder Road.

Canon Circle approaching SH 42 may require access restriction to the adjacent lot. There is a potential corner clearance problem with an existing driveway. The driveway on Cannon Circle to 1110 E South Boulder Road is about 20 feet south of the stop bar. If there are two or more northbound queued up at the stop sign, the southbound left turn into the driveway will be blocked. Someone waiting to make the left turn into the driveway could cause a backup that extends into the eastbound through lanes on South Boulder Road.

The City may want to implement a countermeasure. One option is to install a "Do Not Block Driveway" sign and appropriate lane markings. Another option is to construct a raised median on Cannon Circle, making the driveway a right-in/right-out access. This intersection may have movements restricted in the future at the direction of the City.

Northbound left turns onto South Boulder Road: The City is considering the restriction of the left turns from the side streets at the South Boulder Road and Cannon Circle intersection as mentioned in the *South Boulder Road Corridor Evaluation*. Per the analysis included in this report, McDowell Engineering recommends that the left turn and through movements are restricted at Cannon Street at the time of Coal Creek Village buildout. This can be accomplished with the construction of a raised center median at the intersection.

6.4 Turn Lane Requirements

The need for auxiliary turn lanes were assessed per the *State of Colorado State Highway Access Code*¹⁰ (*Access Code*) for CDOT's SH 42. The City of Louisville *Design and Construction Standards* does not have turn lane requirements, so the *Access Code* requirements were compared to the 95th Percentile Queue lengths for the Year 2050 total traffic conditions and current site geometric constraints for the turning movements that are not on the State Highway system. Refer to **Table 12** below for the auxiliary turn lane recommendations and details.

¹⁰ State of Colorado State Highway Access Code, 2002.

Table 12 - Auxiliary Turn Lane Requirements (continued) 4

#	Intersection	Mvmt	Accel or Decel	Posted Speed Limit (MPH)	Road Jurisdiction/CDOT Class	SHAC Trigger Volume (VPH)	Year 2024 Existing			Year 2026 BG			Year 2045 BG			Year 2045 Total with Front Street			Year 2026 Total without Front Street			Year 2026 Total with Front Street			Year 2045 Total without Front Street			Existing Turn Lane	Trigger Year & Condition		
							Year 2024 Existing			Year 2026 BG			Year 2045 BG			Year 2045 Total with Front Street			Year 2026 Total without Front Street			Year 2026 Total with Front Street			Year 2045 Total without Front Street						
							AM	PM	SAT	AM	PM	SAT	AM	PM	SAT	AM	PM	SAT	AM	PM	SAT	AM	PM	SAT	AM	PM	SAT			AM	PM
1	S. Boulder Road & Main Street	EBR	D	45	Local	N/A	109	99	87	112	106	94	111	102	90	112	106	94	112	106	94	111	102	90	111	102	90	120' + 90' Taper	95th Percentile Queue < 35'. Existing is adequate.		
		WBL	D	45	Local	N/A	75	69	67	75	69	67	75	69	67	79	76	70	75	69	67	79	76	70	75	69	67	290' + 40' Bay Taper	95th Percentile Queue < 30'. Existing is adequate.		
		NBL	C	25	Local	N/A	65	87	57	81	98	68	67	89	59	103	111	79	81	98	68	89	102	70	67	89	59	115' Lane	Queues of 205'. Approximately blocks 1 residential driveway.		
		NBR	C	25	Local	N/A	95	162	93	95	162	93	95	162	93	104	178	100	108	189	106	104	178	100	113	194	107	115' + 75' Taper	Queues of 205'. Approximately blocks 1 residential driveway.		
2	S. Boulder Road & Front Street	EBL	C		Local	N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	None			
		EBR	D	45	Local	N/A	0	1	3	0	1	3	0	1	3	35	65	38	24	53	28	41	73	43	34	63	30	50' + 75' Taper	Assume NR-B Equivalent. 73vph. 75' storage + 10' lane @ 13.5:1 (135' taper). Need to extend turn lane.		
		WBL	D	45	Local	N/A	0	2	4	0	2	4	0	2	4	7	16	11	7	16	11	12	27	16	16	30	16	90' + 75' Taper	Assume NR-B Equivalent. 30vph. 50' storage + 10' lane @ 13.5:1 (135' taper). Constrained with adjacent access turn lane. Existing bay taper acceptable.		
		WBR	D	45	Local	N/A	5	5	4	5	5	4	5	5	4	5	5	4	5	5	4	5	5	4	5	5	4	None	Private Access not applicable to this project.		
		NBL	D		Local	N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	None			
		NBR	C	20	Local	N/A	0	3	5	0	3	5	0	3	5	22	29	20	48	50	34	22	29	20	40	64	36	None	NB Front Street constrained to NBR movements. Lane is continuous, no decel lane needed.		
		NBR	A	45	Local	N/A	0	3	5	0	3	5	0	3	5	22	29	20	48	50	34	22	29	20	40	64	36	None	Assume NR-B Equivalent. 64vph. No safety/operational concerns, therefore accel lanes is not required.		
		SBL	C		Local	N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	None			
		SBR	D	20	Local	N/A	11	5	1	11	5	1	11	5	1	11	5	1	11	5	1	11	5	1	11	5	1	None	Private Access not applicable to this project.		
		3	S. Boulder Road & Cannon Circle	EBL	C		Local	N/A	21	48	28	21	48	28	21	48	28	21	48	28	21	48	28	21	48	28	21	48	28	90' + 65' Taper	Project to construct median extension to restrict to 3/4 movement. EBL at private access not applicable to this project.
				EBR	C		Local	N/A	0	27	15	0	27	15	0	27	15	11	49	28	9	45	26	11	49	28	12	47	27	None	Assume NR-B Equivalent. 49vph. 50' storage + 10' lane @ 13.5:1 (135' taper). Need to construct turn lane.
				WBL	C		Local	N/A	6	18	34	6	18	34	8	21	34	21	50	49	17	40	44	25	59	52	31	62	52	75' + 75' Taper	Assume NR-B Equivalent. 62vph. 55' storage + 10' lane @ 13.5:1 (135' taper). Constrained with adjacent access turn lane. Existing bay taper acceptable.
WBR	C				Local	N/A	8	12	12	8	12	12	8	12	12	8	12	12	8	12	12	8	12	12	8	12	12	None	Private Access not applicable to this project.		
NBL	C				Local	N/A	0	2	8	0	2	8	0	2	8	0	0	0	0	0	0	0	0	0	0	0	0	None	Project to construct median extension to restrict to 3/4 movement. NBL to be removed in total traffic conditions.		
NBR	C				Local	N/A	1	23	13	1	23	13	2	24	21	32	58	42	45	65	48	33	59	50	38	80	58	None	Project to construct median extension to restrict to 3/4 movement. NB Cannon Circle is constrained to NBR movements. Lane is continuous, no decel lane needed.		
SBL	C				Local	N/A	8	21	23	8	21	23	8	21	23	0	0	0	0	0	0	0	0	0	0	0	0	45' Lane	Project to construct median extension to restrict to 3/4 movement. SBL to be removed in total traffic conditions.		
SBR	C				Local	N/A	28	45	56	28	45	56	28	45	56	35	66	82	36	66	82	36	66	82	36	66	82	45' Lane	Assume NR-B Equivalent. 82vph. No safety/operational concerns, therefore accel lanes is not required.		
4	Courtyard Road (SH42) & S. Boulder Road	EBL	C	45	Local	N/A	281	554	372	288	568	382	369	727	492	312	591	397	312	591	397	393	750	507	389	757	508	160' Dual	95th percentile queue > 766'. Existing queue length exceeds current storage capacity. EBL lanes are constrained from back to back left turns of adjacent intersection.		
		EBR	C	45	Local	N/A	145	163	99	149	167	102	190	214	130	135	146	87	175	193	118	171	185	110	212	247	147	None	435' decel including 13.5:1 taper. Proposed with Future 42 Plan implementation.		
		EBR	A	45	NR-A	> 50	145	163	99	149	167	102	190	214	130	135	146	87	175	193	118	171	185	110	212	247	147	None	247vph. Accel lane per CDOT 550' lane including 13.5:1 taper. To be coordinated in Future 42 Plan.		
		WBL	C	45	Local	N/A	250	336	236	261	355	252	332	453	322	261	355	252	261	355	252	332	453	322	332	453	322	220' Dual	95th percentile queue > 362'. Existing queue length may exceed current storage capacity. WBL lanes are constrained from back to back left turns of adjacent intersection.		
		WBR	D	45	Local	N/A	149	197	132	153	202	135	195	258	173	153	202	135	153	202	135	195	258	173	195	258	173	Continuous Channelized	WBR Lane is a continuous right turn lane for multiple accesses. 435' decel including 13.5:1 taper. To be coordinated with Future 42 Plan implementation.		
		WBR	A	45	NR-A	> 50	149	197	132	153	202	135	195	258	173	153	202	135	153	202	135	195	258	173	195	258	173	None	258vph. Accel lane per CDOT 550' lane including 13.5:1 taper. To be coordinated with Future 42 Plan implementation.		
		NBL	C	45	NR-A	> 10	171	125	154	175	128	158	226	167	202	177	132	160	177	132	160	236	188	212	244	199	216	220' Dual	244vph. 435' decel + 245' storage including 13.5:1 taper. To be coordinated with Future 42 Plan implementation.		
		NBR	C	45	NR-A	> 25	190	245	190	198	255	199	258	328	253	158	255	199	198	255	199	258	328	253	258	328	253	None	435' decel including 13.5:1 taper. Proposed with Future 42 Plan implementation.		
		NBR	A	45	NR-A	> 50	190	245	190	198	255	199	258	328	253	158	255	199	198	255	199	258	328	253	258	328	253	None	328vph. Accel lane per CDOT 550' lane including 13.5:1 taper. To be coordinated with Future 42 Plan implementation.		
		SBL	C	45	NR-A	> 10	125	135	107	128	139	110	164	177	140	128	139	110	128	139	110	164	177	140	164	177	140	185' Dual	177vph. 435' decel + 180' storage including 13.5:1 taper. To be coordinated with Future 42 Plan implementation.		
5	Courtyard Road (SH42) & Cannon Circle	SBR	C	45	NR-A	> 25	420	307	253	431	315	260	551	403	332	444	342	273	440	333	268	564	430	345	563	423	341	300' Channelized	564vph. 435' decel including 13.5:1 taper. To be coordinated with Future 42 Plan implementation.		
		SBR	A	45	Local	N/A	420	307	253	431	315	260	551	403	332	444	342	273	440	333	268	564	430	345	563	423	341	None	Assume NR-B Equivalent. 564vph. To be coordinated with Future 42 Plan implementation.		
		EBL	C	20	Local	N/A	1	1	8	1	1	8	0	0	0	1	1	8	1	1	8	0	0	0	0	0	0	None	Project to construct median extension to restrict to 3/4 movement. Future 42 Plan will restrict to RIPO movements only. EBL to be removed with project construction.		
		EBR	C	20	Local	N/A	0	6	1	0	6	1	0	6	1	17	19	10	17	19	10	17	19	10	13	26	11	None	Project to construct median extension to restrict to 3/4 movement. EB Cannon Circle is constrained to EBR movements. Lane is continuous, no decel lane needed.		
		EBR	A	45	NR-A	> 50	0	6	1	0	6	1	0	6	1	17	19	10	17	19	10	17	19	10	13	26	11	None	26vph. Does not meet Access Code requirements for construction of an accel lane.		
		NBL	C	45	NR-A	> 10	2	3	0	2	3	0	0	0	0	10	20	9	13	26	11	0	0	0	0	0	0	135' + 100' Taper	NBL to remain until Future 42 Plan implementation. 26vph. 435' decel including 13.5:1 taper. Turn lane extension to be coordinated with CDOT due to back to back left turns at the Louisville Sports Complex access. NBL will be restricted with Future 42 Plan.		
SBR	C	45	NR-A	> 25	1	9	10	1	9	10	1	9	10	1	9	10	5	19	15	1	9	10	8	21	16	None	21vph. Does not meet Access Code requirements for construction of a decel lane.				

Table 13 - Auxiliary Turn Lane Requirements (continued) 4

#	Intersection	Mount	Accel or Decel	Posted Speed Limit (MPH)	Road Jurisdiction/CDOT Class	SHAC Trigger Volume (VPH)	Year 2024 Existing			Year 2026 BG			Year 2045 BG			Year 2045 Total with Front Street			Year 2026 Total without Front Street			Year 2026 Total with Front Street			Year 2045 Total without Front Street			Existing Turn Lane	Trigger Year & Condition
							AM	PM	SAT	AM	PM	SAT	AM	PM	SAT	AM	PM	SAT	AM	PM	SAT	AM	PM	SAT	AM	PM	SAT		
6	Courtesy Road (SH42) & Griffith Street	EBL	D	25	Local	N/A	15	7	10	19	11	14	29	17	20	19	11	14	19	11	14	29	17	20	29	17	20	None	In the short term the anticipated 95th percentile queue length is 75'. Future 42 Plan implementation in the future will signalize this intersection. A future EBL turn should have 50' of storage + taper to contain the 95th percentile queue with the signal. EBL construction to be coordinated with the Future 42 plan implementation.
		EBR	C	25	Local	N/A	54	39	21	54	39	21	54	39	21	72	67	39	54	39	21	77	75	44	54	39	21	None	Future 42 Plan implementation in the future will signalize this intersection. A future EBTR to be coordinated with the Future 42 plan implementation.
		EBR	A	45	NR-A	>50	54	39	21	54	39	21	54	39	21	72	67	39	54	39	21	77	75	44	54	39	21	None	77vph. Accel lane per CDOT 550' lane including 13.5:1 taper. To be coordinated with Future 42 Plan implementation.
		WBL	D	45	Local	N/A	0	0	2	0	0	2	0	0	2	0	0	2	0	0	2	0	0	2	0	0	2	None	Private Access not applicable to this project.
		WBR	C	45	Local	N/A	0	0	6	0	0	6	0	0	6	0	0	6	0	0	6	0	0	6	0	0	6	50' Lane	Private Access not applicable to this project.
		WBR	A	45	NR-A	>50	0	0	6	0	0	6	0	0	6	0	0	6	0	0	6	0	0	6	0	0	6	None	Private Access not applicable to this project.
		NBL	D	45	NR-A	>10	37	19	21	37	19	21	37	19	21	40	26	25	37	19	21	40	26	25	37	19	21	225' + 150' Taper	In the short term the anticipated 95th percentile queue length is 25'. Future 42 Plan implementation in the future will signalize this intersection. A future NBL turn should have 435' of decel + 45' of storage including a 13.5:1 taper. EBL construction to be coordinated with the Future 42 plan implementation.
		NBR	D	45	NR-A	>25	4	2	43	4	2	43	4	2	43	4	2	43	4	2	43	4	2	43	4	2	43	None	Existing volumes require the construction of a NBR turn lane of 435' length including a 13.5:1 taper. Private access not applicable to this project.
		NBR	A	25	Local	N/A	4	2	43	4	2	43	4	2	43	4	2	43	4	2	43	4	2	43	4	2	43	None	
		SBL	D	45	NR-A	>10	5	1	11	5	1	11	5	1	11	5	1	11	5	1	11	5	1	11	5	1	11	505' + 135' Taper	In the short term the anticipated 95th percentile queue length is 25'. Future 42 Plan implementation in the future will signalize this intersection. A future SBL turn should have 435' of decel + 200' of storage including a 13.5:1 taper. SBL construction to be coordinated with the Future 42 plan implementation. Private access not applicable to this project.
SBR	D	45	NR-A	>25	81	117	38	83	123	44	83	123	44	83	123	44	94	133	50	83	123	44	91	137	50	175' (Continuous)	137vph. 435' decel including 13.5:1 taper. Turn lane design to be coordinated with CDOT due to adjacent accesses. Future SBR design to be coordinated with the Future 42 plan implementation.		
SBR	A	25	Local	N/A	81	117	38	83	123	44	83	123	44	83	123	44	94	133	50	83	123	44	91	137	50				
7	Griffith Street & Cannon Street	EBL	D	25	Local	N/A	0	2	0	0	2	0	0	2	0	0	2	0	0	2	0	0	2	0	0	2	0	None	Volume does not meet requirements for construction of a decel lane.
		EBR	D	25	Local	N/A	7	10	8	13	26	24	12	22	20	13	26	24	13	26	24	12	22	20	12	22	20	None	Volume does not meet requirements for construction of a decel lane.
		WBL	D	25	Local	N/A	12	21	9	14	27	15	14	27	15	14	27	15	14	27	15	14	27	15	14	27	15	None	Volume does not meet requirements for construction of a decel lane.
		WBR	D	25	Local	N/A	2	1	1	2	1	1	2	1	1	2	1	1	2	1	1	2	1	1	2	1	1	None	Volume does not meet requirements for construction of a decel lane.
		NBL	D	20	Local	N/A	10	11	6	32	28	23	19	19	14	32	28	23	32	28	23	19	19	14	19	19	14	None	Volume does not meet requirements for construction of a decel lane.
		NBR	D	20	Local	N/A	5	1	6	9	5	10	10	11	16	5	5	10	9	5	10	10	11	16	10	11	16	None	Volume does not meet requirements for construction of a decel lane.
		SBL	D	20	Local	N/A	0	0	1	0	0	1	0	0	1	0	0	1	0	0	1	0	0	1	0	0	1	None	Volume does not meet requirements for construction of a decel lane.
		SBR	D	20	Local	N/A	1	0	1	1	0	1	1	0	1	1	0	1	1	0	1	1	0	1	1	0	1	None	Volume does not meet requirements for construction of a decel lane.
		EBL	C	25	Local	N/A	2	4	6	2	4	6	2	4	6	6	15	12	2	4	6	6	15	12	2	4	6	None	Volume does not meet requirements for construction of a decel lane.
		EBR	C	25	Local	N/A	2	6	3	2	6	3	2	6	3	2	6	3	2	6	3	2	6	3	2	6	3	None	Volume does not meet requirements for construction of a decel lane.
8	Griffith Street & Front Street	WBL	C	25	Local	N/A	3	5	1	3	5	1	3	5	1	3	5	1	3	5	1	3	5	1	3	5	1	None	Volume does not meet requirements for construction of a decel lane.
		WBR	C	25	Local	N/A	1	0	3	1	0	3	1	0	3	1	0	3	1	0	3	1	0	3	1	0	3	None	Volume does not meet requirements for construction of a decel lane.
		NBL	D	20	Local	N/A	6	2	8	6	2	8	6	2	8	6	2	8	6	2	8	6	2	8	6	2	8	None	Volume does not meet requirements for construction of a decel lane.
		NBR	D	20	Local	N/A	3	1	0	3	1	0	3	1	0	3	1	0	3	1	0	3	1	0	3	1	0	None	Volume does not meet requirements for construction of a decel lane.
		SBL	D	20	Local	N/A	1	0	0	1	0	0	1	0	0	1	0	0	1	0	0	1	0	0	1	0	0	None	Volume does not meet requirements for construction of a decel lane.
		SBR	D	20	Local	N/A	5	3	4	5	3	4	5	3	4	45	29	25	5	3	4	45	29	25	5	3	4	None	Volume does not meet requirements for construction of a decel lane.
		WBL	C	25	Local	N/A	35	74	51	42	80	57	42	80	57	59	93	66	53	90	63	59	93	66	50	94	63	None	Volume does not meet requirements for construction of a decel lane.
		WBR	C	25	Local	N/A	57	46	25	73	57	36	59	48	27	95	70	47	73	57	36	81	61	38	59	48	27	None	Volume does not meet requirements for construction of a decel lane.
		NBR	C	25	Local	N/A	57	31	38	60	39	46	60	39	46	64	50	52	60	39	46	64	50	52	60	39	46	None	Volume does not meet requirements for construction of a decel lane.
		SBL	C	25	Local	N/A	18	32	11	21	39	18	20	35	14	21	39	18	21	39	18	20	35	14	20	35	14	None	Volume does not meet requirements for construction of a decel lane.
9	Griffith St & Main St	WBL	C	25	Local	N/A	6	6	4	6	6	4	6	6	4	6	6	4	6	6	4	6	6	4	6	6	4	None	Volume does not meet requirements for construction of a decel lane.
		WBR	C	25	Local	N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	None	Volume does not meet requirements for construction of a decel lane.
		NBR	D	25	Local	N/A	3	7	9	3	7	9	3	7	9	3	7	9	3	7	9	3	7	9	3	7	9	None	Volume does not meet requirements for construction of a decel lane.
		SBL	C	25	Local	N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	None	Volume does not meet requirements for construction of a decel lane.
10	Front St & Harper St	EBL	D	20	Local	N/A	7	26	38	7	26	38	0	0	0	7	26	38	7	26	38	0	0	0	0	0	0	None	Volume does not meet requirements for construction of a decel lane.
		EBR	D	20	Local	N/A	12	61	11	12	61	11	19	87	49	12	61	11	12	61	11	19	87	49	19	87	49	None	Volume does not meet requirements for construction of a decel lane.
		EBR	A	45	NR-A	>50	12	61	11	12	61	11	19	87	49	12	61	11	12	61	11	19	87	49	19	87	49	None	77vph. Accel lane per CDOT 550' lane including 13.5:1 taper. To be coordinated with the Future 42 plan implementation.
		NBL	C	45	NR-A	>10	7	7	6	7	6	0	0	0	7	7	6	7	7	6	0	0	0	0	0	0	0	None	Volume does not meet requirements for construction of a decel lane.
		SBR	C	45	NR-A	>25	2	8	6	2	8	6	2	8	6	2	8	6	2	8	6	2	8	6	2	8	6	None	Volume does not meet requirements for construction of a decel lane.
11	Courtesy Road (SH42) & Harper Street	EBL	D	20	Local	N/A	7	26	38	7	26	38	0	0	0	7	26	38	7	26	38	0	0	0	0	0	0	None	Volume does not meet requirements for construction of a decel lane.
		EBR	D	20	Local	N/A	12	61	11	12	61	11	19	87	49	12	61	11	12	61	11	19	87	49	19	87	49	None	Volume does not meet requirements for construction of a decel lane.
		EBR	A	45	NR-A	>50	12	61	11	12	61	11	19	87	49	12	61	11	12	61	11	19	87	49	19	87	49	None	77vph. Accel lane per CDOT 550' lane including 13.5:1 taper. To be coordinated with the Future 42 plan implementation.
		NBL	C	45	NR-A	>10	7	7	6	7	6	0	0	0	7	7	6	7	7	6	0	0	0	0	0	0	0	None	Volume does not meet requirements for construction of a decel lane.
		SBR	C	45	NR-A	>25	2	8	6	2	8	6	2	8	6	2	8	6	2	8	6	2	8	6	2	8	6	None	Volume does not meet requirements for construction of a decel lane.

Intersection #1 - South Boulder Road and Main Street Intersection: This existing signalized intersection has adequate eastbound right and westbound left turn lanes for normal operations through Year 2045 total traffic operations. The northbound movement on Main Street can be anticipated to queue up to over 200' at the signal. This queue is anticipated to block approximately one residential driveway during peak traffic operations.

During railroad crossings at this intersection, longer queues occur. It takes a few minutes for the queues to dissipate.

These conditions occur with or without the addition of the Coal Creek Village project-generated traffic.

Intersection #2 - South Boulder Road and Front Street Intersection: Mainline South Boulder Road operates at an equivalent classification as a CDOT NRB roadway. It has a posted speed limit of 45mph.

With the development of Coal Creek Village, the eastbound right turn lane needs to be extended to include 75' of storage and a 13.5:1 taper to accommodate the anticipated site-generated traffic. The westbound left turn lane is constrained by the back-to-back turn lane to the adjacent access.

The northbound movement is restricted to right turn movements. Therefore, the northbound movement out of the site does not require a separate turn lane. No acceleration lane is required for this movement onto South Boulder Road.

Intersection #3 - South Boulder Road and Cannon Circle intersection: With the construction of Coal Creek Village, this access will be further restricted from to a $\frac{3}{4}$ movement access, prohibiting the northbound and southbound through and left turn movements.

Mainline South Boulder Road operates at an equivalent classification as a CDOT NRB roadway. It has a posted speed limit of 45mph.

With the development of Coal Creek Village, an eastbound right turn lane needs to be constructed to include 50' of storage and a 13.5:1 taper to accommodate the anticipated site-generated traffic. The westbound left turn lane is constrained by the back-to-back turn lane to the adjacent access. The 95th percentile queue for this movement is less than the available storage length + taper length. Therefore, no changes are recommended to the westbound left deceleration lanes.

The northbound movement is restricted to right turn movements. Therefore, the northbound movement out of the site does not require a separate turn lane.

Intersection #4 - South Boulder Road and SH 42 intersection: This is a full-movement, signalized intersection. The *Future 42* plan depicts intersection improvements that

include the construction of channelized northbound and eastbound right turn lanes. The Year 2045 total traffic scenario is modeled assuming the westbound and southbound right turn lanes are constructed. Even with these future improvements, this intersection has movements that are anticipated to operate at a failing LOS F for both Year 2026 and Year 2045 background and total traffic conditions.

The existing eastbound and westbound left turn lane queues exceed the available capacity. Both of the median islands are constrained by a back-to-back left turn lane at the adjacent access.

The northbound and southbound left turn lanes also need to be extended to accommodate the existing queue lengths. All of the turn lane and intersection improvements should be coordinated with the implementation of the City's *Future 42* plan.

Intersection #5 - SH 42 and Cannon Circle intersection: This is currently a full-movement "T" intersection. With the buildout of Coal Creek Village, this intersection will be restricted to a $\frac{3}{4}$ movement by extending the existing center median in SH 42.

The eastbound movement will be restricted to right turn only movements. Therefore, no deceleration lane is needed for this movement.

The northbound left turn movement will remain until the *Future 42* plan is implemented. Per the Access Code, this movement should have a deceleration lane that is 435' in length, including a 13.5:1 taper. Any modifications to the turn lane need to be coordinated with CDOT, as the movement is temporary and the associated median is back-to-back with the southbound left turn lane into the Louisville Sports Complex.

The southbound right turn lane is not required per CDOT's *Access Code* based upon the anticipated traffic volumes at this access.

Intersection #6 - SH 42 and Griffith Street intersection: This is currently a full-movement intersection. It is planned to be signalized with the implementation of the *Future 42* plan. Upon signalization, it is anticipated that separate eastbound and westbound left turn lanes will need to be constructed. The existing southbound right turn lane should remain. The northbound left turn lane is anticipated to require 435' of deceleration length with 45' of storage. The southbound left turn lane is anticipated to require 435' of deceleration length with 50' of storage. Additional length may be required for the traffic queues associated with the Louisville Sports Complex. These improvements are required with or without the addition of Coal Creek Village's project-generated traffic.

Intersection #7 – Griffith Street and Cannon Street intersection: This is a full-movement intersection with stop-control on the north and south legs. No additional turn lanes are required.

Intersection #8 – Griffith Street and Front Street intersection: This is a full-movement intersection with stop-control on the north and south legs. No additional turn lanes are required.

Intersection of Griffith Street and the BNSF Railroad: This at-grade railroad crossing sees multiple trains crossings per day, with each impacting the crossing for three to five minutes at a time. During the crossing, traffic queues on Griffith Street back up in either direction. Refer to **Section 6.6** for analysis of the crossing impacts.

It is recommended that the intersection of Griffith Street and Front Street is signed and striped with “Do not block intersection” to allow for ingress and egress movements at the Griffith Street and Front Street intersection during train crossings.

Intersection #9 – Griffith Street and Main Street intersection: This is a full-movement “T” intersection. The east leg is stop-controlled. This is a full-movement intersection with stop-control on the north and south legs. No additional turn lanes are required.

Intersection #10 – Front Street and Harper Street intersection with the Front Street Connection: This is currently a free-flowing intersection. There is an unimproved alley access as a third, north leg. With the buildout of Coal Creek Village and a connection of Front Street from South Boulder Road to Griffith Street, it is recommended that Front Street is designed as the through street and Harper Street is stop-controlled with a stop sign. The installation of a stop sign, stop bar, and painted pedestrian crosswalk should be included on the north leg of Front Street.

It is recommended that traffic calming is implemented along Front Street to encourage slower and safer travel speeds.

Intersection #10 – Front Street and Harper Street intersection without the Front Street Connection: This is currently a free-flowing intersection. There is an unimproved alley access as a third, north leg. Without the construction of a Front Street connection from South Boulder Road to Griffith Street, the existing conditions of this intersection would remain in place.

Intersection #11 – SH 42 and Harper Street intersection: The existing volume of eastbound right turns from Harper Street onto SH 42 exceeds the *Access Code*’s requirement to construct an acceleration lane for this movement. With the implementation of the *Future 42 Plan*, this volume is anticipated to increase because current traffic making the eastbound left movement will likely make a right turn instead. Coal Creek Village’s site traffic is not anticipated to impact this movement.

At a minimum, the construction of an acceleration lane should be incorporated into the implementation of Future 42 plans.

6.5 SH 42 and Cannon Circle State Highway Access Permit

Per Section 2.6(3) of the Access Code, a new access permit is required by CDOT when the traffic volume is anticipated to increase by 20%. The additional site traffic associated with the proposed Coal Creek Village project is anticipated to double traffic at the Cannon Circle access with the Front Street connection. Without the Front Street connection, the project is anticipated to approximately triple traffic on the Cannon Circle Access. Therefore, a new State Highway Access Permit will be required for this intersection. Louisville Middle School

Louisville Middle School is located directly west of the Griffith Street and Main Street intersection. Middle school students are not old enough to drive themselves to school. The school day runs from 8:45am to 3:45pm. Wednesday's schedule runs from 9:45am to 3:45pm. Main Street experiences high traffic congestion during peak dropoff and pickup periods. The Boulder Valley School District has published a *Louisville Middle School Travel Map*¹⁶ encouraging students to walk within a three-block and ½ mile radius of the school. This map is included in the **Appendix**. This traffic impacts traffic queues on Griffith Street. Hug n' Go Lanes are located on the south and west sides of the school.



The recommended improvements at the intersection of Griffith Street and Front Street should assist with school queues impacting Griffith Street. The pedestrian crosswalk will facilitate pedestrian access across Griffith Street. The 'Do Not Block Intersection' signing and striping improvements will also assist with Front Street egress onto Griffith Street.

6.6 Griffith Street Queuing Analysis for Railroad

The railroad that runs parallel to Main Street between Main Street and Front Street is anticipated to have delays between three and five minutes when trains are crossing Griffith Street. A queuing analysis was performed on Griffith Street at the railroad crossing.

Figure 32: Anticipated Queue Lengths for Railroad Operations



Both 50th percentile and 95th percentile queues were calculated using a cumulative Poisson distribution. Detailed calculations are available in the **Appendix. Table 14** and **Table 15.** summarize the queuing calculations for all the scenarios assuming a 3 minute or 5 minute railroad delay.

The maximum anticipated 50th and 95th percentile queue lengths occur during the Total 2026 with Front Street PM Peak hour scenario. **Figure 32** shows the 95th percentile queue lengths with a 5 minute delay for this scenario. These queues are 525' for the westbound and 325' for the eastbound. It was assumed that each vehicle occupies 25' in the queue, therefore, the 525' westbound queue is anticipated to contain 21 vehicles and the 325' eastbound queue is anticipated to contain 13 vehicles.

Table 14: Queuing Summary (3 Minute Delay)

Scenario	Sum of (50th Percentile)		Sum of (95th Percentile)	
	Queue Length (ft.)		Queue Length (ft.)	
	EB	WB	EB	WB
Background 2026 AM	100	150	200	250
Background 2026 PM	100	175	175	275
Background 2026 SAT	75	100	150	200
Background 2045 AM	100	125	200	225
Background 2045 PM	100	150	175	275
Background 2045 SAT	75	100	150	200
Total 2026 With Front Street AM	100	200	200	325
Total 2026 With Front Street PM	100	225	200	350
Total 2026 With Front Street SAT	75	150	175	250
Total 2026 Without Front Street AM	100	150	200	275
Total 2026 Without Front Street PM	100	175	175	300
Total 2026 Without Front Street SAT	75	125	150	225
Total 2045 With Front Street AM	100	175	200	300
Total 2045 With Front Street PM	100	200	200	350
Total 2045 With Front Street SAT	75	125	175	250
Total 2045 Without Front Street AM	100	125	200	250
Total 2045 Without Front Street PM	100	175	175	300
Total 2045 Without Front Street SAT	75	100	150	200

Table 15: Queuing Summary (5 Minute Delay)

Scenario	Sum of (50th Percentile)		Sum of (95th Percentile)	
	Queue Length (ft.)		Queue Length (ft.)	
	EB	WB	EB	WB
Background 2026 AM	175	225	275	375
Background 2026 PM	150	275	275	425
Background 2026 SAT	125	200	225	325
Background 2045 AM	175	200	275	350
Background 2045 PM	150	250	250	400
Background 2045 SAT	125	175	225	300
Total 2026 With Front Street AM	175	350	300	500
Total 2026 With Front Street PM	200	375	325	550
Total 2026 With Front Street SAT	150	250	250	400
Total 2026 Without Front Street AM	175	250	275	400
Total 2026 Without Front Street PM	150	300	275	450
Total 2026 Without Front Street SAT	125	200	225	325
Total 2045 With Front Street AM	175	325	300	475
Total 2045 With Front Street PM	175	350	300	525
Total 2045 With Front Street SAT	125	225	250	375
Total 2045 Without Front Street AM	175	225	275	350
Total 2045 Without Front Street PM	150	300	250	450
Total 2045 Without Front Street SAT	125	175	225	300

Note: Highlighted Line represents the longest anticipated queue

It is anticipated that the addition of development-related traffic will increase the 95th Percentile queue lengths by a maximum of 3 vehicles (75') per 3 minute delay. When the railroad delay is 5 minutes, the 95th Percentile queue lengths are anticipated to be increased by approximately 5 vehicles (125').

7.0 Recommendations and Conclusions

Transportation infrastructure recommendations associated with the construction of the Coal Creek Village project are summarized below.

Front Street Connection:

This TIS includes analysis of scenarios with and without the Front Street connection. Due to the sites' direct access to S. Boulder Road with heavy through volumes, the site accesses will have restricted turning movements. Without the Front Street connection, more vehicles access South Boulder Road from the Cannon Circle access creating additional weave and U-turn movements that present safety concerns. Both the City staff and the TIS recommendations are to include the Front Street connection.

The Front Street connection provides numerous benefits to the Louisville community. The Front Street connection will allow for transportation redundancy as part of a gridded street network. Gridded networks have more capacity and increase circulation with narrower roadways that are safer for pedestrians and other multimodal traffic. It also aligns with the City's previous planning efforts.

Without the Front Street connection, there is anticipated to be an additional 25% of the exiting site distribution that would use the eastbound U-turn, which amounts to between 8 to 18vph. This equates to an anticipated increase of between 40% and 85% for the eastbound U-turn movements on South Boulder Road in the long-term traffic scenarios. This includes a difficult weave movement across two or three lanes of traffic in the 400 feet between the northern site accesses to the eastbound left turn lane at the signalized intersection.

Under both scenarios, Front Street is anticipated to stay within Front Street's local residential street capacity.

With the Front Street connection, it is recommended that traffic calming measures are constructed to attenuate operations on Front Street. Several measures that may be considered are described in the City of Louisville's *Transportation Master Plan*. This document's Neighborhood Traffic Management Program (NTMP) focuses on neighborhood-level traffic calming and safety improvements. These improvements help maintain the City's family-friendly small-town character. Examples of tools utilized within an NTMP include, but are not limited to the following.

- Enhanced or raised pedestrian crossings
- Medians and/or entry islands
- Curb extensions
- Speed humps or cushions

- Speed monitoring and enforcement campaigns
- Education campaigns

Intersection #2 - South Boulder Road and Front Street Intersection: With the development of Coal Creek Village, the eastbound right turn lane needs to be extended to include 75' of storage and a 13.5:1 taper to accommodate the anticipated site-generated traffic. The westbound left turn lane is constrained by the back-to-back turn lane to the adjacent access.

The northbound movement is restricted to right turn movements. Therefore, the northbound movement out of the site does not require a separate turn lane. No acceleration lane is required for this movement onto South Boulder Road.

Intersection #3 - South Boulder Road and Cannon Circle intersection: With the construction of Coal Creek Village, this access will be further restricted to a $\frac{3}{4}$ movement access, prohibiting the northbound and southbound through and left turn movements by extending the raised center median.

With the development of Coal Creek Village, an eastbound right turn lane needs to be constructed to include 50' of storage and a 13.5:1 taper to accommodate the anticipated site-generated traffic. The westbound left turn lane is constrained by the back-to-back turn lane to the adjacent access. The 95th percentile queue for this movement is less than the available storage length + taper length. Therefore, no changes are recommended to the westbound left deceleration lanes.

The northbound movement is restricted to right turn movements. Therefore, the northbound movement out of the site does not require a separate turn lane.

Intersection #5 - SH 42 and Cannon Circle intersection: With the construction of Coal Creek Village, this intersection will be restricted to a $\frac{3}{4}$ movement by extending the existing center median in SH 42.

The eastbound movement will be restricted to right turn only movements. Therefore, no deceleration lane is needed for this movement.

Intersection #8 – Griffith Street and Front Street intersection: This is a full-movement intersection with stop-control on the north and south legs. No additional turn lanes are required.

It is recommended that with the Front Street connection, a pedestrian crossing of Griffith Street is installed with a rectangular, rapid flashing beacon (RRFB) to assist pedestrians in crossing Griffith Street.

Additionally, with the Front Street connection, this intersection should have 'Do Not Block Intersection' signage and striping added that will assist with traffic accessing Front Street.

Intersection of Griffith Street and the BNSF Railroad: This at-grade railroad crossing sees multiple trains crossings per day, with each impacting the crossing for three to five minutes at a time. During the crossing, traffic queues on Griffith Street back up in either direction. As described above, it is recommended that the intersection of Griffith Street and Front Street has 'Do Not Block Intersection' signage and striping added that will assist with traffic accessing Front Street.

Intersection #10 – Front Street and Harper Street intersection with the Front Street Connection: This is currently a free-flowing intersection. There is an unimproved alley access as a third, north leg. With the buildout of Coal Creek Village and a connection of Front Street from South Boulder Road to Griffith Street, it is recommended that Front Street is designed as the through street and Harper Street is stop-controlled with a stop sign. The installation of a stop sign, stop bar, and painted pedestrian crosswalk should be included on the north leg of Front Street.

Intersection #11 – SH 42 and Harper Street intersection: The existing volume of eastbound right turns from Harper Street onto SH 42 exceeds the *Access Code's* requirement to construct an acceleration lane for this movement. With the implementation of the *Future 42 Plan*, this volume is anticipated to increase because current traffic making the eastbound left movement will likely make a right turn instead. Coal Creek Village's site traffic is not anticipated to impact this movement. At a minimum, the construction of an acceleration lane should be incorporated into the implementation of Future 42 plans.

8.0 Appendix

Reference Documents

1. *CDOT Online Traffic Information System*. Colorado Department of Transportation, <https://dtdapps.coloradodot.info/otis>
2. *2015 Assigned All Day Model Volumes and 2040 Assigned All Day model Volumes*, Denver Regional Council of Governments, <https://drcog.org/services-and-resources/data-maps-and-modeling/travel-modeling>
3. *Highway Capacity Manual*. Transportation Research Board, 2010.
4. *11th Edition Trip Generation Manual*. Institute of Transportation Engineers, 2021.
5. *Trip Generation Handbook, 3rd Edition*. Institute of Transportation Engineers, 2017.
6. *Trip Generation Handbook, 2nd Edition*. Institute of Transportation Engineers, 2004.
7. *State of Colorado, State Highway Access Code, Volume 2*, Code of Colorado Regulations 601-1, March 2002.
8. *Design and Construction Standards, City of Louisville, Department of Public Works, Engineering Division*, 1994.
9. *Future 42 (SH 42 Corridor Study)*. City of Louisville, December 2022.
10. *City of Louisville Transportation Master Plan*. City of Louisville, 2019.
11. *South Boulder Road Corridor Evaluation*. City of Louisville and FHU, 2022.
12. *Delo Boom Traffic Impact Study*. Kimley Horn, September 2024.
13. *Louisville South Boulder Road Connectivity Plan*. City of Louisville, 2019.
14. *The Highway 42 Revitalization Area Framework Plan*. City of Louisville, May 2003.
15. *42 Gateway Alternative Analysis Report*. City of Louisville, 2013.
16. *Louisville Middle School Travel Map*. Boulder Valley School District, 2024.
17. *DRCOG South Boulder Road Corridor Study*. DRCOG, 2024

Included Documents

Appendix A: Traffic Study Scoping Form and City Staff's Comments

Appendix B: Site Plan (24" x 36" pdf)

Appendix C: Traffic Counts

Appendix D: Background Growth Rate Calculations per DRCOG

Appendix E: Internal Reduction Calculations

Appendix F: Signal Timing Plans

- SH 42 and South Boulder Road
- Main Street and South Boulder Road

Appendix G: *Future 42* Excerpt of Preferred South Boulder Road and SH 42 Design

Appendix H: *Future 42* Excerpt of Preferred SH 42 and Griffith Street Design

Appendix I: *City of Louisville Transportation Master Plan* Excerpt of South Boulder Road Corridor Improvements and Commercial Driveway

Appendix J: *Louisville South Boulder Road Connectivity Plan* Excerpt of South Boulder Road and Main Street Future Pedestrian Underpass

Appendix K: *The Highway 42 Revitalization Area Framework Plan* Excerpt of Framework Plan

Appendix L: *42 Gateway Alternative Analysis Report* Excerpt of Future Roadway Network

Appendix M: Additional Figures

- Figure AP01: Year 2024 Existing Traffic
- Figure AP02: Year 2026 Background Traffic (Delo Boom Development)
- Figure AP03: Year 2045 Background Traffic (Delo Boom Development)
- Figure AP04: Year 2045 Background Adjust (Int #5 & #6 Redistribution)
- Figure AP05: Background Adjust for Total (Int #3 Redistribution)
- Figure AP06: Front Street Diverted Traffic (Year 2026)
- Figure AP07: Front Street Diverted Traffic (Year 2045)

Appendix N: Synchro Modeling Reports

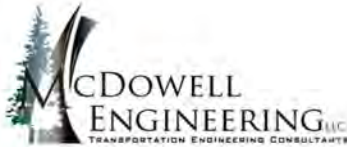
Appendix O: Louisville TMP Pages

Appendix P: Railroad Queuing Calculations

Appendix Q: Louisville Middle School Travel Map

Appendix R: Intersection Queues

Appendix A: Traffic Study Scoping Form



Traffic Study Scoping Form

Contact Information	
Consultant Name:	McDowell Engineering
Tele:	970-623-0788
E-mail:	kari@mcdowelleng.com
Developer/Owner Name:	Jason Markel, Markel Homes

Project Information (Attach proposed site plan.)								
Project Name:		Coal Creek Station						
Project Location:		1000, 1030, 1032, 1034, 1040 E South Boulder Road, Louisville, CO						
Project Description:		Mixed Use Redevelopment						
Application type (rezoning, subdivision), acreage, new or re-development, etc.								
Existing Land Uses	ITE Code	#units or Size	Proposed Land Uses	ITE Code	#units or Size	Proposed Land Uses	ITE Code	#units or Size
Restaurant	930	428sf	Low Rise Multifamily	220	188du			
			Retail Plaza	822	13,534sf			
Please attach Trip Generation Summary table for large or mixed use projects.								

Assumptions								
Study Horizons	Current Year:	2024	Buildout Year:	2025	Long Term Year:	2045		
Study Area Boundaries	North:	South Boulder Road		South:	Griffith Street			
(Attach map if needed.)	East:	Courtesy Road		West:	Main Street			
Intersections to be Evaluated	1. S. Boulder Rd. & Main St.	6. Courtesy Rd. & Griffith St.						
(Attach map if needed.)	2. S. Boulder Rd. & Front St.	7. Griffith St. & Cannon St.						
	3. S. Boulder Rd. & Cannon Cir.	8. Griffith St. & Front St.						
	4. S. Boulder Rd. & Courtesy Rd.	9. Griffith St. & Main St.						
	5. Courtesy Rd. & Cannon Cir.	10. Front St. & Harper St.						
Trip Distribution	See attached sketch.							
Trip Reductions*	Internal Capture	Use:	See attached.	%	Pass By	Use:	N/A	%
	Multimodal	Use:	5	%		Use:		%

*Include in Trip Generation table if provided. Submit calculations based upon ITE's Trip Generation Handbook.

McDowell Engineering Traffic Study Scoping Form

Assumptions (continued)			
Anticipated Future Traffic Growth Rates (Describe methodology.)	See attached graphic with DRCOG projections. Find Annual Growth Rate for 2015-2040 model	Study Time Periods (Check all that apply.)	☒ AM (7-9) ☒ PM (4-6) ☒ SAT (noon) ☐ Other:
Other Factors (Proposed/assumed transportation improvements, other studies, nearby proposed developments, etc.)	1. Include analyses with and without a Front Street connection. 2. Include Delo Bloom TIS from 2/2024 in background analysis. 3. From the previous TIS, change Cannon Circle/Courtesy Road to a 3/4 movement in Year 2025. 4. A matrix of the intersection control(s) for each scenario is included. 5. Address cut through traffic caused by the inability to turn left out of the site. 6. Include objective analysis for the directional distribution assumptions. 7. Use 1,000vpd for a residential street capacity based upon livability, not actual capacity.		
Analysis Methods & Issues (Check all that apply.)	☐ Synchro ☐ HCS ☐ aaSidra or Rodel ☐ Intersections ☐ Roadway Sections ☐ Signal Warrants ☐ Safety/Sight Distance ☐ Queuing & Storage ☐ CDOT (Access Permit, etc.) ☐ Identify Bicycle, Pedestrian & Transit Accomodations ☐ TDM ☐ Neighborhood Impacts ☐ Other:		

Attachments, Notes, & Other Assumptions:

Signed:  (Applicant or Consultant) Print Name: Kari McDowell Schroeder (Applicant or Consultant) Date: 2/26/2025	Review Agency: Department: Signed: Print Name: Date:
---	--

Table 1 - Coal Creek Station
Project Trip Generation
Estimated Project-Generated Traffic¹

PROJECT NUMBER:
PREPARED BY:
DATE:
REVISED:

M1663
KJS
2025-02-26

ITE Trip Generation Equation ³							Average Weekday	Morning Peak Hour Inbound		Morning Peak Hour Outbound		Evening Peak Hour Inbound		Evening Peak Hour Outbound		Saturday Peak Hour Inbound		Saturday Peak Hour Outbound		
ITE Code	Units ²		Eg. Coef	Avg. Weekday	AM Peak Hour	PM Peak Hour	Sat. Peak Hour	Trips (vpd)	% Trips	Trips (vph)	% Trips	Trips (vph)	% Trips	Trips (vph)	% Trips	Trips (vph)	% Trips	Trips (vph)	% Trips	Trips (vph)
Existing Land Use																				
#930 - Fast Casual Restaurant	0.43	ksf	Type a= b=	Rate 97.14	Rate 5.71	Rate 18.57	Rate 32.64	42	63%	2	37%	1	62%	5	38%	4	55%	8	45%	7
Multi-Modal Reduction		-5%						-2		0		0		0		0		0		0
Existing External Restaurant Vehicular Trips								40		2		1		5		4		8		7
Internal Capture Reduction ⁴								-17		-1		0		-1		-1		-2		-2
External Restaurant Vehicular Trips with Buildout of Coal Creek Station								23		1		1		4		3		6		5
										2				7				11		
Proposed Residential Land Use																				
#220 - Multifamily Housing (Low-Rise)	188	DU	Type a= b=	A 6.41	A 0.35	A 0.42	Rate 0.41	1,280	24%	23	76%	71	62%	71	38%	43	51%	39	49%	38
Multi-Modal Reduction		-5%						-64		-1		-4		-4		-2		-2		-2
Vehicular Trips								1,216		22		67		67		41		37		36
Internal Capture Reduction ⁴								-80		-3		-3		-10		-9		-6		-5
Project External Residential Vehicular Trips								1,136		19		64		57		32		31		31
										83				89				62		
Proposed Commercial Land Use																				
#822 - Retail Plaza ⁵	13.53	kSF	Type a= b=	A 42.20	Rate 7.60	Rate 13.24	Rate 6.57	801	50%	51	50%	51	54%	97	46%	82	51%	45	49%	44
Multi-Modal Reduction		-5%						-40		-3		-3		-5		-4		-2		-2
Vehicular Trips								761		48		48		92		78		43		42
Internal Capture Reduction ⁴								-87		-3		-4		-9		-10		-5		-7
Project External Commercial Vehicular Trips								674		45		44		83		68		38		35
										89				151				73		
Project Trip Generation Summary																				
Existing External Restaurant Vehicular Trips								40		2		1		5		4		8		7
External Restaurant Vehicular Trips with Buildout of Coal Creek Station								23		1		1		4		3		6		5
										2				7				11		
Project External Residential Vehicular Trips								1,136		19		64		57		32		31		31
										83				89				62		
Project External Commercial Vehicular Trips								674		45		44		83		68		38		35
										89				151				73		
Project Total New Vehicular Trips (Restaurant's new internal capture + residential + commercial)								1,793		63		108		139		99		67		64
										171				238				131		
Project Total Vehicular Trips (Including Existing Restaurant)								1,833		109		109		144		103		75		71
										218				247				146		

Notes:

¹ Values obtained from *Trip Generation, 11th Edition*, Institute of Transportation Engineers, September 2021.

² vpd = vehicle trips per day, vph = vehicle trips per hour, DU = Dwelling Units, kSF = 1,000 Square Feet

³ Fitted curve equations from ITE Land Uses - Equation Type A is $T = a * X + b$, Equation Type B is $\ln(T) = a * \ln(X) + b$, Rate is $T = a * X$

⁴ Internal capture reductions were obtained from the *ITE Trip Generation Handbook*, Second Edition, June 2004. See calculations in Appendix.

⁵ The ITE Trip Generation Manual did not have available data for the directional distribution of the Saturday peak hour. Therefore, the distribution from mid-rise multifamily housing was used.

Multi-Use Trip Generation Calculation

Analyst: KJS

Date: 2/26/2025

Name of Dvlpt.: Coal Creek Station

Time Period: Avg Weekday

LAND USE A

ITE LU Code #822 Retail Plaza			
Size 13.5 KSF			
	Total	Internal	External
Enter	381	41	340
Exit	380	48	332
Total	761	89	672
%	100%	12%	88%

Exit to External

332

340

Enter from External

30% 114

Demand

6

Balanced

28% 6

Demand

28% 107

Demand

6

Balanced

30% 6

Demand

11% 42

Demand

42

Balanced

33% 201

Demand

9% 34

Demand

34

Balanced

38% 231

Demand

LAND USE B

ITE LU Code #930 Fast Casual Restaurant			
Size 430 SF			
	Total	Internal	External
Enter	21	8	13
Exit	21	9	12
Total	42	17	25
%	100%	40%	60%

Exit to External

12

13

Enter from External

Demand Balanced Demand

9% 2 2 38% 231

Demand Balanced Demand

11% 2 2 33% 201

LAND USE C

ITE LU Code #220 Multifamily Housing			
Size 188 DU			
	Total	Internal	External
Enter	608	44	564
Exit	608	36	572
Total	1216	80	1136
%	100%	7%	93%

Exit to External

564

572

Enter from External

Net External Trips for Multi-Use Development				
	LAND A	LAND B	LAND C	Total
Enter	340	13	564	917
Exit	332	12	572	916
Total	672	25	1136	1833
Single Use Trip Gen.	761	42	1216	2019
				7.7%



Internal capture reductions were calculated using methodology from the ITE Trip Generation Handbook, Second Edition, June 2004.

Internal Trip Reduction Calculation Model

Analyst: KJS

Date: 2/26/2025

LAND USE A

ITE LU Code #822 Retail Plaza
Size 13.5 KSF

	Total	Internal	External
Enter	48	3	45
Exit	48	4	44
Total	96	7	89
%	100%	7%	93%

Name of Dvlpt.: Coal Creek Station

Time Period: AM Peak

Exit to External
44

45
Enter from External

29% 14
Demand

1
Balanced

31% 1
Demand

31% 15 7% 3
Demand

0
Balanced

29% 0
Demand

3
Balanced

37% 8
Demand

5% 2
Demand

2
Balanced

34% 23
Demand

LAND USE B

#930 Fast Casual Restaurant
ITE LU Code
Size 430 SF

	Total	Internal	External
Enter	2	1	1
Exit	1	0	1
Total	3	1	2
%	100%	33%	67%

Exit to External
1

1
Enter from External

Demand Balanced Demand

5% 0 0 34% 23

Demand Balanced Demand

7% 0 0 37% 8

LAND USE C

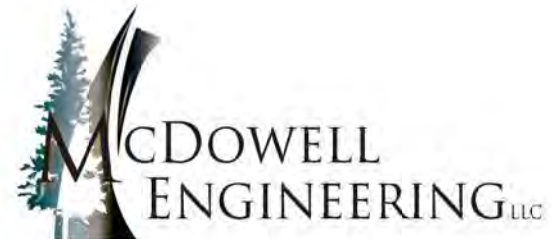
#220 Multifamily Housing
ITE LU Code
Size 188 DU

	Total	Internal	External
Enter	22	3	19
Exit	67	3	64
Total	89	6	83
%	100%	7%	93%

Exit to External
19

64
Enter from External

Net External Trips for Multi-Use Development					
	LAND A	LAND B	LAND C	Total	
Enter	45	1	19	65	
Exit	44	1	64	109	
Total	89	2	83	174	
Single Use Trip Gen.	96	3	89	188	7.6%



Internal capture reductions were calculated using methodology from the ITE Trip Generation Handbook, Second Edition, June 2004.

Internal Trip Reduction Calculation Model

Analyst: KJS

Date: 2/26/2025

LAND USE A

ITE LU Code #822 Retail Plaza
Size 13.5 kSF

	Total	Internal	External
Enter	92	9	83
Exit	78	10	68
Total	170	19	151
%	100%	11%	89%

Name of Dvlpt.: Coal Creek Station

Time Period: PM Peak

Exit to External
68

83
Enter from External

20% 16
Demand

1
Balanced

20% 1
Demand

20% 18 12% 9
Demand

1
Balanced

20% 1
Demand

9
Balanced

31% 21
Demand

9% 8
Demand

8
Balanced

53% 22
Demand

LAND USE B

#930 Fast Casual Restaurant
ITE LU Code
Size 430 SF

	Total	Internal	External
Enter	5	1	4
Exit	4	1	3
Total	9	2	7
%	100%	22%	78%

Exit to External
3

4
Enter from External

Demand Balanced Demand

9% 0 0 53% 22

Demand Balanced Demand

12% 0 0 31% 21

LAND USE C

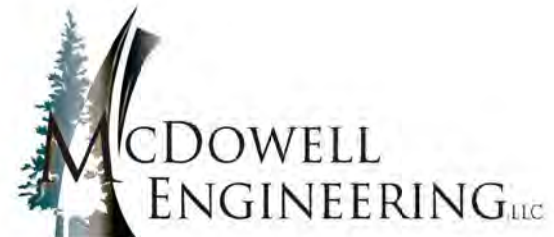
#220 Multifamily Housing
ITE LU Code
Size 188 DU

	Total	Internal	External
Enter	67	10	57
Exit	41	9	32
Total	108	19	89
%	100%	18%	82%

Exit to External
57

32
Enter from External

Net External Trips for Multi-Use Development					
	LAND A	LAND B	LAND C	Total	
Enter	83	4	57	144	
Exit	68	3	32	103	
Total	151	7	89	247	
Single Use Trip Gen.	170	9	108	287	17.9%



Internal capture reductions were calculated using methodology from the ITE Trip Generation Handbook, Second Edition, June 2004.

Internal Trip Reduction Calculation Model

Analyst: KJS

Date: 2/26/2025

LAND USE A

ITE LU Code #822 Retail Plaza
Size 13.5 kSF

	Total	Internal	External
Enter	43	5	38
Exit	42	7	35
Total	85	12	73
%	100%	14%	86%

Name of Dvlpt.: Coal Creek Station

Time Period: SAT Peak

Exit to External
35

38
Enter from External

20% 8
Demand

2
Balanced

20% 2
Demand

20% 9
Demand

1
Balanced

20% 1
Demand

12% 5
Demand

5
Balanced

31% 11
Demand

9% 4
Demand

4
Balanced

53% 19
Demand

LAND USE B

#930 Fast Casual
Restaurant
ITE LU Code
Size 430 SF

	Total	Internal	External
Enter	8	2	6
Exit	7	2	5
Total	15	4	11
%	100%	27%	73%

Exit to External
5

6
Enter from External

Demand Balanced Demand

9% 1 1 53% 19

Demand Balanced Demand
12% 1 1 31% 11

LAND USE C

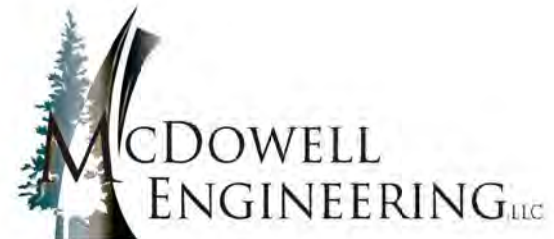
#220 Multifamily
Housing
ITE LU Code
Size 188 DU

	Total	Internal	External
Enter	37	6	31
Exit	36	5	31
Total	73	11	62
%	100%	15%	85%

Exit to External
31

31
Enter from External

Net External Trips for Multi-Use Development					
	LAND A	LAND B	LAND C	Total	
Enter	38	5	31	75	
Exit	35	5	31	71	
Total	73	11	62	146	
Single Use Trip Gen.	85	15	73	173	17.0%



Internal capture reductions were calculated using methodology from the ITE Trip Generation Handbook, Second Edition, June 2004.

Growth Rate Calculator

Scenario

Current Year	2015	2015	2015	2015	2015
Current Traffic	23.00	22.00	20.00	15.00	11.00
Future Year	2040	2040	2040	2040	2040
Future Traffic	31.00	30.00	28.00	21.00	14.00
Growth Rate/Year	1.20%	1.25%	1.35%	1.35%	0.97%
	west leg 1	west leg 2	east leg 1	north leg 1	south leg 1



Intersection Control(s) by Scenario

#	Intersection	Year 2024 Existing	Year 2025 BG	Year 2045 BG	Year 2025 Total	Year 2045 Total	Year 2025 Total - No Front St. Connection	Year 2045 Total - No Front St. Connection
1	Main Street & S. Boulder Rd	Signal	Signal	Signal	Signal	Signal	Signal	Signal
2	Front St & S. Boulder Rd	3/4 Movement	3/4 Movement	3/4 Movement	3/4 Movement	3/4 Movement	3/4 Movement	3/4 Movement
3	Cannon Circle & S. Boulder Rd	Full Movement	Full Movement	Full Movement	3/4 Movement	3/4 Movement	3/4 Movement	3/4 Movement
4	Courtesy Rd & S. Boulder Rd	Signal - Exist	Signal - Exist	Signal - Future 42 Conditions	Signal - Exist	Signal - Future 42 Conditions	Signal - Exist	Signal - Future 42 Conditions
5	Cannon Circle & Courtesy Rd. (SH 42)	Full Movement	Full Movement	RIRO ³	3/4 Movement	RIRO ³	3/4 Movement	RIRO ³
6	Griffith St. & Courtesy Rd. (SH42)	Full Movement	Full Movement	Signal	Full Movement	Signal	Full Movement	Signal
7	Griffith St. & Cannon St.	Full Movement	Full Movement	Full Movement	Full Movement	Full Movement	Full Movement	Full Movement
8	Griffith St. & Front St.	Full Movement	Full Movement	Full Movement	Full Movement	Full Movement	Full Movement	Full Movement
9	Griffith St. & Main St.	Full Movement	Full Movement	Full Movement	Full Movement	Full Movement	Full Movement	Full Movement
10	Front St. & Harper St.	Full Movement ¹	Full Movement ¹	Full Movement ¹	Full Movement ²	Full Movement ²	Full Movement ¹	Full Movement ¹

Notes: ¹Not Stop Controlled (Free Flowing)

²Westbound Stop Controlled

³RIRO = Right-In-Right-Out

Appendix B: Site Plan

COAL CREEK VILLAGE

PRELIMINARY PUD AND SRU

LOUISVILLE, COLORADO

PREPARED BY:



PLANNER / LANDSCAPE ARCHITECT

RIPLY DESIGN INC.
Jim Ripley
415 Canyon Ave., Suite 201
Fort Collins, CO 80521
P: 970.224.5638

COWNER

COAL CREEK VILLAGE LLC
Midwest Mutual
5125 AMFARCO AVE.
BOULDER, COLORADO 80503
P: 303.775.5154

ENGINEER

ROCKY RIDGE CIVIL ENGINEERING
John Stearns
400 21ST AVENUE, SUITE 101
LONGMONT, COLORADO 80501
P: 303.775.5154



DESIGN SITE DATA

NO.	DESCRIPTION	DATE
1.	PRELIMINARY PUD	01/20/2011
2.	PRELIMINARY PUD R2	06/21/2011
3.	PRELIMINARY PUD R3	06/11/2012
4.	PRELIMINARY PUD R4	12/02/2012
5.	PRELIMINARY PUD R5	04/04/2013
6.	PRELIMINARY PUD R6	05/14/2014

REVISIONS

NO.	DESCRIPTION	DATE

SITE PLAN

SEAL:



PROJ. & T. NO.: P-00-000

DRAWN BY:

REVIEWED BY:

DRAWING NUMBER:

3 OF 32

LEGEND

SYMBOL	DESCRIPTION
	DRIVE AND PARKING
	OPEN SPACE & LANDSCAPE AREA - HSA
	LANDSCAPE AREA - R.O.W.
	WALK AREA, DRIVEWAYS & PORCHES
	TRASH & RECYCLE ENCLOSURE
	BIKE RACK (5 SPACES)
	DOG WASTE STATION
	TREE GRATE
	PROPOSED SKIN
	INLET GRATE
	WATER METER
	FIRE HYDRANT
	STREET LIGHT
	TRANSFORMER
	PROPERTY BOUNDARY
	FIBER OPTIC UTILITY
	GAS UTILITY
	STORM DRAIN UTILITY
	SANITARY SEWER UTILITY
	TELEPHONE UTILITY
	UNDERGROUND ELECTRIC UTILITY
	WATER LINE UTILITY
	EASEMENT
	PROPOSED FENCING OR HANDRAIL, REFER TO FENCING PLAN
	PROPOSED RETAINING WALL
	ALLEY LOAD TOWNHOME LOT NUMBER
	MICRO TOWNHOME BUILDING NUMBER
	UTILITY EASEMENT
	DRAINAGE EASEMENT
	EMERGENCY ACCESS EASEMENT
	UTILITY, SIDEWALK, AND MAINTENANCE EASEMENT
	EXCLUSIVE UTILITY EASEMENT

NOTE:
• CONCEPTUAL IMPROVEMENTS FOR HIGHWAY 42 SHOWN. DESIGN OF HIGHWAY 42 IMPROVEMENTS BY OTHERS.

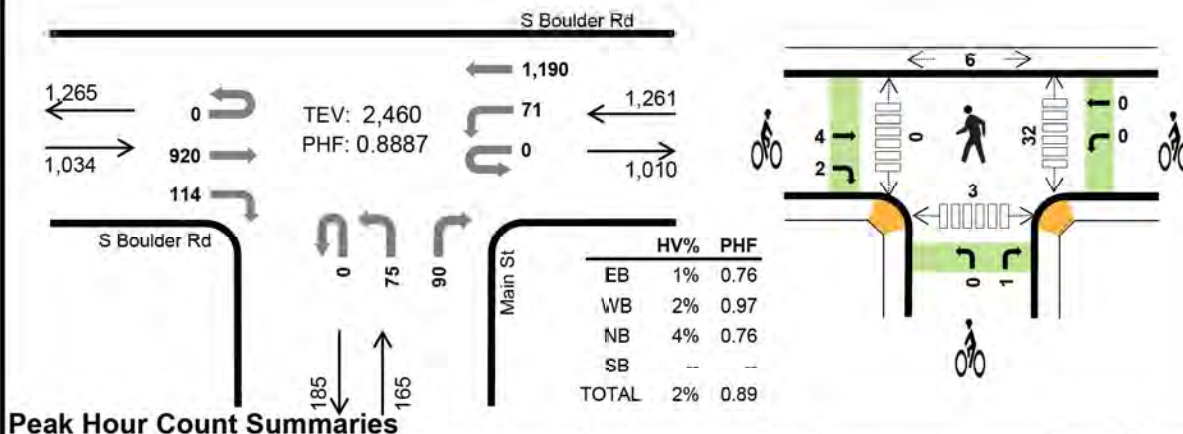
Appendix C: Traffic Counts

Main St S Boulder Rd



Peak Hour

Date: 11/5/2024
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM



Peak Hour Count Summaries

Peak Hour Interval Start	S Boulder Rd				S Boulder Rd				Main St				n/a				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
8:00 AM	0	0	226	18	0	13	299	0	0	18	0	20	0	0	0	0	594	0
8:15 AM	0	0	316	22	0	18	293	0	0	15	0	28	0	0	0	0	692	0
8:30 AM	0	0	175	56	0	27	297	0	0	22	0	32	0	0	0	0	609	0
8:45 AM	0	0	203	18	0	13	301	0	0	20	0	10	0	0	0	0	565	2,460
Pk Hr	All	0	0	920	114	0	71	1,190	0	0	75	0	90	0	0	0	2,460	
	HV	0	0	13	2	0	2	22	0	0	2	0	5	0	0	0	46	
	HV%	-	-	1%	2%	-	3%	2%	-	-	3%	-	6%	-	-	-	2%	

Note: For complete count summary (all intervals), see following pages.

** Heavy Vehicle Classifications include FHWA Classes 4-13.

** Count Summaries include heavy vehicles, but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
8:00 AM	1	7	2	0	10	1	0	0	0	1	2	0	1	2	5
8:15 AM	6	5	3	0	14	2	0	1	0	3	17	0	2	0	19
8:30 AM	6	3	1	0	10	2	0	0	0	2	10	0	2	0	12
8:45 AM	2	9	1	0	12	1	0	0	0	1	3	0	1	1	5
Peak Hour	15	24	7	0	46	6	0	1	0	7	32	0	6	3	41

Count Summaries - All Vehicles

Interval Start	S Boulder Rd				S Boulder Rd				Main St				n/a				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	71	1	0	3	138	0	0	2	0	17	0	0	0	0	232	0
7:15 AM	0	0	141	4	0	8	172	0	0	8	0	6	0	0	0	0	339	0
7:30 AM	0	0	167	15	0	12	277	0	0	12	0	18	0	0	0	0	501	0
7:45 AM	0	0	176	13	0	17	281	0	0	10	0	15	0	0	0	0	512	1,584
8:00 AM	0	0	226	18	0	13	299	0	0	18	0	20	0	0	0	0	594	1,946
8:15 AM	0	0	316	22	0	18	293	0	0	15	0	28	0	0	0	0	692	2,299
8:30 AM	0	0	175	56	0	27	297	0	0	22	0	32	0	0	0	0	609	2,407
8:45 AM	0	0	203	18	0	13	301	0	0	20	0	10	0	0	0	0	565	2,460
Count Total	0	0	1,475	147	0	111	2,058	0	0	107	0	146	0	0	0	0	4,044	
Pk Hr	All	0	0	920	114	0	71	1,190	0	0	75	0	90	0	0	0	2,460	
	HV	0	0	13	2	0	2	22	0	0	2	0	5	0	0	0	46	
	HV%	-	-	1%	2%	-	3%	2%	-	-	3%	-	6%	-	-	-	2%	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:00 AM	2	2	1	0	5	0	0	0	0	0	3	0	3	0	6
7:15 AM	4	9	0	0	13	0	0	0	0	0	4	0	3	0	7
7:30 AM	5	6	1	0	12	0	0	0	0	0	4	0	1	2	7
7:45 AM	3	6	0	0	9	0	0	0	0	0	4	0	2	2	8
8:00 AM	1	7	2	0	10	1	0	0	0	1	2	0	1	2	5
8:15 AM	6	5	3	0	14	2	0	1	0	3	17	0	2	0	19
8:30 AM	6	3	1	0	10	2	0	0	0	2	10	0	2	0	12
8:45 AM	2	9	1	0	12	1	0	0	0	1	3	0	1	1	5
Count Total	29	47	9	0	85	6	0	1	0	7	47	0	15	7	69
Peak Hour	15	24	7	0	46	6	0	1	0	7	32	0	6	3	41

Count Summaries - Heavy Vehicles

Interval Start	S Boulder Rd				S Boulder Rd				Main St				n/a				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	2	0	0	0	2	0	0	0	0	1	0	0	0	0	5	0
7:15 AM	0	0	4	0	0	1	8	0	0	0	0	0	0	0	0	0	13	0
7:30 AM	0	0	5	0	0	0	6	0	0	0	0	1	0	0	0	0	12	0
7:45 AM	0	0	3	0	0	1	5	0	0	0	0	0	0	0	0	0	9	39
8:00 AM	0	0	1	0	0	0	7	0	0	1	0	1	0	0	0	0	10	44
8:15 AM	0	0	5	1	0	1	4	0	0	1	0	2	0	0	0	0	14	45
8:30 AM	0	0	5	1	0	0	3	0	0	0	0	1	0	0	0	0	10	43
8:45 AM	0	0	2	0	0	1	8	0	0	0	0	1	0	0	0	0	12	46
Count Total	0	0	27	2	0	4	43	0	0	2	0	7	0	0	0	0	85	
Pk Hr Heavy	0	0	13	2	0	2	22	0	0	2	0	5	0	0	0	0	46	

Count Summaries - Bikes

Interval Start	S Boulder Rd				S Boulder Rd				Main St				n/a				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
8:15 AM	0	0	1	1	0	0	0	0	0	0	0	0	1	0	0	0	3	4
8:30 AM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	6
8:45 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	7
Count Total	0	0	4	2	0	0	0	0	0	0	0	0	1	0	0	0	7	
Pk Hr Bike	0	0	4	2	0	0	0	0	0	0	0	0	1	0	0	0	7	

Main St S Boulder Rd

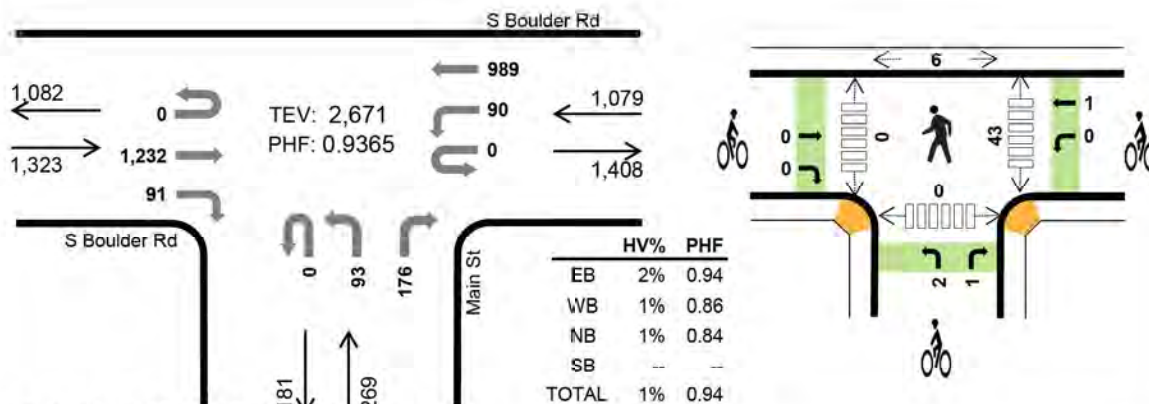


Peak Hour

Date: 11/5/2024

Count Period: 4:00 PM to 6:00 PM

Peak Hour: 4:30 PM to 5:30 PM



Peak Hour Count Summaries

Peak Hour Interval Start	S Boulder Rd				S Boulder Rd				Main St				n/a				15-min Total	Rolling Hour Total	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:30 PM	0	0	294	27	0	17	230	0	0	27	0	45	0	0	0	0	640	0	
4:45 PM	0	0	327	24	0	18	239	0	0	26	0	47	0	0	0	0	681	0	
5:00 PM	0	0	294	24	0	29	286	0	0	25	0	55	0	0	0	0	713	0	
5:15 PM	0	0	317	16	0	26	234	0	0	15	0	29	0	0	0	0	637	2,671	
Pk Hr	All	0	0	1,232	91	0	90	989	0	0	93	0	176	0	0	0	0	2,671	
	HV	0	0	20	0	0	2	6	0	0	1	0	3	0	0	0	0	32	
	HV%	-	-	2%	0%	-	2%	1%	-	-	1%	-	2%	-	-	-	-	1%	

Note: For complete count summary (all intervals), see following pages.

** Heavy Vehicle Classifications include FHWA Classes 4-13.

** Count Summaries include heavy vehicles, but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:30 PM	9	3	1	0	13	0	0	2	0	2	9	0	2	0	11
4:45 PM	5	1	1	0	7	0	0	0	0	0	16	0	1	0	17
5:00 PM	2	1	2	0	5	0	0	0	0	0	11	0	2	0	13
5:15 PM	4	3	0	0	7	0	1	1	0	2	7	0	1	0	8
Peak Hour	20	8	4	0	32	0	1	3	0	4	43	0	6	0	49

Count Summaries - All Vehicles

Interval Start		S Boulder Rd				S Boulder Rd				Main St				n/a				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	0	355	28	0	18	251	0	0	21	0	40	0	0	0	0	713	0
4:15 PM		0	0	252	20	0	16	257	0	0	13	0	30	0	0	0	0	588	0
4:30 PM		0	0	294	27	0	17	230	0	0	27	0	45	0	0	0	0	640	0
4:45 PM		0	0	327	24	0	18	239	0	0	26	0	47	0	0	0	0	681	2,622
5:00 PM		0	0	294	24	0	29	286	0	0	25	0	55	0	0	0	0	713	2,622
5:15 PM		0	0	317	16	0	26	234	0	0	15	0	29	0	0	0	0	637	2,671
5:30 PM		0	0	291	19	0	9	237	0	0	9	0	28	0	0	0	0	593	2,624
5:45 PM		0	0	269	24	0	16	223	0	0	14	0	26	0	0	0	0	572	2,515
Count Total		0	0	2,399	182	0	149	1,957	0	0	150	0	300	0	0	0	0	5,137	
Pk Hr	All	0	0	1,232	91	0	90	989	0	0	93	0	176	0	0	0	0	2,671	
	HV	0	0	20	0	0	2	6	0	0	1	0	3	0	0	0	0	32	
	HV%	-	-	2%	0%	-	2%	1%	-	-	1%	-	2%	-	-	-	-	1%	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:00 PM	2	4	1	0	7	0	0	1	0	1	5	0	1	1	7
4:15 PM	6	3	1	0	10	0	0	0	0	0	8	0	2	0	10
4:30 PM	9	3	1	0	13	0	0	2	0	2	9	0	2	0	11
4:45 PM	5	1	1	0	7	0	0	0	0	0	16	0	1	0	17
5:00 PM	2	1	2	0	5	0	0	0	0	0	11	0	2	0	13
5:15 PM	4	3	0	0	7	0	1	1	0	2	7	0	1	0	8
5:30 PM	2	1	0	0	3	0	0	0	0	0	5	0	2	0	7
5:45 PM	2	2	1	0	5	0	0	0	0	0	5	0	1	0	6
Count Total	32	18	7	0	57	0	1	4	0	5	66	0	12	1	79
Peak Hour	20	8	4	0	32	0	1	3	0	4	43	0	6	0	49

Count Summaries - Heavy Vehicles

Interval Start	S Boulder Rd				S Boulder Rd				Main St				n/a				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	2	0	0	0	4	0	0	0	0	1	0	0	0	0	7	0
4:15 PM	0	0	5	1	0	1	2	0	0	0	0	1	0	0	0	0	10	0
4:30 PM	0	0	9	0	0	0	3	0	0	1	0	0	0	0	0	0	13	0
4:45 PM	0	0	5	0	0	1	0	0	0	0	0	1	0	0	0	0	7	37
5:00 PM	0	0	2	0	0	0	1	0	0	0	0	2	0	0	0	0	5	35
5:15 PM	0	0	4	0	0	1	2	0	0	0	0	0	0	0	0	0	7	32
5:30 PM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3	22
5:45 PM	0	0	1	1	0	1	1	0	0	0	0	1	0	0	0	0	5	20
Count Total	0	0	30	2	0	4	14	0	0	1	0	6	0	0	0	0	57	
Pk Hr Heavy	0	0	20	0	0	2	6	0	0	1	0	3	0	0	0	0	32	

Count Summaries - Bikes

Interval Start	S Boulder Rd				S Boulder Rd				Main St				n/a				15-min Total	Rolling Hour Total	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	2	4
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Count Total	0	0	0	0	0	0	1	0	0	3	0	1	0	0	0	0	0	5	
Pk Hr Bike	0	0	0	0	0	0	1	0	0	2	0	1	0	0	0	0	0	4	

Main St S Boulder Rd

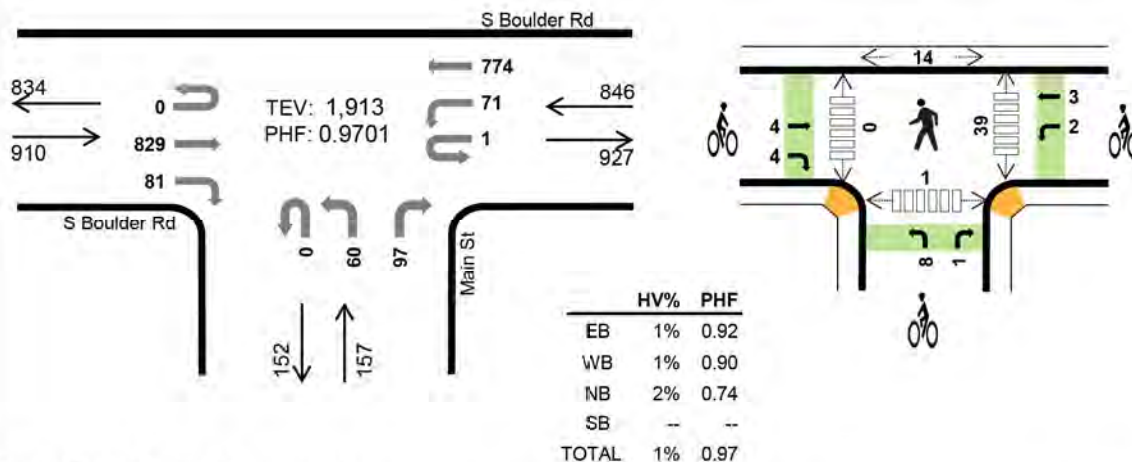


Peak Hour

Date: 11/2/2024

Count Period: 11:00 AM to 1:00 PM

Peak Hour: 11:15 AM to 12:15 PM



Peak Hour Count Summaries

Peak Hour Interval Start		S Boulder Rd				S Boulder Rd				Main St				n/a				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
11:15 AM		0	0	206	15	1	17	173	0	0	16	0	26	0	0	0	0	454	0
11:30 AM		0	0	198	19	0	23	211	0	0	14	0	19	0	0	0	0	484	0
11:45 AM		0	0	219	28	0	20	197	0	0	8	0	21	0	0	0	0	493	0
12:00 PM		0	0	206	19	0	11	193	0	0	22	0	31	0	0	0	0	482	1,913
Pk Hr	All	0	0	829	81	1	71	774	0	0	60	0	97	0	0	0	0	1,913	
	HV	0	0	11	1	0	4	6	0	0	0	0	3	0	0	0	0	25	
	HV%	-	-	1%	1%	0%	6%	1%	-	-	0%	-	3%	-	-	-	-	1%	

Note: For complete count summary (all intervals), see following pages.

** Heavy Vehicle Classifications include FHWA Classes 4-13.

** Count Summaries include heavy vehicles, but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
11:15 AM	2	7	1	0	10	3	0	3	0	6	12	0	2	0	14
11:30 AM	3	0	1	0	4	0	3	0	0	3	4	0	3	1	8
11:45 AM	5	2	0	0	7	2	0	5	0	7	9	0	3	0	12
12:00 PM	2	1	1	0	4	3	2	1	0	6	14	0	6	0	20
Peak Hour	12	10	3	0	25	8	5	9	0	22	39	0	14	1	54

Count Summaries - All Vehicles

Interval Start		S Boulder Rd				S Boulder Rd				Main St				n/a				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
11:00 AM		0	0	164	7	0	24	195	0	0	15	0	29	0	0	0	0	434	0
11:15 AM		0	0	206	15	1	17	173	0	0	16	0	26	0	0	0	0	454	0
11:30 AM		0	0	198	19	0	23	211	0	0	14	0	19	0	0	0	0	484	0
11:45 AM		0	0	219	28	0	20	197	0	0	8	0	21	0	0	0	0	493	1,865
12:00 PM		0	0	206	19	0	11	193	0	0	22	0	31	0	0	0	0	482	1,913
12:15 PM		0	0	188	21	0	13	166	0	0	13	0	22	0	0	0	0	423	1,882
12:30 PM		0	0	183	17	2	14	181	0	0	14	0	26	0	0	0	0	437	1,835
12:45 PM		0	0	194	17	1	20	191	0	0	23	0	28	0	0	0	0	474	1,816
Count Total		0	0	1,558	143	4	142	1,507	0	0	125	0	202	0	0	0	0	3,681	
Pk Hr	All	0	0	829	81	1	71	774	0	0	60	0	97	0	0	0	0	1,913	
	HV	0	0	11	1	0	4	6	0	0	0	3	0	0	0	0	0	25	
	HV%	-	-	1%	1%	0%	6%	1%	-	-	0%	-	3%	-	-	-	-	1%	

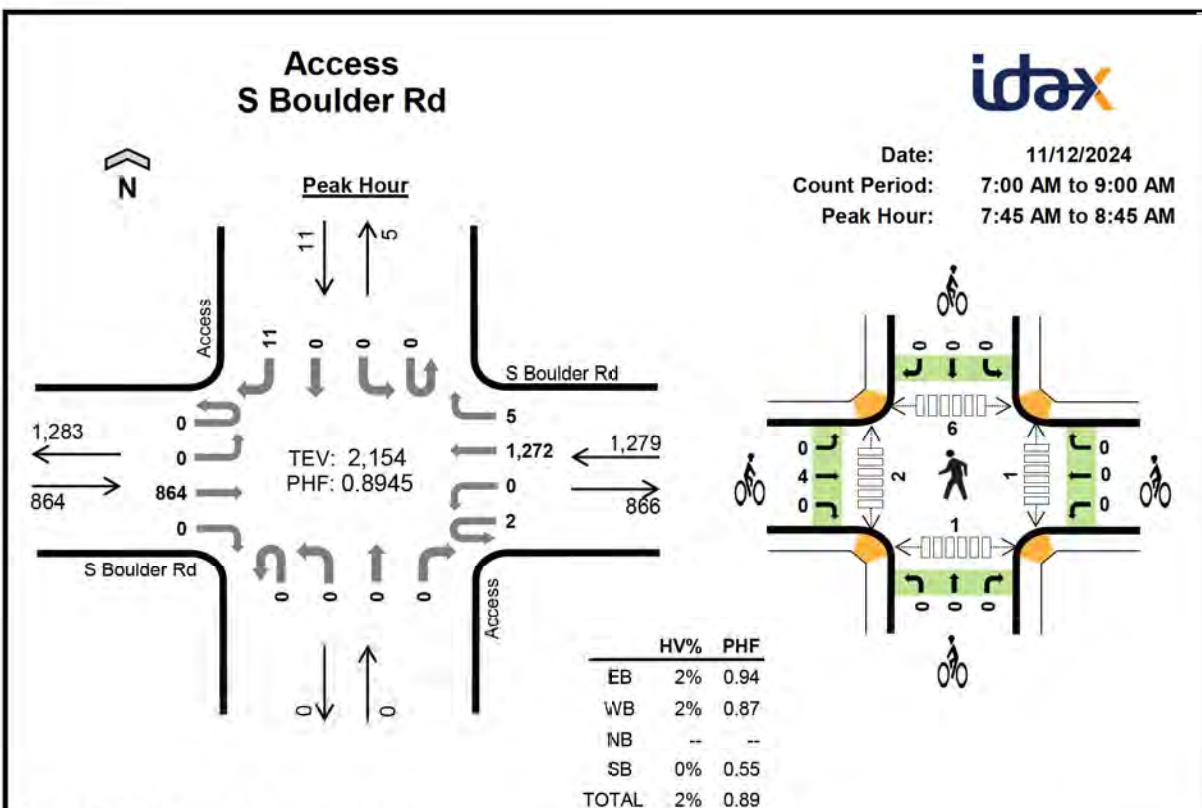
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
11:00 AM	0	4	1	0	5	0	0	0	0	0	4	0	2	0	6
11:15 AM	2	7	1	0	10	3	0	3	0	6	12	0	2	0	14
11:30 AM	3	0	1	0	4	0	3	0	0	3	4	0	3	1	8
11:45 AM	5	2	0	0	7	2	0	5	0	7	9	0	3	0	12
12:00 PM	2	1	1	0	4	3	2	1	0	6	14	0	6	0	20
12:15 PM	1	1	0	0	2	0	0	0	0	0	6	0	3	0	9
12:30 PM	4	0	1	0	5	4	1	0	0	5	14	0	2	0	16
12:45 PM	1	3	0	0	4	3	0	1	0	4	9	0	3	0	12
Count Total	18	18	5	0	41	15	6	10	0	31	72	0	24	1	97
Peak Hour	12	10	3	0	25	8	5	9	0	22	39	0	14	1	54

Count Summaries - Heavy Vehicles

Interval Start	S Boulder Rd				S Boulder Rd				Main St				n/a				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
11:00 AM	0	0	0	0	0	0	4	0	0	0	0	1	0	0	0	0	5	0
11:15 AM	0	0	2	0	0	1	6	0	0	0	0	1	0	0	0	0	10	0
11:30 AM	0	0	3	0	0	0	0	0	0	0	0	1	0	0	0	0	4	0
11:45 AM	0	0	4	1	0	2	0	0	0	0	0	0	0	0	0	0	7	26
12:00 PM	0	0	2	0	0	1	0	0	0	0	0	1	0	0	0	0	4	25
12:15 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2	17
12:30 PM	0	0	4	0	0	0	0	0	0	0	0	1	0	0	0	0	5	18
12:45 PM	0	0	1	0	0	1	2	0	0	0	0	0	0	0	0	0	4	15
Count Total	0	0	17	1	0	5	13	0	0	0	0	5	0	0	0	0	41	
Pk Hr Heavy	0	0	11	1	0	4	6	0	0	0	0	3	0	0	0	0	25	

Count Summaries - Bikes

Interval Start	S Boulder Rd				S Boulder Rd				Main St				n/a				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	2	1	0	0	0	0	0	3	0	0	0	0	0	0	6	0
11:30 AM	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	3	0
11:45 AM	0	0	1	1	0	0	0	0	0	4	0	1	0	0	0	0	7	16
12:00 PM	0	0	1	2	0	1	1	0	0	1	0	0	0	0	0	0	6	22
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16
12:30 PM	0	0	2	2	0	0	1	0	0	0	0	0	0	0	0	0	5	18
12:45 PM	0	0	3	0	0	0	0	0	0	0	0	1	0	0	0	0	4	15
Count Total	0	0	9	6	0	2	4	0	0	8	0	2	0	0	0	0	31	
Pk Hr Bike	0	0	4	4	0	2	3	0	0	8	0	1	0	0	0	0	22	

**Peak Hour Count Summaries**

Peak Hour Interval Start		S Boulder Rd				S Boulder Rd				Access				Access				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:45 AM		0	0	201	0	2	0	292	2	0	0	0	0	0	0	0	4	501	0
8:00 AM		0	0	204	0	0	0	310	1	0	0	0	0	0	0	0	0	515	0
8:15 AM		0	0	228	0	0	0	303	0	0	0	0	0	0	0	0	5	536	0
8:30 AM		0	0	231	0	0	0	367	2	0	0	0	0	0	0	0	2	602	2,154
Pk Hr	All	0	0	864	0	2	0	1,272	5	0	0	0	0	0	0	0	11	2,154	
	HV	0	0	17	0	0	0	31	0	0	0	0	0	0	0	0	0	48	
	HV%	-	-	2%	-	0%	-	2%	0%	-	-	-	-	-	-	-	0%	2%	

Note: For complete count summary (all intervals), see following pages.

** Heavy Vehicle Classifications include FHWA Classes 4-13.

** Count Summaries include heavy vehicles, but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:45 AM	5	8	0	0	13	0	0	0	0	0	0	0	1	0	1
8:00 AM	1	4	0	0	5	1	0	0	0	1	0	0	1	0	1
8:15 AM	4	12	0	0	16	2	0	0	0	2	1	1	2	0	4
8:30 AM	7	7	0	0	14	1	0	0	0	1	0	1	2	1	4
Peak Hour	17	31	0	0	48	4	0	0	0	4	1	2	6	1	10

Count Summaries - All Vehicles

Interval Start	S Boulder Rd				S Boulder Rd				Access				Access				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	81	0	0	0	127	0	0	0	0	1	0	0	0	0	209	0
7:15 AM	0	0	136	0	0	0	177	1	0	0	0	0	0	0	0	0	314	0
7:30 AM	0	0	148	0	0	0	283	0	0	0	0	0	0	0	0	2	433	0
7:45 AM	0	0	201	0	2	0	292	2	0	0	0	0	0	0	0	4	501	1,457
8:00 AM	0	0	204	0	0	0	310	1	0	0	0	0	0	0	0	0	515	1,763
8:15 AM	0	0	228	0	0	0	303	0	0	0	0	0	0	0	0	5	536	1,985
8:30 AM	0	0	231	0	0	0	367	2	0	0	0	0	0	0	0	2	602	2,154
8:45 AM	0	0	188	0	1	1	298	3	0	0	0	0	0	0	0	2	493	2,146
Count Total	0	0	1,417	0	3	1	2,157	9	0	0	0	1	0	0	0	15	3,603	
Pk Hr	All	0	0	864	0	2	0	1,272	5	0	0	0	0	0	0	11	2,154	
	HV	0	0	17	0	0	0	31	0	0	0	0	0	0	0	0	48	
	HV%	-	-	2%	-	0%	-	2%	0%	-	-	-	-	-	-	0%	2%	

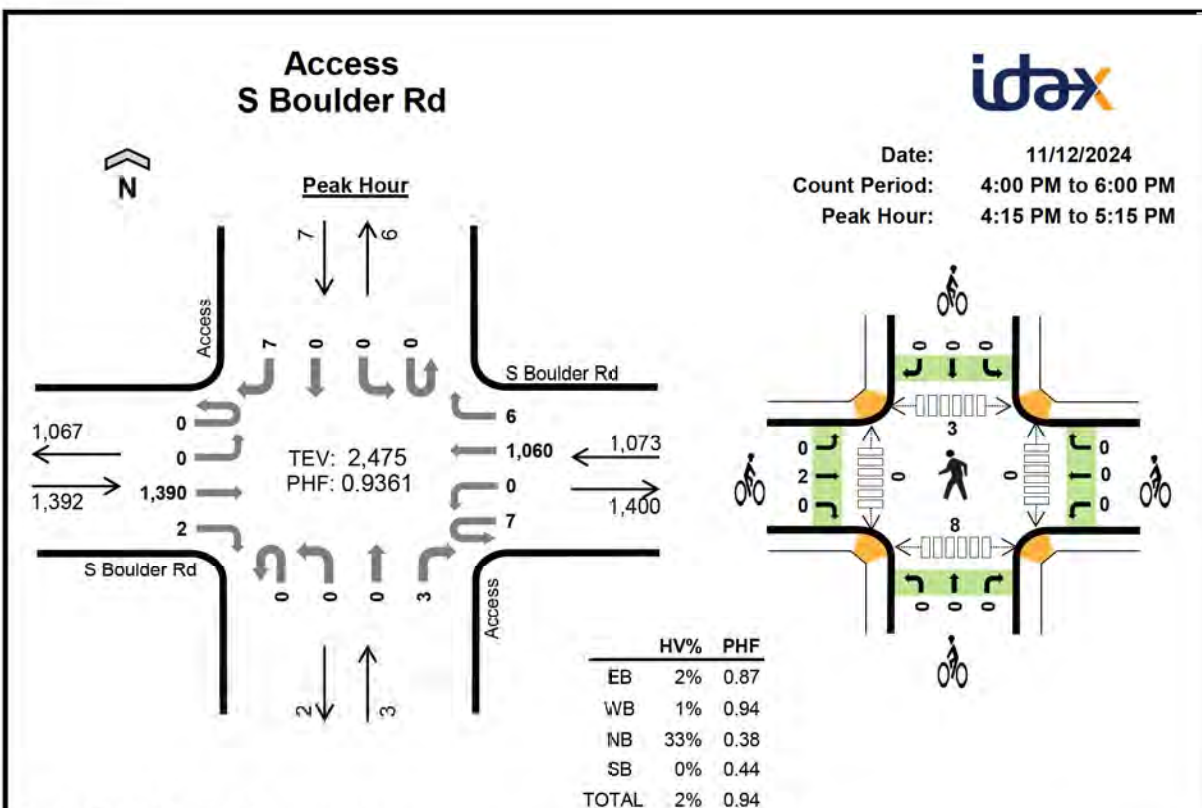
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:00 AM	3	5	0	0	8	1	0	0	0	1	0	0	1	1	2
7:15 AM	2	9	0	0	11	1	0	0	0	1	0	0	1	0	1
7:30 AM	6	6	0	0	12	0	0	0	0	0	0	0	1	0	1
7:45 AM	5	8	0	0	13	0	0	0	0	0	0	0	1	0	1
8:00 AM	1	4	0	0	5	1	0	0	0	1	0	0	1	0	1
8:15 AM	4	12	0	0	16	2	0	0	0	2	1	1	2	0	4
8:30 AM	7	7	0	0	14	1	0	0	0	1	0	1	2	1	4
8:45 AM	2	6	0	0	8	0	0	0	0	0	0	0	1	0	1
Count Total	30	57	0	0	87	6	0	0	0	6	1	2	10	2	15
Peak Hour	17	31	0	0	48	4	0	0	0	4	1	2	6	1	10

Count Summaries - Heavy Vehicles

Interval Start	S Boulder Rd				S Boulder Rd				Access				Access				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	3	0	0	0	5	0	0	0	0	0	0	0	0	0	8	0
7:15 AM	0	0	2	0	0	0	9	0	0	0	0	0	0	0	0	0	11	0
7:30 AM	0	0	6	0	0	0	6	0	0	0	0	0	0	0	0	0	12	0
7:45 AM	0	0	5	0	0	0	8	0	0	0	0	0	0	0	0	0	13	44
8:00 AM	0	0	1	0	0	0	4	0	0	0	0	0	0	0	0	0	5	41
8:15 AM	0	0	4	0	0	0	12	0	0	0	0	0	0	0	0	0	16	46
8:30 AM	0	0	7	0	0	0	7	0	0	0	0	0	0	0	0	0	14	48
8:45 AM	0	0	2	0	0	0	6	0	0	0	0	0	0	0	0	0	8	43
Count Total	0	0	30	0	0	0	57	0	0	0	0	0	0	0	0	0	87	
Pk Hr Heavy	0	0	17	0	0	0	31	0	0	0	0	0	0	0	0	0	48	

Count Summaries - Bikes

Interval Start	S Boulder Rd				S Boulder Rd				Access				Access				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
7:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2
8:15 AM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3
8:30 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Count Total	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	6	
Pk Hr Bike	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4	

**Peak Hour Count Summaries**

Peak Hour Interval Start	S Boulder Rd				S Boulder Rd				Access				Access				15-min Total	Rolling Hour Total	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:15 PM	0	0	318	1	1	0	283	0	0	0	0	1	0	0	0	2	606	0	
4:30 PM	0	0	293	0	2	0	264	2	0	0	0	0	0	0	0	0	561	0	
4:45 PM	0	0	400	0	1	0	256	3	0	0	0	0	0	0	0	1	661	0	
5:00 PM	0	0	379	1	3	0	257	1	0	0	0	2	0	0	0	4	647	2,475	
Pk Hr	All	0	0	1,390	2	7	0	1,060	6	0	0	0	3	0	0	0	7	2,475	
	HV	0	0	34	0	0	0	9	0	0	0	0	1	0	0	0	0	44	
	HV%	-	-	2%	0%	0%	-	1%	0%	-	-	-	33%	-	-	-	0%	2%	

Note: For complete count summary (all intervals), see following pages.

** Heavy Vehicle Classifications include FHWA Classes 4-13.

** Count Summaries include heavy vehicles, but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:15 PM	16	1	0	0	17	1	0	0	0	1	0	0	1	3	4
4:30 PM	11	2	0	0	13	1	0	0	0	1	0	0	1	0	1
4:45 PM	5	1	0	0	6	0	0	0	0	0	0	0	1	0	1
5:00 PM	2	5	1	0	8	0	0	0	0	0	0	0	0	5	5
Peak Hour	34	9	1	0	44	2	0	0	0	2	0	0	3	8	11

Count Summaries - All Vehicles

Interval Start		S Boulder Rd				S Boulder Rd				Access				Access				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	0	352	0	0	2	238	0	0	0	0	2	0	0	0	2	596	0
4:15 PM		0	0	318	1	1	0	283	0	0	0	0	1	0	0	0	2	606	0
4:30 PM		0	0	293	0	2	0	264	2	0	0	0	0	0	0	0	0	561	0
4:45 PM		0	0	400	0	1	0	256	3	0	0	0	0	0	0	0	1	661	2,424
5:00 PM		0	0	379	1	3	0	257	1	0	0	0	2	0	0	0	4	647	2,475
5:15 PM		0	0	331	3	0	0	250	0	0	0	0	3	0	0	0	0	587	2,456
5:30 PM		0	0	294	0	0	0	231	0	0	0	0	0	0	0	0	2	527	2,422
5:45 PM		0	0	261	1	0	0	208	3	0	0	0	0	0	0	0	4	477	2,238
Count Total		0	0	2,628	6	7	2	1,987	9	0	0	0	8	0	0	0	15	4,662	
Pk Hr	All	0	0	1,390	2	7	0	1,060	6	0	0	0	3	0	0	0	7	2,475	
	HV	0	0	34	0	0	0	9	0	0	0	0	1	0	0	0	0	44	
	HV%	-	-	2%	0%	0%	-	1%	0%	-	-	-	33%	-	-	-	0%	2%	

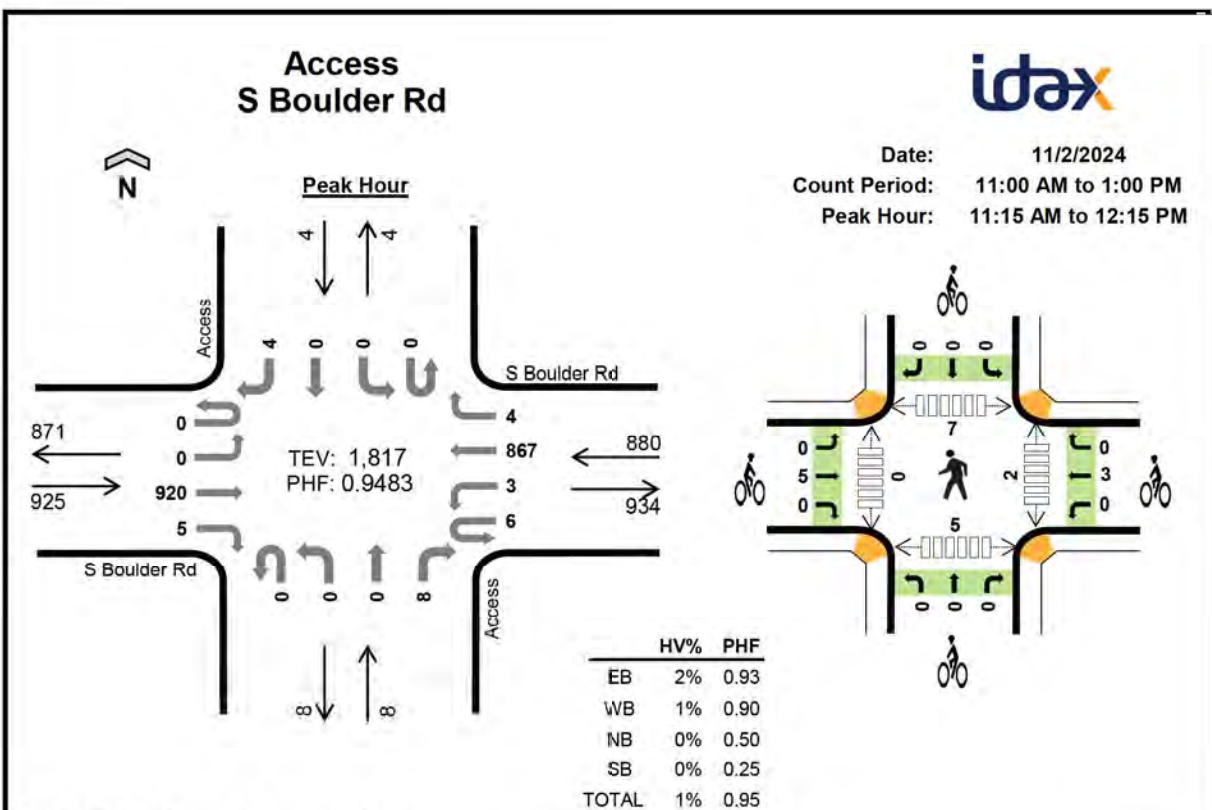
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:00 PM	11	6	0	0	17	0	1	0	0	1	1	1	1	0	3
4:15 PM	16	1	0	0	17	1	0	0	0	1	0	0	1	3	4
4:30 PM	11	2	0	0	13	1	0	0	0	1	0	0	1	0	1
4:45 PM	5	1	0	0	6	0	0	0	0	0	0	0	1	0	1
5:00 PM	2	5	1	0	8	0	0	0	0	0	0	0	0	5	5
5:15 PM	1	2	0	0	3	0	0	0	0	0	0	0	0	1	1
5:30 PM	3	1	0	0	4	0	0	0	0	0	0	0	1	0	1
5:45 PM	3	3	0	0	6	0	0	0	0	0	0	0	0	0	0
Count Total	52	21	1	0	74	2	1	0	0	3	1	1	5	9	16
Peak Hour	34	9	1	0	44	2	0	0	0	2	0	0	3	8	11

Count Summaries - Heavy Vehicles

Interval Start	S Boulder Rd				S Boulder Rd				Access				Access				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	11	0	0	0	6	0	0	0	0	0	0	0	0	0	17	0
4:15 PM	0	0	16	0	0	0	1	0	0	0	0	0	0	0	0	0	17	0
4:30 PM	0	0	11	0	0	0	2	0	0	0	0	0	0	0	0	0	13	0
4:45 PM	0	0	5	0	0	0	1	0	0	0	0	0	0	0	0	0	6	53
5:00 PM	0	0	2	0	0	0	5	0	0	0	0	1	0	0	0	0	8	44
5:15 PM	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	3	30
5:30 PM	0	0	3	0	0	0	1	0	0	0	0	0	0	0	0	0	4	21
5:45 PM	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	6	21
Count Total	0	0	52	0	0	0	21	0	0	0	0	1	0	0	0	0	74	
Pk Hr Heavy	0	0	34	0	0	0	9	0	0	0	0	1	0	0	0	0	44	

Count Summaries - Bikes

Interval Start	S Boulder Rd				S Boulder Rd				Access				Access				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0
4:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
4:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3	
Pk Hr Bike	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	

**Peak Hour Count Summaries**

Peak Hour Interval Start		S Boulder Rd				S Boulder Rd				Access				Access				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
11:15 AM		0	0	246	3	3	0	193	1	0	0	0	4	0	0	0	4	454	0
11:30 AM		0	0	205	1	0	2	242	0	0	0	0	2	0	0	0	0	452	0
11:45 AM		0	0	247	0	2	1	225	3	0	0	0	1	0	0	0	0	479	0
12:00 PM		0	0	222	1	1	0	207	0	0	0	0	1	0	0	0	0	432	1,817
Pk Hr	All	0	0	920	5	6	3	867	4	0	0	0	8	0	0	0	4	1,817	
	HV	0	0	14	0	0	0	10	0	0	0	0	0	0	0	0	0	24	
	HV%	-	-	2%	0%	0%	0%	1%	0%	-	-	-	0%	-	-	-	0%	1%	

Note: For complete count summary (all intervals), see following pages.

** Heavy Vehicle Classifications include FHWA Classes 4-13.

** Count Summaries include heavy vehicles, but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
11:15 AM	3	7	0	0	10	2	0	0	0	2	0	0	2	0	2
11:30 AM	4	0	0	0	4	0	3	0	0	3	0	0	0	2	2
11:45 AM	4	2	0	0	6	1	0	0	0	1	0	0	4	1	5
12:00 PM	3	1	0	0	4	2	0	0	0	2	2	0	1	2	5
Peak Hour	14	10	0	0	24	5	3	0	0	8	2	0	7	5	14

Count Summaries - All Vehicles

Interval Start		S Boulder Rd				S Boulder Rd				Access				Access				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
11:00 AM		0	0	182	3	2	1	225	1	0	0	0	2	0	0	0	1	417	0
11:15 AM		0	0	246	3	3	0	193	1	0	0	0	4	0	0	0	4	454	0
11:30 AM		0	0	205	1	0	2	242	0	0	0	0	2	0	0	0	0	452	0
11:45 AM		0	0	247	0	2	1	225	3	0	0	0	1	0	0	0	0	479	1,802
12:00 PM		0	0	222	1	1	0	207	0	0	0	0	1	0	0	0	0	432	1,817
12:15 PM		0	0	221	1	0	1	184	1	0	0	0	1	0	0	0	1	410	1,773
12:30 PM		0	0	206	0	0	1	232	1	0	0	0	2	0	0	0	3	445	1,766
12:45 PM		0	0	222	1	0	1	207	1	0	0	0	0	0	0	0	0	432	1,719
Count Total		0	0	1,751	10	8	7	1,715	8	0	0	0	13	0	0	0	9	3,521	
Pk Hr	All	0	0	920	5	6	3	867	4	0	0	0	8	0	0	0	4	1,817	
	HV	0	0	14	0	0	0	10	0	0	0	0	0	0	0	0	0	24	
	HV%	-	-	2%	0%	0%	0%	1%	0%	-	-	-	0%	-	-	-	0%	1%	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
11:00 AM	1	4	0	0	5	0	0	0	0	0	0	0	1	0	1
11:15 AM	3	7	0	0	10	2	0	0	0	2	0	0	2	0	2
11:30 AM	4	0	0	0	4	0	3	0	0	3	0	0	0	2	2
11:45 AM	4	2	0	0	6	1	0	0	0	1	0	0	4	1	5
12:00 PM	3	1	0	0	4	2	0	0	0	2	2	0	1	2	5
12:15 PM	1	2	0	0	3	1	0	0	0	1	0	0	1	0	1
12:30 PM	5	1	0	0	6	2	1	0	0	3	0	0	3	0	3
12:45 PM	1	2	0	0	3	3	0	0	0	3	0	0	1	0	1
Count Total	22	19	0	0	41	11	4	0	0	15	2	0	13	5	20
Peak Hour	14	10	0	0	24	5	3	0	0	8	2	0	7	5	14

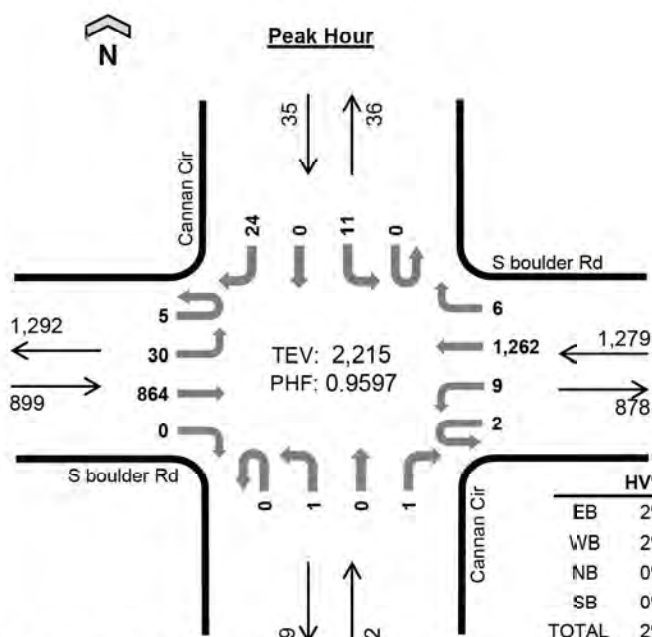
Count Summaries - Heavy Vehicles

Interval Start	S Boulder Rd				S Boulder Rd				Access				Access				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
11:00 AM	0	0	1	0	0	0	4	0	0	0	0	0	0	0	0	0	5	0
11:15 AM	0	0	3	0	0	0	7	0	0	0	0	0	0	0	0	0	10	0
11:30 AM	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0
11:45 AM	0	0	4	0	0	0	2	0	0	0	0	0	0	0	0	0	6	25
12:00 PM	0	0	3	0	0	0	1	0	0	0	0	0	0	0	0	0	4	24
12:15 PM	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	3	17
12:30 PM	0	0	5	0	0	0	1	0	0	0	0	0	0	0	0	0	6	19
12:45 PM	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	3	16
Count Total	0	0	22	0	0	0	19	0	0	0	0	0	0	0	0	0	41	
Pk Hr Heavy	0	0	14	0	0	0	10	0	0	0	0	0	0	0	0	0	24	

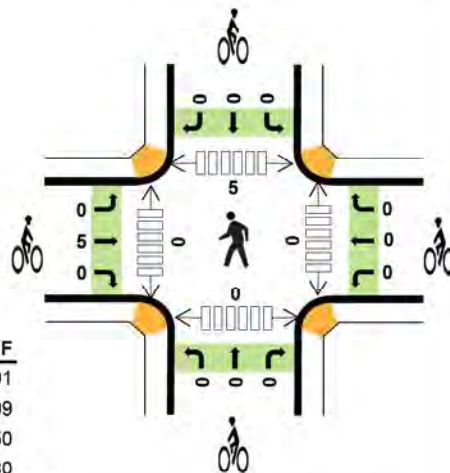
Count Summaries - Bikes

Interval Start	S Boulder Rd				S Boulder Rd				Access				Access				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
11:30 AM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3	0
11:45 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	6
12:00 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	8
12:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	7
12:30 PM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3	7
12:45 PM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3	9
Count Total	0	0	11	0	0	0	4	0	0	0	0	0	0	0	0	0	15	
Pk Hr Bike	0	0	5	0	0	0	3	0	0	0	0	0	0	0	0	0	8	

Cannan Cir S boulder Rd



Date: 11/5/2024
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM



Peak Hour Count Summaries

Peak Hour Interval Start		S boulder Rd				S boulder Rd				Cannan Cir				Cannan Cir				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
8:00 AM		1	3	239	0	0	1	314	2	0	0	0	0	0	5	0	5	570	0
8:15 AM		2	6	239	0	0	0	321	1	0	0	0	0	0	0	0	8	577	0
8:30 AM		1	6	199	0	1	3	315	2	0	0	0	1	0	1	0	5	534	0
8:45 AM		1	15	187	0	1	5	312	1	0	1	0	0	0	5	0	6	534	2,215
Pk Hr	All	5	30	864	0	2	9	1,262	6	0	1	0	1	0	11	0	24	2,215	
	HV	0	0	20	0	0	1	21	0	0	0	0	0	0	0	0	0	42	
	HV%	0%	0%	2%	-	0%	11%	2%	0%	-	0%	-	0%	-	0%	-	0%	2%	

Note: For complete count summary (all intervals), see following pages.

** Heavy Vehicle Classifications include FHWA Classes 4-13.

** Count Summaries include heavy vehicles, but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
8:00 AM	3	5	0	0	8	1	0	0	0	1	0	0	2	0	2
8:15 AM	7	4	0	0	11	2	0	0	0	2	0	0	0	0	0
8:30 AM	4	3	0	0	7	2	0	0	0	2	0	0	0	0	0
8:45 AM	6	10	0	0	16	0	0	0	0	0	0	0	3	0	3
Peak Hour	20	22	0	0	42	5	0	0	0	5	0	0	5	0	5

Count Summaries - All Vehicles

Interval Start	S boulder Rd				S boulder Rd				Cannan Cir				Cannan Cir				15-min Total	Rolling Hour Total	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	1	4	87	0	0	0	139	1	0	0	0	1	0	6	0	12	251	0	
7:15 AM	1	3	135	0	0	0	174	2	0	0	0	0	0	2	0	7	324	0	
7:30 AM	2	3	173	0	1	2	273	1	0	0	0	0	0	3	0	5	463	0	
7:45 AM	2	6	176	0	0	2	299	3	0	0	0	0	0	2	0	10	500	1,538	
8:00 AM	1	3	239	0	0	1	314	2	0	0	0	0	0	5	0	5	570	1,857	
8:15 AM	2	6	239	0	0	0	321	1	0	0	0	0	0	0	0	8	577	2,110	
8:30 AM	1	6	199	0	1	3	315	2	0	0	0	1	0	1	0	5	534	2,181	
8:45 AM	1	15	187	0	1	5	312	1	0	1	0	0	0	5	0	6	534	2,215	
Count Total		11	46	1,435	0	3	13	2,147	13	0	1	0	2	0	24	0	58	3,753	
Pk Hr	All	5	30	864	0	2	9	1,262	6	0	1	0	1	0	11	0	24	2,215	
	HV	0	0	20	0	0	1	21	0	0	0	0	0	0	0	0	42		
	HV%	0%	0%	2%	-	0%	11%	2%	0%	-	0%	-	0%	-	0%	-	2%		

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:00 AM	3	3	0	0	6	0	0	0	0	0	0	1	0	0	1
7:15 AM	3	9	0	0	12	0	0	0	0	0	0	0	0	0	0
7:30 AM	6	0	0	0	6	0	0	0	0	0	0	0	2	1	3
7:45 AM	3	5	0	0	8	0	0	0	0	0	0	0	0	0	0
8:00 AM	3	5	0	0	8	1	0	0	0	1	0	0	2	0	2
8:15 AM	7	4	0	0	11	2	0	0	0	2	0	0	0	0	0
8:30 AM	4	3	0	0	7	2	0	0	0	2	0	0	0	0	0
8:45 AM	6	10	0	0	16	0	0	0	0	0	0	0	3	0	3
Count Total	35	39	0	0	74	5	0	0	0	5	0	1	7	1	9
Peak Hour	20	22	0	0	42	5	0	0	0	5	0	0	5	0	5

Count Summaries - Heavy Vehicles

Interval Start	S boulder Rd				S boulder Rd				Cannan Cir				Cannan Cir				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	6	0
7:15 AM	0	0	3	0	0	0	9	0	0	0	0	0	0	0	0	0	12	0
7:30 AM	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0
7:45 AM	0	0	3	0	0	0	5	0	0	0	0	0	0	0	0	0	8	32
8:00 AM	0	0	3	0	0	0	5	0	0	0	0	0	0	0	0	0	8	34
8:15 AM	0	0	7	0	0	0	4	0	0	0	0	0	0	0	0	0	11	33
8:30 AM	0	0	4	0	0	0	3	0	0	0	0	0	0	0	0	0	7	34
8:45 AM	0	0	6	0	0	1	9	0	0	0	0	0	0	0	0	0	16	42
Count Total	0	0	35	0	0	1	38	0	0	0	0	0	0	0	0	0	74	
Pk Hr Heavy	0	0	20	0	0	1	21	0	0	0	0	0	0	0	0	0	42	

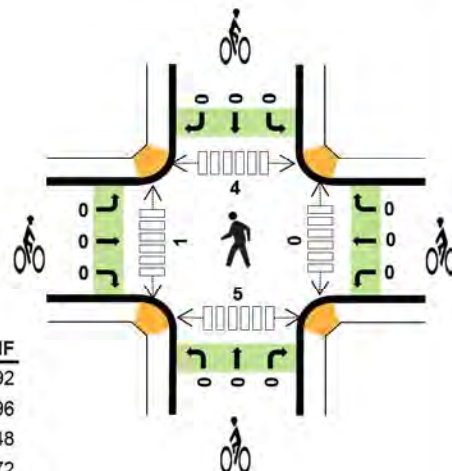
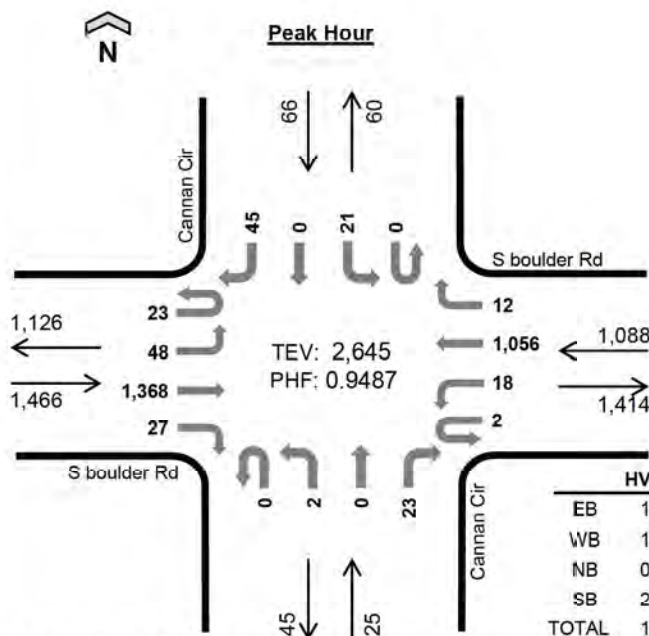
Count Summaries - Bikes

Interval Start	S boulder Rd				S boulder Rd				Cannan Cir				Cannan Cir				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
8:15 AM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3
8:30 AM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	5
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Count Total	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5	
Pk Hr Bike	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5	

Date: 11/5/2024

Count Period: 4:00 PM to 6:00 PM

Peak Hour: 4:00 PM to 5:00 PM



	HV%	PHF
EB	1%	0.92
WB	1%	0.96
NB	0%	0.48
SB	2%	0.72
TOTAL	1%	0.95

Peak Hour Count Summaries

Peak Hour Interval Start		S boulder Rd				S boulder Rd				Cannan Cir				Cannan Cir				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		2	15	372	10	0	8	261	4	0	1	0	3	0	2	0	19	697	0
4:15 PM		5	8	339	8	0	2	280	1	0	1	0	12	0	7	0	6	669	0
4:30 PM		10	11	325	4	0	3	256	5	0	0	0	3	0	5	0	4	626	0
4:45 PM		6	14	332	5	2	5	259	2	0	0	0	5	0	7	0	16	653	2,645
Pk Hr	All	23	48	1,368	27	2	18	1,056	12	0	2	0	23	0	21	0	45	2,645	
	HV	0	0	21	0	0	0	10	0	0	0	0	0	0	0	0	1	32	
	HV%	0%	0%	2%	0%	0%	0%	1%	0%	-	0%	-	0%	-	0%	-	2%	1%	

Note: For complete count summary (all intervals), see following pages.

**** Heavy Vehicle Classifications include FHWA Classes 4-13.**

**** Count Summaries include heavy vehicles, but exclude bicycles in overall count.**

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:00 PM	4	3	0	1	8	0	0	0	0	0	0	0	1	2	3
4:15 PM	6	3	0	0	9	0	0	0	0	0	0	0	1	0	1
4:30 PM	7	3	0	0	10	0	0	0	0	0	0	0	1	1	2
4:45 PM	4	1	0	0	5	0	0	0	0	0	0	1	1	2	4
Peak Hour	21	10	0	1	32	0	0	0	0	0	0	1	4	5	10

Count Summaries - All Vehicles

Interval Start		S boulder Rd				S boulder Rd				Cannan Cir				Cannan Cir				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		2	15	372	10	0	8	261	4	0	1	0	3	0	2	0	19	697	0
4:15 PM		5	8	339	8	0	2	280	1	0	1	0	12	0	7	0	6	669	0
4:30 PM		10	11	325	4	0	3	256	5	0	0	0	3	0	5	0	4	626	0
4:45 PM		6	14	332	5	2	5	259	2	0	0	0	5	0	7	0	16	653	2,645
5:00 PM		10	21	326	5	1	3	286	9	0	0	1	3	0	6	0	14	685	2,633
5:15 PM		4	9	311	3	1	2	250	5	0	3	0	3	0	5	0	24	620	2,584
5:30 PM		7	3	311	5	0	0	236	3	0	2	0	0	0	7	0	6	580	2,538
5:45 PM		4	13	260	0	0	2	212	5	0	1	0	1	0	5	0	14	517	2,402
Count Total		48	94	2,576	40	4	25	2,040	34	0	8	1	30	0	44	0	103	5,047	
Pk Hr	All	23	48	1,368	27	2	18	1,056	12	0	2	0	23	0	21	0	45	2,645	
	HV	0	0	21	0	0	0	10	0	0	0	0	0	0	0	0	1	32	
	HV%	0%	0%	2%	0%	0%	0%	1%	0%	-	0%	-	0%	-	0%	-	2%	1%	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:00 PM	4	3	0	1	8	0	0	0	0	0	0	0	1	2	3
4:15 PM	6	3	0	0	9	0	0	0	0	0	0	0	1	0	1
4:30 PM	7	3	0	0	10	0	0	0	0	0	0	0	1	1	2
4:45 PM	4	1	0	0	5	0	0	0	0	0	0	1	1	2	4
5:00 PM	1	2	0	0	3	0	0	0	0	0	0	0	0	1	1
5:15 PM	6	1	0	0	7	1	0	0	0	1	0	0	0	1	1
5:30 PM	3	1	0	0	4	0	0	0	0	0	0	0	1	0	1
5:45 PM	3	1	0	0	4	0	0	0	0	0	0	0	0	0	0
Count Total	34	15	0	1	50	1	0	0	0	1	0	1	5	7	13
Peak Hour	21	10	0	1	32	0	0	0	0	0	0	1	4	5	10

Count Summaries - Heavy Vehicles

Interval Start	S boulder Rd				S boulder Rd				Cannan Cir				Cannan Cir				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	4	0	0	0	3	0	0	0	0	0	0	0	0	1	8	0
4:15 PM	0	0	6	0	0	0	3	0	0	0	0	0	0	0	0	0	9	0
4:30 PM	0	0	7	0	0	0	3	0	0	0	0	0	0	0	0	0	10	0
4:45 PM	0	0	4	0	0	0	1	0	0	0	0	0	0	0	0	0	5	32
5:00 PM	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	3	27
5:15 PM	0	0	6	0	0	0	1	0	0	0	0	0	0	0	0	0	7	25
5:30 PM	0	0	3	0	0	0	1	0	0	0	0	0	0	0	0	0	4	19
5:45 PM	0	0	3	0	0	0	1	0	0	0	0	0	0	0	0	0	4	18
Count Total	0	0	34	0	0	0	15	0	0	0	0	0	0	0	0	1	50	
Pk Hr Heavy	0	0	21	0	0	0	10	0	0	0	0	0	0	0	0	1	32	

Count Summaries - Bikes

Interval Start	S boulder Rd				S boulder Rd				Cannan Cir				Cannan Cir				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Count Total	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
Pk Hr Bike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

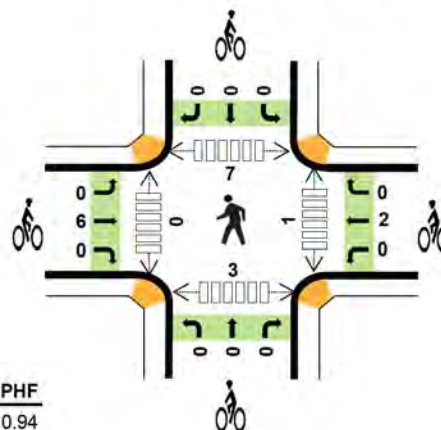
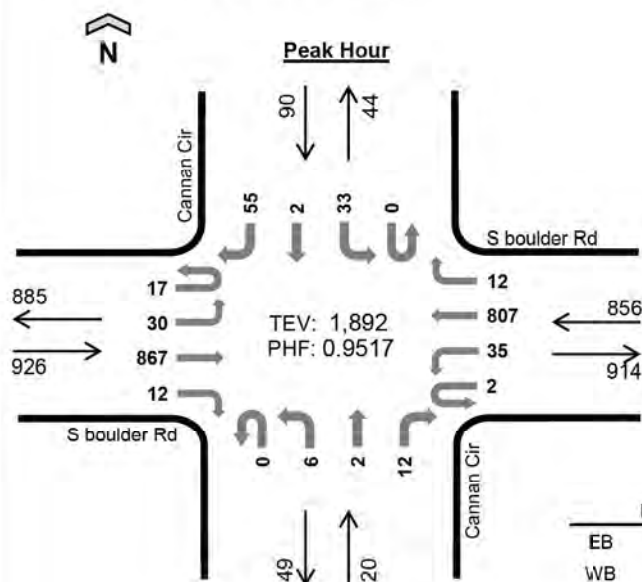
Cannan Cir S boulder Rd



Date: 11/2/2024

Count Period: 11:00 AM to 1:00 PM

Peak Hour: 11:15 AM to 12:15 PM



	HV%	PHF
EB	1%	0.94
WB	1%	0.93
NB	0%	0.83
SB	0%	0.75
TOTAL	1%	0.95

Peak Hour Count Summaries

Peak Hour Interval Start	S boulder Rd				S boulder Rd				Cannan Cir				Cannan Cir				15-min Total	Rolling Hour Total	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
11:15 AM	4	9	232	2	1	9	187	4	0	0	1	3	0	10	0	8	470	0	
11:30 AM	6	6	193	0	0	8	219	4	0	2	0	3	0	12	1	17	471	0	
11:45 AM	4	9	229	4	0	8	212	3	0	2	0	4	0	7	1	14	497	0	
12:00 PM	3	6	213	6	1	10	189	1	0	2	1	2	0	4	0	16	454	1,892	
Pk Hr	All	17	30	867	12	2	35	807	12	0	6	2	12	0	33	2	55	1,892	
	HV	0	0	13	0	0	0	10	0	0	0	0	0	0	0	0	0	23	
	HV%	0%	0%	1%	0%	0%	0%	1%	0%	-	0%	0%	0%	-	0%	0%	0%	1%	

Note: For complete count summary (all intervals), see following pages.

** Heavy Vehicle Classifications include FHWA Classes 4-13.

** Count Summaries include heavy vehicles, but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
11:15 AM	2	7	0	0	9	3	0	0	0	3	0	0	2	0	2
11:30 AM	4	0	0	0	4	0	2	0	0	2	1	0	1	1	3
11:45 AM	4	2	0	0	6	1	0	0	0	1	0	0	0	2	2
12:00 PM	3	1	0	0	4	2	0	0	0	2	0	0	4	0	4
Peak Hour	13	10	0	0	23	6	2	0	0	8	1	0	7	3	11

Count Summaries - All Vehicles

Interval Start		S boulder Rd				S boulder Rd				Cannan Cir				Cannan Cir				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
11:00 AM		5	5	177	2	0	7	208	3	0	1	0	3	0	11	0	14	436	0
11:15 AM		4	9	232	2	1	9	187	4	0	0	1	3	0	10	0	8	470	0
11:30 AM		6	6	193	0	0	8	219	4	0	2	0	3	0	12	1	17	471	0
11:45 AM		4	9	229	4	0	8	212	3	0	2	0	4	0	7	1	14	497	1,874
12:00 PM		3	6	213	6	1	10	189	1	0	2	1	2	0	4	0	16	454	1,892
12:15 PM		2	7	205	5	0	8	176	4	0	2	0	4	0	0	1	9	423	1,845
12:30 PM		7	5	200	4	0	9	215	2	0	1	0	5	0	5	0	3	456	1,830
12:45 PM		2	7	205	2	1	8	199	5	0	3	0	6	0	2	0	8	448	1,781
Count Total		33	54	1,654	25	3	67	1,605	26	0	13	2	30	0	51	3	89	3,655	
Pk Hr	All	17	30	867	12	2	35	807	12	0	6	2	12	0	33	2	55	1,892	
	HV	0	0	13	0	0	0	10	0	0	0	0	0	0	0	0	0	23	
	HV%	0%	0%	1%	0%	0%	0%	1%	0%	-	0%	0%	0%	-	0%	0%	0%	1%	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
11:00 AM	1	4	0	0	5	1	0	0	0	1	0	0	1	1	2
11:15 AM	2	7	0	0	9	3	0	0	0	3	0	0	2	0	2
11:30 AM	4	0	0	0	4	0	2	0	0	2	1	0	1	1	3
11:45 AM	4	2	0	0	6	1	0	0	0	1	0	0	0	2	2
12:00 PM	3	1	0	0	4	2	0	0	0	2	0	0	4	0	4
12:15 PM	1	2	0	0	3	1	0	0	0	1	0	0	1	0	1
12:30 PM	6	1	0	0	7	2	0	0	0	2	0	0	3	0	3
12:45 PM	1	2	0	0	3	3	0	0	0	3	0	0	2	0	2
Count Total	22	19	0	0	41	13	2	0	0	15	1	0	14	4	19
Peak Hour	13	10	0	0	23	6	2	0	0	8	1	0	7	3	11

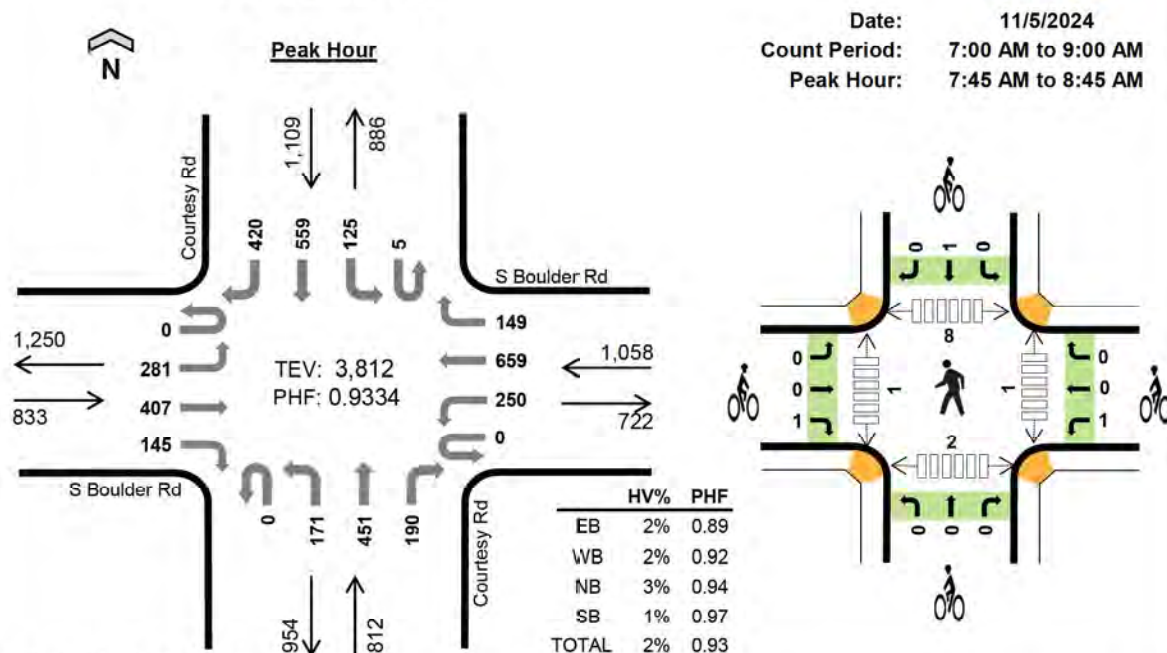
Count Summaries - Heavy Vehicles

Interval Start	S boulder Rd				S boulder Rd				Cannan Cir				Cannan Cir				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
11:00 AM	0	0	1	0	0	0	4	0	0	0	0	0	0	0	0	0	5	0
11:15 AM	0	0	2	0	0	0	7	0	0	0	0	0	0	0	0	0	9	0
11:30 AM	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0
11:45 AM	0	0	4	0	0	0	2	0	0	0	0	0	0	0	0	0	6	24
12:00 PM	0	0	3	0	0	0	1	0	0	0	0	0	0	0	0	0	4	23
12:15 PM	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	3	17
12:30 PM	0	0	6	0	0	0	1	0	0	0	0	0	0	0	0	0	7	20
12:45 PM	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	3	17
Count Total	0	0	22	0	0	0	19	0	0	0	0	0	0	0	0	0	41	
Pk Hr Heavy	0	0	13	0	0	0	10	0	0	0	0	0	0	0	0	0	23	

Count Summaries - Bikes

Interval Start	S boulder Rd				S boulder Rd				Cannan Cir				Cannan Cir				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
11:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
11:15 AM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0
11:30 AM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0
11:45 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	7
12:00 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	8
12:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	6
12:30 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	6
12:45 PM	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	3	8
Count Total	0	0	12	1	0	0	2	0	0	0	0	0	0	0	0	0	15	
Pk Hr Bike	0	0	6	0	0	0	2	0	0	0	0	0	0	0	0	0	8	

Courtesy Rd S Boulder Rd



Peak Hour Count Summaries

Peak Hour Interval Start	S Boulder Rd				S Boulder Rd				Courtesy Rd				Courtesy Rd				15-min Total	Rolling Hour Total	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:45 AM	0	56	87	37	0	58	177	24	0	39	99	43	1	14	161	91	887	0	
8:00 AM	0	78	115	40	0	49	158	39	0	36	125	45	1	33	146	106	971	0	
8:15 AM	0	72	122	38	0	78	173	38	0	55	100	60	2	64	115	104	1,021	0	
8:30 AM	0	75	83	30	0	65	151	48	0	41	127	42	1	14	137	119	933	3,812	
Pk Hr	All	0	281	407	145	0	250	659	149	0	171	451	190	5	125	559	420	3,812	
	HV	0	6	9	3	0	6	16	2	0	5	20	1	0	6	4	5	83	
	HV%	-	2%	2%	2%	-	2%	2%	1%	-	3%	4%	1%	0%	5%	1%	1%	2%	

Note: For complete count summary (all intervals), see following pages.

** Heavy Vehicle Classifications include FHWA Classes 4-13.

** Count Summaries include heavy vehicles, but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:45 AM	3	8	4	4	19	0	0	0	0	0	0	0	3	1	4
8:00 AM	2	6	8	4	20	0	0	0	0	0	1	0	3	1	5
8:15 AM	8	6	3	4	21	0	0	0	1	1	0	0	0	0	0
8:30 AM	5	4	11	3	23	1	1	0	0	2	0	1	2	0	3
Peak Hour	18	24	26	15	83	1	1	0	1	3	1	1	8	2	12

Count Summaries - All Vehicles

Interval Start		S Boulder Rd				S Boulder Rd				Courtesy Rd				Courtesy Rd				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	34	38	15	0	23	60	13	0	17	47	25	1	14	85	47	419	0
7:15 AM		0	30	93	28	0	42	118	21	0	24	53	26	0	21	120	54	630	0
7:30 AM		0	65	73	38	0	61	131	34	0	30	80	29	0	15	155	110	821	0
7:45 AM		0	56	87	37	0	58	177	24	0	39	99	43	1	14	161	91	887	2,757
8:00 AM		0	78	115	40	0	49	158	39	0	36	125	45	1	33	146	106	971	3,309
8:15 AM		0	72	122	38	0	78	173	38	0	55	100	60	2	64	115	104	1,021	3,700
8:30 AM		0	75	83	30	0	65	151	48	0	41	127	42	1	14	137	119	933	3,812
8:45 AM		0	57	98	39	0	56	162	26	1	65	104	40	1	19	123	96	887	3,812
Count Total		0	467	709	265	0	432	1,130	243	1	307	735	310	7	194	1,042	727	6,569	
Pk Hr	All	0	281	407	145	0	250	659	149	0	171	451	190	5	125	559	420	3,812	
	HV	0	6	9	3	0	6	16	2	0	5	20	1	0	6	4	5	83	
	HV%	-	2%	2%	2%	-	2%	2%	1%	-	3%	4%	1%	0%	5%	1%	1%	2%	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:00 AM	4	4	2	4	14	0	0	0	1	1	0	0	1	0	1
7:15 AM	3	7	3	6	19	0	0	0	0	0	0	0	0	0	0
7:30 AM	6	6	5	5	22	0	0	0	0	0	0	0	2	0	2
7:45 AM	3	8	4	4	19	0	0	0	0	0	0	0	3	1	4
8:00 AM	2	6	8	4	20	0	0	0	0	0	1	0	3	1	5
8:15 AM	8	6	3	4	21	0	0	0	1	1	0	0	0	0	0
8:30 AM	5	4	11	3	23	1	1	0	0	2	0	1	2	0	3
8:45 AM	3	9	8	3	23	0	0	0	0	0	0	0	1	0	1
Count Total	34	50	44	33	161	1	1	0	2	4	1	1	12	2	16
Peak Hour	18	24	26	15	83	1	1	0	1	3	1	1	8	2	12

Count Summaries - Heavy Vehicles

Interval Start	S Boulder Rd				S Boulder Rd				Courtesy Rd				Courtesy Rd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	2	2	0	0	0	1	3	0	0	0	2	0	0	2	2	14	0
7:15 AM	0	0	3	0	0	1	6	0	0	0	3	0	0	0	2	4	19	0
7:30 AM	0	2	4	0	0	1	5	0	0	0	4	1	0	1	2	2	22	0
7:45 AM	0	1	1	1	0	1	6	1	0	0	4	0	0	1	1	2	19	74
8:00 AM	0	1	0	1	0	1	5	0	0	2	5	1	0	2	1	1	20	80
8:15 AM	0	2	5	1	0	4	2	0	0	1	2	0	0	2	1	1	21	82
8:30 AM	0	2	3	0	0	0	3	1	0	2	9	0	0	1	1	1	23	83
8:45 AM	0	0	3	0	0	4	3	2	0	3	5	0	0	0	2	1	23	87
Count Total	0	10	21	3	0	12	31	7	0	8	32	4	0	7	12	14	161	
Pk Hr Heavy	0	6	9	3	0	6	16	2	0	5	20	1	0	6	4	5	83	

Count Summaries - Bikes

Interval Start	S Boulder Rd				S Boulder Rd				Courtesy Rd				Courtesy Rd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	
8:30 AM	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2	
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	
Count Total	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1	1	4	
Pk Hr Bike	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1	0	3	

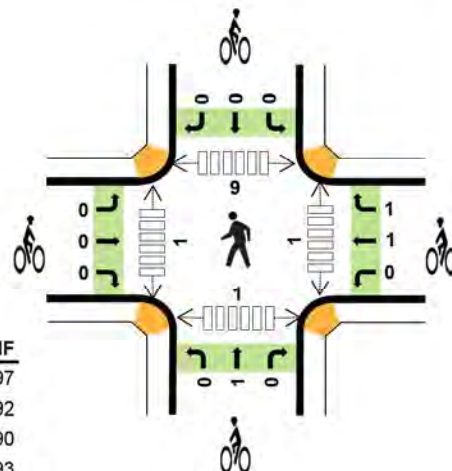
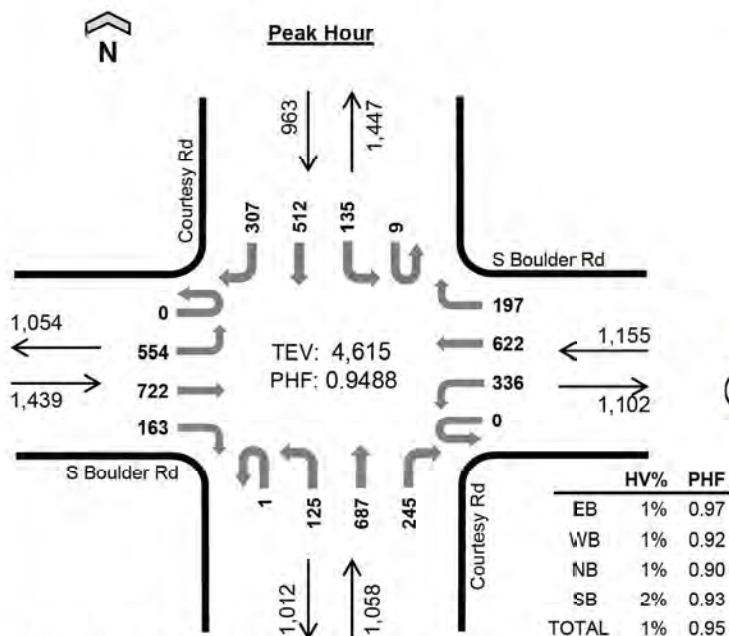
Courtesy Rd S Boulder Rd



Date: 11/5/2024

Count Period: 4:00 PM to 6:00 PM

Peak Hour: 4:00 PM to 5:00 PM



Peak Hour Count Summaries

Peak Hour Interval Start	S Boulder Rd				S Boulder Rd				Courtesy Rd				Courtesy Rd				15-min Total	Rolling Hour Total	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	0	140	182	49	0	95	160	57	0	29	173	57	3	35	135	66	1,181	0	
4:15 PM	0	139	173	54	0	90	172	53	1	36	196	62	3	31	129	77	1,216	0	
4:30 PM	0	133	200	24	0	86	130	43	0	32	166	59	2	35	114	74	1,098	0	
4:45 PM	0	142	167	36	0	65	160	44	0	28	152	67	1	34	134	90	1,120	4,615	
Pk Hr	All	0	554	722	163	0	336	622	197	1	125	687	245	9	135	512	307	4,615	
	HV	0	7	6	5	0	3	5	0	0	2	8	5	0	4	10	3	58	
	HV%	-	1%	1%	3%	-	1%	1%	0%	0%	2%	1%	2%	0%	3%	2%	1%	1%	

Note: For complete count summary (all intervals), see following pages.

** Heavy Vehicle Classifications include FHWA Classes 4-13.

** Count Summaries include heavy vehicles, but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:00 PM	3	1	5	10	19	0	1	0	0	1	0	0	1	0	1
4:15 PM	5	1	4	4	14	0	0	0	0	0	0	0	2	0	2
4:30 PM	7	4	5	2	18	0	1	1	0	2	1	1	4	1	7
4:45 PM	3	2	1	1	7	0	0	0	0	0	0	0	2	0	2
Peak Hour	18	8	15	17	58	0	2	1	0	3	1	1	9	1	12

Count Summaries - All Vehicles

Interval Start		S Boulder Rd				S Boulder Rd				Courtesy Rd				Courtesy Rd				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	140	182	49	0	95	160	57	0	29	173	57	3	35	135	66	1,181	0
4:15 PM		0	139	173	54	0	90	172	53	1	36	196	62	3	31	129	77	1,216	0
4:30 PM		0	133	200	24	0	86	130	43	0	32	166	59	2	35	114	74	1,098	0
4:45 PM		0	142	167	36	0	65	160	44	0	28	152	67	1	34	134	90	1,120	4,615
5:00 PM		0	127	176	22	0	75	164	47	1	31	169	72	2	42	166	84	1,178	4,612
5:15 PM		1	121	143	38	0	63	137	38	0	30	163	58	2	64	109	70	1,037	4,433
5:30 PM		1	102	163	37	0	72	119	27	1	36	170	81	1	38	119	60	1,027	4,362
5:45 PM		0	107	126	36	0	63	138	19	0	22	126	68	1	49	116	50	921	4,163
Count Total		2	1,011	1,330	296	0	609	1,180	328	3	244	1,315	524	15	328	1,022	571	8,778	
Pk Hr	All	0	554	722	163	0	336	622	197	1	125	687	245	9	135	512	307	4,615	
	HV	0	7	6	5	0	3	5	0	0	2	8	5	0	4	10	3	58	
	HV%	-	1%	1%	3%	-	1%	1%	0%	0%	2%	1%	2%	0%	3%	2%	1%	1%	

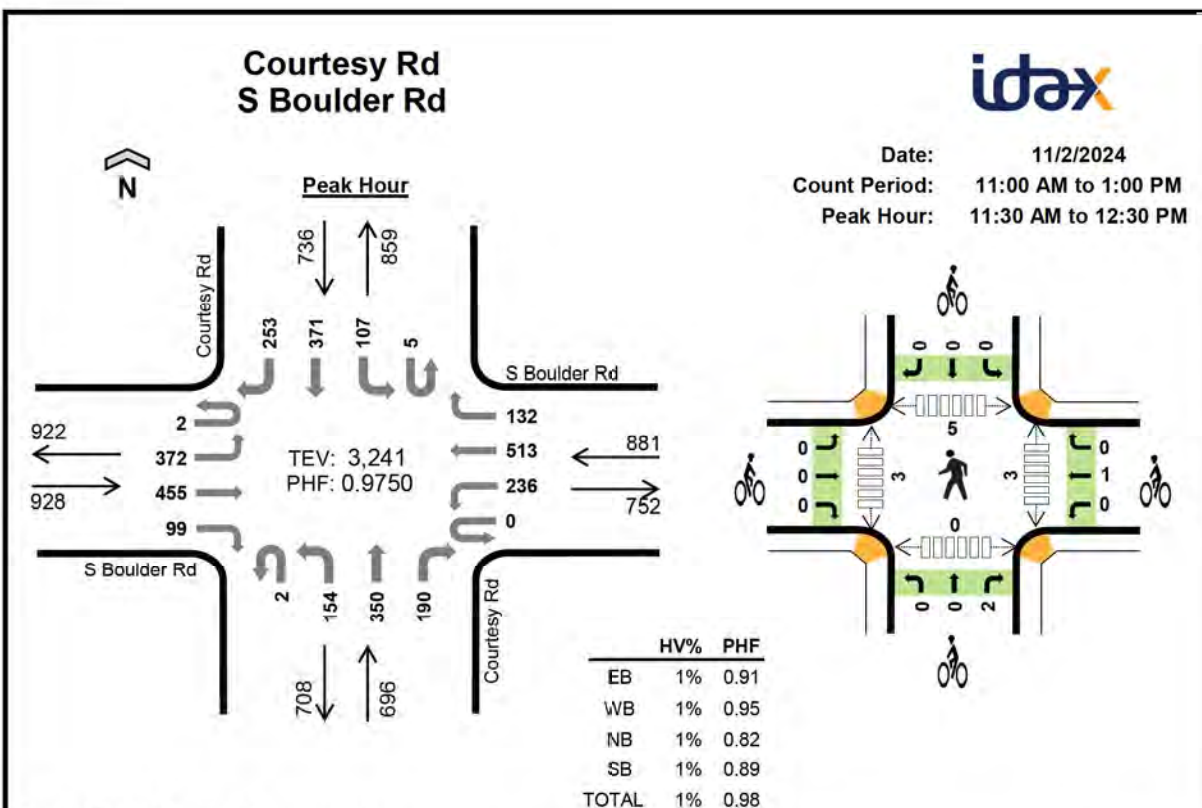
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:00 PM	3	1	5	10	19	0	1	0	0	1	0	0	1	0	1
4:15 PM	5	1	4	4	14	0	0	0	0	0	0	0	2	0	2
4:30 PM	7	4	5	2	18	0	1	1	0	2	1	1	4	1	7
4:45 PM	3	2	1	1	7	0	0	0	0	0	0	0	2	0	2
5:00 PM	1	0	1	0	2	0	0	0	0	0	0	0	1	1	2
5:15 PM	6	2	1	4	13	0	0	0	0	0	1	0	1	0	2
5:30 PM	3	1	2	1	7	0	0	0	0	0	0	0	0	0	0
5:45 PM	3	2	1	1	7	0	0	0	0	0	0	1	1	0	2
Count Total	31	13	20	23	87	0	2	1	0	3	2	2	12	2	18
Peak Hour	18	8	15	17	58	0	2	1	0	3	1	1	9	1	12

Count Summaries - Heavy Vehicles

Interval Start	S Boulder Rd				S Boulder Rd				Courtesy Rd				Courtesy Rd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	2	1	0	1	0	0	0	1	2	2	0	1	7	2	19	0
4:15 PM	0	1	1	3	0	0	1	0	0	1	1	2	0	1	2	1	14	0
4:30 PM	0	5	1	1	0	1	3	0	0	0	4	1	0	2	0	0	18	0
4:45 PM	0	1	2	0	0	1	1	0	0	0	1	0	0	0	1	0	7	58
5:00 PM	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	2	41
5:15 PM	0	2	1	3	0	0	1	1	0	0	1	0	0	0	2	2	13	40
5:30 PM	0	2	0	1	0	1	0	0	0	1	0	1	0	0	1	0	7	29
5:45 PM	0	0	1	2	0	1	1	0	0	0	1	0	0	0	1	0	7	29
Count Total	0	11	9	11	0	5	7	1	0	3	11	6	0	4	14	5	87	
Pk Hr Heavy	0	7	6	5	0	3	5	0	0	2	8	5	0	4	10	3	58	

Count Summaries - Bikes

Interval Start	S Boulder Rd				S Boulder Rd				Courtesy Rd				Courtesy Rd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	2	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	1	1	0	0	1	0	0	0	0	0	3	
Pk Hr Bike	0	0	0	0	0	0	1	1	0	0	1	0	0	0	0	0	3	



Peak Hour Count Summaries

Peak Hour Interval Start		S Boulder Rd				S Boulder Rd				Courtesy Rd				Courtesy Rd				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
11:30 AM		1	95	103	25	0	52	151	27	0	44	68	38	2	38	87	79	810	0
11:45 AM		1	102	122	29	0	59	134	34	1	37	75	54	0	25	88	59	820	0
12:00 PM		0	84	106	29	0	59	120	52	1	37	119	55	1	24	92	52	831	0
12:15 PM		0	91	124	16	0	66	108	19	0	36	88	43	2	20	104	63	780	3,241
Pk Hr	All	2	372	455	99	0	236	513	132	2	154	350	190	5	107	371	253	3,241	
	HV	0	4	7	0	0	3	4	1	0	0	4	4	0	1	4	2	34	
	HV%	0%	1%	2%	0%	-	1%	1%	1%	0%	0%	1%	2%	0%	1%	1%	1%	1%	

Note: For complete count summary (all intervals), see following pages.

** Heavy Vehicle Classifications include FHWA Classes 4-13.

** Count Summaries include heavy vehicles, but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
11:30 AM	3	1	1	2	7	0	1	2	0	3	0	1	3	0	4
11:45 AM	5	2	4	0	11	0	0	0	0	0	3	0	0	0	3
12:00 PM	3	3	2	1	9	0	0	0	0	0	0	2	2	0	4
12:15 PM	0	2	1	4	7	0	0	0	0	0	0	0	0	0	0
Peak Hour	11	8	8	7	34	0	1	2	0	3	3	3	5	0	11

Count Summaries - All Vehicles

Interval Start		S Boulder Rd				S Boulder Rd				Courtesy Rd				Courtesy Rd				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
11:00 AM		0	103	89	32	0	38	118	20	0	37	75	71	1	23	115	84	806	0
11:15 AM		0	110	113	32	0	53	112	23	0	32	97	38	3	14	63	70	760	0
11:30 AM		1	95	103	25	0	52	151	27	0	44	68	38	2	38	87	79	810	0
11:45 AM		1	102	122	29	0	59	134	34	1	37	75	54	0	25	88	59	820	3,196
12:00 PM		0	84	106	29	0	59	120	52	1	37	119	55	1	24	92	52	831	3,221
12:15 PM		0	91	124	16	0	66	108	19	0	36	88	43	2	20	104	63	780	3,241
12:30 PM		0	78	95	27	0	66	117	25	0	32	92	48	1	22	120	73	796	3,227
12:45 PM		0	92	117	29	0	68	132	25	0	28	87	55	0	19	83	67	802	3,209
Count Total		2	755	869	219	0	461	992	225	2	283	701	402	10	185	752	547	6,405	
Pk Hr	All	2	372	455	99	0	236	513	132	2	154	350	190	5	107	371	253	3,241	
	HV	0	4	7	0	0	3	4	1	0	0	4	4	0	1	4	2	34	
	HV%	0%	1%	2%	0%	-	1%	1%	1%	0%	0%	1%	2%	0%	1%	1%	1%	1%	

Interval Start	Heavy Vehicle Totals						Bicycles						Pedestrians (Crossing Leg)					
	EB	WB	NB	SB	Total		EB	WB	NB	SB	Total		E	W	N	S	Total	
11:00 AM	1	2	0	3	6		0	1	0	0	1		4	0	1	0	5	
11:15 AM	1	4	1	3	9		1	0	1	0	2		0	1	2	0	3	
11:30 AM	3	1	1	2	7		0	1	2	0	3		0	1	3	0	4	
11:45 AM	5	2	4	0	11		0	0	0	0	0		3	0	0	0	3	
12:00 PM	3	3	2	1	9		0	0	0	0	0		0	2	2	0	4	
12:15 PM	0	2	1	4	7		0	0	0	0	0		0	0	0	0	0	
12:30 PM	2	2	0	3	7		0	0	0	1	1		1	0	0	0	1	
12:45 PM	2	2	1	1	6		0	0	0	0	0		0	0	3	0	3	
Count Total	17	18	10	17	62		1	2	3	1	7		8	4	11	0	23	
Peak Hour	11	8	8	7	34		0	1	2	0	3		3	3	5	0	11	

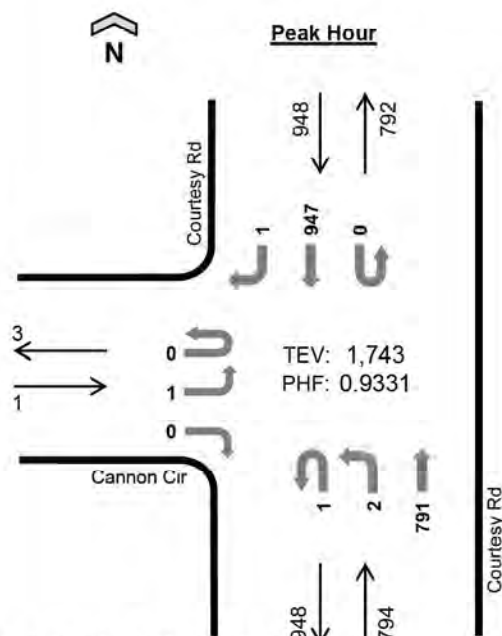
Count Summaries - Heavy Vehicles

Interval Start	S Boulder Rd				S Boulder Rd				Courtesy Rd				Courtesy Rd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
11:00 AM	0	0	1	0	0	0	2	0	0	0	0	0	0	0	1	2	6	0
11:15 AM	0	0	1	0	0	0	4	0	0	1	0	0	0	0	1	2	9	0
11:30 AM	0	1	2	0	0	1	0	0	0	0	1	0	0	1	0	1	7	0
11:45 AM	0	3	2	0	0	1	1	0	0	0	3	1	0	0	0	0	11	33
12:00 PM	0	0	3	0	0	0	2	1	0	0	0	2	0	0	1	0	9	36
12:15 PM	0	0	0	0	0	1	1	0	0	0	0	1	0	0	3	1	7	34
12:30 PM	0	1	1	0	0	0	2	0	0	0	0	0	0	1	2	0	7	34
12:45 PM	0	0	0	2	0	0	2	0	0	1	0	0	0	0	0	1	6	29
Count Total	0	5	10	2	0	3	14	1	0	2	4	4	0	2	8	7	62	
Pk Hr Heavy	0	4	7	0	0	3	4	1	0	0	4	4	0	1	4	2	34	

Count Summaries - Bikes

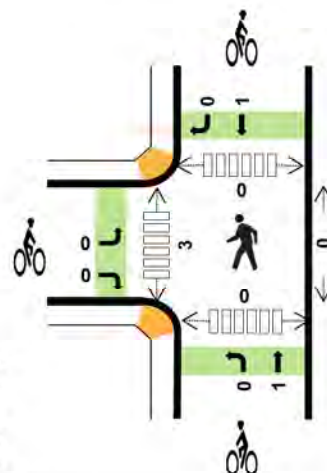
Interval Start	S Boulder Rd				S Boulder Rd				Courtesy Rd				Courtesy Rd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
11:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0
11:15 AM	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	2	0
11:30 AM	0	0	0	0	0	0	1	0	0	0	0	2	0	0	0	0	3	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Count Total	0	0	1	0	0	0	2	0	0	0	0	3	0	0	0	1	7	
Pk Hr Bike	0	0	0	0	0	0	1	0	0	0	0	2	0	0	0	0	3	

Courtesy Rd Cannon Cir



Date: 11/5/2024
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:45 AM to 8:45 AM

	HV%	PHF
EB	0%	0.25
WB	--	--
NB	3%	0.88
SB	1%	0.93
TOTAL	2%	0.93



Peak Hour Count Summaries

Peak Hour Interval Start	Cannon Cir				n/a				Courtesy Rd				Courtesy Rd				15-min Total	Rolling Hour Total	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:45 AM	0	0	0	0	0	0	0	0	1	0	187	0	0	0	255	0	443	0	
8:00 AM	0	1	0	0	0	0	0	0	0	0	191	0	0	0	227	1	420	0	
8:15 AM	0	0	0	0	0	0	0	0	0	1	224	0	0	0	242	0	467	0	
8:30 AM	0	0	0	0	0	0	0	0	0	1	189	0	0	0	223	0	413	1,743	
Pk Hr	All	0	1	0	0	0	0	0	0	1	2	791	0	0	0	947	1	1,743	
	HV	0	0	0	0	0	0	0	0	0	0	21	0	0	0	13	0	34	
	HV%	-	0%	-	-	-	-	-	-	0%	0%	3%	-	-	-	1%	0%	2%	

Note: For complete count summary (all intervals), see following pages.

** Heavy Vehicle Classifications include FHWA Classes 4-13.

** Count Summaries include heavy vehicles, but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:45 AM	0	0	2	2	4	0	0	0	0	0	0	1	0	0	1
8:00 AM	0	0	7	3	10	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	3	5	8	0	0	0	1	1	0	1	0	0	1
8:30 AM	0	0	9	3	12	0	0	1	0	1	0	1	0	0	1
Peak Hour	0	0	21	13	34	0	0	1	1	2	0	3	0	0	3

Count Summaries - All Vehicles

Interval Start	Cannon Cir				n/a				Courtesy Rd				Courtesy Rd				15-min Total	Rolling Hour Total	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	0	0	0	0	0	0	0	0	0	1	88	0	0	0	122	0	211	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	108	0	0	0	194	0	302	0	
7:30 AM	0	0	0	0	0	0	0	0	0	0	137	0	0	0	238	0	375	0	
7:45 AM	0	0	0	0	0	0	0	0	1	0	187	0	0	0	255	0	443	1,331	
8:00 AM	0	1	0	0	0	0	0	0	0	0	191	0	0	0	227	1	420	1,540	
8:15 AM	0	0	0	0	0	0	0	0	0	1	224	0	0	0	242	0	467	1,705	
8:30 AM	0	0	0	0	0	0	0	0	0	1	189	0	0	0	223	0	413	1,743	
8:45 AM	0	1	0	0	0	0	0	0	0	1	227	0	0	0	208	2	439	1,739	
Count Total	0	2	0	0	0	0	0	0	1	4	1,351	0	0	0	1,709	3	3,070		
Pk Hr	All	0	1	0	0	0	0	0	0	1	2	791	0	0	0	947	1	1,743	
	HV	0	0	0	0	0	0	0	0	0	0	21	0	0	0	13	0	34	
	HV%	-	0%	-	-	-	-	-	-	0%	0%	3%	-	-	-	1%	0%	2%	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:00 AM	0	0	2	3	5	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	4	2	6	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	4	3	7	0	0	0	0	0	0	1	0	0	1
7:45 AM	0	0	2	2	4	0	0	0	0	0	0	1	0	0	1
8:00 AM	0	0	7	3	10	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	3	5	8	0	0	0	1	1	0	1	0	0	1
8:30 AM	0	0	9	3	12	0	0	1	0	1	0	1	0	0	1
8:45 AM	0	0	11	5	16	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	42	26	68	0	0	1	1	2	0	4	0	0	4
Peak Hour	0	0	21	13	34	0	0	1	1	2	0	3	0	0	3

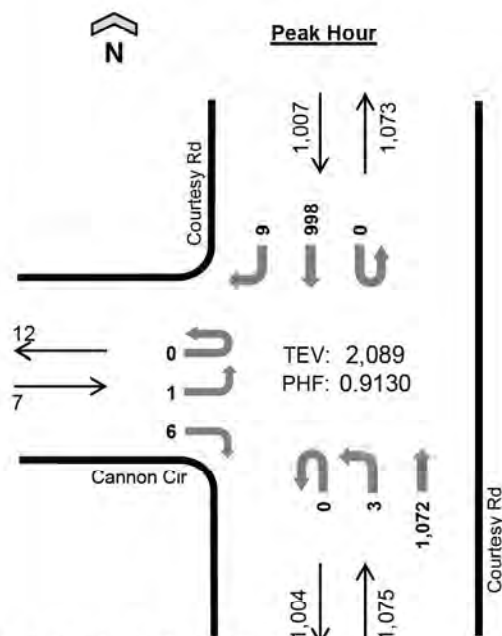
Count Summaries - Heavy Vehicles

Interval Start	Cannon Cir				n/a				Courtesy Rd				Courtesy Rd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	3	0	5	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	4	0	0	0	2	0	6	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	4	0	0	0	3	0	7	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	4	22
8:00 AM	0	0	0	0	0	0	0	0	0	0	7	0	0	0	3	0	10	27
8:15 AM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	5	0	8	29
8:30 AM	0	0	0	0	0	0	0	0	0	0	9	0	0	0	3	0	12	34
8:45 AM	0	0	0	0	0	0	0	0	0	0	11	0	0	0	5	0	16	46
Count Total	0	0	0	0	0	0	0	0	0	0	42	0	0	0	26	0	68	
Pk Hr Heavy	0	0	0	0	0	0	0	0	0	0	21	0	0	0	13	0	34	

Count Summaries - Bikes

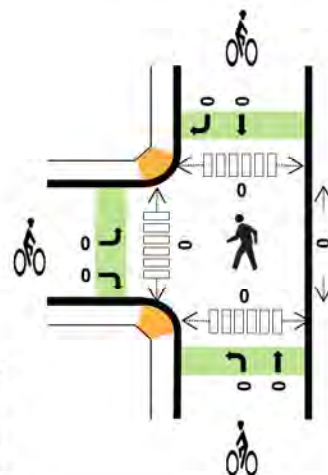
Interval Start	Cannon Cir				n/a				Courtesy Rd				Courtesy Rd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	2
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Count Total	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	
Pk Hr Bike	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	

Courtesy Rd Cannon Cir



Date: 11/5/2024
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:00 PM to 5:00 PM

	HV%	PHF
EB	0%	0.29
WB	--	--
NB	1%	0.92
SB	1%	0.92
TOTAL	1%	0.91



Peak Hour Count Summaries

Peak Hour Interval Start	Cannon Cir				n/a				Courtesy Rd				Courtesy Rd				15-min Total	Rolling Hour Total	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	0	0	0	1	0	0	0	0	0	1	254	0	0	0	255	2	513	0	
4:15 PM	0	1	0	5	0	0	0	0	0	0	0	292	0	0	0	272	2	572	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	1	254	0	0	0	218	3	476	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	1	272	0	0	0	253	2	528	2,089
Pk Hr	All	0	1	0	6	0	0	0	0	0	3	1,072	0	0	0	998	9	2,089	
	HV	0	0	0	0	0	0	0	0	0	0	15	0	0	0	15	0	30	
	HV%	-	0%	-	0%	-	-	-	-	-	0%	1%	-	-	-	2%	0%	1%	

Note: For complete count summary (all intervals), see following pages.

** Heavy Vehicle Classifications include FHWA Classes 4-13.

** Count Summaries include heavy vehicles, but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:00 PM	0	0	5	7	12	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	4	4	8	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	5	3	8	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	15	15	30	0	0	0	0	0	0	0	0	0	0

Count Summaries - All Vehicles

Interval Start		Cannon Cir				n/a				Courtesy Rd				Courtesy Rd				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	0	0	1	0	0	0	0	0	1	254	0	0	0	255	2	513	0
4:15 PM		0	1	0	5	0	0	0	0	0	0	292	0	0	0	272	2	572	0
4:30 PM		0	0	0	0	0	0	0	0	0	1	254	0	0	0	218	3	476	0
4:45 PM		0	0	0	0	0	0	0	0	0	1	272	0	0	0	253	2	528	2,089
5:00 PM		0	2	0	5	0	0	0	0	0	1	253	0	0	0	235	1	497	2,073
5:15 PM		0	0	0	4	0	0	0	0	0	1	263	0	0	0	238	2	508	2,009
5:30 PM		0	1	0	5	0	0	0	0	0	1	277	0	0	0	210	3	497	2,030
5:45 PM		0	1	0	2	0	0	0	0	0	0	216	0	0	0	222	1	442	1,944
Count Total		0	5	0	22	0	0	0	0	0	6	2,081	0	0	0	1,903	16	4,033	
Pk Hr	All	0	1	0	6	0	0	0	0	0	3	1,072	0	0	0	998	9	2,089	
	HV	0	0	0	0	0	0	0	0	0	0	15	0	0	0	15	0	30	
	HV%	-	0%	-	0%	-	-	-	-	-	-	0%	1%	-	-	-	2%	0%	1%

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:00 PM	0	0	5	7	12	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	4	4	8	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	5	3	8	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	4	4	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	2	3	5	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	3	2	5	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	21	24	45	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	15	15	30	0	0	0	0	0	0	0	0	0	0

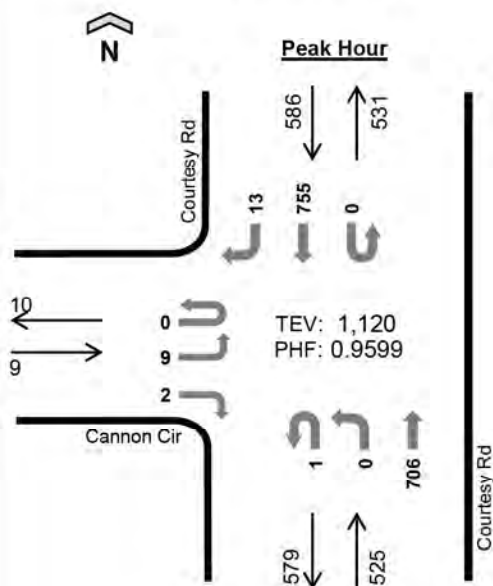
Count Summaries - Heavy Vehicles

Interval Start	Cannon Cir				n/a				Courtesy Rd				Courtesy Rd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	5	0	0	0	7	0	12	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4	0	8	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	5	0	0	0	3	0	8	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	30
5:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	19
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	15
5:30 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	3	0	5	12
5:45 PM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	2	0	5	15
Count Total	0	0	0	0	0	0	0	0	0	0	21	0	0	0	24	0	45	
Pk Hr Heavy	0	0	0	0	0	0	0	0	0	0	15	0	0	0	15	0	30	

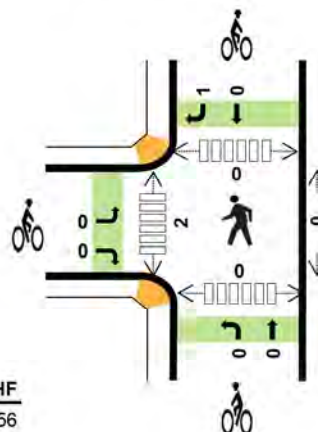
Count Summaries - Bikes

Interval Start	Cannon Cir				n/a				Courtesy Rd				Courtesy Rd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Pk Hr Bike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		

Courtesy Rd Cannon Cir



Date: 11/2/2024
Count Period: 11:00 AM to 1:00 PM
Peak Hour: 11:45 AM to 12:45 PM



	HV%	PHF
EB	0%	0.56
WB	--	--
NB	1%	0.71
SB	1%	0.67
TOTAL	1%	0.96

Peak Hour Count Summaries

Peak Hour Interval Start	Cannon Cir				n/a				Courtesy Rd				Courtesy Rd				15-min Total	Rolling Hour Total	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
11:45 AM	0	2	0	0	0	0	0	0	0	0	182	0	0	0	179	3	366	0	
12:00 PM	0	2	0	0	0	0	0	0	0	0	175	0	0	0	176	1	354	0	
12:15 PM	0	3	0	1	0	0	0	0	1	0	184	0	0	0	185	5	379	0	
12:30 PM	0	2	0	1	0	0	0	0	0	0	165	0	0	0	215	4	387	1,486	
Pk Hr	All	0	9	0	2	0	0	0	0	1	0	706	0	0	0	755	13	1,486	
	HV	0	0	0	0	0	0	0	0	0	0	5	0	0	0	4	0	9	
	HV%	-	0%	-	0%	-	-	-	-	0%	-	1%	-	-	-	1%	0%	1%	

Note: For complete count summary (all intervals), see following pages.

** Heavy Vehicle Classifications include FHWA Classes 4-13.

** Count Summaries include heavy vehicles, but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
11:45 AM	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	1	2	3	0	0	0	0	0	0	1	0	0	1
12:15 PM	0	0	2	2	4	0	0	0	1	1	0	1	0	0	1
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	5	4	9	0	0	0	1	1	0	2	0	0	2

Count Summaries - All Vehicles

Interval Start		Cannon Cir				n/a				Courtesy Rd				Courtesy Rd				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
11:00 AM		0	1	0	3	0	0	0	0	1	1	195	0	0	0	174	0	375	0
11:15 AM		0	0	0	0	0	0	0	0	0	0	161	0	0	0	171	1	333	0
11:30 AM		0	1	0	0	0	0	0	0	0	0	148	0	0	0	155	1	305	0
11:45 AM		0	2	0	0	0	0	0	0	0	0	182	0	0	0	179	3	366	1,379
12:00 PM		0	2	0	0	0	0	0	0	0	0	175	0	0	0	176	1	354	1,358
12:15 PM		0	3	0	1	0	0	0	0	1	0	184	0	0	0	185	5	379	1,404
12:30 PM		0	2	0	1	0	0	0	0	0	0	165	0	0	0	215	4	387	1,486
12:45 PM		0	2	0	1	0	0	0	0	0	0	168	0	0	0	182	2	355	1,475
Count Total		0	13	0	6	0	0	0	0	2	1	1,378	0	0	0	1,437	17	2,854	
Pk Hr	All	0	9	0	2	0	0	0	0	1	0	706	0	0	0	755	13	1,486	
	HV	0	0	0	0	0	0	0	0	0	0	5	0	0	0	4	0	9	
	HV%	-	0%	-	0%	-	-	-	-	0%	-	1%	-	-	-	1%	0%	1%	

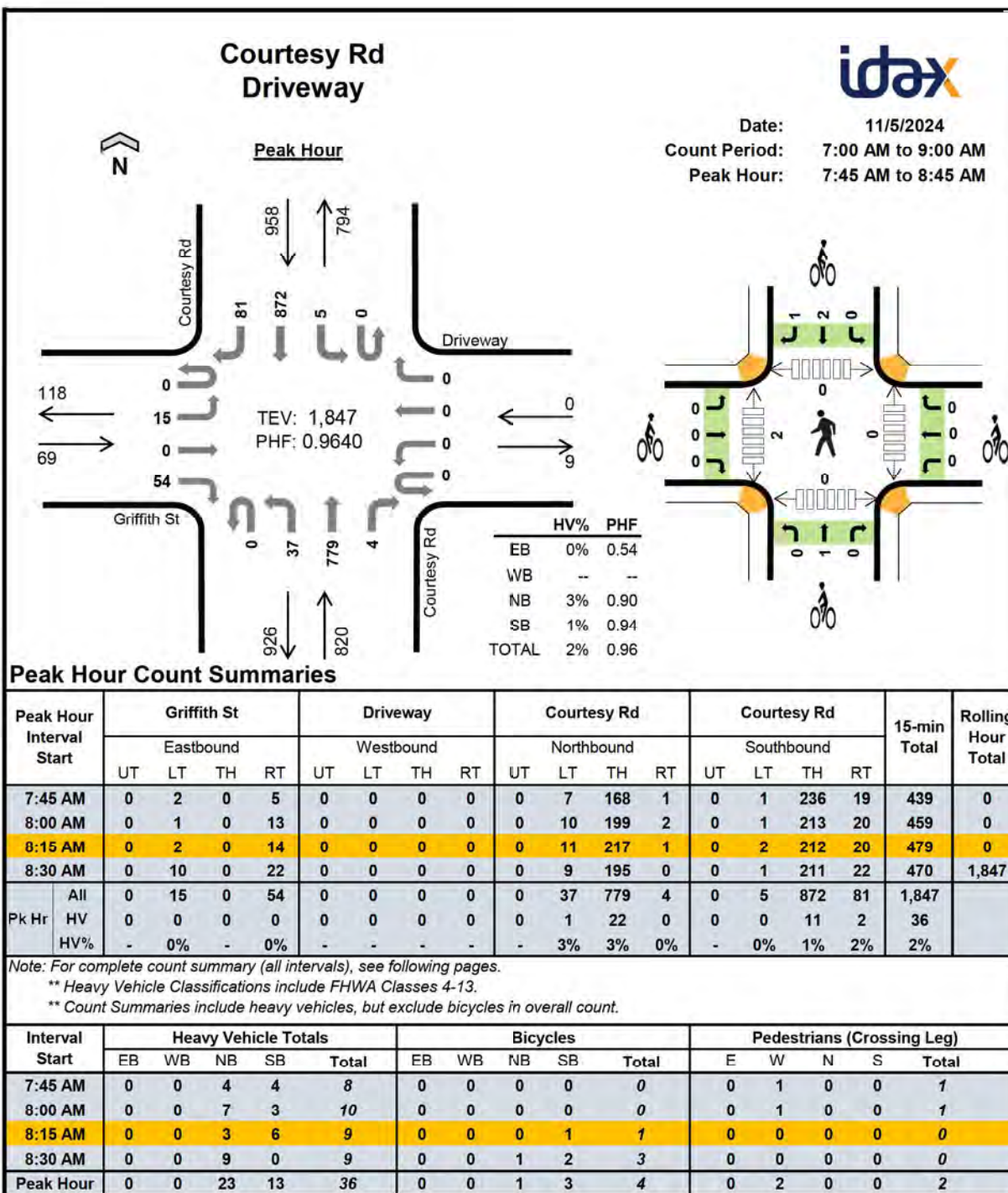
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
11:00 AM	0	0	0	1	1	0	0	0	0	0	0	4	0	0	4
11:15 AM	0	0	1	1	2	0	0	0	0	0	0	1	0	0	1
11:30 AM	0	0	1	1	2	0	0	2	0	2	0	1	0	0	1
11:45 AM	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	1	2	3	0	0	0	0	0	0	1	0	0	1
12:15 PM	0	0	2	2	4	0	0	0	1	1	0	1	0	0	1
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	1	2	3	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	8	9	17	0	0	2	1	3	0	8	0	0	8
Peak Hour	0	0	5	4	9	0	0	0	1	1	0	2	0	0	2

Count Summaries - Heavy Vehicles

Interval Start	Cannon Cir				n/a				Courtesy Rd				Courtesy Rd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	7
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	3	9
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	4	11
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	3	10
Count Total	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	9	17	
Pk Hr Heavy	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	4	9	

Count Summaries - Bikes

Interval Start	Cannon Cir				n/a				Courtesy Rd				Courtesy Rd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Count Total	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	1	
Pk Hr Bike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	

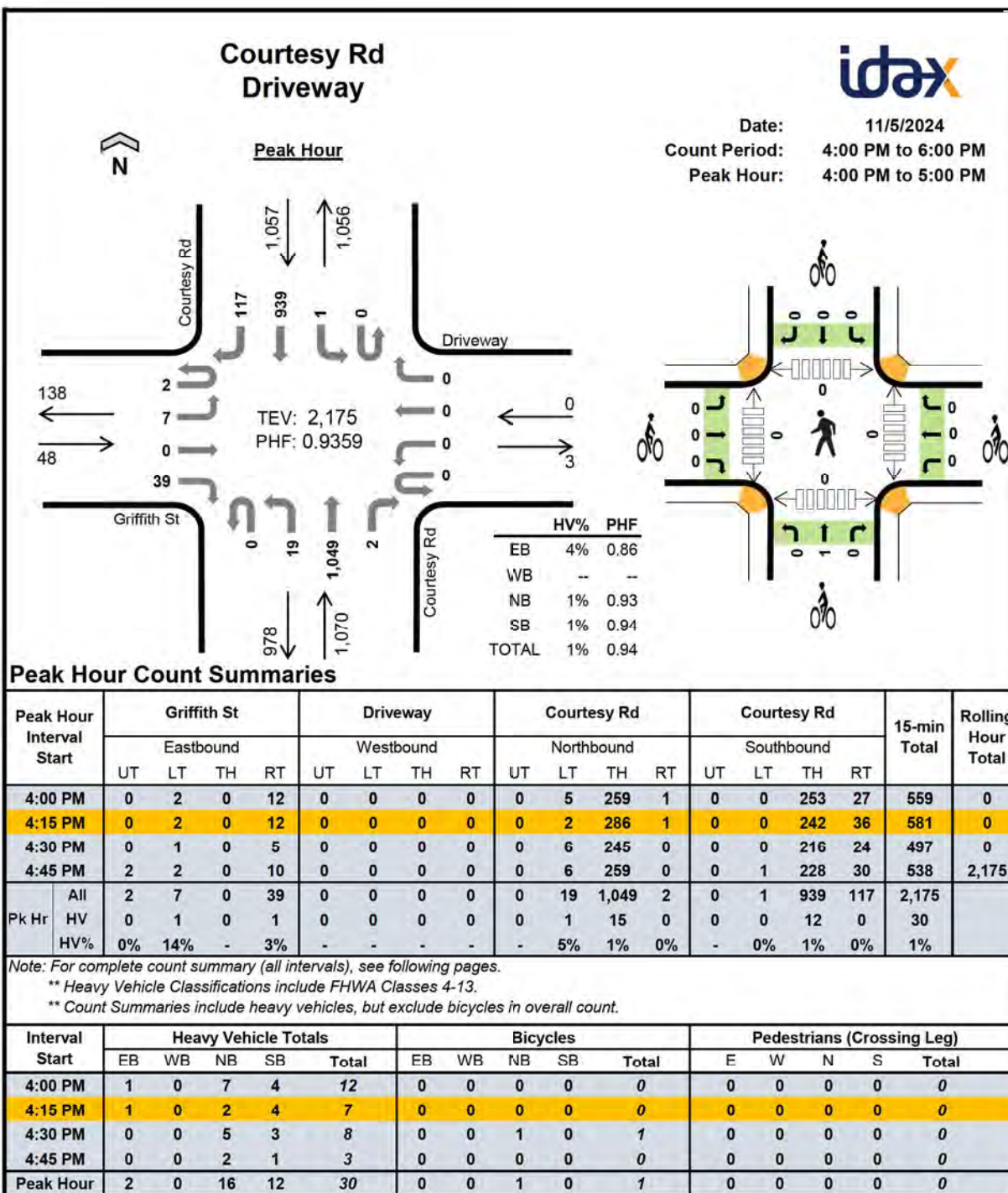


Count Summaries - All Vehicles

Interval Start	Griffith St				Driveway				Courtesy Rd				Courtesy Rd				15-min Total	Rolling Hour Total	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	0	1	0	4	0	1	0	0	0	4	84	0	0	1	127	1	223	0	
7:15 AM	0	0	0	7	0	0	0	0	0	1	104	2	0	0	176	10	300	0	
7:30 AM	0	2	1	5	0	0	1	0	0	4	129	2	0	0	240	15	399	0	
7:45 AM	0	2	0	5	0	0	0	0	0	7	168	1	0	1	236	19	439	1,361	
8:00 AM	0	1	0	13	0	0	0	0	0	10	199	2	0	1	213	20	459	1,597	
8:15 AM	0	2	0	14	0	0	0	0	0	11	217	1	0	2	212	20	479	1,776	
8:30 AM	0	10	0	22	0	0	0	0	0	9	195	0	0	1	211	22	470	1,847	
8:45 AM	0	1	0	7	0	0	0	0	0	3	210	3	0	1	196	16	437	1,845	
Count Total	0	19	1	77	0	1	1	0	0	49	1,306	11	0	7	1,611	123	3,206		
Pk Hr	All	0	15	0	54	0	0	0	0	0	37	779	4	0	5	872	81	1,847	
	HV	0	0	0	0	0	0	0	0	0	1	22	0	0	0	11	2	36	
	HV%	-	0%	-	0%	-	-	-	-	-	3%	3%	0%	-	0%	1%	2%	2%	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:00 AM	0	1	2	2	5	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	3	3	6	0	1	0	0	1	0	0	0	0	0
7:30 AM	0	0	4	3	7	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	4	4	8	0	0	0	0	0	0	1	0	0	1
8:00 AM	0	0	7	3	10	0	0	0	0	0	0	1	0	0	1
8:15 AM	0	0	3	6	9	0	0	0	1	1	0	0	0	0	0
8:30 AM	0	0	9	0	9	0	0	1	2	3	0	0	0	0	0
8:45 AM	0	0	7	5	12	0	0	0	0	0	0	0	0	0	0
Count Total	0	1	39	26	66	0	1	1	3	5	0	2	0	0	2
Peak Hour	0	0	23	13	36	0	0	1	3	4	0	2	0	0	2

Count Summaries - Heavy Vehicles																			
Interval Start	Griffith St				Driveway				Courtesy Rd				Courtesy Rd				15-min Total	Rolling Hour Total	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0	2	0	5	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	0	6	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	3	0	7	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	1	3	0	0	0	3	1	8	26
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	3	0	10	31
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	5	1	9	34
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	9	36
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	6	1	0	0	5	0	12	40
Count Total	0	0	0	0	0	1	0	0	0	0	1	37	1	0	0	24	2	66	
Pk Hr Heavy	0	0	0	0	0	0	0	0	0	0	1	22	0	0	0	11	2	36	
Count Summaries - Bikes																			
Interval Start	Griffith St				Driveway				Courtesy Rd				Courtesy Rd				15-min Total	Rolling Hour Total	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	3	4
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Count Total	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	2	1	5	
Pk Hr Bike	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	1	4	



Count Summaries - All Vehicles

Interval Start	Griffith St				Driveway				Courtesy Rd				Courtesy Rd				15-min Total	Rolling Hour Total	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	0	2	0	12	0	0	0	0	0	5	259	1	0	0	253	27	559	0	
4:15 PM	0	2	0	12	0	0	0	0	0	2	286	1	0	0	242	36	581	0	
4:30 PM	0	1	0	5	0	0	0	0	0	6	245	0	0	0	216	24	497	0	
4:45 PM	2	2	0	10	0	0	0	0	0	6	259	0	0	1	228	30	538	2,175	
5:00 PM	0	2	0	7	0	0	0	0	0	4	250	1	0	0	247	26	537	2,153	
5:15 PM	0	1	0	4	0	0	0	1	0	5	259	0	0	0	217	15	502	2,074	
5:30 PM	0	4	1	3	0	0	0	0	0	6	260	0	0	0	219	15	508	2,085	
5:45 PM	0	3	0	6	0	0	0	0	0	5	193	0	0	0	197	24	428	1,975	
Count Total	2	17	1	59	0	0	0	1	0	39	2,011	3	0	1	1,819	197	4,150		
Pk Hr	All	2	7	0	39	0	0	0	0	0	19	1,049	2	0	1	939	117	2,175	
	HV	0	1	0	1	0	0	0	0	0	1	15	0	0	0	12	0	30	
	HV%	0%	14%	-	3%	-	-	-	-	-	5%	1%	0%	-	0%	1%	0%	1%	

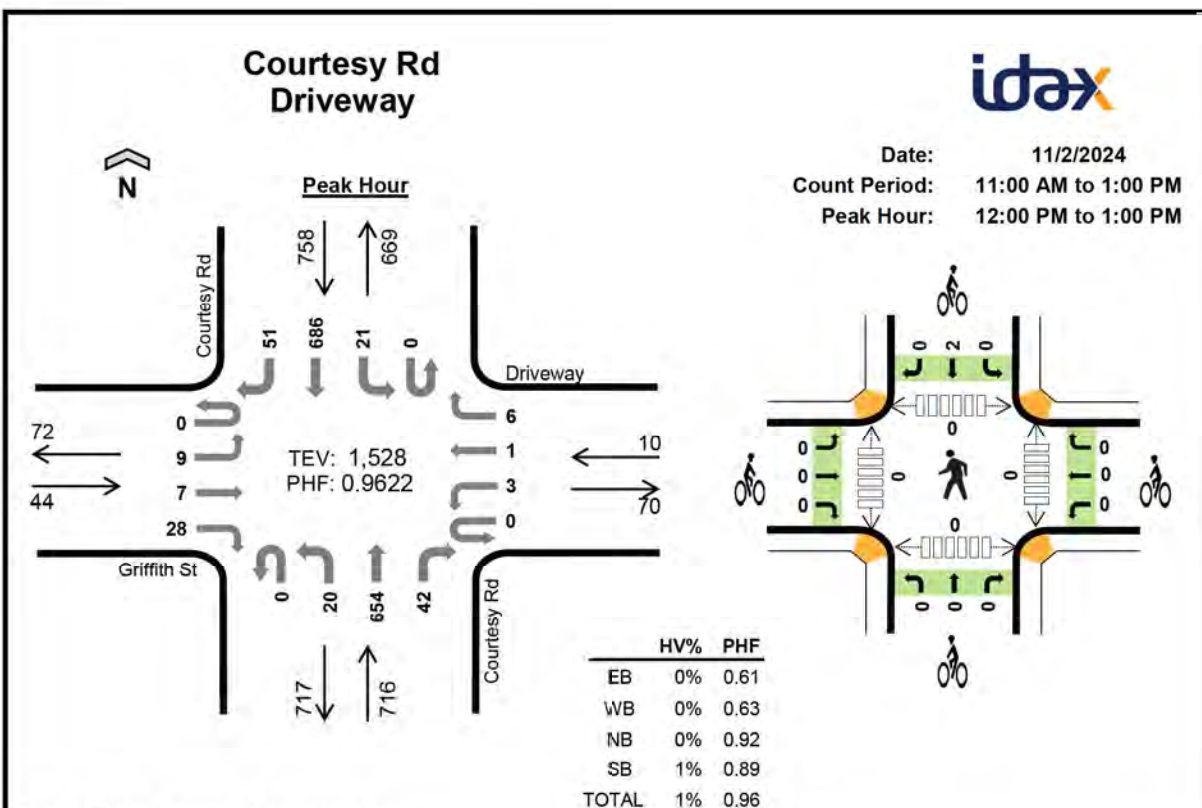
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:00 PM	1	0	7	4	12	0	0	0	0	0	0	0	0	0	0
4:15 PM	1	0	2	4	7	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	5	3	8	0	0	1	0	1	0	0	0	0	0
4:45 PM	0	0	2	1	3	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	2	0	0	1	3	0	0	0	0	0
5:15 PM	0	0	0	4	4	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	2	4	6	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	4	4	0	0	0	0	0	0	0	0	0	0
Count Total	2	0	18	24	44	2	0	1	1	4	0	0	0	0	0
Peak Hour	2	0	16	12	30	0	0	1	0	1	0	0	0	0	0

Count Summaries - Heavy Vehicles

Interval Start	Griffith St				Driveway				Courtesy Rd				Courtesy Rd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	1	0	0	0	0	0	0	0	1	6	0	0	0	4	0	12	0
4:15 PM	0	0	0	1	0	0	0	0	0	0	2	0	0	0	4	0	7	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	5	0	0	0	3	0	8	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	3	30
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	15
5:30 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	4	0	6	13
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	14
Count Total	0	1	0	1	0	0	0	0	0	1	17	0	0	0	24	0	44	
Pk Hr Heavy	0	1	0	1	0	0	0	0	0	1	15	0	0	0	12	0	30	

Count Summaries - Bikes

Interval Start	Griffith St				Driveway				Courtesy Rd				Courtesy Rd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	0	3	4
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Count Total	0	1	0	1	0	0	0	0	0	0	1	0	0	1	0	0	4	
Pk Hr Bike	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	



Peak Hour Count Summaries

Peak Hour Interval Start	Griffith St				Driveway				Courtesy Rd				Courtesy Rd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
12:00 PM	0	5	1	11	0	0	1	3	0	7	167	13	0	4	168	11	391	0
12:15 PM	0	0	1	3	0	0	0	0	0	3	160	10	0	0	177	8	362	0
12:30 PM	0	2	4	12	0	1	0	2	0	6	147	9	0	12	191	11	397	0
12:45 PM	0	2	1	2	0	2	0	1	0	4	180	10	0	5	150	21	378	1,528
Pk Hr	All	0	9	7	28	0	3	1	6	0	20	654	42	0	21	686	51	1,528
	HV	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	2	8
	HV%	-	0%	0%	0%	-	0%	0%	0%	-	0%	0%	0%	-	0%	0%	4%	1%

Note: For complete count summary (all intervals), see following pages.

** Heavy Vehicle Classifications include FHWA Classes 4-13.

** Count Summaries include heavy vehicles, but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
12:00 PM	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	1	2	3	0	0	0	1	1	0	0	0	0	0
12:30 PM	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	1	1	2	0	0	0	1	1	0	0	0	0	0
Peak Hour	0	0	3	5	8	0	0	0	2	2	0	0	0	0	0

Count Summaries - All Vehicles

Interval Start	Griffith St				Driveway				Courtesy Rd				Courtesy Rd				15-min Total	Rolling Hour Total	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
11:00 AM	0	6	3	3	0	1	0	2	0	3	187	3	0	6	182	8	404	0	
11:15 AM	0	0	3	11	0	0	1	2	0	9	153	8	0	7	145	8	347	0	
11:30 AM	0	0	3	4	0	0	0	3	0	5	154	9	0	4	148	8	338	0	
11:45 AM	0	5	2	3	0	2	0	0	0	6	161	11	0	3	160	11	364	1,453	
12:00 PM	0	5	1	11	0	0	1	3	0	7	167	13	0	4	168	11	391	1,440	
12:15 PM	0	0	1	3	0	0	0	0	0	3	160	10	0	0	177	8	362	1,455	
12:30 PM	0	2	4	12	0	1	0	2	0	6	147	9	0	12	191	11	397	1,514	
12:45 PM	0	2	1	2	0	2	0	1	0	4	180	10	0	5	150	21	378	1,528	
Count Total		0	20	18	49	0	6	2	13	0	43	1,309	73	0	41	1,321	86	2,981	
Pk Hr	All	0	9	7	28	0	3	1	6	0	20	654	42	0	21	686	51	1,528	
	HV	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	2	8	
	HV%	-	0%	0%	0%	-	0%	0%	0%	-	0%	0%	0%	-	0%	0%	4%	1%	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
11:00 AM	0	0	2	1	3	2	0	0	0	2	0	0	0	0	0
11:15 AM	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0
11:45 AM	0	0	4	1	5	0	0	0	0	0	0	1	0	0	1
12:00 PM	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	1	2	3	0	0	0	1	1	0	0	0	0	0
12:30 PM	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	1	1	2	0	0	0	1	1	0	0	0	0	0
Count Total	0	0	11	8	19	2	0	1	2	5	0	1	0	0	1
Peak Hour	0	0	3	5	8	0	0	0	2	2	0	0	0	0	0

Count Summaries - Heavy Vehicles

Interval Start	Griffith St				Driveway				Courtesy Rd				Courtesy Rd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
11:00 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	3	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	4	0	0	0	1	0	5	11
12:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2	10
12:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	3	11
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	11
12:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	8
Count Total	0	0	0	0	0	0	0	0	0	0	11	0	0	0	6	2	19	
Pk Hr Heavy	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	2	8	

Count Summaries - Bikes

Interval Start	Griffith St				Driveway				Courtesy Rd				Courtesy Rd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
11:00 AM	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2
Count Total	1	0	1	0	0	0	0	0	0	0	0	1	0	0	0	2	0	5
Pk Hr Bike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	

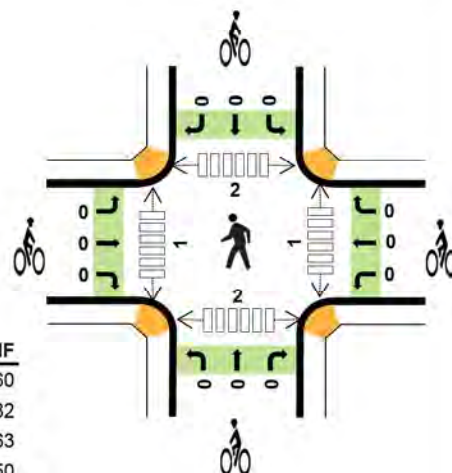
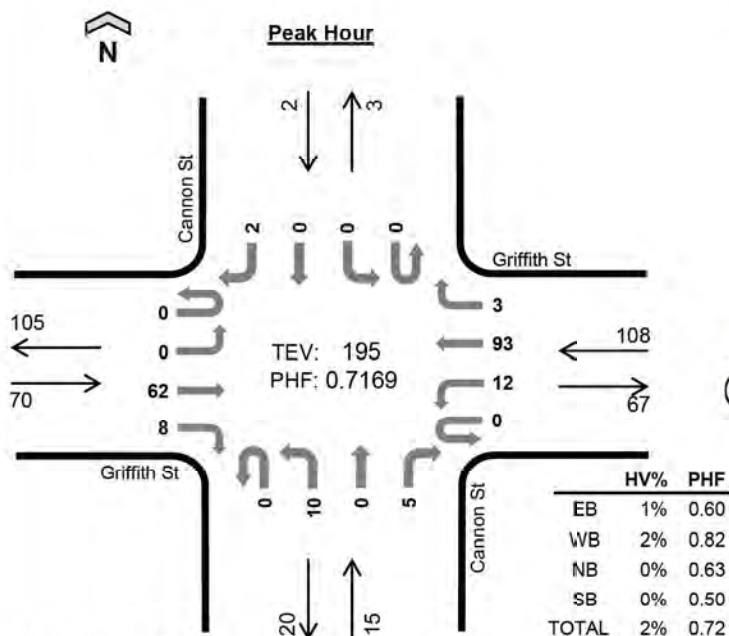
Cannon St Griffith St



Date: 11/5/2024

Count Period: 7:00 AM to 9:00 AM

Peak Hour: 8:00 AM to 9:00 AM



Peak Hour Count Summaries

Peak Hour Interval Start	Griffith St				Griffith St				Cannon St				Cannon St				15-min Total	Rolling Hour Total	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
8:00 AM	0	0	16	1	0	2	22	0	0	3	0	0	0	0	0	0	44	0	
8:15 AM	0	0	13	2	0	5	22	1	0	4	0	0	0	0	0	1	48	0	
8:30 AM	0	0	27	2	0	3	29	1	0	2	0	4	0	0	0	0	68	0	
8:45 AM	0	0	6	3	0	2	20	1	0	1	0	1	0	0	0	1	35	195	
Pk Hr	All	0	0	62	8	0	12	93	3	0	10	0	5	0	0	0	2	195	
	HV	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	3	
	HV%	-	-	0%	13%	-	0%	2%	0%	-	0%	-	0%	-	-	-	0%	2%	

Note: For complete count summary (all intervals), see following pages.

** Heavy Vehicle Classifications include FHWA Classes 4-13.

** Count Summaries include heavy vehicles, but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
8:00 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	2	2
8:15 AM	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1
8:30 AM	0	1	0	0	1	0	0	0	0	0	1	0	2	0	3
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	1	2	0	0	3	0	0	0	0	0	1	1	2	2	6

Count Summaries - All Vehicles

Interval Start	Griffith St				Griffith St				Cannon St				Cannon St				15-min Total	Rolling Hour Total	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	0	0	5	1	0	0	7	0	0	1	0	1	0	0	0	0	15	0	
7:15 AM	0	0	7	1	1	0	10	1	0	4	0	1	0	0	0	1	26	0	
7:30 AM	0	0	7	2	0	1	16	0	0	0	0	1	0	0	0	0	27	0	
7:45 AM	0	0	5	2	0	2	17	0	0	1	0	1	0	0	0	0	28	96	
8:00 AM	0	0	16	1	0	2	22	0	0	3	0	0	0	0	0	0	44	125	
8:15 AM	0	0	13	2	0	5	22	1	0	4	0	0	0	0	0	1	48	147	
8:30 AM	0	0	27	2	0	3	29	1	0	2	0	4	0	0	0	0	68	188	
8:45 AM	0	0	6	3	0	2	20	1	0	1	0	1	0	0	0	1	35	195	
Count Total		0	0	86	14	1	15	143	4	0	16	0	9	0	0	0	3	291	
Pk Hr	All	0	0	62	8	0	12	93	3	0	10	0	5	0	0	0	2	195	
	HV	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	3	
	HV%	-	-	0%	13%	-	0%	2%	0%	-	0%	-	0%	-	-	-	0%	2%	

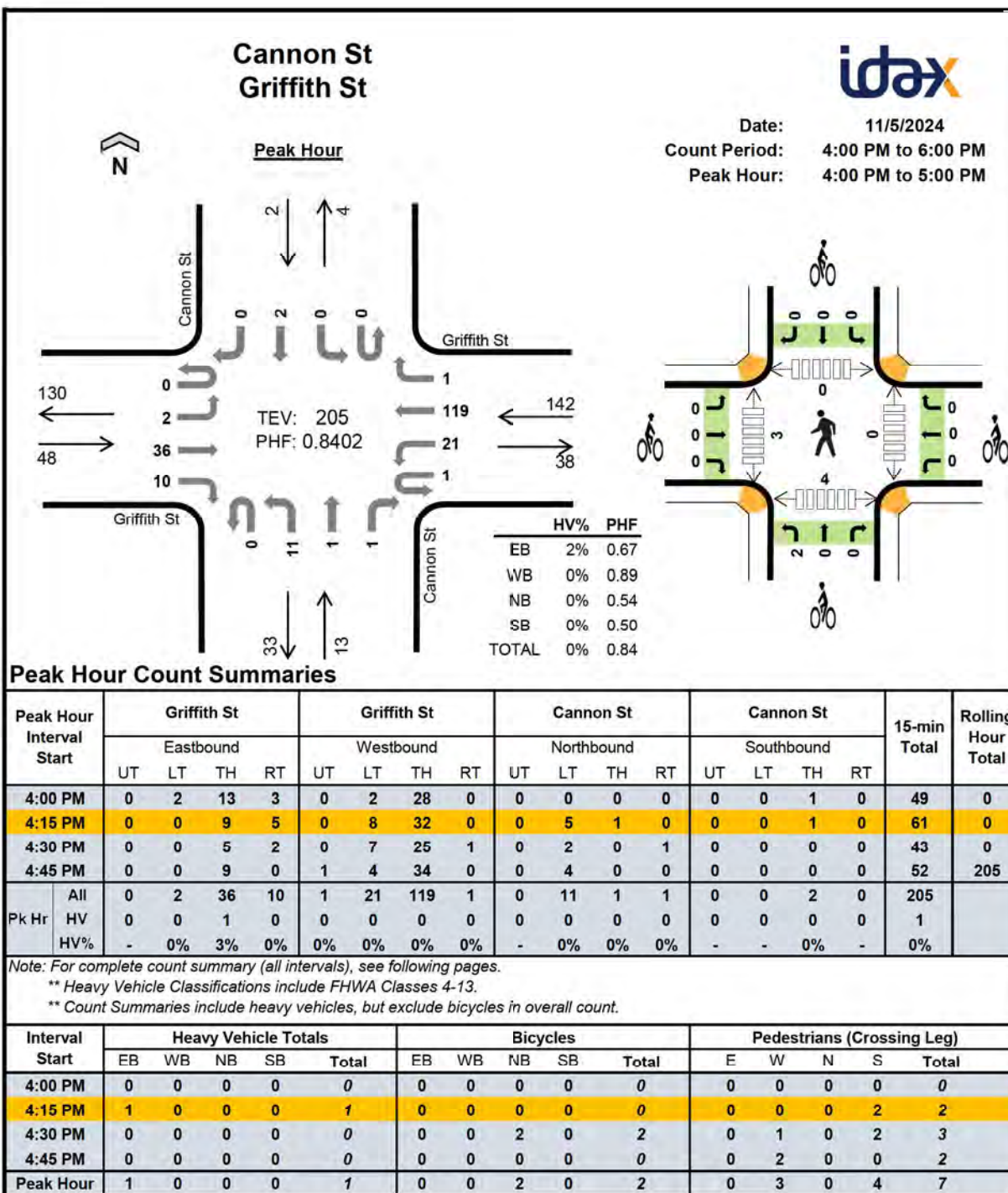
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0
7:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	2	0	2
8:00 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	2	2
8:15 AM	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1
8:30 AM	0	1	0	0	1	0	0	0	0	0	1	0	2	0	3
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	1	3	0	0	4	0	1	0	0	1	2	1	4	3	10
Peak Hour	1	2	0	0	3	0	0	0	0	0	1	1	2	2	6

Count Summaries - Heavy Vehicles

Interval Start	Griffith St				Griffith St				Cannon St				Cannon St				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1
8:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	2
8:15 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	3
8:30 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	4
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Count Total	0	0	0	1	0	0	3	0	0	0	0	0	0	0	0	0	4	
Pk Hr Heavy	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	3	

Count Summaries - Bikes

Interval Start	Griffith St				Griffith St				Cannon St				Cannon St				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	
Pk Hr Bike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	



Count Summaries - All Vehicles

Interval Start		Griffith St				Griffith St				Cannon St				Cannon St				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	2	13	3	0	2	28	0	0	0	0	0	0	1	0	49	0	
4:15 PM		0	0	9	5	0	8	32	0	0	5	1	0	0	0	1	61	0	
4:30 PM		0	0	5	2	0	7	25	1	0	2	0	1	0	0	0	43	0	
4:45 PM		0	0	9	0	1	4	34	0	0	4	0	0	0	0	0	52	205	
5:00 PM		0	0	5	2	0	3	26	0	0	3	0	0	0	1	0	41	197	
5:15 PM		0	0	4	1	0	3	20	0	0	4	0	2	0	0	0	34	170	
5:30 PM		0	0	5	3	0	3	17	0	0	5	1	1	0	1	0	36	163	
5:45 PM		1	0	4	0	0	3	22	0	0	5	1	1	0	1	0	39	150	
Count Total		1	2	54	16	1	33	204	1	0	28	3	5	0	3	2	355		
Pk Hr	All	0	2	36	10	1	21	119	1	0	11	1	1	0	0	2	0	205	
	HV	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
	HV%	-	0%	3%	0%	0%	0%	0%	0%	-	0%	0%	0%	-	-	0%	-	0%	

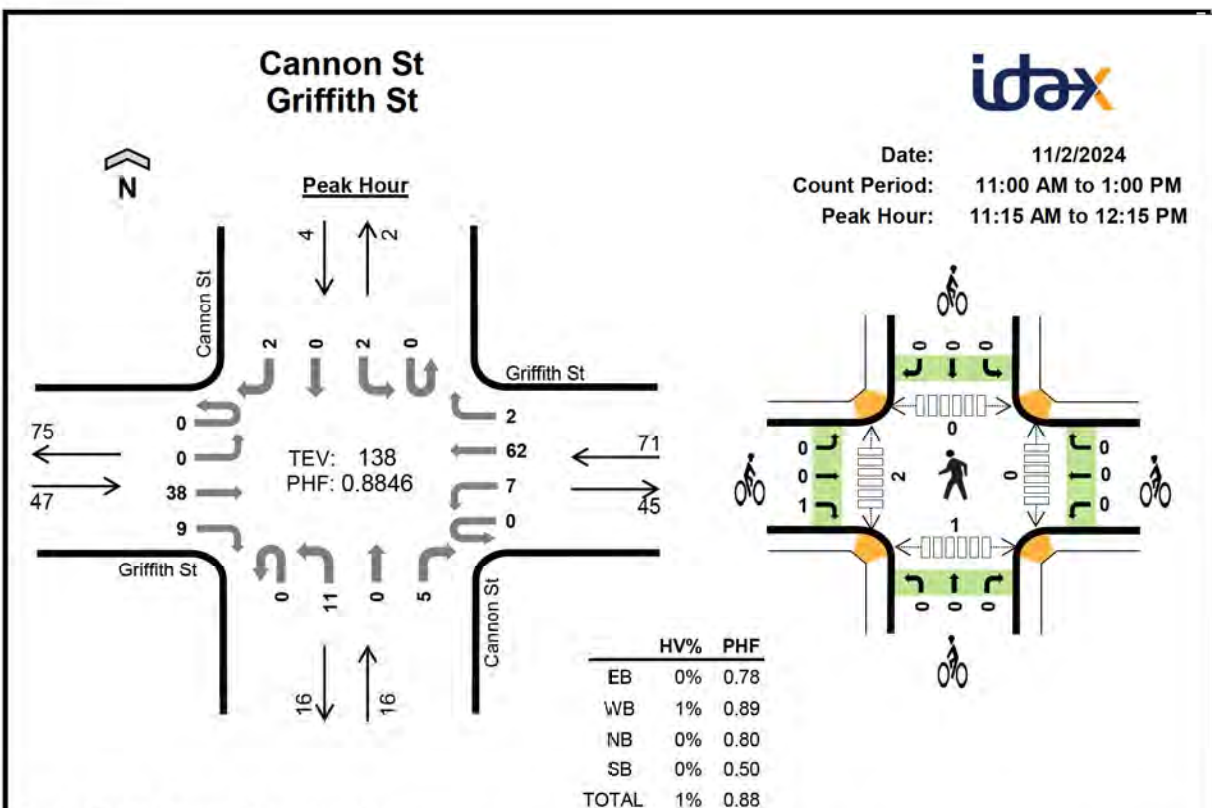
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	2	2
4:30 PM	0	0	0	0	0	0	0	2	0	2	0	1	0	2	3
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
5:00 PM	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Count Total	1	0	0	0	1	2	0	2	0	4	0	3	0	5	8
Peak Hour	1	0	0	0	1	0	0	2	0	2	0	3	0	4	7

Count Summaries - Heavy Vehicles

Interval Start	Griffith St				Griffith St				Cannon St				Cannon St				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
Pk Hr Heavy	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	

Count Summaries - Bikes

Interval Start	Griffith St				Griffith St				Cannon St				Cannon St				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:00 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	4
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Count Total	0	0	2	0	0	0	0	0	0	2	0	0	0	0	0	0	4	
Pk Hr Bike	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	



Peak Hour Count Summaries

Peak Hour Interval Start		Griffith St				Griffith St				Cannon St				Cannon St				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
11:15 AM		0	0	13	2	0	1	15	1	0	5	0	0	0	1	0	1	39	0
11:30 AM		0	0	6	2	0	3	12	1	0	3	0	0	0	0	0	0	27	0
11:45 AM		0	0	8	2	0	3	15	0	0	1	0	3	0	0	0	1	33	0
12:00 PM		0	0	11	3	0	0	20	0	0	2	0	2	0	1	0	0	39	138
Pk Hr	All	0	0	38	9	0	7	62	2	0	11	0	5	0	2	0	2	138	
	HV	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	
	HV%	-	-	0%	0%	-	0%	2%	0%	-	0%	-	0%	-	0%	-	0%	1%	

Note: For complete count summary (all intervals), see following pages.

** Heavy Vehicle Classifications include FHWA Classes 4-13.

** Count Summaries include heavy vehicles, but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
12:00 PM	0	1	0	0	1	1	0	0	0	1	0	0	0	0	0
Peak Hour	0	1	0	0	1	1	0	0	0	1	0	2	0	1	3

Count Summaries - All Vehicles

Interval Start		Griffith St				Griffith St				Cannon St				Cannon St				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
11:00 AM		0	0	10	3	0	1	9	1	0	0	0	2	0	0	1	0	27	0
11:15 AM		0	0	13	2	0	1	15	1	0	5	0	0	0	1	0	1	39	0
11:30 AM		0	0	6	2	0	3	12	1	0	3	0	0	0	0	0	0	27	0
11:45 AM		0	0	8	2	0	3	15	0	0	1	0	3	0	0	0	1	33	126
12:00 PM		0	0	11	3	0	0	20	0	0	2	0	2	0	1	0	0	39	138
12:15 PM		0	0	6	1	0	3	10	0	0	0	0	1	0	0	0	0	21	120
12:30 PM		0	0	15	3	0	2	14	1	0	2	0	1	0	0	0	0	38	131
12:45 PM		0	0	6	2	0	6	19	0	0	1	0	1	0	0	0	2	37	135
Count Total		0	0	75	18	0	19	114	4	0	14	0	10	0	2	1	4	261	
Pk Hr	All	0	0	38	9	0	7	62	2	0	11	0	5	0	2	0	2	138	
	HV	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	
	HV%	-	-	0%	0%	-	0%	2%	0%	-	0%	-	0%	-	0%	-	0%	1%	

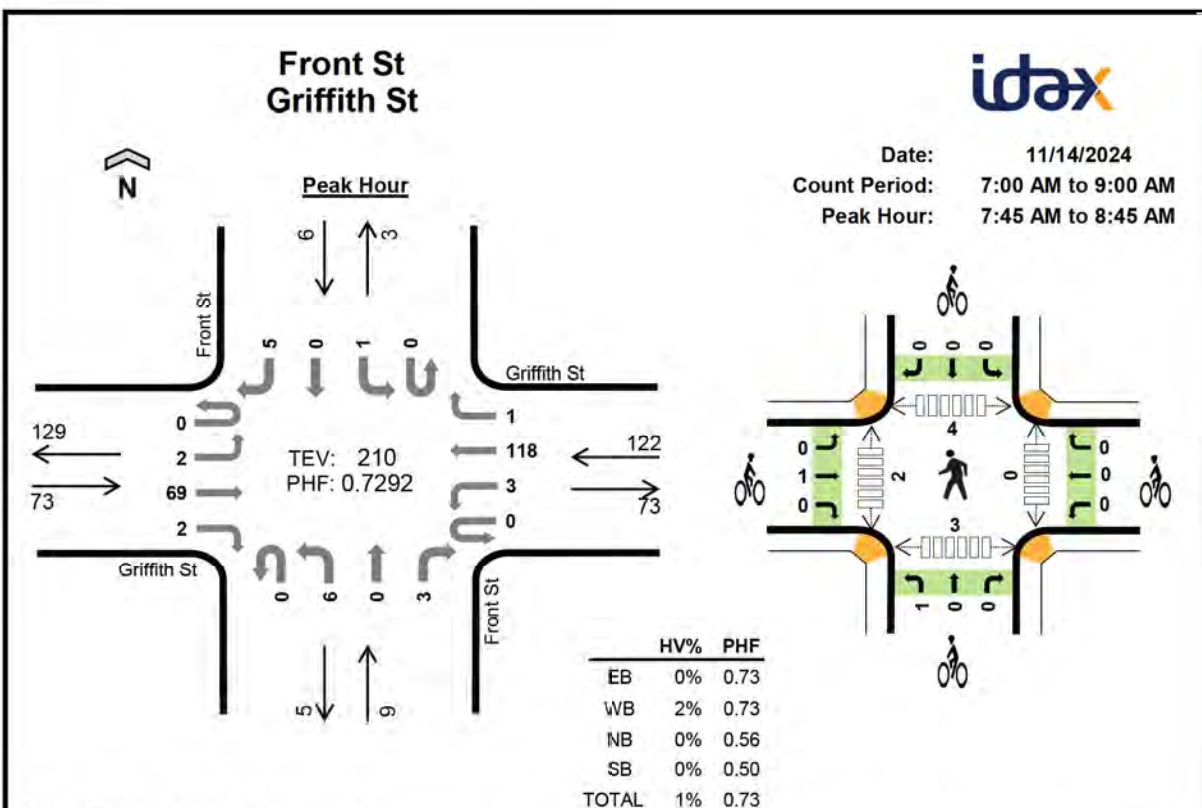
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
11:00 AM	0	0	0	0	0	0	0	1	0	1	0	2	1	0	3
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
12:00 PM	0	1	0	0	1	1	0	0	0	1	0	0	0	0	0
12:15 PM	0	1	0	0	1	0	0	0	0	0	0	1	1	0	2
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
12:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0
Count Total	0	2	0	0	2	1	1	1	0	3	0	5	3	1	9
Peak Hour	0	1	0	0	1	1	0	0	0	1	0	2	0	1	3

Count Summaries - Heavy Vehicles

Interval Start	Griffith St				Griffith St				Cannon St				Cannon St				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1
12:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	2
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Count Total	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	
Pk Hr Heavy	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	

Count Summaries - Bikes

Interval Start	Griffith St				Griffith St				Cannon St				Cannon St				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:00 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	2
Count Total	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0	3	
Pk Hr Bike	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	

**Peak Hour Count Summaries**

Peak Hour Interval Start		Griffith St				Griffith St				Front St				Front St				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:45 AM		0	1	15	0	0	1	25	0	0	3	0	1	0	0	0	0	46	0
8:00 AM		0	0	15	0	0	1	20	0	0	1	0	1	0	0	0	3	41	0
8:15 AM		0	0	16	1	0	0	32	1	0	0	0	1	0	0	0	0	51	0
8:30 AM		0	1	23	1	0	1	41	0	0	2	0	0	0	1	0	2	72	210
Pk Hr	All	0	2	69	2	0	3	118	1	0	6	0	3	0	1	0	5	210	
	HV	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2	
	HV%	-	0%	0%	0%	-	33%	1%	0%	-	0%	-	0%	-	0%	-	0%	1%	

Note: For complete count summary (all intervals), see following pages.

** Heavy Vehicle Classifications include FHWA Classes 4-13.

** Count Summaries include heavy vehicles, but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:45 AM	0	0	0	0	0	0	0	1	0	1	0	1	1	0	2
8:00 AM	0	1	0	0	1	0	0	0	0	0	0	0	1	2	3
8:15 AM	0	0	0	0	0	1	0	0	0	1	0	0	1	0	1
8:30 AM	0	1	0	0	1	0	0	0	0	0	0	1	1	1	3
Peak Hour	0	2	0	0	2	1	0	1	0	2	0	2	4	3	9

Count Summaries - All Vehicles

Interval Start	Griffith St				Griffith St				Front St				Front St				15-min Total	Rolling Hour Total	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	0	0	7	0	0	0	4	0	0	0	4	0	0	0	0	0	0	15	0
7:15 AM	0	0	6	0	0	0	5	0	0	0	3	0	1	0	0	0	0	15	0
7:30 AM	0	0	7	0	0	0	15	0	0	0	5	0	0	0	0	0	1	28	0
7:45 AM	0	1	15	0	0	1	25	0	0	0	3	0	1	0	0	0	0	46	104
8:00 AM	0	0	15	0	0	1	20	0	0	0	1	0	1	0	0	0	3	41	130
8:15 AM	0	0	16	1	0	0	32	1	0	0	0	0	1	0	0	0	0	51	166
8:30 AM	0	1	23	1	0	1	41	0	0	0	2	0	0	0	1	0	2	72	210
8:45 AM	0	0	9	0	0	0	15	0	0	0	5	0	0	0	0	0	0	29	193
Count Total	0	2	98	2	0	3	157	1	0	0	23	0	4	0	1	0	6	297	
Pk Hr	All	0	2	69	2	0	3	118	1	0	6	0	3	0	1	0	5	210	
	HV	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2	
	HV%	-	0%	0%	0%	-	33%	1%	0%	-	0%	-	0%	-	0%	-	0%	1%	

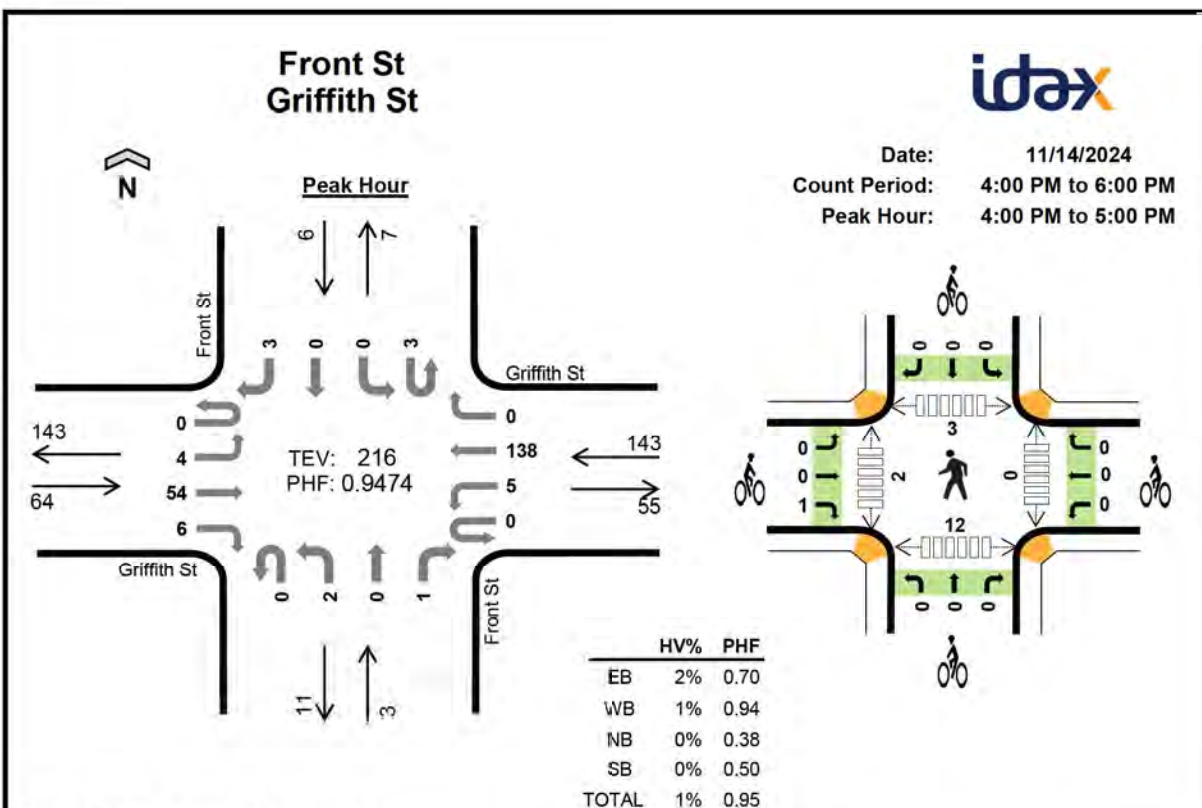
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2
7:15 AM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
7:45 AM	0	0	0	0	0	0	0	1	0	1	0	1	1	0	2
8:00 AM	0	1	0	0	1	0	0	0	0	0	0	0	1	2	3
8:15 AM	0	0	0	0	0	1	0	0	0	1	0	0	1	0	1
8:30 AM	0	1	0	0	1	0	0	0	0	0	0	1	1	1	3
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
Count Total	0	3	0	0	3	1	0	1	0	2	0	4	4	7	15
Peak Hour	0	2	0	0	2	1	0	1	0	2	0	2	4	3	9

Count Summaries - Heavy Vehicles

Interval Start	Griffith St				Griffith St				Front St				Front St				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	2
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	2
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Count Total	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	3	
Pk Hr Heavy	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2	

Count Summaries - Bikes

Interval Start	Griffith St				Griffith St				Front St				Front St				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Count Total	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	2	
Pk Hr Bike	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	2	



Peak Hour Count Summaries

Peak Hour Interval Start		Griffith St				Griffith St				Front St				Front St				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	2	18	3	0	1	32	0	0	1	0	0	0	0	0	0	57	0
4:15 PM		0	1	14	1	0	3	34	0	0	0	0	0	1	0	0	1	55	0
4:30 PM		0	1	7	1	0	1	37	0	0	1	0	1	2	0	0	1	52	0
4:45 PM		0	0	15	1	0	0	35	0	0	0	0	0	0	0	0	1	52	216
Pk Hr	All	0	4	54	6	0	5	138	0	0	2	0	1	3	0	0	3	216	
	HV	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2	
	HV%	-	0%	2%	0%	-	0%	1%	-	-	0%	-	0%	0%	-	-	0%	1%	

Note: For complete count summary (all intervals), see following pages.

** Heavy Vehicle Classifications include FHWA Classes 4-13.

** Count Summaries include heavy vehicles, but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:00 PM	1	0	0	0	1	1	0	0	0	1	0	0	0	3	3
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	2	1	4	7
4:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	5	7
Peak Hour	1	1	0	0	2	1	0	0	0	1	0	2	3	12	17

Count Summaries - All Vehicles

Interval Start		Griffith St				Griffith St				Front St				Front St				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	2	18	3	0	1	32	0	0	1	0	0	0	0	0	0	57	0
4:15 PM		0	1	14	1	0	3	34	0	0	0	0	0	1	0	0	1	55	0
4:30 PM		0	1	7	1	0	1	37	0	0	1	0	1	2	0	0	1	52	0
4:45 PM		0	0	15	1	0	0	35	0	0	0	0	0	0	0	0	1	52	216
5:00 PM		0	0	13	2	0	0	31	1	0	1	0	0	0	2	0	0	50	209
5:15 PM		0	1	6	4	0	1	30	2	0	2	0	1	0	0	0	2	49	203
5:30 PM		0	0	12	1	0	1	34	1	0	2	0	0	0	0	0	5	56	207
5:45 PM		0	1	7	2	0	0	30	0	0	2	0	0	0	0	0	1	43	198
Count Total		0	6	92	15	0	7	263	4	0	9	0	2	3	2	0	11	414	
Pk Hr	All	0	4	54	6	0	5	138	0	0	2	0	1	3	0	0	3	216	
	HV	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2	
	HV%	-	0%	2%	0%	-	0%	1%	-	-	0%	-	0%	0%	-	-	0%	1%	

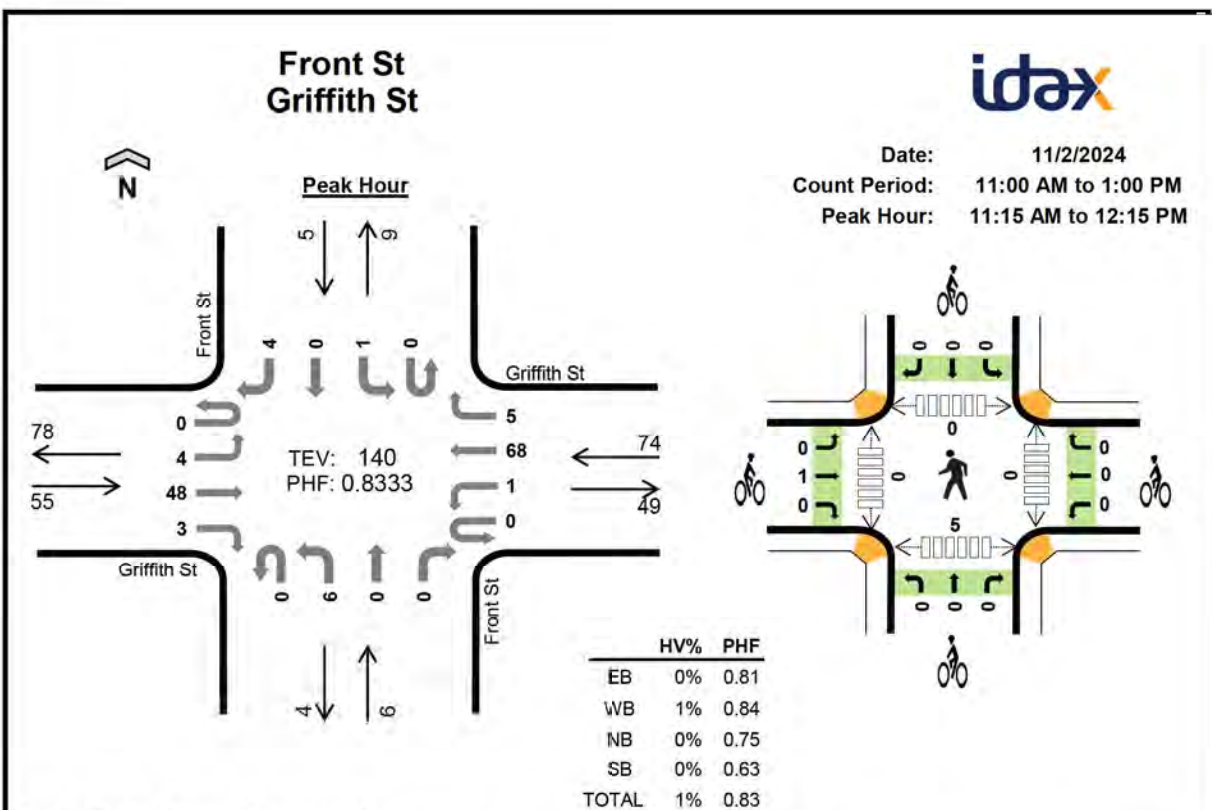
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:00 PM	1	0	0	0	1	1	0	0	0	1	0	0	0	3	3
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	2	1	4	7
4:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	5	7
5:00 PM	1	0	0	0	1	0	0	0	0	0	0	0	2	0	2
5:15 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
5:30 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2
Count Total	3	1	0	0	4	1	0	1	0	2	0	3	5	13	21
Peak Hour	1	1	0	0	2	1	0	0	0	1	0	2	3	12	17

Count Summaries - Heavy Vehicles

Interval Start	Griffith St				Griffith St				Front St				Front St				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Count Total	0	0	3	0	0	0	1	0	0	0	0	0	0	0	0	0	4	
Pk Hr Heavy	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2	

Count Summaries - Bikes

Interval Start	Griffith St				Griffith St				Front St				Front St				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Count Total	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	2	
Pk Hr Bike	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	

**Peak Hour Count Summaries**

Peak Hour Interval Start	Griffith St				Griffith St				Front St				Front St				15-min Total	Rolling Hour Total	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
11:15 AM	0	0	13	0	0	0	18	2	0	0	0	0	0	1	0	0	34	0	
11:30 AM	0	2	9	2	0	1	13	2	0	2	0	0	0	0	0	2	33	0	
11:45 AM	0	2	10	0	0	0	16	0	0	2	0	0	0	0	0	1	31	0	
12:00 PM	0	0	16	1	0	0	21	1	0	2	0	0	0	0	0	1	42	140	
Pk Hr	All	0	4	48	3	0	1	68	5	0	6	0	0	0	1	0	4	140	
	HV	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	
	HV%	-	0%	0%	0%	-	0%	1%	0%	-	0%	-	-	-	0%	-	0%	1%	

Note: For complete count summary (all intervals), see following pages.

** Heavy Vehicle Classifications include FHWA Classes 4-13.

** Count Summaries include heavy vehicles, but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	1	0	0	1	1	0	0	0	1	0	0	0	2	2
Peak Hour	0	1	0	0	1	1	0	0	0	1	0	0	0	5	5

Count Summaries - All Vehicles

Interval Start		Griffith St				Griffith St				Front St				Front St				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
11:00 AM		0	1	11	1	1	0	8	0	0	2	0	0	0	2	0	0	26	0
11:15 AM		0	0	13	0	0	0	18	2	0	0	0	0	0	1	0	0	34	0
11:30 AM		0	2	9	2	0	1	13	2	0	2	0	0	0	0	0	2	33	0
11:45 AM		0	2	10	0	0	0	16	0	0	2	0	0	0	0	0	1	31	124
12:00 PM		0	0	16	1	0	0	21	1	0	2	0	0	0	0	0	1	42	140
12:15 PM		0	2	6	0	0	0	10	0	0	2	0	0	0	0	0	0	20	126
12:30 PM		0	1	18	1	0	1	14	1	0	0	0	1	0	1	0	0	38	131
12:45 PM		0	0	7	0	0	1	20	1	0	3	0	0	0	0	0	0	32	132
Count Total		0	8	90	5	1	3	120	7	0	13	0	1	0	4	0	4	256	
Pk Hr	All	0	4	48	3	0	1	68	5	0	6	0	0	0	1	0	4	140	
	HV	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	
	HV%	-	0%	0%	0%	-	0%	1%	0%	-	0%	-	-	-	0%	-	0%	1%	

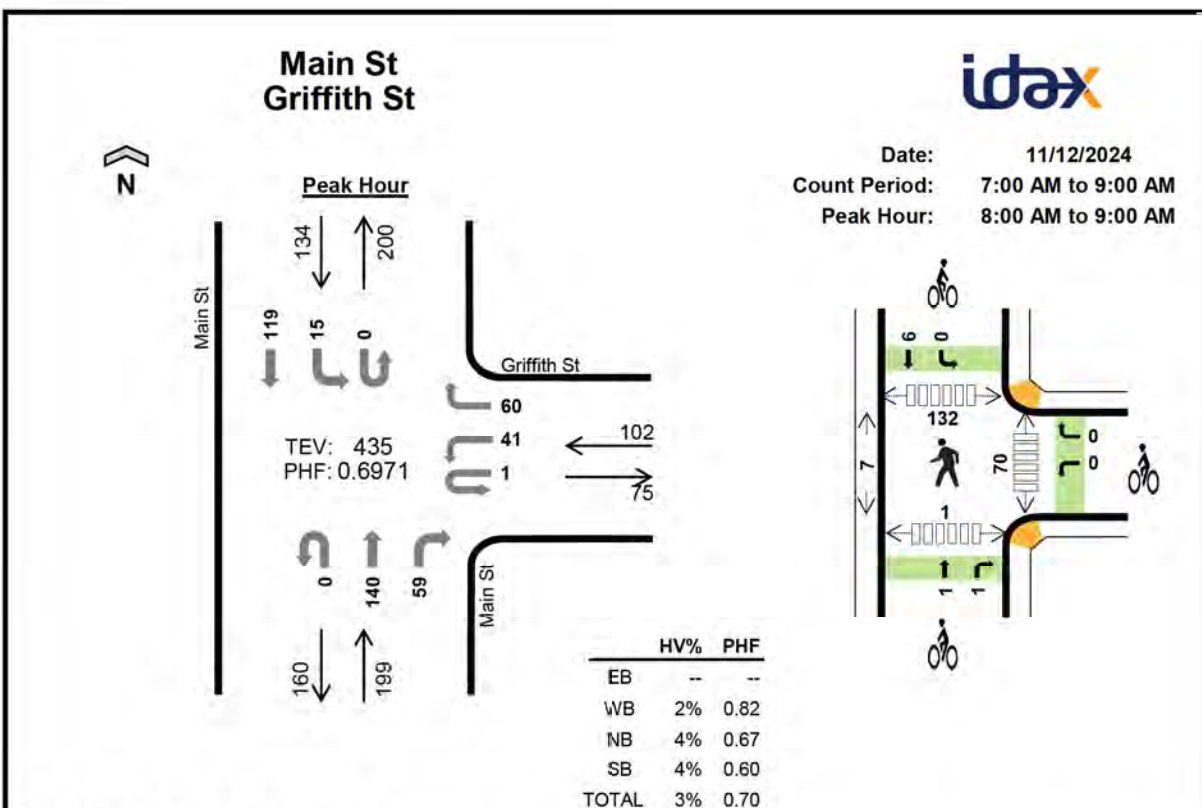
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	1	0	0	1	1	0	0	0	1	0	0	0	2	2
12:15 PM	0	1	0	0	1	0	0	0	1	1	0	0	0	3	3
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3
12:45 PM	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0
Count Total	1	2	0	0	3	2	0	0	1	3	0	0	1	11	12
Peak Hour	0	1	0	0	1	1	0	0	0	1	0	0	0	5	5

Count Summaries - Heavy Vehicles

Interval Start	Griffith St				Griffith St				Front St				Front St				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1
12:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	2
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
12:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3
Count Total	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	3	
Pk Hr Heavy	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	

Count Summaries - Bikes

Interval Start	Griffith St				Griffith St				Front St				Front St				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
12:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3
Count Total	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	3	
Pk Hr Bike	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	

**Peak Hour Count Summaries**

Peak Hour Interval Start		n/a				Griffith St				Main St				Main St				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
8:00 AM		0	0	0	0	0	14	0	17	0	0	29	15	0	3	23	0	101	0
8:15 AM		0	0	0	0	1	5	0	13	0	0	28	16	0	5	24	0	92	0
8:30 AM		0	0	0	0	0	8	0	18	0	0	54	20	0	6	50	0	156	0
8:45 AM		0	0	0	0	0	14	0	12	0	0	29	8	0	1	22	0	86	435
Pk Hr	All	0	0	0	0	1	41	0	60	0	0	140	59	0	15	119	0	435	
	HV	0	0	0	0	0	1	0	1	0	0	7	0	0	1	4	0	14	
	HV%	-	-	-	-	0%	2%	-	2%	-	-	5%	0%	-	7%	3%	-	3%	

Note: For complete count summary (all intervals), see following pages.

** Heavy Vehicle Classifications include FHWA Classes 4-13.

** Count Summaries include heavy vehicles, but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
8:00 AM	0	0	0	3	3	0	0	2	0	2	1	0	1	0	2
8:15 AM	0	0	2	1	3	0	0	0	4	4	28	3	48	0	79
8:30 AM	0	1	5	0	6	0	0	0	2	2	37	3	79	0	119
8:45 AM	0	1	0	1	2	0	0	0	0	0	4	1	4	1	10
Peak Hour	0	2	7	5	14	0	0	2	6	8	70	7	132	1	210

Count Summaries - All Vehicles

Interval Start	n/a				Griffith St				Main St				Main St				15-min Total	Rolling Hour Total	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	0	0	0	0	0	5	0	5	0	0	11	6	0	1	5	0	33	0	
7:15 AM	0	0	0	0	0	6	0	6	0	0	16	6	0	2	9	0	45	0	
7:30 AM	0	0	0	0	0	8	0	14	0	0	30	6	0	3	14	0	75	0	
7:45 AM	0	0	0	0	0	8	0	9	1	0	40	6	0	4	16	0	84	237	
8:00 AM	0	0	0	0	0	14	0	17	0	0	29	15	0	3	23	0	101	305	
8:15 AM	0	0	0	0	1	5	0	13	0	0	28	16	0	5	24	0	92	352	
8:30 AM	0	0	0	0	0	8	0	18	0	0	54	20	0	6	50	0	156	433	
8:45 AM	0	0	0	0	0	14	0	12	0	0	29	8	0	1	22	0	86	435	
Count Total		0	0	0	0	1	68	0	94	1	0	237	83	0	25	163	0	672	
Pk Hr	All	0	0	0	0	1	41	0	60	0	0	140	59	0	15	119	0	435	
	HV	0	0	0	0	0	1	0	1	0	0	7	0	0	1	4	0	14	
	HV%	-	-	-	-	0%	2%	-	2%	-	-	5%	0%	-	7%	3%	-	3%	

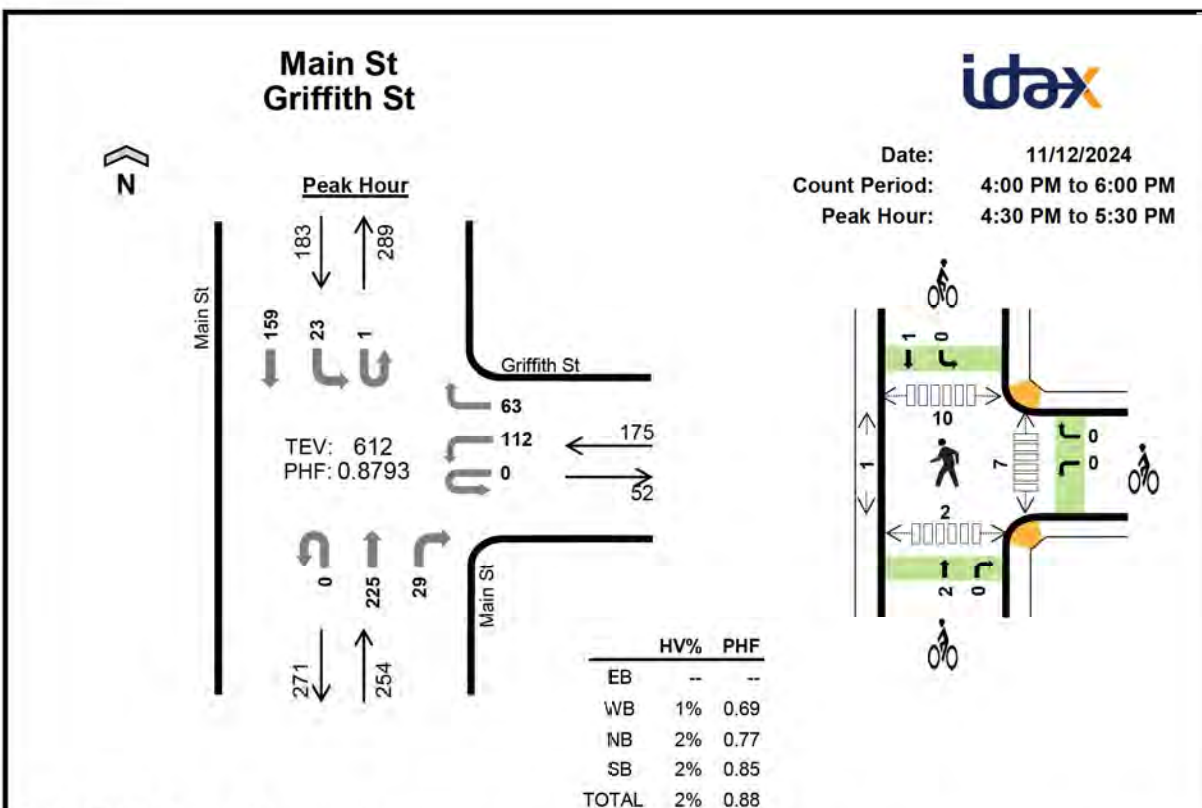
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:00 AM	0	0	1	0	1	0	0	2	1	3	0	0	0	0	0
7:15 AM	0	0	0	1	1	0	0	0	0	0	1	1	1	0	3
7:30 AM	0	0	1	1	2	0	1	0	2	3	4	3	2	2	11
7:45 AM	0	1	0	1	2	0	1	0	2	3	0	1	0	0	1
8:00 AM	0	0	0	3	3	0	0	2	0	2	1	0	1	0	2
8:15 AM	0	0	2	1	3	0	0	0	4	4	28	3	48	0	79
8:30 AM	0	1	5	0	6	0	0	0	2	2	37	3	79	0	119
8:45 AM	0	1	0	1	2	0	0	0	0	0	4	1	4	1	10
Count Total	0	3	9	8	20	0	2	4	11	17	75	12	135	3	225
Peak Hour	0	2	7	5	14	0	0	2	6	8	70	7	132	1	210

Count Summaries - Heavy Vehicles

Interval Start	n/a				Griffith St				Main St				Main St				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	0
7:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	2	6
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	3	8
8:15 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	3	10
8:30 AM	0	0	0	0	0	0	0	1	0	0	5	0	0	0	0	0	6	14
8:45 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	2	14
Count Total	0	0	0	0	0	1	0	2	0	0	9	0	0	1	7	0	20	
Pk Hr Heavy	0	0	0	0	0	1	0	1	0	0	7	0	0	1	4	0	14	

Count Summaries - Bikes

Interval Start	n/a				Griffith St				Main St				Main St				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	3	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2	0	3	0
7:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2	0	3	9
8:00 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2	8
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	12
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	11
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
Count Total	0	0	0	0	0	0	0	2	0	0	3	1	0	0	11	0	17	
Pk Hr Bike	0	0	0	0	0	0	0	0	0	0	1	1	0	0	6	0	8	

**Peak Hour Count Summaries**

Peak Hour Interval Start		n/a				Griffith St				Main St				Main St				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:30 PM		0	0	0	0	0	15	0	17	0	0	44	5	0	3	37	0	121	0
4:45 PM		0	0	0	0	0	22	0	15	0	0	73	10	1	10	43	0	174	0
5:00 PM		0	0	0	0	0	48	0	15	0	0	60	9	0	7	33	0	172	0
5:15 PM		0	0	0	0	0	27	0	16	0	0	48	5	0	3	46	0	145	612
Pk Hr	All	0	0	0	0	0	112	0	63	0	0	225	29	1	23	159	0	612	
	HV	0	0	0	0	0	1	0	0	0	0	6	0	0	0	3	0	10	
	HV%	-	-	-	-	-	1%	-	0%	-	-	3%	0%	0%	0%	2%	-	2%	

Note: For complete count summary (all intervals), see following pages.

** Heavy Vehicle Classifications include FHWA Classes 4-13.

** Count Summaries include heavy vehicles, but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:30 PM	0	0	2	1	3	0	0	1	0	1	0	0	1	0	1
4:45 PM	0	0	1	1	2	0	0	1	1	2	4	1	5	0	10
5:00 PM	0	1	1	0	2	0	0	0	0	0	3	0	4	2	9
5:15 PM	0	0	2	1	3	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	1	6	3	10	0	0	2	1	3	7	1	10	2	20

Count Summaries - All Vehicles

Interval Start		n/a				Griffith St				Main St				Main St				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	0	0	0	0	12	0	11	0	0	54	7	0	15	41	0	140	0
4:15 PM		0	0	0	0	0	25	0	3	0	0	35	9	0	4	23	0	99	0
4:30 PM		0	0	0	0	0	15	0	17	0	0	44	5	0	3	37	0	121	0
4:45 PM		0	0	0	0	0	22	0	15	0	0	73	10	1	10	43	0	174	534
5:00 PM		0	0	0	0	0	48	0	15	0	0	60	9	0	7	33	0	172	566
5:15 PM		0	0	0	0	0	27	0	16	0	0	48	5	0	3	46	0	145	612
5:30 PM		0	0	0	0	0	19	0	9	0	0	30	6	0	4	31	0	99	590
5:45 PM		0	0	0	0	0	12	0	12	0	0	43	8	0	1	41	0	117	533
Count Total		0	0	0	0	0	180	0	98	0	0	387	59	1	47	295	0	1,067	
Pk Hr	All	0	0	0	0	0	112	0	63	0	0	225	29	1	23	159	0	612	
	HV	0	0	0	0	0	1	0	0	0	0	6	0	0	0	3	0	10	
	HV%	-	-	-	-	-	1%	-	0%	-	-	3%	0%	0%	0%	2%	-	2%	

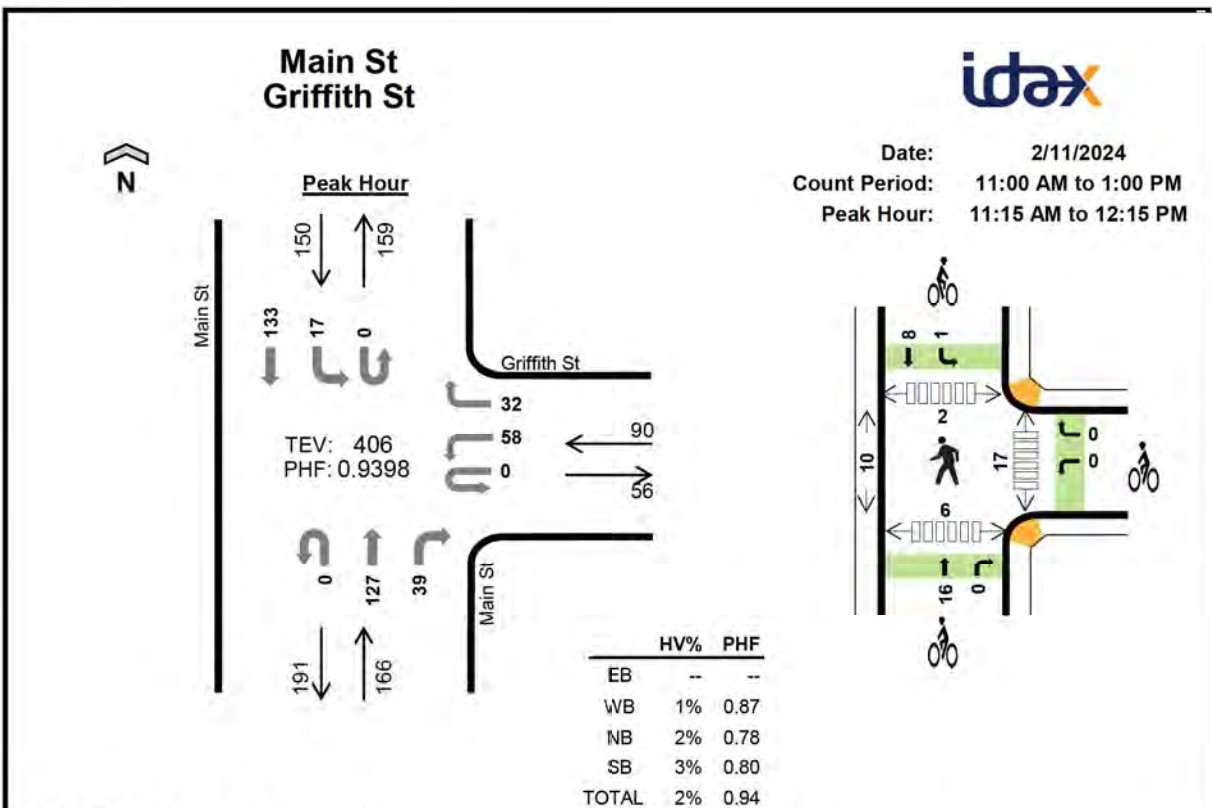
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:00 PM	0	1	3	0	4	0	0	3	3	6	0	1	1	3	5
4:15 PM	0	0	2	1	3	0	0	1	0	1	1	1	3	0	5
4:30 PM	0	0	2	1	3	0	0	1	0	1	0	0	1	0	1
4:45 PM	0	0	1	1	2	0	0	1	1	2	4	1	5	0	10
5:00 PM	0	1	1	0	2	0	0	0	0	0	3	0	4	2	9
5:15 PM	0	0	2	1	3	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	1	1	2	0	0	2	0	2	2	1	2	0	5
Count Total	0	2	12	5	19	0	0	8	4	12	10	4	16	5	35
Peak Hour	0	1	6	3	10	0	0	2	1	3	7	1	10	2	20

Count Summaries - Heavy Vehicles

Interval Start	n/a				Griffith St				Main St				Main St				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	1	0	0	1	2	0	0	0	0	4	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	3	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	3	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	12
5:00 PM	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	2	10
5:15 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	3	10
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
5:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	7
Count Total	0	0	0	0	0	1	0	1	0	0	10	2	0	0	5	0	19	
Pk Hr Heavy	0	0	0	0	0	1	0	0	0	0	6	0	0	0	3	0	10	

Count Summaries - Bikes

Interval Start	n/a				Griffith St				Main St				Main St				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	3	0	0	1	2	0	6	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	10
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2	2
Count Total	0	0	0	0	0	0	0	0	0	0	6	2	0	1	3	0	12	
Pk Hr Bike	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	3	

**Peak Hour Count Summaries**

Peak Hour Interval Start	n/a				Griffith St				Main St				Main St				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
11:15 AM	0	0	0	0	0	15	0	10	0	0	31	7	0	7	27	0	97	0
11:30 AM	0	0	0	0	0	11	0	5	0	0	30	10	0	3	37	0	96	0
11:45 AM	0	0	0	0	0	16	0	7	0	0	26	9	0	4	43	0	105	0
12:00 PM	0	0	0	0	0	16	0	10	0	0	40	13	0	3	26	0	108	406
Pk Hr	All	0	0	0	0	0	58	0	32	0	0	127	39	0	17	133	0	406
	HV	0	0	0	0	0	1	0	0	0	0	3	0	0	0	5	0	9
	HV%	-	-	-	-	-	2%	-	0%	-	-	2%	0%	-	0%	4%	-	2%

Note: For complete count summary (all intervals), see following pages.

** Heavy Vehicle Classifications include FHWA Classes 4-13.

** Count Summaries include heavy vehicles, but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
11:15 AM	0	0	1	1	2	0	0	3	4	7	3	2	0	1	6
11:30 AM	0	0	1	0	1	0	0	0	1	1	3	1	1	3	8
11:45 AM	0	0	0	3	3	0	0	10	1	11	3	4	0	0	7
12:00 PM	0	1	1	1	3	0	0	3	3	6	8	3	1	2	14
Peak Hour	0	1	3	5	9	0	0	16	9	25	17	10	2	6	35

Count Summaries - All Vehicles

Interval Start		n/a				Griffith St				Main St				Main St				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
11:00 AM		0	0	0	0	0	12	0	0	0	0	39	11	0	1	28	0	91	0
11:15 AM		0	0	0	0	0	15	0	10	0	0	31	7	0	7	27	0	97	0
11:30 AM		0	0	0	0	0	11	0	5	0	0	30	10	0	3	37	0	96	0
11:45 AM		0	0	0	0	0	16	0	7	0	0	26	9	0	4	43	0	105	389
12:00 PM		0	0	0	0	0	16	0	10	0	0	40	13	0	3	26	0	108	406
12:15 PM		0	0	0	0	0	8	0	3	0	0	34	6	0	1	32	0	84	393
12:30 PM		0	0	0	0	0	9	0	4	0	0	38	11	0	7	20	0	89	386
12:45 PM		0	0	0	0	0	13	0	9	0	0	37	4	0	5	34	0	102	383
Count Total		0	0	0	0	0	100	0	48	0	0	275	71	0	31	247	0	772	
Pk Hr	All	0	0	0	0	0	58	0	32	0	0	127	39	0	17	133	0	406	
	HV	0	0	0	0	0	1	0	0	0	0	3	0	0	0	5	0	9	
	HV%	-	-	-	-	-	2%	-	0%	-	-	2%	0%	-	0%	4%	-	2%	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
11:00 AM	0	0	1	0	1	0	0	2	0	2	1	0	0	0	1
11:15 AM	0	0	1	1	2	0	0	3	4	7	3	2	0	1	6
11:30 AM	0	0	1	0	1	0	0	0	1	1	3	1	1	3	8
11:45 AM	0	0	0	3	3	0	0	10	1	11	3	4	0	0	7
12:00 PM	0	1	1	1	3	0	0	3	3	6	8	3	1	2	14
12:15 PM	0	1	0	0	1	0	0	5	1	6	3	0	0	1	4
12:30 PM	0	0	2	0	2	0	0	4	6	10	4	2	0	0	6
12:45 PM	0	0	0	2	2	0	0	1	2	3	2	3	1	0	6
Count Total	0	2	6	7	15	0	0	28	18	46	27	15	3	7	52
Peak Hour	0	1	3	5	9	0	0	16	9	25	17	10	2	6	35

Count Summaries - Heavy Vehicles

Interval Start	n/a				Griffith St				Main St				Main St				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
11:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	7
12:00 PM	0	0	0	0	0	1	0	0	0	0	1	0	0	0	1	0	3	9
12:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	8
12:30 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	9
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	8
Count Total	0	0	0	0	0	2	0	0	0	0	6	0	0	1	6	0	15	
Pk Hr Heavy	0	0	0	0	0	1	0	0	0	0	3	0	0	0	5	0	9	

Count Summaries - Bikes

Interval Start	n/a				Griffith St				Main St				Main St				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
11:00 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	4	0	7	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	10	0	0	0	1	0	11	21
12:00 PM	0	0	0	0	0	0	0	0	0	0	3	0	0	1	2	0	6	25
12:15 PM	0	0	0	0	0	0	0	0	0	0	5	0	0	0	1	0	6	24
12:30 PM	0	0	0	0	0	0	0	0	0	0	4	0	0	0	6	0	10	33
12:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	3	25
Count Total	0	0	0	0	0	0	0	0	0	0	28	0	0	1	17	0	46	
Pk Hr Bike	0	0	0	0	0	0	0	0	0	0	16	0	0	1	8	0	25	

Appendix D: Background Growth Rate Calculations per DRCOG

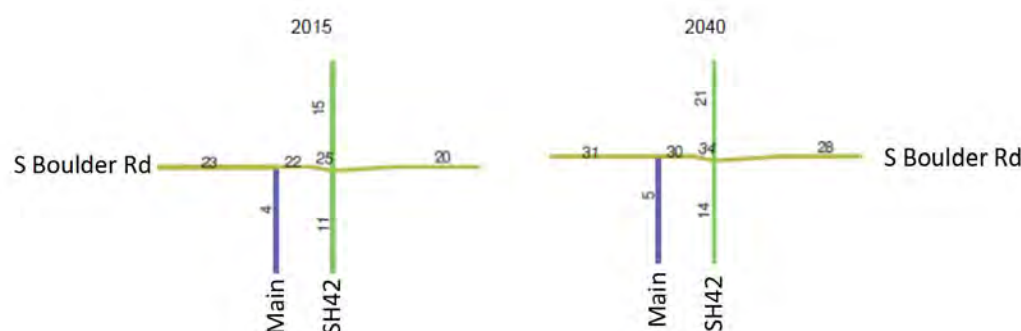
Traffic Growth Rates

Road Segment	2020 Projected ADT	2045 Projected ADT	Growth Rate Per Year
South Boulder Road – West of SH 42	29,000	44,000	1.30%
South Boulder Road – East of SH 42	25,000	36,000	1.30%
SH 42 – North of South Boulder Road	19,000	27,000	1.30%
SH 42 – South of South Boulder Road	12,000	16,000	1.30%

Growth Rate Calculator

Scenario

Current Year	2015	2015	2015	2015	2015
Current Traffic	23.00	22.00	20.00	15.00	11.00
Future Year	2040	2040	2040	2040	2040
Future Traffic	31.00	30.00	28.00	21.00	14.00
Growth Rate/Year	1.20%	1.25%	1.35%	1.35%	0.97%
	west leg 1	west leg 2	east leg 1	north leg 1	south leg 1



Notes:

1. Diagrams are from DRCOG 2015 and 2040 projected traffic volumes (in 1000's vpd) for their Focus2.2 Model.¹
2. West Leg 1 is the S Boulder Rd segment west of the SH42/S Boulder Rd intersection west of Main Street. West Leg 2 is the S Boulder Rd segment between Main and SH42.
3. East Leg 1, North Leg 1, and South Leg 1 represent the comparative volumes between the 2015 and 2040 projected traffic volumes.
4. Annual growth rates are calculated for each segment to establish a baseline.
5. An annual growth rate of 1.30% was calculated based upon the above percentages.

¹ <https://drcog.org/sites/default/files/acc/TPO-GF-TRAVELMODEL101-EN-ACC-24-05-16-V1.pdf>

Appendix E: Internal Reduction Calculations

Multi-Use Trip Generation Calculation

Analyst: KJS

Date: 3/10/2025

LAND USE A

ITE LU Code #822 Retail Plaza
Size 13.5 KSF

	Total	Internal	External
Enter	381	43	338
Exit	380	50	330
Total	761	93	668
%	100%	12%	88%

Name of Dvlpt.: Coal Creek Station

Time Period: Avg Weekday

Exit to External
330

338
Enter from External

30% 114
Demand

8
Balanced

28% 8
Demand

28% 107
Demand

9
Balanced

30% 9
Demand

11% 42
Demand

42
Balanced

33% 201
Demand

9% 34
Demand

34
Balanced

38% 231
Demand

LAND USE B

Empanada Shop
(Derived Rate Eq.)
ITE LU Code
Size 430 SF

	Total	Internal	External
Enter	30	11	19
Exit	30	12	18
Total	60	23	37
%	100%	38%	62%

Exit to External
18

19
Enter from External

Demand Balanced Demand

9% 3 3

Demand Balanced Demand

11% 3 3

LAND USE C

#220 Multifamily
Housing
ITE LU Code
Size 188 DU

	Total	Internal	External
Enter	608	45	563
Exit	608	37	571
Total	1216	82	1134
%	100%	7%	93%

Exit to External
563

571
Enter from External

Net External Trips for Multi-Use Development				
	LAND A	LAND B	LAND C	Total
Enter	338	19	563	920
Exit	330	18	571	919
Total	668	37	1134	1839
Single Use Trip Gen.	761	60	1216	2037
				8.2%



Internal capture reductions were calculated using methodology from the ITE Trip Generation Handbook, Second Edition, June 2004.

Internal Trip Reduction Calculation Model

Analyst: KJS

Date: 3/10/2025

LAND USE A

ITE LU Code #822 Retail Plaza
Size 13.5 KSF

	Total	Internal	External
Enter	48	3	45
Exit	48	4	44
Total	96	7	89
%	100%	7%	93%

Name of Dvlpt.: Coal Creek Station

Time Period: AM Peak

Exit to External

44

Enter from External

45

29% 14

Demand

0

Balanced

31% 0

Demand

31% 15

Demand

0

Balanced

29% 0

Demand

7% 3

Demand

3

Balanced

37% 8

Demand

5% 2

Demand

2

Balanced

34% 23

Demand

LAND USE B

Empanada Shop
(Derived Rate Eq.)
ITE LU Code
Size 430 SF

	Total	Internal	External
Enter	1	0	1
Exit	1	0	1
Total	2	0	2
%	100%	0%	100%

Exit to External

1

Enter from External

1

Demand

5% 0

Balanced

0 0

Demand

34% 23

Demand

7% 0

Balanced

0 0

Demand

37% 8

LAND USE C

#220 Multifamily
Housing
ITE LU Code
Size 188 DU

	Total	Internal	External
Enter	22	3	19
Exit	67	2	65
Total	89	5	84
%	100%	6%	94%

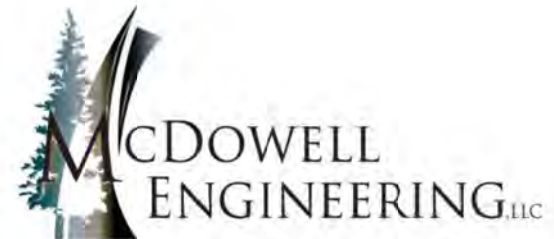
Exit to External

19

Enter from External

65

Net External Trips for Multi-Use Development				
	LAND A	LAND B	LAND C	Total
Enter	45	1	19	65
Exit	44	1	65	110
Total	89	2	84	175
Single Use Trip Gen.	96	2	89	187
				5.5%



Internal capture reductions were calculated using methodology from the ITE Trip Generation Handbook, Second Edition, June 2004.

Internal Trip Reduction Calculation Model

Analyst: KJS

Date: 3/10/2025

LAND USE A

ITE LU Code #822 Retail Plaza				
Size 13.5 kSF				
	Total	Internal	External	
Enter	92	9	83	
Exit	78	10	68	
Total	170	19	151	
%	100%	11%	89%	

Name of Dvlpt.: Coal Creek Station

Time Period: PM Peak

Exit to External

68

Enter from External

83

20%

16

Demand

1

Balanced

20%

1

Demand

20%

18

Demand

1

Balanced

20%

1

Demand

12%

9

Demand

9

Balanced

9%

8

Demand

8

Balanced

53%

22

Demand

LAND USE B

Empanada Shop (Derived Rate Eq.)				
ITE LU Code				
Size 430 SF				
	Total	Internal	External	
Enter	3	1	2	
Exit	3	1	2	
Total	6	2	4	
%	100%	33%	67%	

Exit to External

2

Enter from External

2

Demand

9%

0

Balanced

0

Demand

53%

22

Demand

12%

0

Balanced

0

Demand

31%

21

LAND USE C

#220 Multifamily Housing				
ITE LU Code				
Size 188 DU				
	Total	Internal	External	
Enter	67	10	57	
Exit	41	9	32	
Total	108	19	89	
%	100%	18%	82%	

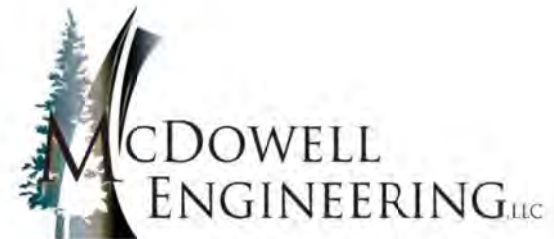
Exit to External

57

Enter from External

32

Net External Trips for Multi-Use Development				
	LAND A	LAND B	LAND C	Total
Enter	83	2	57	142
Exit	68	2	32	102
Total	151	4	89	244
Single Use Trip Gen.	170	6	108	284
				18.4%



Internal capture reductions were calculated using methodology from the ITE Trip Generation Handbook, Second Edition, June 2004.

Internal Trip Reduction Calculation Model

Analyst: KJS

Date: 3/10/2025

LAND USE A

ITE LU Code #822 Retail Plaza
Size 13.5 kSF

	Total	Internal	External
Enter	43	5	38
Exit	42	6	36
Total	85	11	74
%	100%	13%	87%

Name of Dvlpt.: Coal Creek Station

Time Period: SAT Peak

Exit to External

36

Enter from External
38

20% 8
Demand

1
Balanced

20% 1
Demand

20% 9 12% 5
Demand

1
Balanced

20% 1
Demand

5
Balanced

9% 4
Demand

4
Balanced

53% 19
Demand

LAND USE B

Empanada Shop
(Derived Rate Eq.)
ITE LU Code
Size 430 SF

	Total	Internal	External
Enter	7	2	5
Exit	5	2	3
Total	12	4	8
%	100%	33%	67%

Exit to External

3

Enter from External
5

Demand Balanced Demand

9% 1 1 53% 19

Demand Balanced Demand

12% 1 1 31% 11

LAND USE C

#220 Multifamily
Housing
ITE LU Code
Size 188 DU

	Total	Internal	External
Enter	37	6	31
Exit	36	5	31
Total	73	11	62
%	100%	15%	85%

Exit to External

31

Enter from External
31

Net External Trips for Multi-Use Development				
	LAND A	LAND B	LAND C	Total
Enter	38	5	31	74
Exit	36	3	31	70
Total	74	8	62	144
Single Use Trip Gen.	85	12	73	170
				17.5%



Internal capture reductions were calculated using methodology from the ITE Trip Generation Handbook, Second Edition, June 2004.

Appendix F: Signal Timing Plans

Louisville - HWY42 & S Boulder Rd

Configuration Phase Sequence Page 1

Phase Ring (MM)1-1-1

Phase

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	1	1	1	2	2	2	2	1	1	2	2	1	1	2	2

Hardware Alternate Sequence Enable: No

Phase Ring Sequence

Sequence	Ring	Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	1	1	2	3	4	9	10	13	14	0	0	0	0	0	0	0	0	0
1	2	6	5	8	7	11	12	15	16	0	0	0	0	0	0	0	0	0
2	1	2	1	3	4	10	9	13	14	0	0	0	0	0	0	0	0	0
2	2	5	6	8	7	11	12	15	16	0	0	0	0	0	0	0	0	0
3	1	1	2	4	3	9	10	14	13	0	0	0	0	0	0	0	0	0
3	2	5	6	7	8	11	12	15	16	0	0	0	0	0	0	0	0	0
4	1	2	1	4	3	10	9	14	13	0	0	0	0	0	0	0	0	0
4	2	5	6	7	8	11	12	15	16	0	0	0	0	0	0	0	0	0
5	1	1	2	3	4	9	10	13	14	0	0	0	0	0	0	0	0	0
5	2	6	5	7	8	12	11	15	16	0	0	0	0	0	0	0	0	0
6	1	2	1	3	4	10	9	13	14	0	0	0	0	0	0	0	0	0
6	2	6	5	7	8	12	11	15	16	0	0	0	0	0	0	0	0	0
7	1	1	2	4	3	9	10	14	13	0	0	0	0	0	0	0	0	0
7	2	6	5	7	8	12	11	15	16	0	0	0	0	0	0	0	0	0
8	1	2	1	4	3	10	9	14	13	0	0	0	0	0	0	0	0	0
8	2	6	5	7	8	12	11	15	16	0	0	0	0	0	0	0	0	0
9	1	1	2	3	4	9	10	13	14	0	0	0	0	0	0	0	0	0
9	2	5	6	8	7	11	12	16	15	0	0	0	0	0	0	0	0	0
10	1	2	1	3	4	10	9	13	14	0	0	0	0	0	0	0	0	0
10	2	5	6	8	7	11	12	16	15	0	0	0	0	0	0	0	0	0
11	1	1	2	4	3	9	10	14	13	0	0	0	0	0	0	0	0	0
11	2	5	6	8	7	11	12	16	15	0	0	0	0	0	0	0	0	0
12	1	2	1	4	3	10	9	14	13	0	0	0	0	0	0	0	0	0
12	2	5	6	8	7	11	12	16	15	0	0	0	0	0	0	0	0	0
13	1	1	2	3	4	9	10	13	14	0	0	0	0	0	0	0	0	0
13	2	6	5	8	7	12	11	16	15	0	0	0	0	0	0	0	0	0
14	1	2	1	3	4	10	9	13	14	0	0	0	0	0	0	0	0	0
14	2	6	5	8	7	12	11	16	15	0	0	0	0	0	0	0	0	0
15	1	1	2	4	3	9	10	14	13	0	0	0	0	0	0	0	0	0
15	2	6	5	8	7	12	11	16	15	0	0	0	0	0	0	0	0	0
16	1	2	1	4	3	10	9	14	13	0	0	0	0	0	0	0	0	0
16	2	6	5	8	7	12	11	16	15	0	0	0	0	0	0	0	0	0

Phase
Compatibility
(MM)1-1-2
Phase 1 Phase 2

1	5
1	6
2	5
2	6
3	7
3	8
4	7
4	8
9	11
9	12
10	11
10	12
13	15
13	16
14	15
14	16

Phase Direction
Descriptions
Phase Description

Overlap Direction
Descriptions
Overlap Description

Administration (MM)1-7-1

Enable CRC Check: No

CRC: 0000

Request Download Program Data: No

Louisville - HWY42 & S Boulder Rd

Configuration Phase Sequence Page 2

In Use(MM)1- 2	Exclusive Ped(MM)1-2	Backup Prevent(MM)1-1-3 Phase Timing Phase Backup	Simultaneous Gap(MM)1-1-4 Must Gap with Phase Phase	Disable(MM)1- 1-4 Phase
----------------------	-------------------------	--	--	-------------------------------

1
2
3
4
5
6
7
8

Load Switch Assignments (MMU Channel) (MM)1-3

Phase	Overlap	Type	Dim R	Y	G	D	Auto R	Y	Flash Together
1	1	V				+	Yes		
2	2	V				+	Yes		Yes
3	3	V				+	Yes		
4	4	V				+	Yes		Yes
5	5	V				-	Yes		
6	6	V				-	Yes		Yes
7	7	V				-	Yes		
8	8	V				-	Yes		Yes
9	2	P				+			
10	4	P				+			
11	6	P				-			
12	8	P				-			
13	1	O				+	Yes		
14	2	O				-	Yes		Yes
15	3	O				+	Yes		
16	4	O				-	Yes		Yes

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Configuration Port 1 (SDLC)

SDLC Options (MM)1-4-1

Bus Interface Terminal/Facilities

BIU	Term and Facility Enable	Detector Rack Enable
1	Yes	Yes
2	Yes	No
3	No	No
4	No	No
5	No	No
6	No	No
7	No	No
8	No	No

Enable TS2/MMU Type Cabinet: Yes

Enable MMU Extended Status: No

Enable SDLC Stop Time: No

Enable 3 Critical RFE's Lockup: Yes

Diagonstics (Test Fixture) Enable: No

Secondary To Secondary Addressing

ID	Term and Facility Enable	Detector Rack Enable
1	No	No
2	No	No
3	No	No
4	No	No
5	No	No
6	No	No
7	No	No
8	No	No

Secondary To Secondary Addressing MMU: No

Secondary To Secondary Addressing Diagonstics: No

MMU Program (MM)1-4-2

Channel Can Serve with
Channel

Channel 1 Channel 2

Color Check Enable (MM)1-4-3

Enable Color Check: Yes

Color Check Enable

MMU Channel	Green	Yellow	Red
1	Yes	Yes	Yes
2	Yes	Yes	Yes
3	Yes	Yes	Yes
4	Yes	Yes	Yes
5	Yes	Yes	Yes
6	Yes	Yes	Yes
7	Yes	Yes	Yes
8	Yes	Yes	Yes
9	Yes	Yes	Yes
10	Yes	Yes	Yes
11	Yes	Yes	Yes

12	Yes	Yes	Yes
13	Yes	Yes	Yes
14	Yes	Yes	Yes
15	Yes	Yes	Yes
16	Yes	Yes	Yes

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Configuration Communications

Ethernet Port Configuration (MM)1-5-1 NTCIP Parameters (MM)1-5-5

Controller IP: 172.16.10.111 Backup Time: 0
 Subnet Mask: 255.255.252.0 UDP Port: 501
 Default Gateway IP: 172.16.11.254 Ethernet Priority: 1
 Server IP: 172.16.50.1 Port 2 Priority: 4
 Port 3A Priority: 2
 Port 3B Priority: 3

Note for 2070: Port 2 is C50S, Port 3A is C21S, and Port 3B is C22S

Port Configuration (MM)1-5-2 to 1-5-4

Port	Protocol	Enable	Data Rate	Data Parity Stop	Modem Setup String	User String	Comm Port Address	System Detector 9-1	Telemetry Response Delay	Duplex Half/Full	Flow Control	AB3418 NTCIP Group Address	AB3418 NTCIP Single Flag Enable	RTS to CTS Delay	RTS Turn Off Delay	Droupout Time	Early RTS	FSK Hardware
2	NTCIP	Yes	9600	8 N 1	None		1	0	0.0	Half	Yes	0	No	0.0	0.0	10	No	Yes
3A	ECPIP	No	9600	8 0 1	None		0	0	0.0	Full	No	0	No	0.0	0.0	10	No	Yes
3B	AB3418	No	1200	8 0 1	None		7	0	0.9	Full	Yes	0	No	3.0	2.0	300	No	Yes

ECPIP Parameters (MM)1-5-6

Expanded System Detector Address: 0

Local System Detector

Local System Detector	Number
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Louisville - HWY42 & S Boulder Rd

Configuration Logging/Display

Enable Event Logs (MM)1-6-1		Alarm Logs (MM)1-6-1
Critical RFE's:	Yes	Enabled:
3 Critical RFE's in 24 Hours:	Yes	12345678910111213141516
MMU Flash Faults:	Yes	
Local Flash Faults:	Yes	
Non-Critical RFE's (Det/Test):	Yes	
Detector Errors:	Yes	
Coordination Errors:	Yes	
Controller Download:	Yes	
Preempt:	Yes	
TSP:	Yes	
Power On/Off:	Yes	
Low Battery:	Yes	
Access:	Yes	
Data Change:	Yes	

Display Options (MM)1-7-2
Key Click Enable: Yes
Backlight Enable: Yes

Louisville - HWY42 & S Boulder Rd

Logic Processor Page 1

Statement Control (MM)1-8-1

LP Statement Control

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Logic Processor Page 2

Logic Statements (MM)1-8-2

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Controller Timing Plan (MM)2-1

Plan 1

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Min Green	5	10	5	6	5	10	5	6	0	0	0	0	0	0	0	0
BK Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	4	0	4	0	4	0	4	0	0	0	0	0	0	0	0
Walk 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear	0	30	0	27	0	26	0	27	0	0	0	0	0	0	0	0
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Ext	2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vehicle Ext 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max 1	15	30	15	30	15	30	15	30	0	0	0	0	0	0	0	0
Max 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Stp	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Clear	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ACT B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEC/ACT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Int	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPT Duc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Plan 2

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Min Green	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
BK Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	10	0	10	0	10	0	10	0	10	0	10	0	10	0	10
Walk 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear	0	16	0	16	0	16	0	16	0	16	0	16	0	16	0	16
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Ext	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Ext 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max 1	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Max 2	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Max 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Stp	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Red Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ACT B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEC/ACT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Int	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPT Duc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Plan 3

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Min Green	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
BK Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	10	0	10	0	10	0	10	0	10	0	10	0	10	0	10
Walk 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear	0	16	0	16	0	16	0	16	0	16	0	16	0	16	0	16
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Ext	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Ext 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max 1	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Max 2	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Max 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Stp	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Red Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ACT B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEC/ACT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Int	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPT Duc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Plan 4

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Min Green	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
BK Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	10	0	10	0	10	0	10	0	10	0	10	0	10	0	10
Walk 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear	0	16	0	16	0	16	0	16	0	16	0	16	0	16	0	16
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Ext	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Ext 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max 1	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Max 2	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Max 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Stp	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Red Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ACT B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEC/ACT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Int	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPT Duc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Louisville - HWY42 & S Boulder Rd

Controller Overlaps

		Vehicle Overlaps (MM)2-2								
Overlap	Type	Lag Green		Yellow	Red	Advance Green				
Phases										
Overlap	Phase	Included	Protect	Modifier	Ped Protect	Not Overlap	Lag X Phase	Lag 2 Phase	Flash Green	
Guaranteed Minimum Time Data (MM) 2-4										
Phase Time Data										
Phase	Min Green	Walk	Ped Clear	Yellow	Red Clear	Overlap Green				
A01	5	0	7	3.0	0.0	5				
B02	5	0	7	3.0	0.0	5				
C03	5	0	7	3.0	0.0	5				
D04	5	0	7	3.0	0.0	5				
E05	5	0	7	3.0	0.0	5				
F06	5	0	7	3.0	0.0	5				
G07	5	0	7	3.0	0.0	5				
H08	5	0	7	3.0	0.0	5				
I09	5	0	7	3.0	0.0	5				
J10	5	0	7	3.0	0.0	5				
K11	5	0	7	3.0	0.0	5				
L12	5	0	7	3.0	0.0	5				
M13	5	0	7	3.0	0.0	5				
N14	5	0	7	3.0	0.0	5				
O15	5	0	7	3.0	0.0	5				
P16	5	0	7	3.0	0.0	5				

Louisville - HWY42 & S Boulder Rd

Controller Pedestrian Overlaps

Pedestrian Overlaps (MM) 2-3

Included Phase Ped Overlap

Louisville - HWY42 & S Boulder Rd

Controller Start/Fash (MM) 2-5

Startup

Phase	Phase Setting
2	Y
6	Y

Overlap

- A
- B
- C
- D

Flash > Mon:	No
Flash Time:	0
All Red:	0
Power Start Sequence:	1

Automatic Flash

Entry Phase

- 2
- 6

Exit Phase

- 2
- 6

Overlap Exit

- A
- B
- C
- D

Flash > Mon:	No
Exit Flash Interval:	W
Minimum Auto Flash:	7
Minimumin Recall:	No
Cycle Through Phase:	No

Louisville - HWY42 & S Boulder Rd

Controller Options

Controller Options (MM)2-6-1

Phase	Flashing Green Phase	Guaranteed Passage	Non Act 1	Non Act 2	Dual Entry	Conditional Service	Conditional Reservice	Ped Reservice	Rest In Walk	Flashing Walk	Ped Clear Yellow	Ped Clear Red	IGRN + Veh Ext
2	No	No	Yes	No	Yes	No	No	No	No	No	No	No	No
4	No	No	No	Yes	Yes	No	No	No	No	No	No	No	No
6	No	No	Yes	No	Yes	No	No	No	No	No	No	No	No
8	No	No	No	Yes	Yes	No	No	No	No	No	No	No	No

Ped Clear Protect: Off Red Revert: 2.0

Act Pre-Time (MM)2-7

Pre-Time Mode Enable: No Free Input Enables Pre-Timed: Yes

Pre-Timed Phase

Phase Recall Options (MM)2-8

Plan	Phase	Lock Detector	Vehicle Recall	Ped Recall	Max Recall	Soft Recall	No Rest	AI Calc
1	2	No	No	No	Yes	No	No	No
1	6	No	No	No	Yes	No	No	No
2	1	Yes	No	No	No	No	No	No
2	2	Yes	No	No	No	No	No	No
2	3	Yes	No	No	No	No	No	No
2	4	Yes	No	No	No	No	No	No
2	5	Yes	No	No	No	No	No	No
2	6	Yes	No	No	No	No	No	No
2	7	Yes	No	No	No	No	No	No
2	8	Yes	No	No	No	No	No	No
2	9	Yes	No	No	No	No	No	No
2	10	Yes	No	No	No	No	No	No
2	11	Yes	No	No	No	No	No	No
2	12	Yes	No	No	No	No	No	No
2	13	Yes	No	No	No	No	No	No
2	14	Yes	No	No	No	No	No	No
2	15	Yes	No	No	No	No	No	No
2	16	Yes	No	No	No	No	No	No
3	1	Yes	No	No	No	No	No	No
3	2	Yes	No	No	No	No	No	No
3	3	Yes	No	No	No	No	No	No
3	4	Yes	No	No	No	No	No	No
3	5	Yes	No	No	No	No	No	No
3	6	Yes	No	No	No	No	No	No
3	7	Yes	No	No	No	No	No	No
3	8	Yes	No	No	No	No	No	No
3	9	Yes	No	No	No	No	No	No
3	10	Yes	No	No	No	No	No	No
3	11	Yes	No	No	No	No	No	No
3	12	Yes	No	No	No	No	No	No
3	13	Yes	No	No	No	No	No	No
3	14	Yes	No	No	No	No	No	No
3	15	Yes	No	No	No	No	No	No
3	16	Yes	No	No	No	No	No	No
4	1	Yes	No	No	No	No	No	No
4	2	Yes	No	No	No	No	No	No
4	3	Yes	No	No	No	No	No	No

4	4	Yes	No	No	No	No	No	No
4	5	Yes	No	No	No	No	No	No
4	6	Yes	No	No	No	No	No	No
4	7	Yes	No	No	No	No	No	No
4	8	Yes	No	No	No	No	No	No
4	9	Yes	No	No	No	No	No	No
4	10	Yes	No	No	No	No	No	No
4	11	Yes	No	No	No	No	No	No
4	12	Yes	No	No	No	No	No	No
4	13	Yes	No	No	No	No	No	No
4	14	Yes	No	No	No	No	No	No
4	15	Yes	No	No	No	No	No	No
4	16	Yes	No	No	No	No	No	No

Louisville - HWY42 & S Boulder Rd

Coordination Options

Coordination Options (MM)3-1

Manual Pattern: Auto
 ECPI Coord: Yes
 System Source: TBC
 System Format: STD
 Splits In: Seconds
 Offsets In: Seconds
 Transition: Smooth
 Max Select: MAXINH
 Dwell/Add Time: 0
 Dly Coord Wz-Lz: No
 Force Off: Float
 Offset Reference: Yell
 Use Ped Time: Yes
 Ped Recall: No
 Ped Resv: No
 Local Zero Ovr: No
 Fo Add Ini Green: No
 Re-sync Count: 0
 Multisync: No

Split Demand (MM)3-5

Demand	Demand
1	2
Phase	Phase

Demand	Detector	Call Time	Cycle Count
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Auto Perm Minimum Green (Seconds) (MM)3-4

Phase	Min Green
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Louisville - HWY42 & S Boulder Rd

Coordination Pattern Data

Pattern	Split Pattern	TS2	Cycle	Pattern Data (MM)3-2		Splits In	Offsets In	Actuated Coord
				Std(COS)	Offset Value			
1	1	0-1	120	111	15	Seconds	Seconds	No
2	2	0-2	100	211	17	Seconds	Seconds	No
3	3	0-3	120	311	113	Seconds	Seconds	No

Pattern	Timing Plan	Actuated Walk Rest	Sequence	Phase Reservice	Action Plan	XArt Pattern	Vehicle Perm 1	Vehicle Perm 2	Vehicle Perm 3
1	1	No	1	No	1	0	0	0	0
2	1	No	2	No	2	0	0	0	0
3	1	No	1	No	3	0	0	0	0

Pattern	Ring Split Ext 1	Ring Split Ext 2	Ring Split Ext 3	Ring Split Ext 4	Split Demand Pattern 1	Split Demand Pattern 2	Ring Displ 2	Ring Displ 3	Ring Displ 4
1	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0

Split Preference Phases

Pattern	Phase	Preference 1	Preference 2
---------	-------	--------------	--------------

Special Functions

Pattern Function Output

Split Pattern Data (MM)3-3

Coord Phases			Split/Modes													
Split Pattern	Phase	Split	Split Pattern	Mode	Phase											
1	1	20	1	Coord	X	X										
1	2	41	1	Vehicle Recall	X											
1	3	16	2	Coord	X	X										
1	4	43	2	Vehicle Recall	X											
1	5	20	3	Coord	X	X										
1	6	41	3	Vehicle Recall	X											
1	7	12														
1	8	47														
2	1	14														
2	2	38														
2	3	12														
2	4	36														
2	5	18														
2	6	34														
2	7	12														
2	8	36														
3	1	18														
3	2	43														
3	3	18														
3	4	41														
3	5	24														
3	6	37														
3	7	18														
3	8	41														

AM Peak = Action Plan 1

Sat = Action Plan 2

PM Peak = Action Plan 3

Louisville - HWY42 & S Boulder Rd

Preemptor Preempt Plan (MM)4-1

Preempt	Phase	Preempt Phases							Special Function
		Track Clear Veh	Dwell Veh	Dwell Ped	Cycling Veh	Cycling Ped	Exit Phase	Exit Calls	
3	2	No	Yes	No	No	No	Yes	No	No
3	5	No	Yes	No	No	No	No	No	No
3	6	No	No	No	No	No	Yes	No	No
4	1	No	Yes	No	No	No	No	No	No
4	2	No	No	No	No	No	Yes	No	No
4	6	No	Yes	No	No	No	Yes	No	No
5	4	No	Yes	No	No	No	Yes	No	No
5	7	No	Yes	No	No	No	No	No	No
5	8	No	No	No	No	No	Yes	No	No
6	3	No	Yes	No	No	No	No	No	No
6	4	No	No	No	No	No	Yes	No	No
6	8	No	Yes	No	No	No	Yes	No	No

Preempt	Overlap	Preempt Overlaps			
		Track Clear	Enable Trailing	Dwell Overlap	Cycling Overlap
1	A	No	No	No	No
1	B	No	No	No	No
1	C	No	No	No	No
1	D	No	No	No	No
1	E	No	No	No	No
1	F	No	No	No	No
1	G	No	No	No	No
1	H	No	No	No	No
1	I	No	No	No	No
2	A	No	No	No	No
2	C	No	No	No	No
2	D	No	No	No	No
2	E	No	No	No	No
2	F	No	No	No	No
3	A	No	No	No	No
3	B	No	No	No	No
3	C	No	No	No	No
3	D	No	No	No	No
3	E	No	No	No	No
3	F	No	No	No	No
3	G	No	No	No	No
3	H	No	No	No	No
3	I	No	No	No	No
3	J	No	No	No	No
3	K	No	No	No	No
3	L	No	No	No	No
3	M	No	No	No	No
3	N	No	No	No	No
3	O	No	No	No	No
3	P	No	No	No	No
4	A	No	No	No	No
4	B	No	No	No	No
4	C	No	No	No	No
4	D	No	No	No	No
4	E	No	No	No	No
4	F	No	No	No	No

4	G	No	No	No	No
4	H	No	No	No	No
4	I	No	No	No	No
4	J	No	No	No	No
4	K	No	No	No	No
4	L	No	No	No	No
4	M	No	No	No	No
4	N	No	No	No	No
4	O	No	No	No	No
4	P	No	No	No	No
5	A	No	No	No	No
5	B	No	No	No	No
5	C	No	No	No	No
5	D	No	No	No	No
5	E	No	No	No	No
5	F	No	No	No	No
5	G	No	No	No	No
5	H	No	No	No	No
5	I	No	No	No	No
5	J	No	No	No	No
5	K	No	No	No	No
5	L	No	No	No	No
5	M	No	No	No	No
5	N	No	No	No	No
5	O	No	No	No	No
5	P	No	No	No	No
6	A	No	No	No	No
6	B	No	No	No	No
6	C	No	No	No	No
6	D	No	No	No	No
6	E	No	No	No	No
6	F	No	No	No	No
6	G	No	No	No	No
6	H	No	No	No	No
6	I	No	No	No	No
6	J	No	No	No	No
6	K	No	No	No	No
6	L	No	No	No	No
6	M	No	No	No	No
6	N	No	No	No	No
6	O	No	No	No	No
6	P	No	No	No	No

Preempt	Enable	Preempt Override	Interlock Enable	Detector Lock	Delay	Inhibit	Override Flash	Duration	CLR > GRN
1	No	Yes	No	Yes	0	0	No	0	No
2	No	Yes	No	Yes	0	0	No	0	No
3	Standard	Yes	No	Yes	0	0	No	10	No
4	Standard	Yes	No	Yes	0	0	No	10	No
5	Standard	Yes	No	Yes	0	0	No	10	No
6	Standard	Yes	No	Yes	0	0	No	10	No
7	No	Yes	No	Yes	0	0	No	0	No
8	No	Yes	No	Yes	0	0	No	0	No
9	No	Yes	No	Yes	0	0	No	0	No
10	No	Yes	No	Yes	0	0	No	0	No

Preempt	Term Overlap Asap	PC Through Yellow	Terminate Phase	Ped Dark	Track Clearance Re-service	Dwell Flash	Linked Pmt	Flash Exit Color	Preempt To Coord
1	No	No	No	No	No	Off	0	Red	No

2	No	No	No	No	No	Off	0	Green	No
3	No	Yes	No	No	No	Off	0	Green	No
4	No	Yes	No	No	No	Off	0	Green	No
5	No	Yes	No	No	No	Off	0	Green	No
6	No	Yes	No	No	No	Off	0	Green	No
7	No	No	No	No	No	Off	0	Green	No
8	No	No	No	No	No	Off	0	Green	No
9	No	No	No	No	No	Off	0	Green	No
10	No	No	No	No	No	Off	0	Green	No

Preempt	Exit Timing Plan	Reservice	Free During Pmt Ring 1	Free During Pmt Ring 2	Free During Pmt Ring 3	Free During Pmt Ring 4
1	0	0	No	No	No	No
2	0	0	No	No	No	No
3	0	0	No	No	No	No
4	0	0	No	No	No	No
5	0	0	No	No	No	No
6	0	0	No	No	No	No
7	0	0	No	No	No	No
8	0	0	No	No	No	No
9	0	0	No	No	No	No
10	0	0	No	No	No	No

Preempt	Entrance Walk	Entrance Ped Clear	Entrance Min Green	Entrance Yellow	Entrance Red	Track Clear Min Green	Gate Down Ext Green	Gate Down Max Green	Track Clear Yellow	Track Clear Red
1	0	255	5	4.0	1.0	0	0	0	4.0	1.0
2	0	255	5	4.0	1.0	0	0	0	4.0	1.0
3	0	7	5	4.0	1.0	0	0	0	4.0	1.0
4	0	7	5	4.0	1.0	0	0	0	4.0	1.0
5	0	7	5	4.0	1.0	0	0	0	4.0	1.0
6	0	7	5	4.0	1.0	0	0	0	4.0	1.0
7	0	255	5	4.0	1.0	0	0	0	4.0	1.0
8	0	255	5	4.0	1.0	0	0	0	4.0	1.0
9	0	255	5	4.0	1.0	0	0	0	4.0	1.0
10	0	255	5	4.0	1.0	0	0	0	4.0	1.0

Preempt	Min Dwell Time	Extend Preempt Input Time	Max Preempt Call Time	Exit Yellow Time	Exit Red Time	Preempt Active Out	Preempt Active Dwell	Other Priority Preempt	Non-Priority Preempt
1	0	0.0	0	4.0	1.0	On	No	Off	Off
2	0	0.0	0	4.0	1.0	On	No	Off	Off
3	0	0.0	240	3.0	1.0	On	No	Off	Off
4	0	0.0	240	3.0	1.0	On	No	Off	Off
5	0	0.0	240	3.0	1.0	On	No	Off	Off
6	0	0.0	240	3.0	1.0	On	No	Off	Off
7	0	0.0	0	4.0	1.0	On	No	Off	Off
8	0	0.0	0	4.0	1.0	On	No	Off	Off
9	0	0.0	0	4.0	1.0	On	No	Off	Off
10	0	0.0	0	4.0	1.0	On	No	Off	Off

Louisville - HWY42 & S Boulder Rd

Preemptor Preempt Filtering

Enable Preempt Filtering and
TSP/SCP (MM)4-2

Input	Solid	Pulsing
3	Preemption -3	Preemption -7
4	Preemption -4	Preemption -8
5	Preemption -5	Preemption -9
6	Preemption -6	Preemption -10

Louisville - HWY42 & S Boulder Rd

Time Base Clock/Calendar

Clock/Calendar Options (MM)5-1

Enable Action Plan: 0

Sync Reference Time: 12:00 AM

Sync Reference: Reference Time

Day Light Savings: No

Time Reset Input Set Time: 3:30:00

Standard Time From GMT: 0

Louisville - HWY42 & S Boulder Rd

Time Base Action Plan

Action Plan (MM)5-2											
Plan	Pattern	Veh Det Plan	Flash	Red Reset	Controller Seq	Timing Plan	System Override	Detector Log	Veh Det Diag Plan	Ped Det Diag Plan	Dimming Enable
1	1	1	No	No	1	1	Yes	15	1	1	No
2	2	1	No	No	1	1	Yes	15	2	2	No
3	3	1	No	No	1	1	Yes	15	1	1	No
4	4	1	No	No	1	1	Yes	None	0	0	No
20	254 - FREE	1	No	No	1	1	No	None	0	0	No

Action Plan Phases											
Plan	Phase	Red Rcl	Walk 2	Vex 2	Veh Rcl	Max Rcl	Max 2	Max 3	CS Inhibit	Omit	

Acion Plan Special Functions		Action Plan Auxiliary Functions	
Plan	Function	Plan	Function

Logic Statement Control	
Plan	LP Statement Control

Louisville - HWY42 & S Boulder Rd

Time Base Day Plan/Schedule

Day Plan (MM)5-3			
Plan	Event	Action Plan	Start Time
1	1	1	6:30 AM
1	2	2	9:30 AM
1	3	3	3:00 PM
1	4	2	7:30 PM
2	1	2	8:00 AM

AM Peak = Action Plan 1

PM Peak = Action Plan 3

Sat = Action Plan 2

Schedule (MM)5-4				
Schedule Number	Day Plan Number	Months	Days of Week	Days of Month
1	1	Jan, Feb, Mar, Apr, May, Jun, Jul, Aug, Sept, Oct, Nov, Dec	Mon, Tues, Wed, Thurs, Fri	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31
2	2	Jan, Feb, Mar, Apr, May, Jun, Jul, Aug, Sept, Oct, Nov, Dec	Sun, Sat	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31

Louisville - HWY42 & S Boulder Rd

Time Base Exceptions

Day	Fixed/Float	Exception Day Program (MM)5-5			
		Month	Day of Week/Month	Week of Month/Year	Day Plan
1	FLOAT	0	0	0	0
2	FLOAT	0	0	0	0
3	FLOAT	0	0	0	0
4	FLOAT	0	0	0	0
5	FLOAT	0	0	0	0
6	FLOAT	0	0	0	0
7	FLOAT	0	0	0	0
8	FLOAT	0	0	0	0
9	FLOAT	0	0	0	0
10	FLOAT	0	0	0	0
11	FLOAT	0	0	0	0
12	FLOAT	0	0	0	0
13	FLOAT	0	0	0	0
14	FLOAT	0	0	0	0
15	FLOAT	0	0	0	0
16	FLOAT	0	0	0	0
17	FLOAT	0	0	0	0
18	FLOAT	0	0	0	0
19	FLOAT	0	0	0	0
20	FLOAT	0	0	0	0
21	FLOAT	0	0	0	0
22	FLOAT	0	0	0	0
23	FLOAT	0	0	0	0
24	FLOAT	0	0	0	0
25	FLOAT	0	0	0	0
26	FLOAT	0	0	0	0
27	FLOAT	0	0	0	0
28	FLOAT	0	0	0	0
29	FLOAT	0	0	0	0
30	FLOAT	0	0	0	0
31	FLOAT	0	0	0	0
32	FLOAT	0	0	0	0
33	FLOAT	0	0	0	0
34	FLOAT	0	0	0	0
35	FLOAT	0	0	0	0
36	FLOAT	0	0	0	0

Louisville - HWY42 & S Boulder Rd

Detectors

Detectors Page 1

Vehicle Detectors Setup (MM)6-1		
Vehicle Plan	Detector Number	Called
1	1	2
1	3	5
1	5	6
1	7	1
1	9	8
1	11	3
1	13	4
1	15	7

Vehicle Detector Setup (MM)6-2 continued

Detector
Number

ECPI

TS2 Detector

Detector Description

Vehicle Detector Setup (MM)6-2 continued

Detector Number	Vehicle Plan	Assigned Phase	Switch Phase	Extend Time	Delay Time	Queue Limit	Yellow Lock	Added Option	Call Option	Passage Option	Queue Option	NTCIP Occupancy	NTCIP Volume	ECPI Log	Red Lock
1	1	2	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
1	2	1	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
1	3	1	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
1	4	1	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
2	1	2	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
2	2	2	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
2	3	2	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
2	4	2	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
3	1	5	0	0.0	0.0	0	No	No	Yes	Yes	No	Yes	Yes	No	No
3	2	3	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
3	3	3	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
3	4	3	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
4	1	4	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
4	2	4	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
4	3	4	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
4	4	4	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
5	1	6	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
5	2	5	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
5	3	5	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
5	4	5	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
6	1	6	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
6	2	6	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
6	3	6	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
6	4	6	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
7	1	1	0	0.0	0.0	0	No	No	Yes	Yes	No	Yes	Yes	No	No
7	2	7	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
7	3	7	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
7	4	7	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
8	1	8	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
8	2	8	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
8	3	8	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
8	4	8	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
9	1	8	0	0.0	0.0	0	No	No	Yes	Yes	No	Yes	Yes	No	No
9	2	9	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
9	3	9	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
9	4	9	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
10	1	10	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
10	2	10	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
10	3	10	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
10	4	10	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
11	1	3	0	0.0	0.0	0	No	No	Yes	Yes	No	Yes	Yes	No	No
11	2	11	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
11	3	11	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
11	4	11	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
12	1	12	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
12	2	12	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
12	3	12	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
12	4	12	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
13	1	4	0	0.0	0.0	0	No	No	Yes	Yes	No	Yes	Yes	No	No
13	2	13	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
13	3	13	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
13	4	13	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No

14	1	14	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
14	2	14	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
14	3	14	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
14	4	14	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
15	1	7	0	0.0	0.0	0	No	No	Yes	Yes	No	Yes	Yes	No	No
15	2	15	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
15	3	15	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
15	4	15	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
16	1	16	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
16	2	16	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
16	3	16	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
16	4	16	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No

Ped and System Detector Options
(MM)6-4

Phase Ped Detector

Local Ped Detector	Number
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16

Local System Detector

Local System Detector	Number
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Louisville - HWY42 & S Boulder Rd

Detectors**Detectors Page 2**

Log - Speed Detector Setup (MM)6-5

NTCIP Log ECPI Log Period: Length Unit:
 Period: 60 TBAP Inch

Speed Detector	Local Detector	One/Two Detector	Vehicle Length	Trap Length	Enable Log
1	0	1	0	0	No
2	0	1	0	0	No
3	0	1	0	0	No
4	0	1	0	0	No
5	0	1	0	0	No
6	0	1	0	0	No
7	0	1	0	0	No
8	0	1	0	0	No
9	0	1	0	0	No
10	0	1	0	0	No
11	0	1	0	0	No
12	0	1	0	0	No
13	0	1	0	0	No
14	0	1	0	0	No
15	0	1	0	0	No
16	0	1	0	0	No

Vehicle Detector Diagnostics (MM)6-6

Plan	Detector	Counts	Act	Pres	Multiplier	Failed Time	Failed Call Delay
1	1	0	0	0	1	255	0
1	2	0	0	0	1	255	0
1	3	0	0	240	2	0	0
1	4	0	0	0	1	255	0
1	5	0	0	0	1	255	0
1	6	0	0	0	1	255	0
1	7	0	0	240	2	0	0
1	8	0	0	0	1	255	0
1	9	0	0	15	1	255	0
1	10	0	0	0	1	255	0
1	11	0	0	240	2	0	0
1	12	0	0	0	1	255	0
1	13	0	0	240	2	0	0
1	14	0	0	0	1	255	0
1	15	0	0	240	2	0	0
1	16	0	0	0	1	255	0
1	17	0	0	0	1	255	0
1	18	0	0	0	1	255	0
1	19	0	0	0	1	255	0
1	20	0	0	0	1	255	0
1	21	0	0	0	1	255	0
1	22	0	0	0	1	255	0
1	23	0	0	0	1	255	0
1	24	0	0	0	1	255	0
1	25	0	0	0	1	255	0
1	26	0	0	0	1	255	0
1	27	0	0	0	1	255	0
1	28	0	0	0	1	255	0

1	29	0	0	0	1	255	0
1	30	0	0	0	1	255	0
1	31	0	0	0	1	255	0
1	32	0	0	0	1	255	0
1	33	0	0	0	1	255	0
1	34	0	0	0	1	255	0
1	35	0	0	0	1	255	0
1	36	0	0	0	1	255	0
1	37	0	0	0	1	255	0
1	38	0	0	0	1	255	0
1	39	0	0	0	1	255	0
1	40	0	0	0	1	255	0
1	41	0	0	0	1	255	0
1	42	0	0	0	1	255	0
1	43	0	0	0	1	255	0
1	44	0	0	0	1	255	0
1	45	0	0	0	1	255	0
1	46	0	0	0	1	255	0
1	47	0	0	0	1	255	0
1	48	0	0	0	1	255	0
1	49	0	0	0	1	255	0
1	50	0	0	0	1	255	0
1	51	0	0	0	1	255	0
1	52	0	0	0	1	255	0
1	53	0	0	0	1	255	0
1	54	0	0	0	1	255	0
1	55	0	0	0	1	255	0
1	56	0	0	0	1	255	0
1	57	0	0	0	1	255	0
1	58	0	0	0	1	255	0
1	59	0	0	0	1	255	0
1	60	0	0	0	1	255	0
1	61	0	0	0	1	255	0
1	62	0	0	0	1	255	0
1	63	0	0	0	1	255	0
1	64	0	0	0	1	255	0
2	1	0	0	0	1	255	0
2	2	0	0	0	1	255	0
2	3	0	0	0	1	255	0
2	4	0	0	0	1	255	0
2	5	0	0	0	1	255	0
2	6	0	0	0	1	255	0
2	7	0	0	0	1	255	0
2	8	0	0	0	1	255	0
2	9	0	0	0	1	255	0
2	10	0	0	0	1	255	0
2	11	0	0	0	1	255	0
2	12	0	0	0	1	255	0
2	13	0	0	0	1	255	0
2	14	0	0	0	1	255	0
2	15	0	0	0	1	255	0
2	16	0	0	0	1	255	0
2	17	0	0	0	1	255	0
2	18	0	0	0	1	255	0
2	19	0	0	0	1	255	0
2	20	0	0	0	1	255	0
2	21	0	0	0	1	255	0
2	22	0	0	0	1	255	0
2	23	0	0	0	1	255	0
2	24	0	0	0	1	255	0

2	25	0	0	0	1	255	0
2	26	0	0	0	1	255	0
2	27	0	0	0	1	255	0
2	28	0	0	0	1	255	0
2	29	0	0	0	1	255	0
2	30	0	0	0	1	255	0
2	31	0	0	0	1	255	0
2	32	0	0	0	1	255	0
2	33	0	0	0	1	255	0
2	34	0	0	0	1	255	0
2	35	0	0	0	1	255	0
2	36	0	0	0	1	255	0
2	37	0	0	0	1	255	0
2	38	0	0	0	1	255	0
2	39	0	0	0	1	255	0
2	40	0	0	0	1	255	0
2	41	0	0	0	1	255	0
2	42	0	0	0	1	255	0
2	43	0	0	0	1	255	0
2	44	0	0	0	1	255	0
2	45	0	0	0	1	255	0
2	46	0	0	0	1	255	0
2	47	0	0	0	1	255	0
2	48	0	0	0	1	255	0
2	49	0	0	0	1	255	0
2	50	0	0	0	1	255	0
2	51	0	0	0	1	255	0
2	52	0	0	0	1	255	0
2	53	0	0	0	1	255	0
2	54	0	0	0	1	255	0
2	55	0	0	0	1	255	0
2	56	0	0	0	1	255	0
2	57	0	0	0	1	255	0
2	58	0	0	0	1	255	0
2	59	0	0	0	1	255	0
2	60	0	0	0	1	255	0
2	61	0	0	0	1	255	0
2	62	0	0	0	1	255	0
2	63	0	0	0	1	255	0
2	64	0	0	0	1	255	0
3	1	0	0	0	1	255	0
3	2	0	0	0	1	255	0
3	3	0	0	0	1	255	0
3	4	0	0	0	1	255	0
3	5	0	0	0	1	255	0
3	6	0	0	0	1	255	0
3	7	0	0	0	1	255	0
3	8	0	0	0	1	255	0
3	9	0	0	0	1	255	0
3	10	0	0	0	1	255	0
3	11	0	0	0	1	255	0
3	12	0	0	0	1	255	0
3	13	0	0	0	1	255	0
3	14	0	0	0	1	255	0
3	15	0	0	0	1	255	0
3	16	0	0	0	1	255	0
3	17	0	0	0	1	255	0
3	18	0	0	0	1	255	0
3	19	0	0	0	1	255	0
3	20	0	0	0	1	255	0

3	21	0	0	0	1	255	0
3	22	0	0	0	1	255	0
3	23	0	0	0	1	255	0
3	24	0	0	0	1	255	0
3	25	0	0	0	1	255	0
3	26	0	0	0	1	255	0
3	27	0	0	0	1	255	0
3	28	0	0	0	1	255	0
3	29	0	0	0	1	255	0
3	30	0	0	0	1	255	0
3	31	0	0	0	1	255	0
3	32	0	0	0	1	255	0
3	33	0	0	0	1	255	0
3	34	0	0	0	1	255	0
3	35	0	0	0	1	255	0
3	36	0	0	0	1	255	0
3	37	0	0	0	1	255	0
3	38	0	0	0	1	255	0
3	39	0	0	0	1	255	0
3	40	0	0	0	1	255	0
3	41	0	0	0	1	255	0
3	42	0	0	0	1	255	0
3	43	0	0	0	1	255	0
3	44	0	0	0	1	255	0
3	45	0	0	0	1	255	0
3	46	0	0	0	1	255	0
3	47	0	0	0	1	255	0
3	48	0	0	0	1	255	0
3	49	0	0	0	1	255	0
3	50	0	0	0	1	255	0
3	51	0	0	0	1	255	0
3	52	0	0	0	1	255	0
3	53	0	0	0	1	255	0
3	54	0	0	0	1	255	0
3	55	0	0	0	1	255	0
3	56	0	0	0	1	255	0
3	57	0	0	0	1	255	0
3	58	0	0	0	1	255	0
3	59	0	0	0	1	255	0
3	60	0	0	0	1	255	0
3	61	0	0	0	1	255	0
3	62	0	0	0	1	255	0
3	63	0	0	0	1	255	0
3	64	0	0	0	1	255	0
4	1	0	0	0	1	255	0
4	2	0	0	0	1	255	0
4	3	0	0	0	1	255	0
4	4	0	0	0	1	255	0
4	5	0	0	0	1	255	0
4	6	0	0	0	1	255	0
4	7	0	0	0	1	255	0
4	8	0	0	0	1	255	0
4	9	0	0	0	1	255	0
4	10	0	0	0	1	255	0
4	11	0	0	0	1	255	0
4	12	0	0	0	1	255	0
4	13	0	0	0	1	255	0
4	14	0	0	0	1	255	0
4	15	0	0	0	1	255	0
4	16	0	0	0	1	255	0

4	17	0	0	0	1	255	0
4	18	0	0	0	1	255	0
4	19	0	0	0	1	255	0
4	20	0	0	0	1	255	0
4	21	0	0	0	1	255	0
4	22	0	0	0	1	255	0
4	23	0	0	0	1	255	0
4	24	0	0	0	1	255	0
4	25	0	0	0	1	255	0
4	26	0	0	0	1	255	0
4	27	0	0	0	1	255	0
4	28	0	0	0	1	255	0
4	29	0	0	0	1	255	0
4	30	0	0	0	1	255	0
4	31	0	0	0	1	255	0
4	32	0	0	0	1	255	0
4	33	0	0	0	1	255	0
4	34	0	0	0	1	255	0
4	35	0	0	0	1	255	0
4	36	0	0	0	1	255	0
4	37	0	0	0	1	255	0
4	38	0	0	0	1	255	0
4	39	0	0	0	1	255	0
4	40	0	0	0	1	255	0
4	41	0	0	0	1	255	0
4	42	0	0	0	1	255	0
4	43	0	0	0	1	255	0
4	44	0	0	0	1	255	0
4	45	0	0	0	1	255	0
4	46	0	0	0	1	255	0
4	47	0	0	0	1	255	0
4	48	0	0	0	1	255	0
4	49	0	0	0	1	255	0
4	50	0	0	0	1	255	0
4	51	0	0	0	1	255	0
4	52	0	0	0	1	255	0
4	53	0	0	0	1	255	0
4	54	0	0	0	1	255	0
4	55	0	0	0	1	255	0
4	56	0	0	0	1	255	0
4	57	0	0	0	1	255	0
4	58	0	0	0	1	255	0
4	59	0	0	0	1	255	0
4	60	0	0	0	1	255	0
4	61	0	0	0	1	255	0
4	62	0	0	0	1	255	0
4	63	0	0	0	1	255	0
4	64	0	0	0	1	255	0

Pedestrian Detector Diagnostics (MM)6-7

Plan	Detector	Counts	Act	Pres	Multiplier
1	2	0	0	240	1
1	4	0	0	240	1
1	6	0	0	240	1
1	8	0	0	240	1

Louisville - S Boulder Rd & Main

Configuration Phase Sequence Page 1

Phase Ring (MM)1-1-1

Phase

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	1	1	1	2	2	2	2	1	1	2	2	1	1	2	2

Hardware Alternate Sequence Enable: No

Phase Ring Sequence

Sequence Ring	Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	1	2	1	3	4	9	10	13	14	0	0	0	0	0	0	0	0
1	2	6	5	8	7	11	12	15	16	0	0	0	0	0	0	0	0
2	1	2	1	3	4	10	9	13	14	0	0	0	0	0	0	0	0
2	2	5	6	7	8	11	12	15	16	0	0	0	0	0	0	0	0
3	1	1	2	4	3	9	10	14	13	0	0	0	0	0	0	0	0
3	2	5	6	7	8	11	12	15	16	0	0	0	0	0	0	0	0
4	1	2	1	4	3	10	9	14	13	0	0	0	0	0	0	0	0
4	2	5	6	7	8	11	12	15	16	0	0	0	0	0	0	0	0
5	1	1	2	3	4	9	10	13	14	0	0	0	0	0	0	0	0
5	2	6	5	7	8	12	11	15	16	0	0	0	0	0	0	0	0
6	1	2	1	3	4	10	9	13	14	0	0	0	0	0	0	0	0
6	2	6	5	7	8	12	11	15	16	0	0	0	0	0	0	0	0
7	1	1	2	4	3	9	10	14	13	0	0	0	0	0	0	0	0
7	2	6	5	7	8	12	11	15	16	0	0	0	0	0	0	0	0
8	1	2	1	4	3	10	9	14	13	0	0	0	0	0	0	0	0
8	2	6	5	7	8	12	11	15	16	0	0	0	0	0	0	0	0
9	1	1	2	3	4	9	10	13	14	0	0	0	0	0	0	0	0
9	2	5	6	8	7	11	12	16	15	0	0	0	0	0	0	0	0
10	1	2	1	3	4	10	9	13	14	0	0	0	0	0	0	0	0
10	2	5	6	8	7	11	12	16	15	0	0	0	0	0	0	0	0
11	1	1	2	4	3	9	10	14	13	0	0	0	0	0	0	0	0
11	2	5	6	8	7	11	12	16	15	0	0	0	0	0	0	0	0
12	1	2	1	4	3	10	9	14	13	0	0	0	0	0	0	0	0
12	2	5	6	8	7	11	12	16	15	0	0	0	0	0	0	0	0
13	1	1	2	3	4	9	10	13	14	0	0	0	0	0	0	0	0
13	2	6	5	8	7	12	11	16	15	0	0	0	0	0	0	0	0
14	1	2	1	3	4	10	9	13	14	0	0	0	0	0	0	0	0
14	2	6	5	8	7	12	11	16	15	0	0	0	0	0	0	0	0
15	1	1	2	4	3	9	10	14	13	0	0	0	0	0	0	0	0
15	2	6	5	8	7	12	11	16	15	0	0	0	0	0	0	0	0
16	1	2	1	4	3	10	9	14	13	0	0	0	0	0	0	0	0
16	2	6	5	8	7	12	11	16	15	0	0	0	0	0	0	0	0

Phase
Compatibility
(MM)1-1-2
Phase 1 Phase 2

1	5
1	6
2	5
2	6
3	7
3	8
4	7
4	8
9	11
9	12
10	11
10	12
13	15
13	16
14	15
14	16

Phase Direction
Descriptions
Phase Description

Overlap Direction
Descriptions
Overlap Description

Administration (MM)1-7-1

Enable CRC Check: No

CRC: 0000

Request Download Program Data: No

Louisville - S Boulder Rd & Main

Configuration Phase Sequence Page 2

In Use(MM)1- 2	Exclusive Ped(MM)1-2 Phase	Backup Prevent(MM)1-1-3 Phase Timing Phase Backup	Simultaneous Gap(MM)1-1-4 Must Gap with Phase	Disable(MM)1- 1-4 Phase
1				
2				
4				
5				
6				
7				
8				

Load Switch Assignments (MMU Channel) (MM)1-3

Phase	Overlap	Type	Dim R	Y	G	D	Auto R	Y	Flash Together
1	1	V				+	Yes		
2	2	V				+	Yes		Yes
3	3	O				+	Yes		
4	4	V				+	Yes		Yes
5	5	V				-	Yes		
6	2	O				-	Yes		Yes
7	4	O				-	Yes		
8	8	V				-	Yes		Yes
9	2	P				+			
10	4	P				+			
11	6	P				-			
12	8	P				-			
13	1	O				+	Yes		
14	5	O				-	Yes		Yes
15	15					+	Yes		
16	16					-	Yes		Yes

Louisville - S Boulder Rd & Main

Configuration Port 1 (SDLC)

SDLC Options (MM)1-4-1

Bus Interface Terminal/Facilities

BIU	Term and Facility Enable	Detector Rack Enable
1	Yes	Yes
2	Yes	No
3	No	No
4	No	No
5	No	No
6	No	No
7	No	No
8	No	No

Enable TS2/MMU Type Cabinet: Yes

Enable MMU Extended Status: No

Enable SDLC Stop Time: No

Enable 3 Critical RFE's Lockup: Yes

Diagonstics (Test Fixture) Enable: No

Secondary To Secondary Addressing

ID	Term and Facility Enable	Detector Rack Enable
1	No	No
2	No	No
3	No	No
4	No	No
5	No	No
6	No	No
7	No	No
8	No	No

Secondary To Secondary Addressing MMU: No

Secondary To Secondary Addressing Diagonstics: No

MMU Program (MM)1-4-2

Channel Can Serve with
Channel

Channel 1 Channel 2

Color Check Enable (MM)1-4-3

Enable Color Check: No

Color Check Enable

MMU Channel	Green	Yellow	Red
1	Yes	Yes	Yes
2	Yes	Yes	Yes
3	Yes	Yes	Yes
4	Yes	Yes	Yes
5	Yes	Yes	Yes
6	Yes	Yes	Yes
7	Yes	Yes	Yes
8	Yes	Yes	Yes
9	Yes	Yes	Yes
10	Yes	Yes	Yes
11	Yes	Yes	Yes

12	Yes	Yes	Yes
13	Yes	Yes	Yes
14	Yes	Yes	Yes
15	Yes	Yes	Yes
16	Yes	Yes	Yes

Louisville - S Boulder Rd & Main

Configuration Communications

Ethernet Port Configuration (MM)1-5-1 NTCIP Parameters (MM)1-5-5

Controller IP: 172.16.10.113Backup Time: 0

Subnet Mask: 255.255.252.0UDP Port: 501

Default Gateway IP: 172.16.11.254Ethernet Priority: 1

Server IP: 172.16.50.1Port 2 Priority: 2

Port 3A Priority: 3

Port 3B Priority: 4

Note for 2070: Port 2 is C50S, Port 3A is C21S, and Port 3B is C22S

Port Configuration (MM)1-5-2 to 1-5-4

Port	Protocol	Enable	Data Rate	Data Parity Stop	Modem Setup String	User String	Comm Port Address	System Detector 9-1	Telemetry Response Delay	Duplex Half/Full	Flow Control	AB3418 NTCIP Group Address	AB3418 NTCIP Single Flag Enable	RTS to CTS Delay	RTS Turn Off Delay	Droupout Time	Early RTS	FSK Hardware
2	NTCIP	Yes	9600	8 N 1	None		1	0	0.0	Half	Yes	0	No	0.0	0.0	0	No	Yes
3A	ECPIP	No	9600	8 0 1	None		0	0	0.0	Full	No	0	No	0.0	0.0	10	No	Yes
3B	AB3418	No	1200	8 0 1	None		1	0	0.9	Full	Yes	0	No	3.0	2.0	300	No	Yes

ECPIP Parameters (MM)1-5-6

Expanded System Detector Address: 0

Local System Detector

Local System Detector	Number
-----------------------	--------

Louisville - S Boulder Rd & Main

Configuration Logging/Display

Enable Event Logs (MM)1-6-1		Alarm Logs (MM)1-6-1
Critical RFE's:	Yes	Enabled:
3 Critical RFE's in 24 Hours:	Yes	12345678910111213141516
MMU Flash Faults:	Yes	
Local Flash Faults:	Yes	
Non-Critical RFE's (Det/Test):	Yes	
Detector Errors:	Yes	
Coordination Errors:	Yes	
Controller Download:	Yes	
Preempt:	Yes	
TSP:	Yes	
Power On/Off:	Yes	
Low Battery:	Yes	
Access:	Yes	
Data Change:	Yes	

Display Options (MM)1-7-2
Key Click Enable: Yes
Backlight Enable: Yes

Louisville - S Boulder Rd & Main

Logic Processor Page 1
Statement Control (MM)1-8-1

LP	Statement Control
2	E
3	E
4	E

Louisville - S Boulder Rd & Main

Logic Processor Page 2

Logic Statements (MM)1-8-2

Statement Number: 1

IF:

	Assignment	#	State
IF	PREEMPT ACTIVE	1	IS ON

THEN:

	Assignment	#	State
IS		9	Sec ON

ELSE:

	Assignment	#	State

Statement Number: 2

IF:

	Assignment	#	State
IF	WALK ON PHASE	6	IS ON
OR	PED CLEAR ON PHASE	6	IS ON

THEN:

	Assignment	#	State
SET OVLP GREEN 5		5	ON

ELSE:

	Assignment	#	State
SET OVLP GREEN 5			OFF

Statement Number: 3

IF:

	Assignment	#	State
IF	WALK ON PHASE	2	IS ON
OR	PED CLEAR ON PHASE	2	IS ON

THEN:

	Assignment	#	State
SET OVLP GREEN 6			ON

ELSE:

	Assignment	#	State
SET OVLP GREEN 6			OFF

Statement Number: 4

IF:

	Assignment	#	State
IF	WALK ON PHASE	4	IS ON
OR	PED CLEAR ON PHASE	4	IS ON

THEN:

Assignment	#	State
SET OVLP GREEN 7		ON

ELSE:

Assignment	#	State
SET OVLP GREEN 7		OFF

Louisville - S Boulder Rd & Main

Controller Timing Plan (MM)2-1

Plan 1

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Min Green	5	35	0	5	3	35	5	5	0	0	0	0	0	0	0	0
BK Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Green	0	6	0	6	0	6	0	6	0	0	0	0	0	0	0	0
Walk	0	6	0	6	0	6	0	6	0	0	0	0	0	0	0	0
Walk 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear	0	17	0	32	0	17	0	24	0	0	0	0	0	0	0	0
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Ext	5.0	5.0	0.0	2.0	2.0	5.0	2.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vehicle Ext 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max 1	12	76	0	15	6	76	15	15	0	0	0	0	0	0	0	0
Max 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Stp	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	4.0	4.0	0.0	3.0	4.0	4.0	3.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Clear	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ACT B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEC/ACT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Int	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPT Duc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Plan 2

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Min Green	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
BK Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	10	0	10	0	10	0	10	0	10	0	10	0	10	0	10
Walk 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear	0	16	0	16	0	16	0	16	0	16	0	16	0	16	0	16
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Ext	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Ext 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max 1	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Max 2	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Max 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Stp	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Red Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ACT B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEC/ACT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Int	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPT Duc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Plan 3

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Min Green	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
BK Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	10	0	10	0	10	0	10	0	10	0	10	0	10	0	10
Walk 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear	0	16	0	16	0	16	0	16	0	16	0	16	0	16	0	16
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Ext	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Ext 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max 1	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Max 2	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Max 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Stp	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Red Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ACT B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEC/ACT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Int	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPT Duc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Plan 4

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Min Green	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
BK Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	10	0	10	0	10	0	10	0	10	0	10	0	10	0	10
Walk 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear	0	16	0	16	0	16	0	16	0	16	0	16	0	16	0	16
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Ext	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Ext 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max 1	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Max 2	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Max 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Stp	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Red Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ACT B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEC/ACT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Int	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPT Duc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Louisville - S Boulder Rd & Main

Controller Overlaps

Vehicle Overlaps (MM)2-2

Overlap	Type	Lag Green	Yellow	Red	Advance Green
A	Normal	0.0	0.0	0.0	0.0
B	Normal	0.0	0.0	0.0	0.0
C	Normal	0.0	0.0	0.0	0.0
D	Normal	0.0	0.0	0.0	0.0

Phases

Overlap	Phase	Included	Protect	Modifier	Ped Protect	Not Overlap	Lag X Phase	Lag 2 Phase	Flash Green
A	1	Yes	No	No	No	No	No	No	0
A	6	Yes	No	No	No	No	No	No	0
B	6	Yes	No	No	No	No	No	No	0
B	7	Yes	No	No	No	No	No	No	0
C	7	Yes	No	No	No	No	No	No	0
C	8	Yes	No	No	No	No	No	No	0
D	1	Yes	No	No	No	No	No	No	0
D	2	Yes	No	No	No	No	No	No	0
D	7	Yes	No	No	No	No	No	No	0

Guaranteed Minimum Time Data (MM) 2-4

Phase Time Data

Phase	Min Green	Walk	Ped Clear	Yellow	Red Clear	Overlap Green
A01	5	0	7	3.0	0.0	5
B02	5	0	7	3.0	0.0	5
C03	5	0	7	3.0	0.0	5
D04	5	0	7	3.0	0.0	5
E05	5	0	7	3.0	0.0	5
F06	5	0	7	3.0	0.0	5
G07	5	0	7	3.0	0.0	5
H08	5	0	7	3.0	0.0	5
I09	5	0	7	3.0	0.0	5
J10	5	0	7	3.0	0.0	5
K11	5	0	7	3.0	0.0	5
L12	5	0	7	3.0	0.0	5
M13	5	0	7	3.0	0.0	5
N14	5	0	7	3.0	0.0	5
O15	5	0	7	3.0	0.0	5
P16	5	0	7	3.0	0.0	5

Louisville - S Boulder Rd & Main

Controller Pedestrian Overlaps

Pedestrian Overlaps (MM) 2-3

Included Phase Ped Overlap

Louisville - S Boulder Rd & Main

Controller Start/Fash (MM) 2-5

Startup

Phase	Phase Setting
2	Y
6	Y

Overlap

- A
- B
- C
- D

Flash > Mon:	No
Flash Time:	0
All Red:	0
Power Start Sequence:	1

Automatic Flash

Entry Phase

- 2
- 6

Exit Phase

- 2
- 6

Overlap Exit

- A
- B
- C
- D

Flash > Mon:	No
Exit Flash Interval:	W
Minimum Auto Flash:	8
Minimumin Recall:	No
Cycle Through Phase:	No

Louisville - S Boulder Rd & Main

Controller Options

Controller Options (MM)2-6-1

Phase	Flashing Green Phase	Guaranteed Passage	Non Act 1	Non Act 2	Dual Entry	Conditional Service	Conditional Reservice	Ped Reservice	Rest In Walk	Flashing Walk	Ped Clear Yellow	Ped Clear Red	IGRN + Veh Ext
2	No	No	Yes	No	Yes	No	No	No	Yes	No	No	No	No
4	No	No	No	Yes	Yes	No	No	No	No	No	No	No	No
6	No	No	Yes	No	Yes	No	No	No	Yes	No	No	No	No
8	No	No	No	Yes	Yes	No	No	No	No	No	No	No	No

Ped Clear Protect: Off Red Revert: 2.0

Act Pre-Time (MM)2-7

Pre-Time Mode Enable: No Free Input Enables Pre-Timed: Yes

Pre-Timed Phase

Phase Recall Options (MM)2-8

Plan	Phase	Lock Detector	Vehicle Recall	Ped Recall	Max Recall	Soft Recall	No Rest	AI Calc
1	2	No	No	No	Yes	No	No	No
1	6	No	No	No	Yes	No	No	No
2	1	Yes	No	No	No	No	No	No
2	2	Yes	No	No	No	No	No	No
2	3	Yes	No	No	No	No	No	No
2	4	Yes	No	No	No	No	No	No
2	5	Yes	No	No	No	No	No	No
2	6	Yes	No	No	No	No	No	No
2	7	Yes	No	No	No	No	No	No
2	8	Yes	No	No	No	No	No	No
2	9	Yes	No	No	No	No	No	No
2	10	Yes	No	No	No	No	No	No
2	11	Yes	No	No	No	No	No	No
2	12	Yes	No	No	No	No	No	No
2	13	Yes	No	No	No	No	No	No
2	14	Yes	No	No	No	No	No	No
2	15	Yes	No	No	No	No	No	No
2	16	Yes	No	No	No	No	No	No
3	1	Yes	No	No	No	No	No	No
3	2	Yes	No	No	No	No	No	No
3	3	Yes	No	No	No	No	No	No
3	4	Yes	No	No	No	No	No	No
3	5	Yes	No	No	No	No	No	No
3	6	Yes	No	No	No	No	No	No
3	7	Yes	No	No	No	No	No	No
3	8	Yes	No	No	No	No	No	No
3	9	Yes	No	No	No	No	No	No
3	10	Yes	No	No	No	No	No	No
3	11	Yes	No	No	No	No	No	No
3	12	Yes	No	No	No	No	No	No
3	13	Yes	No	No	No	No	No	No
3	14	Yes	No	No	No	No	No	No
3	15	Yes	No	No	No	No	No	No
3	16	Yes	No	No	No	No	No	No
4	1	Yes	No	No	No	No	No	No
4	2	Yes	No	No	No	No	No	No
4	3	Yes	No	No	No	No	No	No

4	4	Yes	No	No	No	No	No	No
4	5	Yes	No	No	No	No	No	No
4	6	Yes	No	No	No	No	No	No
4	7	Yes	No	No	No	No	No	No
4	8	Yes	No	No	No	No	No	No
4	9	Yes	No	No	No	No	No	No
4	10	Yes	No	No	No	No	No	No
4	11	Yes	No	No	No	No	No	No
4	12	Yes	No	No	No	No	No	No
4	13	Yes	No	No	No	No	No	No
4	14	Yes	No	No	No	No	No	No
4	15	Yes	No	No	No	No	No	No
4	16	Yes	No	No	No	No	No	No

Louisville - S Boulder Rd & Main

Coordination Options

Coordination Options (MM)3-1

Manual Pattern: Auto
 ECPI Coord: Yes
 System Source: TBC
 System Format: STD
 Splits In: Seconds
 Offsets In: Seconds
 Transition: Smooth
 Max Select: MAXINH
 Dwell/Add Time: 0
 Dly Coord Wz-Lz: No
 Force Off: Float
 Offset Reference: Yell
 Use Ped Time: Yes
 Ped Recall: No
 Ped Resv: No
 Local Zero Ovr: No
 Fo Add Ini Green: No
 Re-sync Count: 0
 Multisync: No

Split Demand (MM)3-5

Demand	Demand
1	2
Phase	Phase

Demand	Detector	Call Time	Cycle Count
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Auto Perm Minimum Green (Seconds) (MM)3-4

Phase	Min Green
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Louisville - S Boulder Rd & Main

Coordination Pattern Data

Pattern	Split Pattern	TS2	Cycle	Pattern Data (MM)3-2		Splits In	Offsets In	Actuated Coord
				Std(COS)	Offset Value			
1	1	0-1	120	111	38	Seconds	Seconds	Yes
2	2	0-2	100	211	76	Seconds	Seconds	Yes
3	3	0-3	120	311	15	Seconds	Seconds	Yes

Pattern	Timing Plan	Actuated Walk Rest	Sequence	Phase Reservice	Action Plan	XArt Pattern	Vehicle Perm 1	Vehicle Perm 2	Vehicle Perm 3
1	1	No	1	No	1	0	0	0	0
2	1	No	1	No	2	0	0	0	0
3	1	No	1	No	3	0	0	0	0

Pattern	Ring Split Ext 1	Ring Split Ext 2	Ring Split Ext 3	Ring Split Ext 4	Split Demand Pattern 1	Split Demand Pattern 2	Ring Displ 2	Ring Displ 3	Ring Displ 4
1	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0

Split Preference Phases

Pattern	Phase	Preference 1	Preference 2
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Special Functions

Pattern	Function Output
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Split Pattern Data (MM)3-3

Coord Phases			Split/Modes													
Split Pattern	Phase	Split	Split Pattern	Mode	Phase											
1	1	14	1	Coord	1	2	3	4	5	6	7	8	9	10	11	12
1	2	67	1	Vehicle Recall	X	X				X						
1	4	39	1	Vehicle Recall	X	X				X						
1	5	14	2	Coord	X					X						
1	6	67	2	Vehicle Recall	X	X				X						
1	7	18	2	Vehicle Recall	X	X				X						
1	8	21	3	Coord	X					X						
2	1	12	3	Vehicle Recall	X	X				X						
2	2	53														
2	4	35														
2	5	12														
2	6	53														
2	7	17														
2	8	18														
3	1	14														
3	2	67														
3	4	39														
3	5	14														
3	6	67														
3	7	18														
3	8	21														

Saturday

AM

PM

Louisville - S Boulder Rd & Main

Preemptor Preempt Plan (MM)4-1

Preempt	Phase	Preempt Phases							Special Function
		Track Clear Veh	Dwell Veh	Dwell Ped	Cycling Veh	Cycling Ped	Exit Phase	Exit Calls	
1	1	Yes	No	No	No	No	No	No	No
1	2	No	No	No	No	No	Yes	Yes	No
1	5	No	No	No	Yes	No	No	No	No
1	6	Yes	No	No	No	No	Yes	Yes	No
1	7	No	No	No	Yes	No	No	No	No
1	8	No	No	No	Yes	No	No	No	No
3	2	No	Yes	No	No	No	No	No	No
3	4	No	No	No	No	No	Yes	No	No
3	5	No	Yes	No	No	No	No	No	No
3	8	No	No	No	No	No	Yes	No	No
4	2	No	No	No	No	No	Yes	No	No
4	6	No	No	No	No	No	Yes	No	No
4	8	No	Yes	No	No	No	No	No	No
5	1	No	Yes	No	No	No	No	No	No
5	4	No	No	No	No	No	Yes	No	No
5	6	No	Yes	No	No	No	No	No	No
5	8	No	No	No	No	No	Yes	No	No
6	2	No	No	No	No	No	Yes	No	No
6	4	No	Yes	No	No	No	No	No	No
6	6	No	No	No	No	No	Yes	No	No
6	7	No	Yes	No	No	No	No	No	No

Preempt	Overlap	Preempt Overlaps			
		Track Clear	Enable Trailing	Dwell Overlap	Cycling Overlap
1	A	Yes	No	No	No
1	B	Yes	No	No	Yes
1	C	No	No	No	Yes
1	D	No	No	No	No
1	E	No	No	No	No
1	F	No	No	No	No
1	G	No	No	No	No
1	H	No	No	No	No
1	I	No	No	No	No
1	J	No	No	No	No
1	K	No	No	No	No
1	L	No	No	No	No
1	M	No	No	No	No
1	N	No	No	No	No
1	O	No	No	No	No
1	P	No	No	No	No
3	A	No	No	No	No
3	B	No	No	No	No
3	C	No	No	No	No
3	D	No	No	Yes	No
3	E	No	No	No	No
3	F	No	No	No	No
3	G	No	No	No	No
3	H	No	No	No	No
3	I	No	No	No	No
3	J	No	No	No	No
3	K	No	No	No	No

3	L	No	No	No	No
3	M	No	No	No	No
3	N	No	No	No	No
3	O	No	No	No	No
3	P	No	No	No	No
4	A	No	No	No	No
4	B	No	No	No	No
4	C	No	No	No	No
4	D	No	No	No	No
4	E	No	No	No	No
4	F	No	No	No	No
4	G	No	No	No	No
4	H	No	No	No	No
4	I	No	No	No	No
4	J	No	No	No	No
4	K	No	No	No	No
4	L	No	No	No	No
4	M	No	No	No	No
4	N	No	No	No	No
4	O	No	No	No	No
4	P	No	No	No	No
5	A	No	No	Yes	No
5	B	No	No	Yes	No
5	C	No	No	No	No
5	D	No	No	No	No
5	E	No	No	No	No
5	F	No	No	No	No
5	G	No	No	No	No
5	H	No	No	No	No
5	I	No	No	No	No
5	J	No	No	No	No
5	K	No	No	No	No
5	L	No	No	No	No
5	M	No	No	No	No
5	N	No	No	No	No
5	O	No	No	No	No
5	P	No	No	No	No
6	A	No	No	No	No
6	B	No	No	Yes	No
6	C	No	No	Yes	No
6	D	No	No	No	No
6	E	No	No	No	No
6	F	No	No	No	No
6	G	No	No	No	No
6	H	No	No	No	No
6	I	No	No	No	No
6	J	No	No	No	No
6	K	No	No	No	No
6	L	No	No	No	No
6	M	No	No	No	No
6	N	No	No	No	No
6	O	No	No	No	No
6	P	No	No	No	No

Preempt	Enable	Preempt Override	Interlock Enable	Detector Lock	Delay	Inhibit	Override Flash	Duration	CLR > GRN
1	Standard	Yes	No	Yes	0	0	No	10	No
2	No	Yes	No	Yes	0	0	No	0	No
3	Standard	No	No	Yes	0	0	No	10	No

4	Standard	No	No	Yes	0	0	No	10	No
5	Standard	No	No	Yes	0	0	No	10	No
6	Standard	No	No	Yes	0	0	No	10	No
7	No	Yes	No	Yes	0	0	No	0	No
8	No	Yes	No	Yes	0	0	No	0	No
9	No	Yes	No	Yes	0	0	No	0	No
10	No	Yes	No	Yes	0	0	No	0	No

Preempt	Term Overlap Asap	PC Through Yellow	Terminate Phase	Ped Dark	Track Clearance Re- service	Dwell Flash	Linked Pmt	Flash Exit Color	Preempt To Coord
1	No	Yes	No	No	No	Off	0	Green	No
2	No	No	No	No	No	Off	0	Green	No
3	No	Yes	No	No	No	Off	0	Green	No
4	No	Yes	No	No	No	Off	0	Green	No
5	No	Yes	No	No	No	Off	0	Green	No
6	No	Yes	No	No	No	Off	0	Green	No
7	No	No	No	No	No	Off	0	Green	No
8	No	No	No	No	No	Off	0	Green	No
9	No	No	No	No	No	Off	0	Green	No
10	No	No	No	No	No	Off	0	Green	No

Preempt	Exit Timing Plan	Reservice	Free During Pmt Ring 1	Free During Pmt Ring 2	Free During Pmt Ring 3	Free During Pmt Ring 4
1	0	0	No	No	No	No
2	0	0	No	No	No	No
3	0	0	No	No	No	No
4	0	0	No	No	No	No
5	0	0	No	No	No	No
6	0	0	No	No	No	No
7	0	0	No	No	No	No
8	0	0	No	No	No	No
9	0	0	No	No	No	No
10	0	0	No	No	No	No

Preempt	Entrance Walk	Entrance Ped Clear	Entrance Min Green	Entrance Yellow	Entrance Red	Track Clear Min Green	Gate Down Ext Green	Gate Down Max Green	Track Clear Yellow	Track Clear Red
1	0	5	5	4.0	1.0	6	0	0	4.0	1.0
2	0	255	5	4.0	1.0	0	0	0	4.0	1.0
3	0	5	5	4.0	1.0	0	0	0	4.0	1.0
4	0	6	5	4.0	1.0	0	0	0	4.0	1.0
5	0	6	5	4.0	1.0	0	0	0	4.0	1.0
6	0	6	5	4.0	1.0	0	0	0	4.0	1.0
7	0	255	5	4.0	1.0	0	0	0	4.0	1.0
8	0	255	5	4.0	1.0	0	0	0	4.0	1.0
9	0	255	5	4.0	1.0	0	0	0	4.0	1.0
10	0	255	5	4.0	1.0	0	0	0	4.0	1.0

Preempt	Min Dwell Time	Extend Preempt Input Time	Max Preempt Call Time	Exit Yellow Time	Exit Red Time	Preempt Active Out	Preempt Active Dwell	Other Priority Preempt	Non-Priority Preempt
1	0	0.0	0	4.0	1.0	On	No	Off	Off
2	0	0.0	0	4.0	1.0	On	No	Off	Off
3	0	0.0	120	4.0	1.0	On	No	Off	Off
4	0	0.0	120	4.0	1.0	On	No	Off	Off
5	0	0.0	120	4.0	1.0	On	No	Off	Off
6	0	0.0	120	4.0	1.0	On	No	Off	Off
7	0	0.0	0	4.0	1.0	On	No	Off	Off
8	0	0.0	0	4.0	1.0	On	No	Off	Off
9	0	0.0	0	4.0	1.0	On	No	Off	Off
10	0	0.0	0	4.0	1.0	On	No	Off	Off

Louisville - S Boulder Rd & Main

Preemptor Preempt Filtering

Enable Preempt Filtering and
TSP/SCP (MM)4-2

Input	Solid	Pulsing
3	Preemption -3	Preemption -7
4	Preemption -4	Preemption -8
5	Preemption -5	Preemption -9
6	Preemption -6	Preemption -10

Louisville - S Boulder Rd & Main

Time Base Clock/Calendar

Clock/Calendar Options (MM)5-1

Enable Action Plan: 0

Sync Reference Time: 12:00 AM

Sync Reference: Reference Time

Day Light Savings: No

Time Reset Input Set Time: 3:30:00

Standard Time From GMT: 0

Louisville - S Boulder Rd & Main

Time Base Action Plan

Action Plan (MM)5-2

Plan	Pattern	Veh Det Plan	Flash	Red Reset	Controller Seq	Timing Plan	System Override	Detector Log	Veh Det Diag Plan	Ped Det Diag Plan	Dimming Enable
1	1	1	No	No	1	1	Yes	None	0	0	No
2	2	1	No	No	1	1	Yes	None	0	0	No
3	3	1	No	No	1	1	Yes	None	0	0	No
20	254 - FREE	1	No	No	1	1	Yes	None	0	0	No
100	Auto	2	No	No	1	1	Yes	None	0	0	No

Action Plan Phases

Plan	Phase	Red Rcl	Walk 2	Vex 2	Veh Rcl	Max Rcl	Max 2	Max 3	CS Inhibit	Omit
------	-------	---------	--------	-------	---------	---------	-------	-------	------------	------

Acion Plan Special Functions		Action Plan Auxiliary Functions	
Plan	Function	Plan	Function

Logic Statement Control

Plan	LP	Statement Control
1	1	E
2	1	E
3	1	E
20	1	E
100	1	E

Louisville - S Boulder Rd & Main

Time Base Day Plan/Schedule

Day Plan (MM)5-3			
Plan	Event	Action Plan	Start Time
1	1	1	6:30 AM
1	2	2	9:30 AM
1	3	3	3:00 PM
1	4	20	7:30 PM
2	1	20	8:00 AM

AM

PM

Sat

Schedule (MM)5-4				
Schedule Number	Day Plan Number	Months	Days of Week	Days of Month
1	1	Jan, Feb, Mar, Apr, May, Jun, Jul, Aug, Sept, Oct, Nov, Dec	Mon, Tues, Wed, Thurs, Fri	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31
2	2	Jan, Feb, Mar, Apr, May, Jun, Jul, Aug, Sept, Oct, Nov, Dec	Sun, Sat	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31

Louisville - S Boulder Rd & Main

Time Base Exceptions

Day	Fixed/Float	Exception Day Program (MM)5-5			
		Month	Day of Week/Month	Week of Month/Year	Day Plan
1	FLOAT	0	0	0	0
2	FLOAT	0	0	0	0
3	FLOAT	0	0	0	0
4	FLOAT	0	0	0	0
5	FLOAT	0	0	0	0
6	FLOAT	0	0	0	0
7	FLOAT	0	0	0	0
8	FLOAT	0	0	0	0
9	FLOAT	0	0	0	0
10	FLOAT	0	0	0	0
11	FLOAT	0	0	0	0
12	FLOAT	0	0	0	0
13	FLOAT	0	0	0	0
14	FLOAT	0	0	0	0
15	FLOAT	0	0	0	0
16	FLOAT	0	0	0	0
17	FLOAT	0	0	0	0
18	FLOAT	0	0	0	0
19	FLOAT	0	0	0	0
20	FLOAT	0	0	0	0
21	FLOAT	0	0	0	0
22	FLOAT	0	0	0	0
23	FLOAT	0	0	0	0
24	FLOAT	0	0	0	0
25	FLOAT	0	0	0	0
26	FLOAT	0	0	0	0
27	FLOAT	0	0	0	0
28	FLOAT	0	0	0	0
29	FLOAT	0	0	0	0
30	FLOAT	0	0	0	0
31	FLOAT	0	0	0	0
32	FLOAT	0	0	0	0
33	FLOAT	0	0	0	0
34	FLOAT	0	0	0	0
35	FLOAT	0	0	0	0
36	FLOAT	0	0	0	0

Louisville - S Boulder Rd & Main

Detectors

Detectors Page 1

Vehicle Detectors Setup (MM)6-1	
Vehicle Plan	Detector Number Called

Vehicle Detector Setup (MM)6-2 continued

Detector Number	ECPI	TS2 Detector	Detector Description
13	0	No	
14	0	No	
15	0	No	
16	0	No	

Vehicle Detector Setup (MM)6-2 continued

Detector Number	Vehicle Plan	Assigned Phase	Switch Phase	Extend Time	Delay Time	Queue Limit	Yellow Lock	Added Option	Call Option	Passage Option	Queue Option	NTCIP Occupancy	NTCIP Volume	ECPI Log	Red Lock
1	1	1	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
1	2	1	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
1	3	1	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
1	4	1	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
2	1	2	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
2	2	2	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
2	3	2	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
2	4	2	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
3	1	3	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
3	2	3	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
3	3	3	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
3	4	3	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
4	1	4	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
4	2	4	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
4	3	4	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
4	4	4	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
5	1	5	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
5	2	5	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
5	3	5	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
5	4	5	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
6	1	6	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
6	2	6	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
6	3	6	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
6	4	6	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
7	1	7	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
7	2	7	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
7	3	7	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
7	4	7	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
8	1	8	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
8	2	8	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
8	3	8	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
8	4	8	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
9	1	9	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
9	2	9	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
9	3	9	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
9	4	9	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
10	1	10	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
10	2	7	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
10	3	10	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
10	4	10	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
11	2	11	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
11	3	11	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
11	4	11	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
12	2	12	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
12	3	12	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
12	4	12	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
13	2	13	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
13	3	13	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No

13	4	13	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
14	2	14	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
14	3	14	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
14	4	14	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
15	2	15	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
15	3	15	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
15	4	15	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
16	2	16	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
16	3	16	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No
16	4	16	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No	No	No

Ped and System Detector Options
(MM)6-4

Phase Ped Detector

Local Ped Detector	Number
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16

Local System Detector

Local System Detector	Number
--------------------------	--------

Louisville - S Boulder Rd & Main

Detectors**Detectors Page 2**

Log - Speed Detector Setup (MM)6-5

NTCIP Log ECPI Log Period: Length Unit:
 Period: 60 TBAP Inch

Speed Detector	Local Detector	One/Two Detector	Vehicle Length	Trap Length	Enable Log
1	0	1	0	0	No
2	0	1	0	0	No
3	0	1	0	0	No
4	0	1	0	0	No
5	0	1	0	0	No
6	0	1	0	0	No
7	0	1	0	0	No
8	0	1	0	0	No
9	0	1	0	0	No
10	0	1	0	0	No
11	0	1	0	0	No
12	0	1	0	0	No
13	0	1	0	0	No
14	0	1	0	0	No
15	0	1	0	0	No
16	0	1	0	0	No

Vehicle Detector Diagnostics (MM)6-6

Plan	Detector	Counts	Act	Pres	Multiplier	Failed Time	Failed Call Delay
1	1	0	0	0	1	255	0
1	2	0	0	0	1	255	0
1	3	0	0	0	1	255	0
1	4	0	0	0	1	255	0
1	5	0	0	0	1	255	0
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1	7	0	0	0	1	255	0
1	8	0	0	0	1	255	0
1	9	0	0	0	1	255	0
1	10	0	0	0	1	255	0
1	11	0	0	0	1	255	0
1	12	0	0	0	1	255	0
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1	14	0	0	0	1	255	0
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1	25	0	0	0	1	255	0
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1	28	0	0	0	1	255	0

1	29	0	0	0	1	255	0
1	30	0	0	0	1	255	0
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1	32	0	0	0	1	255	0
1	33	0	0	0	1	255	0
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1	35	0	0	0	1	255	0
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1	41	0	0	0	1	255	0
1	42	0	0	0	1	255	0
1	43	0	0	0	1	255	0
1	44	0	0	0	1	255	0
1	45	0	0	0	1	255	0
1	46	0	0	0	1	255	0
1	47	0	0	0	1	255	0
1	48	0	0	0	1	255	0
1	49	0	0	0	1	255	0
1	50	0	0	0	1	255	0
1	51	0	0	0	1	255	0
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1	53	0	0	0	1	255	0
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2	41	0	0	0	1	255	0
2	42	0	0	0	1	255	0
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2	44	0	0	0	1	255	0
2	45	0	0	0	1	255	0
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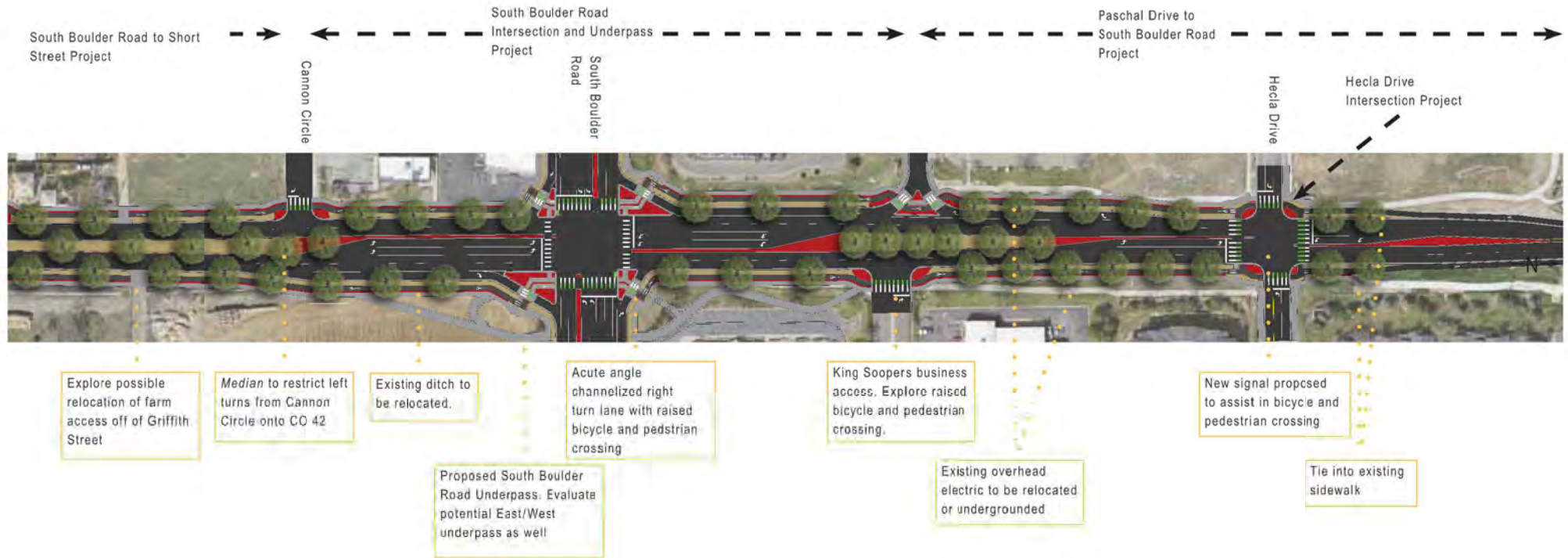
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4	19	0	0	0	1	255	0
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4	30	0	0	0	1	255	0
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4	45	0	0	0	1	255	0
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4	61	0	0	0	1	255	0
4	62	0	0	0	1	255	0
4	63	0	0	0	1	255	0
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Pedestrian Detector Diagnostics (MM)6-7

Plan	Detector	Counts	Act	Pres	Multiplier
------	----------	--------	-----	------	------------

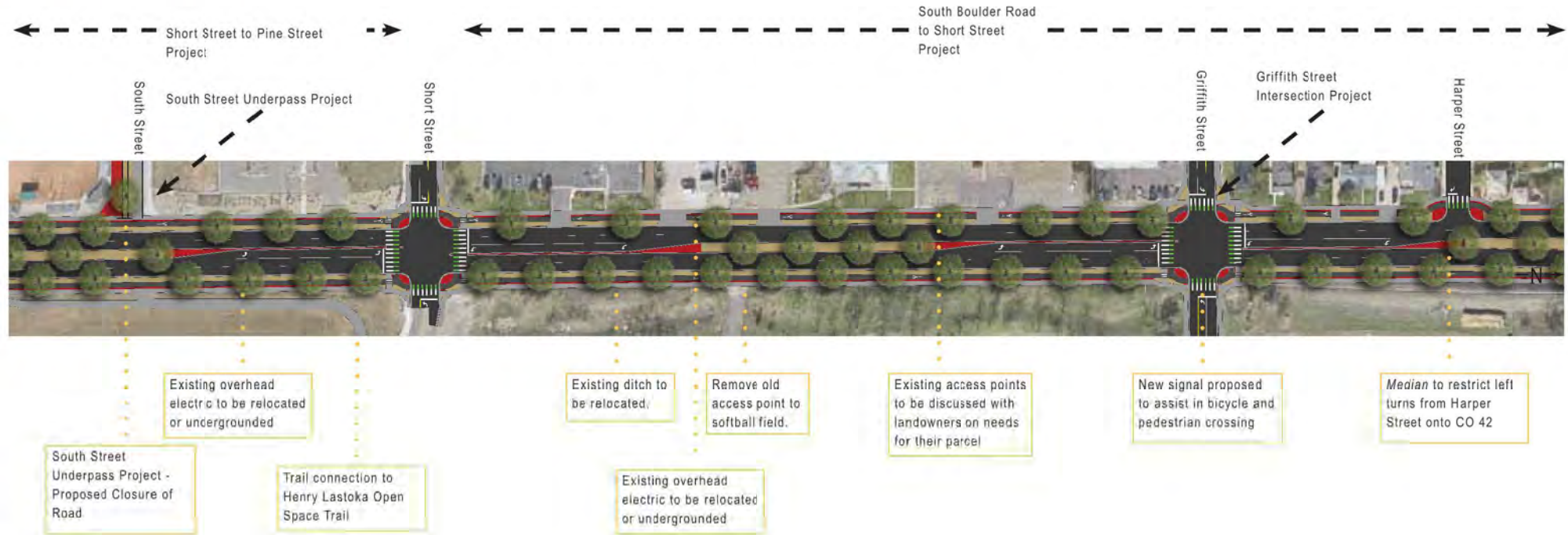
**Appendix G: *Future 42* Excerpt of Preferred South Boulder
Road and SH 42 Design**



Notes for this section:

- South Boulder Road Underpass concept from Summer 2021 is proposed in this section. Explore possibility of adding east/west underpass further in design.
- Existing ditches to be coordinated with Boulder County Open Space and leasee to relocate in a functional location for better irrigation usage.
- Explore usage of raised crossings for business access points in further design based upon delivery vehicle routes.

Appendix H: *Future 42* Excerpt of Preferred SH 42 and Griffith Street Design



Notes for this section:

- South Street Underpass Concept from Summer 2021 is proposed in this section.
- Existing ditches to be coordinated with Boulder County Open Space and leasee to relocate in a functional location for better irrigation usage.
- Access points anticipated to remain in place, but could be relocated/eliminated based upon conversations with landowners

Appendix I: *City of Louisville Transportation Master Plan*
Excerpt of South Boulder Road Corridor Improvements and
Commercial Driveway

PROJECT 1: CORRIDOR IMPROVEMENTS, CONT.

CP5: SOUTH BOULDER ROAD STUDY

Summary

South Boulder Road is a key regional and local corridor that serves neighborhoods and many office and commercial developments along the corridor. Current issues include congestion, safety concerns at intersections, and an uncomfortable bicycle lane.

The City should complete a study in partnership with Boulder County and the Cities of Lafayette and Boulder to develop long-term design and operations for the corridor with a focus on accommodation of improved transit service and multi-modal access and safety improvements.

Implementation

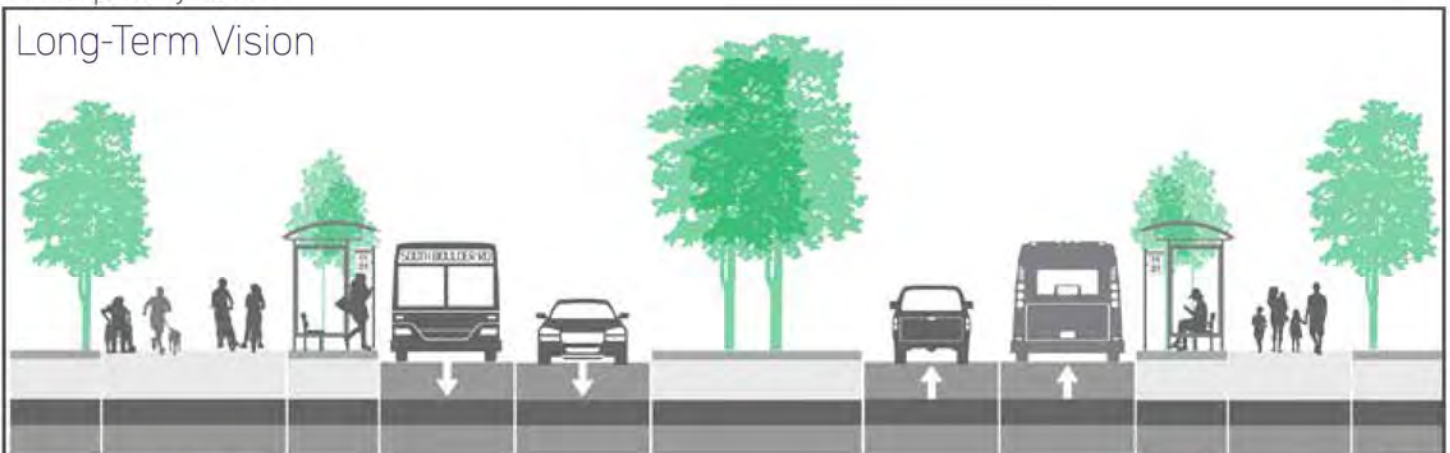
The City should partner with Lafayette, Boulder County and City of Boulder on a regional study that focuses on how to prioritize transit in the corridor. The study should also focus on preferred allocation of the right-of-way and regional consistency along the corridor for all modes of travel. Funding sources for final implementation will likely include multiple sources.

A vision for the corridor that can be utilized for future consideration and project development is provided in the example cross-section and modal priority below.

Key Considerations

- South Boulder Road is identified in the Northwest Area Mobility Study (NAMS) for bus rapid transit. This project will evaluate the best options to accommodate bus service within existing right of way.
- Improvements to bus stops and frequency of transit service can help improve ridership and reduce congestion.
- Eliminating the right-turn lanes along the road would have minimal impact on vehicle mobility, while freeing space for sidewalks and a bikeway along the corridor, and decreasing crossing distances for people walking.
- The community desires additional underpasses along the corridor and several at-grade crossing improvements are currently planned as short-term high-priority projects.

Long-Term Vision



Draft - August 12, 2019

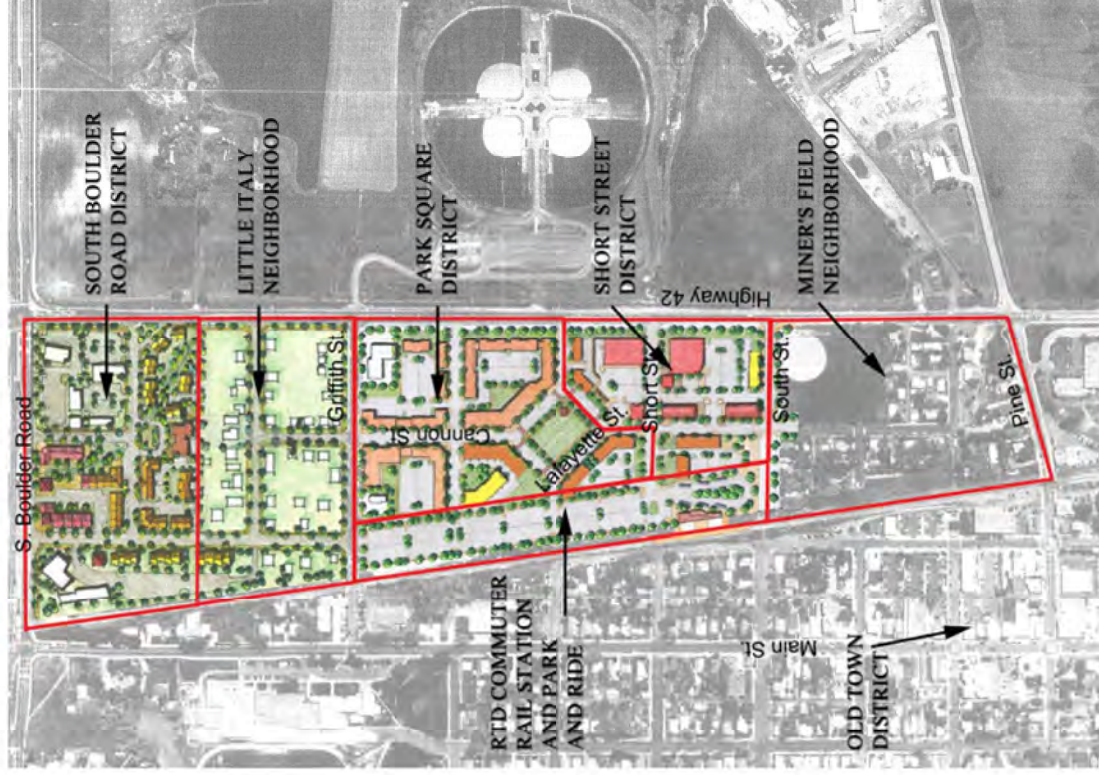
Appendix J: *Louisville South Boulder Road Connectivity Plan*
Excerpt of South Boulder Road and Main StreetFuture
Pedestrian Underpass



Figure 2: Main Street Undercrossing Plan Rendering

Main Street Undercrossing Plan Rendering

Appendix K: The Highway 42 Revitalization Area Framework Plan Excerpt of Framework Plan



III. The Framework Plan

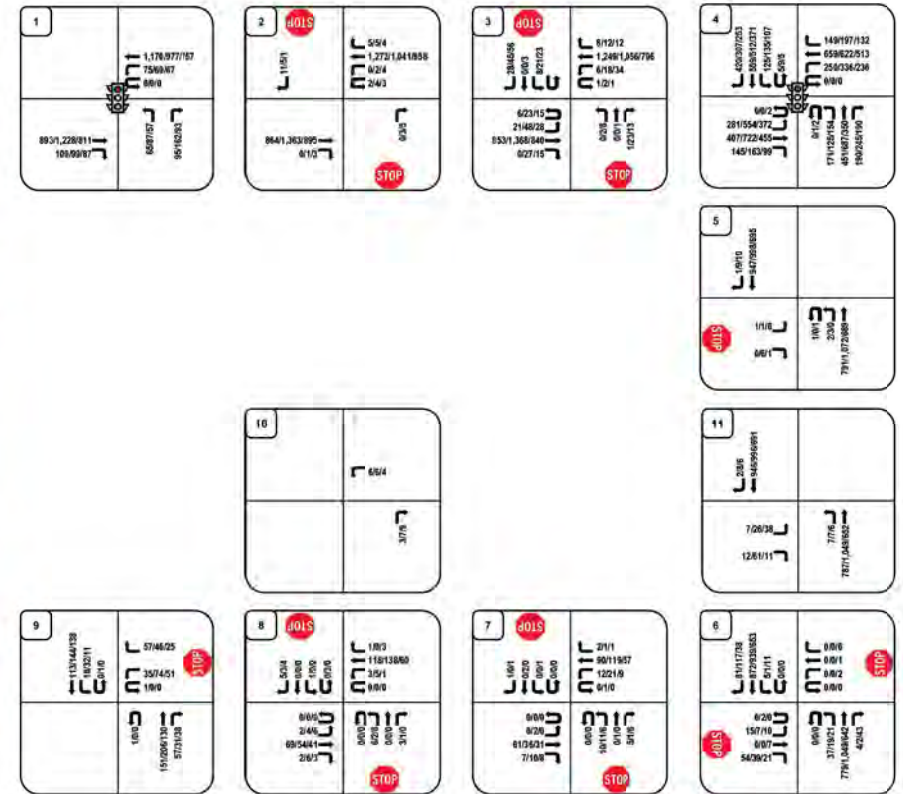
Appendix L: 42 Gateway Alternative Analysis Report
Excerpt of Future Roadway Network

Figure 9. Future Roadway Network



Appendix M: Additional Figures

Figure AP01: Year 2024 Existing Traffic



Coal Creek Station
Louisville, CO

LEGEND:
Directional Distribution = Inbound% (Outbound %)
AM/PM/SAT Volumes = XX/XX/XX VPH (in PCEs)
Turning Movements



Project Number M1663
Prepared By GWS
4/23/2025

Figure AP02: Year 2026 Background Traffic (DeLo Boom Development)

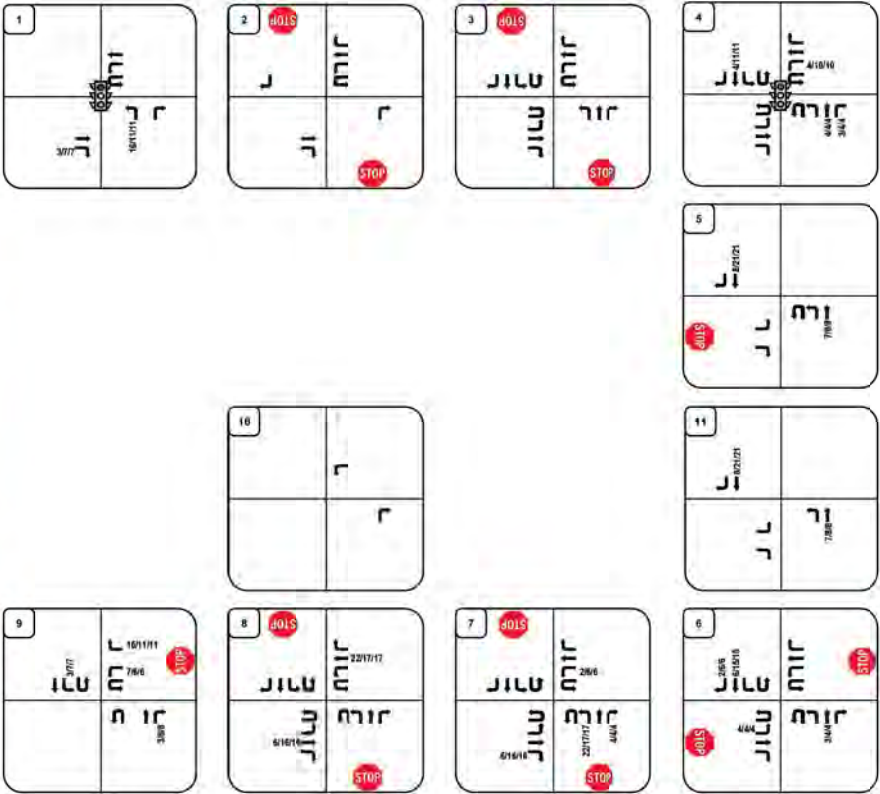


Figure AP03: Year 2045 Background Traffic (DeLo Boom Development)

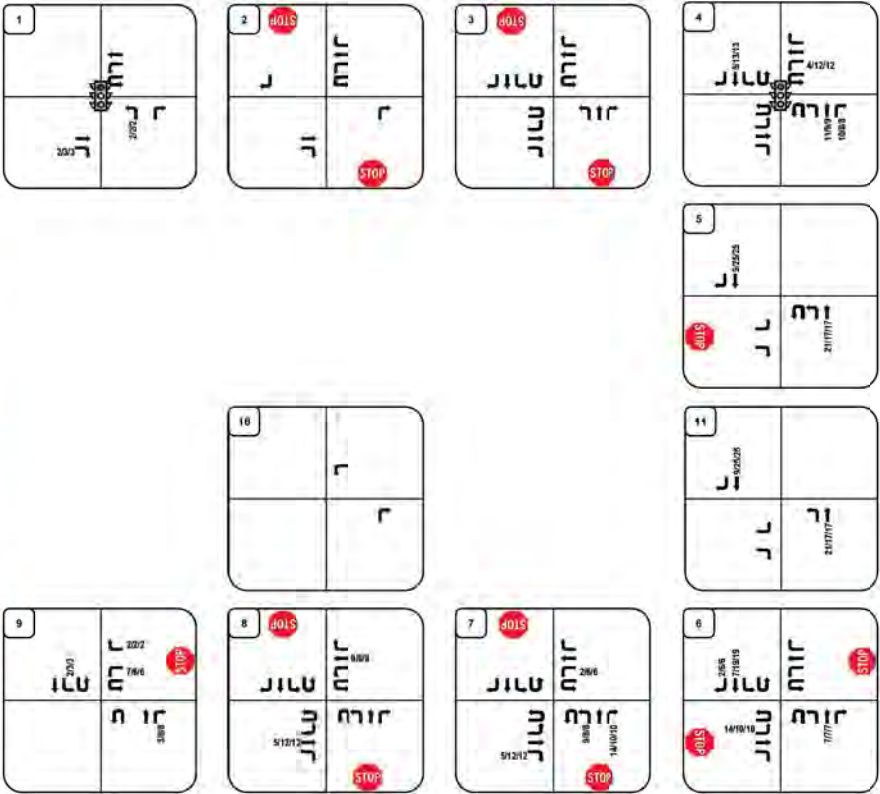


Figure AP04: Year 2045 Background Adjust (Int #5 & #6 Redistribution)

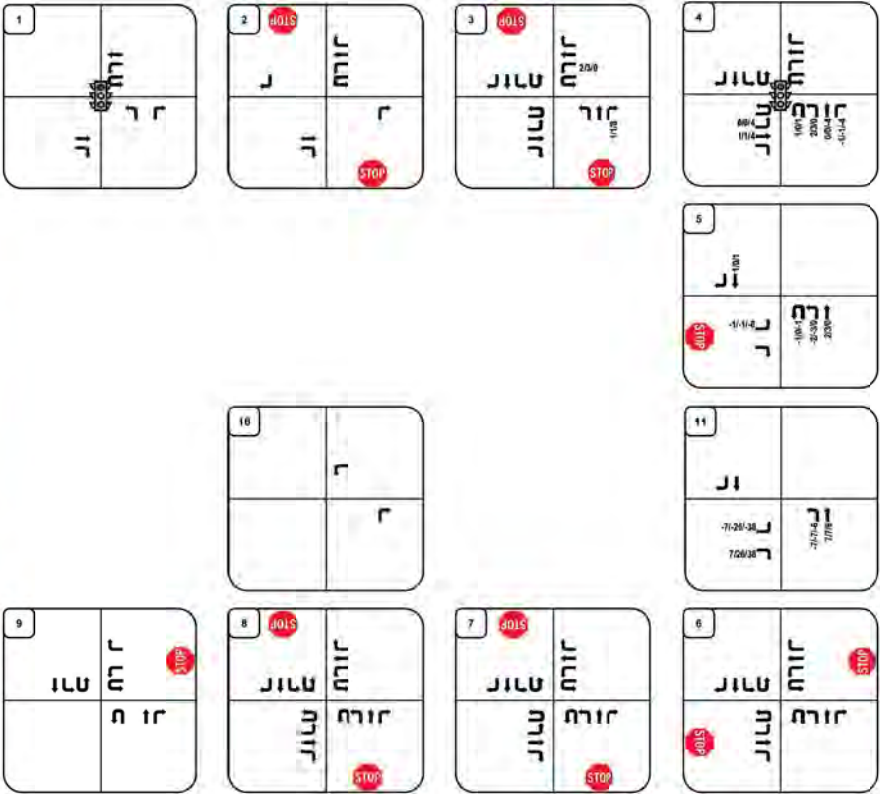


Figure AP05: Background Adjust for Total (Int #3 Redistribution)

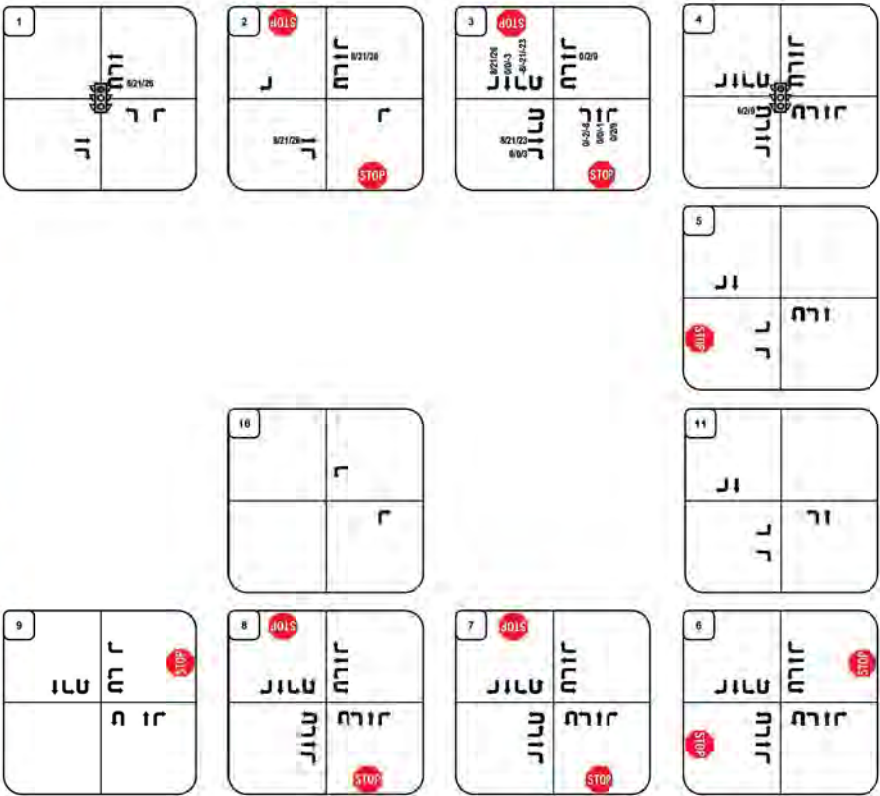


Figure AP06: Front Street Diverted Traffic (Year 2026)

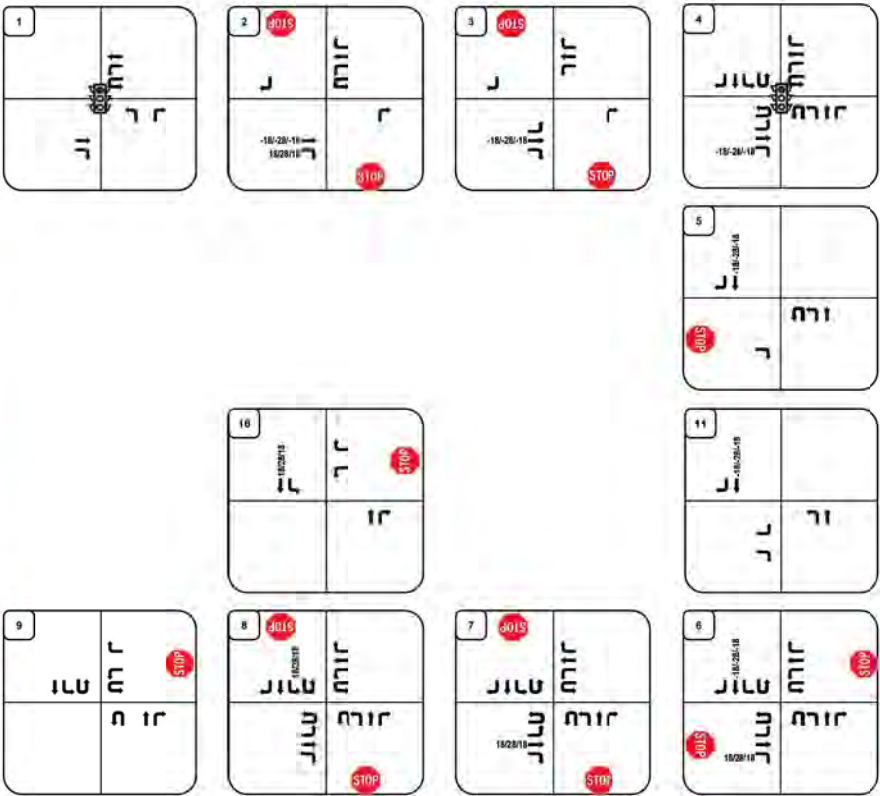
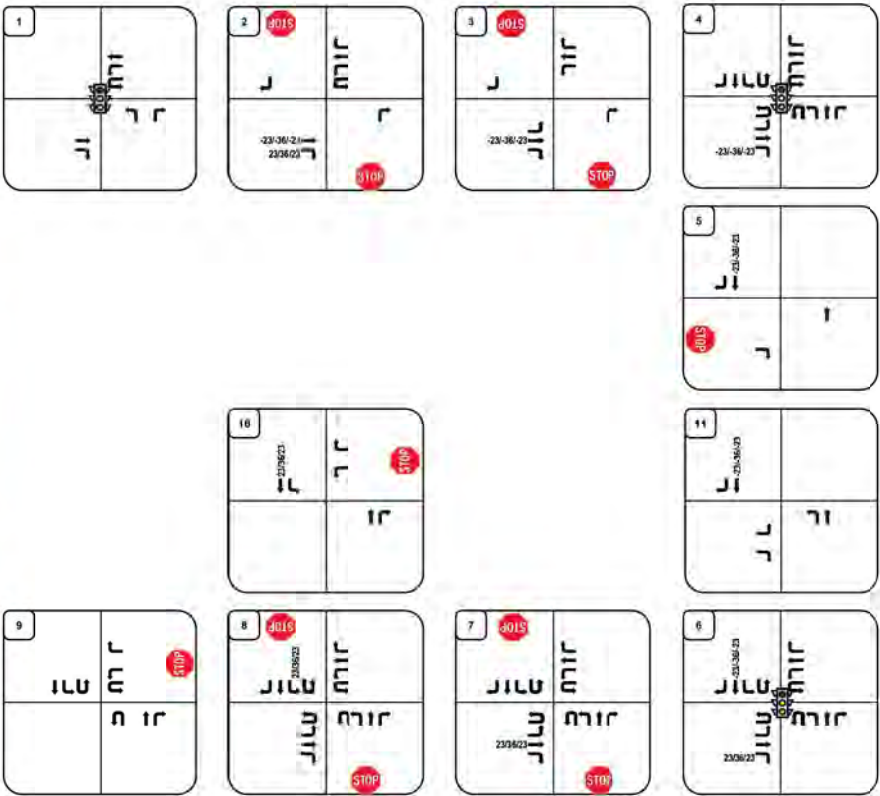


Figure AP07: Front Street Diverted Traffic (Year 2045)



Appendix N: Synchro Modeling Reports

1: Main Street & S Boulder Road
2026 Background AM.syn

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘	↑↑	↘	↑
Traffic Volume (vph)	916	112	75	1201	81	95
Future Volume (vph)	916	112	75	1201	81	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		120	225		0	115
Storage Lanes		1	1		1	1
Taper Length (ft)			25		0	
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Ped Bike Factor		0.97	1.00		0.99	0.95
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3539	1583	1770	3539	1770	1583
Flt Permitted			0.244		0.950	
Satd. Flow (perm)	3539	1531	454	3539	1759	1505
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		122				103
Link Speed (mph)	35			35	30	
Link Distance (ft)	636			400	1210	
Travel Time (s)	12.4			7.8	27.5	
Confl. Peds. (#/hr)		5	5		5	32
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	996	122	82	1305	88	103
Turn Type	NA	Perm	pm+pt	NA	Perm	Perm
Protected Phases	2		1	6		
Permitted Phases		2	6		8	8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	35.0	35.0	5.0	35.0	5.0	5.0
Minimum Split (s)	41.0	41.0	11.0	41.0	35.0	35.0
Total Split (s)	85.0	85.0	14.0	99.0	21.0	21.0
Total Split (%)	70.8%	70.8%	11.7%	82.5%	17.5%	17.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-1.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	5.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	C-Max	None	None
Act Effct Green (s)	87.8	87.8	98.1	98.1	13.9	12.9
Actuated g/C Ratio	0.73	0.73	0.82	0.82	0.12	0.11
v/c Ratio	0.38	0.11	0.18	0.45	0.43	0.41
Control Delay	7.5	1.3	5.1	5.9	55.0	13.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.5	1.3	5.1	5.9	55.0	13.9
LOS	A	A	A	A	E	B
Approach Delay	6.8			5.9	32.9	
Approach LOS	A			A	C	
Queue Length 50th (ft)	160	0	16	151	62	0

1: Main Street & S Boulder Road
2026 Background AM.syn

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Queue Length 95th (ft)	204	19	m30	206	115	52
Internal Link Dist (ft)	556			320	1130	
Turn Bay Length (ft)		120	225			115
Base Capacity (vph)	2589	1152	481	2893	249	289
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.11	0.17	0.45	0.35	0.36

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 23 (19%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.45

Intersection Signal Delay: 8.2

Intersection LOS: A

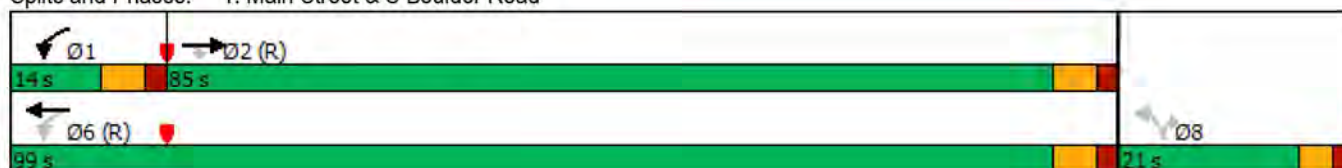
Intersection Capacity Utilization 61.3%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Main Street & S Boulder Road



2: Front Street/Private Access & S Boulder Road
2026 Background AM.syn

												
Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↑↑	↗		↘	↑↑				↗		
Traffic Volume (vph)	0	887	0	2	0	1305	5	0	0	0	0	0
Future Volume (vph)	0	887	0	2	0	1305	5	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50		70		0	0		0	0	
Storage Lanes	0		1		1		0	0		1	0	
Taper Length (ft)	25				75			25			25	
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt	0.999											
Flt Protected	0.950											
Satd. Flow (prot)	0	3539	1863	0	1770	3536	0	0	0	1863	0	0
Flt Permitted	0.950											
Satd. Flow (perm)	0	3539	1863	0	1770	3536	0	0	0	1863	0	0
Link Speed (mph)	35			35			20			20		
Link Distance (ft)	400			360			338			476		
Travel Time (s)	7.8			7.0			11.5			16.2		
Confl. Peds. (#/hr)	10		10	5	10		10	5		5	5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	964	0	0	2	1423	0	0	0	0	0	0
Sign Control	Free			Free			Stop			Stop		
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	47.8%			ICU Level of Service A								
Analysis Period (min)	15											

2: Front Street/Private Access & S Boulder Road 2026 Background AM.syn



Lane Group	SBR
Lane Configurations	7
Traffic Volume (vph)	11
Future Volume (vph)	11
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Ped Bike Factor	
Frt	0.865
Flt Protected	
Satd. Flow (prot)	1611
Flt Permitted	
Satd. Flow (perm)	1611
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	5
Peak Hour Factor	0.92
Shared Lane Traffic (%)	
Lane Group Flow (vph)	12
Sign Control	
Intersection Summary	

2: Front Street/Private Access & S Boulder Road
2026 Background AM.syn

Intersection													
Int Delay, s/veh	0.1												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑		↓	↑↑				↑			↑
Traffic Vol, veh/h	0	887	0	2	0	1305	5	0	0	0	0	0	11
Future Vol, veh/h	0	887	0	2	0	1305	5	0	0	0	0	0	11
Conflicting Peds, #/hr	10	0	10	5	10	0	10	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	70	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	964	0	2	0	1418	5	0	0	0	0	0	12
Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	-	0	0	964	974	0	0	-	-	497	-	-	727
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	6.44	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	2.52	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	350	704	-	-	0	0	519	0	0	366
Stage 1	0	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	0	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	350	350	-	-	-	-	512	-	-	361
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB			
HCM Control Delay, s	0			0			0			15.3			
HCM LOS							A			C			
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	WBR	SBLn1						
Capacity (veh/h)	-	-	-	350	-	-	361						
HCM Lane V/C Ratio	-	-	-	0.006	-	-	0.033						
HCM Control Delay (s)	0	-	-	15.3	-	-	15.3						
HCM Lane LOS	A	-	-	C	-	-	C						
HCM 95th %tile Q(veh)	-	-	-	0	-	-	0.1						

3: Cannon Circle/Private Access & S Boulder Road 2026 Background AM.syn

												
Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	6	21	875	0	1	6	1282	8	0	0	1	8
Future Volume (vph)	6	21	875	0	1	6	1282	8	0	0	1	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		90		0		80		0	0		0	0
Storage Lanes		1		0		1		0	0		0	0
Taper Length (ft)		75				80			25			25
Lane Util. Factor	0.95	1.00	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt							0.999			0.865		
Flt Protected		0.950				0.950						
Satd. Flow (prot)	0	1770	3539	0	0	1770	3536	0	0	1611	0	0
Flt Permitted		0.950				0.950						
Satd. Flow (perm)	0	1770	3539	0	0	1770	3536	0	0	1611	0	0
Link Speed (mph)			35				35			20		
Link Distance (ft)			360				465			339		
Travel Time (s)			7.0				9.1			11.6		
Confl. Peds. (#/hr)	5	10		10	5	10		10	5		5	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	30	951	0	0	8	1402	0	0	1	0	0
Sign Control			Free				Free			Stop		
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	52.2%						ICU Level of Service A					
Analysis Period (min)	15											

3: Cannon Circle/Private Access & S Boulder Road 2026 Background AM.syn



Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	0	28
Future Volume (vph)	0	28
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		0
Storage Lanes		0
Taper Length (ft)		
Lane Util. Factor	1.00	1.00
Ped Bike Factor		
Frt	0.896	
Flt Protected	0.989	
Satd. Flow (prot)	1651	0
Flt Permitted	0.989	
Satd. Flow (perm)	1651	0
Link Speed (mph)	20	
Link Distance (ft)	431	
Travel Time (s)	14.7	
Confl. Peds. (#/hr)		5
Peak Hour Factor	0.92	0.92
Shared Lane Traffic (%)		
Lane Group Flow (vph)	39	0
Sign Control	Stop	
Intersection Summary		

3: Cannon Circle/Private Access & S Boulder Road 2026 Background AM.syn

Intersection															
Int Delay, s/veh	1.1														
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations															
Traffic Vol, veh/h	6	21	875	0	1	6	1282	8	0	0	1	8	0	28	
Future Vol, veh/h	6	21	875	0	1	6	1282	8	0	0	1	8	0	28	
Conflicting Peds, #/hr	5	10	0	10	5	10	0	10	5	0	5	5	0	5	
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	
RT Channelized	-	-	-	None	-	-	-	None	-	-	None	-	-	None	
Storage Length	-	90	-	-	-	80	-	-	-	-	-	-	-	-	
Veh in Median Storage, #	-	-	0	-	-	-	0	-	-	0	-	-	0	-	
Grade, %	-	-	0	-	-	-	0	-	-	0	-	-	0	-	
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92	92	
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Mvmt Flow	7	23	951	0	1	7	1393	9	0	0	1	9	0	30	
Major/Minor	Major1				Major2				Minor1				Minor2		
Conflicting Flow All	1402	1412	0	0	951	961	0	0	1739	2449	491	1965	2445	716	
Stage 1	-	-	-	-	-	-	-	-	1021	1021	-	1424	1424	-	
Stage 2	-	-	-	-	-	-	-	-	718	1428	-	541	1021	-	
Critical Hdwy	6.44	4.14	-	-	6.44	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94	
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-	
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-	
Follow-up Hdwy	2.52	2.22	-	-	2.52	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32	
Pot Cap-1 Maneuver	183	479	-	-	357	712	-	-	56	31	523	38	31	373	
Stage 1	-	-	-	-	-	-	-	-	253	312	-	143	200	-	
Stage 2	-	-	-	-	-	-	-	-	386	199	-	493	312	-	
Platoon blocked, %			-	-			-	-							
Mov Cap-1 Maneuver	338	338	-	-	618	618	-	-	47	27	516	35	27	368	
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	47	27	-	35	27	-	
Stage 1	-	-	-	-	-	-	-	-	229	282	-	130	195	-	
Stage 2	-	-	-	-	-	-	-	-	348	194	-	448	282	-	
Approach	EB				WB				NB				SB		
HCM Control Delay, s	0.5				0.1				12				50		
HCM LOS									B				F		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1							
Capacity (veh/h)	516	338	-	-	618	-	-	118							
HCM Lane V/C Ratio	0.002	0.087	-	-	0.012	-	-	0.332							
HCM Control Delay (s)	12	16.6	-	-	10.9	-	-	50							
HCM Lane LOS	B	C	-	-	B	-	-	F							
HCM 95th %tile Q(veh)	0	0.3	-	-	0	-	-	1.3							

4: Courtesy Road (SH 42) & S Boulder Road
2026 Background AM.syn

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	288	418	149	261	676	153	175	467	198	5	128	578
Future Volume (vph)	288	418	149	261	676	153	175	467	198	5	128	578
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	225		270	0		0		185	
Storage Lanes	2		0	2		1	2		0		2	
Taper Length (ft)	80			135			70				155	
Lane Util. Factor	0.97	0.95	0.95	0.97	0.95	1.00	0.97	0.95	0.95	0.95	0.97	0.95
Ped Bike Factor		1.00				0.98		0.99				
Frt		0.961				0.850		0.955				
Flt Protected	0.950			0.950			0.950				0.950	
Satd. Flow (prot)	3433	3385	0	3433	3539	1583	3433	3363	0	0	3433	3539
Flt Permitted	0.950			0.950			0.950				0.571	
Satd. Flow (perm)	3433	3385	0	3433	3539	1546	3433	3363	0	0	2063	3539
Right Turn on Red			Yes			Yes			Yes			
Satd. Flow (RTOR)		42				182		59				
Link Speed (mph)		35			35			45				45
Link Distance (ft)		465			1815			418				1337
Travel Time (s)		9.1			35.4			6.3				20.3
Confl. Peds. (#/hr)			5			10			5			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	313	616	0	284	735	166	190	723	0	0	144	628
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		custom	Prot	NA
Protected Phases	5	2		1	6		3	8			7	4
Permitted Phases						6				7		
Detector Phase	5	2		1	6	6	3	8		7	7	4
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	6.0		5.0	5.0	6.0
Minimum Split (s)	10.0	37.0		10.0	37.0	37.0	10.0	40.0		10.0	10.0	36.0
Total Split (s)	20.0	41.0		20.0	41.0	41.0	16.0	47.0		12.0	12.0	43.0
Total Split (%)	16.7%	34.2%		16.7%	34.2%	34.2%	13.3%	39.2%		10.0%	10.0%	35.8%
Yellow Time (s)	3.0	4.0		3.0	4.0	4.0	3.0	4.0		3.0	3.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	0.0
Total Lost Time (s)	5.0	6.0		5.0	6.0	6.0	5.0	6.0			5.0	6.0
Lead/Lag	Lag	Lag		Lead	Lead	Lead	Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	C-Max		None	Max	Max	None	Max		None	None	Max
Act Effect Green (s)	15.0	36.1		13.9	35.0	35.0	10.4	41.0			7.0	37.6
Actuated g/C Ratio	0.12	0.30		0.12	0.29	0.29	0.09	0.34			0.06	0.31
v/c Ratio	0.73	0.59		0.71	0.71	0.29	0.64	0.61			1.20	0.57
Control Delay	55.1	30.2		61.5	42.5	4.9	63.0	32.6			193.3	37.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	0.0
Total Delay	55.1	30.2		61.5	42.5	4.9	63.0	32.6			193.3	37.0
LOS	E	C		E	D	A	E	C			F	D
Approach Delay		38.6			41.8			38.9				47.6
Approach LOS		D			D			D				D
Queue Length 50th (ft)	122	201		109	267	0	74	224			~69	214

4: Courtesy Road (SH 42) & S Boulder Road 2026 Background AM.syn

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	431
Future Volume (vph)	431
Ideal Flow (vphpl)	1900
Storage Length (ft)	270
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Ped Bike Factor	0.98
Frt	0.850
Flt Protected	
Satd. Flow (prot)	1583
Flt Permitted	
Satd. Flow (perm)	1555
Right Turn on Red	Yes
Satd. Flow (RTOR)	309
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	5
Peak Hour Factor	0.92
Shared Lane Traffic (%)	
Lane Group Flow (vph)	468
Turn Type	Perm
Protected Phases	
Permitted Phases	4
Detector Phase	4
Switch Phase	
Minimum Initial (s)	6.0
Minimum Split (s)	36.0
Total Split (s)	43.0
Total Split (%)	35.8%
Yellow Time (s)	4.0
All-Red Time (s)	2.0
Lost Time Adjust (s)	0.0
Total Lost Time (s)	6.0
Lead/Lag	Lag
Lead-Lag Optimize?	
Recall Mode	Max
Act Effct Green (s)	37.6
Actuated g/C Ratio	0.31
v/c Ratio	0.67
Control Delay	17.0
Queue Delay	0.0
Total Delay	17.0
LOS	B
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	103

4: Courtesy Road (SH 42) & S Boulder Road 2026 Background AM.syn

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Queue Length 95th (ft)	172	266		156	338	41	113	289			#138	276
Internal Link Dist (ft)		385			1735			338				1257
Turn Bay Length (ft)	150			225		270					185	
Base Capacity (vph)	429	1047		429	1032	579	314	1187			120	1107
Starvation Cap Reductn	0	0		0	0	0	0	0			0	0
Spillback Cap Reductn	0	0		0	0	0	0	0			0	0
Storage Cap Reductn	0	0		0	0	0	0	0			0	0
Reduced v/c Ratio	0.73	0.59		0.66	0.71	0.29	0.61	0.61			1.20	0.57

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT, Start of Yellow, Master Intersection

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.20

Intersection Signal Delay: 42.2

Intersection LOS: D

Intersection Capacity Utilization 84.9%

ICU Level of Service E

Analysis Period (min) 15

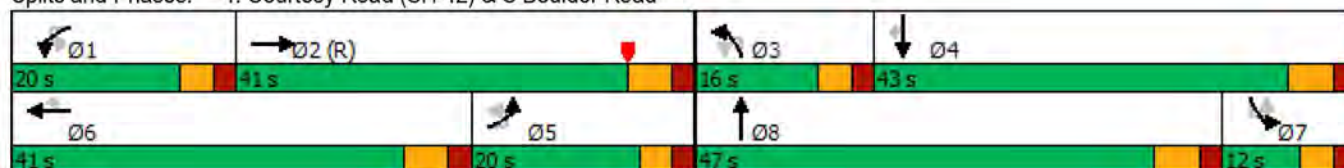
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 4: Courtesy Road (SH 42) & S Boulder Road



4: Courtesy Road (SH 42) & S Boulder Road 2026 Background AM.syn



Lane Group	SBR
Queue Length 95th (ft)	229
Internal Link Dist (ft)	
Turn Bay Length (ft)	270
Base Capacity (vph)	699
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.67
Intersection Summary	

5: Courtesy Road (SH 42) & Cannon Circle
2026 Background AM.syn

							
Lane Group	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	1	0	1	2	819	980	1
Future Volume (vph)	1	0	1	2	819	980	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		140			0
Storage Lanes	1	0		1			0
Taper Length (ft)	25			100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Ped Bike Factor							
Frt							
Flt Protected	0.950			0.950			
Satd. Flow (prot)	1770	0	0	1770	1863	3539	0
Flt Permitted	0.950			0.950			
Satd. Flow (perm)	1770	0	0	1770	1863	3539	0
Link Speed (mph)	20				45	45	
Link Distance (ft)	418				420	418	
Travel Time (s)	14.3				6.4	6.3	
Confl. Peds. (#/hr)				5			5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)							
Lane Group Flow (vph)	1	0	0	3	890	1066	0
Sign Control	Stop				Free	Free	
Intersection Summary							
Area Type:	Other						
Control Type:	Unsignalized						
Intersection Capacity Utilization	53.1%			ICU Level of Service A			
Analysis Period (min)	15						

5: Courtesy Road (SH 42) & Cannon Circle
2026 Background AM.syn

Intersection							
Int Delay, s/veh	0.1						
Movement	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Vol, veh/h	1	0	1	2	819	980	1
Future Vol, veh/h	1	0	1	2	819	980	1
Conflicting Peds, #/hr	0	0	0	5	0	0	5
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	None
Storage Length	0	-	-	140	-	-	-
Veh in Median Storage, #	0	-	-	-	0	0	-
Grade, %	0	-	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	1	0	1	2	890	1065	1
Major/Minor	Minor2		Major1		Major2		
Conflicting Flow All	1965	538	1066	1071	0	-	0
Stage 1	1071	-	-	-	-	-	-
Stage 2	894	-	-	-	-	-	-
Critical Hdwy	6.63	6.93	6.93	4.13	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	3.119	2.219	-	-	-
Pot Cap-1 Maneuver	62	488	227	649	-	-	-
Stage 1	291	-	-	-	-	-	-
Stage 2	398	-	-	-	-	-	-
Platoon blocked, %					-	-	-
Mov Cap-1 Maneuver	61	486	400	400	-	-	-
Mov Cap-2 Maneuver	61	-	-	-	-	-	-
Stage 1	287	-	-	-	-	-	-
Stage 2	396	-	-	-	-	-	-
Approach	EB		NB		SB		
HCM Control Delay, s	65.1		0.1		0		
HCM LOS	F						
Minor Lane/Major Mvmt	NBL		NBT EBLn1		SBT	SBR	
Capacity (veh/h)	400		-		61	-	
HCM Lane V/C Ratio	0.008		-		0.018	-	
HCM Control Delay (s)	14.1		-		65.1	-	
HCM Lane LOS	B		-		F	-	
HCM 95th %tile Q(veh)	0		-		0.1	-	

6: Courtesy Road (SH 42) & Griffith Street/Sports Complex Access
2026 Background AM.syn

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	0	54	1	1	1	37	802	4	5	901	83
Future Volume (vph)	19	0	54	1	1	1	37	802	4	5	901	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		60	225		0	500		0
Storage Lanes	0		0	0		1	1		0	1		1
Taper Length (ft)	0			0			25			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.900				0.850		0.999				0.850
Flt Protected		0.987			0.976		0.950			0.950		
Satd. Flow (prot)	0	1655	0	0	1818	1583	1770	1861	0	1770	1863	1583
Flt Permitted		0.987			0.976		0.950			0.950		
Satd. Flow (perm)	0	1655	0	0	1818	1583	1770	1861	0	1770	1863	1583
Link Speed (mph)		30			20			45			45	
Link Distance (ft)		439			281			380			369	
Travel Time (s)		10.0			9.6			5.8			5.6	
Confl. Bikes (#/hr)												5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	80	0	0	2	1	40	876	0	5	979	90
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	65.1%											
Analysis Period (min)	15											
	ICU Level of Service C											

6: Courtesy Road (SH 42) & Griffith Street/Sports Complex Access
2026 Background AM.syn

Intersection												
Int Delay, s/veh	3.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	19	0	54	1	1	1	37	802	4	5	901	83
Future Vol, veh/h	19	0	54	1	1	1	37	802	4	5	901	83
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	60	225	-	-	500	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	21	0	59	1	1	1	40	872	4	5	979	90
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1944	1945	979	2018	2033	874	1069	0	0	876	0	0
Stage 1	989	989	-	954	954	-	-	-	-	-	-	-
Stage 2	955	956	-	1064	1079	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	49	65	303	43	57	349	652	-	-	771	-	-
Stage 1	297	325	-	311	337	-	-	-	-	-	-	-
Stage 2	310	336	-	270	295	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	46	61	303	33	53	349	652	-	-	771	-	-
Mov Cap-2 Maneuver	46	61	-	33	53	-	-	-	-	-	-	-
Stage 1	279	323	-	292	316	-	-	-	-	-	-	-
Stage 2	289	316	-	216	293	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	76.4		70.2		0.5		0					
HCM LOS	F		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR					
Capacity (veh/h)	652	-	-	123 41 349	771	-	-					
HCM Lane V/C Ratio	0.062	-	-	0.645 0.053 0.003	0.007	-	-					
HCM Control Delay (s)	10.9	-	-	76.4 97.7 15.3	9.7	-	-					
HCM Lane LOS	B	-	-	F F C	A	-	-					
HCM 95th %tile Q(veh)	0.2	-	-	3.4 0.2 0	0	-	-					

7: Cannon Street & Griffith Street
2026 Background AM.syn

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	61	13	14	90	2	32	0	9	0	0	1
Future Volume (vph)	0	61	13	14	90	2	32	0	9	0	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150	150		150	150		150	150		150
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.976			0.998			0.970			0.865	
Flt Protected					0.994			0.963				
Satd. Flow (prot)	0	1818	0	0	1848	0	0	1740	0	0	1611	0
Flt Permitted					0.994			0.963				
Satd. Flow (perm)	0	1818	0	0	1848	0	0	1740	0	0	1611	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		390			439			346			362	
Travel Time (s)		8.9			10.0			9.4			9.9	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	80	0	0	115	0	0	45	0	0	1	0
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	28.9%											
Analysis Period (min)	15											
	ICU Level of Service A											

7: Cannon Street & Griffith Street
2026 Background AM.syn

Intersection												
Int Delay, s/veh	2.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	61	13	14	90	2	32	0	9	0	0	1
Future Vol, veh/h	0	61	13	14	90	2	32	0	9	0	0	1
Conflicting Peds, #/hr	5	0	5	5	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	66	14	15	98	2	35	0	10	0	0	1
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	105	0	0	85	0	0	213	213	83	217	219	109
Stage 1	-	-	-	-	-	-	78	78	-	134	134	-
Stage 2	-	-	-	-	-	-	135	135	-	83	85	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1486	-	-	1512	-	-	744	684	976	739	679	945
Stage 1	-	-	-	-	-	-	931	830	-	869	785	-
Stage 2	-	-	-	-	-	-	868	785	-	925	824	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1479	-	-	1505	-	-	730	670	967	718	665	936
Mov Cap-2 Maneuver	-	-	-	-	-	-	730	670	-	718	665	-
Stage 1	-	-	-	-	-	-	926	826	-	865	772	-
Stage 2	-	-	-	-	-	-	853	772	-	911	820	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			1			9.9			8.9		
HCM LOS							A			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	772	1479	-	-	1505	-	-	936				
HCM Lane V/C Ratio	0.058	-	-	-	0.01	-	-	0.001				
HCM Control Delay (s)	9.9	0	-	-	7.4	0	-	8.9				
HCM Lane LOS	A	A	-	-	A	A	-	A				
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0				

8: Griffith Street & Front Street
2026 Background AM.syn

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	75	2	3	140	1	6	0	3	1	0	5
Future Volume (vph)	2	75	2	3	140	1	6	0	3	1	0	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150	150		150	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.997			0.999			0.959			0.887	
Flt Protected		0.999			0.999			0.966			0.992	
Satd. Flow (prot)	0	1855	0	0	1859	0	0	1726	0	0	1639	0
Flt Permitted		0.999			0.999			0.966			0.992	
Satd. Flow (perm)	0	1855	0	0	1859	0	0	1726	0	0	1639	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		405			390			333			365	
Travel Time (s)		9.2			8.9			9.1			10.0	
Confl. Peds. (#/hr)	5		10	10		5	5		5	5		5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	86	0	0	156	0	0	10	0	0	6	0
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	21.0%											
Analysis Period (min)	15											
ICU Level of Service A												

8: Griffith Street & Front Street
2026 Background AM.syn

Intersection												
Int Delay, s/veh	0.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	75	2	3	140	1	6	0	3	1	0	5
Future Vol, veh/h	2	75	2	3	140	1	6	0	3	1	0	5
Conflicting Peds, #/hr	5	0	10	10	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	82	2	3	152	1	7	0	3	1	0	5
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	158	0	0	94	0	0	263	261	98	258	262	163
Stage 1	-	-	-	-	-	-	97	97	-	164	164	-
Stage 2	-	-	-	-	-	-	166	164	-	94	98	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1422	-	-	1500	-	-	690	644	958	695	643	882
Stage 1	-	-	-	-	-	-	910	815	-	838	762	-
Stage 2	-	-	-	-	-	-	836	762	-	913	814	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1415	-	-	1486	-	-	674	632	944	685	631	874
Mov Cap-2 Maneuver	-	-	-	-	-	-	674	632	-	685	631	-
Stage 1	-	-	-	-	-	-	900	806	-	833	757	-
Stage 2	-	-	-	-	-	-	825	757	-	905	805	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0.2			9.9			9.3		
HCM LOS							A			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	745	1415	-	-	1486	-	-	836				
HCM Lane V/C Ratio	0.013	0.002	-	-	0.002	-	-	0.008				
HCM Control Delay (s)	9.9	7.5	0	-	7.4	0	-	9.3				
HCM Lane LOS	A	A	A	-	A	A	-	A				
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0				

9: Main Street & Griffith Street
2026 Background AM.syn

								
Lane Group	WBU	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	1	42	73	1	151	60	21	113
Future Volume (vph)	1	42	73	1	151	60	21	113
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor								
Frt		0.915			0.962			
Flt Protected		0.982						0.992
Satd. Flow (prot)	0	1674	0	0	1792	0	0	1848
Flt Permitted		0.982						0.992
Satd. Flow (perm)	0	1674	0	0	1792	0	0	1848
Link Speed (mph)		30			30			30
Link Distance (ft)		405			350			1210
Travel Time (s)		9.2			8.0			27.5
Confl. Peds. (#/hr)	70	5	132	5		70	70	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)								
Lane Group Flow (vph)	0	126	0	0	230	0	0	146
Sign Control		Stop			Free			Free
Intersection Summary								
Area Type:	Other							
Control Type:	Unsignalized							
Intersection Capacity Utilization	41.9%				ICU Level of Service A			
Analysis Period (min)	15							

9: Main Street & Griffith Street
2026 Background AM.syn

Intersection								
Int Delay, s/veh	3.9							
Movement	WBU	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations								
Traffic Vol, veh/h	1	42	73	1	151	60	21	113
Future Vol, veh/h	1	42	73	1	151	60	21	113
Conflicting Peds, #/hr	70	5	132	5	0	70	70	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	None
Storage Length	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0
Grade, %	-	0	-	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2
Mvmt Flow	1	46	79	1	164	65	23	123
Major/Minor	Minor1	Major1		Major2				
Conflicting Flow All	0	441	399	-	0	0	299	0
Stage 1	0	267	-	-	-	-	-	-
Stage 2	0	174	-	-	-	-	-	-
Critical Hdwy	-	6.42	6.22	-	-	-	4.12	-
Critical Hdwy Stg 1	-	5.42	-	-	-	-	-	-
Critical Hdwy Stg 2	-	5.42	-	-	-	-	-	-
Follow-up Hdwy	-	3.518	3.318	-	-	-	2.218	-
Pot Cap-1 Maneuver	0	574	651	-	-	-	1262	-
Stage 1	0	778	-	-	-	-	-	-
Stage 2	0	856	-	-	-	-	-	-
Platoon blocked, %	-			-	-	-	-	-
Mov Cap-1 Maneuver	0	522	531	-	-	-	1178	-
Mov Cap-2 Maneuver	0	522	-	-	-	-	-	-
Stage 1	0	710	-	-	-	-	-	-
Stage 2	0	852	-	-	-	-	-	-
Approach	WB	NB		SB				
HCM Control Delay, s	13.9			1.3				
HCM LOS	B							
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT				
Capacity (veh/h)	-	-	528	1178	-			
HCM Lane V/C Ratio	-	-	0.237	0.019	-			
HCM Control Delay (s)	-	-	13.9	8.1	0			
HCM Lane LOS	-	-	B	A	A			
HCM 95th %tile Q(veh)	-	-	0.9	0.1	-			

10: Front Street & Harper Street
2026 Background AM.syn

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	6	0	0	3	0	0
Future Volume (vph)	6	0	0	3	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.865					
Flt Protected	0.950					
Satd. Flow (prot)	1770	0	0	1611	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	0	1611	0	0
Link Speed (mph)	25	25		25		
Link Distance (ft)	380	365		210		
Travel Time (s)	10.4	10.0		5.7		
Confl. Peds. (#/hr)	5	132	70		70	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	7	0	0	3	0	0
Sign Control	Free	Free		Free		
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	16.5%			ICU Level of Service A		
Analysis Period (min)	15					

11: Courtesy Road (SH 42) & Harper Street
2026 Background AM.syn

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	7	12	7	787	946	2
Future Volume (vph)	7	12	7	787	946	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95
Frt	0.916					
Flt Protected	0.981					
Satd. Flow (prot)	1674	0	0	1863	3539	0
Flt Permitted	0.981					
Satd. Flow (perm)	1674	0	0	1863	3539	0
Link Speed (mph)	30			45	45	
Link Distance (ft)	217			369	420	
Travel Time (s)	4.9			5.6	6.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	21	0	0	863	1030	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	57.0%			ICU Level of Service B		
Analysis Period (min)	15					

11: Courtesy Road (SH 42) & Harper Street
2026 Background AM.syn

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	7	12	7	787	946	2
Future Vol, veh/h	7	12	7	787	946	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	13	8	855	1028	2
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1900	515	1030	0	-	0
Stage 1	1029	-	-	-	-	-
Stage 2	871	-	-	-	-	-
Critical Hdwy	6.63	6.93	4.13	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	68	506	672	-	-	-
Stage 1	307	-	-	-	-	-
Stage 2	408	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	66	506	672	-	-	-
Mov Cap-2 Maneuver	66	-	-	-	-	-
Stage 1	300	-	-	-	-	-
Stage 2	408	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	33.7	0.1		0		
HCM LOS	D					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	672	-	146	-	-	
HCM Lane V/C Ratio	0.011	-	0.141	-	-	
HCM Control Delay (s)	10.4	0	33.7	-	-	
HCM Lane LOS	B	A	D	-	-	
HCM 95th %tile Q(veh)	0	-	0.5	-	-	

1: Main Street & S Boulder Road
2026 Background PM.syn

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘	↑↑	↘	↑
Traffic Volume (vph)	1260	106	69	1003	98	162
Future Volume (vph)	1260	106	69	1003	98	162
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		120	225		0	115
Storage Lanes		1	1		1	1
Taper Length (ft)			25		0	
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Ped Bike Factor		0.97			0.99	0.95
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3539	1583	1770	3539	1770	1583
Flt Permitted			0.146		0.950	
Satd. Flow (perm)	3539	1531	272	3539	1759	1505
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		85				165
Link Speed (mph)	35			35	30	
Link Distance (ft)	636			400	1210	
Travel Time (s)	12.4			7.8	27.5	
Confl. Peds. (#/hr)		5	5		5	32
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1370	115	75	1090	107	176
Turn Type	NA	Perm	pm+pt	NA	Perm	Perm
Protected Phases	2		1	6		
Permitted Phases		2	6		8	8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	35.0	35.0	5.0	35.0	5.0	5.0
Minimum Split (s)	41.0	41.0	11.0	41.0	35.0	35.0
Total Split (s)	85.0	85.0	14.0	99.0	21.0	21.0
Total Split (%)	70.8%	70.8%	11.7%	82.5%	17.5%	17.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-1.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	5.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	C-Max	None	None
Act Effct Green (s)	86.4	86.4	96.7	96.7	15.3	14.3
Actuated g/C Ratio	0.72	0.72	0.81	0.81	0.13	0.12
v/c Ratio	0.54	0.10	0.23	0.38	0.48	0.54
Control Delay	9.6	2.4	7.4	6.6	55.3	15.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.6	2.4	7.4	6.6	55.3	15.3
LOS	A	A	A	A	E	B
Approach Delay	9.0			6.7	30.4	
Approach LOS	A			A	C	
Queue Length 50th (ft)	258	7	17	144	77	8

1: Main Street & S Boulder Road
2026 Background PM.syn

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Queue Length 95th (ft)	322	26	m30	m192	135	75
Internal Link Dist (ft)	556			320	1130	
Turn Bay Length (ft)		120	225			115
Base Capacity (vph)	2548	1126	344	2850	249	343
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.10	0.22	0.38	0.43	0.51

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 22 (18%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.54

Intersection Signal Delay: 10.2

Intersection LOS: B

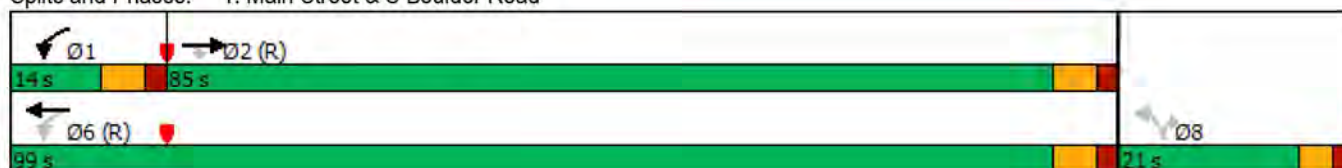
Intersection Capacity Utilization 67.3%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Main Street & S Boulder Road



2: Front Street/Private Access & S Boulder Road
2026 Background PM.syn

												
Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↑↑	↗		↘	↑↑				↗		
Traffic Volume (vph)	0	1399	1	4	2	1068	5	0	0	3	0	0
Future Volume (vph)	0	1399	1	4	2	1068	5	0	0	3	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50		70		0	0		0	0	
Storage Lanes	0		1		1		0	0		1	0	
Taper Length (ft)	25				75			25			25	
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.999				0.865		
Flt Protected					0.950							
Satd. Flow (prot)	0	3539	1583	0	1770	3536	0	0	0	1611	0	0
Flt Permitted					0.950							
Satd. Flow (perm)	0	3539	1583	0	1770	3536	0	0	0	1611	0	0
Link Speed (mph)		35				35			20			20
Link Distance (ft)		400				360			338			476
Travel Time (s)		7.8				7.0			11.5			16.2
Confl. Peds. (#/hr)	10		10	5	10		10	5		5	5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1521	1	0	6	1166	0	0	0	3	0	0
Sign Control		Free				Free			Stop			Stop
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	50.2%						ICU Level of Service A					
Analysis Period (min)	15											

2: Front Street/Private Access & S Boulder Road 2026 Background PM.syn



Lane Group	SBR
Lane Configurations	7
Traffic Volume (vph)	5
Future Volume (vph)	5
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Ped Bike Factor	
Frt	0.865
Flt Protected	
Satd. Flow (prot)	1611
Flt Permitted	
Satd. Flow (perm)	1611
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	5
Peak Hour Factor	0.92
Shared Lane Traffic (%)	
Lane Group Flow (vph)	5
Sign Control	
Intersection Summary	

2: Front Street/Private Access & S Boulder Road
2026 Background PM.syn

Intersection													
Int Delay, s/veh	0.1												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑		↓	↑↑				↑			↑
Traffic Vol, veh/h	0	1399	1	4	2	1068	5	0	0	3	0	0	5
Future Vol, veh/h	0	1399	1	4	2	1068	5	0	0	3	0	0	5
Conflicting Peds, #/hr	10	0	10	5	10	0	10	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	70	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1521	1	4	2	1161	5	0	0	3	0	0	5
Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	-	0	0	1521	1532	0	0	-	-	776	-	-	598
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	6.44	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	2.52	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	153	430	-	-	0	0	340	0	0	445
Stage 1	0	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	0	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-			-	-						
Mov Cap-1 Maneuver	-	-	-	193	193	-	-	-	-	335	-	-	439
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB			
HCM Control Delay, s	0			0.1			15.9			13.3			
HCM LOS							C			B			
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	WBR	SBLn1						
Capacity (veh/h)	335	-	-	193	-	-	439						
HCM Lane V/C Ratio	0.01	-	-	0.034	-	-	0.012						
HCM Control Delay (s)	15.9	-	-	24.3	-	-	13.3						
HCM Lane LOS	C	-	-	C	-	-	B						
HCM 95th %tile Q(veh)	0	-	-	0.1	-	-	0						

3: Cannon Circle/Private Access & S Boulder Road
2026 Background PM.syn

												
Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	23	48	1404	27	2	18	1084	12	2	0	23	21
Future Volume (vph)	23	48	1404	27	2	18	1084	12	2	0	23	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		90		0		80		0	0		0	0
Storage Lanes		1		0		1		0	0		0	0
Taper Length (ft)		75				80			25			25
Lane Util. Factor	0.95	1.00	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.997				0.998			0.875		
Flt Protected		0.950				0.950				0.996		
Satd. Flow (prot)	0	1770	3529	0	0	1770	3532	0	0	1623	0	0
Flt Permitted		0.950				0.950				0.996		
Satd. Flow (perm)	0	1770	3529	0	0	1770	3532	0	0	1623	0	0
Link Speed (mph)			35				35			20		
Link Distance (ft)			360				465			339		
Travel Time (s)			7.0				9.1			11.6		
Confl. Peds. (#/hr)	5	10		10	5	10		10	5		5	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	77	1555	0	0	22	1191	0	0	27	0	0
Sign Control			Free				Free			Stop		
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	63.8%						ICU Level of Service B					
Analysis Period (min)	15											

3: Cannon Circle/Private Access & S Boulder Road 2026 Background PM.syn



Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	0	45
Future Volume (vph)	0	45
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		0
Storage Lanes		0
Taper Length (ft)		
Lane Util. Factor	1.00	1.00
Ped Bike Factor		
Frt	0.908	
Flt Protected	0.984	
Satd. Flow (prot)	1664	0
Flt Permitted	0.984	
Satd. Flow (perm)	1664	0
Link Speed (mph)	20	
Link Distance (ft)	431	
Travel Time (s)	14.7	
Confl. Peds. (#/hr)		5
Peak Hour Factor	0.92	0.92
Shared Lane Traffic (%)		
Lane Group Flow (vph)	72	0
Sign Control	Stop	
Intersection Summary		

3: Cannon Circle/Private Access & S Boulder Road 2026 Background PM.syn

Intersection															
Int Delay, s/veh	8.9														
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations															
Traffic Vol, veh/h	23	48	1404	27	2	18	1084	12	2	0	23	21	0	45	
Future Vol, veh/h	23	48	1404	27	2	18	1084	12	2	0	23	21	0	45	
Conflicting Peds, #/hr	5	10	0	10	5	10	0	10	5	0	5	5	0	5	
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	
RT Channelized	-	-	-	None	-	-	-	None	-	-	None	-	-	None	
Storage Length	-	90	-	-	-	80	-	-	-	-	-	-	-	-	
Veh in Median Storage, #	-	-	0	-	-	-	0	-	-	0	-	-	0	-	
Grade, %	-	-	0	-	-	-	0	-	-	0	-	-	0	-	
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92	92	
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Mvmt Flow	25	52	1526	29	2	20	1178	13	2	0	25	23	0	49	
Major/Minor	Major1				Major2				Minor1				Minor2		
Conflicting Flow All	1191	1201	0	0	1555	1565	0	0	2343	2950	793	2161	2958	611	
Stage 1	-	-	-	-	-	-	-	-	1705	1705	-	1239	1239	-	
Stage 2	-	-	-	-	-	-	-	-	638	1245	-	922	1719	-	
Critical Hdwy	6.44	4.14	-	-	6.44	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94	
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-	
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-	
Follow-up Hdwy	2.52	2.22	-	-	2.52	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32	
Pot Cap-1 Maneuver	250	577	-	-	145	418	-	-	19	14	331	27	14	437	
Stage 1	-	-	-	-	-	-	-	-	95	145	-	186	246	-	
Stage 2	-	-	-	-	-	-	-	-	431	244	-	291	143	-	
Platoon blocked, %			-	-			-	-							
Mov Cap-1 Maneuver	381	381	-	-	343	343	-	-	13	10	326	~ 20	10	431	
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	13	10	-	~ 20	10	-	
Stage 1	-	-	-	-	-	-	-	-	75	115	-	147	228	-	
Stage 2	-	-	-	-	-	-	-	-	356	226	-	213	113	-	
Approach	EB				WB				NB				SB		
HCM Control Delay, s	0.8				0.3				47.6				\$ 324.2		
HCM LOS									E				F		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1							
Capacity (veh/h)	111	381	-	-	343	-	-	57							
HCM Lane V/C Ratio	0.245	0.203	-	-	0.063	-	-	1.259							
HCM Control Delay (s)	47.6	16.9	-	-	16.2	-	-	\$ 324.2							
HCM Lane LOS	E	C	-	-	C	-	-	F							
HCM 95th %tile Q(veh)	0.9	0.7	-	-	0.2	-	-	6.2							
Notes															
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon									

4: Courtesy Road (SH 42) & S Boulder Road
2026 Background PM.syn

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	568	741	167	355	638	202	1	128	709	255	9	139
Future Volume (vph)	568	741	167	355	638	202	1	128	709	255	9	139
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	225		270		0		0		185
Storage Lanes	2		0	2		1		2		0		2
Taper Length (ft)	80			135				70				155
Lane Util. Factor	0.97	0.95	0.95	0.97	0.95	1.00	0.95	0.97	0.95	0.95	0.95	0.97
Ped Bike Factor		1.00				0.98			1.00			
Frt		0.972				0.850			0.960			
Flt Protected	0.950			0.950				0.950				0.950
Satd. Flow (prot)	3433	3429	0	3433	3539	1583	0	3433	3382	0	0	3433
Flt Permitted	0.950			0.950				0.308				0.308
Satd. Flow (perm)	3433	3429	0	3433	3539	1546	0	1113	3382	0	0	1113
Right Turn on Red			Yes			Yes				Yes		
Satd. Flow (RTOR)		23				210			43			
Link Speed (mph)		35			35				45			
Link Distance (ft)		465			1815				418			
Travel Time (s)		9.1			35.4				6.3			
Confl. Peds. (#/hr)			5			10				5		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	617	987	0	386	693	220	0	140	1048	0	0	161
Turn Type	Prot	NA		Prot	NA	Perm	custom	Prot	NA		custom	Prot
Protected Phases	5	2		1	6			3	8			7
Permitted Phases						6	3				7	
Detector Phase	5	2		1	6	6	3	3	8		7	7
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	5.0	6.0		5.0	5.0
Minimum Split (s)	10.0	37.0		10.0	37.0	37.0	10.0	10.0	40.0		10.0	10.0
Total Split (s)	24.0	43.0		18.0	37.0	37.0	18.0	18.0	41.0		18.0	18.0
Total Split (%)	20.0%	35.8%		15.0%	30.8%	30.8%	15.0%	15.0%	34.2%		15.0%	15.0%
Yellow Time (s)	3.0	4.0		3.0	4.0	4.0	3.0	3.0	4.0		3.0	3.0
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0	0.0			0.0
Total Lost Time (s)	5.0	6.0		5.0	6.0	6.0		5.0	6.0			5.0
Lead/Lag	Lag	Lag		Lead	Lead	Lead	Lead	Lead	Lead		Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	C-Max		None	Max	Max	None	None	Max		None	None
Act Effct Green (s)	19.0	37.0		13.0	31.0	31.0		13.0	35.0			13.0
Actuated g/C Ratio	0.16	0.31		0.11	0.26	0.26		0.11	0.29			0.11
v/c Ratio	1.14	0.92		1.04	0.76	0.40		1.17	1.03			1.34
Control Delay	121.1	46.2		109.4	47.3	7.8		180.8	76.8			240.4
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0	0.0			0.0
Total Delay	121.1	46.2		109.4	47.3	7.8		180.8	76.8			240.4
LOS	F	D		F	D	A		F	E			F
Approach Delay		75.0			59.1				89.1			
Approach LOS		E			E				F			
Queue Length 50th (ft)	~288	380		~165	261	6		~66	~444			~83

4: Courtesy Road (SH 42) & S Boulder Road
2026 Background PM.syn



Lane Group	SBT	SBR
Lane Configurations	↑↑	↑
Traffic Volume (vph)	536	315
Future Volume (vph)	536	315
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		270
Storage Lanes		1
Taper Length (ft)		
Lane Util. Factor	0.95	1.00
Ped Bike Factor		0.98
Frt		0.850
Flt Protected		
Satd. Flow (prot)	3539	1583
Flt Permitted		
Satd. Flow (perm)	3539	1555
Right Turn on Red		Yes
Satd. Flow (RTOR)		342
Link Speed (mph)	45	
Link Distance (ft)	1337	
Travel Time (s)	20.3	
Confl. Peds. (#/hr)		5
Peak Hour Factor	0.92	0.92
Shared Lane Traffic (%)		
Lane Group Flow (vph)	583	342
Turn Type	NA	Perm
Protected Phases	4	
Permitted Phases		4
Detector Phase	4	4
Switch Phase		
Minimum Initial (s)	6.0	6.0
Minimum Split (s)	36.0	36.0
Total Split (s)	41.0	41.0
Total Split (%)	34.2%	34.2%
Yellow Time (s)	4.0	4.0
All-Red Time (s)	2.0	2.0
Lost Time Adjust (s)	0.0	0.0
Total Lost Time (s)	6.0	6.0
Lead/Lag	Lag	Lag
Lead-Lag Optimize?		
Recall Mode	Max	Max
Act Effct Green (s)	35.0	35.0
Actuated g/C Ratio	0.29	0.29
v/c Ratio	0.56	0.49
Control Delay	38.6	6.0
Queue Delay	0.0	0.0
Total Delay	38.6	6.0
LOS	D	A
Approach Delay	58.3	
Approach LOS	E	
Queue Length 50th (ft)	201	0

4: Courtesy Road (SH 42) & S Boulder Road
2026 Background PM.syn

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Queue Length 95th (ft)	#407	#508		#267	332	68		#134	#581			#156
Internal Link Dist (ft)		385			1735				338			
Turn Bay Length (ft)	150			225		270						185
Base Capacity (vph)	543	1073		371	914	555		120	1016			120
Starvation Cap Reductn	0	0		0	0	0		0	0			0
Spillback Cap Reductn	0	0		0	0	0		0	0			0
Storage Cap Reductn	0	0		0	0	0		0	0			0
Reduced v/c Ratio	1.14	0.92		1.04	0.76	0.40		1.17	1.03			1.34

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT, Start of Yellow, Master Intersection

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.34

Intersection Signal Delay: 70.7

Intersection LOS: E

Intersection Capacity Utilization 92.9%

ICU Level of Service F

Analysis Period (min) 15

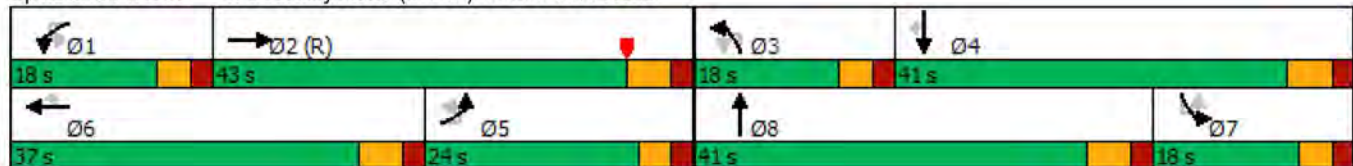
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 4: Courtesy Road (SH 42) & S Boulder Road



4: Courtesy Road (SH 42) & S Boulder Road 2026 Background PM.syn



Lane Group	SBT	SBR
Queue Length 95th (ft)	261	70
Internal Link Dist (ft)	1257	
Turn Bay Length (ft)		270
Base Capacity (vph)	1032	695
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.56	0.49
Intersection Summary		

5: Courtesy Road (SH 42) & Cannon Circle
2026 Background PM.syn

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1	6	3	1108	1045	9
Future Volume (vph)	1	6	3	1108	1045	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	140			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95
Ped Bike Factor						
Frt	0.882				0.999	
Flt Protected	0.994		0.950			
Satd. Flow (prot)	1633	0	1770	1863	3536	0
Flt Permitted	0.994		0.950			
Satd. Flow (perm)	1633	0	1770	1863	3536	0
Link Speed (mph)	20			45	45	
Link Distance (ft)	418			420	418	
Travel Time (s)	14.3			6.4	6.3	
Confl. Peds. (#/hr)			5			5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	8	0	3	1204	1146	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	68.3%			ICU Level of Service C		
Analysis Period (min)	15					

5: Courtesy Road (SH 42) & Cannon Circle
2026 Background PM.syn

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	6	3	1108	1045	9
Future Vol, veh/h	1	6	3	1108	1045	9
Conflicting Peds, #/hr	0	0	5	0	0	5
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	140	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	7	3	1204	1136	10
Major/Minor	Minor2		Major1	Major2		
Conflicting Flow All	2356	578	1151	0	-	0
Stage 1	1146	-	-	-	-	-
Stage 2	1210	-	-	-	-	-
Critical Hdwy	6.63	6.93	4.13	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	34	460	605	-	-	-
Stage 1	266	-	-	-	-	-
Stage 2	281	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	33	458	602	-	-	-
Mov Cap-2 Maneuver	33	-	-	-	-	-
Stage 1	263	-	-	-	-	-
Stage 2	280	-	-	-	-	-
Approach	EB		NB	SB		
HCM Control Delay, s	28.5		0	0		
HCM LOS	D					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	602	-	161	-	-	
HCM Lane V/C Ratio	0.005	-	0.047	-	-	
HCM Control Delay (s)	11	-	28.5	-	-	
HCM Lane LOS	B	-	D	-	-	
HCM 95th %tile Q(veh)	0	-	0.1	-	-	

6: Courtesy Road (SH 42) & Griffith Street/Sports Complex Access
2026 Background PM.syn

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	0	39	1	1	1	19	1080	2	1	979	123
Future Volume (vph)	11	0	39	1	1	1	19	1080	2	1	979	123
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		60	225		0	500		0
Storage Lanes	0		0	0		1	1		0	1		1
Taper Length (ft)	0			0			25			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.895				0.850						0.850
Flt Protected		0.989			0.976		0.950			0.950		
Satd. Flow (prot)	0	1649	0	0	1818	1583	1770	1863	0	1770	1863	1583
Flt Permitted		0.989			0.976		0.950			0.950		
Satd. Flow (perm)	0	1649	0	0	1818	1583	1770	1863	0	1770	1863	1583
Link Speed (mph)		30			20			45			45	
Link Distance (ft)		439			281			380			369	
Travel Time (s)		10.0			9.6			5.8			5.6	
Confl. Bikes (#/hr)												5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	54	0	0	2	1	21	1176	0	1	1064	134
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	73.6%						ICU Level of Service D					
Analysis Period (min)	15											

6: Courtesy Road (SH 42) & Griffith Street/Sports Complex Access
2026 Background PM.syn

Intersection												
Int Delay, s/veh	2.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	0	39	1	1	1	19	1080	2	1	979	123
Future Vol, veh/h	11	0	39	1	1	1	19	1080	2	1	979	123
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	60	225	-	-	500	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	0	42	1	1	1	21	1174	2	1	1064	134
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2284	2284	1064	2371	2417	1175	1198	0	0	1176	0	0
Stage 1	1066	1066	-	1217	1217	-	-	-	-	-	-	-
Stage 2	1218	1218	-	1154	1200	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	28	40	271	24	33	233	583	-	-	594	-	-
Stage 1	269	299	-	221	253	-	-	-	-	-	-	-
Stage 2	221	253	-	240	258	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	26	38	271	20	32	233	583	-	-	594	-	-
Mov Cap-2 Maneuver	26	38	-	20	32	-	-	-	-	-	-	-
Stage 1	259	298	-	213	244	-	-	-	-	-	-	-
Stage 2	211	244	-	202	257	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	96.9		115		0.2		0					
HCM LOS	F		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR					
Capacity (veh/h)	583	-	-	88 25 233	594	-	-					
HCM Lane V/C Ratio	0.035	-	-	0.618 0.087 0.005	0.002	-	-					
HCM Control Delay (s)	11.4	-	-	96.9 162.3 20.5	11.1	-	-					
HCM Lane LOS	B	-	-	F F C	B	-	-					
HCM 95th %tile Q(veh)	0.1	-	-	2.9 0.3 0	0	-	-					

7: Cannon Street & Griffith Street
2026 Background PM.syn

												
Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	2	36	26	1	27	119	1	28	1	5	0	2
Future Volume (vph)	2	36	26	1	27	119	1	28	1	5	0	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150		150		150	150		150	150	
Storage Lanes	0		0		0		0	0		0	0	
Taper Length (ft)	25				25			25			25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.945				0.999			0.981			
Flt Protected		0.999				0.991			0.960			
Satd. Flow (prot)	0	1759	0	0	0	1844	0	0	1754	0	0	1863
Flt Permitted		0.999				0.991			0.960			
Satd. Flow (perm)	0	1759	0	0	0	1844	0	0	1754	0	0	1863
Link Speed (mph)		30				30			25			25
Link Distance (ft)		390				439			346			362
Travel Time (s)		8.9				10.0			9.4			9.9
Confl. Peds. (#/hr)	5		5		5		5	5		5	5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	69	0	0	0	160	0	0	36	0	0	2
Sign Control		Free				Free			Stop			Stop
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	30.6%											
Analysis Period (min)	15											
	ICU Level of Service A											

7: Cannon Street & Griffith Street
2026 Background PM.syn

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	0
Future Volume (vph)	0
Ideal Flow (vphpl)	1900
Storage Length (ft)	150
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	1.00
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	5
Peak Hour Factor	0.92
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Sign Control	
Intersection Summary	

7: Cannon Street & Griffith Street
2026 Background PM.syn

Intersection													
Int Delay, s/veh	1.6												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕				↕			↕			↕	
Traffic Vol, veh/h	2	36	26	1	27	119	1	28	1	5	0	2	0
Future Vol, veh/h	2	36	26	1	27	119	1	28	1	5	0	2	0
Conflicting Peds, #/hr	5	0	5	0	5	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	39	28	1	29	129	1	30	1	5	0	2	0
Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	135	0	0	-	72	0	0	256	257	63	258	271	140
Stage 1	-	-	-	-	-	-	-	62	62	-	193	195	-
Stage 2	-	-	-	-	-	-	-	194	195	-	65	76	-
Critical Hdwy	4.12	-	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1449	-	-	-	1528	-	-	697	647	1002	695	636	908
Stage 1	-	-	-	-	-	-	-	949	843	-	809	739	-
Stage 2	-	-	-	-	-	-	-	808	739	-	946	832	-
Platoon blocked, %		-	-			-	-						
Mov Cap-1 Maneuver	1442	-	-	~-29	~-29	-	-	688	640	992	683	629	899
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	688	640	-	683	629	-
Stage 1	-	-	-	-	-	-	-	943	838	-	804	735	-
Stage 2	-	-	-	-	-	-	-	802	735	-	934	827	-
Approach	EB			WB			NB			SB			
HCM Control Delay, s	0.2						10.3			10.7			
HCM LOS							B			B			
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1					
Capacity (veh/h)	719	1442	-	-	+	-	-	629					
HCM Lane V/C Ratio	0.051	0.002	-	-	-	-	-	0.003					
HCM Control Delay (s)	10.3	7.5	0	-	-	-	-	10.7					
HCM Lane LOS	B	A	A	-	-	-	-	B					
HCM 95th %tile Q(veh)	0.2	0	-	-	-	-	-	0					
Notes													
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon							

8: Griffith Street & Front Street
2026 Background PM.syn

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	4	70	6	5	155	0	2	0	1	3	0	0
Future Volume (vph)	4	70	6	5	155	0	2	0	1	3	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150	150		150	0		0		0	
Storage Lanes	0		0	0		0	0		0		0	
Taper Length (ft)	25			25			25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.989						0.955				0.932
Flt Protected		0.998			0.999			0.968				0.976
Satd. Flow (prot)	0	1839	0	0	1861	0	0	1722	0	0	0	1694
Flt Permitted		0.998			0.999			0.968				0.976
Satd. Flow (perm)	0	1839	0	0	1861	0	0	1722	0	0	0	1694
Link Speed (mph)		30			30			25				25
Link Distance (ft)		405			390			333				365
Travel Time (s)		9.2			8.9			9.1				10.0
Confl. Peds. (#/hr)	5		10	10		5	5		5		5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	87	0	0	173	0	0	3	0	0	0	6
Sign Control		Free			Free			Stop				Stop
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	21.9%											
Analysis Period (min)	15											
	ICU Level of Service A											

8: Griffith Street & Front Street
2026 Background PM.syn

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	3
Future Volume (vph)	3
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	1.00
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	5
Peak Hour Factor	0.92
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Sign Control	
Intersection Summary	

8: Griffith Street & Front Street
2026 Background PM.syn

Intersection													
Int Delay, s/veh	0.6												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations		↕			↕			↕				↕	
Traffic Vol, veh/h	4	70	6	5	155	0	2	0	1	3	0	0	3
Future Vol, veh/h	4	70	6	5	155	0	2	0	1	3	0	0	3
Conflicting Peds, #/hr	5	0	10	10	0	5	5	0	5	0	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	76	7	5	168	0	2	0	1	3	0	0	3
Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	173	0	0	93	0	0	283	281	95	0	276	284	178
Stage 1	-	-	-	-	-	-	98	98	-	0	183	183	-
Stage 2	-	-	-	-	-	-	185	183	-	0	93	101	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	-	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1404	-	-	1501	-	-	669	627	962	0	676	625	865
Stage 1	-	-	-	-	-	-	908	814	-	0	819	748	-
Stage 2	-	-	-	-	-	-	817	748	-	0	914	811	-
Platoon blocked, %		-	-		-	-				-			
Mov Cap-1 Maneuver	1397	-	-	1487	-	-	654	613	948	0	665	611	857
Mov Cap-2 Maneuver	-	-	-	-	-	-	654	613	-	0	665	611	-
Stage 1	-	-	-	-	-	-	897	803	-	0	812	741	-
Stage 2	-	-	-	-	-	-	807	741	-	0	906	800	-
Approach	EB			WB			NB			SB			
HCM Control Delay, s	0.4			0.2			10			9.2			
HCM LOS							B			A			
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1					
Capacity (veh/h)	729	1397	-	-	1487	-	-	857					
HCM Lane V/C Ratio	0.004	0.003	-	-	0.004	-	-	0.004					
HCM Control Delay (s)	10	7.6	0	-	7.4	0	-	9.2					
HCM Lane LOS	B	A	A	-	A	A	-	A					
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0					

9: Main Street & Griffith Street
2026 Background PM.syn

							
Lane Group	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	80	57	206	39	1	39	144
Future Volume (vph)	80	57	206	39	1	39	144
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor							
Frt	0.944		0.979				
Flt Protected	0.972						0.989
Satd. Flow (prot)	1709	0	1824	0	0	0	1842
Flt Permitted	0.972						0.989
Satd. Flow (perm)	1709	0	1824	0	0	0	1842
Link Speed (mph)	30		30				30
Link Distance (ft)	405		350				1210
Travel Time (s)	9.2		8.0				27.5
Confl. Peds. (#/hr)	5	10		7	10	7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)							
Lane Group Flow (vph)	149	0	266	0	0	0	200
Sign Control	Stop		Free				Free
Intersection Summary							
Area Type:	Other						
Control Type:	Unsignalized						
Intersection Capacity Utilization	42.9%			ICU Level of Service A			
Analysis Period (min)	15						

9: Main Street & Griffith Street
2026 Background PM.syn

Intersection							
Int Delay, s/veh	3.1						
Movement	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations							
Traffic Vol, veh/h	80	57	206	39	1	39	144
Future Vol, veh/h	80	57	206	39	1	39	144
Conflicting Peds, #/hr	5	10	0	7	10	7	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	-	0
Grade, %	0	-	0	-	-	-	0
Peak Hour Factor	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	87	62	224	42	1	42	157
Major/Minor	Minor1	Major1		Major2			
Conflicting Flow All	498	262	0	0	-	273	0
Stage 1	252	-	-	-	-	-	-
Stage 2	246	-	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	2.218	-
Pot Cap-1 Maneuver	532	777	-	-	-	1290	-
Stage 1	790	-	-	-	-	-	-
Stage 2	795	-	-	-	-	-	-
Platoon blocked, %			-	-			-
Mov Cap-1 Maneuver	526	764	-	-	~ -41	~ -41	-
Mov Cap-2 Maneuver	526	-	-	-	-	-	-
Stage 1	784	-	-	-	-	-	-
Stage 2	791	-	-	-	-	-	-
Approach	WB	NB		SB			
HCM Control Delay, s	12.9	0					
HCM LOS	B						
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBL	SBT		
Capacity (veh/h)	-	-	604	+	-		
HCM Lane V/C Ratio	-	-	0.247	-	-		
HCM Control Delay (s)	-	-	12.9	-	-		
HCM Lane LOS	-	-	B	-	-		
HCM 95th %tile Q(veh)	-	-	1	-	-		
Notes							
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon	

10: Front Street & Harper Street
2026 Background PM.syn

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	6	0	0	7	0	0
Future Volume (vph)	6	0	0	7	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.865					
Flt Protected	0.950					
Satd. Flow (prot)	1770	0	0	1611	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	0	1611	0	0
Link Speed (mph)	25	25		25		
Link Distance (ft)	380	365		210		
Travel Time (s)	10.4	10.0		5.7		
Confl. Peds. (#/hr)	5	132	70		70	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	7	0	0	8	0	0
Sign Control	Free	Free		Free		
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	16.5%			ICU Level of Service A		
Analysis Period (min)	15					

11: Courtesy Road (SH 42) & Harper Street
2026 Background PM.syn

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	26	61	7	1049	996	8
Future Volume (vph)	26	61	7	1049	996	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95
Frt	0.905				0.999	
Flt Protected	0.985					
Satd. Flow (prot)	1660	0	0	1863	3536	0
Flt Permitted	0.985					
Satd. Flow (perm)	1660	0	0	1863	3536	0
Link Speed (mph)	30			45	45	
Link Distance (ft)	247			369	420	
Travel Time (s)	5.6			5.6	6.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	94	0	0	1148	1092	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	72.6%			ICU Level of Service C		
Analysis Period (min)	15					

11: Courtesy Road (SH 42) & Harper Street
2026 Background PM.syn

Intersection

Int Delay, s/veh 4.8

Movement EBL EBR NBL NBT SBT SBR

Lane Configurations 

Traffic Vol, veh/h 26 61 7 1049 996 8

Future Vol, veh/h 26 61 7 1049 996 8

Conflicting Peds, #/hr 0 0 0 0 0 0

Sign Control Stop Stop Free Free Free Free

RT Channelized - None - None - None

Storage Length 0 - - - - -

Veh in Median Storage, # 0 - - 0 0 -

Grade, % 0 - - 0 0 -

Peak Hour Factor 92 92 92 92 92 92

Heavy Vehicles, % 2 2 2 2 2 2

Mvmt Flow 28 66 8 1140 1083 9

Major/Minor Minor2 Major1 Major2

Conflicting Flow All 2244 546 1092 0 - 0

Stage 1 1088 - - - - -

Stage 2 1156 - - - - -

Critical Hdwy 6.63 6.93 4.13 - - -

Critical Hdwy Stg 1 5.83 - - - - -

Critical Hdwy Stg 2 5.43 - - - - -

Follow-up Hdwy 3.519 3.319 2.219 - - -

Pot Cap-1 Maneuver 41 483 637 - - -

Stage 1 285 - - - - -

Stage 2 299 - - - - -

Platoon blocked, % - - -

Mov Cap-1 Maneuver 40 483 637 - - -

Mov Cap-2 Maneuver 40 - - - - -

Stage 1 275 - - - - -

Stage 2 299 - - - - -

Approach EB NB SB

HCM Control Delay, s 118 0.1 0

HCM LOS F

Minor Lane/Major Mvmt NBL NBT EBLn1 SBT SBR

Capacity (veh/h) 637 - 112 - -

HCM Lane V/C Ratio 0.012 - 0.844 - -

HCM Control Delay (s) 10.7 0 118 - -

HCM Lane LOS B A F - -

HCM 95th %tile Q(veh) 0 - 5 - -

1: Main Street & S Boulder Road
2026 Background SAT.syn

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘	↑↑	↘	↑
Traffic Volume (vph)	832	94	67	787	68	93
Future Volume (vph)	832	94	67	787	68	93
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		120	225		0	115
Storage Lanes		1	1		1	1
Taper Length (ft)			25		0	
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Ped Bike Factor		0.97	1.00		0.99	0.95
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3539	1583	1770	3539	1770	1583
Flt Permitted			0.271		0.950	
Satd. Flow (perm)	3539	1535	504	3539	1761	1504
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		102				101
Link Speed (mph)	35			35	30	
Link Distance (ft)	636			400	1210	
Travel Time (s)	12.4			7.8	27.5	
Confl. Peds. (#/hr)		5	5		5	39
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	904	102	73	855	74	101
Turn Type	NA	Perm	pm+pt	NA	Perm	Perm
Protected Phases	2		1	6		
Permitted Phases		2	6		8	8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	35.0	35.0	5.0	35.0	5.0	5.0
Minimum Split (s)	41.0	41.0	11.0	41.0	35.0	35.0
Total Split (s)	70.0	70.0	12.0	82.0	18.0	18.0
Total Split (%)	70.0%	70.0%	12.0%	82.0%	18.0%	18.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-1.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	5.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	C-Max	None	None
Act Effct Green (s)	71.8	71.8	81.5	81.5	10.5	9.5
Actuated g/C Ratio	0.72	0.72	0.82	0.82	0.10	0.10
v/c Ratio	0.36	0.09	0.14	0.30	0.40	0.43
Control Delay	6.6	1.4	3.1	3.2	47.5	14.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.6	1.4	3.1	3.2	47.5	14.4
LOS	A	A	A	A	D	B
Approach Delay	6.1			3.2	28.4	
Approach LOS	A			A	C	
Queue Length 50th (ft)	110	0	10	66	45	0

1: Main Street & S Boulder Road
2026 Background SAT.syn

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Queue Length 95th (ft)	159	16	m17	m94	87	47
Internal Link Dist (ft)	556			320	1130	
Turn Bay Length (ft)		120	225			115
Base Capacity (vph)	2540	1130	514	2885	246	283
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.09	0.14	0.30	0.30	0.36

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 59 (59%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.43

Intersection Signal Delay: 6.7

Intersection LOS: A

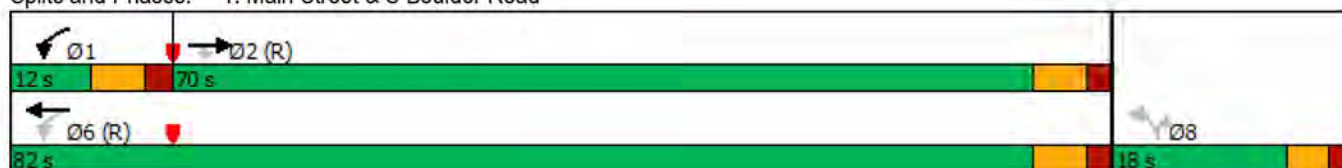
Intersection Capacity Utilization 62.7%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Main Street & S Boulder Road



2: Front Street/Private Access & S Boulder Road
2026 Background SAT.syn

												
Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↑↑	↗		↖	↑↑				↗		
Traffic Volume (vph)	0	918	3	3	4	880	4	0	0	5	0	0
Future Volume (vph)	0	918	3	3	4	880	4	0	0	5	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50		70		0	0		0	0	
Storage Lanes	0		1		1		0	0		1	0	
Taper Length (ft)	25				75			25			25	
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.999				0.865		
Flt Protected					0.950							
Satd. Flow (prot)	0	3539	1583	0	1770	3536	0	0	0	1611	0	0
Flt Permitted					0.950							
Satd. Flow (perm)	0	3539	1583	0	1770	3536	0	0	0	1611	0	0
Link Speed (mph)		35				35			20			20
Link Distance (ft)		400				360			338			476
Travel Time (s)		7.8				7.0			11.5			16.2
Confl. Peds. (#/hr)	10		10	5	10		10	5		5	5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	998	3	0	7	961	0	0	0	5	0	0
Sign Control		Free				Free			Stop			Stop
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	36.9%											
Analysis Period (min)	15											
	ICU Level of Service A											

2: Front Street/Private Access & S Boulder Road

2026 Background SAT.syn



Lane Group	SBR
Lane Configurations	↗
Traffic Volume (vph)	1
Future Volume (vph)	1
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Ped Bike Factor	
Frt	0.865
Flt Protected	
Satd. Flow (prot)	1611
Flt Permitted	
Satd. Flow (perm)	1611
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	5
Peak Hour Factor	0.92
Shared Lane Traffic (%)	
Lane Group Flow (vph)	1
Sign Control	
Intersection Summary	

2: Front Street/Private Access & S Boulder Road
2026 Background SAT.syn

Intersection													
Int Delay, s/veh	0.1												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑		↓	↑↑				↑			↑
Traffic Vol, veh/h	0	918	3	3	4	880	4	0	0	5	0	0	1
Future Vol, veh/h	0	918	3	3	4	880	4	0	0	5	0	0	1
Conflicting Peds, #/hr	10	0	10	5	10	0	10	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	70	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	998	3	3	4	957	4	0	0	5	0	0	1
Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	-	0	0	998	1011	0	0	-	-	514	-	-	496
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	6.44	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	2.52	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	333	681	-	-	0	0	505	0	0	519
Stage 1	0	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	0	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-			-	-						
Mov Cap-1 Maneuver	-	-	-	466	466	-	-	-	-	498	-	-	512
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB			
HCM Control Delay, s	0			0.1			12.3			12			
HCM LOS							B			B			
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	WBR	SBLn1						
Capacity (veh/h)	498	-	-	466	-	-	512						
HCM Lane V/C Ratio	0.011	-	-	0.016	-	-	0.002						
HCM Control Delay (s)	12.3	-	-	12.9	-	-	12						
HCM Lane LOS	B	-	-	B	-	-	B						
HCM 95th %tile Q(veh)	0	-	-	0.1	-	-	0						

3: Cannon Circle/Private Access & S Boulder Road
2026 Background SAT.syn

												
Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	15	28	862	15	1	34	817	12	8	1	13	23
Future Volume (vph)	15	28	862	15	1	34	817	12	8	1	13	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		90		0		80		0	0		0	0
Storage Lanes		1		0		1		0	0		0	0
Taper Length (ft)		75				80			25			25
Lane Util. Factor	0.95	1.00	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.997				0.998			0.921		
Flt Protected		0.950				0.950				0.982		
Satd. Flow (prot)	0	1770	3529	0	0	1770	3532	0	0	1685	0	0
Flt Permitted		0.950				0.950				0.982		
Satd. Flow (perm)	0	1770	3529	0	0	1770	3532	0	0	1685	0	0
Link Speed (mph)			35				35			20		
Link Distance (ft)			360				465			339		
Travel Time (s)			7.0				9.1			11.6		
Confl. Peds. (#/hr)	5	10		10	5	10		10	5		5	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	46	953	0	0	38	901	0	0	24	0	0
Sign Control			Free				Free			Stop		
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	45.0%						ICU Level of Service A					
Analysis Period (min)	15											

3: Cannon Circle/Private Access & S Boulder Road

2026 Background SAT.syn



Lane Group	SBT	SBR
Lane Configurations	↕	
Traffic Volume (vph)	3	56
Future Volume (vph)	3	56
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		0
Storage Lanes		0
Taper Length (ft)		
Lane Util. Factor	1.00	1.00
Ped Bike Factor		
Frt	0.907	
Flt Protected	0.986	
Satd. Flow (prot)	1666	0
Flt Permitted	0.986	
Satd. Flow (perm)	1666	0
Link Speed (mph)	20	
Link Distance (ft)	431	
Travel Time (s)	14.7	
Confl. Peds. (#/hr)		5
Peak Hour Factor	0.92	0.92
Shared Lane Traffic (%)		
Lane Group Flow (vph)	89	0
Sign Control	Stop	
Intersection Summary		

3: Cannon Circle/Private Access & S Boulder Road 2026 Background SAT.syn

Intersection															
Int Delay, s/veh	3.3														
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations															
Traffic Vol, veh/h	15	28	862	15	1	34	817	12	8	1	13	23	3	56	
Future Vol, veh/h	15	28	862	15	1	34	817	12	8	1	13	23	3	56	
Conflicting Peds, #/hr	5	10	0	10	5	10	0	10	5	0	5	5	0	5	
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	
RT Channelized	-	-	-	None	-	-	-	None	-	-	None	-	-	None	
Storage Length	-	90	-	-	-	80	-	-	-	-	-	-	-	-	
Veh in Median Storage, #	-	-	0	-	-	-	0	-	-	0	-	-	0	-	
Grade, %	-	-	0	-	-	-	0	-	-	0	-	-	0	-	
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92	92	
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Mvmt Flow	16	30	937	16	1	37	888	13	9	1	14	25	3	61	

Major/Minor	Major1			Major2			Minor1			Minor2					
Conflicting Flow All	901	911	0	0	953	963	0	0	1574	2034	492	1547	2036	466	
Stage 1	-	-	-	-	-	-	-	-	1047	1047	-	981	981	-	
Stage 2	-	-	-	-	-	-	-	-	527	987	-	566	1055	-	
Critical Hdwy	6.44	4.14	-	-	6.44	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94	
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-	
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-	
Follow-up Hdwy	2.52	2.22	-	-	2.52	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32	
Pot Cap-1 Maneuver	384	743	-	-	356	711	-	-	74	56	522	78	56	543	
Stage 1	-	-	-	-	-	-	-	-	244	303	-	268	326	-	
Stage 2	-	-	-	-	-	-	-	-	502	324	-	476	301	-	
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Mov Cap-1 Maneuver	527	527	-	-	684	684	-	-	55	47	515	66	47	535	
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	55	47	-	66	47	-	
Stage 1	-	-	-	-	-	-	-	-	220	273	-	242	305	-	
Stage 2	-	-	-	-	-	-	-	-	414	303	-	418	272	-	

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.4	44.3	53.2
HCM LOS			E	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	115	527	-	-	684	-	-	159
HCM Lane V/C Ratio	0.208	0.089	-	-	0.056	-	-	0.561
HCM Control Delay (s)	44.3	12.5	-	-	10.6	-	-	53.2
HCM Lane LOS	E	B	-	-	B	-	-	F
HCM 95th %tile Q(veh)	0.7	0.3	-	-	0.2	-	-	2.9

4: Courtesy Road (SH 42) & S Boulder Road
2026 Background SAT.syn

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (vph)	2	382	467	102	252	526	135	2	158	363	199	5
Future Volume (vph)	2	382	467	102	252	526	135	2	158	363	199	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		150		0	225		270		0		0	
Storage Lanes		2		0	2		1		2		0	
Taper Length (ft)		80			135				70			
Lane Util. Factor	0.95	0.97	0.95	0.95	0.97	0.95	1.00	0.95	0.97	0.95	0.95	0.95
Ped Bike Factor			1.00				0.98			0.99		
Frt			0.973				0.850			0.947		
Flt Protected		0.950			0.950				0.950			
Satd. Flow (prot)	0	3433	3433	0	3433	3539	1583	0	3433	3332	0	0
Flt Permitted		0.437			0.950				0.571			
Satd. Flow (perm)	0	1579	3433	0	3433	3539	1549	0	2063	3332	0	0
Right Turn on Red				Yes			Yes				Yes	
Satd. Flow (RTOR)			27				218			105		
Link Speed (mph)			35			35				45		
Link Distance (ft)			465			1815				418		
Travel Time (s)			9.1			35.4				6.3		
Confl. Peds. (#/hr)				5			10				5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	417	619	0	274	572	147	0	174	611	0	0
Turn Type	custom	Prot	NA		Prot	NA	Perm	custom	Prot	NA		custom
Protected Phases		5	2		1	6			3	8		
Permitted Phases	5						6	3				7
Detector Phase	5	5	2		1	6	6	3	3	8		7
Switch Phase												
Minimum Initial (s)	5.0	5.0	10.0		5.0	10.0	10.0	5.0	5.0	6.0		5.0
Minimum Split (s)	10.0	10.0	37.0		10.0	37.0	37.0	10.0	10.0	40.0		10.0
Total Split (s)	18.0	18.0	38.0		14.0	34.0	34.0	12.0	12.0	36.0		12.0
Total Split (%)	18.0%	18.0%	38.0%		14.0%	34.0%	34.0%	12.0%	12.0%	36.0%		12.0%
Yellow Time (s)	3.0	3.0	4.0		3.0	4.0	4.0	3.0	3.0	4.0		3.0
All-Red Time (s)	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0		2.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0		0.0	0.0		
Total Lost Time (s)		5.0	6.0		5.0	6.0	6.0		5.0	6.0		
Lead/Lag	Lag	Lag	Lag		Lead	Lead	Lead	Lead	Lead	Lead		Lag
Lead-Lag Optimize?												
Recall Mode	None	None	C-Max		None	Max	Max	None	None	Max		None
Act Effect Green (s)		13.0	32.0		9.0	28.0	28.0		7.0	30.0		
Actuated g/C Ratio		0.13	0.32		0.09	0.28	0.28		0.07	0.30		
v/c Ratio		2.03	0.55		0.89	0.58	0.25		1.21	0.57		
Control Delay		505.8	25.2		75.6	33.7	1.8		183.0	26.6		
Queue Delay		0.0	0.0		0.0	0.0	0.0		0.0	0.0		
Total Delay		505.8	25.2		75.6	33.7	1.8		183.0	26.6		
LOS		F	C		E	C	A		F	C		
Approach Delay			218.6			40.5				61.3		
Approach LOS			F			D				E		
Queue Length 50th (ft)		~219	113		90	164	0		~70	142		

4: Courtesy Road (SH 42) & S Boulder Road
2026 Background SAT.syn

			
Lane Group	SBL	SBT	SBR
Lane Configurations	LT	TH	RT
Traffic Volume (vph)	110	392	260
Future Volume (vph)	110	392	260
Ideal Flow (vphpl)	1900	1900	1900
Storage Length (ft)	185		270
Storage Lanes	2		1
Taper Length (ft)	155		
Lane Util. Factor	0.97	0.95	1.00
Ped Bike Factor			0.98
Frt			0.850
Flt Protected	0.950		
Satd. Flow (prot)	3433	3539	1583
Flt Permitted	0.571		
Satd. Flow (perm)	2063	3539	1557
Right Turn on Red			Yes
Satd. Flow (RTOR)			283
Link Speed (mph)		45	
Link Distance (ft)		1337	
Travel Time (s)		20.3	
Confl. Peds. (#/hr)			5
Peak Hour Factor	0.92	0.92	0.92
Shared Lane Traffic (%)			
Lane Group Flow (vph)	125	426	283
Turn Type	Prot	NA	Perm
Protected Phases	7	4	
Permitted Phases			4
Detector Phase	7	4	4
Switch Phase			
Minimum Initial (s)	5.0	6.0	6.0
Minimum Split (s)	10.0	36.0	36.0
Total Split (s)	12.0	36.0	36.0
Total Split (%)	12.0%	36.0%	36.0%
Yellow Time (s)	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0
Lead/Lag	Lag	Lag	Lag
Lead-Lag Optimize?			
Recall Mode	None	Max	Max
Act Effect Green (s)	7.0	30.0	30.0
Actuated g/C Ratio	0.07	0.30	0.30
v/c Ratio	0.87	0.40	0.43
Control Delay	94.1	29.2	5.4
Queue Delay	0.0	0.0	0.0
Total Delay	94.1	29.2	5.4
LOS	F	C	A
Approach Delay		30.9	
Approach LOS		C	
Queue Length 50th (ft)	41	113	0

4: Courtesy Road (SH 42) & S Boulder Road 2026 Background SAT.syn

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU
Queue Length 95th (ft)		#311	149		#163	221	10		#138	199		
Internal Link Dist (ft)			385			1735				338		
Turn Bay Length (ft)		150			225		270					
Base Capacity (vph)		205	1116		308	990	590		144	1073		
Starvation Cap Reductn		0	0		0	0	0		0	0		
Spillback Cap Reductn		0	0		0	0	0		0	0		
Storage Cap Reductn		0	0		0	0	0		0	0		
Reduced v/c Ratio		2.03	0.55		0.89	0.58	0.25		1.21	0.57		

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:EBT, Start of Yellow, Master Intersection

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 2.03

Intersection Signal Delay: 93.4

Intersection LOS: F

Intersection Capacity Utilization 87.6%

ICU Level of Service E

Analysis Period (min) 15

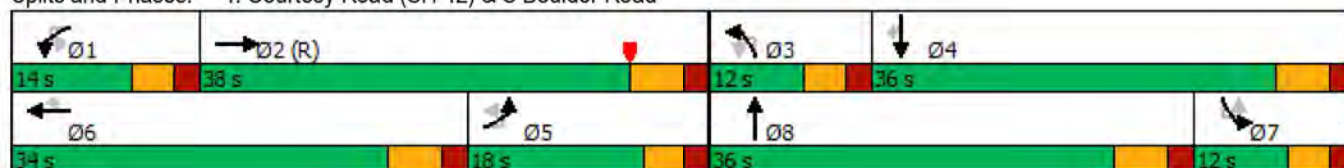
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 4: Courtesy Road (SH 42) & S Boulder Road



4: Courtesy Road (SH 42) & S Boulder Road 2026 Background SAT.syn



Lane Group	SBL	SBT	SBR
Queue Length 95th (ft)	#96	157	58
Internal Link Dist (ft)		1257	
Turn Bay Length (ft)	185		270
Base Capacity (vph)	144	1061	665
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.87	0.40	0.43
Intersection Summary			

5: Courtesy Road (SH 42) & Cannon Circle
2026 Background SAT.syn

							
Lane Group	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	8	1	1	0	715	734	10
Future Volume (vph)	8	1	1	0	715	734	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		140			0
Storage Lanes	1	0		1			0
Taper Length (ft)	25			100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Ped Bike Factor							
Frt	0.986					0.998	
Flt Protected	0.957			0.950			
Satd. Flow (prot)	1758	0	0	1770	1863	3532	0
Flt Permitted	0.957			0.950			
Satd. Flow (perm)	1758	0	0	1770	1863	3532	0
Link Speed (mph)	20				45	45	
Link Distance (ft)	418				420	418	
Travel Time (s)	14.3				6.4	6.3	
Confl. Peds. (#/hr)				5			5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)							
Lane Group Flow (vph)	10	0	0	1	777	809	0
Sign Control	Stop				Free	Free	
Intersection Summary							
Area Type:	Other						
Control Type:	Unsignalized						
Intersection Capacity Utilization	47.6%			ICU Level of Service A			
Analysis Period (min)	15						

5: Courtesy Road (SH 42) & Cannon Circle
2026 Background SAT.syn

Intersection							
Int Delay, s/veh	0.2						
Movement	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Vol, veh/h	8	1	1	0	715	734	10
Future Vol, veh/h	8	1	1	0	715	734	10
Conflicting Peds, #/hr	0	0	0	5	0	0	5
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	None
Storage Length	0	-	-	140	-	-	-
Veh in Median Storage, #	0	-	-	-	0	0	-
Grade, %	0	-	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	9	1	1	0	777	798	11
Major/Minor	Minor2		Major1		Major2		
Conflicting Flow All	1586	410	809	814	0	-	0
Stage 1	809	-	-	-	-	-	-
Stage 2	777	-	-	-	-	-	-
Critical Hdwy	6.63	6.93	6.93	4.13	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	3.119	2.219	-	-	-
Pot Cap-1 Maneuver	108	592	338	811	-	-	-
Stage 1	399	-	-	-	-	-	-
Stage 2	452	-	-	-	-	-	-
Platoon blocked, %					-	-	-
Mov Cap-1 Maneuver	107	589	337	337	-	-	-
Mov Cap-2 Maneuver	107	-	-	-	-	-	-
Stage 1	396	-	-	-	-	-	-
Stage 2	450	-	-	-	-	-	-
Approach	EB		NB		SB		
HCM Control Delay, s	38.2		0		0		
HCM LOS	E						
Minor Lane/Major Mvmt	NBL		NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	337		-	118	-	-	
HCM Lane V/C Ratio	0.003		-	0.083	-	-	
HCM Control Delay (s)	15.7		-	38.2	-	-	
HCM Lane LOS	C		-	E	-	-	
HCM 95th %tile Q(veh)	0		-	0.3	-	-	

6: Courtesy Road (SH 42) & Griffith Street/Sports Complex Access
2026 Background SAT.syn

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	7	21	2	1	6	21	663	43	11	685	44
Future Volume (vph)	14	7	21	2	1	6	21	663	43	11	685	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		60	225		0	500		0
Storage Lanes	0		0	0		1	1		0	1		1
Taper Length (ft)	0			0			25			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.932				0.850		0.991				0.850
Flt Protected		0.984			0.968		0.950			0.950		
Satd. Flow (prot)	0	1708	0	0	1803	1583	1770	1846	0	1770	1863	1583
Flt Permitted		0.984			0.968		0.950			0.950		
Satd. Flow (perm)	0	1708	0	0	1803	1583	1770	1846	0	1770	1863	1583
Link Speed (mph)		30			20			45			45	
Link Distance (ft)		439			281			380			369	
Travel Time (s)		10.0			9.6			5.8			5.6	
Confl. Bikes (#/hr)												5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	46	0	0	3	7	23	768	0	12	745	48
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	54.2%						ICU Level of Service A					
Analysis Period (min)	15											

6: Courtesy Road (SH 42) & Griffith Street/Sports Complex Access
2026 Background SAT.syn

Intersection												
Int Delay, s/veh	1.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕	↕	↕		↕	↕	↕
Traffic Vol, veh/h	14	7	21	2	1	6	21	663	43	11	685	44
Future Vol, veh/h	14	7	21	2	1	6	21	663	43	11	685	44
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	60	225	-	-	500	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	8	23	2	1	7	23	721	47	12	745	48
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1564	1583	745	1600	1608	745	793	0	0	768	0	0
Stage 1	769	769	-	791	791	-	-	-	-	-	-	-
Stage 2	795	814	-	809	817	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	91	109	414	85	105	414	828	-	-	846	-	-
Stage 1	394	411	-	383	401	-	-	-	-	-	-	-
Stage 2	381	391	-	374	390	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	86	104	414	73	101	414	828	-	-	846	-	-
Mov Cap-2 Maneuver	86	104	-	73	101	-	-	-	-	-	-	-
Stage 1	383	405	-	372	390	-	-	-	-	-	-	-
Stage 2	364	380	-	342	385	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	39.2		26.5		0.3		0.1					
HCM LOS	E		D									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR					
Capacity (veh/h)	828	-	-	150 80 414	846	-	-					
HCM Lane V/C Ratio	0.028	-	-	0.304 0.041 0.016	0.014	-	-					
HCM Control Delay (s)	9.5	-	-	39.2 51.9 13.8	9.3	-	-					
HCM Lane LOS	A	-	-	E F B	A	-	-					
HCM 95th %tile Q(veh)	0.1	-	-	1.2 0.1 0	0	-	-					

7: Cannon Street & Griffith Street
2026 Background SAT.syn

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	31	24	15	57	1	23	0	10	1	0	1
Future Volume (vph)	0	31	24	15	57	1	23	0	10	1	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150	150		150	150		150	150		150
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.941			0.998			0.959			0.932	
Flt Protected					0.990			0.966			0.976	
Satd. Flow (prot)	0	1753	0	0	1840	0	0	1726	0	0	1694	0
Flt Permitted					0.990			0.966			0.976	
Satd. Flow (perm)	0	1753	0	0	1840	0	0	1726	0	0	1694	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		390			439			346			362	
Travel Time (s)		8.9			10.0			9.4			9.9	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	60	0	0	79	0	0	36	0	0	2	0
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	22.5%											
Analysis Period (min)	15											
	ICU Level of Service A											

7: Cannon Street & Griffith Street
2026 Background SAT.syn

Intersection												
Int Delay, s/veh	2.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	31	24	15	57	1	23	0	10	1	0	1
Future Vol, veh/h	0	31	24	15	57	1	23	0	10	1	0	1
Conflicting Peds, #/hr	5	0	5	5	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	34	26	16	62	1	25	0	11	1	0	1
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	68	0	0	65	0	0	152	152	57	158	165	73
Stage 1	-	-	-	-	-	-	52	52	-	100	100	-
Stage 2	-	-	-	-	-	-	100	100	-	58	65	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1533	-	-	1537	-	-	815	740	1009	808	728	989
Stage 1	-	-	-	-	-	-	961	852	-	906	812	-
Stage 2	-	-	-	-	-	-	906	812	-	954	841	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1526	-	-	1530	-	-	800	724	999	785	713	980
Mov Cap-2 Maneuver	-	-	-	-	-	-	800	724	-	785	713	-
Stage 1	-	-	-	-	-	-	956	848	-	901	799	-
Stage 2	-	-	-	-	-	-	891	799	-	939	837	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			1.5			9.4			9.1		
HCM LOS							A			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	851	1526	-	-	1530	-	-	872				
HCM Lane V/C Ratio	0.042	-	-	-	0.011	-	-	0.002				
HCM Control Delay (s)	9.4	0	-	-	7.4	0	-	9.1				
HCM Lane LOS	A	A	-	-	A	A	-	A				
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0				

8: Griffith Street & Front Street
2026 Background SAT.syn

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	57	3	1	77	3	8	0	0	0	0	4
Future Volume (vph)	6	57	3	1	77	3	8	0	0	0	0	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150	150		150	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.994			0.995						0.865	
Flt Protected		0.995			0.999			0.950				
Satd. Flow (prot)	0	1842	0	0	1852	0	0	1770	0	0	1611	0
Flt Permitted		0.995			0.999			0.950				
Satd. Flow (perm)	0	1842	0	0	1852	0	0	1770	0	0	1611	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		405			390			333			365	
Travel Time (s)		9.2			8.9			9.1			10.0	
Confl. Peds. (#/hr)	5		10	10		5	5		5	5		5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	72	0	0	88	0	0	9	0	0	4	0
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	23.1%											
Analysis Period (min)	15											
	ICU Level of Service A											

8: Griffith Street & Front Street
2026 Background SAT.syn

Intersection												
Int Delay, s/veh	1.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	57	3	1	77	3	8	0	0	0	0	4
Future Vol, veh/h	6	57	3	1	77	3	8	0	0	0	0	4
Conflicting Peds, #/hr	5	0	10	10	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	62	3	1	84	3	9	0	0	0	0	4
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	92	0	0	75	0	0	183	182	79	176	182	96
Stage 1	-	-	-	-	-	-	88	88	-	93	93	-
Stage 2	-	-	-	-	-	-	95	94	-	83	89	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1503	-	-	1524	-	-	778	712	981	786	712	960
Stage 1	-	-	-	-	-	-	920	822	-	914	818	-
Stage 2	-	-	-	-	-	-	912	817	-	925	821	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1496	-	-	1509	-	-	760	697	967	775	697	951
Mov Cap-2 Maneuver	-	-	-	-	-	-	760	697	-	775	697	-
Stage 1	-	-	-	-	-	-	907	810	-	905	813	-
Stage 2	-	-	-	-	-	-	903	812	-	916	809	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.7			0.1			9.8			8.8		
HCM LOS							A			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	760	1496	-	-	1509	-	-	951				
HCM Lane V/C Ratio	0.011	0.004	-	-	0.001	-	-	0.005				
HCM Control Delay (s)	9.8	7.4	0	-	7.4	0	-	8.8				
HCM Lane LOS	A	A	A	-	A	A	-	A				
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0				

9: Main Street & Griffith Street
2026 Background SAT.syn

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	57	36	130	46	18	138
Future Volume (vph)	57	36	130	46	18	138
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.948		0.965			
Flt Protected	0.970					0.994
Satd. Flow (prot)	1713	0	1798	0	0	1852
Flt Permitted	0.970					0.994
Satd. Flow (perm)	1713	0	1798	0	0	1852
Link Speed (mph)	30		30			30
Link Distance (ft)	405		350			1210
Travel Time (s)	9.2		8.0			27.5
Confl. Peds. (#/hr)	1	2		17	17	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	101	0	191	0	0	170
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	35.0%			ICU Level of Service A		
Analysis Period (min)	15					

9: Main Street & Griffith Street
2026 Background SAT.syn

Intersection						
Int Delay, s/veh	2.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	57	36	130	46	18	138
Future Vol, veh/h	57	36	130	46	18	138
Conflicting Peds, #/hr	1	2	0	17	17	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	62	39	141	50	20	150
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	374	185	0	0	208	0
Stage 1	183	-	-	-	-	-
Stage 2	191	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	627	857	-	-	1363	-
Stage 1	848	-	-	-	-	-
Stage 2	841	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	606	842	-	-	1341	-
Mov Cap-2 Maneuver	606	-	-	-	-	-
Stage 1	821	-	-	-	-	-
Stage 2	840	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	11.2	0		0.9		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	680	1341	-	
HCM Lane V/C Ratio	-	-	0.149	0.015	-	
HCM Control Delay (s)	-	-	11.2	7.7	0	
HCM Lane LOS	-	-	B	A	A	
HCM 95th %tile Q(veh)	-	-	0.5	0	-	

10: Front Street & Harper Street
2026 Background SAT.syn

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	4	0	0	9	0	0
Future Volume (vph)	4	0	0	9	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.865					
Flt Protected	0.950					
Satd. Flow (prot)	1770	0	0	1611	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	0	1611	0	0
Link Speed (mph)	25	25		25		
Link Distance (ft)	380	365		210		
Travel Time (s)	10.4	10.0		5.7		
Confl. Peds. (#/hr)	5	132	70		70	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	4	0	0	10	0	0
Sign Control	Free	Free		Free		
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	16.5%			ICU Level of Service A		
Analysis Period (min)	15					

11: Courtesy Road (SH 42) & Harper Street
2026 Background SAT.syn

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	38	11	6	652	691	6
Future Volume (vph)	38	11	6	652	691	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95
Frt	0.969				0.999	
Flt Protected	0.963					
Satd. Flow (prot)	1738	0	0	1863	3536	0
Flt Permitted	0.963					
Satd. Flow (perm)	1738	0	0	1863	3536	0
Link Speed (mph)	30			45	45	
Link Distance (ft)	244			369	420	
Travel Time (s)	5.5			5.6	6.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	53	0	0	716	758	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	49.1%			ICU Level of Service A		
Analysis Period (min)	15					

11: Courtesy Road (SH 42) & Harper Street
2026 Background SAT.syn

Intersection						
Int Delay, s/veh	1.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	🚗			🚗	🚗	
Traffic Vol, veh/h	38	11	6	652	691	6
Future Vol, veh/h	38	11	6	652	691	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	41	12	7	709	751	7
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1478	379	758	0	-	0
Stage 1	755	-	-	-	-	-
Stage 2	723	-	-	-	-	-
Critical Hdwy	6.63	6.93	4.13	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	127	620	851	-	-	-
Stage 1	426	-	-	-	-	-
Stage 2	479	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	125	620	851	-	-	-
Mov Cap-2 Maneuver	125	-	-	-	-	-
Stage 1	420	-	-	-	-	-
Stage 2	479	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	40.9	0.1		0		
HCM LOS	E					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	851	-	152	-	-	
HCM Lane V/C Ratio	0.008	-	0.35	-	-	
HCM Control Delay (s)	9.3	0	40.9	-	-	
HCM Lane LOS	A	A	E	-	-	
HCM 95th %tile Q(veh)	0	-	1.4	-	-	

1: Main Street & S Boulder Road
2045 Background AM.syn

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↑
Traffic Volume (vph)	1171	111	75	1535	67	95
Future Volume (vph)	1171	111	75	1535	67	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		120	225		0	115
Storage Lanes		1	1		1	1
Taper Length (ft)			25		0	
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Ped Bike Factor		0.97			0.99	0.95
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3539	1583	1770	3539	1770	1583
Flt Permitted			0.171		0.950	
Satd. Flow (perm)	3539	1531	319	3539	1759	1505
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		97				103
Link Speed (mph)	35			35	30	
Link Distance (ft)	636			400	1210	
Travel Time (s)	12.4			7.8	27.5	
Confl. Peds. (#/hr)		5	5		5	32
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1273	121	82	1668	73	103
Turn Type	NA	Perm	pm+pt	NA	Perm	Perm
Protected Phases	2		1	6		
Permitted Phases		2	6		8	8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	35.0	35.0	5.0	35.0	5.0	5.0
Minimum Split (s)	41.0	41.0	11.0	41.0	35.0	35.0
Total Split (s)	85.0	85.0	14.0	99.0	21.0	21.0
Total Split (%)	70.8%	70.8%	11.7%	82.5%	17.5%	17.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-1.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	5.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	C-Max	None	None
Act Effct Green (s)	88.1	88.1	98.4	98.4	13.6	12.6
Actuated g/C Ratio	0.73	0.73	0.82	0.82	0.11	0.10
v/c Ratio	0.49	0.11	0.22	0.57	0.37	0.41
Control Delay	8.5	2.1	5.1	7.3	53.1	14.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.5	2.1	5.1	7.3	53.1	14.1
LOS	A	A	A	A	D	B
Approach Delay	7.9			7.2	30.3	
Approach LOS	A			A	C	
Queue Length 50th (ft)	230	5	20	239	51	0

1: Main Street & S Boulder Road
2045 Background AM.syn

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Queue Length 95th (ft)	288	25	m24	m265	98	52
Internal Link Dist (ft)	556			320	1130	
Turn Bay Length (ft)		120	225			115
Base Capacity (vph)	2598	1149	382	2901	249	289
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.11	0.21	0.57	0.29	0.36

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 23 (19%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.57

Intersection Signal Delay: 8.8

Intersection LOS: A

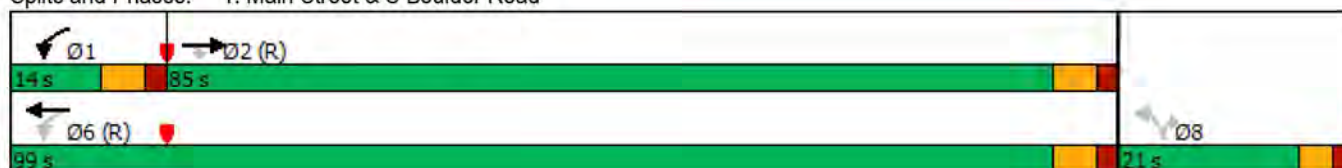
Intersection Capacity Utilization 66.9%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Main Street & S Boulder Road



2: Front Street/Private Access & S Boulder Road
2045 Background AM.syn

												
Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↑↑	↗		↖	↑↑				↗		
Traffic Volume (vph)	0	1133	0	2	0	1668	5	0	0	0	0	0
Future Volume (vph)	0	1133	0	2	0	1668	5	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50		70		0	0		0	0	
Storage Lanes	0		1		1		0	0		1	0	
Taper Length (ft)	25				25			25			25	
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt												
Flt Protected					0.950							
Satd. Flow (prot)	0	3539	1863	0	1770	3539	0	0	0	1863	0	0
Flt Permitted					0.950							
Satd. Flow (perm)	0	3539	1863	0	1770	3539	0	0	0	1863	0	0
Link Speed (mph)		35				35			20			20
Link Distance (ft)		400				360			338			476
Travel Time (s)		7.8				7.0			11.5			16.2
Confl. Peds. (#/hr)	10		10	5	10		10	5		5	5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1232	0	0	2	1818	0	0	0	0	0	0
Sign Control		Free				Free			Stop			Stop
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	57.8%											
Analysis Period (min)	15											
	ICU Level of Service B											

2: Front Street/Private Access & S Boulder Road 2045 Background AM.syn



Lane Group	SBR
Lane Configurations	7
Traffic Volume (vph)	11
Future Volume (vph)	11
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Ped Bike Factor	
Frt	0.865
Flt Protected	
Satd. Flow (prot)	1611
Flt Permitted	
Satd. Flow (perm)	1611
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	5
Peak Hour Factor	0.92
Shared Lane Traffic (%)	
Lane Group Flow (vph)	12
Sign Control	
Intersection Summary	

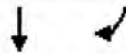
2: Front Street/Private Access & S Boulder Road
2045 Background AM.syn

Intersection													
Int Delay, s/veh	0.1												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑		↓	↑↑				↑			↑
Traffic Vol, veh/h	0	1133	0	2	0	1668	5	0	0	0	0	0	11
Future Vol, veh/h	0	1133	0	2	0	1668	5	0	0	0	0	0	11
Conflicting Peds, #/hr	10	0	10	5	10	0	10	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	70	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1232	0	2	0	1813	5	0	0	0	0	0	12
Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	-	0	0	1232	1242	0	0	-	-	631	-	-	924
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	6.44	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	2.52	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	235	556	-	-	0	0	424	0	0	271
Stage 1	0	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	0	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-			-	-						
Mov Cap-1 Maneuver	-	-	-	235	235	-	-	-	-	418	-	-	267
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB			
HCM Control Delay, s	0			0			0			19.1			
HCM LOS							A			C			
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	WBR	SBLn1						
Capacity (veh/h)	-	-	-	235	-	-	267						
HCM Lane V/C Ratio	-	-	-	0.009	-	-	0.045						
HCM Control Delay (s)	0	-	-	20.5	-	-	19.1						
HCM Lane LOS	A	-	-	C	-	-	C						
HCM 95th %tile Q(veh)	-	-	-	0	-	-	0.1						

3: Cannon Circle/Private Access & S Boulder Road
2045 Background AM.syn

												
Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	6	21	1119	0	1	8	1638	8	0	0	2	8
Future Volume (vph)	6	21	1119	0	1	8	1638	8	0	0	2	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		90		0		80		0	0		0	0
Storage Lanes		1		0		1		0	0		0	0
Taper Length (ft)		25				25			25			25
Lane Util. Factor	0.95	1.00	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt							0.999			0.865		
Flt Protected		0.950				0.950						
Satd. Flow (prot)	0	1770	3539	0	0	1770	3536	0	0	1611	0	0
Flt Permitted		0.950				0.950						
Satd. Flow (perm)	0	1770	3539	0	0	1770	3536	0	0	1611	0	0
Link Speed (mph)			35				35			20		
Link Distance (ft)			360				465			339		
Travel Time (s)			7.0				9.1			11.6		
Confl. Peds. (#/hr)	5	10		10	5	10		10	5		5	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	30	1216	0	0	10	1789	0	0	2	0	0
Sign Control			Free				Free			Stop		
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	62.1%						ICU Level of Service B					
Analysis Period (min)	15											

3: Cannon Circle/Private Access & S Boulder Road
2045 Background AM.syn



Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	0	28
Future Volume (vph)	0	28
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		0
Storage Lanes		0
Taper Length (ft)		
Lane Util. Factor	1.00	1.00
Ped Bike Factor		
Frt	0.896	
Flt Protected	0.989	
Satd. Flow (prot)	1651	0
Flt Permitted	0.989	
Satd. Flow (perm)	1651	0
Link Speed (mph)	20	
Link Distance (ft)	431	
Travel Time (s)	14.7	
Confl. Peds. (#/hr)		5
Peak Hour Factor	0.92	0.92
Shared Lane Traffic (%)		
Lane Group Flow (vph)	39	0
Sign Control	Stop	
Intersection Summary		

3: Cannon Circle/Private Access & S Boulder Road 2045 Background AM.syn

Intersection															
Int Delay, s/veh	2.8														
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations															
Traffic Vol, veh/h	6	21	1119	0	1	8	1638	8	0	0	2	8	0	28	
Future Vol, veh/h	6	21	1119	0	1	8	1638	8	0	0	2	8	0	28	
Conflicting Peds, #/hr	5	10	0	10	5	10	0	10	5	0	5	5	0	5	
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	
RT Channelized	-	-	-	None	-	-	-	None	-	-	None	-	-	None	
Storage Length	-	90	-	-	-	80	-	-	-	-	-	-	-	-	
Veh in Median Storage, #	-	-	0	-	-	-	0	-	-	0	-	-	0	-	
Grade, %	-	-	0	-	-	-	0	-	-	0	-	-	0	-	
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92	92	
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Mvmt Flow	7	23	1216	0	1	9	1780	9	0	0	2	9	0	30	

Major/Minor	Major1			Major2			Minor1			Minor2					
Conflicting Flow All	1789	1799	0	0	1216	1226	0	0	2201	3105	623	2488	3101	910	
Stage 1	-	-	-	-	-	-	-	-	1286	1286	-	1815	1815	-	
Stage 2	-	-	-	-	-	-	-	-	915	1819	-	673	1286	-	
Critical Hdwy	6.44	4.14	-	-	6.44	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94	
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-	
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-	
Follow-up Hdwy	2.52	2.22	-	-	2.52	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32	
Pot Cap-1 Maneuver	102	339	-	-	241	564	-	-	25	11	429	15	11	277	
Stage 1	-	-	-	-	-	-	-	-	174	233	-	81	128	-	
Stage 2	-	-	-	-	-	-	-	-	294	127	-	411	233	-	
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Mov Cap-1 Maneuver	211	211	-	-	487	487	-	-	19	9	423	13	9	273	
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	19	9	-	13	9	-	
Stage 1	-	-	-	-	-	-	-	-	149	199	-	69	124	-	
Stage 2	-	-	-	-	-	-	-	-	255	123	-	351	199	-	

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.1	13.6	194.7
HCM LOS			B	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	423	211	-	-	487	-	-	50
HCM Lane V/C Ratio	0.005	0.139	-	-	0.02	-	-	0.783
HCM Control Delay (s)	13.6	24.8	-	-	12.5	-	-	194.7
HCM Lane LOS	B	C	-	-	B	-	-	F
HCM 95th %tile Q(veh)	0	0.5	-	-	0.1	-	-	3.2

4: Courtesy Road (SH 42) & S Boulder Road
2045 Background AM.syn

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	369	535	190	332	864	195	1	226	603	258	7	164
Future Volume (vph)	369	535	190	332	864	195	1	226	603	258	7	164
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		100	225		270		0		0		185
Storage Lanes	2		1	2		1		2		1		2
Taper Length (ft)	25			25				25				25
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.95	0.97	0.95	1.00	0.95	0.97
Ped Bike Factor			0.98			0.98				0.98		
Frt			0.850			0.850				0.850		
Flt Protected	0.950			0.950				0.950				0.950
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	0	3433	3539	1583	0	3433
Flt Permitted	0.950			0.950				0.333				0.500
Satd. Flow (perm)	3433	3539	1555	3433	3539	1546	0	1203	3539	1556	0	1807
Right Turn on Red			Yes			Yes				Yes		
Satd. Flow (RTOR)			173			182				280		
Link Speed (mph)		35			35				45			
Link Distance (ft)		465			1815				418			
Travel Time (s)		9.1			35.4				6.3			
Confl. Peds. (#/hr)			5			10				5		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	401	582	207	361	939	212	0	247	655	280	0	186
Turn Type	Prot	NA	Perm	Prot	NA	Perm	custom	Prot	NA	Perm	custom	Prot
Protected Phases	5	2		1	6			3	8			7
Permitted Phases			2			6	3			8	7	
Detector Phase	5	2	2	1	6	6	3	3	8	8	7	7
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	5.0	6.0	6.0	5.0	5.0
Minimum Split (s)	10.0	37.0	37.0	10.0	37.0	37.0	10.0	10.0	40.0	40.0	10.0	10.0
Total Split (s)	20.0	41.0	41.0	20.0	41.0	41.0	16.0	16.0	47.0	47.0	12.0	12.0
Total Split (%)	16.7%	34.2%	34.2%	16.7%	34.2%	34.2%	13.3%	13.3%	39.2%	39.2%	10.0%	10.0%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-2.0	-2.0	-1.0	-2.0	-2.0		-1.0	-2.0	-2.0		-1.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	C-Max	C-Max	None	Max	Max	None	None	Max	Max	None	None
Act Effct Green (s)	16.0	37.3	37.3	15.7	37.0	37.0		12.0	43.0	43.0		8.0
Actuated g/C Ratio	0.13	0.31	0.31	0.13	0.31	0.31		0.10	0.36	0.36		0.07
v/c Ratio	0.88	0.53	0.34	0.80	0.86	0.35		2.06	0.52	0.38		1.55
Control Delay	63.8	29.4	11.3	65.1	48.4	8.5		529.6	35.5	9.4		321.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0
Total Delay	63.8	29.4	11.3	65.1	48.4	8.5		529.6	35.5	9.4		321.4
LOS	E	C	B	E	D	A		F	D	A		F
Approach Delay		37.9			46.8				132.6			
Approach LOS		D			D				F			
Queue Length 50th (ft)	158	196	58	141	360	16		~157	241	6		~104

4: Courtesy Road (SH 42) & S Boulder Road
2045 Background AM.syn



Lane Group	SBT	SBR
Lane Configurations	↑↑	↑
Traffic Volume (vph)	738	551
Future Volume (vph)	738	551
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		270
Storage Lanes		1
Taper Length (ft)		
Lane Util. Factor	0.95	1.00
Ped Bike Factor		0.98
Frt		0.850
Flt Protected		
Satd. Flow (prot)	3539	1583
Flt Permitted		
Satd. Flow (perm)	3539	1555
Right Turn on Red		Yes
Satd. Flow (RTOR)		294
Link Speed (mph)	45	
Link Distance (ft)	1337	
Travel Time (s)	20.3	
Confl. Peds. (#/hr)		5
Peak Hour Factor	0.92	0.92
Shared Lane Traffic (%)		
Lane Group Flow (vph)	802	599
Turn Type	NA	Perm
Protected Phases	4	
Permitted Phases		4
Detector Phase	4	4
Switch Phase		
Minimum Initial (s)	6.0	6.0
Minimum Split (s)	36.0	36.0
Total Split (s)	43.0	43.0
Total Split (%)	35.8%	35.8%
Yellow Time (s)	4.0	4.0
All-Red Time (s)	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0
Total Lost Time (s)	4.0	4.0
Lead/Lag	Lag	Lag
Lead-Lag Optimize?		
Recall Mode	Max	Max
Act Effct Green (s)	39.0	39.0
Actuated g/C Ratio	0.32	0.32
v/c Ratio	0.70	0.85
Control Delay	39.2	31.8
Queue Delay	0.0	0.0
Total Delay	39.2	31.8
LOS	D	C
Approach Delay	69.5	
Approach LOS	E	
Queue Length 50th (ft)	284	239

4: Courtesy Road (SH 42) & S Boulder Road 2045 Background AM.syn

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Queue Length 95th (ft)	#245	256	115	#207	#447	75		#236	309	88		#180
Internal Link Dist (ft)		385			1735				338			
Turn Bay Length (ft)	150		100	225		270						185
Base Capacity (vph)	457	1099	602	457	1091	602		120	1268	737		120
Starvation Cap Reductn	0	0	0	0	0	0		0	0	0		0
Spillback Cap Reductn	0	0	0	0	0	0		0	0	0		0
Storage Cap Reductn	0	0	0	0	0	0		0	0	0		0
Reduced v/c Ratio	0.88	0.53	0.34	0.79	0.86	0.35		2.06	0.52	0.38		1.55

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT, Start of Yellow, Master Intersection

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 2.06

Intersection Signal Delay: 70.0

Intersection LOS: E

Intersection Capacity Utilization 90.8%

ICU Level of Service E

Analysis Period (min) 15

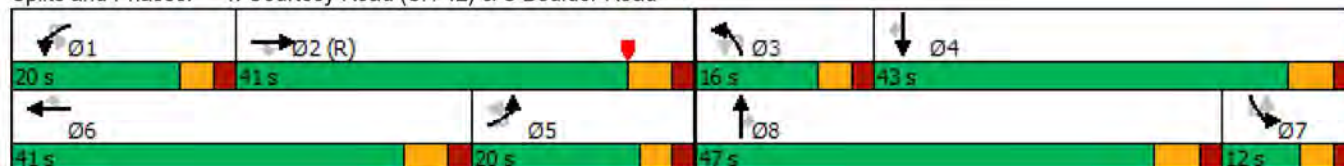
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 4: Courtesy Road (SH 42) & S Boulder Road



4: Courtesy Road (SH 42) & S Boulder Road 2045 Background AM.syn



Lane Group	SBT	SBR
Queue Length 95th (ft)	356	#458
Internal Link Dist (ft)	1257	
Turn Bay Length (ft)		270
Base Capacity (vph)	1150	703
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.70	0.85
Intersection Summary		

5: Courtesy Road (SH 42) & Cannon Circle
2045 Background AM.syn



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	1060	1252	1
Future Volume (vph)	0	0	0	1060	1252	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	140			0
Storage Lanes	0	1	0			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor						
Frt						
Flt Protected						
Satd. Flow (prot)	0	1863	0	3539	3539	0
Flt Permitted						
Satd. Flow (perm)	0	1863	0	3539	3539	0
Link Speed (mph)	20			45	45	
Link Distance (ft)	418			420	418	
Travel Time (s)	14.3			6.4	6.3	
Confl. Peds. (#/hr)			5			5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	1152	1362	0
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

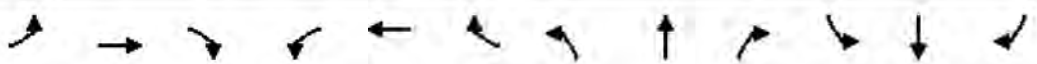
Intersection Capacity Utilization 38.0% ICU Level of Service A

Analysis Period (min) 15

5: Courtesy Road (SH 42) & Cannon Circle
2045 Background AM.syn

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	
Traffic Vol, veh/h	0	0	0	1060	1252	1
Future Vol, veh/h	0	0	0	1060	1252	1
Conflicting Peds, #/hr	0	0	5	0	0	5
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	1152	1361	1
Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	-	686	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	390	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	388	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB	SB			
HCM Control Delay, s	0	0	0			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR		
Capacity (veh/h)	-	-	-	-		
HCM Lane V/C Ratio	-	-	-	-		
HCM Control Delay (s)	-	0	-	-		
HCM Lane LOS	-	A	-	-		
HCM 95th %tile Q(veh)	-	-	-	-		

6: Courtesy Road (SH 42) & Griffith Street/Sports Complex Access
2045 Background AM.syn

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	0	54	1	1	1	37	1029	4	5	1151	83
Future Volume (vph)	29	0	54	1	1	1	37	1029	4	5	1151	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		0	50		0	225		0	500		273
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor												0.98
Frt		0.850			0.925			0.999				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1583	0	1770	1723	0	1770	3536	0	1770	3539	1583
Flt Permitted	0.800			0.800			0.950			0.950		
Satd. Flow (perm)	1490	1583	0	1490	1723	0	1770	3536	0	1770	3539	1546
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		273			1			1				164
Link Speed (mph)		30			20			45			45	
Link Distance (ft)		439			281			380			369	
Travel Time (s)		10.0			9.6			5.8			5.6	
Confl. Bikes (#/hr)												5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	32	59	0	1	2	0	40	1122	0	5	1251	90
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								6
Detector Phase	4	4		8	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	25.0	25.0		25.0	25.0		11.0	24.5		11.0	25.0	25.0
Total Split (s)	11.0	11.0		11.0	11.0		11.0	39.0		10.0	38.0	38.0
Total Split (%)	18.3%	18.3%		18.3%	18.3%		18.3%	65.0%		16.7%	63.3%	63.3%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	3.5		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0		-2.0	-1.5		-2.0	-2.0	-2.0
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lead/Lag							Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None		None	C-Max		None	Max	Max
Act Effect Green (s)	7.0	7.0		7.0	7.0		7.0	49.0		6.6	46.6	46.6
Actuated g/C Ratio	0.12	0.12		0.12	0.12		0.12	0.82		0.11	0.78	0.78
v/c Ratio	0.18	0.14		0.01	0.01		0.19	0.39		0.03	0.46	0.07
Control Delay	26.7	0.7		24.0	21.0		26.5	3.9		28.8	4.4	0.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	26.7	0.7		24.0	21.0		26.5	3.9		28.8	4.4	0.6
LOS	C	A		C	C		C	A		C	A	A
Approach Delay		9.8			22.0			4.7			4.2	
Approach LOS		A			C			A			A	
Queue Length 50th (ft)	11	0		0	0		13	53		3	159	2

6: Courtesy Road (SH 42) & Griffith Street/Sports Complex Access
2045 Background AM.syn

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (ft)	26	0		4	6		38	160		m4	274	m3
Internal Link Dist (ft)		359			201			300			289	
Turn Bay Length (ft)	50			50			225			500		273
Base Capacity (vph)	173	425		173	201		206	2888		195	2748	1237
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.18	0.14		0.01	0.01		0.19	0.39		0.03	0.46	0.07

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 43 (72%), Referenced to phase 2:NBT, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.46

Intersection Signal Delay: 4.6

Intersection LOS: A

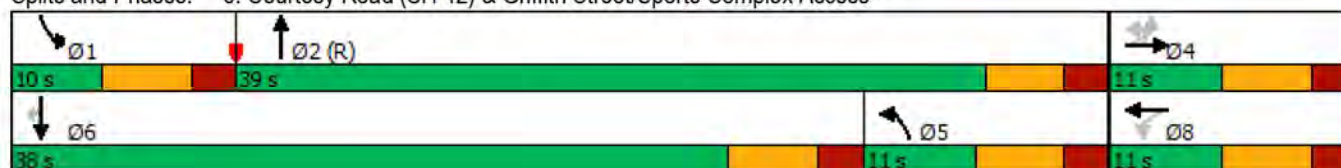
Intersection Capacity Utilization 46.8%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Courtesy Road (SH 42) & Griffith Street/Sports Complex Access



7: Cannon Street & Griffith Street
2045 Background AM.syn

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	61	12	14	90	2	19	0	19	0	0	1
Future Volume (vph)	0	61	12	14	90	2	19	0	19	0	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150	150		150	150		150	150		150
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.978			0.998			0.932			0.865	
Flt Protected					0.994			0.976				
Satd. Flow (prot)	0	1822	0	0	1848	0	0	1694	0	0	1611	0
Flt Permitted					0.994			0.976				
Satd. Flow (perm)	0	1822	0	0	1848	0	0	1694	0	0	1611	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		390			439			346			362	
Travel Time (s)		8.9			10.0			9.4			9.9	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	79	0	0	115	0	0	42	0	0	1	0
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	28.9%											
Analysis Period (min)	15											
ICU Level of Service A												

7: Cannon Street & Griffith Street
2045 Background AM.syn

Intersection												
Int Delay, s/veh	2.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	61	12	14	90	2	19	0	19	0	0	1
Future Vol, veh/h	0	61	12	14	90	2	19	0	19	0	0	1
Conflicting Peds, #/hr	5	0	5	5	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	66	13	15	98	2	21	0	21	0	0	1
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	105	0	0	84	0	0	213	213	83	222	218	109
Stage 1	-	-	-	-	-	-	78	78	-	134	134	-
Stage 2	-	-	-	-	-	-	135	135	-	88	84	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1486	-	-	1513	-	-	744	684	976	734	680	945
Stage 1	-	-	-	-	-	-	931	830	-	869	785	-
Stage 2	-	-	-	-	-	-	868	785	-	920	825	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1479	-	-	1506	-	-	730	670	967	705	666	936
Mov Cap-2 Maneuver	-	-	-	-	-	-	730	670	-	705	666	-
Stage 1	-	-	-	-	-	-	926	826	-	865	772	-
Stage 2	-	-	-	-	-	-	853	772	-	896	821	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			1			9.6			8.9		
HCM LOS							A			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	832	1479	-	-	1506	-	-	936				
HCM Lane V/C Ratio	0.05	-	-	-	0.01	-	-	0.001				
HCM Control Delay (s)	9.6	0	-	-	7.4	0	-	8.9				
HCM Lane LOS	A	A	-	-	A	A	-	A				
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0				

8: Griffith Street & Front Street
2045 Background AM.syn

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	74	2	3	127	1	6	0	3	1	0	5
Future Volume (vph)	2	74	2	3	127	1	6	0	3	1	0	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150	150		150	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.997			0.999			0.959			0.887	
Flt Protected		0.999			0.999			0.966			0.992	
Satd. Flow (prot)	0	1855	0	0	1859	0	0	1726	0	0	1639	0
Flt Permitted		0.999			0.999			0.966			0.992	
Satd. Flow (perm)	0	1855	0	0	1859	0	0	1726	0	0	1639	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		405			390			333			365	
Travel Time (s)		9.2			8.9			9.1			10.0	
Confl. Peds. (#/hr)	5		10	10		5	5		5	5		5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	84	0	0	142	0	0	10	0	0	6	0
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	20.5%						ICU Level of Service A					
Analysis Period (min)	15											

8: Griffith Street & Front Street
2045 Background AM.syn

Intersection												
Int Delay, s/veh	0.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	74	2	3	127	1	6	0	3	1	0	5
Future Vol, veh/h	2	74	2	3	127	1	6	0	3	1	0	5
Conflicting Peds, #/hr	5	0	10	10	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	80	2	3	138	1	7	0	3	1	0	5
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	144	0	0	92	0	0	247	245	96	242	246	149
Stage 1	-	-	-	-	-	-	95	95	-	150	150	-
Stage 2	-	-	-	-	-	-	152	150	-	92	96	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1438	-	-	1503	-	-	707	657	960	712	656	898
Stage 1	-	-	-	-	-	-	912	816	-	853	773	-
Stage 2	-	-	-	-	-	-	850	773	-	915	815	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1431	-	-	1489	-	-	691	645	946	701	644	889
Mov Cap-2 Maneuver	-	-	-	-	-	-	691	645	-	701	644	-
Stage 1	-	-	-	-	-	-	902	807	-	848	768	-
Stage 2	-	-	-	-	-	-	839	768	-	907	806	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0.2			9.8			9.3		
HCM LOS							A			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	759	1431	-	-	1489	-	-	851				
HCM Lane V/C Ratio	0.013	0.002	-	-	0.002	-	-	0.008				
HCM Control Delay (s)	9.8	7.5	0	-	7.4	0	-	9.3				
HCM Lane LOS	A	A	A	-	A	A	-	A				
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0				

9: Main Street & Griffith Street
2045 Background AM.syn

								
Lane Group	WBU	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	1	42	59	1	151	60	20	113
Future Volume (vph)	1	42	59	1	151	60	20	113
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor								
Frt		0.922			0.962			
Flt Protected		0.979						0.992
Satd. Flow (prot)	0	1681	0	0	1792	0	0	1848
Flt Permitted		0.979						0.992
Satd. Flow (perm)	0	1681	0	0	1792	0	0	1848
Link Speed (mph)		30			30			30
Link Distance (ft)		405			350			1210
Travel Time (s)		9.2			8.0			27.5
Confl. Peds. (#/hr)	70	5	132	5		70	70	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)								
Lane Group Flow (vph)	0	111	0	0	230	0	0	145
Sign Control		Stop			Free			Free
Intersection Summary								
Area Type:	Other							
Control Type:	Unsignalized							
Intersection Capacity Utilization	41.1%				ICU Level of Service A			
Analysis Period (min)	15							

9: Main Street & Griffith Street
2045 Background AM.syn

Intersection									
Int Delay, s/veh	3.5								
Movement	WBU	WBL	WBR	NBU	NBT	NBR	SBL	SBT	
Lane Configurations									
Traffic Vol, veh/h	1	42	59	1	151	60	20	113	
Future Vol, veh/h	1	42	59	1	151	60	20	113	
Conflicting Peds, #/hr	70	5	132	5	0	70	70	0	
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	
RT Channelized	-	-	None	-	-	None	-	None	
Storage Length	-	0	-	-	-	-	-	-	
Veh in Median Storage, #	-	0	-	-	0	-	-	0	
Grade, %	-	0	-	-	0	-	-	0	
Peak Hour Factor	92	92	92	92	92	92	92	92	
Heavy Vehicles, %	2	2	2	2	2	2	2	2	
Mvmt Flow	1	46	64	1	164	65	22	123	
Major/Minor	Minor1	Major1		Major2					
Conflicting Flow All	0	439	399	-	0	0	299	0	
Stage 1	0	267	-	-	-	-	-	-	
Stage 2	0	172	-	-	-	-	-	-	
Critical Hdwy	-	6.42	6.22	-	-	-	4.12	-	
Critical Hdwy Stg 1	-	5.42	-	-	-	-	-	-	
Critical Hdwy Stg 2	-	5.42	-	-	-	-	-	-	
Follow-up Hdwy	-	3.518	3.318	-	-	-	2.218	-	
Pot Cap-1 Maneuver	0	575	651	-	-	-	1262	-	
Stage 1	0	778	-	-	-	-	-	-	
Stage 2	0	858	-	-	-	-	-	-	
Platoon blocked, %	-				-	-		-	
Mov Cap-1 Maneuver	0	523	531	-	-	-	1178	-	
Mov Cap-2 Maneuver	0	523	-	-	-	-	-	-	
Stage 1	0	711	-	-	-	-	-	-	
Stage 2	0	854	-	-	-	-	-	-	
Approach	WB	NB		SB					
HCM Control Delay, s	13.6			1.2					
HCM LOS	B								
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT					
Capacity (veh/h)	-	-	528	1178	-				
HCM Lane V/C Ratio	-	-	0.208	0.018	-				
HCM Control Delay (s)	-	-	13.6	8.1	0				
HCM Lane LOS	-	-	B	A	A				
HCM 95th %tile Q(veh)	-	-	0.8	0.1	-				

10: Front Street & Harper Street
2045 Background AM.syn

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	6	0	0	3	0	0
Future Volume (vph)	6	0	0	3	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.865					
Flt Protected	0.950					
Satd. Flow (prot)	1770	0	0	1611	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	0	1611	0	0
Link Speed (mph)	25	25		25		
Link Distance (ft)	380	365		210		
Travel Time (s)	10.4	10.0		5.7		
Confl. Peds. (#/hr)	5	132	70		70	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	7	0	0	3	0	0
Sign Control	Free	Free		Free		
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	16.5%			ICU Level of Service A		
Analysis Period (min)	15					

11: Courtesy Road (SH 42) & Harper Street
2045 Background AM.syn

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	19	0	1060	1250	2
Future Volume (vph)	0	19	0	1060	1250	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt	0.865					
Flt Protected						
Satd. Flow (prot)	0	1611	0	3539	3539	0
Flt Permitted						
Satd. Flow (perm)	0	1611	0	3539	3539	0
Link Speed (mph)	30	45				45
Link Distance (ft)	213	369				420
Travel Time (s)	4.8	5.6				6.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	21	0	1152	1361	0
Sign Control	Stop	Free				Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	44.6%			ICU Level of Service A		
Analysis Period (min)	15					

11: Courtesy Road (SH 42) & Harper Street
2045 Background AM.syn

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	
Traffic Vol, veh/h	0	19	0	1060	1250	2
Future Vol, veh/h	0	19	0	1060	1250	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	21	0	1152	1359	2

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	- 681	- 0	- 0
Stage 1	- -	- -	- -
Stage 2	- -	- -	- -
Critical Hdwy	- 6.94	- -	- -
Critical Hdwy Stg 1	- -	- -	- -
Critical Hdwy Stg 2	- -	- -	- -
Follow-up Hdwy	- 3.32	- -	- -
Pot Cap-1 Maneuver	0 393	0 -	- -
Stage 1	0 -	0 -	- -
Stage 2	0 -	0 -	- -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	- 393	- -	- -
Mov Cap-2 Maneuver	- -	- -	- -
Stage 1	- -	- -	- -
Stage 2	- -	- -	- -

Approach	EB	NB	SB
HCM Control Delay, s	14.7	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT EBLn1	SBT	SBR
Capacity (veh/h)	- 393	- -	- -
HCM Lane V/C Ratio	- 0.053	- -	- -
HCM Control Delay (s)	- 14.7	- -	- -
HCM Lane LOS	- B	- -	- -
HCM 95th %tile Q(veh)	- 0.2	- -	- -

1: Main Street & S Boulder Road
2045 Background PM.syn

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘	↑↑	↘	↑
Traffic Volume (vph)	1611	102	69	1281	89	162
Future Volume (vph)	1611	102	69	1281	89	162
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		120	225		0	115
Storage Lanes		1	1		1	1
Taper Length (ft)			25		0	
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Ped Bike Factor		0.97			0.99	0.94
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3539	1583	1770	3539	1770	1583
Flt Permitted			0.085		0.950	
Satd. Flow (perm)	3539	1531	158	3539	1759	1484
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		64				129
Link Speed (mph)	35			35	30	
Link Distance (ft)	636			400	1210	
Travel Time (s)	12.4			7.8	27.5	
Confl. Peds. (#/hr)		5	5		5	43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1751	111	75	1392	97	176
Turn Type	NA	Perm	pm+pt	NA	Perm	Perm
Protected Phases	2		1	6		
Permitted Phases		2	6		8	8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	35.0	35.0	5.0	35.0	5.0	5.0
Minimum Split (s)	41.0	41.0	11.0	41.0	35.0	35.0
Total Split (s)	85.0	85.0	14.0	99.0	21.0	21.0
Total Split (%)	70.8%	70.8%	11.7%	82.5%	17.5%	17.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-1.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	5.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	C-Max	None	None
Act Effct Green (s)	89.0	89.0	99.2	99.2	12.8	11.8
Actuated g/C Ratio	0.74	0.74	0.83	0.83	0.11	0.10
v/c Ratio	0.67	0.10	0.31	0.48	0.52	0.67
Control Delay	10.8	3.0	9.5	7.9	59.8	29.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.8	3.0	9.5	7.9	59.8	29.0
LOS	B	A	A	A	E	C
Approach Delay	10.3			8.0	39.9	
Approach LOS	B			A	D	
Queue Length 50th (ft)	346	9	23	227	72	34

1: Main Street & S Boulder Road
2045 Background PM.syn

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Queue Length 95th (ft)	502	30	m34	m252	124	107
Internal Link Dist (ft)	556			320	1130	
Turn Bay Length (ft)		120	225			115
Base Capacity (vph)	2623	1151	264	2924	249	309
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.10	0.28	0.48	0.39	0.57

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 22 (18%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.67

Intersection Signal Delay: 11.6

Intersection LOS: B

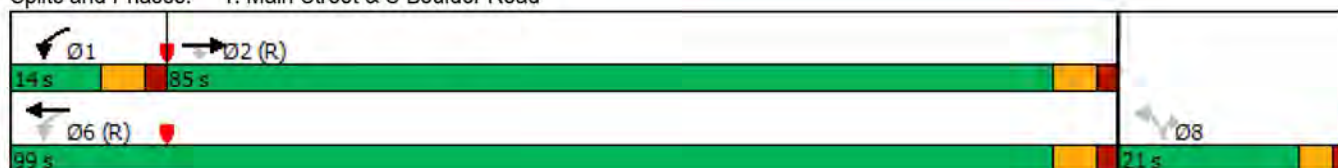
Intersection Capacity Utilization 78.9%

ICU Level of Service D

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Main Street & S Boulder Road



2: Front Street/Private Access & S Boulder Road
2045 Background PM.syn

												
Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↑↑	↑		↓	↑↑				↑		
Traffic Volume (vph)	0	1788	1	4	2	1365	5	0	0	3	0	0
Future Volume (vph)	0	1788	1	4	2	1365	5	0	0	3	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50		70		0	0		0	0	
Storage Lanes	0		1		1		0	0		1	0	
Taper Length (ft)	25				25			25			25	
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.999				0.865		
Flt Protected					0.950							
Satd. Flow (prot)	0	3539	1583	0	1770	3536	0	0	0	1611	0	0
Flt Permitted					0.950							
Satd. Flow (perm)	0	3539	1583	0	1770	3536	0	0	0	1611	0	0
Link Speed (mph)		35				35			20			20
Link Distance (ft)		400				360			338			476
Travel Time (s)		7.8				7.0			11.5			16.2
Confl. Peds. (#/hr)	10		10	5	10		10	5		5	5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1943	1	0	6	1489	0	0	0	3	0	0
Sign Control		Free				Free			Stop			Stop
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	61.0%											
Analysis Period (min)	15											
	ICU Level of Service B											

2: Front Street/Private Access & S Boulder Road
2045 Background PM.syn

Lane Group	SBR
Lane Configurations	7
Traffic Volume (vph)	5
Future Volume (vph)	5
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Ped Bike Factor	
Frt	0.865
Flt Protected	
Satd. Flow (prot)	1611
Flt Permitted	
Satd. Flow (perm)	1611
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	5
Peak Hour Factor	0.92
Shared Lane Traffic (%)	
Lane Group Flow (vph)	5
Sign Control	
Intersection Summary	

2: Front Street/Private Access & S Boulder Road
2045 Background PM.syn

Intersection													
Int Delay, s/veh	0.1												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑		↓	↑↑				↑			↑
Traffic Vol, veh/h	0	1788	1	4	2	1365	5	0	0	3	0	0	5
Future Vol, veh/h	0	1788	1	4	2	1365	5	0	0	3	0	0	5
Conflicting Peds, #/hr	10	0	10	5	10	0	10	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	70	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1943	1	4	2	1484	5	0	0	3	0	0	5
Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	-	0	0	1943	1954	0	0	-	-	987	-	-	760
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	6.44	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	2.52	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	81	295	-	-	0	0	246	0	0	349
Stage 1	0	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	0	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-			-	-						
Mov Cap-1 Maneuver	-	-	-	106	106	-	-	-	-	242	-	-	344
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB			
HCM Control Delay, s	0			0.2			20.1			15.6			
HCM LOS							C			C			
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	WBR	SBLn1						
Capacity (veh/h)	242	-	-	106	-	-	344						
HCM Lane V/C Ratio	0.013	-	-	0.062	-	-	0.016						
HCM Control Delay (s)	20.1	-	-	41.3	-	-	15.6						
HCM Lane LOS	C	-	-	E	-	-	C						
HCM 95th %tile Q(veh)	0	-	-	0.2	-	-	0						

3: Cannon Circle/Private Access & S Boulder Road
2045 Background PM.syn

												
Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	23	48	1794	27	2	21	1385	12	2	0	24	21
Future Volume (vph)	23	48	1794	27	2	21	1385	12	2	0	24	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		90		0		80		0	0		0	0
Storage Lanes		1		0		1		0	0		0	0
Taper Length (ft)		25				25			25			25
Lane Util. Factor	0.95	1.00	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.998				0.999			0.875		
Flt Protected		0.950				0.950				0.996		
Satd. Flow (prot)	0	1770	3532	0	0	1770	3536	0	0	1623	0	0
Flt Permitted		0.950				0.950				0.996		
Satd. Flow (perm)	0	1770	3532	0	0	1770	3536	0	0	1623	0	0
Link Speed (mph)			35				35			20		
Link Distance (ft)			360				465			339		
Travel Time (s)			7.0				9.1			11.6		
Confl. Peds. (#/hr)	5	10		10	5	10		10	5		5	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	77	1979	0	0	25	1518	0	0	28	0	0
Sign Control			Free				Free			Stop		
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	74.8%						ICU Level of Service D					
Analysis Period (min)	15											

3: Cannon Circle/Private Access & S Boulder Road 2045 Background PM.syn



Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	0	45
Future Volume (vph)	0	45
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		0
Storage Lanes		0
Taper Length (ft)		
Lane Util. Factor	1.00	1.00
Ped Bike Factor		
Frt	0.908	
Flt Protected	0.984	
Satd. Flow (prot)	1664	0
Flt Permitted	0.984	
Satd. Flow (perm)	1664	0
Link Speed (mph)	20	
Link Distance (ft)	431	
Travel Time (s)	14.7	
Confl. Peds. (#/hr)		5
Peak Hour Factor	0.92	0.92
Shared Lane Traffic (%)		
Lane Group Flow (vph)	72	0
Sign Control	Stop	
Intersection Summary		

3: Cannon Circle/Private Access & S Boulder Road 2045 Background PM.syn

Intersection															
Int Delay, s/veh	36.6														
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations															
Traffic Vol, veh/h	23	48	1794	27	2	21	1385	12	2	0	24	21	0	45	
Future Vol, veh/h	23	48	1794	27	2	21	1385	12	2	0	24	21	0	45	
Conflicting Peds, #/hr	5	10	0	10	5	10	0	10	5	0	5	5	0	5	
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	
RT Channelized	-	-	-	None	-	-	-	None	-	-	None	-	-	None	
Storage Length	-	90	-	-	-	80	-	-	-	-	-	-	-	-	
Veh in Median Storage, #	-	-	0	-	-	-	0	-	-	0	-	-	0	-	
Grade, %	-	-	0	-	-	-	0	-	-	0	-	-	0	-	
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92	92	
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Mvmt Flow	25	52	1950	29	2	23	1505	13	2	0	26	23	0	49	
Major/Minor	Major1			Major2			Minor1			Minor2					
Conflicting Flow All	1518	1528	0	0	1979	1989	0	0	2937	3707	1005	2706	3715	774	
Stage 1	-	-	-	-	-	-	-	-	2129	2129	-	1572	1572	-	
Stage 2	-	-	-	-	-	-	-	-	808	1578	-	1134	2143	-	
Critical Hdwy	6.44	4.14	-	-	6.44	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94	
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-	
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-	
Follow-up Hdwy	2.52	2.22	-	-	2.52	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32	
Pot Cap-1 Maneuver	153	432	-	-	77	286	-	-	7	4	240	~ 10	4	341	
Stage 1	-	-	-	-	-	-	-	-	51	89	-	115	169	-	
Stage 2	-	-	-	-	-	-	-	-	341	168	-	216	87	-	
Platoon blocked, %			-	-			-	-							
Mov Cap-1 Maneuver	249	249	-	-	223	223	-	-	4	2	237	~ 6	2	336	
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	4	2	-	~ 6	2	-	
Stage 1	-	-	-	-	-	-	-	-	35	61	-	79	149	-	
Stage 2	-	-	-	-	-	-	-	-	257	148	-	132	60	-	
Approach	EB			WB			NB			SB					
HCM Control Delay, s	1			0.4			186.8			\$ 1776.7					
HCM LOS							F			F					
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1							
Capacity (veh/h)	43	249	-	-	223	-	-	18							
HCM Lane V/C Ratio	0.657	0.31	-	-	0.112	-	-	3.986							
HCM Control Delay (s)	186.8	25.8	-	-	23.2	-	-	\$ 1776.7							
HCM Lane LOS	F	D	-	-	C	-	-	F							
HCM 95th %tile Q(veh)	2.5	1.3	-	-	0.4	-	-	9.5							
Notes															
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon									

4: Courtesy Road (SH 42) & S Boulder Road
2045 Background PM.syn

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	727	948	214	453	816	258	1	167	910	328	12	177
Future Volume (vph)	727	948	214	453	816	258	1	167	910	328	12	177
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		100	225		270		0		0		185
Storage Lanes	2		1	2		1		2		1		2
Taper Length (ft)	25			25				25				25
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.95	0.97	0.95	1.00	0.95	0.97
Ped Bike Factor			0.98			0.98				0.98		
Frt			0.850			0.850				0.850		
Flt Protected	0.950			0.950				0.950				0.950
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	0	3433	3539	1583	0	3433
Flt Permitted	0.950			0.950				0.286				0.290
Satd. Flow (perm)	3433	3539	1555	3433	3539	1546	0	1034	3539	1556	0	1048
Right Turn on Red			Yes			Yes				Yes		
Satd. Flow (RTOR)			173			196				287		
Link Speed (mph)		35			35				45			
Link Distance (ft)		465			1815				418			
Travel Time (s)		9.1			35.4				6.3			
Confl. Peds. (#/hr)			5			10				5		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	790	1030	233	492	887	280	0	183	989	357	0	205
Turn Type	Prot	NA	Perm	Prot	NA	Perm	custom	Prot	NA	Perm	custom	Prot
Protected Phases	5	2		1	6			3	8			7
Permitted Phases			2			6	3			8	7	
Detector Phase	5	2	2	1	6	6	3	3	8	8	7	7
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	5.0	6.0	6.0	5.0	5.0
Minimum Split (s)	10.0	37.0	37.0	10.0	37.0	37.0	10.0	10.0	40.0	40.0	10.0	10.0
Total Split (s)	24.0	43.0	43.0	18.0	37.0	37.0	18.0	18.0	41.0	41.0	18.0	18.0
Total Split (%)	20.0%	35.8%	35.8%	15.0%	30.8%	30.8%	15.0%	15.0%	34.2%	34.2%	15.0%	15.0%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-2.0	-2.0	-1.0	-2.0	-2.0		-1.0	-2.0	-2.0		-1.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	C-Max	C-Max	None	Max	Max	None	None	Max	Max	None	None
Act Effct Green (s)	20.0	39.0	39.0	14.0	33.0	33.0		14.0	37.0	37.0		14.0
Actuated g/C Ratio	0.17	0.32	0.32	0.12	0.28	0.28		0.12	0.31	0.31		0.12
v/c Ratio	1.38	0.90	0.37	1.23	0.91	0.49		1.52	0.91	0.53		1.68
Control Delay	215.3	41.7	9.1	167.8	56.6	14.5		305.6	48.8	12.2		372.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0
Total Delay	215.3	41.7	9.1	167.8	56.6	14.5		305.6	48.8	12.2		372.3
LOS	F	D	A	F	E	B		F	D	B		F
Approach Delay		104.8			82.5				71.0			
Approach LOS		F			F				E			
Queue Length 50th (ft)	~422	400	60	~242	350	50		~102	395	66		~119

4: Courtesy Road (SH 42) & S Boulder Road
2045 Background PM.syn



Lane Group	SBT	SBR
Lane Configurations	↑↑	↑
Traffic Volume (vph)	685	403
Future Volume (vph)	685	403
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		270
Storage Lanes		1
Taper Length (ft)		
Lane Util. Factor	0.95	1.00
Ped Bike Factor		0.98
Frt		0.850
Flt Protected		
Satd. Flow (prot)	3539	1583
Flt Permitted		
Satd. Flow (perm)	3539	1555
Right Turn on Red		Yes
Satd. Flow (RTOR)		381
Link Speed (mph)	45	
Link Distance (ft)	1337	
Travel Time (s)	20.3	
Confl. Peds. (#/hr)		5
Peak Hour Factor	0.92	0.92
Shared Lane Traffic (%)		
Lane Group Flow (vph)	745	438
Turn Type	NA	Perm
Protected Phases	4	
Permitted Phases		4
Detector Phase	4	4
Switch Phase		
Minimum Initial (s)	6.0	6.0
Minimum Split (s)	36.0	36.0
Total Split (s)	41.0	41.0
Total Split (%)	34.2%	34.2%
Yellow Time (s)	4.0	4.0
All-Red Time (s)	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0
Total Lost Time (s)	4.0	4.0
Lead/Lag	Lag	Lag
Lead-Lag Optimize?		
Recall Mode	Max	Max
Act Effct Green (s)	37.0	37.0
Actuated g/C Ratio	0.31	0.31
v/c Ratio	0.68	0.59
Control Delay	40.2	9.2
Queue Delay	0.0	0.0
Total Delay	40.2	9.2
LOS	D	A
Approach Delay	79.4	
Approach LOS	E	
Queue Length 50th (ft)	265	32

4: Courtesy Road (SH 42) & S Boulder Road 2045 Background PM.syn

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Queue Length 95th (ft)	#548	#521	102	#351	#469	133		#177	#515	126		#199
Internal Link Dist (ft)		385			1735				338			
Turn Bay Length (ft)	150		100	225		270						185
Base Capacity (vph)	572	1150	622	400	973	567		120	1091	678		122
Starvation Cap Reductn	0	0	0	0	0	0		0	0	0		0
Spillback Cap Reductn	0	0	0	0	0	0		0	0	0		0
Storage Cap Reductn	0	0	0	0	0	0		0	0	0		0
Reduced v/c Ratio	1.38	0.90	0.37	1.23	0.91	0.49		1.52	0.91	0.53		1.68

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT, Start of Yellow, Master Intersection

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.68

Intersection Signal Delay: 86.1

Intersection LOS: F

Intersection Capacity Utilization 93.6%

ICU Level of Service F

Analysis Period (min) 15

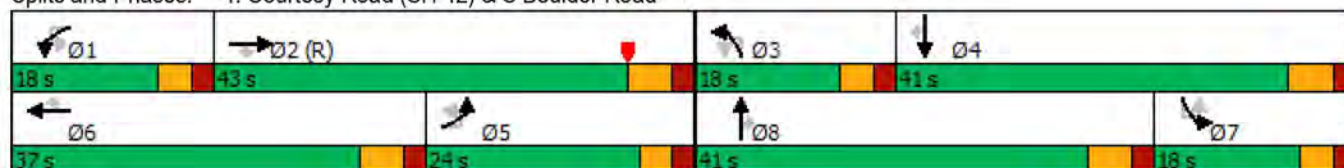
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 4: Courtesy Road (SH 42) & S Boulder Road



4: Courtesy Road (SH 42) & S Boulder Road 2045 Background PM.syn



Lane Group	SBT	SBR
Queue Length 95th (ft)	335	129
Internal Link Dist (ft)	1257	
Turn Bay Length (ft)		270
Base Capacity (vph)	1091	742
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.68	0.59
Intersection Summary		

5: Courtesy Road (SH 42) & Cannon Circle
2045 Background PM.syn

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	6	0	1426	1334	9
Future Volume (vph)	0	6	0	1426	1334	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	140			0
Storage Lanes	0	1	0			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor						
Frt		0.865			0.999	
Flt Protected						
Satd. Flow (prot)	0	1611	0	3539	3536	0
Flt Permitted						
Satd. Flow (perm)	0	1611	0	3539	3536	0
Link Speed (mph)	20			45	45	
Link Distance (ft)	418			420	418	
Travel Time (s)	14.3			6.4	6.3	
Confl. Peds. (#/hr)			5			5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	7	0	1550	1460	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	47.2%			ICU Level of Service A		
Analysis Period (min)	15					

5: Courtesy Road (SH 42) & Cannon Circle
2045 Background PM.syn

Intersection

Int Delay, s/veh 0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	
Traffic Vol, veh/h	0	6	0	1426	1334	9
Future Vol, veh/h	0	6	0	1426	1334	9
Conflicting Peds, #/hr	0	0	5	0	0	5
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	7	0	1550	1450	10

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	- 735	- 0	- 0
Stage 1	- -	- -	- -
Stage 2	- -	- -	- -
Critical Hdwy	- 6.94	- -	- -
Critical Hdwy Stg 1	- -	- -	- -
Critical Hdwy Stg 2	- -	- -	- -
Follow-up Hdwy	- 3.32	- -	- -
Pot Cap-1 Maneuver	0 362	0 -	- -
Stage 1	0 -	0 -	- -
Stage 2	0 -	0 -	- -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	- 360	- -	- -
Mov Cap-2 Maneuver	- -	- -	- -
Stage 1	- -	- -	- -
Stage 2	- -	- -	- -

Approach	EB	NB	SB
HCM Control Delay, s	15.2	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT EBLn1	SBT	SBR
Capacity (veh/h)	- 360	- -	- -
HCM Lane V/C Ratio	- 0.018	- -	- -
HCM Control Delay (s)	- 15.2	- -	- -
HCM Lane LOS	- C	- -	- -
HCM 95th %tile Q(veh)	- 0.1	- -	- -

6: Courtesy Road (SH 42) & Griffith Street/Sports Complex Access
2045 Background PM.syn

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	2	17	0	39	1	1	1	19	1383	2	1	1251
Future Volume (vph)	2	17	0	39	1	1	1	19	1383	2	1	1251
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		50		0	50		0	225		0	500	
Storage Lanes		1		0	1		0	1		0	1	
Taper Length (ft)		25			25			25			25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95
Ped Bike Factor												
Frt			0.850			0.925						
Flt Protected		0.950			0.950			0.950			0.950	
Satd. Flow (prot)	0	1770	1583	0	1770	1723	0	1770	3539	0	1770	3539
Flt Permitted		0.800			0.800			0.950			0.950	
Satd. Flow (perm)	0	1490	1583	0	1490	1723	0	1770	3539	0	1770	3539
Right Turn on Red				Yes			Yes			Yes		
Satd. Flow (RTOR)			273			1						
Link Speed (mph)			30			20			45			45
Link Distance (ft)			439			281			380			369
Travel Time (s)			10.0			9.6			5.8			5.6
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	20	42	0	1	2	0	21	1505	0	1	1360
Turn Type	Perm	Perm	NA		Perm	NA		Prot	NA		Prot	NA
Protected Phases			4			8		5	2		1	6
Permitted Phases	4	4			8							
Detector Phase	4	4	4		8	8		5	2		1	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0		5.0	5.0		5.0	5.0		5.0	5.0
Minimum Split (s)	25.0	25.0	25.0		25.0	25.0		11.0	24.5		11.0	25.0
Total Split (s)	11.0	11.0	11.0		11.0	11.0		11.0	39.0		10.0	38.0
Total Split (%)	18.3%	18.3%	18.3%		18.3%	18.3%		18.3%	65.0%		16.7%	63.3%
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0		4.0	3.5		4.0	4.0
All-Red Time (s)	2.0	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0
Lost Time Adjust (s)		-2.0	-2.0		-2.0	-2.0		-2.0	-1.5		-2.0	-2.0
Total Lost Time (s)		4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0
Lead/Lag								Lag	Lag		Lead	Lead
Lead-Lag Optimize?								Yes	Yes		Yes	Yes
Recall Mode	None	None	None		None	None		None	C-Max		None	Max
Act Effect Green (s)		7.0	7.0		7.0	7.0		7.0	49.0		6.6	48.8
Actuated g/C Ratio		0.12	0.12		0.12	0.12		0.12	0.82		0.11	0.81
v/c Ratio		0.12	0.10		0.01	0.01		0.10	0.52		0.01	0.47
Control Delay		25.3	0.5		24.0	21.0		25.1	4.9		30.0	5.1
Queue Delay		0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0
Total Delay		25.3	0.5		24.0	21.0		25.1	4.9		30.0	5.1
LOS		C	A		C	C		C	A		C	A
Approach Delay			8.5			22.0			5.2			4.8
Approach LOS			A			C			A			A
Queue Length 50th (ft)		7	0		0	0		7	86		1	239

6: Courtesy Road (SH 42) & Griffith Street/Sports Complex Access
2045 Background PM.syn

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	123
Future Volume (vph)	123
Ideal Flow (vphpl)	1900
Storage Length (ft)	273
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Ped Bike Factor	0.98
Frt	0.850
Flt Protected	
Satd. Flow (prot)	1583
Flt Permitted	
Satd. Flow (perm)	1546
Right Turn on Red	Yes
Satd. Flow (RTOR)	164
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Bikes (#/hr)	5
Peak Hour Factor	0.92
Shared Lane Traffic (%)	
Lane Group Flow (vph)	134
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Detector Phase	6
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	25.0
Total Split (s)	38.0
Total Split (%)	63.3%
Yellow Time (s)	4.0
All-Red Time (s)	2.0
Lost Time Adjust (s)	-2.0
Total Lost Time (s)	4.0
Lead/Lag	Lead
Lead-Lag Optimize?	Yes
Recall Mode	Max
Act Effct Green (s)	48.8
Actuated g/C Ratio	0.81
v/c Ratio	0.10
Control Delay	1.7
Queue Delay	0.0
Total Delay	1.7
LOS	A
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	14

6: Courtesy Road (SH 42) & Griffith Street/Sports Complex Access
2045 Background PM.syn

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Queue Length 95th (ft)		19	0		4	6		24	254		m1	m276
Internal Link Dist (ft)			359			201			300			289
Turn Bay Length (ft)		50			50			225			500	
Base Capacity (vph)		173	425		173	201		206	2890		195	2878
Starvation Cap Reductn		0	0		0	0		0	0		0	0
Spillback Cap Reductn		0	0		0	0		0	0		0	0
Storage Cap Reductn		0	0		0	0		0	0		0	0
Reduced v/c Ratio		0.12	0.10		0.01	0.01		0.10	0.52		0.01	0.47

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 48 (80%), Referenced to phase 2:NBT, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.52

Intersection Signal Delay: 5.1

Intersection LOS: A

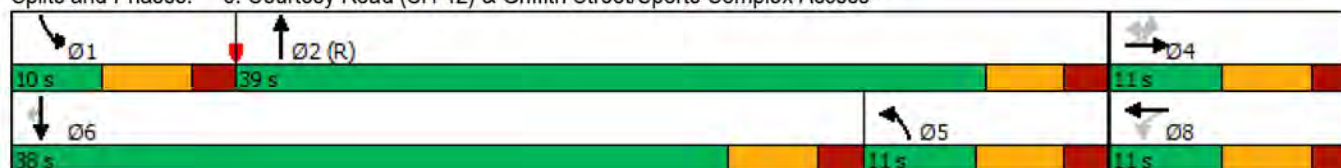
Intersection Capacity Utilization 52.7%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Courtesy Road (SH 42) & Griffith Street/Sports Complex Access



6: Courtesy Road (SH 42) & Griffith Street/Sports Complex Access
2045 Background PM.syn



Lane Group	SBR
Queue Length 95th (ft)	m23
Internal Link Dist (ft)	
Turn Bay Length (ft)	273
Base Capacity (vph)	1288
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.10
Intersection Summary	

7: Cannon Street & Griffith Street
2045 Background PM.syn

												
Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	2	36	22	1	27	119	1	19	1	11	0	2
Future Volume (vph)	2	36	22	1	27	119	1	19	1	11	0	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150		150		150	150		150	150	
Storage Lanes	0		0		0		0	0		0	0	
Taper Length (ft)	25				25			25			25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.950				0.999			0.952			
Flt Protected		0.998				0.991			0.970			
Satd. Flow (prot)	0	1766	0	0	0	1844	0	0	1720	0	0	1863
Flt Permitted		0.998				0.991			0.970			
Satd. Flow (perm)	0	1766	0	0	0	1844	0	0	1720	0	0	1863
Link Speed (mph)		30				30			25			25
Link Distance (ft)		390				439			346			362
Travel Time (s)		8.9				10.0			9.4			9.9
Confl. Peds. (#/hr)	5		5		5		5	5		5	5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	65	0	0	0	160	0	0	34	0	0	2
Sign Control		Free				Free			Stop			Stop
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	30.6%											
Analysis Period (min)	15											
	ICU Level of Service A											

7: Cannon Street & Griffith Street
2045 Background PM.syn

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	0
Future Volume (vph)	0
Ideal Flow (vphpl)	1900
Storage Length (ft)	150
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	1.00
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	5
Peak Hour Factor	0.92
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Sign Control	
Intersection Summary	

7: Cannon Street & Griffith Street
2045 Background PM.syn

Intersection													
Int Delay, s/veh	1.4												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕				↕			↕			↕	
Traffic Vol, veh/h	2	36	22	1	27	119	1	19	1	11	0	2	0
Future Vol, veh/h	2	36	22	1	27	119	1	19	1	11	0	2	0
Conflicting Peds, #/hr	5	0	5	0	5	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	39	24	1	29	129	1	21	1	12	0	2	0
Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	135	0	0	-	68	0	0	254	255	61	260	267	140
Stage 1	-	-	-	-	-	-	-	60	60	-	193	195	-
Stage 2	-	-	-	-	-	-	-	194	195	-	67	72	-
Critical Hdwy	4.12	-	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1449	-	-	-	1533	-	-	699	649	1004	693	639	908
Stage 1	-	-	-	-	-	-	-	951	845	-	809	739	-
Stage 2	-	-	-	-	-	-	-	808	739	-	943	835	-
Platoon blocked, %		-	-			-	-						
Mov Cap-1 Maneuver	1442	-	-	~-29	~-29	-	-	690	642	994	677	632	899
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	690	642	-	677	632	-
Stage 1	-	-	-	-	-	-	-	945	840	-	804	735	-
Stage 2	-	-	-	-	-	-	-	802	735	-	925	830	-
Approach	EB			WB			NB			SB			
HCM Control Delay, s	0.3						9.9			10.7			
HCM LOS							A			B			
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1					
Capacity (veh/h)	772	1442	-	-	+	-	-	632					
HCM Lane V/C Ratio	0.044	0.002	-	-	-	-	-	0.003					
HCM Control Delay (s)	9.9	7.5	0	-	-	-	-	10.7					
HCM Lane LOS	A	A	A	-	-	-	-	B					
HCM 95th %tile Q(veh)	0.1	0	-	-	-	-	-	0					
Notes													
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon							

8: Griffith Street & Front Street
2045 Background PM.syn

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	4	66	6	5	146	0	2	0	1	3	0	0
Future Volume (vph)	4	66	6	5	146	0	2	0	1	3	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150	150		150	0		0		0	
Storage Lanes	0		0	0		0	0		0		0	
Taper Length (ft)	25			25			25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.989						0.955				0.932
Flt Protected		0.998			0.998			0.968				0.976
Satd. Flow (prot)	0	1839	0	0	1859	0	0	1722	0	0	0	1694
Flt Permitted		0.998			0.998			0.968				0.976
Satd. Flow (perm)	0	1839	0	0	1859	0	0	1722	0	0	0	1694
Link Speed (mph)		30			30			25				25
Link Distance (ft)		405			390			333				365
Travel Time (s)		9.2			8.9			9.1				10.0
Confl. Peds. (#/hr)	5		10	10		5	5		5		5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	83	0	0	164	0	0	3	0	0	0	6
Sign Control		Free			Free			Stop				Stop
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	21.4%											
Analysis Period (min)	15											
	ICU Level of Service A											

8: Griffith Street & Front Street
2045 Background PM.syn

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	3
Future Volume (vph)	3
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	1.00
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	5
Peak Hour Factor	0.92
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Sign Control	
Intersection Summary	

8: Griffith Street & Front Street
2045 Background PM.syn

Intersection													
Int Delay, s/veh	0.6												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	4	66	6	5	146	0	2	0	1	3	0	0	3
Future Vol, veh/h	4	66	6	5	146	0	2	0	1	3	0	0	3
Conflicting Peds, #/hr	5	0	10	10	0	5	5	0	5	0	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	72	7	5	159	0	2	0	1	3	0	0	3
Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	164	0	0	89	0	0	270	268	91	0	263	271	169
Stage 1	-	-	-	-	-	-	94	94	-	0	174	174	-
Stage 2	-	-	-	-	-	-	176	174	-	0	89	97	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	-	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1414	-	-	1506	-	-	683	638	967	0	690	636	875
Stage 1	-	-	-	-	-	-	913	817	-	0	828	755	-
Stage 2	-	-	-	-	-	-	826	755	-	0	918	815	-
Platoon blocked, %		-	-		-	-				-			
Mov Cap-1 Maneuver	1407	-	-	1492	-	-	667	624	953	0	679	622	867
Mov Cap-2 Maneuver	-	-	-	-	-	-	667	624	-	0	679	622	-
Stage 1	-	-	-	-	-	-	902	806	-	0	821	748	-
Stage 2	-	-	-	-	-	-	816	748	-	0	910	804	-
Approach	EB			WB			NB			SB			
HCM Control Delay, s	0.4			0.2			9.9			9.2			
HCM LOS							A			A			
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1					
Capacity (veh/h)	741	1407	-	-	1492	-	-	867					
HCM Lane V/C Ratio	0.004	0.003	-	-	0.004	-	-	0.004					
HCM Control Delay (s)	9.9	7.6	0	-	7.4	0	-	9.2					
HCM Lane LOS	A	A	A	-	A	A	-	A					
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0					

9: Main Street & Griffith Street
2045 Background PM.syn

							
Lane Group	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	80	48	206	39	1	35	144
Future Volume (vph)	80	48	206	39	1	35	144
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor							
Frt	0.949		0.979				
Flt Protected	0.970						0.990
Satd. Flow (prot)	1715	0	1824	0	0	0	1844
Flt Permitted	0.970						0.990
Satd. Flow (perm)	1715	0	1824	0	0	0	1844
Link Speed (mph)	30		30				30
Link Distance (ft)	405		350				1210
Travel Time (s)	9.2		8.0				27.5
Confl. Peds. (#/hr)	5	10		7	10	7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)							
Lane Group Flow (vph)	139	0	266	0	0	0	196
Sign Control	Stop		Free				Free
Intersection Summary							
Area Type:	Other						
Control Type:	Unsignalized						
Intersection Capacity Utilization	42.2%			ICU Level of Service A			
Analysis Period (min)	15						

9: Main Street & Griffith Street
2045 Background PM.syn

Intersection							
Int Delay, s/veh	3						
Movement	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations							
Traffic Vol, veh/h	80	48	206	39	1	35	144
Future Vol, veh/h	80	48	206	39	1	35	144
Conflicting Peds, #/hr	5	10	0	7	10	7	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	-	0
Grade, %	0	-	0	-	-	-	0
Peak Hour Factor	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	87	52	224	42	1	38	157
Major/Minor	Minor1	Major1		Major2			
Conflicting Flow All	490	262	0	0	-	273	0
Stage 1	252	-	-	-	-	-	-
Stage 2	238	-	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	2.218	-
Pot Cap-1 Maneuver	537	777	-	-	-	1290	-
Stage 1	790	-	-	-	-	-	-
Stage 2	802	-	-	-	-	-	-
Platoon blocked, %			-	-			-
Mov Cap-1 Maneuver	531	764	-	-	~ -37	~ -37	-
Mov Cap-2 Maneuver	531	-	-	-	-	-	-
Stage 1	784	-	-	-	-	-	-
Stage 2	798	-	-	-	-	-	-
Approach	WB	NB		SB			
HCM Control Delay, s	12.8	0					
HCM LOS	B						
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBL	SBT		
Capacity (veh/h)	-	-	600	+	-		
HCM Lane V/C Ratio	-	-	0.232	-	-		
HCM Control Delay (s)	-	-	12.8	-	-		
HCM Lane LOS	-	-	B	-	-		
HCM 95th %tile Q(veh)	-	-	0.9	-	-		
Notes							
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon	

10: Front Street & Harper Street
2045 Background PM.syn

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	6	0	0	7	0	0
Future Volume (vph)	6	0	0	7	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.865					
Flt Protected	0.950					
Satd. Flow (prot)	1770	0	0	1611	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	0	1611	0	0
Link Speed (mph)	25	25		25		
Link Distance (ft)	380	365		210		
Travel Time (s)	10.4	10.0		5.7		
Confl. Peds. (#/hr)	5	132	70		70	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	7	0	0	8	0	0
Sign Control	Free	Free		Free		
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	16.5%			ICU Level of Service A		
Analysis Period (min)	15					

11: Courtesy Road (SH 42) & Harper Street
2045 Background PM.syn

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	87	0	1400	1331	8
Future Volume (vph)	0	87	0	1400	1331	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.865			0.999	
Flt Protected						
Satd. Flow (prot)	0	1611	0	3539	3536	0
Flt Permitted						
Satd. Flow (perm)	0	1611	0	3539	3536	0
Link Speed (mph)	30			45	45	
Link Distance (ft)	207			369	420	
Travel Time (s)	4.7			5.6	6.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	95	0	1522	1456	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	49.1%			ICU Level of Service A		
Analysis Period (min)	15					

11: Courtesy Road (SH 42) & Harper Street
2045 Background PM.syn

Intersection

Int Delay, s/veh 0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	
Traffic Vol, veh/h	0	87	0	1400	1331	8
Future Vol, veh/h	0	87	0	1400	1331	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	95	0	1522	1447	9

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	- 728	- 0	- 0
Stage 1	- -	- -	- -
Stage 2	- -	- -	- -
Critical Hdwy	- 6.94	- -	- -
Critical Hdwy Stg 1	- -	- -	- -
Critical Hdwy Stg 2	- -	- -	- -
Follow-up Hdwy	- 3.32	- -	- -
Pot Cap-1 Maneuver	0 366	0 -	- -
Stage 1	0 -	0 -	- -
Stage 2	0 -	0 -	- -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	- 366	- -	- -
Mov Cap-2 Maneuver	- -	- -	- -
Stage 1	- -	- -	- -
Stage 2	- -	- -	- -

Approach	EB	NB	SB
HCM Control Delay, s	18.2	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT EBLn1	SBT	SBR
Capacity (veh/h)	- 366	- -	- -
HCM Lane V/C Ratio	- 0.258	- -	- -
HCM Control Delay (s)	- 18.2	- -	- -
HCM Lane LOS	- C	- -	- -
HCM 95th %tile Q(veh)	- 1	- -	- -

1: Main Street & S Boulder Road
2045 Background SAT.syn

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↓
Traffic Volume (vph)	1064	90	67	1006	59	93
Future Volume (vph)	1064	90	67	1006	59	93
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		120	225		0	115
Storage Lanes		1	1		1	1
Taper Length (ft)			25		0	
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Ped Bike Factor		0.97	1.00		0.99	0.95
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3539	1583	1770	3539	1770	1583
Flt Permitted			0.199		0.950	
Satd. Flow (perm)	3539	1535	370	3539	1761	1504
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		98				101
Link Speed (mph)	35			35	30	
Link Distance (ft)	636			400	1210	
Travel Time (s)	12.4			7.8	27.5	
Confl. Peds. (#/hr)		5	5		5	39
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1157	98	73	1093	64	101
Turn Type	NA	Perm	pm+pt	NA	Perm	Perm
Protected Phases	2		1	6		
Permitted Phases		2	6		8	8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	35.0	35.0	5.0	35.0	5.0	5.0
Minimum Split (s)	41.0	41.0	11.0	41.0	35.0	35.0
Total Split (s)	70.0	70.0	12.0	82.0	18.0	18.0
Total Split (%)	70.0%	70.0%	12.0%	82.0%	18.0%	18.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-1.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	5.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	C-Max	None	None
Act Effct Green (s)	75.1	75.1	84.1	84.9	10.0	9.0
Actuated g/C Ratio	0.75	0.75	0.84	0.85	0.10	0.09
v/c Ratio	0.44	0.08	0.17	0.36	0.36	0.44
Control Delay	7.0	1.4	2.9	2.9	47.0	15.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.0	1.4	2.9	2.9	47.0	15.0
LOS	A	A	A	A	D	B
Approach Delay	6.6			2.9	27.4	
Approach LOS	A			A	C	
Queue Length 50th (ft)	152	0	10	91	39	0

1: Main Street & S Boulder Road
2045 Background SAT.syn

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Queue Length 95th (ft)	222	16	m15	m112	78	47
Internal Link Dist (ft)	556			320	1130	
Turn Bay Length (ft)		120	225			115
Base Capacity (vph)	2656	1176	427	3005	246	283
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.08	0.17	0.36	0.26	0.36

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 59 (59%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.44

Intersection Signal Delay: 6.3

Intersection LOS: A

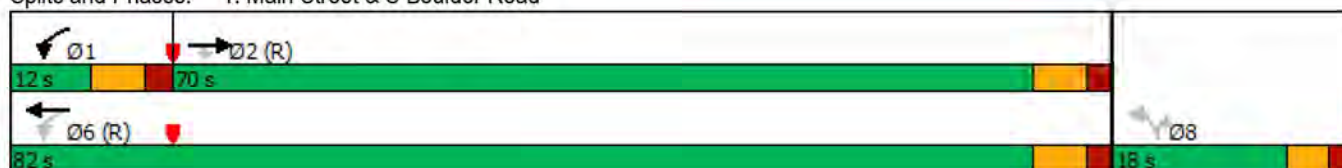
Intersection Capacity Utilization 62.9%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Main Street & S Boulder Road



2: Front Street/Private Access & S Boulder Road
2045 Background SAT.syn

												
Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↑↑	↗		↘	↑↑				↗		
Traffic Volume (vph)	0	1174	3	3	4	1125	4	0	0	5	0	0
Future Volume (vph)	0	1174	3	3	4	1125	4	0	0	5	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50		70		0	0		0	0	
Storage Lanes	0		1		1		0	0		1	0	
Taper Length (ft)	25				25			25			25	
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850							0.865		
Flt Protected					0.950							
Satd. Flow (prot)	0	3539	1583	0	1770	3539	0	0	0	1611	0	0
Flt Permitted					0.950							
Satd. Flow (perm)	0	3539	1583	0	1770	3539	0	0	0	1611	0	0
Link Speed (mph)		35				35			20			20
Link Distance (ft)		400				360			338			476
Travel Time (s)		7.8				7.0			11.5			16.2
Confl. Peds. (#/hr)	10		10	5	10		10	5		5	5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1276	3	0	7	1227	0	0	0	5	0	0
Sign Control		Free				Free			Stop			Stop
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	44.0%											
Analysis Period (min)	15											
	ICU Level of Service A											

2: Front Street/Private Access & S Boulder Road
2045 Background SAT.syn

Lane Group	SBR
Lane Configurations	↗
Traffic Volume (vph)	1
Future Volume (vph)	1
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Ped Bike Factor	
Frt	0.865
Flt Protected	
Satd. Flow (prot)	1611
Flt Permitted	
Satd. Flow (perm)	1611
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	5
Peak Hour Factor	0.92
Shared Lane Traffic (%)	
Lane Group Flow (vph)	1
Sign Control	
Intersection Summary	

2: Front Street/Private Access & S Boulder Road
2045 Background SAT.syn

Intersection													
Int Delay, s/veh	0.1												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑		↓	↑↑				↑			↑
Traffic Vol, veh/h	0	1174	3	3	4	1125	4	0	0	5	0	0	1
Future Vol, veh/h	0	1174	3	3	4	1125	4	0	0	5	0	0	1
Conflicting Peds, #/hr	10	0	10	5	10	0	10	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	70	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1276	3	3	4	1223	4	0	0	5	0	0	1
Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	-	0	0	1276	1289	0	0	-	-	653	-	-	629
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	6.44	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	2.52	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	220	534	-	-	0	0	410	0	0	425
Stage 1	0	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	0	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-			-	-						
Mov Cap-1 Maneuver	-	-	-	327	327	-	-	-	-	404	-	-	419
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB			
HCM Control Delay, s	0			0.1			14			13.6			
HCM LOS							B			B			
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	WBR	SBLn1						
Capacity (veh/h)	404	-	-	327	-	-	419						
HCM Lane V/C Ratio	0.013	-	-	0.023	-	-	0.003						
HCM Control Delay (s)	14	-	-	16.3	-	-	13.6						
HCM Lane LOS	B	-	-	C	-	-	B						
HCM 95th %tile Q(veh)	0	-	-	0.1	-	-	0						

3: Cannon Circle/Private Access & S Boulder Road
2045 Background SAT.syn

												
Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	15	28	1102	15	1	34	1044	12	8	1	21	23
Future Volume (vph)	15	28	1102	15	1	34	1044	12	8	1	21	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		90		0		80		0	0		0	0
Storage Lanes		1		0		1		0	0		0	0
Taper Length (ft)		25				25			25			25
Lane Util. Factor	0.95	1.00	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.998				0.998			0.906		
Flt Protected		0.950				0.950				0.987		
Satd. Flow (prot)	0	1770	3532	0	0	1770	3532	0	0	1666	0	0
Flt Permitted		0.950				0.950				0.987		
Satd. Flow (perm)	0	1770	3532	0	0	1770	3532	0	0	1666	0	0
Link Speed (mph)			35				35			20		
Link Distance (ft)			360				465			339		
Travel Time (s)			7.0				9.1			11.6		
Confl. Peds. (#/hr)	5	10		10	5	10		10	5		5	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	46	1214	0	0	38	1148	0	0	33	0	0
Sign Control			Free				Free			Stop		
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization 50.4%	ICU Level of Service A											
Analysis Period (min) 15												

3: Cannon Circle/Private Access & S Boulder Road
2045 Background SAT.syn



Lane Group	SBT	SBR
Lane Configurations	↕	
Traffic Volume (vph)	3	56
Future Volume (vph)	3	56
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		0
Storage Lanes		0
Taper Length (ft)		
Lane Util. Factor	1.00	1.00
Ped Bike Factor		
Frt	0.907	
Flt Protected	0.986	
Satd. Flow (prot)	1666	0
Flt Permitted	0.986	
Satd. Flow (perm)	1666	0
Link Speed (mph)	20	
Link Distance (ft)	431	
Travel Time (s)	14.7	
Confl. Peds. (#/hr)		5
Peak Hour Factor	0.92	0.92
Shared Lane Traffic (%)		
Lane Group Flow (vph)	89	0
Sign Control	Stop	
Intersection Summary		

3: Cannon Circle/Private Access & S Boulder Road
2045 Background SAT.syn

Intersection															
Int Delay, s/veh	9.1														
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations															
Traffic Vol, veh/h	15	28	1102	15	1	34	1044	12	8	1	21	23	3	56	
Future Vol, veh/h	15	28	1102	15	1	34	1044	12	8	1	21	23	3	56	
Conflicting Peds, #/hr	5	10	0	10	5	10	0	10	5	0	5	5	0	5	
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	
RT Channelized	-	-	-	None	-	-	-	None	-	-	None	-	-	None	
Storage Length	-	90	-	-	-	80	-	-	-	-	-	-	-	-	
Veh in Median Storage, #	-	-	0	-	-	-	0	-	-	0	-	-	0	-	
Grade, %	-	-	0	-	-	-	0	-	-	0	-	-	0	-	
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92	92	
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Mvmt Flow	16	30	1198	16	1	37	1135	13	9	1	23	25	3	61	
Major/Minor	Major1			Major2				Minor1			Minor2				
Conflicting Flow All	1148	1158	0	0	1214	1224	0	0	1958	2542	622	1925	2544	589	
Stage 1	-	-	-	-	-	-	-	-	1308	1308	-	1228	1228	-	
Stage 2	-	-	-	-	-	-	-	-	650	1234	-	697	1316	-	
Critical Hdwy	6.44	4.14	-	-	6.44	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94	
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-	
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-	
Follow-up Hdwy	2.52	2.22	-	-	2.52	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32	
Pot Cap-1 Maneuver	267	599	-	-	242	565	-	-	38	27	430	40	27	452	
Stage 1	-	-	-	-	-	-	-	-	168	228	-	189	249	-	
Stage 2	-	-	-	-	-	-	-	-	424	247	-	398	226	-	
Platoon blocked, %			-	-			-	-							
Mov Cap-1 Maneuver	385	385	-	-	538	538	-	-	25	22	424	31	22	446	
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	25	22	-	31	22	-	
Stage 1	-	-	-	-	-	-	-	-	146	198	-	164	229	-	
Stage 2	-	-	-	-	-	-	-	-	334	227	-	327	196	-	
Approach	EB			WB				NB			SB				
HCM Control Delay, s	0.6			0.4				91.1			216.3				
HCM LOS								F			F				
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1							
Capacity (veh/h)	72	385	-	-	538	-	-	82							
HCM Lane V/C Ratio	0.453	0.121	-	-	0.071	-	-	1.087							
HCM Control Delay (s)	91.1	15.6	-	-	12.2	-	-	216.3							
HCM Lane LOS	F	C	-	-	B	-	-	F							
HCM 95th %tile Q(veh)	1.8	0.4	-	-	0.2	-	-	6.2							

4: Courtesy Road (SH 42) & S Boulder Road
2045 Background SAT.syn

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (vph)	3	492	601	130	322	673	173	4	202	464	253	7
Future Volume (vph)	3	492	601	130	322	673	173	4	202	464	253	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		150		100	225		270		0		0	
Storage Lanes		2		1	2		1		2		1	
Taper Length (ft)		25			25				25			
Lane Util. Factor	0.95	0.97	0.95	1.00	0.97	0.95	1.00	0.95	0.97	0.95	1.00	0.95
Ped Bike Factor				0.98			0.98				0.98	
Frt				0.850			0.850				0.850	
Flt Protected		0.950			0.950				0.950			
Satd. Flow (prot)	0	3433	3539	1583	3433	3539	1583	0	3433	3539	1583	0
Flt Permitted		0.374			0.950				0.500			
Satd. Flow (perm)	0	1352	3539	1557	3433	3539	1549	0	1807	3539	1557	0
Right Turn on Red				Yes			Yes				Yes	
Satd. Flow (RTOR)				207			218				275	
Link Speed (mph)			35			35				45		
Link Distance (ft)			465			1815				418		
Travel Time (s)			9.1			35.4				6.3		
Confl. Peds. (#/hr)				5			10				5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	538	653	141	350	732	188	0	224	504	275	0
Turn Type	custom	Prot	NA	Perm	Prot	NA	Perm	custom	Prot	NA	Perm	custom
Protected Phases		5	2		1	6			3	8		
Permitted Phases	5			2			6	3			8	7
Detector Phase	5	5	2	2	1	6	6	3	3	8	8	7
Switch Phase												
Minimum Initial (s)	5.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	5.0	6.0	6.0	5.0
Minimum Split (s)	10.0	10.0	37.0	37.0	10.0	37.0	37.0	10.0	10.0	40.0	40.0	10.0
Total Split (s)	18.0	18.0	38.0	38.0	14.0	34.0	34.0	12.0	12.0	36.0	36.0	12.0
Total Split (%)	18.0%	18.0%	38.0%	38.0%	14.0%	34.0%	34.0%	12.0%	12.0%	36.0%	36.0%	12.0%
Yellow Time (s)	3.0	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0	4.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		-1.0	-2.0	-2.0	-1.0	-2.0	-2.0		-1.0	-2.0	-2.0	
Total Lost Time (s)		4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	
Lead/Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lag
Lead-Lag Optimize?												
Recall Mode	None	None	C-Max	C-Max	None	Max	Max	None	None	Max	Max	None
Act Effect Green (s)		14.0	34.0	34.0	10.0	30.0	30.0		8.0	32.0	32.0	
Actuated g/C Ratio		0.14	0.34	0.34	0.10	0.30	0.30		0.08	0.32	0.32	
v/c Ratio		2.85	0.54	0.21	1.02	0.69	0.30		1.56	0.45	0.40	
Control Delay		863.0	25.8	1.8	99.5	34.9	3.7		313.5	25.0	7.4	
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	
Total Delay		863.0	25.8	1.8	99.5	34.9	3.7		313.5	25.0	7.4	
LOS		F	C	A	F	C	A		F	C	A	
Approach Delay			361.4			48.1				84.6		
Approach LOS			F			D				F		
Queue Length 50th (ft)		~309	122	0	~119	215	0		~105	134	1	

4: Courtesy Road (SH 42) & S Boulder Road
2045 Background SAT.syn

			
Lane Group	SBL	SBT	SBR
Lane Configurations	LT	TH	RT
Traffic Volume (vph)	140	500	332
Future Volume (vph)	140	500	332
Ideal Flow (vphpl)	1900	1900	1900
Storage Length (ft)	185		270
Storage Lanes	2		1
Taper Length (ft)	25		
Lane Util. Factor	0.97	0.95	1.00
Ped Bike Factor			0.98
Frt			0.850
Flt Protected	0.950		
Satd. Flow (prot)	3433	3539	1583
Flt Permitted	0.500		
Satd. Flow (perm)	1807	3539	1557
Right Turn on Red			Yes
Satd. Flow (RTOR)			328
Link Speed (mph)		45	
Link Distance (ft)		1337	
Travel Time (s)		20.3	
Confl. Peds. (#/hr)			5
Peak Hour Factor	0.92	0.92	0.92
Shared Lane Traffic (%)			
Lane Group Flow (vph)	160	543	361
Turn Type	Prot	NA	Perm
Protected Phases	7	4	
Permitted Phases			4
Detector Phase	7	4	4
Switch Phase			
Minimum Initial (s)	5.0	6.0	6.0
Minimum Split (s)	10.0	36.0	36.0
Total Split (s)	12.0	36.0	36.0
Total Split (%)	12.0%	36.0%	36.0%
Yellow Time (s)	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	4.0
Lead/Lag	Lag	Lag	Lag
Lead-Lag Optimize?			
Recall Mode	None	Max	Max
Act Effct Green (s)	8.0	32.0	32.0
Actuated g/C Ratio	0.08	0.32	0.32
v/c Ratio	1.11	0.48	0.50
Control Delay	152.0	29.1	6.9
Queue Delay	0.0	0.0	0.0
Total Delay	152.0	29.1	6.9
LOS	F	C	A
Approach Delay		40.0	
Approach LOS		D	
Queue Length 50th (ft)	~60	145	15

4: Courtesy Road (SH 42) & S Boulder Road 2045 Background SAT.syn

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU
Queue Length 95th (ft)		#405	170	12	#213	282	34		#186	128	86	
Internal Link Dist (ft)			385			1735				338		
Turn Bay Length (ft)		150		100	225		270					
Base Capacity (vph)		189	1203	666	343	1061	617		144	1132	685	
Starvation Cap Reductn		0	0	0	0	0	0		0	0	0	
Spillback Cap Reductn		0	0	0	0	0	0		0	0	0	
Storage Cap Reductn		0	0	0	0	0	0		0	0	0	
Reduced v/c Ratio		2.85	0.54	0.21	1.02	0.69	0.30		1.56	0.45	0.40	

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:EBT, Start of Yellow, Master Intersection

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 2.85

Intersection Signal Delay: 143.5

Intersection LOS: F

Intersection Capacity Utilization 85.8%

ICU Level of Service E

Analysis Period (min) 15

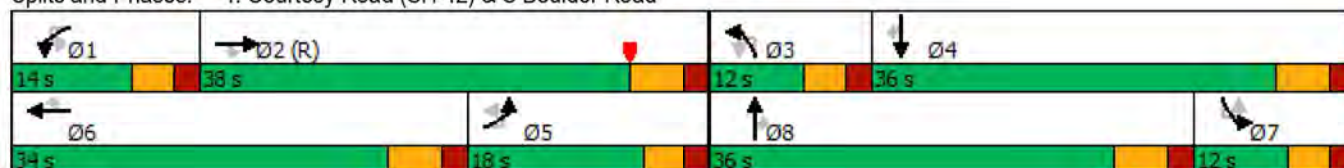
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 4: Courtesy Road (SH 42) & S Boulder Road



4: Courtesy Road (SH 42) & S Boulder Road 2045 Background SAT.syn



Lane Group	SBL	SBT	SBR
Queue Length 95th (ft)	#126	196	85
Internal Link Dist (ft)		1257	
Turn Bay Length (ft)	185		270
Base Capacity (vph)	144	1132	721
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	1.11	0.48	0.50
Intersection Summary			

5: Courtesy Road (SH 42) & Cannon Circle
2045 Background SAT.syn

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	1	0	921	938	10
Future Volume (vph)	0	1	0	921	938	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	140			0
Storage Lanes	0	1	0			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor						
Frt		0.865			0.998	
Flt Protected						
Satd. Flow (prot)	0	1611	0	3539	3532	0
Flt Permitted						
Satd. Flow (perm)	0	1611	0	3539	3532	0
Link Speed (mph)	20			45	45	
Link Distance (ft)	418			420	418	
Travel Time (s)	14.3			6.4	6.3	
Confl. Peds. (#/hr)			5			5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1	0	1001	1031	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	36.3%			ICU Level of Service A		
Analysis Period (min)	15					

5: Courtesy Road (SH 42) & Cannon Circle
2045 Background SAT.syn

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	
Traffic Vol, veh/h	0	1	0	921	938	10
Future Vol, veh/h	0	1	0	921	938	10
Conflicting Peds, #/hr	0	0	5	0	0	5
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1	0	1001	1020	11
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	521	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	500	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	498	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	12.2	0		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT EBLn1		SBT	SBR		
Capacity (veh/h)	- 498		-	-		
HCM Lane V/C Ratio	- 0.002		-	-		
HCM Control Delay (s)	- 12.2		-	-		
HCM Lane LOS	- B		-	-		
HCM 95th %tile Q(veh)	- 0		-	-		

6: Courtesy Road (SH 42) & Griffith Street/Sports Complex Access
2045 Background SAT.syn

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	7	21	2	1	6	21	849	43	11	875	44
Future Volume (vph)	20	7	21	2	1	6	21	849	43	11	875	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		0	50		0	225		0	500		273
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor												0.98
Frt		0.889			0.869			0.993				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1656	0	1770	1619	0	1770	3514	0	1770	3539	1583
Flt Permitted	0.800			0.800			0.950			0.950		
Satd. Flow (perm)	1490	1656	0	1490	1619	0	1770	3514	0	1770	3539	1545
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23			7			14				196
Link Speed (mph)		30			20			45				45
Link Distance (ft)		439			281			380				369
Travel Time (s)		10.0			9.6			5.8				5.6
Confl. Bikes (#/hr)												5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	22	31	0	2	8	0	23	970	0	12	951	48
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								6
Detector Phase	4	4		8	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	25.0	25.0		25.0	25.0		11.0	24.5		11.0	25.0	25.0
Total Split (s)	11.0	11.0		11.0	11.0		14.0	27.0		12.0	25.0	25.0
Total Split (%)	22.0%	22.0%		22.0%	22.0%		28.0%	54.0%		24.0%	50.0%	50.0%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	3.5		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0		-2.0	-1.5		-2.0	-2.0	-2.0
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lead/Lag							Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None		None	C-Max		None	Max	Max
Act Effect Green (s)	7.0	7.0		7.0	7.0		8.3	38.6		7.8	38.2	38.2
Actuated g/C Ratio	0.14	0.14		0.14	0.14		0.17	0.77		0.16	0.76	0.76
v/c Ratio	0.11	0.12		0.01	0.03		0.08	0.36		0.04	0.35	0.04
Control Delay	20.5	11.0		18.5	13.3		17.7	4.8		17.6	4.7	0.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	20.5	11.0		18.5	13.3		17.7	4.8		17.6	4.7	0.6
LOS	C	B		B	B		B	A		B	A	A
Approach Delay		15.0			14.3			5.1			4.7	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)	6	3		1	0		6	43		5	116	0

6: Courtesy Road (SH 42) & Griffith Street/Sports Complex Access

2045 Background SAT.syn

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (ft)	17	15		5	9		20	149		m10	m166	m3
Internal Link Dist (ft)		359			201			300			289	
Turn Bay Length (ft)	50			50			225			500		273
Base Capacity (vph)	208	251		208	232		354	2716		283	2704	1226
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.11	0.12		0.01	0.03		0.06	0.36		0.04	0.35	0.04

Intersection Summary

Area Type: Other

Cycle Length: 50

Actuated Cycle Length: 50

Offset: 48 (96%), Referenced to phase 2:NBT, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.36

Intersection Signal Delay: 5.2

Intersection LOS: A

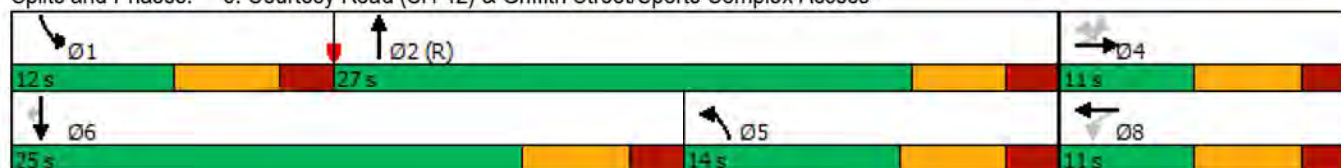
Intersection Capacity Utilization 39.3%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Courtesy Road (SH 42) & Griffith Street/Sports Complex Access



7: Cannon Street & Griffith Street
2045 Background SAT.syn

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	31	20	15	57	1	14	0	16	1	0	1
Future Volume (vph)	0	31	20	15	57	1	14	0	16	1	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150	150		150	150		150	150		150
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.947			0.998			0.928			0.932	
Flt Protected					0.990			0.977			0.976	
Satd. Flow (prot)	0	1764	0	0	1840	0	0	1689	0	0	1694	0
Flt Permitted					0.990			0.977			0.976	
Satd. Flow (perm)	0	1764	0	0	1840	0	0	1689	0	0	1694	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		390			439			346			362	
Travel Time (s)		8.9			10.0			9.4			9.9	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	56	0	0	79	0	0	32	0	0	2	0
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	22.5%											
Analysis Period (min)	15											
ICU Level of Service A												

7: Cannon Street & Griffith Street
2045 Background SAT.syn

Intersection												
Int Delay, s/veh	2.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	31	20	15	57	1	14	0	16	1	0	1
Future Vol, veh/h	0	31	20	15	57	1	14	0	16	1	0	1
Conflicting Peds, #/hr	5	0	5	5	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	34	22	16	62	1	15	0	17	1	0	1
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	68	0	0	61	0	0	150	150	55	159	161	73
Stage 1	-	-	-	-	-	-	50	50	-	100	100	-
Stage 2	-	-	-	-	-	-	100	100	-	59	61	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1533	-	-	1542	-	-	818	742	1012	807	731	989
Stage 1	-	-	-	-	-	-	963	853	-	906	812	-
Stage 2	-	-	-	-	-	-	906	812	-	953	844	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1526	-	-	1535	-	-	802	726	1002	779	716	980
Mov Cap-2 Maneuver	-	-	-	-	-	-	802	726	-	779	716	-
Stage 1	-	-	-	-	-	-	958	849	-	901	799	-
Stage 2	-	-	-	-	-	-	891	799	-	932	840	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			1.5			9.2			9.2		
HCM LOS							A			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	898	1526	-	-	1535	-	-	868				
HCM Lane V/C Ratio	0.036	-	-	-	0.011	-	-	0.003				
HCM Control Delay (s)	9.2	0	-	-	7.4	0	-	9.2				
HCM Lane LOS	A	A	-	-	A	A	-	A				
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0				

8: Griffith Street & Front Street
2045 Background SAT.syn

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	53	3	1	68	3	8	0	0	0	0	4
Future Volume (vph)	6	53	3	1	68	3	8	0	0	0	0	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150	150		150	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.994			0.995						0.865	
Flt Protected		0.995			0.999			0.950				
Satd. Flow (prot)	0	1842	0	0	1852	0	0	1770	0	0	1611	0
Flt Permitted		0.995			0.999			0.950				
Satd. Flow (perm)	0	1842	0	0	1852	0	0	1770	0	0	1611	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		405			390			333			365	
Travel Time (s)		9.2			8.9			9.1			10.0	
Confl. Peds. (#/hr)	5		10	10		5	5		5	5		5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	68	0	0	78	0	0	9	0	0	4	0
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization 22.9%				ICU Level of Service A								
Analysis Period (min) 15												

8: Griffith Street & Front Street
2045 Background SAT.syn

Intersection

Int Delay, s/veh 1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	53	3	1	68	3	8	0	0	0	0	4
Future Vol, veh/h	6	53	3	1	68	3	8	0	0	0	0	4
Conflicting Peds, #/hr	5	0	10	10	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	58	3	1	74	3	9	0	0	0	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	82	0	0	71	0	0	169	168	75	162	168	86
Stage 1	-	-	-	-	-	-	84	84	-	83	83	-
Stage 2	-	-	-	-	-	-	85	84	-	79	85	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1515	-	-	1529	-	-	795	725	986	803	725	973
Stage 1	-	-	-	-	-	-	924	825	-	925	826	-
Stage 2	-	-	-	-	-	-	923	825	-	930	824	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1508	-	-	1514	-	-	777	710	972	792	710	964
Mov Cap-2 Maneuver	-	-	-	-	-	-	777	710	-	792	710	-
Stage 1	-	-	-	-	-	-	911	813	-	916	821	-
Stage 2	-	-	-	-	-	-	914	820	-	921	812	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0.1	9.7	8.8
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	777	1508	-	-	1514	-	-	964
HCM Lane V/C Ratio	0.011	0.004	-	-	0.001	-	-	0.005
HCM Control Delay (s)	9.7	7.4	0	-	7.4	0	-	8.8
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

9: Main Street & Griffith Street
2045 Background SAT.syn

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	57	27	130	46	14	138
Future Volume (vph)	57	27	130	46	14	138
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.957		0.965			
Flt Protected	0.967					0.995
Satd. Flow (prot)	1724	0	1798	0	0	1853
Flt Permitted	0.967					0.995
Satd. Flow (perm)	1724	0	1798	0	0	1853
Link Speed (mph)	30		30			30
Link Distance (ft)	405		350			1210
Travel Time (s)	9.2		8.0			27.5
Confl. Peds. (#/hr)	6	2		17	17	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	91	0	191	0	0	165
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	31.0%			ICU Level of Service A		
Analysis Period (min)	15					

9: Main Street & Griffith Street
2045 Background SAT.syn

Intersection						
Int Delay, s/veh	2.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	57	27	130	46	14	138
Future Vol, veh/h	57	27	130	46	14	138
Conflicting Peds, #/hr	6	2	0	17	17	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	62	29	141	50	15	150
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	369	185	0	0	208	0
Stage 1	183	-	-	-	-	-
Stage 2	186	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	631	857	-	-	1363	-
Stage 1	848	-	-	-	-	-
Stage 2	846	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	610	842	-	-	1341	-
Mov Cap-2 Maneuver	610	-	-	-	-	-
Stage 1	824	-	-	-	-	-
Stage 2	841	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	11.2	0		0.7		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	669	1341	-	
HCM Lane V/C Ratio	-	-	0.136	0.011	-	
HCM Control Delay (s)	-	-	11.2	7.7	0	
HCM Lane LOS	-	-	B	A	A	
HCM 95th %tile Q(veh)	-	-	0.5	0	-	

10: Front Street & Harper Street
2045 Background SAT.syn

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	4	0	0	9	0	0
Future Volume (vph)	4	0	0	9	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.865					
Flt Protected	0.950					
Satd. Flow (prot)	1770	0	0	1611	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	0	1611	0	0
Link Speed (mph)	25	25		25		
Link Distance (ft)	380	365		210		
Travel Time (s)	10.4	10.0		5.7		
Confl. Peds. (#/hr)	5	132	70		70	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	4	0	0	10	0	0
Sign Control	Free	Free		Free		
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	16.5%			ICU Level of Service A		
Analysis Period (min)	15					

11: Courtesy Road (SH 42) & Harper Street
2045 Background SAT.syn

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				 	 	
Traffic Volume (vph)	0	49	0	878	931	6
Future Volume (vph)	0	49	0	878	931	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.865			0.999	
Flt Protected						
Satd. Flow (prot)	0	1611	0	3539	3536	0
Flt Permitted						
Satd. Flow (perm)	0	1611	0	3539	3536	0
Link Speed (mph)	30			45	45	
Link Distance (ft)	193			369	420	
Travel Time (s)	4.4			5.6	6.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	53	0	954	1019	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	35.9%			ICU Level of Service A		
Analysis Period (min)	15					

11: Courtesy Road (SH 42) & Harper Street
2045 Background SAT.syn

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	
Traffic Vol, veh/h	0	49	0	878	931	6
Future Vol, veh/h	0	49	0	878	931	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	53	0	954	1012	7

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	- 510	- 0	- 0
Stage 1	- -	- -	- -
Stage 2	- -	- -	- -
Critical Hdwy	- 6.94	- -	- -
Critical Hdwy Stg 1	- -	- -	- -
Critical Hdwy Stg 2	- -	- -	- -
Follow-up Hdwy	- 3.32	- -	- -
Pot Cap-1 Maneuver	0 509	0 -	- -
Stage 1	0 -	0 -	- -
Stage 2	0 -	0 -	- -
Platoon blocked, %		- -	- -
Mov Cap-1 Maneuver	- 509	- -	- -
Mov Cap-2 Maneuver	- -	- -	- -
Stage 1	- -	- -	- -
Stage 2	- -	- -	- -

Approach	EB	NB	SB
HCM Control Delay, s	12.9	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT EBLn1	SBT	SBR
Capacity (veh/h)	- 509	- -	- -
HCM Lane V/C Ratio	- 0.105	- -	- -
HCM Control Delay (s)	- 12.9	- -	- -
HCM Lane LOS	- B	- -	- -
HCM 95th %tile Q(veh)	- 0.3	- -	- -

1: Main Street & S Boulder Road
2026 Total AM with Front Street Connection.syn

	→	↘	↶	↙	←	↖	↗
Lane Group	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↘	↑↑	↘	↗
Traffic Volume (vph)	936	112	8	79	1210	103	104
Future Volume (vph)	936	112	8	79	1210	103	104
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		120		225		0	115
Storage Lanes		1		1		1	1
Taper Length (ft)				25		0	
Lane Util. Factor	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Ped Bike Factor		0.97		1.00		0.99	0.95
Frt		0.850					0.850
Flt Protected				0.950		0.950	
Satd. Flow (prot)	3539	1583	0	1770	3539	1770	1583
Flt Permitted				0.235		0.950	
Satd. Flow (perm)	3539	1531	0	437	3539	1759	1505
Right Turn on Red		Yes					Yes
Satd. Flow (RTOR)		122					113
Link Speed (mph)	35				35	30	
Link Distance (ft)	636				400	1210	
Travel Time (s)	12.4				7.8	27.5	
Confl. Peds. (#/hr)		5		5		5	32
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)							
Lane Group Flow (vph)	1017	122	0	95	1315	112	113
Turn Type	NA	Perm	custom	pm+pt	NA	Perm	Perm
Protected Phases	2			1	6		
Permitted Phases		2	1	6		8	8
Detector Phase	2	2	1	1	6	8	8
Switch Phase							
Minimum Initial (s)	35.0	35.0	5.0	5.0	35.0	5.0	5.0
Minimum Split (s)	41.0	41.0	11.0	11.0	41.0	35.0	35.0
Total Split (s)	85.0	85.0	14.0	14.0	99.0	21.0	21.0
Total Split (%)	70.8%	70.8%	11.7%	11.7%	82.5%	17.5%	17.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-1.0	0.0
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	5.0
Lead/Lag	Lag	Lag	Lead	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	None	C-Max	None	None
Act Effect Green (s)	84.8	84.8		97.6	97.6	14.4	13.4
Actuated g/C Ratio	0.71	0.71		0.81	0.81	0.12	0.11
v/c Ratio	0.41	0.11		0.21	0.46	0.53	0.42
Control Delay	8.2	1.4		5.2	5.8	58.4	13.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	8.2	1.4		5.2	5.8	58.4	13.7
LOS	A	A		A	A	E	B
Approach Delay	7.5				5.7	35.9	
Approach LOS	A				A	D	
Queue Length 50th (ft)	166	0		19	148	81	0

1: Main Street & S Boulder Road
 2026 Total AM with Front Street Connection.syn

	→	↘	↶	↙	←	↖	↗
Lane Group	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Queue Length 95th (ft)	212	19		m33	203	140	54
Internal Link Dist (ft)	556				320	1130	
Turn Bay Length (ft)		120		225			115
Base Capacity (vph)	2500	1117		466	2878	249	298
Starvation Cap Reductn	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.41	0.11		0.20	0.46	0.45	0.38

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 23 (19%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.53

Intersection Signal Delay: 8.9

Intersection LOS: A

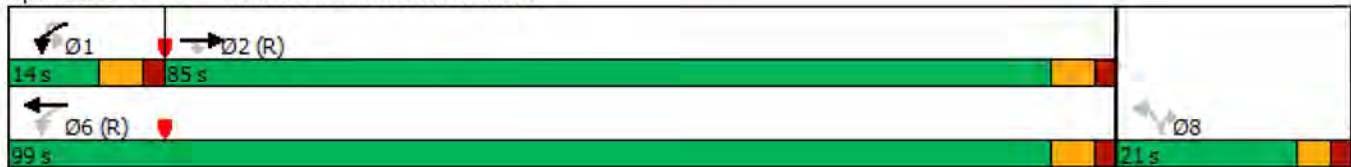
Intersection Capacity Utilization 64.4%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Main Street & S Boulder Road



2: Front Street/Private Access & S Boulder Road
2026 Total AM with Front Street Connection.syn

												
Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↑↑	↗		↘	↑↑				↗		
Traffic Volume (vph)	0	886	36	2	7	1326	5	0	0	22	0	0
Future Volume (vph)	0	886	36	2	7	1326	5	0	0	22	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50		70		0	0		0	0	
Storage Lanes	0		1		1		0	0		1	0	
Taper Length (ft)	25				75			25			25	
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.999				0.865		
Flt Protected					0.950							
Satd. Flow (prot)	0	3539	1583	0	1770	3536	0	0	0	1611	0	0
Flt Permitted					0.950							
Satd. Flow (perm)	0	3539	1583	0	1770	3536	0	0	0	1611	0	0
Link Speed (mph)		35				35			20			20
Link Distance (ft)		400				360			338			476
Travel Time (s)		7.8				7.0			11.5			16.2
Confl. Peds. (#/hr)	10		10	5	10		10	5		5	5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	963	39	0	10	1446	0	0	0	24	0	0
Sign Control		Free				Free			Stop			Stop
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	48.4%											
Analysis Period (min)	15											
	ICU Level of Service A											

2: Front Street/Private Access & S Boulder Road
2026 Total AM with Front Street Connection.syn



Lane Group	SBR
Lane Configurations	7
Traffic Volume (vph)	11
Future Volume (vph)	11
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Ped Bike Factor	
Frt	0.865
Flt Protected	
Satd. Flow (prot)	1611
Flt Permitted	
Satd. Flow (perm)	1611
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	5
Peak Hour Factor	0.92
Shared Lane Traffic (%)	
Lane Group Flow (vph)	12
Sign Control	
Intersection Summary	

2: Front Street/Private Access & S Boulder Road
2026 Total AM with Front Street Connection.syn

Intersection													
Int Delay, s/veh	0.3												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑		↓	↑↑				↑			↑
Traffic Vol, veh/h	0	886	36	2	7	1326	5	0	0	22	0	0	11
Future Vol, veh/h	0	886	36	2	7	1326	5	0	0	22	0	0	11
Conflicting Peds, #/hr	10	0	10	5	10	0	10	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	70	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	963	39	2	8	1441	5	0	0	24	0	0	12
Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	-	0	0	963	1012	0	0	-	-	497	-	-	738
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	6.44	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	2.52	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	351	681	-	-	0	0	519	0	0	360
Stage 1	0	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	0	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-			-	-						
Mov Cap-1 Maneuver	-	-	-	551	551	-	-	-	-	512	-	-	355
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB			
HCM Control Delay, s	0			0.1			12.4			15.5			
HCM LOS							B			C			
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	WBR	SBLn1						
Capacity (veh/h)	512	-	-	551	-	-	355						
HCM Lane V/C Ratio	0.047	-	-	0.018	-	-	0.034						
HCM Control Delay (s)	12.4	-	-	11.6	-	-	15.5						
HCM Lane LOS	B	-	-	B	-	-	C						
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-	-	0.1						

3: Cannon Circle/Private Access & S Boulder Road
2026 Total AM with Front Street Connection.syn

												
Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	6	21	887	11	1	21	1300	8	0	0	32	0
Future Volume (vph)	6	21	887	11	1	21	1300	8	0	0	32	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		90		0		80		0	0		0	0
Storage Lanes		1		0		1		0	0		1	0
Taper Length (ft)		75				80			25			25
Lane Util. Factor	0.95	1.00	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.998				0.999				0.865	
Flt Protected		0.950				0.950						
Satd. Flow (prot)	0	1770	3532	0	0	1770	3536	0	0	0	1611	0
Flt Permitted		0.950				0.950						
Satd. Flow (perm)	0	1770	3532	0	0	1770	3536	0	0	0	1611	0
Link Speed (mph)			35				35			20		
Link Distance (ft)			360				465			339		
Travel Time (s)			7.0				9.1			11.6		
Confl. Peds. (#/hr)	5	10		10	5	10		10	5		5	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	30	976	0	0	24	1422	0	0	0	35	0
Sign Control			Free				Free			Stop		
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	47.7%						ICU Level of Service A					
Analysis Period (min)	15											

3: Cannon Circle/Private Access & S Boulder Road
 2026 Total AM with Front Street Connection.syn



Lane Group	SBT	SBR
Lane Configurations		↗
Traffic Volume (vph)	0	36
Future Volume (vph)	0	36
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		0
Storage Lanes		1
Taper Length (ft)		
Lane Util. Factor	1.00	1.00
Ped Bike Factor		
Frt		0.865
Flt Protected		
Satd. Flow (prot)	0	1611
Flt Permitted		
Satd. Flow (perm)	0	1611
Link Speed (mph)	20	
Link Distance (ft)	431	
Travel Time (s)	14.7	
Confl. Peds. (#/hr)		5
Peak Hour Factor	0.92	0.92
Shared Lane Traffic (%)		
Lane Group Flow (vph)	0	39
Sign Control	Stop	
Intersection Summary		

3: Cannon Circle/Private Access & S Boulder Road
2026 Total AM with Front Street Connection.syn

Intersection															
Int Delay, s/veh	0.7														
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations															
Traffic Vol, veh/h	6	21	887	11	1	21	1300	8	0	0	32	0	0	36	
Future Vol, veh/h	6	21	887	11	1	21	1300	8	0	0	32	0	0	36	
Conflicting Peds, #/hr	5	10	0	10	5	10	0	10	5	0	5	5	0	5	
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	
RT Channelized	-	-	-	None	-	-	-	None	-	-	None	-	-	None	
Storage Length	-	90	-	-	-	80	-	-	-	-	0	-	-	0	
Veh in Median Storage, #	-	-	0	-	-	-	0	-	-	0	-	-	0	-	
Grade, %	-	-	0	-	-	-	0	-	-	0	-	-	0	-	
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92	92	
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Mvmt Flow	7	23	964	12	1	23	1413	9	0	0	35	0	0	39	
Major/Minor	Major1			Major2			Minor1			Minor2					
Conflicting Flow All	1422	1432	0	0	976	986	0	0	-	-	503	-	-	726	
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Critical Hdwy	6.44	4.14	-	-	6.44	4.14	-	-	-	-	6.94	-	-	6.94	
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Follow-up Hdwy	2.52	2.22	-	-	2.52	2.22	-	-	-	-	3.32	-	-	3.32	
Pot Cap-1 Maneuver	177	470	-	-	344	696	-	-	0	0	514	0	0	367	
Stage 1	-	-	-	-	-	-	-	-	0	0	-	0	0	-	
Stage 2	-	-	-	-	-	-	-	-	0	0	-	0	0	-	
Platoon blocked, %			-	-			-	-							
Mov Cap-1 Maneuver	326	326	-	-	655	655	-	-	-	-	507	-	-	362	
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Approach	EB			WB			NB			SB					
HCM Control Delay, s	0.5			0.2			12.6			16.1					
HCM LOS							B			C					
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1							
Capacity (veh/h)	507	326	-	-	655	-	-	362							
HCM Lane V/C Ratio	0.069	0.09	-	-	0.037	-	-	0.108							
HCM Control Delay (s)	12.6	17.1	-	-	10.7	-	-	16.1							
HCM Lane LOS	B	C	-	-	B	-	-	C							
HCM 95th %tile Q(veh)	0.2	0.3	-	-	0.1	-	-	0.4							

4: Courtesy Road (SH 42) & S Boulder Road
2026 Total AM with Front Street Connection.syn

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL
Lane Configurations		RT	LT		RT	LT	RT	RT	LT			RT
Traffic Volume (vph)	13	312	429	135	261	683	153	177	467	198	5	128
Future Volume (vph)	13	312	429	135	261	683	153	177	467	198	5	128
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		150		0	225		270	0		0		185
Storage Lanes		2		0	2		1	2		0		2
Taper Length (ft)		80			135			70				155
Lane Util. Factor	0.95	0.97	0.95	0.95	0.97	0.95	1.00	0.97	0.95	0.95	0.95	0.97
Ped Bike Factor			1.00				0.98		0.99			
Frt			0.964				0.850		0.955			
Flt Protected		0.950			0.950			0.950				0.950
Satd. Flow (prot)	0	3433	3397	0	3433	3539	1583	3433	3363	0	0	3433
Flt Permitted		0.370			0.950			0.950				0.571
Satd. Flow (perm)	0	1337	3397	0	3433	3539	1546	3433	3363	0	0	2063
Right Turn on Red				Yes			Yes			Yes		
Satd. Flow (RTOR)			35				182		59			
Link Speed (mph)			35			35			45			
Link Distance (ft)			465			1815			418			
Travel Time (s)			9.1			35.4			6.3			
Confl. Peds. (#/hr)				5			10			5		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	353	613	0	284	742	166	192	723	0	0	144
Turn Type	custom	Prot	NA		Prot	NA	Perm	Prot	NA		custom	Prot
Protected Phases		5	2		1	6		3	8			7
Permitted Phases	5						6				7	
Detector Phase	5	5	2		1	6	6	3	8		7	7
Switch Phase												
Minimum Initial (s)	5.0	5.0	10.0		5.0	10.0	10.0	5.0	6.0		5.0	5.0
Minimum Split (s)	10.0	10.0	37.0		10.0	37.0	37.0	10.0	40.0		10.0	10.0
Total Split (s)	20.0	20.0	41.0		20.0	41.0	41.0	16.0	47.0		12.0	12.0
Total Split (%)	16.7%	16.7%	34.2%		16.7%	34.2%	34.2%	13.3%	39.2%		10.0%	10.0%
Yellow Time (s)	3.0	3.0	4.0		3.0	4.0	4.0	3.0	4.0		3.0	3.0
All-Red Time (s)	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0
Total Lost Time (s)		5.0	6.0		5.0	6.0	6.0	5.0	6.0			5.0
Lead/Lag	Lag	Lag	Lag		Lead	Lead	Lead	Lead	Lead		Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	None	C-Max		None	Max	Max	None	Max		None	None
Act Effect Green (s)		15.0	36.1		13.9	35.0	35.0	10.5	41.0			7.0
Actuated g/C Ratio		0.12	0.30		0.12	0.29	0.29	0.09	0.34			0.06
v/c Ratio		2.11	0.59		0.71	0.72	0.29	0.64	0.61			1.20
Control Delay		545.3	30.5		61.5	42.8	4.9	63.3	32.6			193.3
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0
Total Delay		545.3	30.5		61.5	42.8	4.9	63.3	32.6			193.3
LOS		F	C		E	D	A	E	C			F
Approach Delay			218.6			42.0			39.0			
Approach LOS			F			D			D			
Queue Length 50th (ft)		~226	202		109	271	0	75	224			~69

4: Courtesy Road (SH 42) & S Boulder Road
2026 Total AM with Front Street Connection.syn



Lane Group	SBT	SBR
Lane Configurations	↑↑	↑
Traffic Volume (vph)	578	444
Future Volume (vph)	578	444
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		270
Storage Lanes		1
Taper Length (ft)		
Lane Util. Factor	0.95	1.00
Ped Bike Factor		0.98
Frt		0.850
Flt Protected		
Satd. Flow (prot)	3539	1583
Flt Permitted		
Satd. Flow (perm)	3539	1555
Right Turn on Red		Yes
Satd. Flow (RTOR)		272
Link Speed (mph)	45	
Link Distance (ft)	1337	
Travel Time (s)	20.3	
Confl. Peds. (#/hr)		5
Peak Hour Factor	0.92	0.92
Shared Lane Traffic (%)		
Lane Group Flow (vph)	628	483
Turn Type	NA	Perm
Protected Phases	4	
Permitted Phases		4
Detector Phase	4	4
Switch Phase		
Minimum Initial (s)	6.0	6.0
Minimum Split (s)	36.0	36.0
Total Split (s)	43.0	43.0
Total Split (%)	35.8%	35.8%
Yellow Time (s)	4.0	4.0
All-Red Time (s)	2.0	2.0
Lost Time Adjust (s)	0.0	0.0
Total Lost Time (s)	6.0	6.0
Lead/Lag	Lag	Lag
Lead-Lag Optimize?		
Recall Mode	Max	Max
Act Effct Green (s)	37.5	37.5
Actuated g/C Ratio	0.31	0.31
v/c Ratio	0.57	0.72
Control Delay	37.0	22.3
Queue Delay	0.0	0.0
Total Delay	37.0	22.3
LOS	D	C
Approach Delay	49.3	
Approach LOS	D	
Queue Length 50th (ft)	214	147

4: Courtesy Road (SH 42) & S Boulder Road
2026 Total AM with Front Street Connection.syn

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL
Queue Length 95th (ft)		#326	267		156	342	41	114	289			#138
Internal Link Dist (ft)			385			1735			338			
Turn Bay Length (ft)		150			225		270					185
Base Capacity (vph)		167	1045		429	1032	579	314	1187			120
Starvation Cap Reductn		0	0		0	0	0	0	0			0
Spillback Cap Reductn		0	0		0	0	0	0	0			0
Storage Cap Reductn		0	0		0	0	0	0	0			0
Reduced v/c Ratio		2.11	0.59		0.66	0.72	0.29	0.61	0.61			1.20

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT, Start of Yellow, Master Intersection

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 2.11

Intersection Signal Delay: 82.9

Intersection LOS: F

Intersection Capacity Utilization 86.5%

ICU Level of Service E

Analysis Period (min) 15

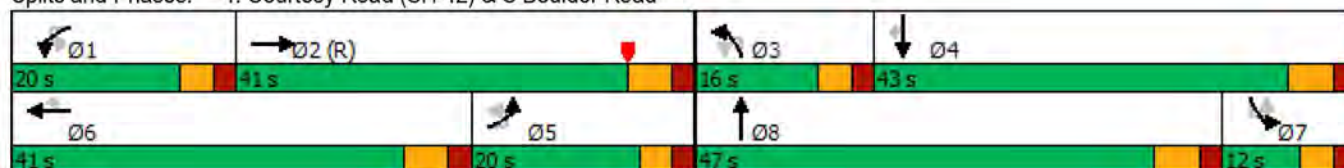
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 4: Courtesy Road (SH 42) & S Boulder Road



4: Courtesy Road (SH 42) & S Boulder Road
2026 Total AM with Front Street Connection.syn



Lane Group	SBT	SBR
Queue Length 95th (ft)	276	282
Internal Link Dist (ft)	1257	
Turn Bay Length (ft)		270
Base Capacity (vph)	1107	673
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.57	0.72
Intersection Summary		

5: Courtesy Road (SH 42) & Cannon Circle
 2026 Total AM with Front Street Connection.syn

							
Lane Group	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	1	17	1	10	821	966	1
Future Volume (vph)	1	17	1	10	821	966	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		140			0
Storage Lanes	0	1		1			0
Taper Length (ft)	25			100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Ped Bike Factor							
Frt		0.865					
Flt Protected	0.950			0.950			
Satd. Flow (prot)	0	1611	0	1770	1863	3539	0
Flt Permitted	0.950			0.950			
Satd. Flow (perm)	0	1611	0	1770	1863	3539	0
Link Speed (mph)	20				45	45	
Link Distance (ft)	418				420	418	
Travel Time (s)	14.3				6.4	6.3	
Confl. Peds. (#/hr)				5			5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)							
Lane Group Flow (vph)	1	18	0	12	892	1051	0
Sign Control	Stop				Free	Free	
Intersection Summary							
Area Type:	Other						
Control Type:	Unsignalized						
Intersection Capacity Utilization Err%	ICU Level of Service H						
Analysis Period (min)	15						

5: Courtesy Road (SH 42) & Cannon Circle
2026 Total AM with Front Street Connection.syn

Intersection							
Int Delay, s/veh	0.2						
Movement	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Vol, veh/h	1	17	1	10	821	966	1
Future Vol, veh/h	1	17	1	10	821	966	1
Conflicting Peds, #/hr	0	0	0	5	0	0	5
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	None
Storage Length	-	0	-	140	-	-	-
Veh in Median Storage, #	0	-	-	-	0	0	-
Grade, %	0	-	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	1	18	1	11	892	1050	1
Major/Minor	Minor2	Major1		Major2			
Conflicting Flow All	1970	531	1051	1056	0	-	0
Stage 1	1056	-	-	-	-	-	-
Stage 2	914	-	-	-	-	-	-
Critical Hdwy	6.63	6.93	6.93	4.13	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	3.119	2.219	-	-	-
Pot Cap-1 Maneuver	61	494	233	657	-	-	-
Stage 1	297	-	-	-	-	-	-
Stage 2	390	-	-	-	-	-	-
Platoon blocked, %					-	-	-
Mov Cap-1 Maneuver	59	492	557	557	-	-	-
Mov Cap-2 Maneuver	59	-	-	-	-	-	-
Stage 1	289	-	-	-	-	-	-
Stage 2	388	-	-	-	-	-	-
Approach	EB	NB		SB			
HCM Control Delay, s	12.6	0.2		0			
HCM LOS	B						
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR		
Capacity (veh/h)	557	-	492	-	-		
HCM Lane V/C Ratio	0.021	-	0.038	-	-		
HCM Control Delay (s)	11.6	-	12.6	-	-		
HCM Lane LOS	B	-	B	-	-		
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-		

6: Courtesy Road (SH 42) & Griffith Street/Sports Complex Access
2026 Total AM with Front Street Connection.syn

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	0	72	0	0	0	40	812	4	5	905	83
Future Volume (vph)	19	0	72	0	0	0	40	812	4	5	905	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		60	225		0	500		0
Storage Lanes	0		0	0		1	1		0	1		1
Taper Length (ft)	0			0			25			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.894						0.999				0.850
Flt Protected		0.990					0.950			0.950		
Satd. Flow (prot)	0	1649	0	0	1863	1863	1770	1861	0	1770	1863	1583
Flt Permitted		0.990					0.950			0.950		
Satd. Flow (perm)	0	1649	0	0	1863	1863	1770	1861	0	1770	1863	1583
Link Speed (mph)		30			20			45			45	
Link Distance (ft)		439			281			380			369	
Travel Time (s)		10.0			9.6			5.8			5.6	
Confl. Bikes (#/hr)												5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	99	0	0	0	0	43	887	0	5	984	90
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	59.8%						ICU Level of Service B					
Analysis Period (min)	15											

6: Courtesy Road (SH 42) & Griffith Street/Sports Complex Access
2026 Total AM with Front Street Connection.syn

Intersection												
Int Delay, s/veh	4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕	↕	↕		↕	↕	↕
Traffic Vol, veh/h	19	0	72	0	0	0	40	812	4	5	905	83
Future Vol, veh/h	19	0	72	0	0	0	40	812	4	5	905	83
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	60	225	-	-	500	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	21	0	78	0	0	0	43	883	4	5	984	90
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1965	1967	984	2049	2055	885	1074	0	0	887	0	0
Stage 1	994	994	-	971	971	-	-	-	-	-	-	-
Stage 2	971	973	-	1078	1084	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	47	63	301	41	55	344	649	-	-	763	-	-
Stage 1	295	323	-	304	331	-	-	-	-	-	-	-
Stage 2	304	330	-	265	293	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	44	58	301	29	51	344	649	-	-	763	-	-
Mov Cap-2 Maneuver	44	58	-	29	51	-	-	-	-	-	-	-
Stage 1	276	321	-	284	309	-	-	-	-	-	-	-
Stage 2	284	308	-	195	291	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	81.6		0		0.5		0					
HCM LOS	F		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR					
Capacity (veh/h)	649	-	-	136	-	-	763	-	-			
HCM Lane V/C Ratio	0.067	-	-	0.727	-	-	0.007	-	-			
HCM Control Delay (s)	10.9	-	-	81.6	0	0	9.8	-	-			
HCM Lane LOS	B	-	-	F	A	A	A	-	-			
HCM 95th %tile Q(veh)	0.2	-	-	4.2	-	-	0	-	-			

7: Cannon Street & Griffith Street
2026 Total AM with Front Street Connection.syn

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	79	13	14	93	2	32	0	9	0	0	1
Future Volume (vph)	0	79	13	14	93	2	32	0	9	0	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150	150		150	150		150	150		150
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.981			0.998			0.970			0.865	
Flt Protected					0.994			0.963				
Satd. Flow (prot)	0	1827	0	0	1848	0	0	1740	0	0	1611	0
Flt Permitted					0.994			0.963				
Satd. Flow (perm)	0	1827	0	0	1848	0	0	1740	0	0	1611	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		390			439			346			362	
Travel Time (s)		8.9			10.0			9.4			9.9	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	100	0	0	118	0	0	45	0	0	1	0
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	29.0%											
Analysis Period (min)	15											
ICU Level of Service A												

7: Cannon Street & Griffith Street
2026 Total AM with Front Street Connection.syn

Intersection												
Int Delay, s/veh	2.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	79	13	14	93	2	32	0	9	0	0	1
Future Vol, veh/h	0	79	13	14	93	2	32	0	9	0	0	1
Conflicting Peds, #/hr	5	0	5	5	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	86	14	15	101	2	35	0	10	0	0	1
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	108	0	0	105	0	0	236	236	103	240	242	112
Stage 1	-	-	-	-	-	-	98	98	-	137	137	-
Stage 2	-	-	-	-	-	-	138	138	-	103	105	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1483	-	-	1486	-	-	718	665	952	714	660	941
Stage 1	-	-	-	-	-	-	908	814	-	866	783	-
Stage 2	-	-	-	-	-	-	865	782	-	903	808	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1476	-	-	1479	-	-	704	651	943	694	646	932
Mov Cap-2 Maneuver	-	-	-	-	-	-	704	651	-	694	646	-
Stage 1	-	-	-	-	-	-	903	810	-	862	770	-
Stage 2	-	-	-	-	-	-	850	769	-	889	804	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			1			10.1			8.9		
HCM LOS							B			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	745	1476	-	-	1479	-	-	932				
HCM Lane V/C Ratio	0.06	-	-	-	0.01	-	-	0.001				
HCM Control Delay (s)	10.1	0	-	-	7.5	0	-	8.9				
HCM Lane LOS	B	A	-	-	A	A	-	A				
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0				

8: Griffith Street & Front Street
2026 Total AM with Front Street Connection.syn

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	75	2	3	140	4	6	0	3	19	0	45
Future Volume (vph)	6	75	2	3	140	4	6	0	3	19	0	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150	150		150	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.997			0.997			0.959			0.905	
Flt Protected		0.996			0.999			0.966			0.985	
Satd. Flow (prot)	0	1850	0	0	1855	0	0	1726	0	0	1660	0
Flt Permitted		0.996			0.999			0.966			0.985	
Satd. Flow (perm)	0	1850	0	0	1855	0	0	1726	0	0	1660	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		405			390			333			365	
Travel Time (s)		9.2			8.9			9.1			10.0	
Confl. Peds. (#/hr)	5		10	10		5	5		5	5		5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	91	0	0	159	0	0	10	0	0	70	0
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	21.4%						ICU Level of Service A					
Analysis Period (min)	15											

8: Griffith Street & Front Street
2026 Total AM with Front Street Connection.syn

Intersection												
Int Delay, s/veh	2.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	75	2	3	140	4	6	0	3	19	0	45
Future Vol, veh/h	6	75	2	3	140	4	6	0	3	19	0	45
Conflicting Peds, #/hr	5	0	10	10	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	82	2	3	152	4	7	0	3	21	0	49
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	161	0	0	94	0	0	297	274	98	269	273	164
Stage 1	-	-	-	-	-	-	107	107	-	165	165	-
Stage 2	-	-	-	-	-	-	190	167	-	104	108	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1418	-	-	1500	-	-	655	633	958	684	634	881
Stage 1	-	-	-	-	-	-	898	807	-	837	762	-
Stage 2	-	-	-	-	-	-	812	760	-	902	806	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1411	-	-	1486	-	-	607	619	944	672	620	873
Mov Cap-2 Maneuver	-	-	-	-	-	-	607	619	-	672	620	-
Stage 1	-	-	-	-	-	-	885	795	-	829	757	-
Stage 2	-	-	-	-	-	-	761	755	-	890	794	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.5			0.2			10.3			9.9		
HCM LOS							B			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	689	1411	-	-	1486	-	-	802				
HCM Lane V/C Ratio	0.014	0.005	-	-	0.002	-	-	0.087				
HCM Control Delay (s)	10.3	7.6	0	-	7.4	0	-	9.9				
HCM Lane LOS	B	A	A	-	A	A	-	A				
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.3				

9: Main Street & Griffith Street
2026 Total AM with Front Street Connection.syn

								
Lane Group	WBU	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	1	59	95	1	160	64	21	117
Future Volume (vph)	1	59	95	1	160	64	21	117
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor								
Frt		0.917			0.961			
Flt Protected		0.981						0.992
Satd. Flow (prot)	0	1676	0	0	1790	0	0	1848
Flt Permitted		0.981						0.992
Satd. Flow (perm)	0	1676	0	0	1790	0	0	1848
Link Speed (mph)		30			30			30
Link Distance (ft)		405			350			1210
Travel Time (s)		9.2			8.0			27.5
Confl. Peds. (#/hr)	70	1	132	1		70	70	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)								
Lane Group Flow (vph)	0	168	0	0	245	0	0	150
Sign Control		Stop			Free			Free
Intersection Summary								
Area Type:	Other							
Control Type:	Unsignalized							
Intersection Capacity Utilization	42.2%				ICU Level of Service A			
Analysis Period (min)	15							

9: Main Street & Griffith Street
2026 Total AM with Front Street Connection.syn

Intersection								
Int Delay, s/veh	4.9							
Movement	WBU	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations								
Traffic Vol, veh/h	1	59	95	1	160	64	21	117
Future Vol, veh/h	1	59	95	1	160	64	21	117
Conflicting Peds, #/hr	70	1	132	1	0	70	70	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	None
Storage Length	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0
Grade, %	-	0	-	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2
Mvmt Flow	1	64	103	1	174	70	23	127
Major/Minor	Minor1	Major1			Major2			
Conflicting Flow All	0	453	411	-	0	0	314	0
Stage 1	0	279	-	-	-	-	-	-
Stage 2	0	174	-	-	-	-	-	-
Critical Hdwy	-	6.42	6.22	-	-	-	4.12	-
Critical Hdwy Stg 1	-	5.42	-	-	-	-	-	-
Critical Hdwy Stg 2	-	5.42	-	-	-	-	-	-
Follow-up Hdwy	-	3.518	3.318	-	-	-	2.218	-
Pot Cap-1 Maneuver	0	565	641	-	-	-	1246	-
Stage 1	0	768	-	-	-	-	-	-
Stage 2	0	856	-	-	-	-	-	-
Platoon blocked, %	-				-	-		-
Mov Cap-1 Maneuver	0	515	523	-	-	-	1163	-
Mov Cap-2 Maneuver	0	515	-	-	-	-	-	-
Stage 1	0	701	-	-	-	-	-	-
Stage 2	0	855	-	-	-	-	-	-
Approach	WB	NB			SB			
HCM Control Delay, s	15.2				1.2			
HCM LOS	C							
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT				
Capacity (veh/h)	-	-	520	1163				
HCM Lane V/C Ratio	-	-	0.322	0.02				
HCM Control Delay (s)	-	-	15.2	8.2	0			
HCM Lane LOS	-	-	C	A	A			
HCM 95th %tile Q(veh)	-	-	1.4	0.1				

10: Front Street & Harper Street
 2026 Total AM with Front Street Connection.syn

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	6	0	7	3	0	58
Future Volume (vph)	6	0	7	3	0	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.963			
Flt Protected	0.950					
Satd. Flow (prot)	1770	0	1794	0	0	1863
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	1794	0	0	1863
Link Speed (mph)	25		25			25
Link Distance (ft)	380		365			210
Travel Time (s)	10.4		10.0			5.7
Confl. Peds. (#/hr)	5	132		70	70	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	7	0	11	0	0	63
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	32.2%			ICU Level of Service A		
Analysis Period (min)	15					

10: Front Street & Harper Street
2026 Total AM with Front Street Connection.syn

Intersection

Int Delay, s/veh 0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	0	7	3	0	58
Future Vol, veh/h	6	0	7	3	0	58
Conflicting Peds, #/hr	5	132	0	70	70	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	0	8	3	0	63

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	148	212	0
Stage 1	80	-	-
Stage 2	68	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	844	828	-
Stage 1	943	-	-
Stage 2	955	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	783	676	-
Mov Cap-2 Maneuver	783	-	-
Stage 1	880	-	-
Stage 2	950	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.6	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	783	1416
HCM Lane V/C Ratio	-	-	0.008	-
HCM Control Delay (s)	-	-	9.6	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

11: Courtesy Road (SH 42) & Harper Street
2026 Total AM with Front Street Connection.syn

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	7	12	7	787	946	2
Future Volume (vph)	7	12	7	787	946	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95
Frt	0.916					
Flt Protected	0.981					
Satd. Flow (prot)	1674	0	0	1863	3539	0
Flt Permitted	0.981					
Satd. Flow (perm)	1674	0	0	1863	3539	0
Link Speed (mph)	30			45	45	
Link Distance (ft)	257			369	420	
Travel Time (s)	5.8			5.6	6.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	21	0	0	863	1030	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	57.0%			ICU Level of Service B		
Analysis Period (min)	15					

11: Courtesy Road (SH 42) & Harper Street
2026 Total AM with Front Street Connection.syn

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔			↕	↕	
Traffic Vol, veh/h	7	12	7	787	946	2
Future Vol, veh/h	7	12	7	787	946	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	13	8	855	1028	2
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1900	515	1030	0	-	0
Stage 1	1029	-	-	-	-	-
Stage 2	871	-	-	-	-	-
Critical Hdwy	6.63	6.93	4.13	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	68	506	672	-	-	-
Stage 1	307	-	-	-	-	-
Stage 2	408	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	66	506	672	-	-	-
Mov Cap-2 Maneuver	66	-	-	-	-	-
Stage 1	300	-	-	-	-	-
Stage 2	408	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	33.7	0.1		0		
HCM LOS	D					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	672	-	146	-	-	
HCM Lane V/C Ratio	0.011	-	0.141	-	-	
HCM Control Delay (s)	10.4	0	33.7	-	-	
HCM Lane LOS	B	A	D	-	-	
HCM 95th %tile Q(veh)	0	-	0.5	-	-	

1: Main Street & S Boulder Road
2026 Total PM with Front Street Connection.syn

	→	↘	↶	↙	←	↖	↗
Lane Group	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↘	↑↑	↘	↗
Traffic Volume (vph)	1302	106	21	76	1016	111	178
Future Volume (vph)	1302	106	21	76	1016	111	178
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		120		225		0	115
Storage Lanes		1		1		1	1
Taper Length (ft)				25		0	
Lane Util. Factor	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Ped Bike Factor		0.97				0.99	0.94
Frt		0.850					0.850
Flt Protected				0.950		0.950	
Satd. Flow (prot)	3539	1583	0	1770	3539	1770	1583
Flt Permitted				0.137		0.950	
Satd. Flow (perm)	3539	1531	0	255	3539	1759	1484
Right Turn on Red		Yes					Yes
Satd. Flow (RTOR)		83					128
Link Speed (mph)	35				35	30	
Link Distance (ft)	636				400	1210	
Travel Time (s)	12.4				7.8	27.5	
Confl. Peds. (#/hr)		5		5		5	43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)							
Lane Group Flow (vph)	1415	115	0	106	1104	121	193
Turn Type	NA	Perm	custom	pm+pt	NA	Perm	Perm
Protected Phases	2			1	6		
Permitted Phases		2	1	6		8	8
Detector Phase	2	2	1	1	6	8	8
Switch Phase							
Minimum Initial (s)	35.0	35.0	5.0	5.0	35.0	5.0	5.0
Minimum Split (s)	41.0	41.0	11.0	11.0	41.0	35.0	35.0
Total Split (s)	85.0	85.0	14.0	14.0	99.0	21.0	21.0
Total Split (%)	70.8%	70.8%	11.7%	11.7%	82.5%	17.5%	17.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-1.0	0.0
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	5.0
Lead/Lag	Lag	Lag	Lead	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	None	C-Max	None	None
Act Effct Green (s)	85.1	85.1		98.0	98.0	14.0	13.0
Actuated g/C Ratio	0.71	0.71		0.82	0.82	0.12	0.11
v/c Ratio	0.56	0.10		0.33	0.38	0.59	0.70
Control Delay	10.0	2.5		9.3	6.2	61.8	32.8
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	10.0	2.5		9.3	6.2	61.8	32.8
LOS	A	A		A	A	E	C
Approach Delay	9.4				6.4	44.0	
Approach LOS	A				A	D	
Queue Length 50th (ft)	253	7		29	142	90	48

1: Main Street & S Boulder Road
 2026 Total PM with Front Street Connection.syn

	→	↘	↶	↙	←	↖	↗
Lane Group	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Queue Length 95th (ft)	344	27		m48	m192	150	127
Internal Link Dist (ft)	556				320	1130	
Turn Bay Length (ft)		120		225			115
Base Capacity (vph)	2509	1109		334	2890	249	308
Starvation Cap Reductn	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.56	0.10		0.32	0.38	0.49	0.63

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 22 (18%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 11.8

Intersection LOS: B

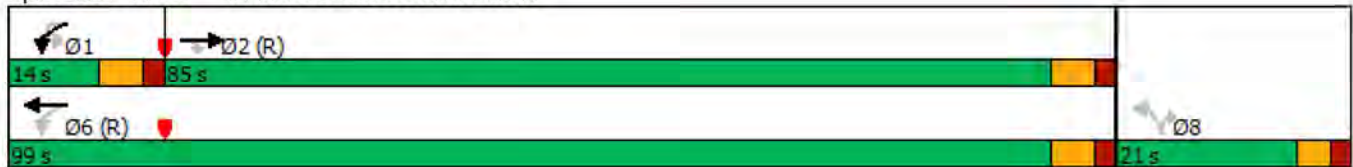
Intersection Capacity Utilization 74.7%

ICU Level of Service D

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Main Street & S Boulder Road



2: Front Street/Private Access & S Boulder Road
2026 Total PM with Front Street Connection.syn

												
Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↑↑	↗		↘	↑↑				↗		
Traffic Volume (vph)	0	1408	65	4	16	1109	5	0	0	29	0	0
Future Volume (vph)	0	1408	65	4	16	1109	5	0	0	29	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50		70		0	0		0	0	
Storage Lanes	0		1		1		0	0		1	0	
Taper Length (ft)	25				75			25			25	
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.999				0.865		
Flt Protected					0.950							
Satd. Flow (prot)	0	3539	1583	0	1770	3536	0	0	0	1611	0	0
Flt Permitted					0.950							
Satd. Flow (perm)	0	3539	1583	0	1770	3536	0	0	0	1611	0	0
Link Speed (mph)		35				35			20			20
Link Distance (ft)		400				360			338			476
Travel Time (s)		7.8				7.0			11.5			16.2
Confl. Peds. (#/hr)	10		10	5	10		10	5		5	5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1530	71	0	21	1210	0	0	0	32	0	0
Sign Control		Free				Free			Stop			Stop
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	50.5%											
Analysis Period (min)	15											
	ICU Level of Service A											

2: Front Street/Private Access & S Boulder Road
2026 Total PM with Front Street Connection.syn



Lane Group	SBR
Lane Configurations	7
Traffic Volume (vph)	5
Future Volume (vph)	5
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Ped Bike Factor	
Frt	0.865
Flt Protected	
Satd. Flow (prot)	1611
Flt Permitted	
Satd. Flow (perm)	1611
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	5
Peak Hour Factor	0.92
Shared Lane Traffic (%)	
Lane Group Flow (vph)	5
Sign Control	
Intersection Summary	

2: Front Street/Private Access & S Boulder Road
2026 Total PM with Front Street Connection.syn

Intersection													
Int Delay, s/veh	0.3												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑		↓	↑↑				↑			↑
Traffic Vol, veh/h	0	1408	65	4	16	1109	5	0	0	29	0	0	5
Future Vol, veh/h	0	1408	65	4	16	1109	5	0	0	29	0	0	5
Conflicting Peds, #/hr	10	0	10	5	10	0	10	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	70	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1530	71	4	17	1205	5	0	0	32	0	0	5
Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	-	0	0	1530	1611	0	0	-	-	780	-	-	620
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	6.44	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	2.52	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	151	401	-	-	0	0	338	0	0	431
Stage 1	0	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	0	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-			-	-						
Mov Cap-1 Maneuver	-	-	-	289	289	-	-	-	-	333	-	-	425
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB			
HCM Control Delay, s	0			0.3			16.9			13.6			
HCM LOS							C			B			
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	WBR	SBLn1						
Capacity (veh/h)	333	-	-	289	-	-	425						
HCM Lane V/C Ratio	0.095	-	-	0.075	-	-	0.013						
HCM Control Delay (s)	16.9	-	-	18.5	-	-	13.6						
HCM Lane LOS	C	-	-	C	-	-	B						
HCM 95th %tile Q(veh)	0.3	-	-	0.2	-	-	0						

3: Cannon Circle/Private Access & S Boulder Road
2026 Total PM with Front Street Connection.syn

												
Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	23	48	1423	49	2	50	1114	12	0	0	58	0
Future Volume (vph)	23	48	1423	49	2	50	1114	12	0	0	58	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		90		0		80		0	0		0	0
Storage Lanes		1		0		1		0	0		1	0
Taper Length (ft)		75				80			25			25
Lane Util. Factor	0.95	1.00	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.995				0.998				0.865	
Flt Protected		0.950				0.950						
Satd. Flow (prot)	0	1770	3522	0	0	1770	3532	0	0	0	1611	0
Flt Permitted		0.950				0.950						
Satd. Flow (perm)	0	1770	3522	0	0	1770	3532	0	0	0	1611	0
Link Speed (mph)			35				35			20		
Link Distance (ft)			360				465			339		
Travel Time (s)			7.0				9.1			11.6		
Confl. Peds. (#/hr)	5	10		10	5	10		10	5		5	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	77	1600	0	0	56	1224	0	0	0	63	0
Sign Control			Free				Free			Stop		
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	59.8%						ICU Level of Service B					
Analysis Period (min)	15											

3: Cannon Circle/Private Access & S Boulder Road
 2026 Total PM with Front Street Connection.syn



Lane Group	SBT	SBR
Lane Configurations		↗
Traffic Volume (vph)	0	66
Future Volume (vph)	0	66
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		0
Storage Lanes		1
Taper Length (ft)		
Lane Util. Factor	1.00	1.00
Ped Bike Factor		
Frt		0.865
Flt Protected		
Satd. Flow (prot)	0	1611
Flt Permitted		
Satd. Flow (perm)	0	1611
Link Speed (mph)	20	
Link Distance (ft)	431	
Travel Time (s)	14.7	
Confl. Peds. (#/hr)		5
Peak Hour Factor	0.92	0.92
Shared Lane Traffic (%)		
Lane Group Flow (vph)	0	72
Sign Control	Stop	
Intersection Summary		

3: Cannon Circle/Private Access & S Boulder Road
2026 Total PM with Front Street Connection.syn

Intersection														
Int Delay, s/veh	1.5													
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Vol, veh/h	23	48	1423	49	2	50	1114	12	0	0	58	0	0	66
Future Vol, veh/h	23	48	1423	49	2	50	1114	12	0	0	58	0	0	66
Conflicting Peds, #/hr	5	10	0	10	5	10	0	10	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	-	90	-	-	-	80	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	25	52	1547	53	2	54	1211	13	0	0	63	0	0	72
Major/Minor	Major1			Major2				Minor1			Minor2			
Conflicting Flow All	1224	1234	0	0	1600	1610	0	0	-	-	815	-	-	627
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	6.44	4.14	-	-	6.44	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.52	2.22	-	-	2.52	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	238	560	-	-	136	402	-	-	0	0	321	0	0	426
Stage 1	-	-	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %			-	-			-	-						
Mov Cap-1 Maneuver	353	353	-	-	362	362	-	-	-	-	316	-	-	420
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB				WB				NB			SB		
HCM Control Delay, s	0.8				0.7				19.2			15.3		
HCM LOS									C			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1						
Capacity (veh/h)	316	353	-	-	362	-	-	420						
HCM Lane V/C Ratio	0.2	0.219	-	-	0.156	-	-	0.171						
HCM Control Delay (s)	19.2	18	-	-	16.8	-	-	15.3						
HCM Lane LOS	C	C	-	-	C	-	-	C						
HCM 95th %tile Q(veh)	0.7	0.8	-	-	0.5	-	-	0.6						

4: Courtesy Road (SH 42) & S Boulder Road
2026 Total PM with Front Street Connection.syn

Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU
Lane Configurations		↔↔	↕↕		↔↔	↕↕	↕		↔↔	↕↕		
Traffic Volume (vph)	22	591	751	146	355	652	202	1	132	709	255	9
Future Volume (vph)	22	591	751	146	355	652	202	1	132	709	255	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		150		0	225		270		0		0	
Storage Lanes		2		0	2		1		2		0	
Taper Length (ft)		80			135				70			
Lane Util. Factor	0.95	0.97	0.95	0.95	0.97	0.95	1.00	0.95	0.97	0.95	0.95	0.95
Ped Bike Factor			1.00				0.98			1.00		
Frt			0.976				0.850			0.960		
Flt Protected		0.950			0.950				0.950			
Satd. Flow (prot)	0	3433	3444	0	3433	3539	1583	0	3433	3382	0	0
Flt Permitted		0.382			0.950				0.308			
Satd. Flow (perm)	0	1380	3444	0	3433	3539	1546	0	1113	3382	0	0
Right Turn on Red				Yes			Yes				Yes	
Satd. Flow (RTOR)			19				210			43		
Link Speed (mph)			35			35				45		
Link Distance (ft)			465			1815				418		
Travel Time (s)			9.1			35.4				6.3		
Confl. Peds. (#/hr)				5			10				5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	666	975	0	386	709	220	0	144	1048	0	0
Turn Type	custom	Prot	NA		Prot	NA	Perm	custom	Prot	NA		custom
Protected Phases		5	2		1	6			3	8		
Permitted Phases	5						6	3				7
Detector Phase	5	5	2		1	6	6	3	3	8		7
Switch Phase												
Minimum Initial (s)	5.0	5.0	10.0		5.0	10.0	10.0	5.0	5.0	6.0		5.0
Minimum Split (s)	10.0	10.0	37.0		10.0	37.0	37.0	10.0	10.0	40.0		10.0
Total Split (s)	24.0	24.0	43.0		18.0	37.0	37.0	18.0	18.0	41.0		18.0
Total Split (%)	20.0%	20.0%	35.8%		15.0%	30.8%	30.8%	15.0%	15.0%	34.2%		15.0%
Yellow Time (s)	3.0	3.0	4.0		3.0	4.0	4.0	3.0	3.0	4.0		3.0
All-Red Time (s)	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0		2.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0		0.0	0.0		
Total Lost Time (s)		5.0	6.0		5.0	6.0	6.0		5.0	6.0		
Lead/Lag	Lag	Lag	Lag		Lead	Lead	Lead	Lead	Lead	Lead		Lag
Lead-Lag Optimize?												
Recall Mode	None	None	C-Max		None	Max	Max	None	None	Max		None
Act Effect Green (s)		19.0	37.0		13.0	31.0	31.0		13.0	35.0		
Actuated g/C Ratio		0.16	0.31		0.11	0.26	0.26		0.11	0.29		
v/c Ratio		3.06	0.91		1.04	0.78	0.40		1.20	1.03		
Control Delay		953.6	45.8		109.4	48.1	7.8		191.3	76.8		
Queue Delay		0.0	0.0		0.0	0.0	0.0		0.0	0.0		
Total Delay		953.6	45.8		109.4	48.1	7.8		191.3	76.8		
LOS		F	D		F	D	A		F	E		
Approach Delay			414.2			59.3				90.6		
Approach LOS			F			E				F		
Queue Length 50th (ft)		~469	376		~165	268	6		~69	~444		

4: Courtesy Road (SH 42) & S Boulder Road
2026 Total PM with Front Street Connection.syn



Lane Group	SBL	SBT	SBR
Lane Configurations	RT	LT	LT
Traffic Volume (vph)	139	536	342
Future Volume (vph)	139	536	342
Ideal Flow (vphpl)	1900	1900	1900
Storage Length (ft)	185		270
Storage Lanes	2		1
Taper Length (ft)	155		
Lane Util. Factor	0.97	0.95	1.00
Ped Bike Factor			0.98
Frt			0.850
Flt Protected	0.950		
Satd. Flow (prot)	3433	3539	1583
Flt Permitted	0.308		
Satd. Flow (perm)	1113	3539	1555
Right Turn on Red			Yes
Satd. Flow (RTOR)			339
Link Speed (mph)		45	
Link Distance (ft)		1337	
Travel Time (s)		20.3	
Confl. Peds. (#/hr)			5
Peak Hour Factor	0.92	0.92	0.92
Shared Lane Traffic (%)			
Lane Group Flow (vph)	161	583	372
Turn Type	Prot	NA	Perm
Protected Phases	7	4	
Permitted Phases			4
Detector Phase	7	4	4
Switch Phase			
Minimum Initial (s)	5.0	6.0	6.0
Minimum Split (s)	10.0	36.0	36.0
Total Split (s)	18.0	41.0	41.0
Total Split (%)	15.0%	34.2%	34.2%
Yellow Time (s)	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0
Lead/Lag	Lag	Lag	Lag
Lead-Lag Optimize?			
Recall Mode	None	Max	Max
Act Effect Green (s)	13.0	35.0	35.0
Actuated g/C Ratio	0.11	0.29	0.29
v/c Ratio	1.34	0.56	0.54
Control Delay	240.4	38.6	8.2
Queue Delay	0.0	0.0	0.0
Total Delay	240.4	38.6	8.2
LOS	F	D	A
Approach Delay		57.6	
Approach LOS		E	
Queue Length 50th (ft)	~83	201	19

4: Courtesy Road (SH 42) & S Boulder Road
2026 Total PM with Front Street Connection.syn

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU
Queue Length 95th (ft)		#590	#499		#267	341	68		#138	#581		
Internal Link Dist (ft)			385			1735				338		
Turn Bay Length (ft)		150			225		270					
Base Capacity (vph)		218	1075		371	914	555		120	1016		
Starvation Cap Reductn		0	0		0	0	0		0	0		
Spillback Cap Reductn		0	0		0	0	0		0	0		
Storage Cap Reductn		0	0		0	0	0		0	0		
Reduced v/c Ratio		3.06	0.91		1.04	0.78	0.40		1.20	1.03		

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT, Start of Yellow, Master Intersection

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 3.06

Intersection Signal Delay: 176.7

Intersection LOS: F

Intersection Capacity Utilization 94.2%

ICU Level of Service F

Analysis Period (min) 15

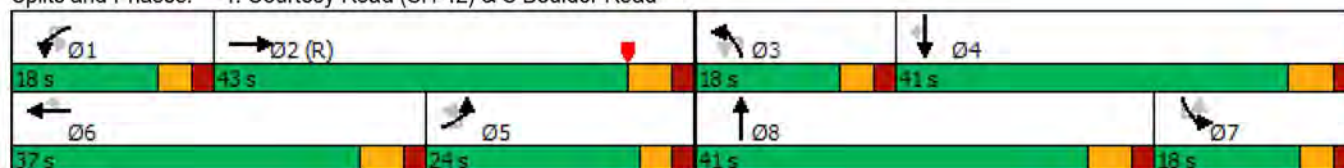
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 4: Courtesy Road (SH 42) & S Boulder Road



4: Courtesy Road (SH 42) & S Boulder Road
2026 Total PM with Front Street Connection.syn



Lane Group	SBL	SBT	SBR
Queue Length 95th (ft)	#156	261	102
Internal Link Dist (ft)		1257	
Turn Bay Length (ft)	185		270
Base Capacity (vph)	120	1032	693
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	1.34	0.56	0.54
Intersection Summary			

5: Courtesy Road (SH 42) & Cannon Circle
 2026 Total PM with Front Street Connection.syn

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1	19	20	1112	1024	9
Future Volume (vph)	1	19	20	1112	1024	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	140			0
Storage Lanes	0	1	1			0
Taper Length (ft)	25		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95
Ped Bike Factor						
Frt		0.865			0.999	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	0	1611	1770	1863	3536	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	0	1611	1770	1863	3536	0
Link Speed (mph)	20			45	45	
Link Distance (ft)	418			420	418	
Travel Time (s)	14.3			6.4	6.3	
Confl. Peds. (#/hr)			5			5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1	21	22	1209	1123	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization Err%	ICU Level of Service H					
Analysis Period (min)	15					

5: Courtesy Road (SH 42) & Cannon Circle
2026 Total PM with Front Street Connection.syn

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	19	20	1112	1024	9
Future Vol, veh/h	1	19	20	1112	1024	9
Conflicting Peds, #/hr	0	0	5	0	0	5
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	140	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	21	22	1209	1113	10
Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2376	567	1128	0	-	0
Stage 1	1123	-	-	-	-	-
Stage 2	1253	-	-	-	-	-
Critical Hdwy	6.63	6.93	4.13	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	33	468	617	-	-	-
Stage 1	273	-	-	-	-	-
Stage 2	268	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	31	466	614	-	-	-
Mov Cap-2 Maneuver	31	-	-	-	-	-
Stage 1	262	-	-	-	-	-
Stage 2	267	-	-	-	-	-
Approach	EB		NB		SB	
HCM Control Delay, s	13.1		0.2		0	
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	614	-	466	-	-	
HCM Lane V/C Ratio	0.035	-	0.044	-	-	
HCM Control Delay (s)	11.1	-	13.1	-	-	
HCM Lane LOS	B	-	B	-	-	
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-	

6: Courtesy Road (SH 42) & Griffith Street/Sports Complex Access
 2026 Total PM with Front Street Connection.syn

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	2	11	0	67	0	0	0	26	1101	2	1	970
Future Volume (vph)	2	11	0	67	0	0	0	26	1101	2	1	970
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0		0	0		60	225		0	500	
Storage Lanes		0		0	0		1	1		0	1	
Taper Length (ft)		0			0			25			50	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.887									
Flt Protected			0.992					0.950			0.950	
Satd. Flow (prot)	0	0	1639	0	0	1863	1863	1770	1863	0	1770	1863
Flt Permitted			0.992					0.950			0.950	
Satd. Flow (perm)	0	0	1639	0	0	1863	1863	1770	1863	0	1770	1863
Link Speed (mph)			30			20			45			45
Link Distance (ft)			439			281			380			369
Travel Time (s)			10.0			9.6			5.8			5.6
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	87	0	0	0	0	28	1199	0	1	1054
Sign Control			Stop			Stop			Free			Free
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	69.6%						ICU Level of Service C					
Analysis Period (min)	15											

6: Courtesy Road (SH 42) & Griffith Street/Sports Complex Access
2026 Total PM with Front Street Connection.syn



Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	123
Future Volume (vph)	123
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Ped Bike Factor	
Frt	0.850
Flt Protected	
Satd. Flow (prot)	1583
Flt Permitted	
Satd. Flow (perm)	1583
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Bikes (#/hr)	5
Peak Hour Factor	0.92
Shared Lane Traffic (%)	
Lane Group Flow (vph)	134
Sign Control	
Intersection Summary	

6: Courtesy Road (SH 42) & Griffith Street/Sports Complex Access
2026 Total PM with Front Street Connection.syn

Intersection													
Int Delay, s/veh	3.3												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↕			↕	↕	↕	↕		↕	↕	↕
Traffic Vol, veh/h	2	11	0	67	0	0	0	26	1101	2	1	970	123
Future Vol, veh/h	2	11	0	67	0	0	0	26	1101	2	1	970	123
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	60	225	-	-	500	-	0
Veh in Median Storage, #	-	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	12	0	73	0	0	0	28	1197	2	1	1054	134
Major/Minor	Minor2			Minor1			Major1			Major2			
Conflicting Flow All	0	2310	2311	1054	2414	2444	1198	1188	0	0	1199	0	0
Stage 1	0	1056	1056	-	1254	1254	-	-	-	-	-	-	-
Stage 2	0	1254	1255	-	1160	1190	-	-	-	-	-	-	-
Critical Hdwy	-	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	-	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	-	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	0	27	38	275	23	31	226	588	-	-	582	-	-
Stage 1	0	272	302	-	211	243	-	-	-	-	-	-	-
Stage 2	0	211	243	-	238	261	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	0	26	36	275	16	29	226	588	-	-	582	-	-
Mov Cap-2 Maneuver	0	26	36	-	16	29	-	-	-	-	-	-	-
Stage 1	0	259	301	-	201	231	-	-	-	-	-	-	-
Stage 2	0	201	231	-	175	260	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB			
HCM Control Delay, s	91.6			0			0.3			0			
HCM LOS	F			A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR				
Capacity (veh/h)	588	-	-	117	-	-	582	-	-				
HCM Lane V/C Ratio	0.048	-	-	0.725	-	-	0.002	-	-				
HCM Control Delay (s)	11.4	-	-	91.6	0	0	11.2	-	-				
HCM Lane LOS	B	-	-	F	A	A	B	-	-				
HCM 95th %tile Q(veh)	0.2	-	-	4	-	-	0	-	-				

7: Cannon Street & Griffith Street
2026 Total PM with Front Street Connection.syn

												
Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	2	64	26	1	27	126	1	28	1	5	0	2
Future Volume (vph)	2	64	26	1	27	126	1	28	1	5	0	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150		150		150	150		150	150	
Storage Lanes	0		0		0		0	0		0	0	
Taper Length (ft)	25				25			25			25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.962				0.999			0.981			
Flt Protected		0.999				0.991			0.960			
Satd. Flow (prot)	0	1790	0	0	0	1844	0	0	1754	0	0	1863
Flt Permitted		0.999				0.991			0.960			
Satd. Flow (perm)	0	1790	0	0	0	1844	0	0	1754	0	0	1863
Link Speed (mph)		30				30			25			25
Link Distance (ft)		390				439			346			362
Travel Time (s)		8.9				10.0			9.4			9.9
Confl. Peds. (#/hr)	5		5		5		5	5		5	5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	100	0	0	0	168	0	0	36	0	0	2
Sign Control		Free				Free			Stop			Stop
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	30.9%											
Analysis Period (min)	15											
	ICU Level of Service A											

7: Cannon Street & Griffith Street
2026 Total PM with Front Street Connection.syn

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	0
Future Volume (vph)	0
Ideal Flow (vphpl)	1900
Storage Length (ft)	150
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	1.00
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	5
Peak Hour Factor	0.92
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Sign Control	
Intersection Summary	

7: Cannon Street & Griffith Street
2026 Total PM with Front Street Connection.syn

Intersection													
Int Delay, s/veh	1.4												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕				↕			↕			↕	
Traffic Vol, veh/h	2	64	26	1	27	126	1	28	1	5	0	2	0
Future Vol, veh/h	2	64	26	1	27	126	1	28	1	5	0	2	0
Conflicting Peds, #/hr	5	0	5	0	5	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	70	28	1	29	137	1	30	1	5	0	2	0
Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	143	0	0	-	103	0	0	295	296	94	297	310	148
Stage 1	-	-	-	-	-	-	-	93	93	-	201	203	-
Stage 2	-	-	-	-	-	-	-	202	203	-	96	107	-
Critical Hdwy	4.12	-	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1440	-	-	-	1489	-	-	657	616	963	655	605	899
Stage 1	-	-	-	-	-	-	-	914	818	-	801	733	-
Stage 2	-	-	-	-	-	-	-	800	733	-	911	807	-
Platoon blocked, %		-	-			-	-						
Mov Cap-1 Maneuver	1433	-	-	~-29	~-29	-	-	648	609	954	644	598	890
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	648	609	-	644	598	-
Stage 1	-	-	-	-	-	-	-	909	813	-	796	729	-
Stage 2	-	-	-	-	-	-	-	794	729	-	899	802	-
Approach	EB			WB			NB			SB			
HCM Control Delay, s	0.2						10.6			11			
HCM LOS							B			B			
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1					
Capacity (veh/h)	679	1433	-	-	+	-	-	598					
HCM Lane V/C Ratio	0.054	0.002	-	-	-	-	-	0.004					
HCM Control Delay (s)	10.6	7.5	0	-	-	-	-	11					
HCM Lane LOS	B	A	A	-	-	-	-	B					
HCM 95th %tile Q(veh)	0.2	0	-	-	-	-	-	0					
Notes													
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined				*: All major volume in platoon					

8: Griffith Street & Front Street
2026 Total PM with Front Street Connection.syn

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	15	70	6	5	155	7	2	0	1	3	28	0
Future Volume (vph)	15	70	6	5	155	7	2	0	1	3	28	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150	150		150	0		0		0	
Storage Lanes	0		0	0		0	0		0		0	
Taper Length (ft)	25			25			25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.990			0.994			0.955				0.934
Flt Protected		0.992			0.999			0.968				0.975
Satd. Flow (prot)	0	1829	0	0	1850	0	0	1722	0	0	0	1696
Flt Permitted		0.992			0.999			0.968				0.975
Satd. Flow (perm)	0	1829	0	0	1850	0	0	1722	0	0	0	1696
Link Speed (mph)		30			30			25				25
Link Distance (ft)		405			390			333				365
Travel Time (s)		9.2			8.9			9.1				10.0
Confl. Peds. (#/hr)	5		10	10		5	5		5		5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	99	0	0	181	0	0	3	0	0	0	65
Sign Control		Free			Free			Stop				Stop
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	24.1%											
Analysis Period (min)	15											
	ICU Level of Service A											

8: Griffith Street & Front Street
2026 Total PM with Front Street Connection.syn

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	29
Future Volume (vph)	29
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	1.00
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	5
Peak Hour Factor	0.92
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Sign Control	
Intersection Summary	

8: Griffith Street & Front Street
2026 Total PM with Front Street Connection.syn

Intersection													
Int Delay, s/veh	2.5												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	15	70	6	5	155	7	2	0	1	3	28	0	29
Future Vol, veh/h	15	70	6	5	155	7	2	0	1	3	28	0	29
Conflicting Peds, #/hr	5	0	10	10	0	5	5	0	5	0	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	76	7	5	168	8	2	0	1	3	30	0	32
Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	181	0	0	93	0	0	325	313	95	0	304	312	182
Stage 1	-	-	-	-	-	-	122	122	-	0	187	187	-
Stage 2	-	-	-	-	-	-	203	191	-	0	117	125	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	-	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1394	-	-	1501	-	-	628	602	962	0	648	603	861
Stage 1	-	-	-	-	-	-	882	795	-	0	815	745	-
Stage 2	-	-	-	-	-	-	799	742	-	0	888	792	-
Platoon blocked, %		-	-		-	-				-			
Mov Cap-1 Maneuver	1387	-	-	1487	-	-	589	583	948	0	633	584	853
Mov Cap-2 Maneuver	-	-	-	-	-	-	589	583	-	0	633	584	-
Stage 1	-	-	-	-	-	-	863	778	-	0	801	738	-
Stage 2	-	-	-	-	-	-	763	735	-	0	872	775	-
Approach	EB			WB			NB			SB			
HCM Control Delay, s	1.3			0.2			10.4			10.4			
HCM LOS							B			B			
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1					
Capacity (veh/h)	674	1387	-	-	1487	-	-	729					
HCM Lane V/C Ratio	0.005	0.012	-	-	0.004	-	-	0.085					
HCM Control Delay (s)	10.4	7.6	0	-	7.4	0	-	10.4					
HCM Lane LOS	B	A	A	-	A	A	-	B					
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.3					

9: Main Street & Griffith Street
 2026 Total PM with Front Street Connection.syn

							
Lane Group	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	93	70	222	50	1	39	151
Future Volume (vph)	93	70	222	50	1	39	151
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor							
Frt	0.942		0.975				
Flt Protected	0.972						0.990
Satd. Flow (prot)	1706	0	1816	0	0	0	1844
Flt Permitted	0.972						0.990
Satd. Flow (perm)	1706	0	1816	0	0	0	1844
Link Speed (mph)	30		30				30
Link Distance (ft)	405		350				1210
Travel Time (s)	9.2		8.0				27.5
Confl. Peds. (#/hr)	2	10		7	10	7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)							
Lane Group Flow (vph)	177	0	295	0	0	0	207
Sign Control	Stop		Free				Free
Intersection Summary							
Area Type:	Other						
Control Type:	Unsignalized						
Intersection Capacity Utilization	45.9%			ICU Level of Service A			
Analysis Period (min)	15						

9: Main Street & Griffith Street
2026 Total PM with Front Street Connection.syn

Intersection							
Int Delay, s/veh	3.6						
Movement	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations							
Traffic Vol, veh/h	93	70	222	50	1	39	151
Future Vol, veh/h	93	70	222	50	1	39	151
Conflicting Peds, #/hr	2	10	0	7	10	7	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	-	0
Grade, %	0	-	0	-	-	-	0
Peak Hour Factor	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	101	76	241	54	1	42	164
Major/Minor	Minor1	Major1		Major2			
Conflicting Flow All	525	285	0	0	-	302	0
Stage 1	275	-	-	-	-	-	-
Stage 2	250	-	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	2.218	-
Pot Cap-1 Maneuver	513	754	-	-	-	1259	-
Stage 1	771	-	-	-	-	-	-
Stage 2	792	-	-	-	-	-	-
Platoon blocked, %			-	-			-
Mov Cap-1 Maneuver	508	742	-	-	~ -41	~ -41	-
Mov Cap-2 Maneuver	508	-	-	-	-	-	-
Stage 1	766	-	-	-	-	-	-
Stage 2	790	-	-	-	-	-	-
Approach	WB	NB		SB			
HCM Control Delay, s	13.7	0					
HCM LOS	B						
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBL	SBT		
Capacity (veh/h)	-	-	588	+	-		
HCM Lane V/C Ratio	-	-	0.301	-	-		
HCM Control Delay (s)	-	-	13.7	-	-		
HCM Lane LOS	-	-	B	-	-		
HCM 95th %tile Q(veh)	-	-	1.3	-	-		
Notes							
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon	

10: Front Street & Harper Street
 2026 Total PM with Front Street Connection.syn

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	6	0	18	7	0	54
Future Volume (vph)	6	0	18	7	0	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.961			
Flt Protected	0.950					
Satd. Flow (prot)	1770	0	1790	0	0	1863
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	1790	0	0	1863
Link Speed (mph)	25		25			25
Link Distance (ft)	380		365			210
Travel Time (s)	10.4		10.0			5.7
Confl. Peds. (#/hr)	5	132		70	70	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	7	0	28	0	0	59
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	32.2%			ICU Level of Service A		
Analysis Period (min)	15					

10: Front Street & Harper Street
2026 Total PM with Front Street Connection.syn

Intersection

Int Delay, s/veh 0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	0	18	7	0	54
Future Vol, veh/h	6	0	18	7	0	54
Conflicting Peds, #/hr	5	132	0	70	70	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	0	20	8	0	59

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	158	226	0
Stage 1	94	-	-
Stage 2	64	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	833	813	-
Stage 1	930	-	-
Stage 2	959	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	773	663	-
Mov Cap-2 Maneuver	773	-	-
Stage 1	868	-	-
Stage 2	954	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.7	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	773	1395
HCM Lane V/C Ratio	-	-	0.008	-
HCM Control Delay (s)	-	-	9.7	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

11: Courtesy Road (SH 42) & Harper Street
2026 Total PM with Front Street Connection.syn

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	26	61	7	1049	996	8
Future Volume (vph)	26	61	7	1049	996	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95
Frt	0.905				0.999	
Flt Protected	0.985					
Satd. Flow (prot)	1660	0	0	1863	3536	0
Flt Permitted	0.985					
Satd. Flow (perm)	1660	0	0	1863	3536	0
Link Speed (mph)	30			45	45	
Link Distance (ft)	254			369	420	
Travel Time (s)	5.8			5.6	6.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	94	0	0	1148	1092	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	72.6%			ICU Level of Service C		
Analysis Period (min)	15					

11: Courtesy Road (SH 42) & Harper Street
2026 Total PM with Front Street Connection.syn

Intersection						
Int Delay, s/veh	4.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			↑	↑↑	
Traffic Vol, veh/h	26	61	7	1049	996	8
Future Vol, veh/h	26	61	7	1049	996	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	28	66	8	1140	1083	9
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	2244	546	1092	0	-	0
Stage 1	1088	-	-	-	-	-
Stage 2	1156	-	-	-	-	-
Critical Hdwy	6.63	6.93	4.13	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	41	483	637	-	-	-
Stage 1	285	-	-	-	-	-
Stage 2	299	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	40	483	637	-	-	-
Mov Cap-2 Maneuver	40	-	-	-	-	-
Stage 1	275	-	-	-	-	-
Stage 2	299	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	118	0.1		0		
HCM LOS	F					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	637	-	112	-	-	
HCM Lane V/C Ratio	0.012	-	0.844	-	-	
HCM Control Delay (s)	10.7	0	118	-	-	
HCM Lane LOS	B	A	F	-	-	
HCM 95th %tile Q(veh)	0	-	5	-	-	

1: Main Street & S Boulder Road
2026 Total SAT with Front Street Connection.syn

	→	↘	↶	↙	←	↖	↗
Lane Group	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↘	↑↑	↘	↗
Traffic Volume (vph)	852	94	26	70	794	79	100
Future Volume (vph)	852	94	26	70	794	79	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		120		225		0	115
Storage Lanes		1		1		1	1
Taper Length (ft)				25		0	
Lane Util. Factor	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Ped Bike Factor		0.97		1.00		0.99	0.95
Frt		0.850					0.850
Flt Protected				0.950		0.950	
Satd. Flow (prot)	3539	1583	0	1770	3539	1770	1583
Flt Permitted				0.262		0.950	
Satd. Flow (perm)	3539	1535	0	487	3539	1761	1504
Right Turn on Red		Yes					Yes
Satd. Flow (RTOR)		102					109
Link Speed (mph)	35				35	30	
Link Distance (ft)	636				400	1210	
Travel Time (s)	12.4				7.8	27.5	
Confl. Peds. (#/hr)		5		5		5	39
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)							
Lane Group Flow (vph)	926	102	0	104	863	86	109
Turn Type	NA	Perm	custom	pm+pt	NA	Perm	Perm
Protected Phases	2			1	6		
Permitted Phases		2	1	6		8	8
Detector Phase	2	2	1	1	6	8	8
Switch Phase							
Minimum Initial (s)	35.0	35.0	5.0	5.0	35.0	5.0	5.0
Minimum Split (s)	41.0	41.0	11.0	11.0	41.0	35.0	35.0
Total Split (s)	70.0	70.0	12.0	12.0	82.0	18.0	18.0
Total Split (%)	70.0%	70.0%	12.0%	12.0%	82.0%	18.0%	18.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-1.0	0.0
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	5.0
Lead/Lag	Lag	Lag	Lead	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	None	C-Max	None	None
Act Effct Green (s)	71.0	71.0		81.0	81.0	11.0	10.0
Actuated g/C Ratio	0.71	0.71		0.81	0.81	0.11	0.10
v/c Ratio	0.37	0.09		0.21	0.30	0.45	0.44
Control Delay	7.0	1.5		3.4	3.3	48.4	13.9
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	7.0	1.5		3.4	3.3	48.4	13.9
LOS	A	A		A	A	D	B
Approach Delay	6.4				3.3	29.1	
Approach LOS	A				A	C	
Queue Length 50th (ft)	118	0		14	67	52	0

1: Main Street & S Boulder Road

2026 Total SAT with Front Street Connection.syn



Lane Group	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Queue Length 95th (ft)	163	16		m23	m90	98	49
Internal Link Dist (ft)	556				320	1130	
Turn Bay Length (ft)		120		225			115
Base Capacity (vph)	2513	1119		502	2867	246	290
Starvation Cap Reductn	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.37	0.09		0.21	0.30	0.35	0.38

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 59 (59%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.45

Intersection Signal Delay: 7.1

Intersection LOS: A

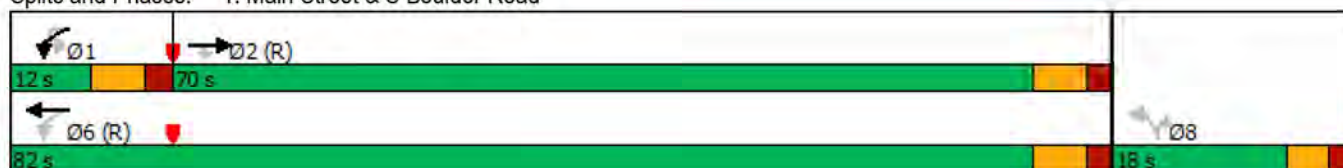
Intersection Capacity Utilization 66.1%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Main Street & S Boulder Road



2: Front Street/Private Access & S Boulder Road
2026 Total SAT with Front Street Connection.syn

												
Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↑↑	↗		↖	↑↑				↗		
Traffic Volume (vph)	0	933	38	3	11	916	4	0	0	20	0	0
Future Volume (vph)	0	933	38	3	11	916	4	0	0	20	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50		70		0	0		0	0	
Storage Lanes	0		1		1		0	0		1	0	
Taper Length (ft)	25				75			25			25	
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.999				0.865		
Flt Protected					0.950							
Satd. Flow (prot)	0	3539	1583	0	1770	3536	0	0	0	1611	0	0
Flt Permitted					0.950							
Satd. Flow (perm)	0	3539	1583	0	1770	3536	0	0	0	1611	0	0
Link Speed (mph)		35				35			20			20
Link Distance (ft)		400				360			338			476
Travel Time (s)		7.8				7.0			11.5			16.2
Confl. Peds. (#/hr)	10		10	5	10		10	5		5	5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1014	41	0	15	1000	0	0	0	22	0	0
Sign Control		Free				Free			Stop			Stop
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	37.3%											
Analysis Period (min)	15											
	ICU Level of Service A											

2: Front Street/Private Access & S Boulder Road
2026 Total SAT with Front Street Connection.syn

Lane Group	SBR
Lane Configurations	7
Traffic Volume (vph)	1
Future Volume (vph)	1
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Ped Bike Factor	
Frt	0.865
Flt Protected	
Satd. Flow (prot)	1611
Flt Permitted	
Satd. Flow (perm)	1611
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	5
Peak Hour Factor	0.92
Shared Lane Traffic (%)	
Lane Group Flow (vph)	1
Sign Control	
Intersection Summary	

2: Front Street/Private Access & S Boulder Road
2026 Total SAT with Front Street Connection.syn

Intersection													
Int Delay, s/veh	0.2												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↘	↑↑				↗			↗
Traffic Vol, veh/h	0	933	38	3	11	916	4	0	0	20	0	0	1
Future Vol, veh/h	0	933	38	3	11	916	4	0	0	20	0	0	1
Conflicting Peds, #/hr	10	0	10	5	10	0	10	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	70	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1014	41	3	12	996	4	0	0	22	0	0	1
Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	-	0	0	1014	1065	0	0	-	-	522	-	-	515
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	6.44	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	2.52	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	325	650	-	-	0	0	499	0	0	505
Stage 1	0	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	0	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-			-	-						
Mov Cap-1 Maneuver	-	-	-	524	524	-	-	-	-	492	-	-	498
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB			
HCM Control Delay, s	0			0.2			12.7			12.2			
HCM LOS							B			B			
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	WBR	SBLn1						
Capacity (veh/h)	492	-	-	524	-	-	498						
HCM Lane V/C Ratio	0.044	-	-	0.029	-	-	0.002						
HCM Control Delay (s)	12.7	-	-	12.1	-	-	12.2						
HCM Lane LOS	B	-	-	B	-	-	B						
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-	-	0						

3: Cannon Circle/Private Access & S Boulder Road
2026 Total SAT with Front Street Connection.syn

												
Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	15	28	882	28	1	49	840	12	0	0	42	0
Future Volume (vph)	15	28	882	28	1	49	840	12	0	0	42	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		90		0		80		0	0		0	0
Storage Lanes		1		0		1		0	0		1	0
Taper Length (ft)		75				80			25			25
Lane Util. Factor	0.95	1.00	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.995				0.998				0.865	
Flt Protected		0.950				0.950						
Satd. Flow (prot)	0	1770	3522	0	0	1770	3532	0	0	0	1611	0
Flt Permitted		0.950				0.950						
Satd. Flow (perm)	0	1770	3522	0	0	1770	3532	0	0	0	1611	0
Link Speed (mph)			35				35			20		
Link Distance (ft)			360				465			339		
Travel Time (s)			7.0				9.1			11.6		
Confl. Peds. (#/hr)	5	10		10	5	10		10	5		5	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	46	989	0	0	54	926	0	0	0	46	0
Sign Control			Free				Free			Stop		
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	43.7%						ICU Level of Service A					
Analysis Period (min)	15											

3: Cannon Circle/Private Access & S Boulder Road
 2026 Total SAT with Front Street Connection.syn



Lane Group	SBT	SBR
Lane Configurations		↗
Traffic Volume (vph)	0	82
Future Volume (vph)	0	82
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		0
Storage Lanes		1
Taper Length (ft)		
Lane Util. Factor	1.00	1.00
Ped Bike Factor		
Frt		0.865
Flt Protected		
Satd. Flow (prot)	0	1611
Flt Permitted		
Satd. Flow (perm)	0	1611
Link Speed (mph)	20	
Link Distance (ft)	431	
Travel Time (s)	14.7	
Confl. Peds. (#/hr)		5
Peak Hour Factor	0.92	0.92
Shared Lane Traffic (%)		
Lane Group Flow (vph)	0	89
Sign Control	Stop	
Intersection Summary		

3: Cannon Circle/Private Access & S Boulder Road
2026 Total SAT with Front Street Connection.syn

Intersection															
Int Delay, s/veh	1.4														
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations															
Traffic Vol, veh/h	15	28	882	28	1	49	840	12	0	0	42	0	0	82	
Future Vol, veh/h	15	28	882	28	1	49	840	12	0	0	42	0	0	82	
Conflicting Peds, #/hr	5	10	0	10	5	10	0	10	5	0	5	5	0	5	
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	
RT Channelized	-	-	-	None	-	-	-	None	-	-	None	-	-	None	
Storage Length	-	90	-	-	-	80	-	-	-	-	0	-	-	0	
Veh in Median Storage, #	-	-	0	-	-	-	0	-	-	0	-	-	0	-	
Grade, %	-	-	0	-	-	-	0	-	-	0	-	-	0	-	
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92	92	
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Mvmt Flow	16	30	959	30	1	53	913	13	0	0	46	0	0	89	
Major/Minor	Major1				Major2				Minor1				Minor2		
Conflicting Flow All	926	936	0	0	989	999	0	0	-	-	510	-	-	478	
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Critical Hdwy	6.44	4.14	-	-	6.44	4.14	-	-	-	-	6.94	-	-	6.94	
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Follow-up Hdwy	2.52	2.22	-	-	2.52	2.22	-	-	-	-	3.32	-	-	3.32	
Pot Cap-1 Maneuver	370	727	-	-	337	689	-	-	0	0	509	0	0	534	
Stage 1	-	-	-	-	-	-	-	-	0	0	-	0	0	-	
Stage 2	-	-	-	-	-	-	-	-	0	0	-	0	0	-	
Platoon blocked, %			-	-			-	-							
Mov Cap-1 Maneuver	494	494	-	-	666	666	-	-	-	-	502	-	-	526	
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Approach	EB				WB				NB				SB		
HCM Control Delay, s	0.6				0.6				12.9				13.2		
HCM LOS									B				B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1							
Capacity (veh/h)	502	494	-	-	666	-	-	526							
HCM Lane V/C Ratio	0.091	0.095	-	-	0.082	-	-	0.169							
HCM Control Delay (s)	12.9	13	-	-	10.9	-	-	13.2							
HCM Lane LOS	B	B	-	-	B	-	-	B							
HCM 95th %tile Q(veh)	0.3	0.3	-	-	0.3	-	-	0.6							

4: Courtesy Road (SH 42) & S Boulder Road
2026 Total SAT with Front Street Connection.syn

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (vph)	21	397	473	87	252	533	135	2	160	363	199	5
Future Volume (vph)	21	397	473	87	252	533	135	2	160	363	199	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		150		0	225		270		0		0	
Storage Lanes		2		0	2		1		2		0	
Taper Length (ft)		80			135				70			
Lane Util. Factor	0.95	0.97	0.95	0.95	0.97	0.95	1.00	0.95	0.97	0.95	0.95	0.95
Ped Bike Factor			1.00				0.98			0.99		
Frt			0.977				0.850			0.947		
Flt Protected		0.950			0.950				0.950			
Satd. Flow (prot)	0	3433	3449	0	3433	3539	1583	0	3433	3332	0	0
Flt Permitted		0.434			0.950				0.571			
Satd. Flow (perm)	0	1568	3449	0	3433	3539	1549	0	2063	3332	0	0
Right Turn on Red				Yes			Yes				Yes	
Satd. Flow (RTOR)			22				218			105		
Link Speed (mph)			35			35				45		
Link Distance (ft)			465			1815				418		
Travel Time (s)			9.1			35.4				6.3		
Confl. Peds. (#/hr)				5			10				5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	455	609	0	274	579	147	0	176	611	0	0
Turn Type	custom	Prot	NA		Prot	NA	Perm	custom	Prot	NA		custom
Protected Phases		5	2		1	6			3	8		
Permitted Phases	5						6	3				7
Detector Phase	5	5	2		1	6	6	3	3	8		7
Switch Phase												
Minimum Initial (s)	5.0	5.0	10.0		5.0	10.0	10.0	5.0	5.0	6.0		5.0
Minimum Split (s)	10.0	10.0	37.0		10.0	37.0	37.0	10.0	10.0	40.0		10.0
Total Split (s)	18.0	18.0	38.0		14.0	34.0	34.0	12.0	12.0	36.0		12.0
Total Split (%)	18.0%	18.0%	38.0%		14.0%	34.0%	34.0%	12.0%	12.0%	36.0%		12.0%
Yellow Time (s)	3.0	3.0	4.0		3.0	4.0	4.0	3.0	3.0	4.0		3.0
All-Red Time (s)	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0		2.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0		0.0	0.0		
Total Lost Time (s)		5.0	6.0		5.0	6.0	6.0		5.0	6.0		
Lead/Lag	Lag	Lag	Lag		Lead	Lead	Lead	Lead	Lead	Lead		Lag
Lead-Lag Optimize?												
Recall Mode	None	None	C-Max		None	Max	Max	None	None	Max		None
Act Effect Green (s)		13.0	32.0		9.0	28.0	28.0		7.0	30.0		
Actuated g/C Ratio		0.13	0.32		0.09	0.28	0.28		0.07	0.30		
v/c Ratio		2.24	0.54		0.89	0.58	0.25		1.22	0.57		
Control Delay		596.3	25.7		75.6	33.8	1.8		187.7	26.6		
Queue Delay		0.0	0.0		0.0	0.0	0.0		0.0	0.0		
Total Delay		596.3	25.7		75.6	33.8	1.8		187.7	26.6		
LOS		F	C		E	C	A		F	C		
Approach Delay			269.7			40.6				62.6		
Approach LOS			F			D				E		
Queue Length 50th (ft)		~246	116		90	166	0		~71	142		

4: Courtesy Road (SH 42) & S Boulder Road
 2026 Total SAT with Front Street Connection.syn

			
Lane Group	SBL	SBT	SBR
Lane Configurations	 	 	
Traffic Volume (vph)	110	392	273
Future Volume (vph)	110	392	273
Ideal Flow (vphpl)	1900	1900	1900
Storage Length (ft)	185		270
Storage Lanes	2		1
Taper Length (ft)	155		
Lane Util. Factor	0.97	0.95	1.00
Ped Bike Factor			0.98
Frt			0.850
Flt Protected	0.950		
Satd. Flow (prot)	3433	3539	1583
Flt Permitted	0.571		
Satd. Flow (perm)	2063	3539	1557
Right Turn on Red			Yes
Satd. Flow (RTOR)			289
Link Speed (mph)		45	
Link Distance (ft)		1337	
Travel Time (s)		20.3	
Confl. Peds. (#/hr)			5
Peak Hour Factor	0.92	0.92	0.92
Shared Lane Traffic (%)			
Lane Group Flow (vph)	125	426	297
Turn Type	Prot	NA	Perm
Protected Phases	7	4	
Permitted Phases			4
Detector Phase	7	4	4
Switch Phase			
Minimum Initial (s)	5.0	6.0	6.0
Minimum Split (s)	10.0	36.0	36.0
Total Split (s)	12.0	36.0	36.0
Total Split (%)	12.0%	36.0%	36.0%
Yellow Time (s)	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0
Lead/Lag	Lag	Lag	Lag
Lead-Lag Optimize?			
Recall Mode	None	Max	Max
Act Effect Green (s)	7.0	30.0	30.0
Actuated g/C Ratio	0.07	0.30	0.30
v/c Ratio	0.87	0.40	0.44
Control Delay	94.1	29.2	6.0
Queue Delay	0.0	0.0	0.0
Total Delay	94.1	29.2	6.0
LOS	F	C	A
Approach Delay		30.6	
Approach LOS		C	
Queue Length 50th (ft)	41	113	4

4: Courtesy Road (SH 42) & S Boulder Road
2026 Total SAT with Front Street Connection.syn

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU
Queue Length 95th (ft)		#339	152		#163	223	10		#140	199		
Internal Link Dist (ft)			385			1735				338		
Turn Bay Length (ft)		150			225		270					
Base Capacity (vph)		203	1118		308	990	590		144	1073		
Starvation Cap Reductn		0	0		0	0	0		0	0		
Spillback Cap Reductn		0	0		0	0	0		0	0		
Storage Cap Reductn		0	0		0	0	0		0	0		
Reduced v/c Ratio		2.24	0.54		0.89	0.58	0.25		1.22	0.57		

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:EBT, Start of Yellow, Master Intersection

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 2.24

Intersection Signal Delay: 108.9

Intersection LOS: F

Intersection Capacity Utilization 88.6%

ICU Level of Service E

Analysis Period (min) 15

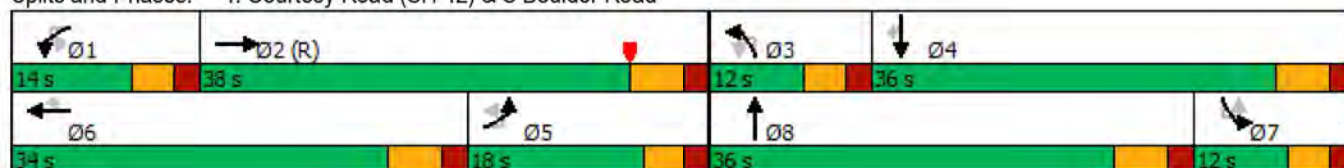
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 4: Courtesy Road (SH 42) & S Boulder Road



4: Courtesy Road (SH 42) & S Boulder Road
2026 Total SAT with Front Street Connection.syn



Lane Group	SBL	SBT	SBR
Queue Length 95th (ft)	#96	157	64
Internal Link Dist (ft)		1257	
Turn Bay Length (ft)	185		270
Base Capacity (vph)	144	1061	669
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.87	0.40	0.44
Intersection Summary			

5: Courtesy Road (SH 42) & Cannon Circle
 2026 Total SAT with Front Street Connection.syn

							
Lane Group	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	8	10	1	9	717	719	10
Future Volume (vph)	8	10	1	9	717	719	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		140			0
Storage Lanes	0	1		1			0
Taper Length (ft)	25			100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Ped Bike Factor							
Frt		0.865				0.998	
Flt Protected	0.950			0.950			
Satd. Flow (prot)	0	1611	0	1770	1863	3532	0
Flt Permitted	0.950			0.950			
Satd. Flow (perm)	0	1611	0	1770	1863	3532	0
Link Speed (mph)	20				45	45	
Link Distance (ft)	418				420	418	
Travel Time (s)	14.3				6.4	6.3	
Confl. Peds. (#/hr)				5			5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)							
Lane Group Flow (vph)	9	11	0	11	779	793	0
Sign Control	Stop				Free	Free	
Intersection Summary							
Area Type:	Other						
Control Type:	Unsignalized						
Intersection Capacity Utilization Err%	ICU Level of Service H						
Analysis Period (min)	15						

5: Courtesy Road (SH 42) & Cannon Circle
 2026 Total SAT with Front Street Connection.syn

Intersection							
Int Delay, s/veh	0.2						
Movement	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Lane Configurations		↗		↘	↑	↗↘	
Traffic Vol, veh/h	8	10	1	9	717	719	10
Future Vol, veh/h	8	10	1	9	717	719	10
Conflicting Peds, #/hr	0	0	0	5	0	0	5
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	None
Storage Length	-	0	-	140	-	-	-
Veh in Median Storage, #	0	-	-	-	0	0	-
Grade, %	0	-	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	9	11	1	10	779	782	11
Major/Minor	Minor2	Major1		Major2			
Conflicting Flow All	1592	402	792	798	0	-	0
Stage 1	793	-	-	-	-	-	-
Stage 2	799	-	-	-	-	-	-
Critical Hdwy	6.63	6.93	6.93	4.13	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	3.119	2.219	-	-	-
Pot Cap-1 Maneuver	108	599	347	822	-	-	-
Stage 1	407	-	-	-	-	-	-
Stage 2	442	-	-	-	-	-	-
Platoon blocked, %					-	-	-
Mov Cap-1 Maneuver	105	596	718	718	-	-	-
Mov Cap-2 Maneuver	105	-	-	-	-	-	-
Stage 1	399	-	-	-	-	-	-
Stage 2	440	-	-	-	-	-	-
Approach	EB	NB		SB			
HCM Control Delay, s	11.2	0.1		0			
HCM LOS	B						
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR		
Capacity (veh/h)	718	-	596	-	-		
HCM Lane V/C Ratio	0.015	-	0.018	-	-		
HCM Control Delay (s)	10.1	-	11.2	-	-		
HCM Lane LOS	B	-	B	-	-		
HCM 95th %tile Q(veh)	0	-	0.1	-	-		

6: Courtesy Road (SH 42) & Griffith Street/Sports Complex Access
2026 Total SAT with Front Street Connection.syn

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	7	39	2	1	6	25	673	43	11	680	44
Future Volume (vph)	14	7	39	2	1	6	25	673	43	11	680	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		60	225		0	500		0
Storage Lanes	0		0	0		1	1		0	1		1
Taper Length (ft)	0			0			25			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.913				0.850		0.991				0.850
Flt Protected		0.989			0.968		0.950			0.950		
Satd. Flow (prot)	0	1682	0	0	1803	1583	1770	1846	0	1770	1863	1583
Flt Permitted		0.989			0.968		0.950			0.950		
Satd. Flow (perm)	0	1682	0	0	1803	1583	1770	1846	0	1770	1863	1583
Link Speed (mph)		30			20			45			45	
Link Distance (ft)		439			281			380			369	
Travel Time (s)		10.0			9.6			5.8			5.6	
Confl. Bikes (#/hr)												5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	65	0	0	3	7	27	779	0	12	739	48
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	54.9%											
Analysis Period (min)	15											
ICU Level of Service A												

6: Courtesy Road (SH 42) & Griffith Street/Sports Complex Access
2026 Total SAT with Front Street Connection.syn

Intersection												
Int Delay, s/veh	1.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕	↕	↕		↕	↕	↕
Traffic Vol, veh/h	14	7	39	2	1	6	25	673	43	11	680	44
Future Vol, veh/h	14	7	39	2	1	6	25	673	43	11	680	44
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	60	225	-	-	500	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	8	42	2	1	7	27	732	47	12	739	48
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1577	1596	739	1622	1621	756	787	0	0	779	0	0
Stage 1	763	763	-	810	810	-	-	-	-	-	-	-
Stage 2	814	833	-	812	811	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	89	107	417	82	103	408	832	-	-	838	-	-
Stage 1	397	413	-	374	393	-	-	-	-	-	-	-
Stage 2	372	384	-	373	393	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	84	102	417	67	98	408	832	-	-	838	-	-
Mov Cap-2 Maneuver	84	102	-	67	98	-	-	-	-	-	-	-
Stage 1	384	407	-	362	380	-	-	-	-	-	-	-
Stage 2	353	372	-	324	387	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	35.4		27.7		0.3		0.1					
HCM LOS	E		D									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR					
Capacity (veh/h)	832	-	-	182 75 408	838	-	-					
HCM Lane V/C Ratio	0.033	-	-	0.358 0.043 0.016	0.014	-	-					
HCM Control Delay (s)	9.5	-	-	35.4 55.2 14	9.4	-	-					
HCM Lane LOS	A	-	-	E F B	A	-	-					
HCM 95th %tile Q(veh)	0.1	-	-	1.5 0.1 0	0	-	-					

7: Cannon Street & Griffith Street
 2026 Total SAT with Front Street Connection.syn

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	49	24	15	61	1	23	0	10	1	0	1
Future Volume (vph)	0	49	24	15	61	1	23	0	10	1	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150	150		150	150		150	150		150
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.956			0.998			0.959			0.932	
Flt Protected					0.990			0.966			0.976	
Satd. Flow (prot)	0	1781	0	0	1840	0	0	1726	0	0	1694	0
Flt Permitted					0.990			0.966			0.976	
Satd. Flow (perm)	0	1781	0	0	1840	0	0	1726	0	0	1694	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		390			439			346			362	
Travel Time (s)		8.9			10.0			9.4			9.9	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	79	0	0	83	0	0	36	0	0	2	0
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	22.7%											
Analysis Period (min)	15											
	ICU Level of Service A											

7: Cannon Street & Griffith Street
2026 Total SAT with Front Street Connection.syn

Intersection												
Int Delay, s/veh	2.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	49	24	15	61	1	23	0	10	1	0	1
Future Vol, veh/h	0	49	24	15	61	1	23	0	10	1	0	1
Conflicting Peds, #/hr	5	0	5	5	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	53	26	16	66	1	25	0	11	1	0	1
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	72	0	0	84	0	0	175	175	76	181	188	77
Stage 1	-	-	-	-	-	-	71	71	-	104	104	-
Stage 2	-	-	-	-	-	-	104	104	-	77	84	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1528	-	-	1513	-	-	788	718	985	781	707	984
Stage 1	-	-	-	-	-	-	939	836	-	902	809	-
Stage 2	-	-	-	-	-	-	902	809	-	932	825	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1521	-	-	1506	-	-	773	703	976	758	692	975
Mov Cap-2 Maneuver	-	-	-	-	-	-	773	703	-	758	692	-
Stage 1	-	-	-	-	-	-	934	832	-	897	796	-
Stage 2	-	-	-	-	-	-	887	796	-	917	821	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			1.4			9.6			9.2		
HCM LOS							A			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	825	1521	-	-	1506	-	-	853				
HCM Lane V/C Ratio	0.043	-	-	-	0.011	-	-	0.003				
HCM Control Delay (s)	9.6	0	-	-	7.4	0	-	9.2				
HCM Lane LOS	A	A	-	-	A	A	-	A				
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0				

8: Griffith Street & Front Street
2026 Total SAT with Front Street Connection.syn

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	57	3	1	77	7	8	0	0	18	0	25
Future Volume (vph)	12	57	3	1	77	7	8	0	0	18	0	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150	150		150	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.995			0.988						0.922	
Flt Protected		0.992			0.999			0.950			0.979	
Satd. Flow (prot)	0	1839	0	0	1839	0	0	1770	0	0	1681	0
Flt Permitted		0.992			0.999			0.950			0.979	
Satd. Flow (perm)	0	1839	0	0	1839	0	0	1770	0	0	1681	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		405			390			333			365	
Travel Time (s)		9.2			8.9			9.1			10.0	
Confl. Peds. (#/hr)	5		10	10		5	5		5	5		5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	78	0	0	93	0	0	9	0	0	47	0
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	22.9%											
Analysis Period (min)	15											
	ICU Level of Service A											

8: Griffith Street & Front Street
2026 Total SAT with Front Street Connection.syn

Intersection												
Int Delay, s/veh	2.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	12	57	3	1	77	7	8	0	0	18	0	25
Future Vol, veh/h	12	57	3	1	77	7	8	0	0	18	0	25
Conflicting Peds, #/hr	5	0	10	10	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	62	3	1	84	8	9	0	0	20	0	27
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	97	0	0	75	0	0	209	199	79	190	196	98
Stage 1	-	-	-	-	-	-	100	100	-	95	95	-
Stage 2	-	-	-	-	-	-	109	99	-	95	101	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1496	-	-	1524	-	-	748	697	981	770	699	958
Stage 1	-	-	-	-	-	-	906	812	-	912	816	-
Stage 2	-	-	-	-	-	-	896	813	-	912	811	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1489	-	-	1509	-	-	711	680	967	757	682	949
Mov Cap-2 Maneuver	-	-	-	-	-	-	711	680	-	757	682	-
Stage 1	-	-	-	-	-	-	890	797	-	899	811	-
Stage 2	-	-	-	-	-	-	865	808	-	899	796	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.2			0.1			10.1			9.4		
HCM LOS							B			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	711	1489	-	-	1509	-	-	858				
HCM Lane V/C Ratio	0.012	0.009	-	-	0.001	-	-	0.054				
HCM Control Delay (s)	10.1	7.4	0	-	7.4	0	-	9.4				
HCM Lane LOS	B	A	A	-	A	A	-	A				
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.2				

9: Main Street & Griffith Street
2026 Total SAT with Front Street Connection.syn

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	66	47	137	52	18	141
Future Volume (vph)	66	47	137	52	18	141
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.944		0.963			
Flt Protected	0.972					0.994
Satd. Flow (prot)	1709	0	1794	0	0	1852
Flt Permitted	0.972					0.994
Satd. Flow (perm)	1709	0	1794	0	0	1852
Link Speed (mph)	30		30			30
Link Distance (ft)	405		350			1210
Travel Time (s)	9.2		8.0			27.5
Confl. Peds. (#/hr)	6	2		17	17	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	123	0	206	0	0	173
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	36.3%			ICU Level of Service A		
Analysis Period (min)	15					

9: Main Street & Griffith Street
2026 Total SAT with Front Street Connection.syn

Intersection						
Int Delay, s/veh	3.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	66	47	137	52	18	141
Future Vol, veh/h	66	47	137	52	18	141
Conflicting Peds, #/hr	6	2	0	17	17	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	72	51	149	57	20	153
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	394	197	0	0	223	0
Stage 1	195	-	-	-	-	-
Stage 2	199	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	611	844	-	-	1346	-
Stage 1	838	-	-	-	-	-
Stage 2	835	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	587	829	-	-	1324	-
Mov Cap-2 Maneuver	587	-	-	-	-	-
Stage 1	810	-	-	-	-	-
Stage 2	830	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	11.6	0		0.9		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	668	1324	-	
HCM Lane V/C Ratio	-	-	0.184	0.015	-	
HCM Control Delay (s)	-	-	11.6	7.8	0	
HCM Lane LOS	-	-	B	A	A	
HCM 95th %tile Q(veh)	-	-	0.7	0	-	

10: Front Street & Harper Street
 2026 Total SAT with Front Street Connection.syn

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	4	0	10	9	0	39
Future Volume (vph)	4	0	10	9	0	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.936			
Flt Protected	0.950					
Satd. Flow (prot)	1770	0	1744	0	0	1863
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	1744	0	0	1863
Link Speed (mph)	25		25			25
Link Distance (ft)	380		365			210
Travel Time (s)	10.4		10.0			5.7
Confl. Peds. (#/hr)	5	132		70	70	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	4	0	21	0	0	42
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	32.2%			ICU Level of Service A		
Analysis Period (min)	15					

10: Front Street & Harper Street
2026 Total SAT with Front Street Connection.syn

Intersection

Int Delay, s/veh 0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	0	10	9	0	39
Future Vol, veh/h	4	0	10	9	0	39
Conflicting Peds, #/hr	5	132	0	70	70	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	0	11	10	0	42

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	133	218	0
Stage 1	86	-	-
Stage 2	47	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	861	822	-
Stage 1	937	-	-
Stage 2	975	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	799	671	-
Mov Cap-2 Maneuver	799	-	-
Stage 1	874	-	-
Stage 2	970	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.5	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	799	1404
HCM Lane V/C Ratio	-	-	0.005	-
HCM Control Delay (s)	-	-	9.5	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

11: Courtesy Road (SH 42) & Harper Street
 2026 Total SAT with Front Street Connection.syn

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	38	11	6	652	691	6
Future Volume (vph)	38	11	6	652	691	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95
Frt	0.969				0.999	
Flt Protected	0.963					
Satd. Flow (prot)	1738	0	0	1863	3536	0
Flt Permitted	0.963					
Satd. Flow (perm)	1738	0	0	1863	3536	0
Link Speed (mph)	30			45	45	
Link Distance (ft)	242			369	420	
Travel Time (s)	5.5			5.6	6.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	53	0	0	716	758	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	49.1%			ICU Level of Service A		
Analysis Period (min)	15					

11: Courtesy Road (SH 42) & Harper Street
 2026 Total SAT with Front Street Connection.syn

Intersection						
Int Delay, s/veh	1.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	38	11	6	652	691	6
Future Vol, veh/h	38	11	6	652	691	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	41	12	7	709	751	7
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1478	379	758	0	-	0
Stage 1	755	-	-	-	-	-
Stage 2	723	-	-	-	-	-
Critical Hdwy	6.63	6.93	4.13	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	127	620	851	-	-	-
Stage 1	426	-	-	-	-	-
Stage 2	479	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	125	620	851	-	-	-
Mov Cap-2 Maneuver	125	-	-	-	-	-
Stage 1	420	-	-	-	-	-
Stage 2	479	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	40.9	0.1		0		
HCM LOS	E					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	851	-	152	-	-	
HCM Lane V/C Ratio	0.008	-	0.35	-	-	
HCM Control Delay (s)	9.3	0	40.9	-	-	
HCM Lane LOS	A	A	E	-	-	
HCM 95th %tile Q(veh)	0	-	1.4	-	-	

1: Main Street & S Boulder Road
2045 Total AM with Front Street Connection.syn

	→	↘	↶	↙	←	↖	↗
Lane Group	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↘	↑↑	↘	↗
Traffic Volume (vph)	1191	111	8	79	1544	89	104
Future Volume (vph)	1191	111	8	79	1544	89	104
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		120		225		0	115
Storage Lanes		1		1		1	1
Taper Length (ft)				25		0	
Lane Util. Factor	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Ped Bike Factor		0.97				0.99	0.95
Frt		0.850					0.850
Flt Protected				0.950		0.950	
Satd. Flow (prot)	3539	1583	0	1770	3539	1770	1583
Flt Permitted				0.162		0.950	
Satd. Flow (perm)	3539	1531	0	302	3539	1759	1505
Right Turn on Red		Yes					Yes
Satd. Flow (RTOR)		95					113
Link Speed (mph)	35				35	30	
Link Distance (ft)	636				400	1210	
Travel Time (s)	12.4				7.8	27.5	
Confl. Peds. (#/hr)		5		5		5	32
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)							
Lane Group Flow (vph)	1295	121	0	95	1678	97	113
Turn Type	NA	Perm	custom	pm+pt	NA	Perm	Perm
Protected Phases	2			1	6		
Permitted Phases		2	1	6		8	8
Detector Phase	2	2	1	1	6	8	8
Switch Phase							
Minimum Initial (s)	35.0	35.0	5.0	5.0	35.0	5.0	5.0
Minimum Split (s)	41.0	41.0	11.0	11.0	41.0	35.0	35.0
Total Split (s)	85.0	85.0	14.0	14.0	99.0	21.0	21.0
Total Split (%)	70.8%	70.8%	11.7%	11.7%	82.5%	17.5%	17.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-1.0	0.0
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	5.0
Lead/Lag	Lag	Lag	Lead	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	None	C-Max	None	None
Act Effect Green (s)	85.1	85.1		97.9	97.9	14.1	13.1
Actuated g/C Ratio	0.71	0.71		0.82	0.82	0.12	0.11
v/c Ratio	0.52	0.11		0.27	0.58	0.47	0.43
Control Delay	9.4	2.2		4.9	7.0	56.2	13.8
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	9.4	2.2		4.9	7.0	56.2	13.8
LOS	A	A		A	A	E	B
Approach Delay	8.8				6.9	33.4	
Approach LOS	A				A	C	
Queue Length 50th (ft)	238	6		23	235	69	0

1: Main Street & S Boulder Road
 2045 Total AM with Front Street Connection.syn

	→	↘	↶	↙	←	↖	↗
Lane Group	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Queue Length 95th (ft)	298	25		m27	m259	124	54
Internal Link Dist (ft)	556				320	1130	
Turn Bay Length (ft)		120		225			115
Base Capacity (vph)	2509	1113		368	2887	249	298
Starvation Cap Reductn	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.52	0.11		0.26	0.58	0.39	0.38

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 23 (19%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.58

Intersection Signal Delay: 9.3

Intersection LOS: A

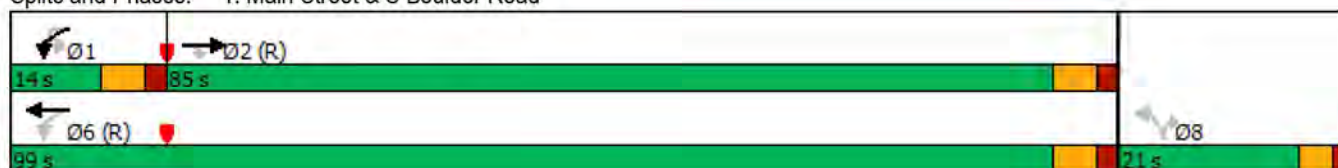
Intersection Capacity Utilization 68.2%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Main Street & S Boulder Road



2: Front Street/Private Access & S Boulder Road
2045 Total AM with Front Street Connection.syn

												
Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↑↑	↗		↖	↑↑				↗		
Traffic Volume (vph)	0	1127	41	2	12	1689	5	0	0	22	0	0
Future Volume (vph)	0	1127	41	2	12	1689	5	0	0	22	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50		70		0	0		0	0	
Storage Lanes	0		1		1		0	0		1	0	
Taper Length (ft)	25				25			25			25	
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850							0.865		
Flt Protected					0.950							
Satd. Flow (prot)	0	3539	1583	0	1770	3539	0	0	0	1611	0	0
Flt Permitted					0.950							
Satd. Flow (perm)	0	3539	1583	0	1770	3539	0	0	0	1611	0	0
Link Speed (mph)		35				35			20			20
Link Distance (ft)		400				360			338			476
Travel Time (s)		7.8				7.0			11.5			16.2
Confl. Peds. (#/hr)	10		10	5	10		10	5		5	5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1225	45	0	15	1841	0	0	0	24	0	0
Sign Control		Free				Free			Stop			Stop
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	58.4%											
Analysis Period (min)	15											
	ICU Level of Service B											

2: Front Street/Private Access & S Boulder Road
2045 Total AM with Front Street Connection.syn



Lane Group	SBR
Lane Configurations	7
Traffic Volume (vph)	11
Future Volume (vph)	11
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Ped Bike Factor	
Frt	0.865
Flt Protected	
Satd. Flow (prot)	1611
Flt Permitted	
Satd. Flow (perm)	1611
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	5
Peak Hour Factor	0.92
Shared Lane Traffic (%)	
Lane Group Flow (vph)	12
Sign Control	
Intersection Summary	

2: Front Street/Private Access & S Boulder Road
2045 Total AM with Front Street Connection.syn

Intersection													
Int Delay, s/veh	0.2												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑		↓	↑↑				↑			↑
Traffic Vol, veh/h	0	1127	41	2	12	1689	5	0	0	22	0	0	11
Future Vol, veh/h	0	1127	41	2	12	1689	5	0	0	22	0	0	11
Conflicting Peds, #/hr	10	0	10	5	10	0	10	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	70	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1225	45	2	13	1836	5	0	0	24	0	0	12
Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	-	0	0	1225	1280	0	0	-	-	628	-	-	936
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	6.44	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	2.52	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	238	538	-	-	0	0	426	0	0	266
Stage 1	0	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	0	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-			-	-						
Mov Cap-1 Maneuver	-	-	-	446	446	-	-	-	-	420	-	-	262
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB			
HCM Control Delay, s	0			0.1			14.1			19.4			
HCM LOS							B			C			
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	WBR	SBLn1						
Capacity (veh/h)	420	-	-	446	-	-	262						
HCM Lane V/C Ratio	0.057	-	-	0.034	-	-	0.046						
HCM Control Delay (s)	14.1	-	-	13.3	-	-	19.4						
HCM Lane LOS	B	-	-	B	-	-	C						
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-	-	0.1						

3: Cannon Circle/Private Access & S Boulder Road
2045 Total AM with Front Street Connection.syn

												
Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	6	21	1126	11	1	25	1663	8	0	0	33	0
Future Volume (vph)	6	21	1126	11	1	25	1663	8	0	0	33	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		90		0		80		0	0		0	0
Storage Lanes		1		0		1		0	0		1	0
Taper Length (ft)		25				25			25			25
Lane Util. Factor	0.95	1.00	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.999				0.999				0.865	
Flt Protected		0.950				0.950						
Satd. Flow (prot)	0	1770	3536	0	0	1770	3536	0	0	0	1611	0
Flt Permitted		0.950				0.950						
Satd. Flow (perm)	0	1770	3536	0	0	1770	3536	0	0	0	1611	0
Link Speed (mph)			35				35			20		
Link Distance (ft)			360				465			339		
Travel Time (s)			7.0				9.1			11.6		
Confl. Peds. (#/hr)	5	10		10	5	10		10	5		5	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	30	1236	0	0	28	1817	0	0	0	36	0
Sign Control			Free				Free			Stop		
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	57.8%						ICU Level of Service B					
Analysis Period (min)	15											

3: Cannon Circle/Private Access & S Boulder Road
2045 Total AM with Front Street Connection.syn



Lane Group	SBT	SBR
Lane Configurations		↗
Traffic Volume (vph)	0	36
Future Volume (vph)	0	36
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		0
Storage Lanes		1
Taper Length (ft)		
Lane Util. Factor	1.00	1.00
Ped Bike Factor		
Frt		0.865
Flt Protected		
Satd. Flow (prot)	0	1611
Flt Permitted		
Satd. Flow (perm)	0	1611
Link Speed (mph)	20	
Link Distance (ft)	431	
Travel Time (s)	14.7	
Confl. Peds. (#/hr)		5
Peak Hour Factor	0.92	0.92
Shared Lane Traffic (%)		
Lane Group Flow (vph)	0	39
Sign Control	Stop	
Intersection Summary		

3: Cannon Circle/Private Access & S Boulder Road
2045 Total AM with Front Street Connection.syn

Intersection

Int Delay, s/veh 0.8

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Vol, veh/h	6	21	1126	11	1	25	1663	8	0	0	33	0	0	36
Future Vol, veh/h	6	21	1126	11	1	25	1663	8	0	0	33	0	0	36
Conflicting Peds, #/hr	5	10	0	10	5	10	0	10	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	-	90	-	-	-	80	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	23	1224	12	1	27	1808	9	0	0	36	0	0	39

Major/Minor	Major1			Major2			Minor1			Minor2				
Conflicting Flow All	1816	1827	0	0	1236	1246	0	0	-	-	633	-	-	924
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	6.44	4.14	-	-	6.44	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.52	2.22	-	-	2.52	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	98	331	-	-	234	554	-	-	0	0	422	0	0	271
Stage 1	-	-	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %			-	-			-	-						
Mov Cap-1 Maneuver	201	201	-	-	518	518	-	-	-	-	416	-	-	267
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.2	14.5	20.8
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	416	201	-	-	518	-	-	267
HCM Lane V/C Ratio	0.086	0.146	-	-	0.055	-	-	0.147
HCM Control Delay (s)	14.5	26	-	-	12.3	-	-	20.8
HCM Lane LOS	B	D	-	-	B	-	-	C
HCM 95th %tile Q(veh)	0.3	0.5	-	-	0.2	-	-	0.5

4: Courtesy Road (SH 42) & S Boulder Road
2045 Total AM with Front Street Connection.syn

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (vph)	13	393	546	171	332	871	195	1	236	603	258	7
Future Volume (vph)	13	393	546	171	332	871	195	1	236	603	258	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		150		100	225		270		0		0	
Storage Lanes		2		1	2		1		2		1	
Taper Length (ft)		25			25				25			
Lane Util. Factor	0.95	0.97	0.95	1.00	0.97	0.95	1.00	0.95	0.97	0.95	1.00	0.95
Ped Bike Factor				0.98			0.98				0.98	
Frt				0.850			0.850				0.850	
Flt Protected		0.950			0.950				0.950			
Satd. Flow (prot)	0	3433	3539	1583	3433	3539	1583	0	3433	3539	1583	0
Flt Permitted		0.302			0.950				0.333			
Satd. Flow (perm)	0	1091	3539	1555	3433	3539	1546	0	1203	3539	1556	0
Right Turn on Red				Yes			Yes				Yes	
Satd. Flow (RTOR)				173			182				280	
Link Speed (mph)			35			35				45		
Link Distance (ft)			465			1815				418		
Travel Time (s)			9.1			35.4				6.3		
Confl. Peds. (#/hr)				5			10				5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	441	593	186	361	947	212	0	258	655	280	0
Turn Type	custom	Prot	NA	Perm	Prot	NA	Perm	custom	Prot	NA	Perm	custom
Protected Phases		5	2		1	6			3	8		
Permitted Phases	5			2			6	3			8	7
Detector Phase	5	5	2	2	1	6	6	3	3	8	8	7
Switch Phase												
Minimum Initial (s)	5.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	5.0	6.0	6.0	5.0
Minimum Split (s)	10.0	10.0	37.0	37.0	10.0	37.0	37.0	10.0	10.0	40.0	40.0	10.0
Total Split (s)	20.0	20.0	41.0	41.0	20.0	41.0	41.0	16.0	16.0	47.0	47.0	12.0
Total Split (%)	16.7%	16.7%	34.2%	34.2%	16.7%	34.2%	34.2%	13.3%	13.3%	39.2%	39.2%	10.0%
Yellow Time (s)	3.0	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0	4.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		-1.0	-2.0	-2.0	-1.0	-2.0	-2.0		-1.0	-2.0	-2.0	
Total Lost Time (s)		4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	
Lead/Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lag
Lead-Lag Optimize?												
Recall Mode	None	None	C-Max	C-Max	None	Max	Max	None	None	Max	Max	None
Act Effect Green (s)		16.0	37.3	37.3	15.7	37.0	37.0		12.0	43.0	43.0	
Actuated g/C Ratio		0.13	0.31	0.31	0.13	0.31	0.31		0.10	0.36	0.36	
v/c Ratio		3.04	0.54	0.31	0.80	0.87	0.35		2.15	0.52	0.38	
Control Delay		953.0	29.3	9.8	65.1	49.0	8.5		568.5	36.8	10.0	
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	
Total Delay		953.0	29.3	9.8	65.1	49.0	8.5		568.5	36.8	10.0	
LOS		F	C	A	E	D	A		F	D	B	
Approach Delay			360.3			47.2				145.5		
Approach LOS			F			D				F		
Queue Length 50th (ft)		~309	200	45	141	364	16		~166	241	6	

4: Courtesy Road (SH 42) & S Boulder Road
2045 Total AM with Front Street Connection.syn



Lane Group	SBL	SBT	SBR
Lane Configurations	RT	LT	LT
Traffic Volume (vph)	164	738	564
Future Volume (vph)	164	738	564
Ideal Flow (vphpl)	1900	1900	1900
Storage Length (ft)	185		270
Storage Lanes	2		1
Taper Length (ft)	25		
Lane Util. Factor	0.97	0.95	1.00
Ped Bike Factor			0.98
Frt			0.850
Flt Protected	0.950		
Satd. Flow (prot)	3433	3539	1583
Flt Permitted	0.500		
Satd. Flow (perm)	1807	3539	1555
Right Turn on Red			Yes
Satd. Flow (RTOR)			258
Link Speed (mph)		45	
Link Distance (ft)		1337	
Travel Time (s)		20.3	
Confl. Peds. (#/hr)			5
Peak Hour Factor	0.92	0.92	0.92
Shared Lane Traffic (%)			
Lane Group Flow (vph)	186	802	613
Turn Type	Prot	NA	Perm
Protected Phases	7	4	
Permitted Phases			4
Detector Phase	7	4	4
Switch Phase			
Minimum Initial (s)	5.0	6.0	6.0
Minimum Split (s)	10.0	36.0	36.0
Total Split (s)	12.0	43.0	43.0
Total Split (%)	10.0%	35.8%	35.8%
Yellow Time (s)	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	4.0
Lead/Lag	Lag	Lag	Lag
Lead-Lag Optimize?			
Recall Mode	None	Max	Max
Act Effect Green (s)	8.0	39.0	39.0
Actuated g/C Ratio	0.07	0.32	0.32
v/c Ratio	1.55	0.70	0.90
Control Delay	321.4	39.2	40.4
Queue Delay	0.0	0.0	0.0
Total Delay	321.4	39.2	40.4
LOS	F	D	D
Approach Delay		72.4	
Approach LOS		E	
Queue Length 50th (ft)	~104	284	288

4: Courtesy Road (SH 42) & S Boulder Road
2045 Total AM with Front Street Connection.syn

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU
Queue Length 95th (ft)		#417	262	97	#207	#456	75		#249	308	87	
Internal Link Dist (ft)			385			1735				338		
Turn Bay Length (ft)		150		100	225		270					
Base Capacity (vph)		145	1099	602	457	1091	602		120	1268	737	
Starvation Cap Reductn		0	0	0	0	0	0		0	0	0	
Spillback Cap Reductn		0	0	0	0	0	0		0	0	0	
Storage Cap Reductn		0	0	0	0	0	0		0	0	0	
Reduced v/c Ratio		3.04	0.54	0.31	0.79	0.87	0.35		2.15	0.52	0.38	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT, Start of Yellow, Master Intersection

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 3.04

Intersection Signal Delay: 144.7

Intersection LOS: F

Intersection Capacity Utilization 93.0%

ICU Level of Service F

Analysis Period (min) 15

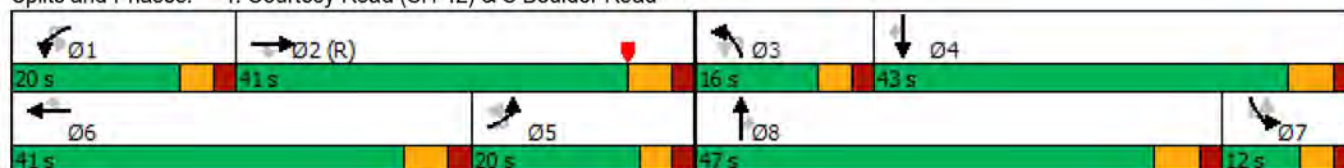
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 4: Courtesy Road (SH 42) & S Boulder Road



4: Courtesy Road (SH 42) & S Boulder Road
2045 Total AM with Front Street Connection.syn



Lane Group	SBL	SBT	SBR
Queue Length 95th (ft)	#180	356	#521
Internal Link Dist (ft)		1257	
Turn Bay Length (ft)	185		270
Base Capacity (vph)	120	1150	679
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	1.55	0.70	0.90
Intersection Summary			

5: Courtesy Road (SH 42) & Cannon Circle
 2045 Total AM with Front Street Connection.syn

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				 	 	
Traffic Volume (vph)	0	17	0	1070	1233	1
Future Volume (vph)	0	17	0	1070	1233	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	140			0
Storage Lanes	0	1	0			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor						
Frt		0.865				
Flt Protected						
Satd. Flow (prot)	0	1611	0	3539	3539	0
Flt Permitted						
Satd. Flow (perm)	0	1611	0	3539	3539	0
Link Speed (mph)	20			45	45	
Link Distance (ft)	418			420	418	
Travel Time (s)	14.3			6.4	6.3	
Confl. Peds. (#/hr)			5			5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	18	0	1163	1341	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	44.1%			ICU Level of Service A		
Analysis Period (min)	15					

5: Courtesy Road (SH 42) & Cannon Circle
2045 Total AM with Front Street Connection.syn

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	
Traffic Vol, veh/h	0	17	0	1070	1233	1
Future Vol, veh/h	0	17	0	1070	1233	1
Conflicting Peds, #/hr	0	0	5	0	0	5
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	18	0	1163	1340	1

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	- 676	- 0	- 0
Stage 1	- -	- -	- -
Stage 2	- -	- -	- -
Critical Hdwy	- 6.94	- -	- -
Critical Hdwy Stg 1	- -	- -	- -
Critical Hdwy Stg 2	- -	- -	- -
Follow-up Hdwy	- 3.32	- -	- -
Pot Cap-1 Maneuver	0 396	0 -	- -
Stage 1	0 -	0 -	- -
Stage 2	0 -	0 -	- -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	- 394	- -	- -
Mov Cap-2 Maneuver	- -	- -	- -
Stage 1	- -	- -	- -
Stage 2	- -	- -	- -

Approach	EB	NB	SB
HCM Control Delay, s	14.6	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT EBLn1	SBT	SBR
Capacity (veh/h)	- 394	- -	- -
HCM Lane V/C Ratio	- 0.047	- -	- -
HCM Control Delay (s)	- 14.6	- -	- -
HCM Lane LOS	- B	- -	- -
HCM 95th %tile Q(veh)	- 0.1	- -	- -

6: Courtesy Road (SH 42) & Griffith Street/Sports Complex Access
2045 Total AM with Front Street Connection.syn

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	0	77	1	1	1	40	1039	4	5	1150	83
Future Volume (vph)	29	0	77	1	1	1	40	1039	4	5	1150	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		0	50		0	225		0	500		273
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor												0.98
Frt		0.850			0.925			0.999				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1583	0	1770	1723	0	1770	3536	0	1770	3539	1583
Flt Permitted	0.757			0.702			0.950			0.950		
Satd. Flow (perm)	1410	1583	0	1308	1723	0	1770	3536	0	1770	3539	1546
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		273			1			1				164
Link Speed (mph)		30			20			45			45	
Link Distance (ft)		439			281			380			369	
Travel Time (s)		10.0			9.6			5.8			5.6	
Confl. Bikes (#/hr)												5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	32	84	0	1	2	0	43	1133	0	5	1250	90
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								6
Detector Phase	4	4		8	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	25.0	25.0		25.0	25.0		11.0	24.5		11.0	25.0	25.0
Total Split (s)	11.0	11.0		11.0	11.0		11.0	39.0		10.0	38.0	38.0
Total Split (%)	18.3%	18.3%		18.3%	18.3%		18.3%	65.0%		16.7%	63.3%	63.3%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	3.5		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0		-2.0	-1.5		-2.0	-2.0	-2.0
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lead/Lag							Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None		None	C-Max		None	Max	Max
Act Effect Green (s)	7.0	7.0		7.0	7.0		7.0	46.0		6.3	43.6	43.6
Actuated g/C Ratio	0.12	0.12		0.12	0.12		0.12	0.77		0.10	0.73	0.73
v/c Ratio	0.20	0.20		0.01	0.01		0.21	0.42		0.03	0.49	0.08
Control Delay	27.1	1.0		24.0	21.0		26.8	4.4		28.0	5.1	0.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	27.1	1.0		24.0	21.0		26.8	4.4		28.0	5.1	0.6
LOS	C	A		C	C		C	A		C	A	A
Approach Delay		8.2			22.0			5.3			4.9	
Approach LOS		A			C			A			A	
Queue Length 50th (ft)	11	0		0	0		14	54		3	161	2

6: Courtesy Road (SH 42) & Griffith Street/Sports Complex Access
 2045 Total AM with Front Street Connection.syn

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (ft)	26	0		4	6		40	162		m5	278	m3
Internal Link Dist (ft)		359			201			300			289	
Turn Bay Length (ft)	50			50			225			500		273
Base Capacity (vph)	164	425		152	201		206	2711		186	2571	1168
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.20	0.20		0.01	0.01		0.21	0.42		0.03	0.49	0.08

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 43 (72%), Referenced to phase 2:NBT, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.49

Intersection Signal Delay: 5.2

Intersection LOS: A

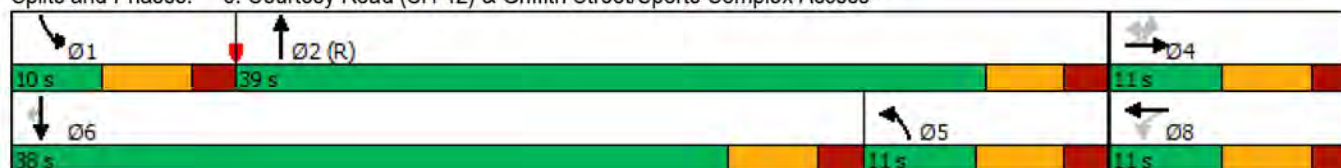
Intersection Capacity Utilization 48.2%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Courtesy Road (SH 42) & Griffith Street/Sports Complex Access



7: Cannon Street & Griffith Street
2045 Total AM with Front Street Connection.syn

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	84	12	14	93	2	19	0	19	0	0	1
Future Volume (vph)	0	84	12	14	93	2	19	0	19	0	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150	150		150	150		150	150		150
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.983			0.998			0.932			0.865	
Flt Protected					0.994			0.976				
Satd. Flow (prot)	0	1831	0	0	1848	0	0	1694	0	0	1611	0
Flt Permitted					0.994			0.976				
Satd. Flow (perm)	0	1831	0	0	1848	0	0	1694	0	0	1611	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		390			439			346			362	
Travel Time (s)		8.9			10.0			9.4			9.9	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	104	0	0	118	0	0	42	0	0	1	0
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	29.1%											
Analysis Period (min)	15											
	ICU Level of Service A											

7: Cannon Street & Griffith Street
2045 Total AM with Front Street Connection.syn

Intersection												
Int Delay, s/veh	2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	84	12	14	93	2	19	0	19	0	0	1
Future Vol, veh/h	0	84	12	14	93	2	19	0	19	0	0	1
Conflicting Peds, #/hr	5	0	5	5	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	91	13	15	101	2	21	0	21	0	0	1
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	108	0	0	109	0	0	241	241	108	250	246	112
Stage 1	-	-	-	-	-	-	103	103	-	137	137	-
Stage 2	-	-	-	-	-	-	138	138	-	113	109	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1483	-	-	1481	-	-	713	660	946	703	656	941
Stage 1	-	-	-	-	-	-	903	810	-	866	783	-
Stage 2	-	-	-	-	-	-	865	782	-	892	805	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1476	-	-	1474	-	-	699	646	937	676	642	932
Mov Cap-2 Maneuver	-	-	-	-	-	-	699	646	-	676	642	-
Stage 1	-	-	-	-	-	-	898	806	-	862	770	-
Stage 2	-	-	-	-	-	-	850	769	-	868	801	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			1			9.7			8.9		
HCM LOS							A			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	801	1476	-	-	1474	-	-	932				
HCM Lane V/C Ratio	0.052	-	-	-	0.01	-	-	0.001				
HCM Control Delay (s)	9.7	0	-	-	7.5	0	-	8.9				
HCM Lane LOS	A	A	-	-	A	A	-	A				
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0				

8: Griffith Street & Front Street
2045 Total AM with Front Street Connection.syn

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	74	2	3	127	4	6	0	3	24	0	45
Future Volume (vph)	6	74	2	3	127	4	6	0	3	24	0	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150	150		150	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.997			0.996			0.959			0.912	
Flt Protected		0.996			0.999			0.966			0.983	
Satd. Flow (prot)	0	1850	0	0	1853	0	0	1726	0	0	1670	0
Flt Permitted		0.996			0.999			0.966			0.983	
Satd. Flow (perm)	0	1850	0	0	1853	0	0	1726	0	0	1670	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		405			390			333			365	
Travel Time (s)		9.2			8.9			9.1			10.0	
Confl. Peds. (#/hr)	5		10	10		5	5		5	5		5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	89	0	0	145	0	0	10	0	0	75	0
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	21.4%											
Analysis Period (min)	15											
ICU Level of Service A												

8: Griffith Street & Front Street
2045 Total AM with Front Street Connection.syn

Intersection												
Int Delay, s/veh	2.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	74	2	3	127	4	6	0	3	24	0	45
Future Vol, veh/h	6	74	2	3	127	4	6	0	3	24	0	45
Conflicting Peds, #/hr	5	0	10	10	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	80	2	3	138	4	7	0	3	26	0	49
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	147	0	0	92	0	0	281	258	96	253	257	150
Stage 1	-	-	-	-	-	-	105	105	-	151	151	-
Stage 2	-	-	-	-	-	-	176	153	-	102	106	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1435	-	-	1503	-	-	671	646	960	700	647	896
Stage 1	-	-	-	-	-	-	901	808	-	851	772	-
Stage 2	-	-	-	-	-	-	826	771	-	904	807	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1428	-	-	1489	-	-	621	632	946	687	633	887
Mov Cap-2 Maneuver	-	-	-	-	-	-	621	632	-	687	633	-
Stage 1	-	-	-	-	-	-	888	796	-	842	767	-
Stage 2	-	-	-	-	-	-	775	766	-	892	795	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.6			0.2			10.2			9.9		
HCM LOS							B			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	701	1428	-	-	1489	-	-	805				
HCM Lane V/C Ratio	0.014	0.005	-	-	0.002	-	-	0.093				
HCM Control Delay (s)	10.2	7.5	0	-	7.4	0	-	9.9				
HCM Lane LOS	B	A	A	-	A	A	-	A				
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.3				

9: Main Street & Griffith Street
2045 Total AM with Front Street Connection.syn

								
Lane Group	WBU	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	1	59	81	1	160	64	20	117
Future Volume (vph)	1	59	81	1	160	64	20	117
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor								
Frt		0.922			0.961			
Flt Protected		0.979						0.993
Satd. Flow (prot)	0	1681	0	0	1790	0	0	1850
Flt Permitted		0.979						0.993
Satd. Flow (perm)	0	1681	0	0	1790	0	0	1850
Link Speed (mph)		30			30			30
Link Distance (ft)		405			350			1210
Travel Time (s)		9.2			8.0			27.5
Confl. Peds. (#/hr)	70	1	132	1		70	70	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)								
Lane Group Flow (vph)	0	153	0	0	245	0	0	149
Sign Control		Stop			Free			Free
Intersection Summary								
Area Type:	Other							
Control Type:	Unsignalized							
Intersection Capacity Utilization	41.4%				ICU Level of Service A			
Analysis Period (min)	15							

9: Main Street & Griffith Street
2045 Total AM with Front Street Connection.syn

Intersection								
Int Delay, s/veh	4.5							
Movement	WBU	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations								
Traffic Vol, veh/h	1	59	81	1	160	64	20	117
Future Vol, veh/h	1	59	81	1	160	64	20	117
Conflicting Peds, #/hr	70	1	132	1	0	70	70	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	None
Storage Length	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0
Grade, %	-	0	-	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2
Mvmt Flow	1	64	88	1	174	70	22	127
Major/Minor	Minor1	Major1			Major2			
Conflicting Flow All	0	451	411	-	0	0	314	0
Stage 1	0	279	-	-	-	-	-	-
Stage 2	0	172	-	-	-	-	-	-
Critical Hdwy	-	6.42	6.22	-	-	-	4.12	-
Critical Hdwy Stg 1	-	5.42	-	-	-	-	-	-
Critical Hdwy Stg 2	-	5.42	-	-	-	-	-	-
Follow-up Hdwy	-	3.518	3.318	-	-	-	2.218	-
Pot Cap-1 Maneuver	0	566	641	-	-	-	1246	-
Stage 1	0	768	-	-	-	-	-	-
Stage 2	0	858	-	-	-	-	-	-
Platoon blocked, %	-				-	-		-
Mov Cap-1 Maneuver	0	517	523	-	-	-	1163	-
Mov Cap-2 Maneuver	0	517	-	-	-	-	-	-
Stage 1	0	702	-	-	-	-	-	-
Stage 2	0	857	-	-	-	-	-	-
Approach	WB	NB			SB			
HCM Control Delay, s	14.8				1.2			
HCM LOS	B							
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT				
Capacity (veh/h)	-	-	520	1163				
HCM Lane V/C Ratio	-	-	0.293	0.019				
HCM Control Delay (s)	-	-	14.8	8.2	0			
HCM Lane LOS	-	-	B	A	A			
HCM 95th %tile Q(veh)	-	-	1.2	0.1				

10: Front Street & Harper Street
 2045 Total AM with Front Street Connection.syn

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	6	0	7	3	0	63
Future Volume (vph)	6	0	7	3	0	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.963					
Flt Protected	0.950					
Satd. Flow (prot)	1770	0	1794	0	0	1863
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	1794	0	0	1863
Link Speed (mph)	25	25				25
Link Distance (ft)	380	365				210
Travel Time (s)	10.4	10.0				5.7
Confl. Peds. (#/hr)	5	132	70		70	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	7	0	11	0	0	68
Sign Control	Stop	Free		Free		
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	32.2%			ICU Level of Service A		
Analysis Period (min)	15					

10: Front Street & Harper Street
2045 Total AM with Front Street Connection.syn

Intersection

Int Delay, s/veh 0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	0	7	3	0	63
Future Vol, veh/h	6	0	7	3	0	63
Conflicting Peds, #/hr	5	132	0	70	70	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	0	8	3	0	68

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	153	212	0
Stage 1	80	-	-
Stage 2	73	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	839	828	-
Stage 1	943	-	-
Stage 2	950	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	779	676	-
Mov Cap-2 Maneuver	779	-	-
Stage 1	880	-	-
Stage 2	945	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.7	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	779	1416
HCM Lane V/C Ratio	-	-	0.008	-
HCM Control Delay (s)	-	-	9.7	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

11: Courtesy Road (SH 42) & Harper Street
 2045 Total AM with Front Street Connection.syn

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				 	  	
Traffic Volume (vph)	0	19	0	1060	1227	2
Future Volume (vph)	0	19	0	1060	1227	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.865				
Flt Protected						
Satd. Flow (prot)	0	1611	0	3539	3539	0
Flt Permitted						
Satd. Flow (perm)	0	1611	0	3539	3539	0
Link Speed (mph)	30			45	45	
Link Distance (ft)	189			369	420	
Travel Time (s)	4.3			5.6	6.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	21	0	1152	1336	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	44.0%			ICU Level of Service A		
Analysis Period (min)	15					

11: Courtesy Road (SH 42) & Harper Street
2045 Total AM with Front Street Connection.syn

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	
Traffic Vol, veh/h	0	19	0	1060	1227	2
Future Vol, veh/h	0	19	0	1060	1227	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	21	0	1152	1334	2

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	- 668	- 0	- 0
Stage 1	- -	- -	- -
Stage 2	- -	- -	- -
Critical Hdwy	- 6.94	- -	- -
Critical Hdwy Stg 1	- -	- -	- -
Critical Hdwy Stg 2	- -	- -	- -
Follow-up Hdwy	- 3.32	- -	- -
Pot Cap-1 Maneuver	0 401	0 -	- -
Stage 1	0 -	0 -	- -
Stage 2	0 -	0 -	- -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	- 401	- -	- -
Mov Cap-2 Maneuver	- -	- -	- -
Stage 1	- -	- -	- -
Stage 2	- -	- -	- -

Approach	EB	NB	SB
HCM Control Delay, s	14.5	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT EBLn1	SBT	SBR
Capacity (veh/h)	- 401	- -	- -
HCM Lane V/C Ratio	- 0.052	- -	- -
HCM Control Delay (s)	- 14.5	- -	- -
HCM Lane LOS	- B	- -	- -
HCM 95th %tile Q(veh)	- 0.2	- -	- -

1: Main Street & S Boulder Road
2045 Total PM with Front Street Connection.syn

	→	↘	↶	↙	←	↗	↘
Lane Group	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↙	↑↑	↙	↙
Traffic Volume (vph)	1653	102	21	76	1294	102	178
Future Volume (vph)	1653	102	21	76	1294	102	178
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		120		225		0	115
Storage Lanes		1		1		1	1
Taper Length (ft)				25		0	
Lane Util. Factor	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Ped Bike Factor		0.97				0.99	0.94
Frt		0.850					0.850
Flt Protected				0.950		0.950	
Satd. Flow (prot)	3539	1583	0	1770	3539	1770	1583
Flt Permitted				0.072		0.950	
Satd. Flow (perm)	3539	1531	0	134	3539	1759	1484
Right Turn on Red		Yes					Yes
Satd. Flow (RTOR)		63					93
Link Speed (mph)	35				35	30	
Link Distance (ft)	636				400	1210	
Travel Time (s)	12.4				7.8	27.5	
Confl. Peds. (#/hr)		5		5		5	43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)							
Lane Group Flow (vph)	1797	111	0	106	1407	111	193
Turn Type	NA	Perm	custom	pm+pt	NA	Perm	Perm
Protected Phases	2			1	6		
Permitted Phases		2	1	6		8	8
Detector Phase	2	2	1	1	6	8	8
Switch Phase							
Minimum Initial (s)	35.0	35.0	5.0	5.0	35.0	5.0	5.0
Minimum Split (s)	41.0	41.0	11.0	11.0	41.0	35.0	35.0
Total Split (s)	85.0	85.0	14.0	14.0	99.0	21.0	21.0
Total Split (%)	70.8%	70.8%	11.7%	11.7%	82.5%	17.5%	17.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-1.0	0.0
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	5.0
Lead/Lag	Lag	Lag	Lead	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	None	C-Max	None	None
Act Effect Green (s)	85.0	85.0		98.0	98.0	14.0	13.0
Actuated g/C Ratio	0.71	0.71		0.82	0.82	0.12	0.11
v/c Ratio	0.72	0.10		0.46	0.49	0.54	0.79
Control Delay	13.1	3.3		12.8	7.6	59.2	49.3
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	13.1	3.3		12.8	7.6	59.2	49.3
LOS	B	A		B	A	E	D
Approach Delay	12.5				8.0	52.9	
Approach LOS	B				A	D	
Queue Length 50th (ft)	403	10		39	224	81	75

1: Main Street & S Boulder Road
 2045 Total PM with Front Street Connection.syn

	→	↘	↶	↙	←	↖	↗
Lane Group	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Queue Length 95th (ft)	531	30		m47	m235	139	#170
Internal Link Dist (ft)	556				320	1130	
Turn Bay Length (ft)		120		225			115
Base Capacity (vph)	2506	1102		245	2889	249	278
Starvation Cap Reductn	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.72	0.10		0.43	0.49	0.45	0.69

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 22 (18%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 14.0

Intersection LOS: B

Intersection Capacity Utilization 84.4%

ICU Level of Service E

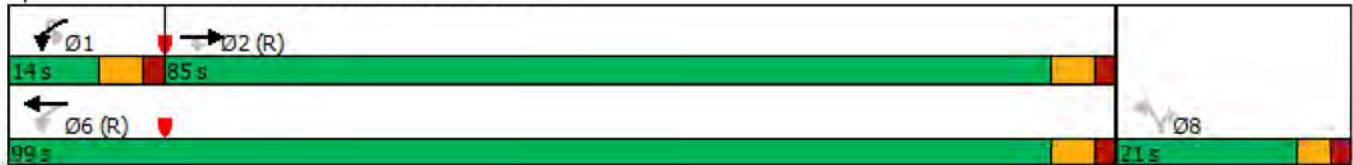
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Main Street & S Boulder Road



2: Front Street/Private Access & S Boulder Road
2045 Total PM with Front Street Connection.syn

												
Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↑↑	↗		↘	↑↑				↗		
Traffic Volume (vph)	0	1789	73	4	27	1406	5	0	0	29	0	0
Future Volume (vph)	0	1789	73	4	27	1406	5	0	0	29	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50		70		0	0		0	0	
Storage Lanes	0		1		1		0	0		1	0	
Taper Length (ft)	25				25			25			25	
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850							0.865		
Flt Protected					0.950							
Satd. Flow (prot)	0	3539	1583	0	1770	3539	0	0	0	1611	0	0
Flt Permitted					0.950							
Satd. Flow (perm)	0	3539	1583	0	1770	3539	0	0	0	1611	0	0
Link Speed (mph)		35				35			20			20
Link Distance (ft)		400				360			338			476
Travel Time (s)		7.8				7.0			11.5			16.2
Confl. Peds. (#/hr)	10		10	5	10		10	5		5	5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1945	79	0	33	1533	0	0	0	32	0	0
Sign Control		Free				Free			Stop			Stop
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	61.0%											
Analysis Period (min)	15											
	ICU Level of Service B											

2: Front Street/Private Access & S Boulder Road
2045 Total PM with Front Street Connection.syn



Lane Group	SBR
Lane Configurations	7
Traffic Volume (vph)	5
Future Volume (vph)	5
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Ped Bike Factor	
Frt	0.865
Flt Protected	
Satd. Flow (prot)	1611
Flt Permitted	
Satd. Flow (perm)	1611
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	5
Peak Hour Factor	0.92
Shared Lane Traffic (%)	
Lane Group Flow (vph)	5
Sign Control	
Intersection Summary	

2: Front Street/Private Access & S Boulder Road
2045 Total PM with Front Street Connection.syn

Intersection													
Int Delay, s/veh	0.5												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↘	↑↑				↗			↗
Traffic Vol, veh/h	0	1789	73	4	27	1406	5	0	0	29	0	0	5
Future Vol, veh/h	0	1789	73	4	27	1406	5	0	0	29	0	0	5
Conflicting Peds, #/hr	10	0	10	5	10	0	10	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	70	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1945	79	4	29	1528	5	0	0	32	0	0	5
Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	-	0	0	1945	2034	0	0	-	-	988	-	-	782
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	6.44	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	2.52	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	81	274	-	-	0	0	246	0	0	337
Stage 1	0	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	0	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-			-	-						
Mov Cap-1 Maneuver	-	-	-	199	199	-	-	-	-	242	-	-	332
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB			
HCM Control Delay, s	0			0.6			22.1			16			
HCM LOS							C			C			
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	WBR	SBLn1						
Capacity (veh/h)	242	-	-	199	-	-	332						
HCM Lane V/C Ratio	0.13	-	-	0.169	-	-	0.016						
HCM Control Delay (s)	22.1	-	-	26.8	-	-	16						
HCM Lane LOS	C	-	-	D	-	-	C						
HCM 95th %tile Q(veh)	0.4	-	-	0.6	-	-	0.1						

3: Cannon Circle/Private Access & S Boulder Road
2045 Total PM with Front Street Connection.syn

												
Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	23	48	1805	49	2	59	1433	12	0	0	59	0
Future Volume (vph)	23	48	1805	49	2	59	1433	12	0	0	59	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		90		0		80		0	0		0	0
Storage Lanes		1		0		1		0	0		1	0
Taper Length (ft)		25				25			25			25
Lane Util. Factor	0.95	1.00	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.996				0.999				0.865	
Flt Protected		0.950				0.950						
Satd. Flow (prot)	0	1770	3525	0	0	1770	3536	0	0	0	1611	0
Flt Permitted		0.950				0.950						
Satd. Flow (perm)	0	1770	3525	0	0	1770	3536	0	0	0	1611	0
Link Speed (mph)			35				35			20		
Link Distance (ft)			360				465			339		
Travel Time (s)			7.0				9.1			11.6		
Confl. Peds. (#/hr)	5	10		10	5	10		10	5		5	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	77	2015	0	0	66	1571	0	0	0	64	0
Sign Control			Free				Free			Stop		
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	70.5%						ICU Level of Service C					
Analysis Period (min)	15											

3: Cannon Circle/Private Access & S Boulder Road
 2045 Total PM with Front Street Connection.syn



Lane Group	SBT	SBR
Lane Configurations		↗
Traffic Volume (vph)	0	66
Future Volume (vph)	0	66
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		0
Storage Lanes		1
Taper Length (ft)		
Lane Util. Factor	1.00	1.00
Ped Bike Factor		
Frt		0.865
Flt Protected		
Satd. Flow (prot)	0	1611
Flt Permitted		
Satd. Flow (perm)	0	1611
Link Speed (mph)	20	
Link Distance (ft)	431	
Travel Time (s)	14.7	
Confl. Peds. (#/hr)		5
Peak Hour Factor	0.92	0.92
Shared Lane Traffic (%)		
Lane Group Flow (vph)	0	72
Sign Control	Stop	
Intersection Summary		

3: Cannon Circle/Private Access & S Boulder Road
2045 Total PM with Front Street Connection.syn

Intersection														
Int Delay, s/veh	1.8													
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Vol, veh/h	23	48	1805	49	2	59	1433	12	0	0	59	0	0	66
Future Vol, veh/h	23	48	1805	49	2	59	1433	12	0	0	59	0	0	66
Conflicting Peds, #/hr	5	10	0	10	5	10	0	10	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	-	90	-	-	-	80	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	25	52	1962	53	2	64	1558	13	0	0	64	0	0	72
Major/Minor	Major1			Major2			Minor1			Minor2				
Conflicting Flow All	1571	1581	0	0	2015	2025	0	0	-	-	1023	-	-	801
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	6.44	4.14	-	-	6.44	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.52	2.22	-	-	2.52	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	142	412	-	-	72	277	-	-	0	0	233	0	0	327
Stage 1	-	-	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %			-	-			-	-						
Mov Cap-1 Maneuver	221	221	-	-	242	242	-	-	-	-	230	-	-	322
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB				
HCM Control Delay, s	1.1			1			26.6			19.4				
HCM LOS							D			C				
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1						
Capacity (veh/h)	230	221	-	-	242	-	-	322						
HCM Lane V/C Ratio	0.279	0.349	-	-	0.274	-	-	0.223						
HCM Control Delay (s)	26.6	29.8	-	-	25.4	-	-	19.4						
HCM Lane LOS	D	D	-	-	D	-	-	C						
HCM 95th %tile Q(veh)	1.1	1.5	-	-	1.1	-	-	0.8						

4: Courtesy Road (SH 42) & S Boulder Road
2045 Total PM with Front Street Connection.syn

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU
Lane Configurations		↔↔	↕↕	↗	↔↔	↕↕	↗		↔↔	↕↕	↗	
Traffic Volume (vph)	22	750	958	185	453	830	258	1	188	910	328	12
Future Volume (vph)	22	750	958	185	453	830	258	1	188	910	328	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		150		100	225		270		0		0	
Storage Lanes		2		1	2		1		2		1	
Taper Length (ft)		25			25				25			
Lane Util. Factor	0.95	0.97	0.95	1.00	0.97	0.95	1.00	0.95	0.97	0.95	1.00	0.95
Ped Bike Factor				0.98			0.98				0.98	
Frt				0.850			0.850				0.850	
Flt Protected		0.950			0.950				0.950			
Satd. Flow (prot)	0	3433	3539	1583	3433	3539	1583	0	3433	3539	1583	0
Flt Permitted		0.316			0.950				0.286			
Satd. Flow (perm)	0	1142	3539	1555	3433	3539	1546	0	1034	3539	1556	0
Right Turn on Red				Yes			Yes				Yes	
Satd. Flow (RTOR)				173			196				287	
Link Speed (mph)			35			35				45		
Link Distance (ft)			465			1815				418		
Travel Time (s)			9.1			35.4				6.3		
Confl. Peds. (#/hr)				5			10				5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	839	1041	201	492	902	280	0	205	989	357	0
Turn Type	custom	Prot	NA	Perm	Prot	NA	Perm	custom	Prot	NA	Perm	custom
Protected Phases		5	2		1	6			3	8		
Permitted Phases	5			2			6	3			8	7
Detector Phase	5	5	2	2	1	6	6	3	3	8	8	7
Switch Phase												
Minimum Initial (s)	5.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	5.0	6.0	6.0	5.0
Minimum Split (s)	10.0	10.0	37.0	37.0	10.0	37.0	37.0	10.0	10.0	40.0	40.0	10.0
Total Split (s)	24.0	24.0	43.0	43.0	18.0	37.0	37.0	18.0	18.0	41.0	41.0	18.0
Total Split (%)	20.0%	20.0%	35.8%	35.8%	15.0%	30.8%	30.8%	15.0%	15.0%	34.2%	34.2%	15.0%
Yellow Time (s)	3.0	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0	4.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		-1.0	-2.0	-2.0	-1.0	-2.0	-2.0		-1.0	-2.0	-2.0	
Total Lost Time (s)		4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	
Lead/Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lag
Lead-Lag Optimize?												
Recall Mode	None	None	C-Max	C-Max	None	Max	Max	None	None	Max	Max	None
Act Effect Green (s)		20.0	39.0	39.0	14.0	33.0	33.0		14.0	37.0	37.0	
Actuated g/C Ratio		0.17	0.32	0.32	0.12	0.28	0.28		0.12	0.31	0.31	
v/c Ratio		4.42	0.91	0.32	1.23	0.93	0.49		1.71	0.91	0.53	
Control Delay		1559.4	41.9	6.7	167.8	58.5	14.5		379.3	48.3	13.1	
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	
Total Delay		1559.4	41.9	6.7	167.8	58.5	14.5		379.3	48.3	13.1	
LOS		F	D	A	F	E	B		F	D	B	
Approach Delay			650.3			83.3				83.9		
Approach LOS			F			F				F		
Queue Length 50th (ft)		~627	407	44	~242	358	50		~121	395	63	

4: Courtesy Road (SH 42) & S Boulder Road
2045 Total PM with Front Street Connection.syn



Lane Group	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↔
Traffic Volume (vph)	177	685	430
Future Volume (vph)	177	685	430
Ideal Flow (vphpl)	1900	1900	1900
Storage Length (ft)	185		270
Storage Lanes	2		1
Taper Length (ft)	25		
Lane Util. Factor	0.97	0.95	1.00
Ped Bike Factor			0.98
Frt			0.850
Flt Protected	0.950		
Satd. Flow (prot)	3433	3539	1583
Flt Permitted	0.290		
Satd. Flow (perm)	1048	3539	1555
Right Turn on Red			Yes
Satd. Flow (RTOR)			316
Link Speed (mph)		45	
Link Distance (ft)		1337	
Travel Time (s)		20.3	
Confl. Peds. (#/hr)			5
Peak Hour Factor	0.92	0.92	0.92
Shared Lane Traffic (%)			
Lane Group Flow (vph)	205	745	467
Turn Type	Prot	NA	Perm
Protected Phases	7	4	
Permitted Phases			4
Detector Phase	7	4	4
Switch Phase			
Minimum Initial (s)	5.0	6.0	6.0
Minimum Split (s)	10.0	36.0	36.0
Total Split (s)	18.0	41.0	41.0
Total Split (%)	15.0%	34.2%	34.2%
Yellow Time (s)	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	4.0
Lead/Lag	Lag	Lag	Lag
Lead-Lag Optimize?			
Recall Mode	None	Max	Max
Act Effect Green (s)	14.0	37.0	37.0
Actuated g/C Ratio	0.12	0.31	0.31
v/c Ratio	1.68	0.68	0.67
Control Delay	372.3	40.2	16.4
Queue Delay	0.0	0.0	0.0
Total Delay	372.3	40.2	16.4
LOS	F	D	B
Approach Delay		80.4	
Approach LOS		F	
Queue Length 50th (ft)	~119	265	97

4: Courtesy Road (SH 42) & S Boulder Road
2045 Total PM with Front Street Connection.syn

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU
Queue Length 95th (ft)		#757	#531	m63	#351	#483	133		#199	#516	125	
Internal Link Dist (ft)			385			1735				338		
Turn Bay Length (ft)		150		100	225		270					
Base Capacity (vph)		190	1150	622	400	973	567		120	1091	678	
Starvation Cap Reductn		0	0	0	0	0	0		0	0	0	
Spillback Cap Reductn		0	0	0	0	0	0		0	0	0	
Storage Cap Reductn		0	0	0	0	0	0		0	0	0	
Reduced v/c Ratio		4.42	0.91	0.32	1.23	0.93	0.49		1.71	0.91	0.53	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT, Start of Yellow, Master Intersection

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 4.42

Intersection Signal Delay: 258.3

Intersection LOS: F

Intersection Capacity Utilization 94.9%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: Courtesy Road (SH 42) & S Boulder Road

 Ø1	 Ø2 (R)	 Ø3	 Ø4
18 s	43 s	18 s	41 s
 Ø6	 Ø5	 Ø8	 Ø7
37 s	24 s	41 s	18 s

4: Courtesy Road (SH 42) & S Boulder Road
2045 Total PM with Front Street Connection.syn



Lane Group	SBL	SBT	SBR
Queue Length 95th (ft)	#199	335	222
Internal Link Dist (ft)		1257	
Turn Bay Length (ft)	185		270
Base Capacity (vph)	122	1091	698
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	1.68	0.68	0.67
Intersection Summary			

5: Courtesy Road (SH 42) & Cannon Circle
 2045 Total PM with Front Street Connection.syn

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				 	 	
Traffic Volume (vph)	0	19	0	1447	1305	9
Future Volume (vph)	0	19	0	1447	1305	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	140			0
Storage Lanes	0	1	0			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor						
Frt		0.865			0.999	
Flt Protected						
Satd. Flow (prot)	0	1611	0	3539	3536	0
Flt Permitted						
Satd. Flow (perm)	0	1611	0	3539	3536	0
Link Speed (mph)	20			45	45	
Link Distance (ft)	418			420	418	
Travel Time (s)	14.3			6.4	6.3	
Confl. Peds. (#/hr)			5			5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	21	0	1573	1428	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	46.4%			ICU Level of Service A		
Analysis Period (min)	15					

5: Courtesy Road (SH 42) & Cannon Circle
 2045 Total PM with Front Street Connection.syn

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	
Traffic Vol, veh/h	0	19	0	1447	1305	9
Future Vol, veh/h	0	19	0	1447	1305	9
Conflicting Peds, #/hr	0	0	5	0	0	5
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	21	0	1573	1418	10

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	- 719	- 0	- 0
Stage 1	- -	- -	- -
Stage 2	- -	- -	- -
Critical Hdwy	- 6.94	- -	- -
Critical Hdwy Stg 1	- -	- -	- -
Critical Hdwy Stg 2	- -	- -	- -
Follow-up Hdwy	- 3.32	- -	- -
Pot Cap-1 Maneuver	0 371	0 -	- -
Stage 1	0 -	0 -	- -
Stage 2	0 -	0 -	- -
Platoon blocked, %		- -	- -
Mov Cap-1 Maneuver	- 369	- -	- -
Mov Cap-2 Maneuver	- -	- -	- -
Stage 1	- -	- -	- -
Stage 2	- -	- -	- -

Approach	EB	NB	SB
HCM Control Delay, s	15.3	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT EBLn1	SBT	SBR
Capacity (veh/h)	- 369	- -	- -
HCM Lane V/C Ratio	- 0.056	- -	- -
HCM Control Delay (s)	- 15.3	- -	- -
HCM Lane LOS	- C	- -	- -
HCM 95th %tile Q(veh)	- 0.2	- -	- -

6: Courtesy Road (SH 42) & Griffith Street/Sports Complex Access
2045 Total PM with Front Street Connection.syn

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	2	17	0	75	1	1	1	26	1404	2	1	1234
Future Volume (vph)	2	17	0	75	1	1	1	26	1404	2	1	1234
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		50		0	50		0	225		0	500	
Storage Lanes		1		0	1		0	1		0	1	
Taper Length (ft)		25			25			25			25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95
Ped Bike Factor												
Frt			0.850			0.925						
Flt Protected		0.950			0.950			0.950			0.950	
Satd. Flow (prot)	0	1770	1583	0	1770	1723	0	1770	3539	0	1770	3539
Flt Permitted		0.757			0.704			0.950			0.950	
Satd. Flow (perm)	0	1410	1583	0	1311	1723	0	1770	3539	0	1770	3539
Right Turn on Red				Yes			Yes			Yes		
Satd. Flow (RTOR)			273			1						
Link Speed (mph)			30			20			45			45
Link Distance (ft)			439			281			380			369
Travel Time (s)			10.0			9.6			5.8			5.6
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	20	82	0	1	2	0	28	1528	0	1	1341
Turn Type	Perm	Perm	NA		Perm	NA		Prot	NA		Prot	NA
Protected Phases			4			8		5	2		1	6
Permitted Phases	4	4			8							
Detector Phase	4	4	4		8	8		5	2		1	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0		5.0	5.0		5.0	5.0		5.0	5.0
Minimum Split (s)	25.0	25.0	25.0		25.0	25.0		11.0	24.5		11.0	25.0
Total Split (s)	11.0	11.0	11.0		11.0	11.0		11.0	39.0		10.0	38.0
Total Split (%)	18.3%	18.3%	18.3%		18.3%	18.3%		18.3%	65.0%		16.7%	63.3%
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0		4.0	3.5		4.0	4.0
All-Red Time (s)	2.0	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0
Lost Time Adjust (s)		-2.0	-2.0		-2.0	-2.0		-2.0	-1.5		-2.0	-2.0
Total Lost Time (s)		4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0
Lead/Lag								Lag	Lag		Lead	Lead
Lead-Lag Optimize?								Yes	Yes		Yes	Yes
Recall Mode	None	None	None		None	None		None	C-Max		None	Max
Act Effect Green (s)		7.0	7.0		7.0	7.0		7.0	46.0		6.3	43.6
Actuated g/C Ratio		0.12	0.12		0.12	0.12		0.12	0.77		0.10	0.73
v/c Ratio		0.12	0.19		0.01	0.01		0.14	0.56		0.01	0.52
Control Delay		25.6	1.0		24.0	21.0		25.6	5.7		29.0	6.8
Queue Delay		0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0
Total Delay		25.6	1.0		24.0	21.0		25.6	5.7		29.0	6.8
LOS		C	A		C	C		C	A		C	A
Approach Delay			5.8			22.0			6.1			6.3
Approach LOS			A			C			A			A
Queue Length 50th (ft)		7	0		0	0		9	88		1	231

6: Courtesy Road (SH 42) & Griffith Street/Sports Complex Access
 2045 Total PM with Front Street Connection.syn

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	123
Future Volume (vph)	123
Ideal Flow (vphpl)	1900
Storage Length (ft)	273
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Ped Bike Factor	0.98
Frt	0.850
Flt Protected	
Satd. Flow (prot)	1583
Flt Permitted	
Satd. Flow (perm)	1546
Right Turn on Red	Yes
Satd. Flow (RTOR)	164
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Bikes (#/hr)	5
Peak Hour Factor	0.92
Shared Lane Traffic (%)	
Lane Group Flow (vph)	134
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Detector Phase	6
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	25.0
Total Split (s)	38.0
Total Split (%)	63.3%
Yellow Time (s)	4.0
All-Red Time (s)	2.0
Lost Time Adjust (s)	-2.0
Total Lost Time (s)	4.0
Lead/Lag	Lead
Lead-Lag Optimize?	Yes
Recall Mode	Max
Act Effct Green (s)	43.6
Actuated g/C Ratio	0.73
v/c Ratio	0.11
Control Delay	1.9
Queue Delay	0.0
Total Delay	1.9
LOS	A
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	15

6: Courtesy Road (SH 42) & Griffith Street/Sports Complex Access
 2045 Total PM with Front Street Connection.syn

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Queue Length 95th (ft)		m19	0		4	6		30	261		m1	m268
Internal Link Dist (ft)			359			201			300			289
Turn Bay Length (ft)		50			50			225			500	
Base Capacity (vph)		164	425		152	201		206	2713		186	2571
Starvation Cap Reductn		0	0		0	0		0	0		0	0
Spillback Cap Reductn		0	0		0	0		0	0		0	0
Storage Cap Reductn		0	0		0	0		0	0		0	0
Reduced v/c Ratio		0.12	0.19		0.01	0.01		0.14	0.56		0.01	0.52

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 48 (80%), Referenced to phase 2:NBT, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.56

Intersection Signal Delay: 6.2

Intersection LOS: A

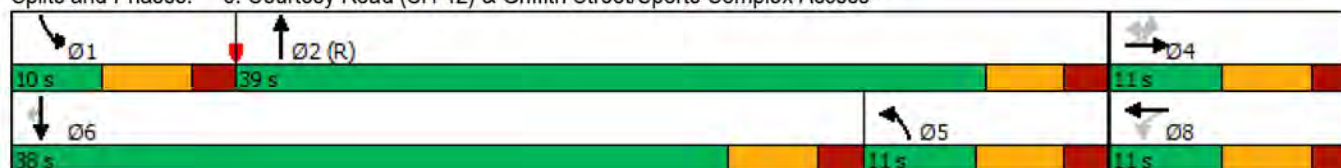
Intersection Capacity Utilization 53.3%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Courtesy Road (SH 42) & Griffith Street/Sports Complex Access



6: Courtesy Road (SH 42) & Griffith Street/Sports Complex Access
2045 Total PM with Front Street Connection.syn



Lane Group	SBR
Queue Length 95th (ft)	m23
Internal Link Dist (ft)	
Turn Bay Length (ft)	273
Base Capacity (vph)	1168
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.11
Intersection Summary	

7: Cannon Street & Griffith Street
2045 Total PM with Front Street Connection.syn

												
Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	2	72	22	1	27	126	1	19	1	11	0	2
Future Volume (vph)	2	72	22	1	27	126	1	19	1	11	0	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150		150		150	150		150	150	
Storage Lanes	0		0		0		0	0		0	0	
Taper Length (ft)	25				25			25			25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.969				0.999			0.952			
Flt Protected		0.999				0.991			0.970			
Satd. Flow (prot)	0	1803	0	0	0	1844	0	0	1720	0	0	1863
Flt Permitted		0.999				0.991			0.970			
Satd. Flow (perm)	0	1803	0	0	0	1844	0	0	1720	0	0	1863
Link Speed (mph)		30				30			25			25
Link Distance (ft)		390				439			346			362
Travel Time (s)		8.9				10.0			9.4			9.9
Confl. Peds. (#/hr)	5		5		5		5	5		5	5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	104	0	0	0	168	0	0	34	0	0	2
Sign Control		Free				Free			Stop			Stop
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	30.9%											
Analysis Period (min)	15											
ICU Level of Service A												

7: Cannon Street & Griffith Street
2045 Total PM with Front Street Connection.syn

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	0
Future Volume (vph)	0
Ideal Flow (vphpl)	1900
Storage Length (ft)	150
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	1.00
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	5
Peak Hour Factor	0.92
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Sign Control	
Intersection Summary	

7: Cannon Street & Griffith Street
2045 Total PM with Front Street Connection.syn

Intersection													
Int Delay, s/veh	1.3												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕				↕			↕			↕	
Traffic Vol, veh/h	2	72	22	1	27	126	1	19	1	11	0	2	0
Future Vol, veh/h	2	72	22	1	27	126	1	19	1	11	0	2	0
Conflicting Peds, #/hr	5	0	5	0	5	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	78	24	1	29	137	1	21	1	12	0	2	0
Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	143	0	0	-	107	0	0	301	302	100	307	314	148
Stage 1	-	-	-	-	-	-	-	99	99	-	201	203	-
Stage 2	-	-	-	-	-	-	-	202	203	-	106	111	-
Critical Hdwy	4.12	-	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1440	-	-	-	1484	-	-	651	611	956	645	601	899
Stage 1	-	-	-	-	-	-	-	907	813	-	801	733	-
Stage 2	-	-	-	-	-	-	-	800	733	-	900	804	-
Platoon blocked, %		-	-			-	-						
Mov Cap-1 Maneuver	1433	-	-	~-29	~-29	-	-	643	604	947	630	594	890
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	643	604	-	630	594	-
Stage 1	-	-	-	-	-	-	-	902	808	-	796	729	-
Stage 2	-	-	-	-	-	-	-	794	729	-	882	799	-
Approach	EB			WB			NB			SB			
HCM Control Delay, s	0.2						10.2			11.1			
HCM LOS							B			B			
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1					
Capacity (veh/h)	724	1433	-	-	+	-	-	594					
HCM Lane V/C Ratio	0.047	0.002	-	-	-	-	-	0.004					
HCM Control Delay (s)	10.2	7.5	0	-	-	-	-	11.1					
HCM Lane LOS	B	A	A	-	-	-	-	B					
HCM 95th %tile Q(veh)	0.1	0	-	-	-	-	-	0					
Notes													
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon							

8: Griffith Street & Front Street
 2045 Total PM with Front Street Connection.syn

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	15	66	6	5	146	7	2	0	1	3	36	0
Future Volume (vph)	15	66	6	5	146	7	2	0	1	3	36	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150	150		150	0		0		0	
Storage Lanes	0		0	0		0	0		0		0	
Taper Length (ft)	25			25			25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.990			0.994			0.955				0.942
Flt Protected		0.992			0.999			0.968				0.972
Satd. Flow (prot)	0	1829	0	0	1850	0	0	1722	0	0	0	1706
Flt Permitted		0.992			0.999			0.968				0.972
Satd. Flow (perm)	0	1829	0	0	1850	0	0	1722	0	0	0	1706
Link Speed (mph)		30			30			25				25
Link Distance (ft)		405			390			333				365
Travel Time (s)		9.2			8.9			9.1				10.0
Confl. Peds. (#/hr)	5		10	10		5	5		5		5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	95	0	0	172	0	0	3	0	0	0	74
Sign Control		Free			Free			Stop				Stop
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	24.3%											
Analysis Period (min)	15											
	ICU Level of Service A											

8: Griffith Street & Front Street
2045 Total PM with Front Street Connection.syn

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	29
Future Volume (vph)	29
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	1.00
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	5
Peak Hour Factor	0.92
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Sign Control	
Intersection Summary	

8: Griffith Street & Front Street
2045 Total PM with Front Street Connection.syn

Intersection													
Int Delay, s/veh	2.8												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations		↕			↕			↕				↕	
Traffic Vol, veh/h	15	66	6	5	146	7	2	0	1	3	36	0	29
Future Vol, veh/h	15	66	6	5	146	7	2	0	1	3	36	0	29
Conflicting Peds, #/hr	5	0	10	10	0	5	5	0	5	0	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	72	7	5	159	8	2	0	1	3	39	0	32
Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	172	0	0	89	0	0	312	300	91	0	291	299	173
Stage 1	-	-	-	-	-	-	118	118	-	0	178	178	-
Stage 2	-	-	-	-	-	-	194	182	-	0	113	121	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	-	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1405	-	-	1506	-	-	641	612	967	0	661	613	871
Stage 1	-	-	-	-	-	-	887	798	-	0	824	752	-
Stage 2	-	-	-	-	-	-	808	749	-	0	892	796	-
Platoon blocked, %		-	-		-	-				-			
Mov Cap-1 Maneuver	1398	-	-	1492	-	-	601	593	953	0	646	594	863
Mov Cap-2 Maneuver	-	-	-	-	-	-	601	593	-	0	646	594	-
Stage 1	-	-	-	-	-	-	868	780	-	0	810	745	-
Stage 2	-	-	-	-	-	-	772	742	-	0	876	778	-
Approach	EB			WB			NB			SB			
HCM Control Delay, s	1.3			0.2			10.3			10.5			
HCM LOS							B			B			
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1					
Capacity (veh/h)	685	1398	-	-	1492	-	-	728					
HCM Lane V/C Ratio	0.005	0.012	-	-	0.004	-	-	0.097					
HCM Control Delay (s)	10.3	7.6	0	-	7.4	0	-	10.5					
HCM Lane LOS	B	A	A	-	A	A	-	B					
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.3					

9: Main Street & Griffith Street
 2045 Total PM with Front Street Connection.syn

							
Lane Group	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	93	61	222	50	1	35	151
Future Volume (vph)	93	61	222	50	1	35	151
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor							
Frt	0.947		0.975				
Flt Protected	0.971						0.990
Satd. Flow (prot)	1713	0	1816	0	0	0	1844
Flt Permitted	0.971						0.990
Satd. Flow (perm)	1713	0	1816	0	0	0	1844
Link Speed (mph)	30		30				30
Link Distance (ft)	405		350				1210
Travel Time (s)	9.2		8.0				27.5
Confl. Peds. (#/hr)	2	10		7	10	7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)							
Lane Group Flow (vph)	167	0	295	0	0	0	203
Sign Control	Stop		Free				Free
Intersection Summary							
Area Type:	Other						
Control Type:	Unsignalized						
Intersection Capacity Utilization	45.2%			ICU Level of Service A			
Analysis Period (min)	15						

9: Main Street & Griffith Street
2045 Total PM with Front Street Connection.syn

Intersection							
Int Delay, s/veh	3.4						
Movement	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations							
Traffic Vol, veh/h	93	61	222	50	1	35	151
Future Vol, veh/h	93	61	222	50	1	35	151
Conflicting Peds, #/hr	2	10	0	7	10	7	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	-	0
Grade, %	0	-	0	-	-	-	0
Peak Hour Factor	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	101	66	241	54	1	38	164
Major/Minor	Minor1	Major1		Major2			
Conflicting Flow All	517	285	0	0	-	302	0
Stage 1	275	-	-	-	-	-	-
Stage 2	242	-	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	2.218	-
Pot Cap-1 Maneuver	518	754	-	-	-	1259	-
Stage 1	771	-	-	-	-	-	-
Stage 2	798	-	-	-	-	-	-
Platoon blocked, %			-	-			-
Mov Cap-1 Maneuver	513	742	-	-	~ -37	~ -37	-
Mov Cap-2 Maneuver	513	-	-	-	-	-	-
Stage 1	766	-	-	-	-	-	-
Stage 2	796	-	-	-	-	-	-
Approach	WB	NB		SB			
HCM Control Delay, s	13.6	0					
HCM LOS	B						
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBL	SBT		
Capacity (veh/h)	-	-	584	+	-		
HCM Lane V/C Ratio	-	-	0.287	-	-		
HCM Control Delay (s)	-	-	13.6	-	-		
HCM Lane LOS	-	-	B	-	-		
HCM 95th %tile Q(veh)	-	-	1.2	-	-		
Notes							
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon	

10: Front Street & Harper Street
 2045 Total PM with Front Street Connection.syn

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	6	0	18	7	0	62
Future Volume (vph)	6	0	18	7	0	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.961			
Flt Protected	0.950					
Satd. Flow (prot)	1770	0	1790	0	0	1863
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	1790	0	0	1863
Link Speed (mph)	25		25			25
Link Distance (ft)	380		365			210
Travel Time (s)	10.4		10.0			5.7
Confl. Peds. (#/hr)	5	132		70	70	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	7	0	28	0	0	67
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	32.2%			ICU Level of Service A		
Analysis Period (min)	15					

10: Front Street & Harper Street
 2045 Total PM with Front Street Connection.syn

Intersection

Int Delay, s/veh 0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	0	18	7	0	62
Future Vol, veh/h	6	0	18	7	0	62
Conflicting Peds, #/hr	5	132	0	70	70	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	0	20	8	0	67

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	166	226	0
Stage 1	94	-	-
Stage 2	72	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	824	813	-
Stage 1	930	-	-
Stage 2	951	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	765	663	-
Mov Cap-2 Maneuver	765	-	-
Stage 1	868	-	-
Stage 2	946	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.7	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	765	1395
HCM Lane V/C Ratio	-	-	0.009	-
HCM Control Delay (s)	-	-	9.7	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

11: Courtesy Road (SH 42) & Harper Street
 2045 Total PM with Front Street Connection.syn

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				 	 	
Traffic Volume (vph)	0	87	0	1400	1295	8
Future Volume (vph)	0	87	0	1400	1295	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.865			0.999	
Flt Protected						
Satd. Flow (prot)	0	1611	0	3539	3536	0
Flt Permitted						
Satd. Flow (perm)	0	1611	0	3539	3536	0
Link Speed (mph)	30			45	45	
Link Distance (ft)	223			369	420	
Travel Time (s)	5.1			5.6	6.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	95	0	1522	1417	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	48.1%			ICU Level of Service A		
Analysis Period (min)	15					

11: Courtesy Road (SH 42) & Harper Street
2045 Total PM with Front Street Connection.syn

Intersection

Int Delay, s/veh 0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	87	0	1400	1295	8
Future Vol, veh/h	0	87	0	1400	1295	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	95	0	1522	1408	9

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	- 709	- 0	- 0
Stage 1	- -	- -	- -
Stage 2	- -	- -	- -
Critical Hdwy	- 6.94	- -	- -
Critical Hdwy Stg 1	- -	- -	- -
Critical Hdwy Stg 2	- -	- -	- -
Follow-up Hdwy	- 3.32	- -	- -
Pot Cap-1 Maneuver	0 377	0 -	- -
Stage 1	0 -	0 -	- -
Stage 2	0 -	0 -	- -
Platoon blocked, %		- -	- -
Mov Cap-1 Maneuver	- 377	- -	- -
Mov Cap-2 Maneuver	- -	- -	- -
Stage 1	- -	- -	- -
Stage 2	- -	- -	- -

Approach	EB	NB	SB
HCM Control Delay, s	17.7	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT EBLn1	SBT	SBR
Capacity (veh/h)	- 377	- -	- -
HCM Lane V/C Ratio	- 0.251	- -	- -
HCM Control Delay (s)	- 17.7	- -	- -
HCM Lane LOS	- C	- -	- -
HCM 95th %tile Q(veh)	- 1	- -	- -

1: Main Street & S Boulder Road
2045 Total SAT with Front Street Connection.syn

	→	↘	↶	↙	←	↖	↗
Lane Group	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↘	↑↑	↘	↗
Traffic Volume (vph)	1084	90	26	70	1013	70	100
Future Volume (vph)	1084	90	26	70	1013	70	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		120		225		0	115
Storage Lanes		1		1		1	1
Taper Length (ft)				25		0	
Lane Util. Factor	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Ped Bike Factor		0.97		1.00		0.99	0.95
Frt		0.850					0.850
Flt Protected				0.950		0.950	
Satd. Flow (prot)	3539	1583	0	1770	3539	1770	1583
Flt Permitted				0.189		0.950	
Satd. Flow (perm)	3539	1535	0	352	3539	1761	1504
Right Turn on Red		Yes					Yes
Satd. Flow (RTOR)		97					109
Link Speed (mph)	35				35	30	
Link Distance (ft)	636				400	1210	
Travel Time (s)	12.4				7.8	27.5	
Confl. Peds. (#/hr)		5		5		5	39
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)							
Lane Group Flow (vph)	1178	98	0	104	1101	76	109
Turn Type	NA	Perm	custom	pm+pt	NA	Perm	Perm
Protected Phases	2			1	6		
Permitted Phases		2	1	6		8	8
Detector Phase	2	2	1	1	6	8	8
Switch Phase							
Minimum Initial (s)	35.0	35.0	5.0	5.0	35.0	5.0	5.0
Minimum Split (s)	41.0	41.0	11.0	11.0	41.0	35.0	35.0
Total Split (s)	70.0	70.0	12.0	12.0	82.0	18.0	18.0
Total Split (%)	70.0%	70.0%	12.0%	12.0%	82.0%	18.0%	18.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-1.0	0.0
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	5.0
Lead/Lag	Lag	Lag	Lead	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	None	C-Max	None	None
Act Effct Green (s)	71.5	71.5		81.4	81.4	10.6	9.6
Actuated g/C Ratio	0.72	0.72		0.81	0.81	0.11	0.10
v/c Ratio	0.47	0.09		0.26	0.38	0.41	0.45
Control Delay	7.7	1.5		3.5	3.4	47.7	14.3
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	7.7	1.5		3.5	3.4	47.7	14.3
LOS	A	A		A	A	D	B
Approach Delay	7.2				3.4	28.0	
Approach LOS	A				A	C	
Queue Length 50th (ft)	163	0		14	94	46	0

1: Main Street & S Boulder Road

2045 Total SAT with Front Street Connection.syn



Lane Group	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Queue Length 95th (ft)	227	16		m20	m110	88	49
Internal Link Dist (ft)	556				320	1130	
Turn Bay Length (ft)		120		225			115
Base Capacity (vph)	2528	1124		405	2882	246	290
Starvation Cap Reductn	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.47	0.09		0.26	0.38	0.31	0.38

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 59 (59%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.47

Intersection Signal Delay: 6.9

Intersection LOS: A

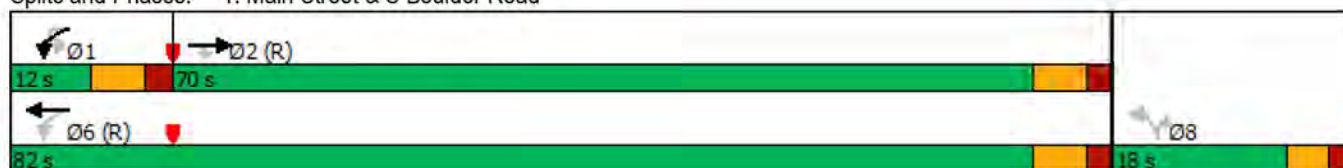
Intersection Capacity Utilization 66.9%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Main Street & S Boulder Road



2: Front Street/Private Access & S Boulder Road
 2045 Total SAT with Front Street Connection.syn

												
Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations		 			 	 						
Traffic Volume (vph)	0	1184	43	3	16	1161	4	0	0	20	0	0
Future Volume (vph)	0	1184	43	3	16	1161	4	0	0	20	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50		70		0	0		0	0	
Storage Lanes	0		1		1		0	0		1	0	
Taper Length (ft)	25				25			25			25	
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850							0.865		
Flt Protected					0.950							
Satd. Flow (prot)	0	3539	1583	0	1770	3539	0	0	0	1611	0	0
Flt Permitted					0.950							
Satd. Flow (perm)	0	3539	1583	0	1770	3539	0	0	0	1611	0	0
Link Speed (mph)		35				35			20			20
Link Distance (ft)		400				360			338			476
Travel Time (s)		7.8				7.0			11.5			16.2
Confl. Peds. (#/hr)	10		10	5	10		10	5		5	5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1287	47	0	20	1266	0	0	0	22	0	0
Sign Control		Free				Free			Stop			Stop
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	44.3%											
Analysis Period (min)	15											
	ICU Level of Service A											

2: Front Street/Private Access & S Boulder Road
2045 Total SAT with Front Street Connection.syn

Lane Group	SBR
Lane Configurations	↗
Traffic Volume (vph)	1
Future Volume (vph)	1
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Ped Bike Factor	
Frt	0.865
Flt Protected	
Satd. Flow (prot)	1611
Flt Permitted	
Satd. Flow (perm)	1611
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	5
Peak Hour Factor	0.92
Shared Lane Traffic (%)	
Lane Group Flow (vph)	1
Sign Control	
Intersection Summary	

2: Front Street/Private Access & S Boulder Road
2045 Total SAT with Front Street Connection.syn

Intersection													
Int Delay, s/veh	0.2												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑		↓	↑↑				↑			↑
Traffic Vol, veh/h	0	1184	43	3	16	1161	4	0	0	20	0	0	1
Future Vol, veh/h	0	1184	43	3	16	1161	4	0	0	20	0	0	1
Conflicting Peds, #/hr	10	0	10	5	10	0	10	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	70	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1287	47	3	17	1262	4	0	0	22	0	0	1
Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	-	0	0	1287	1344	0	0	-	-	659	-	-	648
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	6.44	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	2.52	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	217	509	-	-	0	0	406	0	0	413
Stage 1	0	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	0	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-			-	-						
Mov Cap-1 Maneuver	-	-	-	410	410	-	-	-	-	400	-	-	407
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB			
HCM Control Delay, s	0			0.2			14.5			13.9			
HCM LOS							B			B			
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	WBR	SBLn1						
Capacity (veh/h)	400	-	-	410	-	-	407						
HCM Lane V/C Ratio	0.054	-	-	0.05	-	-	0.003						
HCM Control Delay (s)	14.5	-	-	14.2	-	-	13.9						
HCM Lane LOS	B	-	-	B	-	-	B						
HCM 95th %tile Q(veh)	0.2	-	-	0.2	-	-	0						

3: Cannon Circle/Private Access & S Boulder Road
2045 Total SAT with Front Street Connection.syn

												
Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	15	28	1117	28	1	52	1075	12	0	0	50	0
Future Volume (vph)	15	28	1117	28	1	52	1075	12	0	0	50	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		90		0		80		0	0		0	0
Storage Lanes		1		0		1		0	0		1	0
Taper Length (ft)		25				25			25			25
Lane Util. Factor	0.95	1.00	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.996				0.998				0.865	
Flt Protected		0.950				0.950						
Satd. Flow (prot)	0	1770	3525	0	0	1770	3532	0	0	0	1611	0
Flt Permitted		0.950				0.950						
Satd. Flow (perm)	0	1770	3525	0	0	1770	3532	0	0	0	1611	0
Link Speed (mph)			35				35			20		
Link Distance (ft)			360				465			339		
Travel Time (s)			7.0				9.1			11.6		
Confl. Peds. (#/hr)	5	10		10	5	10		10	5		5	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	46	1244	0	0	58	1181	0	0	0	54	0
Sign Control			Free				Free			Stop		
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization 50.2%	ICU Level of Service A											
Analysis Period (min) 15												

3: Cannon Circle/Private Access & S Boulder Road
 2045 Total SAT with Front Street Connection.syn



Lane Group	SBT	SBR
Lane Configurations		↗
Traffic Volume (vph)	0	82
Future Volume (vph)	0	82
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		0
Storage Lanes		1
Taper Length (ft)		
Lane Util. Factor	1.00	1.00
Ped Bike Factor		
Frt		0.865
Flt Protected		
Satd. Flow (prot)	0	1611
Flt Permitted		
Satd. Flow (perm)	0	1611
Link Speed (mph)	20	
Link Distance (ft)	431	
Travel Time (s)	14.7	
Confl. Peds. (#/hr)		5
Peak Hour Factor	0.92	0.92
Shared Lane Traffic (%)		
Lane Group Flow (vph)	0	89
Sign Control	Stop	
Intersection Summary		

3: Cannon Circle/Private Access & S Boulder Road
2045 Total SAT with Front Street Connection.syn

Intersection

Int Delay, s/veh 1.4

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Vol, veh/h	15	28	1117	28	1	52	1075	12	0	0	50	0	0	82
Future Vol, veh/h	15	28	1117	28	1	52	1075	12	0	0	50	0	0	82
Conflicting Peds, #/hr	5	10	0	10	5	10	0	10	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	-	90	-	-	-	80	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	30	1214	30	1	57	1168	13	0	0	54	0	0	89

Major/Minor	Major1			Major2			Minor1			Minor2				
Conflicting Flow All	1182	1191	0	0	1245	1254	0	0	-	-	637	-	-	606
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	6.44	4.14	-	-	6.44	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.52	2.22	-	-	2.52	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	253	582	-	-	231	551	-	-	0	0	420	0	0	440
Stage 1	-	-	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %			-	-			-	-						
Mov Cap-1 Maneuver	353	353	-	-	529	529	-	-	-	-	414	-	-	434
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.6	15	15.4
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	414	353	-	-	529	-	-	434
HCM Lane V/C Ratio	0.131	0.132	-	-	0.109	-	-	0.205
HCM Control Delay (s)	15	16.7	-	-	12.6	-	-	15.4
HCM Lane LOS	C	C	-	-	B	-	-	C
HCM 95th %tile Q(veh)	0.4	0.5	-	-	0.4	-	-	0.8

4: Courtesy Road (SH 42) & S Boulder Road
2045 Total SAT with Front Street Connection.syn

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (vph)	22	507	607	110	322	680	173	4	212	464	253	7
Future Volume (vph)	22	507	607	110	322	680	173	4	212	464	253	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		150		100	225		270		0		0	
Storage Lanes		2		1	2		1		2		1	
Taper Length (ft)		25			25				25			
Lane Util. Factor	0.95	0.97	0.95	1.00	0.97	0.95	1.00	0.95	0.97	0.95	1.00	0.95
Ped Bike Factor				0.98			0.98				0.98	
Frt				0.850			0.850				0.850	
Flt Protected		0.950			0.950				0.950			
Satd. Flow (prot)	0	3433	3539	1583	3433	3539	1583	0	3433	3539	1583	0
Flt Permitted		0.371			0.950				0.500			
Satd. Flow (perm)	0	1341	3539	1557	3433	3539	1549	0	1807	3539	1557	0
Right Turn on Red				Yes			Yes				Yes	
Satd. Flow (RTOR)				207			218				275	
Link Speed (mph)			35			35				45		
Link Distance (ft)			465			1815				418		
Travel Time (s)			9.1			35.4				6.3		
Confl. Peds. (#/hr)				5			10				5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	575	660	120	350	739	188	0	234	504	275	0
Turn Type	custom	Prot	NA	Perm	Prot	NA	Perm	custom	Prot	NA	Perm	custom
Protected Phases		5	2		1	6			3	8		
Permitted Phases	5			2			6	3			8	7
Detector Phase	5	5	2	2	1	6	6	3	3	8	8	7
Switch Phase												
Minimum Initial (s)	5.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	5.0	6.0	6.0	5.0
Minimum Split (s)	10.0	10.0	37.0	37.0	10.0	37.0	37.0	10.0	10.0	40.0	40.0	10.0
Total Split (s)	18.0	18.0	38.0	38.0	14.0	34.0	34.0	12.0	12.0	36.0	36.0	12.0
Total Split (%)	18.0%	18.0%	38.0%	38.0%	14.0%	34.0%	34.0%	12.0%	12.0%	36.0%	36.0%	12.0%
Yellow Time (s)	3.0	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0	4.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		-1.0	-2.0	-2.0	-1.0	-2.0	-2.0		-1.0	-2.0	-2.0	
Total Lost Time (s)		4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	
Lead/Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lag
Lead-Lag Optimize?												
Recall Mode	None	None	C-Max	C-Max	None	Max	Max	None	None	Max	Max	None
Act Effect Green (s)		14.0	34.0	34.0	10.0	30.0	30.0		8.0	32.0	32.0	
Actuated g/C Ratio		0.14	0.34	0.34	0.10	0.30	0.30		0.08	0.32	0.32	
v/c Ratio		3.07	0.55	0.18	1.02	0.70	0.30		1.62	0.45	0.40	
Control Delay		964.2	26.1	1.2	99.5	35.1	3.7		341.8	25.0	7.4	
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	
Total Delay		964.2	26.1	1.2	99.5	35.1	3.7		341.8	25.0	7.4	
LOS		F	C	A	F	D	A		F	C	A	
Approach Delay			422.0			48.1				93.4		
Approach LOS			F			D				F		
Queue Length 50th (ft)		~336	126	0	~119	218	0		~112	134	1	

4: Courtesy Road (SH 42) & S Boulder Road
2045 Total SAT with Front Street Connection.syn

			
Lane Group	SBL	SBT	SBR
Lane Configurations	LT	TT	RT
Traffic Volume (vph)	140	500	345
Future Volume (vph)	140	500	345
Ideal Flow (vphpl)	1900	1900	1900
Storage Length (ft)	185		270
Storage Lanes	2		1
Taper Length (ft)	25		
Lane Util. Factor	0.97	0.95	1.00
Ped Bike Factor			0.98
Frt			0.850
Flt Protected	0.950		
Satd. Flow (prot)	3433	3539	1583
Flt Permitted	0.500		
Satd. Flow (perm)	1807	3539	1557
Right Turn on Red			Yes
Satd. Flow (RTOR)			274
Link Speed (mph)		45	
Link Distance (ft)		1337	
Travel Time (s)		20.3	
Confl. Peds. (#/hr)			5
Peak Hour Factor	0.92	0.92	0.92
Shared Lane Traffic (%)			
Lane Group Flow (vph)	160	543	375
Turn Type	Prot	NA	Perm
Protected Phases	7	4	
Permitted Phases			4
Detector Phase	7	4	4
Switch Phase			
Minimum Initial (s)	5.0	6.0	6.0
Minimum Split (s)	10.0	36.0	36.0
Total Split (s)	12.0	36.0	36.0
Total Split (%)	12.0%	36.0%	36.0%
Yellow Time (s)	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	4.0
Lead/Lag	Lag	Lag	Lag
Lead-Lag Optimize?			
Recall Mode	None	Max	Max
Act Effect Green (s)	8.0	32.0	32.0
Actuated g/C Ratio	0.08	0.32	0.32
v/c Ratio	1.11	0.48	0.55
Control Delay	152.0	29.1	11.1
Queue Delay	0.0	0.0	0.0
Total Delay	152.0	29.1	11.1
LOS	F	C	B
Approach Delay		41.1	
Approach LOS		D	
Queue Length 50th (ft)	~60	145	47

4: Courtesy Road (SH 42) & S Boulder Road
2045 Total SAT with Front Street Connection.syn

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU
Queue Length 95th (ft)		#433	176	0	#213	284	34		#196	128	85	
Internal Link Dist (ft)			385			1735				338		
Turn Bay Length (ft)		150		100	225		270					
Base Capacity (vph)		187	1203	666	343	1061	617		144	1132	685	
Starvation Cap Reductn		0	0	0	0	0	0		0	0	0	
Spillback Cap Reductn		0	0	0	0	0	0		0	0	0	
Storage Cap Reductn		0	0	0	0	0	0		0	0	0	
Reduced v/c Ratio		3.07	0.55	0.18	1.02	0.70	0.30		1.63	0.45	0.40	

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:EBT, Start of Yellow, Master Intersection

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 3.07

Intersection Signal Delay: 163.5

Intersection LOS: F

Intersection Capacity Utilization 86.8%

ICU Level of Service E

Analysis Period (min) 15

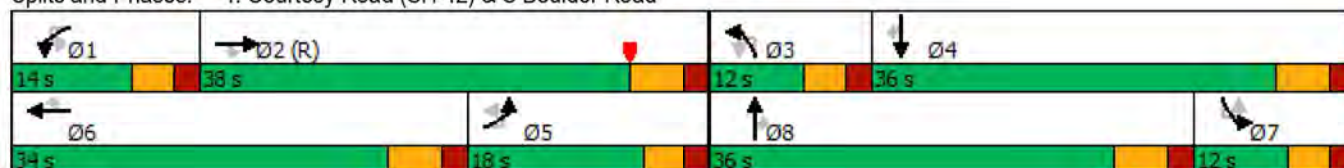
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 4: Courtesy Road (SH 42) & S Boulder Road



4: Courtesy Road (SH 42) & S Boulder Road
2045 Total SAT with Front Street Connection.syn



Lane Group	SBL	SBT	SBR
Queue Length 95th (ft)	#126	196	133
Internal Link Dist (ft)		1257	
Turn Bay Length (ft)	185		270
Base Capacity (vph)	144	1132	684
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	1.11	0.48	0.55
Intersection Summary			

5: Courtesy Road (SH 42) & Cannon Circle
 2045 Total SAT with Front Street Connection.syn

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				 	 	
Traffic Volume (vph)	0	10	0	931	918	10
Future Volume (vph)	0	10	0	931	918	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	140			0
Storage Lanes	0	1	0			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor						
Frt		0.865			0.998	
Flt Protected						
Satd. Flow (prot)	0	1611	0	3539	3532	0
Flt Permitted						
Satd. Flow (perm)	0	1611	0	3539	3532	0
Link Speed (mph)	20			45	45	
Link Distance (ft)	418			420	418	
Travel Time (s)	14.3			6.4	6.3	
Confl. Peds. (#/hr)			5			5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	11	0	1012	1009	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	35.7%			ICU Level of Service A		
Analysis Period (min)	15					

5: Courtesy Road (SH 42) & Cannon Circle
 2045 Total SAT with Front Street Connection.syn

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	
Traffic Vol, veh/h	0	10	0	931	918	10
Future Vol, veh/h	0	10	0	931	918	10
Conflicting Peds, #/hr	0	0	5	0	0	5
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	11	0	1012	998	11

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	- 510	- 0	- 0
Stage 1	- -	- -	- -
Stage 2	- -	- -	- -
Critical Hdwy	- 6.94	- -	- -
Critical Hdwy Stg 1	- -	- -	- -
Critical Hdwy Stg 2	- -	- -	- -
Follow-up Hdwy	- 3.32	- -	- -
Pot Cap-1 Maneuver	0 509	0 -	- -
Stage 1	0 -	0 -	- -
Stage 2	0 -	0 -	- -
Platoon blocked, %		- -	- -
Mov Cap-1 Maneuver	- 507	- -	- -
Mov Cap-2 Maneuver	- -	- -	- -
Stage 1	- -	- -	- -
Stage 2	- -	- -	- -

Approach	EB	NB	SB
HCM Control Delay, s	12.3	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT EBLn1	SBT	SBR
Capacity (veh/h)	- 507	- -	- -
HCM Lane V/C Ratio	- 0.021	- -	- -
HCM Control Delay (s)	- 12.3	- -	- -
HCM Lane LOS	- B	- -	- -
HCM 95th %tile Q(veh)	- 0.1	- -	- -

6: Courtesy Road (SH 42) & Griffith Street/Sports Complex Access
2045 Total SAT with Front Street Connection.syn

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	7	44	2	1	6	25	859	43	11	865	44
Future Volume (vph)	20	7	44	2	1	6	25	859	43	11	865	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		0	50		0	225		0	500		273
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor												0.98
Frt		0.871			0.869			0.993				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1622	0	1770	1619	0	1770	3514	0	1770	3539	1583
Flt Permitted	0.800			0.800			0.950			0.950		
Satd. Flow (perm)	1490	1622	0	1490	1619	0	1770	3514	0	1770	3539	1545
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		48			7			13				196
Link Speed (mph)		30			20			45				45
Link Distance (ft)		439			281			380				369
Travel Time (s)		10.0			9.6			5.8				5.6
Confl. Bikes (#/hr)												5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	22	56	0	2	8	0	27	981	0	12	940	48
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								6
Detector Phase	4	4		8	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	25.0	25.0		25.0	25.0		11.0	24.5		11.0	25.0	25.0
Total Split (s)	11.0	11.0		11.0	11.0		14.0	27.0		12.0	25.0	25.0
Total Split (%)	22.0%	22.0%		22.0%	22.0%		28.0%	54.0%		24.0%	50.0%	50.0%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	3.5		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0		-2.0	-1.5		-2.0	-2.0	-2.0
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lead/Lag							Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None		None	C-Max		None	Max	Max
Act Effect Green (s)	7.0	7.0		7.0	7.0		8.4	38.6		7.8	38.2	38.2
Actuated g/C Ratio	0.14	0.14		0.14	0.14		0.17	0.77		0.16	0.76	0.76
v/c Ratio	0.11	0.21		0.01	0.03		0.09	0.36		0.04	0.35	0.04
Control Delay	20.4	9.1		18.5	13.3		17.8	4.8		17.6	4.7	0.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	20.4	9.1		18.5	13.3		17.8	4.8		17.6	4.7	0.6
LOS	C	A		B	B		B	A		B	A	A
Approach Delay		12.3			14.3			5.2			4.6	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)	6	2		1	0		7	44		5	116	0

6: Courtesy Road (SH 42) & Griffith Street/Sports Complex Access
 2045 Total SAT with Front Street Connection.syn

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (ft)	17	19		5	9		22	152		m12	m164	m3
Internal Link Dist (ft)		359			201			300			289	
Turn Bay Length (ft)	50			50			225			500		273
Base Capacity (vph)	208	268		208	232		354	2715		283	2704	1226
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.11	0.21		0.01	0.03		0.08	0.36		0.04	0.35	0.04

Intersection Summary

Area Type: Other

Cycle Length: 50

Actuated Cycle Length: 50

Offset: 48 (96%), Referenced to phase 2:NBT, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.36

Intersection Signal Delay: 5.2

Intersection LOS: A

Intersection Capacity Utilization 39.6%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Courtesy Road (SH 42) & Griffith Street/Sports Complex Access

 Ø1	 Ø2 (R)	 Ø4
12 s	27 s	11 s
 Ø6	 Ø5	 Ø8
25 s	14 s	11 s

7: Cannon Street & Griffith Street
2045 Total SAT with Front Street Connection.syn

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	54	20	15	61	1	14	0	16	1	0	1
Future Volume (vph)	0	54	20	15	61	1	14	0	16	1	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150	150		150	150		150	150		150
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.963			0.998			0.928			0.932	
Flt Protected					0.990			0.977			0.976	
Satd. Flow (prot)	0	1794	0	0	1840	0	0	1689	0	0	1694	0
Flt Permitted					0.990			0.977			0.976	
Satd. Flow (perm)	0	1794	0	0	1840	0	0	1689	0	0	1694	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		390			439			346			362	
Travel Time (s)		8.9			10.0			9.4			9.9	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	81	0	0	83	0	0	32	0	0	2	0
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	22.7%											
Analysis Period (min)	15											
	ICU Level of Service A											

7: Cannon Street & Griffith Street
2045 Total SAT with Front Street Connection.syn

Intersection

Int Delay, s/veh 2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	54	20	15	61	1	14	0	16	1	0	1
Future Vol, veh/h	0	54	20	15	61	1	14	0	16	1	0	1
Conflicting Peds, #/hr	5	0	5	5	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	59	22	16	66	1	15	0	17	1	0	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	72	0	0	86	0	0	179	179	80	188	190	77
Stage 1	-	-	-	-	-	-	75	75	-	104	104	-
Stage 2	-	-	-	-	-	-	104	104	-	84	86	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1528	-	-	1510	-	-	783	715	980	772	705	984
Stage 1	-	-	-	-	-	-	934	833	-	902	809	-
Stage 2	-	-	-	-	-	-	902	809	-	924	824	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1521	-	-	1503	-	-	768	700	971	745	690	975
Mov Cap-2 Maneuver	-	-	-	-	-	-	768	700	-	745	690	-
Stage 1	-	-	-	-	-	-	929	829	-	897	796	-
Stage 2	-	-	-	-	-	-	887	796	-	903	820	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.4	9.3	9.3
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	864	1521	-	-	1503	-	-	845
HCM Lane V/C Ratio	0.038	-	-	-	0.011	-	-	0.003
HCM Control Delay (s)	9.3	0	-	-	7.4	0	-	9.3
HCM Lane LOS	A	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

8: Griffith Street & Front Street
 2045 Total SAT with Front Street Connection.syn

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	53	3	1	68	7	8	0	0	23	0	25
Future Volume (vph)	12	53	3	1	68	7	8	0	0	23	0	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150	150		150	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.995			0.987						0.930	
Flt Protected		0.991			0.999			0.950			0.977	
Satd. Flow (prot)	0	1837	0	0	1837	0	0	1770	0	0	1693	0
Flt Permitted		0.991			0.999			0.950			0.977	
Satd. Flow (perm)	0	1837	0	0	1837	0	0	1770	0	0	1693	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		405			390			333			365	
Travel Time (s)		9.2			8.9			9.1			10.0	
Confl. Peds. (#/hr)	5		10	10		5	5		5	5		5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	74	0	0	83	0	0	9	0	0	52	0
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization 22.7%	ICU Level of Service A											
Analysis Period (min) 15												

8: Griffith Street & Front Street
2045 Total SAT with Front Street Connection.syn

Intersection												
Int Delay, s/veh	3.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	12	53	3	1	68	7	8	0	0	23	0	25
Future Vol, veh/h	12	53	3	1	68	7	8	0	0	23	0	25
Conflicting Peds, #/hr	5	0	10	10	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	58	3	1	74	8	9	0	0	25	0	27
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	87	0	0	71	0	0	195	185	75	176	182	88
Stage 1	-	-	-	-	-	-	96	96	-	85	85	-
Stage 2	-	-	-	-	-	-	99	89	-	91	97	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1509	-	-	1529	-	-	764	709	986	786	712	970
Stage 1	-	-	-	-	-	-	911	815	-	923	824	-
Stage 2	-	-	-	-	-	-	907	821	-	916	815	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1502	-	-	1514	-	-	727	691	972	773	694	961
Mov Cap-2 Maneuver	-	-	-	-	-	-	727	691	-	773	694	-
Stage 1	-	-	-	-	-	-	895	800	-	910	819	-
Stage 2	-	-	-	-	-	-	876	816	-	903	800	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.3			0.1			10			9.5		
HCM LOS							B			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	727	1502	-	-	1514	-	-	861				
HCM Lane V/C Ratio	0.012	0.009	-	-	0.001	-	-	0.061				
HCM Control Delay (s)	10	7.4	0	-	7.4	0	-	9.5				
HCM Lane LOS	B	A	A	-	A	A	-	A				
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.2				

9: Main Street & Griffith Street
 2045 Total SAT with Front Street Connection.syn

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	66	38	137	52	14	141
Future Volume (vph)	66	38	137	52	14	141
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.951		0.963			
Flt Protected	0.969					0.996
Satd. Flow (prot)	1717	0	1794	0	0	1855
Flt Permitted	0.969					0.996
Satd. Flow (perm)	1717	0	1794	0	0	1855
Link Speed (mph)	30		30			30
Link Distance (ft)	405		350			1210
Travel Time (s)	9.2		8.0			27.5
Confl. Peds. (#/hr)	6	2		17	17	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	113	0	206	0	0	168
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	32.3%			ICU Level of Service A		
Analysis Period (min)	15					

9: Main Street & Griffith Street
 2045 Total SAT with Front Street Connection.syn

Intersection						
Int Delay, s/veh	2.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	66	38	137	52	14	141
Future Vol, veh/h	66	38	137	52	14	141
Conflicting Peds, #/hr	6	2	0	17	17	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	72	41	149	57	15	153
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	384	197	0	0	223	0
Stage 1	195	-	-	-	-	-
Stage 2	189	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	619	844	-	-	1346	-
Stage 1	838	-	-	-	-	-
Stage 2	843	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	598	829	-	-	1324	-
Mov Cap-2 Maneuver	598	-	-	-	-	-
Stage 1	815	-	-	-	-	-
Stage 2	838	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	11.5	0		0.7		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	666	1324	-	
HCM Lane V/C Ratio	-	-	0.17	0.011	-	
HCM Control Delay (s)	-	-	11.5	7.8	0	
HCM Lane LOS	-	-	B	A	A	
HCM 95th %tile Q(veh)	-	-	0.6	0	-	

10: Front Street & Harper Street
 2045 Total SAT with Front Street Connection.syn

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	4	0	10	9	0	44
Future Volume (vph)	4	0	10	9	0	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.936			
Flt Protected	0.950					
Satd. Flow (prot)	1770	0	1744	0	0	1863
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	1744	0	0	1863
Link Speed (mph)	25		25			25
Link Distance (ft)	380		365			210
Travel Time (s)	10.4		10.0			5.7
Confl. Peds. (#/hr)	5	132		70	70	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	4	0	21	0	0	48
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	32.2%			ICU Level of Service A		
Analysis Period (min)	15					

10: Front Street & Harper Street
2045 Total SAT with Front Street Connection.syn

Intersection

Int Delay, s/veh 0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	0	10	9	0	44
Future Vol, veh/h	4	0	10	9	0	44
Conflicting Peds, #/hr	5	132	0	70	70	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	0	11	10	0	48

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	139	218	0
Stage 1	86	-	-
Stage 2	53	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	854	822	-
Stage 1	937	-	-
Stage 2	970	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	793	671	-
Mov Cap-2 Maneuver	793	-	-
Stage 1	874	-	-
Stage 2	965	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.6	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	793	1404
HCM Lane V/C Ratio	-	-	0.005	-
HCM Control Delay (s)	-	-	9.6	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

11: Courtesy Road (SH 42) & Harper Street
2045 Total SAT with Front Street Connection.syn

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	49	0	878	908	6
Future Volume (vph)	0	49	0	878	908	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.865			0.999	
Flt Protected						
Satd. Flow (prot)	0	1611	0	3539	3536	0
Flt Permitted						
Satd. Flow (perm)	0	1611	0	3539	3536	0
Link Speed (mph)	30			45	45	
Link Distance (ft)	214			369	420	
Travel Time (s)	4.9			5.6	6.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	53	0	954	994	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	35.3%			ICU Level of Service A		
Analysis Period (min)	15					

11: Courtesy Road (SH 42) & Harper Street
 2045 Total SAT with Front Street Connection.syn

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	
Traffic Vol, veh/h	0	49	0	878	908	6
Future Vol, veh/h	0	49	0	878	908	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	53	0	954	987	7

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	- 497	- 0	- 0
Stage 1	- -	- -	- -
Stage 2	- -	- -	- -
Critical Hdwy	- 6.94	- -	- -
Critical Hdwy Stg 1	- -	- -	- -
Critical Hdwy Stg 2	- -	- -	- -
Follow-up Hdwy	- 3.32	- -	- -
Pot Cap-1 Maneuver	0 519	0 -	- -
Stage 1	0 -	0 -	- -
Stage 2	0 -	0 -	- -
Platoon blocked, %		- -	- -
Mov Cap-1 Maneuver	- 519	- -	- -
Mov Cap-2 Maneuver	- -	- -	- -
Stage 1	- -	- -	- -
Stage 2	- -	- -	- -

Approach	EB	NB	SB
HCM Control Delay, s	12.7	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT EBLn1	SBT	SBR
Capacity (veh/h)	- 519	- -	- -
HCM Lane V/C Ratio	- 0.103	- -	- -
HCM Control Delay (s)	- 12.7	- -	- -
HCM Lane LOS	- B	- -	- -
HCM 95th %tile Q(veh)	- 0.3	- -	- -

1: Main Street & S Boulder Road
2026 Total AM without Front Street Connection.syn

	→	↘	↶	↙	←	↗	↘
Lane Group	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↙	↑↑	↙	↘
Traffic Volume (vph)	936	112	8	75	1232	81	108
Future Volume (vph)	936	112	8	75	1232	81	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		120		225		0	115
Storage Lanes		1		1		1	1
Taper Length (ft)				25		0	
Lane Util. Factor	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Ped Bike Factor		0.97		1.00		0.99	0.95
Frt		0.850					0.850
Flt Protected				0.950		0.950	
Satd. Flow (prot)	3539	1583	0	1770	3539	1770	1583
Flt Permitted				0.236		0.950	
Satd. Flow (perm)	3539	1531	0	439	3539	1759	1505
Right Turn on Red		Yes					Yes
Satd. Flow (RTOR)		122					117
Link Speed (mph)	35				35	30	
Link Distance (ft)	636				400	1210	
Travel Time (s)	12.4				7.8	27.5	
Confl. Peds. (#/hr)		5		5		5	32
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)							
Lane Group Flow (vph)	1017	122	0	91	1339	88	117
Turn Type	NA	Perm	custom	pm+pt	NA	Perm	Perm
Protected Phases	2			1	6		
Permitted Phases		2	1	6		8	8
Detector Phase	2	2	1	1	6	8	8
Switch Phase							
Minimum Initial (s)	35.0	35.0	5.0	5.0	35.0	5.0	5.0
Minimum Split (s)	41.0	41.0	11.0	11.0	41.0	35.0	35.0
Total Split (s)	85.0	85.0	14.0	14.0	99.0	21.0	21.0
Total Split (%)	70.8%	70.8%	11.7%	11.7%	82.5%	17.5%	17.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-1.0	0.0
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	5.0
Lead/Lag	Lag	Lag	Lead	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	None	C-Max	None	None
Act Effect Green (s)	85.4	85.4		98.1	98.1	13.9	12.9
Actuated g/C Ratio	0.71	0.71		0.82	0.82	0.12	0.11
v/c Ratio	0.40	0.11		0.20	0.46	0.43	0.44
Control Delay	8.0	1.4		5.0	5.5	55.0	13.9
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	8.0	1.4		5.0	5.5	55.0	13.9
LOS	A	A		A	A	E	B
Approach Delay	7.3				5.5	31.5	
Approach LOS	A				A	C	
Queue Length 50th (ft)	165	0		17	147	62	0

1: Main Street & S Boulder Road
 2026 Total AM without Front Street Connection.syn

	→	↘	↶	↙	←	↖	↗
Lane Group	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Queue Length 95th (ft)	211	19		m30	m205	115	55
Internal Link Dist (ft)	556				320	1130	
Turn Bay Length (ft)		120		225			115
Base Capacity (vph)	2518	1124		469	2893	249	302
Starvation Cap Reductn	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.40	0.11		0.19	0.46	0.35	0.39

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 23 (19%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.46

Intersection Signal Delay: 8.2

Intersection LOS: A

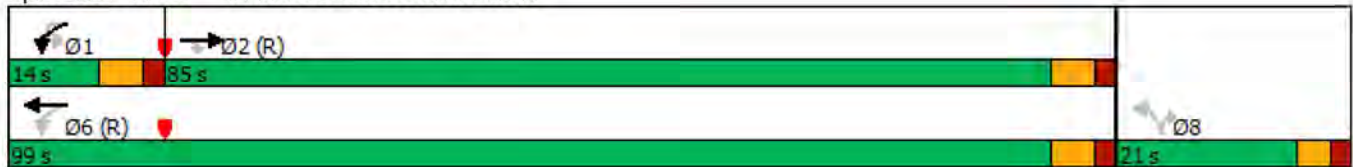
Intersection Capacity Utilization 64.3%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Main Street & S Boulder Road



2: Front Street/Private Access & S Boulder Road
2026 Total AM without Front Street Connection.syn

												
Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↑↑	↗		↘	↑↑				↗		
Traffic Volume (vph)	0	904	24	2	7	1344	5	0	0	48	0	0
Future Volume (vph)	0	904	24	2	7	1344	5	0	0	48	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50		70		0	0		0	0	
Storage Lanes	0		1		1		0	0		1	0	
Taper Length (ft)	25				75			25			25	
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.999				0.865		
Flt Protected					0.950							
Satd. Flow (prot)	0	3539	1583	0	1770	3536	0	0	0	1611	0	0
Flt Permitted					0.950							
Satd. Flow (perm)	0	3539	1583	0	1770	3536	0	0	0	1611	0	0
Link Speed (mph)		35				35			20			20
Link Distance (ft)		400				360			338			476
Travel Time (s)		7.8				7.0			11.5			16.2
Confl. Peds. (#/hr)	10		10	5	10		10	5		5	5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	983	26	0	10	1466	0	0	0	52	0	0
Sign Control		Free				Free			Stop			Stop
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	48.8%											
Analysis Period (min)	15											
	ICU Level of Service A											

2: Front Street/Private Access & S Boulder Road
2026 Total AM without Front Street Connection.syn

Lane Group	SBR
Lane Configurations	↗
Traffic Volume (vph)	11
Future Volume (vph)	11
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Ped Bike Factor	
Frt	0.865
Flt Protected	
Satd. Flow (prot)	1611
Flt Permitted	
Satd. Flow (perm)	1611
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	5
Peak Hour Factor	0.92
Shared Lane Traffic (%)	
Lane Group Flow (vph)	12
Sign Control	
Intersection Summary	

2: Front Street/Private Access & S Boulder Road
2026 Total AM without Front Street Connection.syn

Intersection													
Int Delay, s/veh	0.4												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑		↓	↑↑				↑			↑
Traffic Vol, veh/h	0	904	24	2	7	1344	5	0	0	48	0	0	11
Future Vol, veh/h	0	904	24	2	7	1344	5	0	0	48	0	0	11
Conflicting Peds, #/hr	10	0	10	5	10	0	10	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	70	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	983	26	2	8	1461	5	0	0	52	0	0	12
Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	-	0	0	983	1019	0	0	-	-	507	-	-	748
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	6.44	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	2.52	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	340	677	-	-	0	0	511	0	0	355
Stage 1	0	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	0	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-			-	-						
Mov Cap-1 Maneuver	-	-	-	532	532	-	-	-	-	504	-	-	350
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB			
HCM Control Delay, s	0			0.1			13			15.6			
HCM LOS							B			C			
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	WBR	SBLn1						
Capacity (veh/h)	504	-	-	532	-	-	350						
HCM Lane V/C Ratio	0.104	-	-	0.018	-	-	0.034						
HCM Control Delay (s)	13	-	-	11.9	-	-	15.6						
HCM Lane LOS	B	-	-	B	-	-	C						
HCM 95th %tile Q(veh)	0.3	-	-	0.1	-	-	0.1						

3: Cannon Circle/Private Access & S Boulder Road
2026 Total AM without Front Street Connection.syn

												
Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	6	21	931	9	1	17	1319	8	0	0	45	0
Future Volume (vph)	6	21	931	9	1	17	1319	8	0	0	45	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		90		0		80		0	0		0	0
Storage Lanes		1		0		1		0	0		1	0
Taper Length (ft)		75				80			25			25
Lane Util. Factor	0.95	1.00	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.999				0.999				0.865	
Flt Protected		0.950				0.950						
Satd. Flow (prot)	0	1770	3536	0	0	1770	3536	0	0	0	1611	0
Flt Permitted		0.950				0.950						
Satd. Flow (perm)	0	1770	3536	0	0	1770	3536	0	0	0	1611	0
Link Speed (mph)			35				35			20		
Link Distance (ft)			360				465			339		
Travel Time (s)			7.0				9.1			11.6		
Confl. Peds. (#/hr)	5	10		10	5	10		10	5		5	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	30	1022	0	0	19	1443	0	0	0	49	0
Sign Control			Free				Free			Stop		
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	48.3%						ICU Level of Service A					
Analysis Period (min)	15											

3: Cannon Circle/Private Access & S Boulder Road
2026 Total AM without Front Street Connection.syn



Lane Group	SBT	SBR
Lane Configurations		↗
Traffic Volume (vph)	0	36
Future Volume (vph)	0	36
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		0
Storage Lanes		1
Taper Length (ft)		
Lane Util. Factor	1.00	1.00
Ped Bike Factor		
Frt		0.865
Flt Protected		
Satd. Flow (prot)	0	1611
Flt Permitted		
Satd. Flow (perm)	0	1611
Link Speed (mph)	20	
Link Distance (ft)	431	
Travel Time (s)	14.7	
Confl. Peds. (#/hr)		5
Peak Hour Factor	0.92	0.92
Shared Lane Traffic (%)		
Lane Group Flow (vph)	0	39
Sign Control	Stop	
Intersection Summary		

3: Cannon Circle/Private Access & S Boulder Road
2026 Total AM without Front Street Connection.syn

Intersection															
Int Delay, s/veh	0.8														
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations															
Traffic Vol, veh/h	6	21	931	9	1	17	1319	8	0	0	45	0	0	36	
Future Vol, veh/h	6	21	931	9	1	17	1319	8	0	0	45	0	0	36	
Conflicting Peds, #/hr	5	10	0	10	5	10	0	10	5	0	5	5	0	5	
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	
RT Channelized	-	-	-	None	-	-	-	None	-	-	None	-	-	None	
Storage Length	-	90	-	-	-	80	-	-	-	-	0	-	-	0	
Veh in Median Storage, #	-	-	0	-	-	-	0	-	-	0	-	-	0	-	
Grade, %	-	-	0	-	-	-	0	-	-	0	-	-	0	-	
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92	92	
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Mvmt Flow	7	23	1012	10	1	18	1434	9	0	0	49	0	0	39	
Major/Minor	Major1			Major2			Minor1			Minor2					
Conflicting Flow All	1442	1453	0	0	1022	1032	0	0	-	-	526	-	-	737	
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Critical Hdwy	6.44	4.14	-	-	6.44	4.14	-	-	-	-	6.94	-	-	6.94	
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Follow-up Hdwy	2.52	2.22	-	-	2.52	2.22	-	-	-	-	3.32	-	-	3.32	
Pot Cap-1 Maneuver	172	462	-	-	321	669	-	-	0	0	496	0	0	361	
Stage 1	-	-	-	-	-	-	-	-	0	0	-	0	0	-	
Stage 2	-	-	-	-	-	-	-	-	0	0	-	0	0	-	
Platoon blocked, %			-	-			-	-							
Mov Cap-1 Maneuver	319	319	-	-	619	619	-	-	-	-	489	-	-	356	
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Approach	EB			WB			NB			SB					
HCM Control Delay, s	0.5			0.1			13.2			16.4					
HCM LOS							B			C					
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1							
Capacity (veh/h)	489	319	-	-	619	-	-	356							
HCM Lane V/C Ratio	0.1	0.092	-	-	0.032	-	-	0.11							
HCM Control Delay (s)	13.2	17.4	-	-	11	-	-	16.4							
HCM Lane LOS	B	C	-	-	B	-	-	C							
HCM 95th %tile Q(veh)	0.3	0.3	-	-	0.1	-	-	0.4							

4: Courtesy Road (SH 42) & S Boulder Road
2026 Total AM without Front Street Connection.syn

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL
Lane Configurations		↔↔	↔↔		↔↔	↔↔	↔	↔↔	↔↔			↔↔
Traffic Volume (vph)	31	312	429	175	261	683	153	177	467	198	5	128
Future Volume (vph)	31	312	429	175	261	683	153	177	467	198	5	128
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		150		0	225		270	0		0		185
Storage Lanes		2		0	2		1	2		0		2
Taper Length (ft)		80			135			70				155
Lane Util. Factor	0.95	0.97	0.95	0.95	0.97	0.95	1.00	0.97	0.95	0.95	0.95	0.97
Ped Bike Factor			0.99				0.98		0.99			
Frt			0.957				0.850		0.955			
Flt Protected		0.950			0.950			0.950				0.950
Satd. Flow (prot)	0	3433	3370	0	3433	3539	1583	3433	3363	0	0	3433
Flt Permitted		0.370			0.950			0.950				0.571
Satd. Flow (perm)	0	1337	3370	0	3433	3539	1546	3433	3363	0	0	2063
Right Turn on Red				Yes			Yes			Yes		
Satd. Flow (RTOR)			52				182		59			
Link Speed (mph)			35			35			45			
Link Distance (ft)			465			1815			418			
Travel Time (s)			9.1			35.4			6.3			
Confl. Peds. (#/hr)				5			10			5		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	373	656	0	284	742	166	192	723	0	0	144
Turn Type	custom	Prot	NA		Prot	NA	Perm	Prot	NA		custom	Prot
Protected Phases		5	2		1	6		3	8			7
Permitted Phases	5						6				7	
Detector Phase	5	5	2		1	6	6	3	8		7	7
Switch Phase												
Minimum Initial (s)	5.0	5.0	10.0		5.0	10.0	10.0	5.0	6.0		5.0	5.0
Minimum Split (s)	10.0	10.0	37.0		10.0	37.0	37.0	10.0	40.0		10.0	10.0
Total Split (s)	20.0	20.0	41.0		20.0	41.0	41.0	16.0	47.0		12.0	12.0
Total Split (%)	16.7%	16.7%	34.2%		16.7%	34.2%	34.2%	13.3%	39.2%		10.0%	10.0%
Yellow Time (s)	3.0	3.0	4.0		3.0	4.0	4.0	3.0	4.0		3.0	3.0
All-Red Time (s)	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0
Total Lost Time (s)		5.0	6.0		5.0	6.0	6.0	5.0	6.0			5.0
Lead/Lag	Lag	Lag	Lag		Lead	Lead	Lead	Lead	Lead		Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	None	C-Max		None	Max	Max	None	Max		None	None
Act Effect Green (s)		15.0	36.1		13.9	35.0	35.0	10.5	41.0			7.0
Actuated g/C Ratio		0.12	0.30		0.12	0.29	0.29	0.09	0.34			0.06
v/c Ratio		2.23	0.63		0.71	0.72	0.29	0.64	0.61			1.20
Control Delay		597.4	30.9		61.5	42.8	4.9	63.3	32.6			193.3
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0
Total Delay		597.4	30.9		61.5	42.8	4.9	63.3	32.6			193.3
LOS		F	C		E	D	A	E	C			F
Approach Delay			236.2			42.0			39.0			
Approach LOS			F			D			D			
Queue Length 50th (ft)		~243	214		109	271	0	75	224			~69

4: Courtesy Road (SH 42) & S Boulder Road
 2026 Total AM without Front Street Connection.syn

	↓	↙
Lane Group	SBT	SBR
Lane Configurations	↑↑	↑
Traffic Volume (vph)	582	440
Future Volume (vph)	582	440
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		270
Storage Lanes		1
Taper Length (ft)		
Lane Util. Factor	0.95	1.00
Ped Bike Factor		0.98
Frt		0.850
Flt Protected		
Satd. Flow (prot)	3539	1583
Flt Permitted		
Satd. Flow (perm)	3539	1555
Right Turn on Red		Yes
Satd. Flow (RTOR)		227
Link Speed (mph)	45	
Link Distance (ft)	1337	
Travel Time (s)	20.3	
Confl. Peds. (#/hr)		5
Peak Hour Factor	0.92	0.92
Shared Lane Traffic (%)		
Lane Group Flow (vph)	633	478
Turn Type	NA	Perm
Protected Phases	4	
Permitted Phases		4
Detector Phase	4	4
Switch Phase		
Minimum Initial (s)	6.0	6.0
Minimum Split (s)	36.0	36.0
Total Split (s)	43.0	43.0
Total Split (%)	35.8%	35.8%
Yellow Time (s)	4.0	4.0
All-Red Time (s)	2.0	2.0
Lost Time Adjust (s)	0.0	0.0
Total Lost Time (s)	6.0	6.0
Lead/Lag	Lag	Lag
Lead-Lag Optimize?		
Recall Mode	Max	Max
Act Effct Green (s)	37.5	37.5
Actuated g/C Ratio	0.31	0.31
v/c Ratio	0.57	0.74
Control Delay	37.1	27.1
Queue Delay	0.0	0.0
Total Delay	37.1	27.1
LOS	D	C
Approach Delay	51.2	
Approach LOS	D	
Queue Length 50th (ft)	216	180

4: Courtesy Road (SH 42) & S Boulder Road
2026 Total AM without Front Street Connection.syn

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL
Queue Length 95th (ft)		#343	283		156	342	41	114	289			#138
Internal Link Dist (ft)			385			1735			338			
Turn Bay Length (ft)		150			225		270					185
Base Capacity (vph)		167	1049		429	1032	579	314	1187			120
Starvation Cap Reductn		0	0		0	0	0	0	0			0
Spillback Cap Reductn		0	0		0	0	0	0	0			0
Storage Cap Reductn		0	0		0	0	0	0	0			0
Reduced v/c Ratio		2.23	0.63		0.66	0.72	0.29	0.61	0.61			1.20

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT, Start of Yellow, Master Intersection

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 2.23

Intersection Signal Delay: 89.5

Intersection LOS: F

Intersection Capacity Utilization 86.8%

ICU Level of Service E

Analysis Period (min) 15

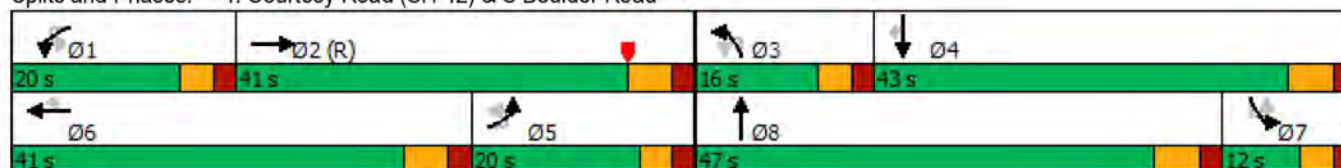
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 4: Courtesy Road (SH 42) & S Boulder Road



4: Courtesy Road (SH 42) & S Boulder Road
2026 Total AM without Front Street Connection.syn



Lane Group	SBT	SBR
Queue Length 95th (ft)	278	319
Internal Link Dist (ft)	1257	
Turn Bay Length (ft)		270
Base Capacity (vph)	1107	642
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.57	0.74
Intersection Summary		

5: Courtesy Road (SH 42) & Cannon Circle
 2026 Total AM without Front Street Connection.syn

							
Lane Group	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	1	17	1	13	821	1006	5
Future Volume (vph)	1	17	1	13	821	1006	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		140			0
Storage Lanes	0	1		1			0
Taper Length (ft)	25			100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Ped Bike Factor							
Frt		0.865				0.999	
Flt Protected	0.950			0.950			
Satd. Flow (prot)	0	1611	0	1770	1863	3536	0
Flt Permitted	0.950			0.950			
Satd. Flow (perm)	0	1611	0	1770	1863	3536	0
Link Speed (mph)	20				45	45	
Link Distance (ft)	418				430	418	
Travel Time (s)	14.3				6.5	6.3	
Confl. Peds. (#/hr)				5			5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)							
Lane Group Flow (vph)	1	18	0	15	892	1098	0
Sign Control	Stop				Free	Free	
Intersection Summary							
Area Type:	Other						
Control Type:	Unsignalized						
Intersection Capacity Utilization Err%	ICU Level of Service H						
Analysis Period (min)	15						

5: Courtesy Road (SH 42) & Cannon Circle
2026 Total AM without Front Street Connection.syn

Intersection							
Int Delay, s/veh	0.2						
Movement	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Vol, veh/h	1	17	1	13	821	1006	5
Future Vol, veh/h	1	17	1	13	821	1006	5
Conflicting Peds, #/hr	0	0	0	5	0	0	5
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	None
Storage Length	-	0	-	140	-	-	-
Veh in Median Storage, #	0	-	-	-	0	0	-
Grade, %	0	-	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	1	18	1	14	892	1093	5
Major/Minor	Minor2	Major1		Major2			
Conflicting Flow All	2021	554	1099	1103	0	-	0
Stage 1	1101	-	-	-	-	-	-
Stage 2	920	-	-	-	-	-	-
Critical Hdwy	6.63	6.93	6.93	4.13	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	3.119	2.219	-	-	-
Pot Cap-1 Maneuver	57	477	216	631	-	-	-
Stage 1	281	-	-	-	-	-	-
Stage 2	387	-	-	-	-	-	-
Platoon blocked, %					-	-	-
Mov Cap-1 Maneuver	55	475	549	549	-	-	-
Mov Cap-2 Maneuver	55	-	-	-	-	-	-
Stage 1	272	-	-	-	-	-	-
Stage 2	385	-	-	-	-	-	-
Approach	EB		NB		SB		
HCM Control Delay, s	12.9		0.2		0		
HCM LOS	B						
Minor Lane/Major Mvmt	NBL		NBT EBLn1		SBT	SBR	
Capacity (veh/h)	549		-		475	-	
HCM Lane V/C Ratio	0.028		-		0.039	-	
HCM Control Delay (s)	11.7		-		12.9	-	
HCM Lane LOS	B		-		B	-	
HCM 95th %tile Q(veh)	0.1		-		0.1	-	

6: Courtesy Road (SH 42) & Griffith Street/Sports Complex Access
2026 Total AM without Front Street Connection.syn

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	0	54	0	0	0	37	815	4	5	934	94
Future Volume (vph)	19	0	54	0	0	0	37	815	4	5	934	94
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		60	225		0	500		0
Storage Lanes	0		0	0		1	1		0	1		1
Taper Length (ft)	0			0			25			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.900						0.999				0.850
Flt Protected		0.987					0.950			0.950		
Satd. Flow (prot)	0	1655	0	0	1863	1863	1770	1861	0	1770	1863	1583
Flt Permitted		0.987					0.950			0.950		
Satd. Flow (perm)	0	1655	0	0	1863	1863	1770	1861	0	1770	1863	1583
Link Speed (mph)		30			20			45			45	
Link Distance (ft)		439			281			380			359	
Travel Time (s)		10.0			9.6			5.8			5.4	
Confl. Bikes (#/hr)												5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	80	0	0	0	0	40	890	0	5	1015	102
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	60.2%											
Analysis Period (min)	15											
	ICU Level of Service B											

6: Courtesy Road (SH 42) & Griffith Street/Sports Complex Access
2026 Total AM without Front Street Connection.syn

Intersection												
Int Delay, s/veh	3.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕	↕	↕		↕	↕	↕
Traffic Vol, veh/h	19	0	54	0	0	0	37	815	4	5	934	94
Future Vol, veh/h	19	0	54	0	0	0	37	815	4	5	934	94
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	60	225	-	-	500	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	21	0	59	0	0	0	40	886	4	5	1015	102
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1993	1995	1015	2074	2095	888	1117	0	0	890	0	0
Stage 1	1025	1025	-	968	968	-	-	-	-	-	-	-
Stage 2	968	970	-	1106	1127	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	45	60	289	40	52	343	625	-	-	761	-	-
Stage 1	284	312	-	305	332	-	-	-	-	-	-	-
Stage 2	305	331	-	255	280	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	43	56	289	30	48	343	625	-	-	761	-	-
Mov Cap-2 Maneuver	43	56	-	30	48	-	-	-	-	-	-	-
Stage 1	266	310	-	285	311	-	-	-	-	-	-	-
Stage 2	285	310	-	202	278	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	85.8		0		0.5		0					
HCM LOS	F		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR					
Capacity (veh/h)	625	-	-	116	-	-	761	-	-			
HCM Lane V/C Ratio	0.064	-	-	0.684	-	-	0.007	-	-			
HCM Control Delay (s)	11.2	-	-	85.8	0	0	9.8	-	-			
HCM Lane LOS	B	-	-	F	A	A	A	-	-			
HCM 95th %tile Q(veh)	0.2	-	-	3.6	-	-	0	-	-			

7: Cannon Street & Griffith Street
2026 Total AM without Front Street Connection.syn

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	61	13	14	101	2	32	0	9	0	0	1
Future Volume (vph)	0	61	13	14	101	2	32	0	9	0	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150	150		150	150		150	150		150
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.976			0.998			0.970			0.865	
Flt Protected					0.994			0.963				
Satd. Flow (prot)	0	1818	0	0	1848	0	0	1740	0	0	1611	0
Flt Permitted					0.994			0.963				
Satd. Flow (perm)	0	1818	0	0	1848	0	0	1740	0	0	1611	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		390			439			346			362	
Travel Time (s)		8.9			10.0			9.4			9.9	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	80	0	0	127	0	0	45	0	0	1	0
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	29.4%											
Analysis Period (min)	15											
	ICU Level of Service A											

7: Cannon Street & Griffith Street
2026 Total AM without Front Street Connection.syn

Intersection												
Int Delay, s/veh	2.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	61	13	14	101	2	32	0	9	0	0	1
Future Vol, veh/h	0	61	13	14	101	2	32	0	9	0	0	1
Conflicting Peds, #/hr	5	0	5	5	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	66	14	15	110	2	35	0	10	0	0	1
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	117	0	0	85	0	0	225	225	83	229	231	121
Stage 1	-	-	-	-	-	-	78	78	-	146	146	-
Stage 2	-	-	-	-	-	-	147	147	-	83	85	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1471	-	-	1512	-	-	730	674	976	726	669	930
Stage 1	-	-	-	-	-	-	931	830	-	857	776	-
Stage 2	-	-	-	-	-	-	856	775	-	925	824	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1464	-	-	1505	-	-	716	660	967	706	655	921
Mov Cap-2 Maneuver	-	-	-	-	-	-	716	660	-	706	655	-
Stage 1	-	-	-	-	-	-	926	826	-	853	764	-
Stage 2	-	-	-	-	-	-	842	763	-	911	820	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.9			10			8.9		
HCM LOS							B			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	759	1464	-	-	1505	-	-	921				
HCM Lane V/C Ratio	0.059	-	-	-	0.01	-	-	0.001				
HCM Control Delay (s)	10	0	-	-	7.4	0	-	8.9				
HCM Lane LOS	B	A	-	-	A	A	-	A				
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0				

8: Griffith Street & Front Street
2026 Total AM without Front Street Connection.syn

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	75	2	3	151	1	6	0	3	1	0	5
Future Volume (vph)	2	75	2	3	151	1	6	0	3	1	0	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150	150		150	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.997			0.999			0.959			0.887	
Flt Protected		0.999			0.999			0.966			0.992	
Satd. Flow (prot)	0	1855	0	0	1859	0	0	1726	0	0	1639	0
Flt Permitted		0.999			0.999			0.966			0.992	
Satd. Flow (perm)	0	1855	0	0	1859	0	0	1726	0	0	1639	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		405			390			333			365	
Travel Time (s)		9.2			8.9			9.1			10.0	
Confl. Peds. (#/hr)	5		10	10		5	5		5	5		5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	86	0	0	168	0	0	10	0	0	6	0
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	21.5%						ICU Level of Service A					
Analysis Period (min)	15											

8: Griffith Street & Front Street
2026 Total AM without Front Street Connection.syn

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	75	2	3	151	1	6	0	3	1	0	5
Future Vol, veh/h	2	75	2	3	151	1	6	0	3	1	0	5
Conflicting Peds, #/hr	5	0	10	10	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	82	2	3	164	1	7	0	3	1	0	5
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	170	0	0	94	0	0	275	273	98	270	274	175
Stage 1	-	-	-	-	-	-	97	97	-	176	176	-
Stage 2	-	-	-	-	-	-	178	176	-	94	98	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1407	-	-	1500	-	-	677	634	958	683	633	868
Stage 1	-	-	-	-	-	-	910	815	-	826	753	-
Stage 2	-	-	-	-	-	-	824	753	-	913	814	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1400	-	-	1486	-	-	661	623	944	673	622	860
Mov Cap-2 Maneuver	-	-	-	-	-	-	661	623	-	673	622	-
Stage 1	-	-	-	-	-	-	900	806	-	821	748	-
Stage 2	-	-	-	-	-	-	813	748	-	905	805	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0.1			10			9.4		
HCM LOS							B			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	734	1400	-	-	1486	-	-	822				
HCM Lane V/C Ratio	0.013	0.002	-	-	0.002	-	-	0.008				
HCM Control Delay (s)	10	7.6	0	-	7.4	0	-	9.4				
HCM Lane LOS	B	A	A	-	A	A	-	A				
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0				

9: Main Street & Griffith Street
2026 Total AM without Front Street Connection.syn

								
Lane Group	WBU	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	1	53	73	1	164	60	21	113
Future Volume (vph)	1	53	73	1	164	60	21	113
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor								
Frt		0.923			0.964			
Flt Protected		0.979						0.992
Satd. Flow (prot)	0	1683	0	0	1796	0	0	1848
Flt Permitted		0.979						0.992
Satd. Flow (perm)	0	1683	0	0	1796	0	0	1848
Link Speed (mph)		30			30			30
Link Distance (ft)		405			350			1210
Travel Time (s)		9.2			8.0			27.5
Confl. Peds. (#/hr)	70	1	132	1		70	70	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)								
Lane Group Flow (vph)	0	138	0	0	244	0	0	146
Sign Control		Stop			Free			Free
Intersection Summary								
Area Type:	Other							
Control Type:	Unsignalized							
Intersection Capacity Utilization	42.0%				ICU Level of Service A			
Analysis Period (min)	15							

9: Main Street & Griffith Street
 2026 Total AM without Front Street Connection.syn

Intersection								
Int Delay, s/veh	4.1							
Movement	WBU	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations								
Traffic Vol, veh/h	1	53	73	1	164	60	21	113
Future Vol, veh/h	1	53	73	1	164	60	21	113
Conflicting Peds, #/hr	70	1	132	1	0	70	70	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	None
Storage Length	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0
Grade, %	-	0	-	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2
Mvmt Flow	1	58	79	1	178	65	23	123
Major/Minor	Minor1	Major1			Major2			
Conflicting Flow All	0	451	413	-	0	0	313	0
Stage 1	0	281	-	-	-	-	-	-
Stage 2	0	170	-	-	-	-	-	-
Critical Hdwy	-	6.42	6.22	-	-	-	4.12	-
Critical Hdwy Stg 1	-	5.42	-	-	-	-	-	-
Critical Hdwy Stg 2	-	5.42	-	-	-	-	-	-
Follow-up Hdwy	-	3.518	3.318	-	-	-	2.218	-
Pot Cap-1 Maneuver	0	566	639	-	-	-	1247	-
Stage 1	0	767	-	-	-	-	-	-
Stage 2	0	860	-	-	-	-	-	-
Platoon blocked, %	-				-	-		-
Mov Cap-1 Maneuver	0	516	521	-	-	-	1164	-
Mov Cap-2 Maneuver	0	516	-	-	-	-	-	-
Stage 1	0	700	-	-	-	-	-	-
Stage 2	0	859	-	-	-	-	-	-
Approach	WB	NB			SB			
HCM Control Delay, s	14.4				1.3			
HCM LOS	B							
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT				
Capacity (veh/h)	-	-	519	1164	-			
HCM Lane V/C Ratio	-	-	0.264	0.02	-			
HCM Control Delay (s)	-	-	14.4	8.2	0			
HCM Lane LOS	-	-	B	A	A			
HCM 95th %tile Q(veh)	-	-	1.1	0.1	-			

10: Front Street & Harper Street
 2026 Total AM without Front Street Connection.syn

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	6	0	0	3	0	0
Future Volume (vph)	6	0	0	3	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.865					
Flt Protected	0.950					
Satd. Flow (prot)	1770	0	0	1611	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	0	1611	0	0
Link Speed (mph)	25	25		25		
Link Distance (ft)	380	365		210		
Travel Time (s)	10.4	10.0		5.7		
Confl. Peds. (#/hr)	5	132	70		70	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	7	0	0	3	0	0
Sign Control	Free	Free		Free		
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 16.5%			ICU Level of Service A			
Analysis Period (min) 15						

11: Courtesy Road (SH 42) & Harper Street
2026 Total AM without Front Street Connection.syn

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations					 	
Traffic Volume (vph)	7	12	7	787	946	2
Future Volume (vph)	7	12	7	787	946	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95
Frt	0.916					
Flt Protected	0.981					
Satd. Flow (prot)	1674	0	0	1863	3539	0
Flt Permitted	0.981					
Satd. Flow (perm)	1674	0	0	1863	3539	0
Link Speed (mph)	30			45	45	
Link Distance (ft)	317			359	430	
Travel Time (s)	7.2			5.4	6.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	21	0	0	863	1030	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	57.0%			ICU Level of Service B		
Analysis Period (min)	15					

11: Courtesy Road (SH 42) & Harper Street
2026 Total AM without Front Street Connection.syn

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	7	12	7	787	946	2
Future Vol, veh/h	7	12	7	787	946	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	13	8	855	1028	2
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1900	515	1030	0	-	0
Stage 1	1029	-	-	-	-	-
Stage 2	871	-	-	-	-	-
Critical Hdwy	6.63	6.93	4.13	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	68	506	672	-	-	-
Stage 1	307	-	-	-	-	-
Stage 2	408	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	66	506	672	-	-	-
Mov Cap-2 Maneuver	66	-	-	-	-	-
Stage 1	300	-	-	-	-	-
Stage 2	408	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	33.7	0.1		0		
HCM LOS	D					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	672	-	146	-	-	
HCM Lane V/C Ratio	0.011	-	0.141	-	-	
HCM Control Delay (s)	10.4	0	33.7	-	-	
HCM Lane LOS	B	A	D	-	-	
HCM 95th %tile Q(veh)	0	-	0.5	-	-	

1: Main Street & S Boulder Road
2026 Total PM without Front Street Connection.syn

	→	↘	↶	↙	←	↗	↘
Lane Group	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↙	↑↑	↙	↙
Traffic Volume (vph)	1302	106	21	69	1030	98	189
Future Volume (vph)	1302	106	21	69	1030	98	189
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		120		225		0	115
Storage Lanes		1		1		1	1
Taper Length (ft)				25		0	
Lane Util. Factor	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Ped Bike Factor		0.97				0.99	0.94
Frt		0.850					0.850
Flt Protected				0.950		0.950	
Satd. Flow (prot)	3539	1583	0	1770	3539	1770	1583
Flt Permitted				0.138		0.950	
Satd. Flow (perm)	3539	1531	0	257	3539	1759	1484
Right Turn on Red		Yes					Yes
Satd. Flow (RTOR)		83					128
Link Speed (mph)	35				35	30	
Link Distance (ft)	636				400	1210	
Travel Time (s)	12.4				7.8	27.5	
Confl. Peds. (#/hr)		5		5		5	43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)							
Lane Group Flow (vph)	1415	115	0	98	1120	107	205
Turn Type	NA	Perm	custom	pm+pt	NA	Perm	Perm
Protected Phases	2			1	6		
Permitted Phases		2	1	6		8	8
Detector Phase	2	2	1	1	6	8	8
Switch Phase							
Minimum Initial (s)	35.0	35.0	5.0	5.0	35.0	5.0	5.0
Minimum Split (s)	41.0	41.0	11.0	11.0	41.0	35.0	35.0
Total Split (s)	85.0	85.0	14.0	14.0	99.0	21.0	21.0
Total Split (%)	70.8%	70.8%	11.7%	11.7%	82.5%	17.5%	17.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-1.0	0.0
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	5.0
Lead/Lag	Lag	Lag	Lead	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	None	C-Max	None	None
Act Effect Green (s)	85.7	85.7		98.5	98.5	13.5	12.5
Actuated g/C Ratio	0.71	0.71		0.82	0.82	0.11	0.10
v/c Ratio	0.56	0.10		0.31	0.39	0.54	0.76
Control Delay	9.7	2.4		8.4	6.1	59.9	38.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	9.7	2.4		8.4	6.1	59.9	38.7
LOS	A	A		A	A	E	D
Approach Delay	9.2				6.3	46.0	
Approach LOS	A				A	D	
Queue Length 50th (ft)	243	6		24	142	79	57

1: Main Street & S Boulder Road
 2026 Total PM without Front Street Connection.syn

	→	↘	↶	↙	←	↵	↗
Lane Group	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Queue Length 95th (ft)	344	27		m42	m195	135	141
Internal Link Dist (ft)	556				320	1130	
Turn Bay Length (ft)		120		225			115
Base Capacity (vph)	2527	1117		337	2904	249	308
Starvation Cap Reductn	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.56	0.10		0.29	0.39	0.43	0.67

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 22 (18%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 11.8

Intersection LOS: B

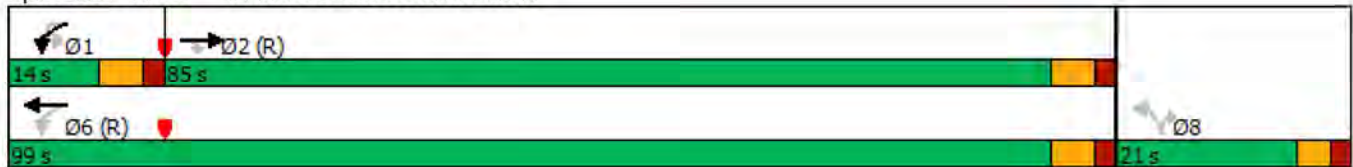
Intersection Capacity Utilization 74.5%

ICU Level of Service D

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Main Street & S Boulder Road



2: Front Street/Private Access & S Boulder Road
2026 Total PM without Front Street Connection.syn

												
Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↑↑	↗		↘	↑↑				↗		
Traffic Volume (vph)	0	1438	53	4	16	1116	5	0	0	50	0	0
Future Volume (vph)	0	1438	53	4	16	1116	5	0	0	50	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50		70		0	0		0	0	
Storage Lanes	0		1		1		0	0		1	0	
Taper Length (ft)	25				75			25			25	
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.999				0.865		
Flt Protected					0.950							
Satd. Flow (prot)	0	3539	1583	0	1770	3536	0	0	0	1611	0	0
Flt Permitted					0.950							
Satd. Flow (perm)	0	3539	1583	0	1770	3536	0	0	0	1611	0	0
Link Speed (mph)		35				35			20			20
Link Distance (ft)		400				360			338			476
Travel Time (s)		7.8				7.0			11.5			16.2
Confl. Peds. (#/hr)	10		10	5	10		10	5		5	5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1563	58	0	21	1218	0	0	0	54	0	0
Sign Control		Free				Free			Stop			Stop
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	51.5%											
Analysis Period (min)	15											
	ICU Level of Service A											

2: Front Street/Private Access & S Boulder Road
2026 Total PM without Front Street Connection.syn

Lane Group	SBR
Lane Configurations	7
Traffic Volume (vph)	5
Future Volume (vph)	5
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Ped Bike Factor	
Frt	0.865
Flt Protected	
Satd. Flow (prot)	1611
Flt Permitted	
Satd. Flow (perm)	1611
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	5
Peak Hour Factor	0.92
Shared Lane Traffic (%)	
Lane Group Flow (vph)	5
Sign Control	
Intersection Summary	

2: Front Street/Private Access & S Boulder Road
 2026 Total PM without Front Street Connection.syn

Intersection													
Int Delay, s/veh	0.5												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑		↓	↑↑				↑			↑
Traffic Vol, veh/h	0	1438	53	4	16	1116	5	0	0	50	0	0	5
Future Vol, veh/h	0	1438	53	4	16	1116	5	0	0	50	0	0	5
Conflicting Peds, #/hr	10	0	10	5	10	0	10	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	70	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1563	58	4	17	1213	5	0	0	54	0	0	5
Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	-	0	0	1563	1631	0	0	-	-	797	-	-	624
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	6.44	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	2.52	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	143	394	-	-	0	0	329	0	0	428
Stage 1	0	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	0	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-			-	-						
Mov Cap-1 Maneuver	-	-	-	270	270	-	-	-	-	324	-	-	422
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB			
HCM Control Delay, s	0			0.3			18.3			13.6			
HCM LOS							C			B			
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	WBR	SBLn1						
Capacity (veh/h)	324	-	-	270	-	-	422						
HCM Lane V/C Ratio	0.168	-	-	0.081	-	-	0.013						
HCM Control Delay (s)	18.3	-	-	19.5	-	-	13.6						
HCM Lane LOS	C	-	-	C	-	-	B						
HCM 95th %tile Q(veh)	0.6	-	-	0.3	-	-	0						

3: Cannon Circle/Private Access & S Boulder Road
2026 Total PM without Front Street Connection.syn

												
Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	23	48	1472	45	2	40	1126	12	0	0	65	0
Future Volume (vph)	23	48	1472	45	2	40	1126	12	0	0	65	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		90		0		80		0	0		0	0
Storage Lanes		1		0		1		0	0		1	0
Taper Length (ft)		75				80			25			25
Lane Util. Factor	0.95	1.00	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.996				0.998				0.865	
Flt Protected		0.950				0.950						
Satd. Flow (prot)	0	1770	3525	0	0	1770	3532	0	0	0	1611	0
Flt Permitted		0.950				0.950						
Satd. Flow (perm)	0	1770	3525	0	0	1770	3532	0	0	0	1611	0
Link Speed (mph)			35				35			20		
Link Distance (ft)			360				465			339		
Travel Time (s)			7.0				9.1			11.6		
Confl. Peds. (#/hr)	5	10		10	5	10		10	5		5	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	77	1649	0	0	45	1237	0	0	0	71	0
Sign Control			Free				Free			Stop		
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	61.4%						ICU Level of Service B					
Analysis Period (min)	15											

3: Cannon Circle/Private Access & S Boulder Road
 2026 Total PM without Front Street Connection.syn



Lane Group	SBT	SBR
Lane Configurations		↗
Traffic Volume (vph)	0	66
Future Volume (vph)	0	66
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		0
Storage Lanes		1
Taper Length (ft)		
Lane Util. Factor	1.00	1.00
Ped Bike Factor		
Frt		0.865
Flt Protected		
Satd. Flow (prot)	0	1611
Flt Permitted		
Satd. Flow (perm)	0	1611
Link Speed (mph)	20	
Link Distance (ft)	431	
Travel Time (s)	14.7	
Confl. Peds. (#/hr)		5
Peak Hour Factor	0.92	0.92
Shared Lane Traffic (%)		
Lane Group Flow (vph)	0	72
Sign Control	Stop	
Intersection Summary		

3: Cannon Circle/Private Access & S Boulder Road
2026 Total PM without Front Street Connection.syn

Intersection															
Int Delay, s/veh	1.5														
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations															
Traffic Vol, veh/h	23	48	1472	45	2	40	1126	12	0	0	65	0	0	66	
Future Vol, veh/h	23	48	1472	45	2	40	1126	12	0	0	65	0	0	66	
Conflicting Peds, #/hr	5	10	0	10	5	10	0	10	5	0	5	5	0	5	
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	
RT Channelized	-	-	-	None	-	-	-	None	-	-	None	-	-	None	
Storage Length	-	90	-	-	-	80	-	-	-	-	0	-	-	0	
Veh in Median Storage, #	-	-	0	-	-	-	0	-	-	0	-	-	0	-	
Grade, %	-	-	0	-	-	-	0	-	-	0	-	-	0	-	
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92	92	
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Mvmt Flow	25	52	1600	49	2	43	1224	13	0	0	71	0	0	72	
Major/Minor	Major1			Major2			Minor1			Minor2					
Conflicting Flow All	1237	1247	0	0	1649	1659	0	0	-	-	840	-	-	634	
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Critical Hdwy	6.44	4.14	-	-	6.44	4.14	-	-	-	-	6.94	-	-	6.94	
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Follow-up Hdwy	2.52	2.22	-	-	2.52	2.22	-	-	-	-	3.32	-	-	3.32	
Pot Cap-1 Maneuver	234	554	-	-	126	384	-	-	0	0	309	0	0	422	
Stage 1	-	-	-	-	-	-	-	-	0	0	-	0	0	-	
Stage 2	-	-	-	-	-	-	-	-	0	0	-	0	0	-	
Platoon blocked, %			-	-			-	-							
Mov Cap-1 Maneuver	348	348	-	-	335	335	-	-	-	-	305	-	-	416	
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Approach	EB			WB			NB			SB					
HCM Control Delay, s	0.8			0.6			20.3			15.4					
HCM LOS							C			C					
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1							
Capacity (veh/h)	305	348	-	-	335	-	-	416							
HCM Lane V/C Ratio	0.232	0.222	-	-	0.136	-	-	0.172							
HCM Control Delay (s)	20.3	18.3	-	-	17.4	-	-	15.4							
HCM Lane LOS	C	C	-	-	C	-	-	C							
HCM 95th %tile Q(veh)	0.9	0.8	-	-	0.5	-	-	0.6							

4: Courtesy Road (SH 42) & S Boulder Road
2026 Total PM without Front Street Connection.syn

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU
Lane Configurations		RT	LT		RT	LT	RT		RT	LT		
Traffic Volume (vph)	29	591	751	193	355	652	202	1	132	709	255	9
Future Volume (vph)	29	591	751	193	355	652	202	1	132	709	255	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		150		0	225		270		0		0	
Storage Lanes		2		0	2		1		2		0	
Taper Length (ft)		80			135				70			
Lane Util. Factor	0.95	0.97	0.95	0.95	0.97	0.95	1.00	0.95	0.97	0.95	0.95	0.95
Ped Bike Factor			1.00				0.98			1.00		
Frt			0.969				0.850			0.960		
Flt Protected		0.950			0.950				0.950			
Satd. Flow (prot)	0	3433	3417	0	3433	3539	1583	0	3433	3382	0	0
Flt Permitted		0.382			0.950				0.308			
Satd. Flow (perm)	0	1380	3417	0	3433	3539	1546	0	1113	3382	0	0
Right Turn on Red				Yes			Yes				Yes	
Satd. Flow (RTOR)			28				210			43		
Link Speed (mph)			35			35				45		
Link Distance (ft)			465			1815				418		
Travel Time (s)			9.1			35.4				6.3		
Confl. Peds. (#/hr)				5			10				5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	674	1026	0	386	709	220	0	144	1048	0	0
Turn Type	custom	Prot	NA		Prot	NA	Perm	custom	Prot	NA		custom
Protected Phases		5	2		1	6			3	8		
Permitted Phases	5						6	3				7
Detector Phase	5	5	2		1	6	6	3	3	8		7
Switch Phase												
Minimum Initial (s)	5.0	5.0	10.0		5.0	10.0	10.0	5.0	5.0	6.0		5.0
Minimum Split (s)	10.0	10.0	37.0		10.0	37.0	37.0	10.0	10.0	40.0		10.0
Total Split (s)	24.0	24.0	43.0		18.0	37.0	37.0	18.0	18.0	41.0		18.0
Total Split (%)	20.0%	20.0%	35.8%		15.0%	30.8%	30.8%	15.0%	15.0%	34.2%		15.0%
Yellow Time (s)	3.0	3.0	4.0		3.0	4.0	4.0	3.0	3.0	4.0		3.0
All-Red Time (s)	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0		2.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0		0.0	0.0		
Total Lost Time (s)		5.0	6.0		5.0	6.0	6.0		5.0	6.0		
Lead/Lag	Lag	Lag	Lag		Lead	Lead	Lead	Lead	Lead	Lead		Lag
Lead-Lag Optimize?												
Recall Mode	None	None	C-Max		None	Max	Max	None	None	Max		None
Act Effect Green (s)		19.0	37.0		13.0	31.0	31.0		13.0	35.0		
Actuated g/C Ratio		0.16	0.31		0.11	0.26	0.26		0.11	0.29		
v/c Ratio		3.09	0.96		1.04	0.78	0.40		1.20	1.03		
Control Delay		969.9	52.9		109.4	48.1	7.8		191.3	76.8		
Queue Delay		0.0	0.0		0.0	0.0	0.0		0.0	0.0		
Total Delay		969.9	52.9		109.4	48.1	7.8		191.3	76.8		
LOS		F	D		F	D	A		F	E		
Approach Delay			416.5			59.3				90.6		
Approach LOS			F			E				F		
Queue Length 50th (ft)		~475	401		~165	268	6		~69	~444		

4: Courtesy Road (SH 42) & S Boulder Road
 2026 Total PM without Front Street Connection.syn

			
Lane Group	SBL	SBT	SBR
Lane Configurations	 	 	
Traffic Volume (vph)	139	546	333
Future Volume (vph)	139	546	333
Ideal Flow (vphpl)	1900	1900	1900
Storage Length (ft)	185		270
Storage Lanes	2		1
Taper Length (ft)	155		
Lane Util. Factor	0.97	0.95	1.00
Ped Bike Factor			0.98
Frt			0.850
Flt Protected	0.950		
Satd. Flow (prot)	3433	3539	1583
Flt Permitted	0.308		
Satd. Flow (perm)	1113	3539	1555
Right Turn on Red			Yes
Satd. Flow (RTOR)			321
Link Speed (mph)		45	
Link Distance (ft)		1337	
Travel Time (s)		20.3	
Confl. Peds. (#/hr)			5
Peak Hour Factor	0.92	0.92	0.92
Shared Lane Traffic (%)			
Lane Group Flow (vph)	161	593	362
Turn Type	Prot	NA	Perm
Protected Phases	7	4	
Permitted Phases			4
Detector Phase	7	4	4
Switch Phase			
Minimum Initial (s)	5.0	6.0	6.0
Minimum Split (s)	10.0	36.0	36.0
Total Split (s)	18.0	41.0	41.0
Total Split (%)	15.0%	34.2%	34.2%
Yellow Time (s)	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0
Lead/Lag	Lag	Lag	Lag
Lead-Lag Optimize?			
Recall Mode	None	Max	Max
Act Effect Green (s)	13.0	35.0	35.0
Actuated g/C Ratio	0.11	0.29	0.29
v/c Ratio	1.34	0.57	0.53
Control Delay	240.4	38.8	8.8
Queue Delay	0.0	0.0	0.0
Total Delay	240.4	38.8	8.8
LOS	F	D	A
Approach Delay		58.2	
Approach LOS		E	
Queue Length 50th (ft)	~83	205	23

4: Courtesy Road (SH 42) & S Boulder Road
2026 Total PM without Front Street Connection.syn

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU
Queue Length 95th (ft)		#597	#544		#267	341	68		#138	#581		
Internal Link Dist (ft)			385			1735				338		
Turn Bay Length (ft)		150			225		270					
Base Capacity (vph)		218	1072		371	914	555		120	1016		
Starvation Cap Reductn		0	0		0	0	0		0	0		
Spillback Cap Reductn		0	0		0	0	0		0	0		
Storage Cap Reductn		0	0		0	0	0		0	0		
Reduced v/c Ratio		3.09	0.96		1.04	0.78	0.40		1.20	1.03		

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT, Start of Yellow, Master Intersection

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 3.09

Intersection Signal Delay: 180.2

Intersection LOS: F

Intersection Capacity Utilization 94.4%

ICU Level of Service F

Analysis Period (min) 15

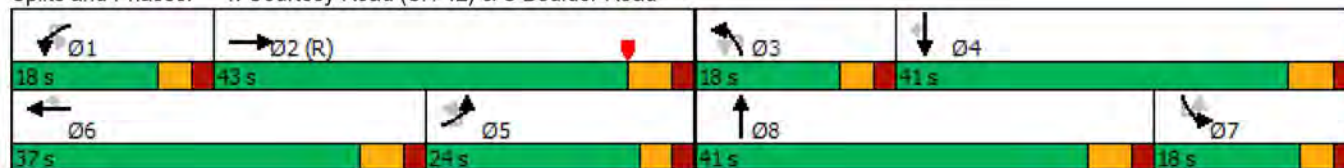
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 4: Courtesy Road (SH 42) & S Boulder Road



4: Courtesy Road (SH 42) & S Boulder Road
2026 Total PM without Front Street Connection.syn



Lane Group	SBL	SBT	SBR
Queue Length 95th (ft)	#156	266	107
Internal Link Dist (ft)		1257	
Turn Bay Length (ft)	185		270
Base Capacity (vph)	120	1032	680
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	1.34	0.57	0.53
Intersection Summary			

5: Courtesy Road (SH 42) & Cannon Circle
 2026 Total PM without Front Street Connection.syn

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1	19	26	1112	1071	19
Future Volume (vph)	1	19	26	1112	1071	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	140			0
Storage Lanes	0	1	1			0
Taper Length (ft)	25		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95
Ped Bike Factor						
Frt		0.865			0.997	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	0	1611	1770	1863	3529	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	0	1611	1770	1863	3529	0
Link Speed (mph)	20			45	45	
Link Distance (ft)	418			424	418	
Travel Time (s)	14.3			6.4	6.3	
Confl. Peds. (#/hr)			5			5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1	21	28	1209	1185	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization Err%	ICU Level of Service H					
Analysis Period (min)	15					

5: Courtesy Road (SH 42) & Cannon Circle
2026 Total PM without Front Street Connection.syn

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	19	26	1112	1071	19
Future Vol, veh/h	1	19	26	1112	1071	19
Conflicting Peds, #/hr	0	0	5	0	0	5
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	140	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	21	28	1209	1164	21
Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2445	598	1190	0	-	0
Stage 1	1180	-	-	-	-	-
Stage 2	1265	-	-	-	-	-
Critical Hdwy	6.63	6.93	4.13	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	30	446	585	-	-	-
Stage 1	255	-	-	-	-	-
Stage 2	264	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	28	444	582	-	-	-
Mov Cap-2 Maneuver	28	-	-	-	-	-
Stage 1	241	-	-	-	-	-
Stage 2	263	-	-	-	-	-
Approach	EB		NB		SB	
HCM Control Delay, s	13.5		0.3		0	
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	582	-	444	-	-	
HCM Lane V/C Ratio	0.049	-	0.047	-	-	
HCM Control Delay (s)	11.5	-	13.5	-	-	
HCM Lane LOS	B	-	B	-	-	
HCM 95th %tile Q(veh)	0.2	-	0.1	-	-	

6: Courtesy Road (SH 42) & Griffith Street/Sports Complex Access
 2026 Total PM without Front Street Connection.syn

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	2	11	0	39	1	1	1	19	1107	2	1	1009
Future Volume (vph)	2	11	0	39	1	1	1	19	1107	2	1	1009
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0		0	0		60	225		0	500	
Storage Lanes		0		0	0		1	1		0	1	
Taper Length (ft)		0			0			25			50	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.899				0.850					
Flt Protected			0.988			0.976		0.950			0.950	
Satd. Flow (prot)	0	0	1655	0	0	1818	1583	1770	1863	0	1770	1863
Flt Permitted			0.988			0.976		0.950			0.950	
Satd. Flow (perm)	0	0	1655	0	0	1818	1583	1770	1863	0	1770	1863
Link Speed (mph)			30			20			45			45
Link Distance (ft)			439			281			380			365
Travel Time (s)			10.0			9.6			5.8			5.5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	56	0	0	2	1	21	1205	0	1	1097
Sign Control			Stop			Stop			Free			Free
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	75.1%											
Analysis Period (min)	15											
	ICU Level of Service D											

6: Courtesy Road (SH 42) & Griffith Street/Sports Complex Access
2026 Total PM without Front Street Connection.syn



Lane Group	SBR
Lane Configurations	↗
Traffic Volume (vph)	133
Future Volume (vph)	133
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Ped Bike Factor	
Frt	0.850
Flt Protected	
Satd. Flow (prot)	1583
Flt Permitted	
Satd. Flow (perm)	1583
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Bikes (#/hr)	5
Peak Hour Factor	0.92
Shared Lane Traffic (%)	
Lane Group Flow (vph)	145
Sign Control	
Intersection Summary	

6: Courtesy Road (SH 42) & Griffith Street/Sports Complex Access
2026 Total PM without Front Street Connection.syn

Intersection													
Int Delay, s/veh	2.9												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↕			↕	↕	↕	↕		↕	↕	↕
Traffic Vol, veh/h	2	11	0	39	1	1	1	19	1107	2	1	1009	133
Future Vol, veh/h	2	11	0	39	1	1	1	19	1107	2	1	1009	133
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	60	225	-	-	500	-	0
Veh in Median Storage, #	-	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	12	0	42	1	1	1	21	1203	2	1	1097	145
Major/Minor	Minor2			Minor1			Major1			Major2			
Conflicting Flow All	0	2346	2346	1097	2439	2490	1204	1242	0	0	1205	0	0
Stage 1	0	1099	1099	-	1246	1246	-	-	-	-	-	-	-
Stage 2	0	1247	1247	-	1193	1244	-	-	-	-	-	-	-
Critical Hdwy	-	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	-	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	-	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	0	25	36	259	22	29	224	561	-	-	579	-	-
Stage 1	0	258	288	-	213	246	-	-	-	-	-	-	-
Stage 2	0	213	245	-	228	246	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	0	23	35	259	18	28	224	561	-	-	579	-	-
Mov Cap-2 Maneuver	0	23	35	-	18	28	-	-	-	-	-	-	-
Stage 1	0	248	287	-	205	237	-	-	-	-	-	-	-
Stage 2	0	203	236	-	190	246	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB			
HCM Control Delay, s	115.6			130.9			0.2			0			
HCM LOS	F			F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR				
Capacity (veh/h)	561	-	-	80	22	224	579	-	-				
HCM Lane V/C Ratio	0.037	-	-	0.679	0.099	0.005	0.002	-	-				
HCM Control Delay (s)	11.7	-	-	115.6	185.8	21.2	11.2	-	-				
HCM Lane LOS	B	-	-	F	F	C	B	-	-				
HCM 95th %tile Q(veh)	0.1	-	-	3.2	0.3	0	0	-	-				

7: Cannon Street & Griffith Street
2026 Total PM without Front Street Connection.syn

												
Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	2	36	26	1	27	129	1	28	1	5	0	2
Future Volume (vph)	2	36	26	1	27	129	1	28	1	5	0	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150		150		150	150		150	150	
Storage Lanes	0		0		0		0	0		0	0	
Taper Length (ft)	25				25			25			25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.945				0.999			0.981			
Flt Protected		0.999				0.991			0.960			
Satd. Flow (prot)	0	1759	0	0	0	1844	0	0	1754	0	0	1863
Flt Permitted		0.999				0.991			0.960			
Satd. Flow (perm)	0	1759	0	0	0	1844	0	0	1754	0	0	1863
Link Speed (mph)		30				30			25			25
Link Distance (ft)		390				439			346			362
Travel Time (s)		8.9				10.0			9.4			9.9
Confl. Peds. (#/hr)	5		5		5		5	5		5	5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	69	0	0	0	171	0	0	36	0	0	2
Sign Control		Free				Free			Stop			Stop
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	31.1%											
Analysis Period (min)	15											
	ICU Level of Service A											

7: Cannon Street & Griffith Street
2026 Total PM without Front Street Connection.syn

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	0
Future Volume (vph)	0
Ideal Flow (vphpl)	1900
Storage Length (ft)	150
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	1.00
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	5
Peak Hour Factor	0.92
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Sign Control	
Intersection Summary	

7: Cannon Street & Griffith Street
2026 Total PM without Front Street Connection.syn

Intersection													
Int Delay, s/veh	1.5												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕				↕			↕			↕	
Traffic Vol, veh/h	2	36	26	1	27	129	1	28	1	5	0	2	0
Future Vol, veh/h	2	36	26	1	27	129	1	28	1	5	0	2	0
Conflicting Peds, #/hr	5	0	5	0	5	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	39	28	1	29	140	1	30	1	5	0	2	0
Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	146	0	0	-	72	0	0	267	268	63	269	282	151
Stage 1	-	-	-	-	-	-	-	62	62	-	204	206	-
Stage 2	-	-	-	-	-	-	-	205	206	-	65	76	-
Critical Hdwy	4.12	-	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1436	-	-	-	1528	-	-	686	638	1002	684	627	895
Stage 1	-	-	-	-	-	-	-	949	843	-	798	731	-
Stage 2	-	-	-	-	-	-	-	797	731	-	946	832	-
Platoon blocked, %		-	-			-	-						
Mov Cap-1 Maneuver	1429	-	-	~-29	~-29	-	-	677	631	992	672	620	886
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	677	631	-	672	620	-
Stage 1	-	-	-	-	-	-	-	943	838	-	793	727	-
Stage 2	-	-	-	-	-	-	-	791	727	-	934	827	-
Approach	EB			WB			NB			SB			
HCM Control Delay, s	0.2						10.4			10.8			
HCM LOS							B			B			
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1					
Capacity (veh/h)	709	1429	-	-	+	-	-	620					
HCM Lane V/C Ratio	0.052	0.002	-	-	-	-	-	0.004					
HCM Control Delay (s)	10.4	7.5	0	-	-	-	-	10.8					
HCM Lane LOS	B	A	A	-	-	-	-	B					
HCM 95th %tile Q(veh)	0.2	0	-	-	-	-	-	0					
Notes													
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon							

8: Griffith Street & Front Street
2026 Total PM without Front Street Connection.syn

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	4	70	6	5	165	0	2	0	1	3	0	0
Future Volume (vph)	4	70	6	5	165	0	2	0	1	3	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150	150		150	0		0		0	
Storage Lanes	0		0	0		0	0		0		0	
Taper Length (ft)	25			25			25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.989						0.955				0.932
Flt Protected		0.998			0.999			0.968				0.976
Satd. Flow (prot)	0	1839	0	0	1861	0	0	1722	0	0	0	1694
Flt Permitted		0.998			0.999			0.968				0.976
Satd. Flow (perm)	0	1839	0	0	1861	0	0	1722	0	0	0	1694
Link Speed (mph)		30			30			25				25
Link Distance (ft)		405			390			333				365
Travel Time (s)		9.2			8.9			9.1				10.0
Confl. Peds. (#/hr)	5		10	10		5	5		5		5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	87	0	0	184	0	0	3	0	0	0	6
Sign Control		Free			Free			Stop				Stop
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	22.3%											
Analysis Period (min)	15											
	ICU Level of Service A											

8: Griffith Street & Front Street
2026 Total PM without Front Street Connection.syn

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	3
Future Volume (vph)	3
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	1.00
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	5
Peak Hour Factor	0.92
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Sign Control	
Intersection Summary	

8: Griffith Street & Front Street
2026 Total PM without Front Street Connection.syn

Intersection													
Int Delay, s/veh	0.6												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations		↕			↕			↕				↕	
Traffic Vol, veh/h	4	70	6	5	165	0	2	0	1	3	0	0	3
Future Vol, veh/h	4	70	6	5	165	0	2	0	1	3	0	0	3
Conflicting Peds, #/hr	5	0	10	10	0	5	5	0	5	0	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	76	7	5	179	0	2	0	1	3	0	0	3
Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	184	0	0	93	0	0	294	292	95	0	287	295	189
Stage 1	-	-	-	-	-	-	98	98	-	0	194	194	-
Stage 2	-	-	-	-	-	-	196	194	-	0	93	101	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	-	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1391	-	-	1501	-	-	658	619	962	0	665	616	853
Stage 1	-	-	-	-	-	-	908	814	-	0	808	740	-
Stage 2	-	-	-	-	-	-	806	740	-	0	914	811	-
Platoon blocked, %		-	-		-	-				-			
Mov Cap-1 Maneuver	1384	-	-	1487	-	-	643	605	948	0	654	602	845
Mov Cap-2 Maneuver	-	-	-	-	-	-	643	605	-	0	654	602	-
Stage 1	-	-	-	-	-	-	897	803	-	0	802	733	-
Stage 2	-	-	-	-	-	-	796	733	-	0	906	800	-
Approach	EB			WB			NB			SB			
HCM Control Delay, s	0.4			0.2			10			9.3			
HCM LOS							B			A			
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1					
Capacity (veh/h)	720	1384	-	-	1487	-	-	845					
HCM Lane V/C Ratio	0.005	0.003	-	-	0.004	-	-	0.004					
HCM Control Delay (s)	10	7.6	0	-	7.4	0	-	9.3					
HCM Lane LOS	B	A	A	-	A	A	-	A					
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0					

9: Main Street & Griffith Street
 2026 Total PM without Front Street Connection.syn

							
Lane Group	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	90	57	233	39	1	39	144
Future Volume (vph)	90	57	233	39	1	39	144
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor							
Frt	0.948		0.981				
Flt Protected	0.970						0.989
Satd. Flow (prot)	1713	0	1827	0	0	0	1842
Flt Permitted	0.970						0.989
Satd. Flow (perm)	1713	0	1827	0	0	0	1842
Link Speed (mph)	30		30				30
Link Distance (ft)	405		350				1210
Travel Time (s)	9.2		8.0				27.5
Confl. Peds. (#/hr)	2	10		7	10	7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)							
Lane Group Flow (vph)	160	0	295	0	0	0	200
Sign Control	Stop		Free				Free
Intersection Summary							
Area Type:	Other						
Control Type:	Unsignalized						
Intersection Capacity Utilization	44.7%			ICU Level of Service A			
Analysis Period (min)	15						

9: Main Street & Griffith Street
2026 Total PM without Front Street Connection.syn

Intersection							
Int Delay, s/veh	3.3						
Movement	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations							
Traffic Vol, veh/h	90	57	233	39	1	39	144
Future Vol, veh/h	90	57	233	39	1	39	144
Conflicting Peds, #/hr	2	10	0	7	10	7	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	-	0
Grade, %	0	-	0	-	-	-	0
Peak Hour Factor	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	98	62	253	42	1	42	157
Major/Minor	Minor1	Major1		Major2			
Conflicting Flow All	524	291	0	0	-	302	0
Stage 1	281	-	-	-	-	-	-
Stage 2	243	-	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	2.218	-
Pot Cap-1 Maneuver	514	748	-	-	-	1259	-
Stage 1	767	-	-	-	-	-	-
Stage 2	797	-	-	-	-	-	-
Platoon blocked, %			-	-			-
Mov Cap-1 Maneuver	509	736	-	-	~ -41	~ -41	-
Mov Cap-2 Maneuver	509	-	-	-	-	-	-
Stage 1	762	-	-	-	-	-	-
Stage 2	795	-	-	-	-	-	-
Approach	WB	NB		SB			
HCM Control Delay, s	13.6	0					
HCM LOS	B						
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBL	SBT		
Capacity (veh/h)	-	-	578	+	-		
HCM Lane V/C Ratio	-	-	0.276	-	-		
HCM Control Delay (s)	-	-	13.6	-	-		
HCM Lane LOS	-	-	B	-	-		
HCM 95th %tile Q(veh)	-	-	1.1	-	-		
Notes							
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon	

10: Front Street & Harper Street
 2026 Total PM without Front Street Connection.syn

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	6	0	0	7	0	0
Future Volume (vph)	6	0	0	7	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.865					
Flt Protected	0.950					
Satd. Flow (prot)	1770	0	0	1611	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	0	1611	0	0
Link Speed (mph)	25	25		25		
Link Distance (ft)	380	365		210		
Travel Time (s)	10.4	10.0		5.7		
Confl. Peds. (#/hr)	5	132	70		70	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	7	0	0	8	0	0
Sign Control	Free	Free		Free		
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 16.5%			ICU Level of Service A			
Analysis Period (min) 15						

11: Courtesy Road (SH 42) & Harper Street
 2026 Total PM without Front Street Connection.syn

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	26	61	7	1049	996	8
Future Volume (vph)	26	61	7	1049	996	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95
Frt	0.905				0.999	
Flt Protected	0.985					
Satd. Flow (prot)	1660	0	0	1863	3536	0
Flt Permitted	0.985					
Satd. Flow (perm)	1660	0	0	1863	3536	0
Link Speed (mph)	30			45	45	
Link Distance (ft)	263			365	424	
Travel Time (s)	6.0			5.5	6.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	94	0	0	1148	1092	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	72.6%			ICU Level of Service C		
Analysis Period (min)	15					

11: Courtesy Road (SH 42) & Harper Street
2026 Total PM without Front Street Connection.syn

Intersection						
Int Delay, s/veh	4.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			↑	↑↑	
Traffic Vol, veh/h	26	61	7	1049	996	8
Future Vol, veh/h	26	61	7	1049	996	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	28	66	8	1140	1083	9
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	2244	546	1092	0	-	0
Stage 1	1088	-	-	-	-	-
Stage 2	1156	-	-	-	-	-
Critical Hdwy	6.63	6.93	4.13	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	41	483	637	-	-	-
Stage 1	285	-	-	-	-	-
Stage 2	299	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	40	483	637	-	-	-
Mov Cap-2 Maneuver	40	-	-	-	-	-
Stage 1	275	-	-	-	-	-
Stage 2	299	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	118	0.1		0		
HCM LOS	F					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	637	-	112	-	-	
HCM Lane V/C Ratio	0.012	-	0.844	-	-	
HCM Control Delay (s)	10.7	0	118	-	-	
HCM Lane LOS	B	A	F	-	-	
HCM 95th %tile Q(veh)	0	-	5	-	-	

1: Main Street & S Boulder Road
2026 Total SAT without Front Street Connection.syn

	→	↘	↶	↙	←	↗	↘
Lane Group	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↘	↑↑	↘	↘
Traffic Volume (vph)	852	94	26	67	805	68	106
Future Volume (vph)	852	94	26	67	805	68	106
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		120		225		0	115
Storage Lanes		1		1		1	1
Taper Length (ft)				25		0	
Lane Util. Factor	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Ped Bike Factor		0.97		1.00		0.99	0.95
Frt		0.850					0.850
Flt Protected				0.950		0.950	
Satd. Flow (prot)	3539	1583	0	1770	3539	1770	1583
Flt Permitted				0.263		0.950	
Satd. Flow (perm)	3539	1535	0	489	3539	1761	1504
Right Turn on Red		Yes					Yes
Satd. Flow (RTOR)		102					115
Link Speed (mph)	35				35	30	
Link Distance (ft)	636				400	1210	
Travel Time (s)	12.4				7.8	27.5	
Confl. Peds. (#/hr)		5		5		5	39
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)							
Lane Group Flow (vph)	926	102	0	101	875	74	115
Turn Type	NA	Perm	custom	pm+pt	NA	Perm	Perm
Protected Phases	2			1	6		
Permitted Phases		2	1	6		8	8
Detector Phase	2	2	1	1	6	8	8
Switch Phase							
Minimum Initial (s)	35.0	35.0	5.0	5.0	35.0	5.0	5.0
Minimum Split (s)	41.0	41.0	11.0	11.0	41.0	35.0	35.0
Total Split (s)	70.0	70.0	12.0	12.0	82.0	18.0	18.0
Total Split (%)	70.0%	70.0%	12.0%	12.0%	82.0%	18.0%	18.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-1.0	0.0
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	5.0
Lead/Lag	Lag	Lag	Lead	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	None	C-Max	None	None
Act Effct Green (s)	71.6	71.6		81.5	81.5	10.5	9.5
Actuated g/C Ratio	0.72	0.72		0.82	0.82	0.10	0.10
v/c Ratio	0.37	0.09		0.20	0.30	0.40	0.47
Control Delay	6.8	1.4		3.2	3.1	47.5	14.4
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	6.8	1.4		3.2	3.1	47.5	14.4
LOS	A	A		A	A	D	B
Approach Delay	6.2				3.1	27.4	
Approach LOS	A				A	C	
Queue Length 50th (ft)	115	0		13	68	45	0

1: Main Street & S Boulder Road
 2026 Total SAT without Front Street Connection.syn



Lane Group	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Queue Length 95th (ft)	163	16		m22	m90	87	50
Internal Link Dist (ft)	556				320	1130	
Turn Bay Length (ft)		120		225			115
Base Capacity (vph)	2532	1127		505	2885	246	295
Starvation Cap Reductn	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.37	0.09		0.20	0.30	0.30	0.39

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 59 (59%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.47

Intersection Signal Delay: 6.7

Intersection LOS: A

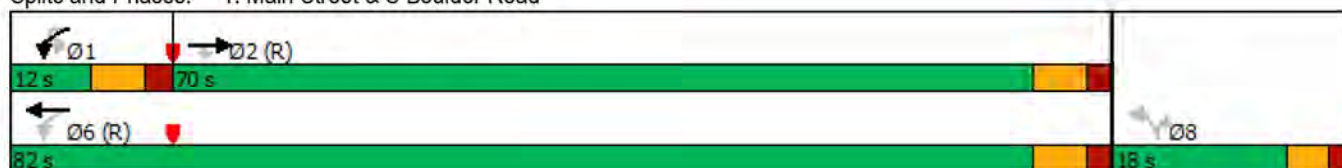
Intersection Capacity Utilization 66.0%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Main Street & S Boulder Road



2: Front Street/Private Access & S Boulder Road
2026 Total SAT without Front Street Connection.syn

												
Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↑↑	↗		↘	↑↑				↗		
Traffic Volume (vph)	0	952	28	3	11	924	4	0	0	34	0	0
Future Volume (vph)	0	952	28	3	11	924	4	0	0	34	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50		70		0	0		0	0	
Storage Lanes	0		1		1		0	0		1	0	
Taper Length (ft)	25				75			25			25	
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.999				0.865		
Flt Protected					0.950							
Satd. Flow (prot)	0	3539	1583	0	1770	3536	0	0	0	1611	0	0
Flt Permitted					0.950							
Satd. Flow (perm)	0	3539	1583	0	1770	3536	0	0	0	1611	0	0
Link Speed (mph)		35				35			20			20
Link Distance (ft)		400				360			338			476
Travel Time (s)		7.8				7.0			11.5			16.2
Confl. Peds. (#/hr)	10		10	5	10		10	5		5	5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1035	30	0	15	1008	0	0	0	37	0	0
Sign Control		Free				Free			Stop			Stop
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	37.9%											
Analysis Period (min)	15											
	ICU Level of Service A											

2: Front Street/Private Access & S Boulder Road
2026 Total SAT without Front Street Connection.syn

Lane Group	SBR
Lane Configurations	↗
Traffic Volume (vph)	1
Future Volume (vph)	1
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Ped Bike Factor	
Frt	0.865
Flt Protected	
Satd. Flow (prot)	1611
Flt Permitted	
Satd. Flow (perm)	1611
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	5
Peak Hour Factor	0.92
Shared Lane Traffic (%)	
Lane Group Flow (vph)	1
Sign Control	
Intersection Summary	

2: Front Street/Private Access & S Boulder Road
 2026 Total SAT without Front Street Connection.syn

Intersection													
Int Delay, s/veh	0.3												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑		↓	↑↑				↑			↑
Traffic Vol, veh/h	0	952	28	3	11	924	4	0	0	34	0	0	1
Future Vol, veh/h	0	952	28	3	11	924	4	0	0	34	0	0	1
Conflicting Peds, #/hr	10	0	10	5	10	0	10	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	70	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1035	30	3	12	1004	4	0	0	37	0	0	1
Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	-	0	0	1035	1075	0	0	-	-	533	-	-	519
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	6.44	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	2.52	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	315	644	-	-	0	0	491	0	0	502
Stage 1	0	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	0	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-			-	-						
Mov Cap-1 Maneuver	-	-	-	509	509	-	-	-	-	484	-	-	495
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB			
HCM Control Delay, s	0			0.2			13.1			12.3			
HCM LOS							B			B			
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	WBR	SBLn1						
Capacity (veh/h)	484	-	-	509	-	-	495						
HCM Lane V/C Ratio	0.076	-	-	0.03	-	-	0.002						
HCM Control Delay (s)	13.1	-	-	12.3	-	-	12.3						
HCM Lane LOS	B	-	-	B	-	-	B						
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-	-	0						

3: Cannon Circle/Private Access & S Boulder Road
2026 Total SAT without Front Street Connection.syn

												
Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	15	28	914	26	1	44	850	12	0	0	48	0
Future Volume (vph)	15	28	914	26	1	44	850	12	0	0	48	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		90		0		80		0	0		0	0
Storage Lanes		1		0		1		0	0		1	0
Taper Length (ft)		75				80			25			25
Lane Util. Factor	0.95	1.00	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.996				0.998				0.865	
Flt Protected		0.950				0.950						
Satd. Flow (prot)	0	1770	3525	0	0	1770	3532	0	0	0	1611	0
Flt Permitted		0.950				0.950						
Satd. Flow (perm)	0	1770	3525	0	0	1770	3532	0	0	0	1611	0
Link Speed (mph)			35				35			20		
Link Distance (ft)			360				465			339		
Travel Time (s)			7.0				9.1			11.6		
Confl. Peds. (#/hr)	5	10		10	5	10		10	5		5	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	46	1021	0	0	49	937	0	0	0	52	0
Sign Control			Free				Free			Stop		
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	44.5%						ICU Level of Service A					
Analysis Period (min)	15											

3: Cannon Circle/Private Access & S Boulder Road
 2026 Total SAT without Front Street Connection.syn



Lane Group	SBT	SBR
Lane Configurations		↗
Traffic Volume (vph)	0	82
Future Volume (vph)	0	82
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		0
Storage Lanes		1
Taper Length (ft)		
Lane Util. Factor	1.00	1.00
Ped Bike Factor		
Frt		0.865
Flt Protected		
Satd. Flow (prot)	0	1611
Flt Permitted		
Satd. Flow (perm)	0	1611
Link Speed (mph)	20	
Link Distance (ft)	431	
Travel Time (s)	14.7	
Confl. Peds. (#/hr)		5
Peak Hour Factor	0.92	0.92
Shared Lane Traffic (%)		
Lane Group Flow (vph)	0	89
Sign Control	Stop	
Intersection Summary		

3: Cannon Circle/Private Access & S Boulder Road
2026 Total SAT without Front Street Connection.syn

Intersection														
Int Delay, s/veh	1.4													
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Vol, veh/h	15	28	914	26	1	44	850	12	0	0	48	0	0	82
Future Vol, veh/h	15	28	914	26	1	44	850	12	0	0	48	0	0	82
Conflicting Peds, #/hr	5	10	0	10	5	10	0	10	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	-	90	-	-	-	80	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	30	993	28	1	48	924	13	0	0	52	0	0	89
Major/Minor	Major1			Major2			Minor1			Minor2				
Conflicting Flow All	937	947	0	0	1022	1031	0	0	-	-	526	-	-	484
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	6.44	4.14	-	-	6.44	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.52	2.22	-	-	2.52	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	364	721	-	-	321	670	-	-	0	0	496	0	0	529
Stage 1	-	-	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %			-	-			-	-						
Mov Cap-1 Maneuver	488	488	-	-	645	645	-	-	-	-	489	-	-	521
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB				
HCM Control Delay, s	0.6			0.5			13.2			13.3				
HCM LOS							B			B				
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1						
Capacity (veh/h)	489	488	-	-	645	-	-	521						
HCM Lane V/C Ratio	0.107	0.096	-	-	0.076	-	-	0.171						
HCM Control Delay (s)	13.2	13.2	-	-	11	-	-	13.3						
HCM Lane LOS	B	B	-	-	B	-	-	B						
HCM 95th %tile Q(veh)	0.4	0.3	-	-	0.2	-	-	0.6						

4: Courtesy Road (SH 42) & S Boulder Road
2026 Total SAT without Front Street Connection.syn

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (vph)	29	397	473	118	252	533	135	2	160	363	199	5
Future Volume (vph)	29	397	473	118	252	533	135	2	160	363	199	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		150		0	225		270		0		0	
Storage Lanes		2		0	2		1		2		0	
Taper Length (ft)		80			135				70			
Lane Util. Factor	0.95	0.97	0.95	0.95	0.97	0.95	1.00	0.95	0.97	0.95	0.95	0.95
Ped Bike Factor			1.00				0.98			0.99		
Frt			0.970				0.850			0.947		
Flt Protected		0.950			0.950				0.950			
Satd. Flow (prot)	0	3433	3422	0	3433	3539	1583	0	3433	3332	0	0
Flt Permitted		0.434			0.950				0.571			
Satd. Flow (perm)	0	1568	3422	0	3433	3539	1549	0	2063	3332	0	0
Right Turn on Red				Yes			Yes				Yes	
Satd. Flow (RTOR)			32				218			105		
Link Speed (mph)			35			35				45		
Link Distance (ft)			465			1815				418		
Travel Time (s)			9.1			35.4				6.3		
Confl. Peds. (#/hr)				5			10				5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	464	642	0	274	579	147	0	176	611	0	0
Turn Type	custom	Prot	NA		Prot	NA	Perm	custom	Prot	NA		custom
Protected Phases		5	2		1	6			3	8		
Permitted Phases	5						6	3				7
Detector Phase	5	5	2		1	6	6	3	3	8		7
Switch Phase												
Minimum Initial (s)	5.0	5.0	10.0		5.0	10.0	10.0	5.0	5.0	6.0		5.0
Minimum Split (s)	10.0	10.0	37.0		10.0	37.0	37.0	10.0	10.0	40.0		10.0
Total Split (s)	18.0	18.0	38.0		14.0	34.0	34.0	12.0	12.0	36.0		12.0
Total Split (%)	18.0%	18.0%	38.0%		14.0%	34.0%	34.0%	12.0%	12.0%	36.0%		12.0%
Yellow Time (s)	3.0	3.0	4.0		3.0	4.0	4.0	3.0	3.0	4.0		3.0
All-Red Time (s)	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0		2.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0		0.0	0.0		
Total Lost Time (s)		5.0	6.0		5.0	6.0	6.0		5.0	6.0		
Lead/Lag	Lag	Lag	Lag		Lead	Lead	Lead	Lead	Lead	Lead		Lag
Lead-Lag Optimize?												
Recall Mode	None	None	C-Max		None	Max	Max	None	None	Max		None
Act Effect Green (s)		13.0	32.0		9.0	28.0	28.0		7.0	30.0		
Actuated g/C Ratio		0.13	0.32		0.09	0.28	0.28		0.07	0.30		
v/c Ratio		2.29	0.58		0.89	0.58	0.25		1.22	0.57		
Control Delay		615.7	25.8		75.6	33.8	1.8		187.7	26.6		
Queue Delay		0.0	0.0		0.0	0.0	0.0		0.0	0.0		
Total Delay		615.7	25.8		75.6	33.8	1.8		187.7	26.6		
LOS		F	C		E	C	A		F	C		
Approach Delay			273.3			40.6				62.6		
Approach LOS			F			D				E		
Queue Length 50th (ft)		~253	121		90	166	0		~71	142		

4: Courtesy Road (SH 42) & S Boulder Road
 2026 Total SAT without Front Street Connection.syn

			
Lane Group	SBL	SBT	SBR
Lane Configurations	 	 	
Traffic Volume (vph)	110	397	268
Future Volume (vph)	110	397	268
Ideal Flow (vphpl)	1900	1900	1900
Storage Length (ft)	185		270
Storage Lanes	2		1
Taper Length (ft)	155		
Lane Util. Factor	0.97	0.95	1.00
Ped Bike Factor			0.98
Frt			0.850
Flt Protected	0.950		
Satd. Flow (prot)	3433	3539	1583
Flt Permitted	0.571		
Satd. Flow (perm)	2063	3539	1557
Right Turn on Red			Yes
Satd. Flow (RTOR)			268
Link Speed (mph)		45	
Link Distance (ft)		1337	
Travel Time (s)		20.3	
Confl. Peds. (#/hr)			5
Peak Hour Factor	0.92	0.92	0.92
Shared Lane Traffic (%)			
Lane Group Flow (vph)	125	432	291
Turn Type	Prot	NA	Perm
Protected Phases	7	4	
Permitted Phases			4
Detector Phase	7	4	4
Switch Phase			
Minimum Initial (s)	5.0	6.0	6.0
Minimum Split (s)	10.0	36.0	36.0
Total Split (s)	12.0	36.0	36.0
Total Split (%)	12.0%	36.0%	36.0%
Yellow Time (s)	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0
Lead/Lag	Lag	Lag	Lag
Lead-Lag Optimize?			
Recall Mode	None	Max	Max
Act Effect Green (s)	7.0	30.0	30.0
Actuated g/C Ratio	0.07	0.30	0.30
v/c Ratio	0.87	0.41	0.44
Control Delay	94.1	29.3	6.9
Queue Delay	0.0	0.0	0.0
Total Delay	94.1	29.3	6.9
LOS	F	C	A
Approach Delay		31.2	
Approach LOS		C	
Queue Length 50th (ft)	41	115	10

4: Courtesy Road (SH 42) & S Boulder Road
 2026 Total SAT without Front Street Connection.syn

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU
Queue Length 95th (ft)		#346	158		#163	223	10		#140	199		
Internal Link Dist (ft)			385			1735				338		
Turn Bay Length (ft)		150			225		270					
Base Capacity (vph)		203	1116		308	990	590		144	1073		
Starvation Cap Reductn		0	0		0	0	0		0	0		
Spillback Cap Reductn		0	0		0	0	0		0	0		
Storage Cap Reductn		0	0		0	0	0		0	0		
Reduced v/c Ratio		2.29	0.58		0.89	0.58	0.25		1.22	0.57		

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:EBT, Start of Yellow, Master Intersection

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 2.29

Intersection Signal Delay: 111.9

Intersection LOS: F

Intersection Capacity Utilization 88.8%

ICU Level of Service E

Analysis Period (min) 15

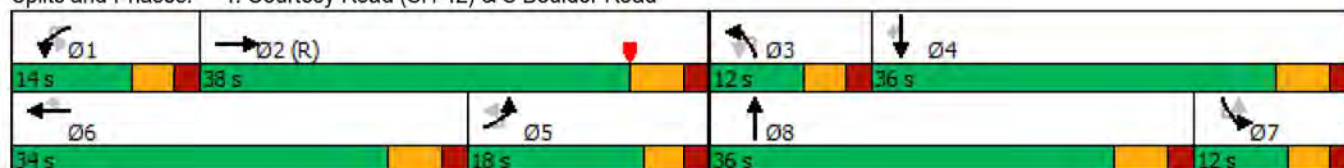
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 4: Courtesy Road (SH 42) & S Boulder Road



4: Courtesy Road (SH 42) & S Boulder Road
2026 Total SAT without Front Street Connection.syn



Lane Group	SBL	SBT	SBR
Queue Length 95th (ft)	#96	160	73
Internal Link Dist (ft)		1257	
Turn Bay Length (ft)	185		270
Base Capacity (vph)	144	1061	654
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.87	0.41	0.44
Intersection Summary			

5: Courtesy Road (SH 42) & Cannon Circle
 2026 Total SAT without Front Street Connection.syn

							
Lane Group	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	8	10	1	11	717	750	15
Future Volume (vph)	8	10	1	11	717	750	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		140			0
Storage Lanes	0	1		1			0
Taper Length (ft)	25			100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Ped Bike Factor							
Frt		0.865				0.997	
Flt Protected	0.950			0.950			
Satd. Flow (prot)	0	1611	0	1770	1863	3529	0
Flt Permitted	0.950			0.950			
Satd. Flow (perm)	0	1611	0	1770	1863	3529	0
Link Speed (mph)	20				45	45	
Link Distance (ft)	418				420	418	
Travel Time (s)	14.3				6.4	6.3	
Confl. Peds. (#/hr)				5			5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)							
Lane Group Flow (vph)	9	11	0	13	779	831	0
Sign Control	Stop				Free	Free	
Intersection Summary							
Area Type:	Other						
Control Type:	Unsignalized						
Intersection Capacity Utilization Err%	ICU Level of Service H						
Analysis Period (min)	15						

5: Courtesy Road (SH 42) & Cannon Circle
 2026 Total SAT without Front Street Connection.syn

Intersection							
Int Delay, s/veh	0.2						
Movement	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Vol, veh/h	8	10	1	11	717	750	15
Future Vol, veh/h	8	10	1	11	717	750	15
Conflicting Peds, #/hr	0	0	0	5	0	0	5
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	None
Storage Length	-	0	-	140	-	-	-
Veh in Median Storage, #	0	-	-	-	0	0	-
Grade, %	0	-	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	9	11	1	12	779	815	16
Major/Minor	Minor2		Major1		Major2		
Conflicting Flow All	1631	421	832	836	0	-	0
Stage 1	828	-	-	-	-	-	-
Stage 2	803	-	-	-	-	-	-
Critical Hdwy	6.63	6.93	6.93	4.13	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	3.119	2.219	-	-	-
Pot Cap-1 Maneuver	102	582	327	796	-	-	-
Stage 1	390	-	-	-	-	-	-
Stage 2	440	-	-	-	-	-	-
Platoon blocked, %					-	-	-
Mov Cap-1 Maneuver	99	579	706	706	-	-	-
Mov Cap-2 Maneuver	99	-	-	-	-	-	-
Stage 1	381	-	-	-	-	-	-
Stage 2	438	-	-	-	-	-	-
Approach	EB		NB		SB		
HCM Control Delay, s	11.3		0.2		0		
HCM LOS	B						
Minor Lane/Major Mvmt	NBL		NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	706		-	579	-	-	
HCM Lane V/C Ratio	0.018		-	0.019	-	-	
HCM Control Delay (s)	10.2		-	11.3	-	-	
HCM Lane LOS	B		-	B	-	-	
HCM 95th %tile Q(veh)	0.1		-	0.1	-	-	

6: Courtesy Road (SH 42) & Griffith Street/Sports Complex Access
2026 Total SAT without Front Street Connection.syn

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	7	21	2	1	6	21	676	43	11	704	50
Future Volume (vph)	14	7	21	2	1	6	21	676	43	11	704	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		60	225		0	500		0
Storage Lanes	0		0	0		1	1		0	1		1
Taper Length (ft)	0			0			25			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.932				0.850		0.991				0.850
Flt Protected		0.984			0.968		0.950			0.950		
Satd. Flow (prot)	0	1708	0	0	1803	1583	1770	1846	0	1770	1863	1583
Flt Permitted		0.984			0.968		0.950			0.950		
Satd. Flow (perm)	0	1708	0	0	1803	1583	1770	1846	0	1770	1863	1583
Link Speed (mph)		30			20			45			45	
Link Distance (ft)		439			281			380			369	
Travel Time (s)		10.0			9.6			5.8			5.6	
Confl. Bikes (#/hr)												5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	46	0	0	3	7	23	782	0	12	765	54
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	54.9%											
Analysis Period (min)	15											
ICU Level of Service A												

6: Courtesy Road (SH 42) & Griffith Street/Sports Complex Access
2026 Total SAT without Front Street Connection.syn

Intersection												
Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕	↕	↕		↕	↕	↕
Traffic Vol, veh/h	14	7	21	2	1	6	21	676	43	11	704	50
Future Vol, veh/h	14	7	21	2	1	6	21	676	43	11	704	50
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	60	225	-	-	500	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	8	23	2	1	7	23	735	47	12	765	54
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1598	1617	765	1637	1648	759	819	0	0	782	0	0
Stage 1	789	789	-	805	805	-	-	-	-	-	-	-
Stage 2	809	828	-	832	843	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	86	103	403	81	99	406	810	-	-	836	-	-
Stage 1	384	402	-	376	395	-	-	-	-	-	-	-
Stage 2	374	386	-	363	380	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	81	99	403	70	95	406	810	-	-	836	-	-
Mov Cap-2 Maneuver	81	99	-	70	95	-	-	-	-	-	-	-
Stage 1	373	396	-	365	384	-	-	-	-	-	-	-
Stage 2	357	375	-	331	375	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	41.9		27.3		0.3		0.1					
HCM LOS	E		D									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR					
Capacity (veh/h)	810	-	-	142 77 406	836	-	-					
HCM Lane V/C Ratio	0.028	-	-	0.321 0.042 0.016	0.014	-	-					
HCM Control Delay (s)	9.6	-	-	41.9 53.8 14	9.4	-	-					
HCM Lane LOS	A	-	-	E F B	A	-	-					
HCM 95th %tile Q(veh)	0.1	-	-	1.3 0.1 0	0	-	-					

7: Cannon Street & Griffith Street
2026 Total SAT without Front Street Connection.syn

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	31	24	15	63	1	23	0	10	1	0	1
Future Volume (vph)	0	31	24	15	63	1	23	0	10	1	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150	150		150	150		150	150		150
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.941			0.998			0.959			0.932	
Flt Protected					0.991			0.966			0.976	
Satd. Flow (prot)	0	1753	0	0	1842	0	0	1726	0	0	1694	0
Flt Permitted					0.991			0.966			0.976	
Satd. Flow (perm)	0	1753	0	0	1842	0	0	1726	0	0	1694	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		390			439			346			362	
Travel Time (s)		8.9			10.0			9.4			9.9	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	60	0	0	85	0	0	36	0	0	2	0
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	22.8%											
Analysis Period (min)	15											
	ICU Level of Service A											

7: Cannon Street & Griffith Street
2026 Total SAT without Front Street Connection.syn

Intersection												
Int Delay, s/veh	2.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	31	24	15	63	1	23	0	10	1	0	1
Future Vol, veh/h	0	31	24	15	63	1	23	0	10	1	0	1
Conflicting Peds, #/hr	5	0	5	5	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	34	26	16	68	1	25	0	11	1	0	1
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	74	0	0	65	0	0	158	158	57	164	171	79
Stage 1	-	-	-	-	-	-	52	52	-	106	106	-
Stage 2	-	-	-	-	-	-	106	106	-	58	65	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1526	-	-	1537	-	-	808	734	1009	801	722	981
Stage 1	-	-	-	-	-	-	961	852	-	900	807	-
Stage 2	-	-	-	-	-	-	900	807	-	954	841	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1519	-	-	1530	-	-	793	719	999	779	707	972
Mov Cap-2 Maneuver	-	-	-	-	-	-	793	719	-	779	707	-
Stage 1	-	-	-	-	-	-	956	848	-	896	794	-
Stage 2	-	-	-	-	-	-	885	794	-	939	837	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			1.4			9.4			9.2		
HCM LOS							A			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	846	1519	-	-	1530	-	-	865				
HCM Lane V/C Ratio	0.042	-	-	-	0.011	-	-	0.003				
HCM Control Delay (s)	9.4	0	-	-	7.4	0	-	9.2				
HCM Lane LOS	A	A	-	-	A	A	-	A				
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0				

8: Griffith Street & Front Street
2026 Total SAT without Front Street Connection.syn

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	57	3	1	83	3	8	0	0	0	0	4
Future Volume (vph)	6	57	3	1	83	3	8	0	0	0	0	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150	150		150	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.994			0.996						0.865	
Flt Protected		0.995			0.999			0.950				
Satd. Flow (prot)	0	1842	0	0	1853	0	0	1770	0	0	1611	0
Flt Permitted		0.995			0.999			0.950				
Satd. Flow (perm)	0	1842	0	0	1853	0	0	1770	0	0	1611	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		405			390			333			365	
Travel Time (s)		9.2			8.9			9.1			10.0	
Confl. Peds. (#/hr)	5		10	10		5	5		5	5		5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	72	0	0	94	0	0	9	0	0	4	0
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	23.2%											
Analysis Period (min)	15											
	ICU Level of Service A											

8: Griffith Street & Front Street
2026 Total SAT without Front Street Connection.syn

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	57	3	1	83	3	8	0	0	0	0	4
Future Vol, veh/h	6	57	3	1	83	3	8	0	0	0	0	4
Conflicting Peds, #/hr	5	0	10	10	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	62	3	1	90	3	9	0	0	0	0	4
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	98	0	0	75	0	0	189	188	79	182	188	102
Stage 1	-	-	-	-	-	-	88	88	-	99	99	-
Stage 2	-	-	-	-	-	-	101	100	-	83	89	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1495	-	-	1524	-	-	771	707	981	779	707	953
Stage 1	-	-	-	-	-	-	920	822	-	907	813	-
Stage 2	-	-	-	-	-	-	905	812	-	925	821	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1488	-	-	1509	-	-	753	692	967	768	692	944
Mov Cap-2 Maneuver	-	-	-	-	-	-	753	692	-	768	692	-
Stage 1	-	-	-	-	-	-	907	810	-	898	808	-
Stage 2	-	-	-	-	-	-	896	807	-	916	809	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.7			0.1			9.8			8.8		
HCM LOS							A			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	753	1488	-	-	1509	-	-	944				
HCM Lane V/C Ratio	0.012	0.004	-	-	0.001	-	-	0.005				
HCM Control Delay (s)	9.8	7.4	0	-	7.4	0	-	8.8				
HCM Lane LOS	A	A	A	-	A	A	-	A				
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0				

9: Main Street & Griffith Street
 2026 Total SAT without Front Street Connection.syn

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	63	36	143	46	18	138
Future Volume (vph)	63	36	143	46	18	138
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.951		0.967			
Flt Protected	0.969					0.994
Satd. Flow (prot)	1717	0	1801	0	0	1852
Flt Permitted	0.969					0.994
Satd. Flow (perm)	1717	0	1801	0	0	1852
Link Speed (mph)	30		30			30
Link Distance (ft)	405		350			1210
Travel Time (s)	9.2		8.0			27.5
Confl. Peds. (#/hr)	6	2		17	17	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	107	0	205	0	0	170
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	35.3%			ICU Level of Service A		
Analysis Period (min)	15					

9: Main Street & Griffith Street
 2026 Total SAT without Front Street Connection.syn

Intersection						
Int Delay, s/veh	2.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	63	36	143	46	18	138
Future Vol, veh/h	63	36	143	46	18	138
Conflicting Peds, #/hr	6	2	0	17	17	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	68	39	155	50	20	150
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	393	199	0	0	222	0
Stage 1	197	-	-	-	-	-
Stage 2	196	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	611	842	-	-	1347	-
Stage 1	836	-	-	-	-	-
Stage 2	837	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	588	827	-	-	1325	-
Mov Cap-2 Maneuver	588	-	-	-	-	-
Stage 1	809	-	-	-	-	-
Stage 2	832	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	11.6	0	0.9			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	657	1325	-	
HCM Lane V/C Ratio	-	-	0.164	0.015	-	
HCM Control Delay (s)	-	-	11.6	7.8	0	
HCM Lane LOS	-	-	B	A	A	
HCM 95th %tile Q(veh)	-	-	0.6	0	-	

10: Front Street & Harper Street
 2026 Total SAT without Front Street Connection.syn

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	4	0	0	9	0	0
Future Volume (vph)	4	0	0	9	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.865					
Flt Protected	0.950					
Satd. Flow (prot)	1770	0	0	1611	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	0	1611	0	0
Link Speed (mph)	25	25		25		
Link Distance (ft)	380	365		210		
Travel Time (s)	10.4	10.0		5.7		
Confl. Peds. (#/hr)	5	132	70		70	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	4	0	0	10	0	0
Sign Control	Free	Free		Free		
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	16.5%			ICU Level of Service A		
Analysis Period (min)	15					

11: Courtesy Road (SH 42) & Harper Street
 2026 Total SAT without Front Street Connection.syn

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	38	11	6	652	691	6
Future Volume (vph)	38	11	6	652	691	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95
Frt	0.969				0.999	
Flt Protected	0.963					
Satd. Flow (prot)	1738	0	0	1863	3536	0
Flt Permitted	0.963					
Satd. Flow (perm)	1738	0	0	1863	3536	0
Link Speed (mph)	30			45	45	
Link Distance (ft)	248			369	420	
Travel Time (s)	5.6			5.6	6.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	53	0	0	716	758	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	49.1%			ICU Level of Service A		
Analysis Period (min)	15					

11: Courtesy Road (SH 42) & Harper Street
2026 Total SAT without Front Street Connection.syn

Intersection						
Int Delay, s/veh	1.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	38	11	6	652	691	6
Future Vol, veh/h	38	11	6	652	691	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	41	12	7	709	751	7
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1478	379	758	0	-	0
Stage 1	755	-	-	-	-	-
Stage 2	723	-	-	-	-	-
Critical Hdwy	6.63	6.93	4.13	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	127	620	851	-	-	-
Stage 1	426	-	-	-	-	-
Stage 2	479	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	125	620	851	-	-	-
Mov Cap-2 Maneuver	125	-	-	-	-	-
Stage 1	420	-	-	-	-	-
Stage 2	479	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	40.9	0.1		0		
HCM LOS	E					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	851	-	152	-	-	
HCM Lane V/C Ratio	0.008	-	0.35	-	-	
HCM Control Delay (s)	9.3	0	40.9	-	-	
HCM Lane LOS	A	A	E	-	-	
HCM 95th %tile Q(veh)	0	-	1.4	-	-	

1: Main Street & S Boulder Road
2045 Total AM without Front Street Connection.syn

	→	↘	↶	↙	←	↗	↘
Lane Group	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↙	↑↑	↙	↙
Traffic Volume (vph)	1199	111	8	75	1559	67	113
Future Volume (vph)	1199	111	8	75	1559	67	113
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		120		225		0	115
Storage Lanes		1		1		1	1
Taper Length (ft)				25		0	
Lane Util. Factor	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Ped Bike Factor		0.97				0.99	0.95
Frt		0.850					0.850
Flt Protected				0.950		0.950	
Satd. Flow (prot)	3539	1583	0	1770	3539	1770	1583
Flt Permitted				0.162		0.950	
Satd. Flow (perm)	3539	1531	0	302	3539	1759	1505
Right Turn on Red		Yes					Yes
Satd. Flow (RTOR)		94					123
Link Speed (mph)	35				35	30	
Link Distance (ft)	636				400	1210	
Travel Time (s)	12.4				7.8	27.5	
Confl. Peds. (#/hr)		5		5		5	32
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)							
Lane Group Flow (vph)	1303	121	0	91	1695	73	123
Turn Type	NA	Perm	custom	pm+pt	NA	Perm	Perm
Protected Phases	2			1	6		
Permitted Phases		2	1	6		8	8
Detector Phase	2	2	1	1	6	8	8
Switch Phase							
Minimum Initial (s)	35.0	35.0	5.0	5.0	35.0	5.0	5.0
Minimum Split (s)	41.0	41.0	11.0	11.0	41.0	35.0	35.0
Total Split (s)	85.0	85.0	14.0	14.0	99.0	21.0	21.0
Total Split (%)	70.8%	70.8%	11.7%	11.7%	82.5%	17.5%	17.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-1.0	0.0
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	5.0
Lead/Lag	Lag	Lag	Lead	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	None	C-Max	None	None
Act Effect Green (s)	85.7	85.7		98.4	98.4	13.6	12.6
Actuated g/C Ratio	0.71	0.71		0.82	0.82	0.11	0.10
v/c Ratio	0.52	0.11		0.26	0.58	0.37	0.46
Control Delay	9.2	2.3		4.7	6.8	53.1	14.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	9.2	2.3		4.7	6.8	53.1	14.0
LOS	A	A		A	A	D	B
Approach Delay	8.6				6.7	28.6	
Approach LOS	A				A	C	
Queue Length 50th (ft)	240	6		22	238	51	0

1: Main Street & S Boulder Road
2045 Total AM without Front Street Connection.syn

	→	↘	↶	↙	←	↵	↗
Lane Group	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Queue Length 95th (ft)	300	26		m24	m258	98	56
Internal Link Dist (ft)	556				320	1130	
Turn Bay Length (ft)		120		225			115
Base Capacity (vph)	2526	1119		369	2901	249	307
Starvation Cap Reductn	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.52	0.11		0.25	0.58	0.29	0.40

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 23 (19%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.58

Intersection Signal Delay: 8.8

Intersection LOS: A

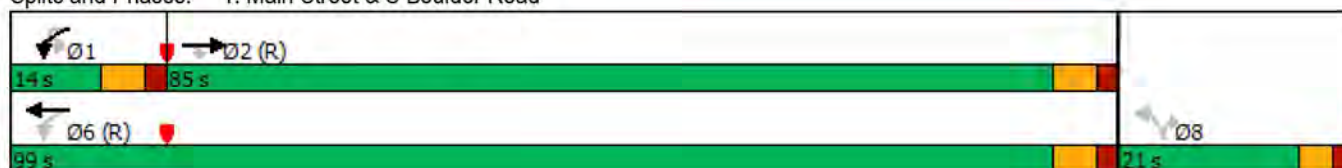
Intersection Capacity Utilization 68.4%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Main Street & S Boulder Road



2: Front Street/Private Access & S Boulder Road
 2045 Total AM without Front Street Connection.syn

												
Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	0	1153	34	2	16	1700	5	0	0	40	0	0
Future Volume (vph)	0	1153	34	2	16	1700	5	0	0	40	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50		70		0	0		0	0	
Storage Lanes	0		1		1		0	0		1	0	
Taper Length (ft)	25				25			25			25	
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850							0.865		
Flt Protected					0.950							
Satd. Flow (prot)	0	3539	1583	0	1770	3539	0	0	0	1611	0	0
Flt Permitted					0.950							
Satd. Flow (perm)	0	3539	1583	0	1770	3539	0	0	0	1611	0	0
Link Speed (mph)		35				35			20			20
Link Distance (ft)		400				360			338			476
Travel Time (s)		7.8				7.0			11.5			16.2
Confl. Peds. (#/hr)	10		10	5	10		10	5		5	5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1253	37	0	19	1853	0	0	0	43	0	0
Sign Control		Free				Free			Stop			Stop
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	58.7%											
Analysis Period (min)	15											
	ICU Level of Service B											

2: Front Street/Private Access & S Boulder Road
2045 Total AM without Front Street Connection.syn

Lane Group	SBR
Lane Configurations	↗
Traffic Volume (vph)	11
Future Volume (vph)	11
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Ped Bike Factor	
Frt	0.865
Flt Protected	
Satd. Flow (prot)	1611
Flt Permitted	
Satd. Flow (perm)	1611
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	5
Peak Hour Factor	0.92
Shared Lane Traffic (%)	
Lane Group Flow (vph)	12
Sign Control	
Intersection Summary	

2: Front Street/Private Access & S Boulder Road
 2045 Total AM without Front Street Connection.syn

Intersection													
Int Delay, s/veh	0.3												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑		↓	↑↑				↑			↑
Traffic Vol, veh/h	0	1153	34	2	16	1700	5	0	0	40	0	0	11
Future Vol, veh/h	0	1153	34	2	16	1700	5	0	0	40	0	0	11
Conflicting Peds, #/hr	10	0	10	5	10	0	10	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	70	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1253	37	2	17	1848	5	0	0	43	0	0	12
Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	-	0	0	1253	1300	0	0	-	-	642	-	-	942
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	6.44	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	2.52	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	228	529	-	-	0	0	417	0	0	264
Stage 1	0	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	0	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-			-	-						
Mov Cap-1 Maneuver	-	-	-	447	447	-	-	-	-	411	-	-	260
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB			
HCM Control Delay, s	0			0.1			14.8			19.5			
HCM LOS							B			C			
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	WBR	SBLn1						
Capacity (veh/h)	411	-	-	447	-	-	260						
HCM Lane V/C Ratio	0.106	-	-	0.044	-	-	0.046						
HCM Control Delay (s)	14.8	-	-	13.4	-	-	19.5						
HCM Lane LOS	B	-	-	B	-	-	C						
HCM 95th %tile Q(veh)	0.4	-	-	0.1	-	-	0.1						

3: Cannon Circle/Private Access & S Boulder Road
2045 Total AM without Front Street Connection.syn

												
Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	6	21	1167	12	1	31	1678	8	0	0	38	0
Future Volume (vph)	6	21	1167	12	1	31	1678	8	0	0	38	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		90		0		80		0	0		0	0
Storage Lanes		1		0		1		0	0		1	0
Taper Length (ft)		25				25			25			25
Lane Util. Factor	0.95	1.00	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.998				0.999				0.865	
Flt Protected		0.950				0.950						
Satd. Flow (prot)	0	1770	3532	0	0	1770	3536	0	0	0	1611	0
Flt Permitted		0.950				0.950						
Satd. Flow (perm)	0	1770	3532	0	0	1770	3536	0	0	0	1611	0
Link Speed (mph)			35				35			20		
Link Distance (ft)			360				465			339		
Travel Time (s)			7.0				9.1			11.6		
Confl. Peds. (#/hr)	5	10		10	5	10		10	5		5	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	30	1281	0	0	35	1833	0	0	0	41	0
Sign Control			Free				Free			Stop		
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	58.2%						ICU Level of Service B					
Analysis Period (min)	15											

3: Cannon Circle/Private Access & S Boulder Road
2045 Total AM without Front Street Connection.syn



Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	0	36
Future Volume (vph)	0	36
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		0
Storage Lanes		1
Taper Length (ft)		
Lane Util. Factor	1.00	1.00
Ped Bike Factor		
Frt		0.865
Flt Protected		
Satd. Flow (prot)	0	1611
Flt Permitted		
Satd. Flow (perm)	0	1611
Link Speed (mph)	20	
Link Distance (ft)	431	
Travel Time (s)	14.7	
Confl. Peds. (#/hr)		5
Peak Hour Factor	0.92	0.92
Shared Lane Traffic (%)		
Lane Group Flow (vph)	0	39
Sign Control	Stop	
Intersection Summary		

3: Cannon Circle/Private Access & S Boulder Road
2045 Total AM without Front Street Connection.syn

Intersection															
Int Delay, s/veh	0.8														
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations															
Traffic Vol, veh/h	6	21	1167	12	1	31	1678	8	0	0	38	0	0	36	
Future Vol, veh/h	6	21	1167	12	1	31	1678	8	0	0	38	0	0	36	
Conflicting Peds, #/hr	5	10	0	10	5	10	0	10	5	0	5	5	0	5	
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	
RT Channelized	-	-	-	None	-	-	-	None	-	-	None	-	-	None	
Storage Length	-	90	-	-	-	80	-	-	-	-	0	-	-	0	
Veh in Median Storage, #	-	-	0	-	-	-	0	-	-	0	-	-	0	-	
Grade, %	-	-	0	-	-	-	0	-	-	0	-	-	0	-	
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92	92	
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Mvmt Flow	7	23	1268	13	1	34	1824	9	0	0	41	0	0	39	
Major/Minor	Major1			Major2			Minor1			Minor2					
Conflicting Flow All	1833	1843	0	0	1282	1291	0	0	-	-	656	-	-	932	
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Critical Hdwy	6.44	4.14	-	-	6.44	4.14	-	-	-	-	6.94	-	-	6.94	
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Follow-up Hdwy	2.52	2.22	-	-	2.52	2.22	-	-	-	-	3.32	-	-	3.32	
Pot Cap-1 Maneuver	96	326	-	-	218	533	-	-	0	0	408	0	0	268	
Stage 1	-	-	-	-	-	-	-	-	0	0	-	0	0	-	
Stage 2	-	-	-	-	-	-	-	-	0	0	-	0	0	-	
Platoon blocked, %			-	-			-	-							
Mov Cap-1 Maneuver	197	197	-	-	502	502	-	-	-	-	402	-	-	264	
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Approach	EB			WB			NB			SB					
HCM Control Delay, s	0.6			0.2			15			21					
HCM LOS							C			C					
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1							
Capacity (veh/h)	402	197	-	-	502	-	-	264							
HCM Lane V/C Ratio	0.103	0.149	-	-	0.069	-	-	0.148							
HCM Control Delay (s)	15	26.5	-	-	12.7	-	-	21							
HCM Lane LOS	C	D	-	-	B	-	-	C							
HCM 95th %tile Q(veh)	0.3	0.5	-	-	0.2	-	-	0.5							

4: Courtesy Road (SH 42) & S Boulder Road
2045 Total AM without Front Street Connection.syn

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (vph)	24	389	543	212	332	874	195	1	244	603	258	7
Future Volume (vph)	24	389	543	212	332	874	195	1	244	603	258	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		150		100	225		270		0		0	
Storage Lanes		2		1	2		1		2		1	
Taper Length (ft)		25			25				25			
Lane Util. Factor	0.95	0.97	0.95	1.00	0.97	0.95	1.00	0.95	0.97	0.95	1.00	0.95
Ped Bike Factor				0.98			0.98				0.98	
Frt				0.850			0.850				0.850	
Flt Protected		0.950			0.950				0.950			
Satd. Flow (prot)	0	3433	3539	1583	3433	3539	1583	0	3433	3539	1583	0
Flt Permitted		0.301			0.950				0.333			
Satd. Flow (perm)	0	1088	3539	1555	3433	3539	1546	0	1203	3539	1556	0
Right Turn on Red				Yes			Yes				Yes	
Satd. Flow (RTOR)				173			182				280	
Link Speed (mph)			35			35				45		
Link Distance (ft)			465			1815				418		
Travel Time (s)			9.1			35.4				6.3		
Confl. Peds. (#/hr)				5			10				5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	449	590	230	361	950	212	0	266	655	280	0
Turn Type	custom	Prot	NA	Perm	Prot	NA	Perm	custom	Prot	NA	Perm	custom
Protected Phases		5	2		1	6			3	8		
Permitted Phases	5			2			6	3			8	7
Detector Phase	5	5	2	2	1	6	6	3	3	8	8	7
Switch Phase												
Minimum Initial (s)	5.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	5.0	6.0	6.0	5.0
Minimum Split (s)	10.0	10.0	37.0	37.0	10.0	37.0	37.0	10.0	10.0	40.0	40.0	10.0
Total Split (s)	20.0	20.0	41.0	41.0	20.0	41.0	41.0	16.0	16.0	47.0	47.0	12.0
Total Split (%)	16.7%	16.7%	34.2%	34.2%	16.7%	34.2%	34.2%	13.3%	13.3%	39.2%	39.2%	10.0%
Yellow Time (s)	3.0	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0	4.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		-1.0	-2.0	-2.0	-1.0	-2.0	-2.0		-1.0	-2.0	-2.0	
Total Lost Time (s)		4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	
Lead/Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lag
Lead-Lag Optimize?												
Recall Mode	None	None	C-Max	C-Max	None	Max	Max	None	None	Max	Max	None
Act Effect Green (s)		16.0	37.3	37.3	15.7	37.0	37.0		12.0	43.0	43.0	
Actuated g/C Ratio		0.13	0.31	0.31	0.13	0.31	0.31		0.10	0.36	0.36	
v/c Ratio		3.10	0.54	0.38	0.80	0.87	0.35		2.22	0.52	0.38	
Control Delay		977.5	29.6	11.9	65.1	49.2	8.5		597.6	35.4	9.3	
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	
Total Delay		977.5	29.6	11.9	65.1	49.2	8.5		597.6	35.4	9.3	
LOS		F	C	B	E	D	A		F	D	A	
Approach Delay			361.8			47.3				153.9		
Approach LOS			F			D				F		
Queue Length 50th (ft)		~317	199	67	141	365	16		~172	241	7	

4: Courtesy Road (SH 42) & S Boulder Road
 2045 Total AM without Front Street Connection.syn

			
Lane Group	SBL	SBT	SBR
Lane Configurations	LT	TH	RT
Traffic Volume (vph)	164	745	563
Future Volume (vph)	164	745	563
Ideal Flow (vphpl)	1900	1900	1900
Storage Length (ft)	185		270
Storage Lanes	2		1
Taper Length (ft)	25		
Lane Util. Factor	0.97	0.95	1.00
Ped Bike Factor			0.98
Frt			0.850
Flt Protected	0.950		
Satd. Flow (prot)	3433	3539	1583
Flt Permitted	0.500		
Satd. Flow (perm)	1807	3539	1555
Right Turn on Red			Yes
Satd. Flow (RTOR)			231
Link Speed (mph)		45	
Link Distance (ft)		1337	
Travel Time (s)		20.3	
Confl. Peds. (#/hr)			5
Peak Hour Factor	0.92	0.92	0.92
Shared Lane Traffic (%)			
Lane Group Flow (vph)	186	810	612
Turn Type	Prot	NA	Perm
Protected Phases	7	4	
Permitted Phases			4
Detector Phase	7	4	4
Switch Phase			
Minimum Initial (s)	5.0	6.0	6.0
Minimum Split (s)	10.0	36.0	36.0
Total Split (s)	12.0	43.0	43.0
Total Split (%)	10.0%	35.8%	35.8%
Yellow Time (s)	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	4.0
Lead/Lag	Lag	Lag	Lag
Lead-Lag Optimize?			
Recall Mode	None	Max	Max
Act Effect Green (s)	8.0	39.0	39.0
Actuated g/C Ratio	0.07	0.32	0.32
v/c Ratio	1.55	0.70	0.93
Control Delay	321.4	39.4	45.7
Queue Delay	0.0	0.0	0.0
Total Delay	321.4	39.4	45.7
LOS	F	D	D
Approach Delay		74.5	
Approach LOS		E	
Queue Length 50th (ft)	~104	288	311

4: Courtesy Road (SH 42) & S Boulder Road
2045 Total AM without Front Street Connection.syn

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU
Queue Length 95th (ft)		#424	261	127	#207	#460	75		#255	308	87	
Internal Link Dist (ft)			385			1735				338		
Turn Bay Length (ft)		150		100	225		270					
Base Capacity (vph)		145	1099	602	457	1091	602		120	1268	737	
Starvation Cap Reductn		0	0	0	0	0	0		0	0	0	
Spillback Cap Reductn		0	0	0	0	0	0		0	0	0	
Storage Cap Reductn		0	0	0	0	0	0		0	0	0	
Reduced v/c Ratio		3.10	0.54	0.38	0.79	0.87	0.35		2.22	0.52	0.38	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT, Start of Yellow, Master Intersection

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 3.10

Intersection Signal Delay: 149.2

Intersection LOS: F

Intersection Capacity Utilization 93.3%

ICU Level of Service F

Analysis Period (min) 15

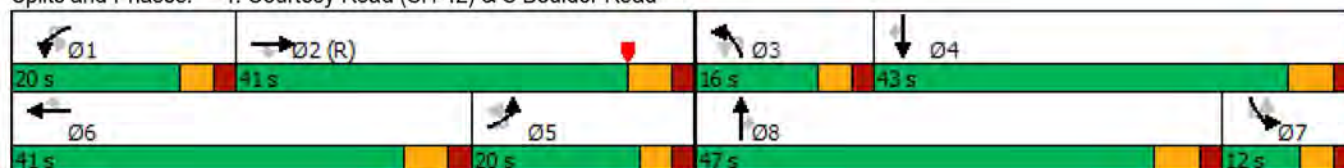
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 4: Courtesy Road (SH 42) & S Boulder Road



4: Courtesy Road (SH 42) & S Boulder Road
 2045 Total AM without Front Street Connection.syn



Lane Group	SBL	SBT	SBR
Queue Length 95th (ft)	#180	361	#552
Internal Link Dist (ft)		1257	
Turn Bay Length (ft)	185		270
Base Capacity (vph)	120	1150	661
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	1.55	0.70	0.93
Intersection Summary			

5: Courtesy Road (SH 42) & Cannon Circle
 2045 Total AM without Front Street Connection.syn

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				 	 	
Traffic Volume (vph)	0	13	0	1078	1274	8
Future Volume (vph)	0	13	0	1078	1274	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	140			0
Storage Lanes	0	1	0			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor						
Frt		0.865			0.999	
Flt Protected						
Satd. Flow (prot)	0	1611	0	3539	3536	0
Flt Permitted						
Satd. Flow (perm)	0	1611	0	3539	3536	0
Link Speed (mph)	20			45	45	
Link Distance (ft)	418			420	418	
Travel Time (s)	14.3			6.4	6.3	
Confl. Peds. (#/hr)			5			5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	14	0	1172	1394	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	45.5%			ICU Level of Service A		
Analysis Period (min)	15					

5: Courtesy Road (SH 42) & Cannon Circle
 2045 Total AM without Front Street Connection.syn

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	
Traffic Vol, veh/h	0	13	0	1078	1274	8
Future Vol, veh/h	0	13	0	1078	1274	8
Conflicting Peds, #/hr	0	0	5	0	0	5
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	14	0	1172	1385	9

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	- 702	- 0	- 0
Stage 1	- -	- -	- -
Stage 2	- -	- -	- -
Critical Hdwy	- 6.94	- -	- -
Critical Hdwy Stg 1	- -	- -	- -
Critical Hdwy Stg 2	- -	- -	- -
Follow-up Hdwy	- 3.32	- -	- -
Pot Cap-1 Maneuver	0 381	0 -	- -
Stage 1	0 -	0 -	- -
Stage 2	0 -	0 -	- -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	- 379	- -	- -
Mov Cap-2 Maneuver	- -	- -	- -
Stage 1	- -	- -	- -
Stage 2	- -	- -	- -

Approach	EB	NB	SB
HCM Control Delay, s	14.9	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT EBLn1	SBT	SBR
Capacity (veh/h)	- 379	- -	- -
HCM Lane V/C Ratio	- 0.037	- -	- -
HCM Control Delay (s)	- 14.9	- -	- -
HCM Lane LOS	- B	- -	- -
HCM 95th %tile Q(veh)	- 0.1	- -	- -

6: Courtesy Road (SH 42) & Griffith Street/Sports Complex Access
2045 Total AM without Front Street Connection.syn

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	0	54	1	1	1	37	1047	4	5	1177	91
Future Volume (vph)	29	0	54	1	1	1	37	1047	4	5	1177	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		0	50		0	225		0	500		273
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor												0.98
Frt		0.850			0.925			0.999				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1583	0	1770	1723	0	1770	3536	0	1770	3539	1583
Flt Permitted	0.800			0.800			0.950			0.950		
Satd. Flow (perm)	1490	1583	0	1490	1723	0	1770	3536	0	1770	3539	1546
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		273			1			1				164
Link Speed (mph)		30			20			45			45	
Link Distance (ft)		439			281			380			369	
Travel Time (s)		10.0			9.6			5.8			5.6	
Confl. Bikes (#/hr)												5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	32	59	0	1	2	0	40	1142	0	5	1279	99
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								6
Detector Phase	4	4		8	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	25.0	25.0		25.0	25.0		11.0	24.5		11.0	25.0	25.0
Total Split (s)	11.0	11.0		11.0	11.0		11.0	39.0		10.0	38.0	38.0
Total Split (%)	18.3%	18.3%		18.3%	18.3%		18.3%	65.0%		16.7%	63.3%	63.3%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	3.5		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0		-2.0	-1.5		-2.0	-2.0	-2.0
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lead/Lag							Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None		None	C-Max		None	Max	Max
Act Effect Green (s)	7.0	7.0		7.0	7.0		7.0	49.0		6.6	46.6	46.6
Actuated g/C Ratio	0.12	0.12		0.12	0.12		0.12	0.82		0.11	0.78	0.78
v/c Ratio	0.18	0.14		0.01	0.01		0.19	0.40		0.03	0.47	0.08
Control Delay	26.7	0.7		24.0	21.0		26.5	3.9		29.2	4.4	0.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	26.7	0.7		24.0	21.0		26.5	3.9		29.2	4.4	0.6
LOS	C	A		C	C		C	A		C	A	A
Approach Delay		9.8			22.0			4.7			4.2	
Approach LOS		A			C			A			A	
Queue Length 50th (ft)	11	0		0	0		13	55		3	158	2

6: Courtesy Road (SH 42) & Griffith Street/Sports Complex Access
 2045 Total AM without Front Street Connection.syn

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (ft)	26	0		4	6		38	164		m5	279	m3
Internal Link Dist (ft)		359			201			300			289	
Turn Bay Length (ft)	50			50			225			500		273
Base Capacity (vph)	173	425		173	201		206	2888		195	2748	1237
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.18	0.14		0.01	0.01		0.19	0.40		0.03	0.47	0.08

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 43 (72%), Referenced to phase 2:NBT, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.47

Intersection Signal Delay: 4.7

Intersection LOS: A

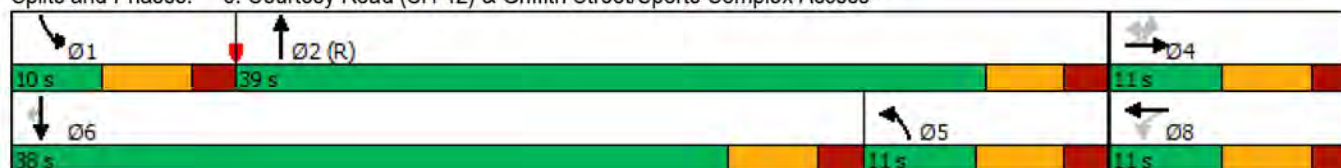
Intersection Capacity Utilization 47.5%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Courtesy Road (SH 42) & Griffith Street/Sports Complex Access



7: Cannon Street & Griffith Street
2045 Total AM without Front Street Connection.syn

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	61	12	14	98	2	19	0	19	0	0	1
Future Volume (vph)	0	61	12	14	98	2	19	0	19	0	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150	150		150	150		150	150		150
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.978			0.998			0.932			0.865	
Flt Protected					0.994			0.976				
Satd. Flow (prot)	0	1822	0	0	1848	0	0	1694	0	0	1611	0
Flt Permitted					0.994			0.976				
Satd. Flow (perm)	0	1822	0	0	1848	0	0	1694	0	0	1611	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		390			439			346			362	
Travel Time (s)		8.9			10.0			9.4			9.9	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	79	0	0	124	0	0	42	0	0	1	0
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	29.3%											
Analysis Period (min)	15											
	ICU Level of Service A											

7: Cannon Street & Griffith Street
2045 Total AM without Front Street Connection.syn

Intersection												
Int Delay, s/veh	2.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	61	12	14	98	2	19	0	19	0	0	1
Future Vol, veh/h	0	61	12	14	98	2	19	0	19	0	0	1
Conflicting Peds, #/hr	5	0	5	5	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	66	13	15	107	2	21	0	21	0	0	1
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	114	0	0	84	0	0	222	222	83	231	227	118
Stage 1	-	-	-	-	-	-	78	78	-	143	143	-
Stage 2	-	-	-	-	-	-	144	144	-	88	84	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1475	-	-	1513	-	-	734	677	976	724	672	934
Stage 1	-	-	-	-	-	-	931	830	-	860	779	-
Stage 2	-	-	-	-	-	-	859	778	-	920	825	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1468	-	-	1506	-	-	720	663	967	696	658	925
Mov Cap-2 Maneuver	-	-	-	-	-	-	720	663	-	696	658	-
Stage 1	-	-	-	-	-	-	926	826	-	856	767	-
Stage 2	-	-	-	-	-	-	845	766	-	896	821	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.9			9.6			8.9		
HCM LOS							A			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	825	1468	-	-	1506	-	-	925				
HCM Lane V/C Ratio	0.05	-	-	-	0.01	-	-	0.001				
HCM Control Delay (s)	9.6	0	-	-	7.4	0	-	8.9				
HCM Lane LOS	A	A	-	-	A	A	-	A				
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0				

8: Griffith Street & Front Street
2045 Total AM without Front Street Connection.syn

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	74	2	3	135	1	6	0	3	1	0	5
Future Volume (vph)	2	74	2	3	135	1	6	0	3	1	0	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150	150		150	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.997			0.999			0.959			0.887	
Flt Protected		0.999			0.999			0.966			0.992	
Satd. Flow (prot)	0	1855	0	0	1859	0	0	1726	0	0	1639	0
Flt Permitted		0.999			0.999			0.966			0.992	
Satd. Flow (perm)	0	1855	0	0	1859	0	0	1726	0	0	1639	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		405			390			333			365	
Travel Time (s)		9.2			8.9			9.1			10.0	
Confl. Peds. (#/hr)	5		10	10		5	5		5	5		5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	84	0	0	151	0	0	10	0	0	6	0
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	20.8%											
Analysis Period (min)	15											
	ICU Level of Service A											

8: Griffith Street & Front Street
2045 Total AM without Front Street Connection.syn

Intersection												
Int Delay, s/veh	0.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	74	2	3	135	1	6	0	3	1	0	5
Future Vol, veh/h	2	74	2	3	135	1	6	0	3	1	0	5
Conflicting Peds, #/hr	5	0	10	10	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	80	2	3	147	1	7	0	3	1	0	5
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	153	0	0	92	0	0	256	254	96	251	255	158
Stage 1	-	-	-	-	-	-	95	95	-	159	159	-
Stage 2	-	-	-	-	-	-	161	159	-	92	96	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1428	-	-	1503	-	-	697	650	960	702	649	887
Stage 1	-	-	-	-	-	-	912	816	-	843	766	-
Stage 2	-	-	-	-	-	-	841	766	-	915	815	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1421	-	-	1489	-	-	681	638	946	691	637	879
Mov Cap-2 Maneuver	-	-	-	-	-	-	681	638	-	691	637	-
Stage 1	-	-	-	-	-	-	902	807	-	838	761	-
Stage 2	-	-	-	-	-	-	830	761	-	907	806	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0.2			9.9			9.3		
HCM LOS							A			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	751	1421	-	-	1489	-	-	841				
HCM Lane V/C Ratio	0.013	0.002	-	-	0.002	-	-	0.008				
HCM Control Delay (s)	9.9	7.5	0	-	7.4	0	-	9.3				
HCM Lane LOS	A	A	A	-	A	A	-	A				
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0				

9: Main Street & Griffith Street
 2045 Total AM without Front Street Connection.syn

								
Lane Group	WBU	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	1	50	59	1	169	60	20	113
Future Volume (vph)	1	50	59	1	169	60	20	113
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor								
Frt		0.927			0.965			
Flt Protected		0.977						0.992
Satd. Flow (prot)	0	1687	0	0	1798	0	0	1848
Flt Permitted		0.977						0.992
Satd. Flow (perm)	0	1687	0	0	1798	0	0	1848
Link Speed (mph)		30			30			30
Link Distance (ft)		405			350			1210
Travel Time (s)		9.2			8.0			27.5
Confl. Peds. (#/hr)	70	1	132	1		7	70	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)								
Lane Group Flow (vph)	0	119	0	0	250	0	0	145
Sign Control		Stop			Free			Free
Intersection Summary								
Area Type:	Other							
Control Type:	Unsignalized							
Intersection Capacity Utilization	41.2%				ICU Level of Service A			
Analysis Period (min)	15							

9: Main Street & Griffith Street
2045 Total AM without Front Street Connection.syn

Intersection								
Int Delay, s/veh	3.6							
Movement	WBU	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations								
Traffic Vol, veh/h	1	50	59	1	169	60	20	113
Future Vol, veh/h	1	50	59	1	169	60	20	113
Conflicting Peds, #/hr	70	1	132	1	0	7	70	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	None
Storage Length	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0
Grade, %	-	0	-	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2
Mvmt Flow	1	54	64	1	184	65	22	123
Major/Minor	Minor1	Major1		Major2				
Conflicting Flow All	0	455	419	-	0	0	319	0
Stage 1	0	287	-	-	-	-	-	-
Stage 2	0	168	-	-	-	-	-	-
Critical Hdwy	-	6.42	6.22	-	-	-	4.12	-
Critical Hdwy Stg 1	-	5.42	-	-	-	-	-	-
Critical Hdwy Stg 2	-	5.42	-	-	-	-	-	-
Follow-up Hdwy	-	3.518	3.318	-	-	-	2.218	-
Pot Cap-1 Maneuver	0	563	634	-	-	-	1241	-
Stage 1	0	762	-	-	-	-	-	-
Stage 2	0	862	-	-	-	-	-	-
Platoon blocked, %	-			-	-	-	-	-
Mov Cap-1 Maneuver	0	514	517	-	-	-	1158	-
Mov Cap-2 Maneuver	0	514	-	-	-	-	-	-
Stage 1	0	696	-	-	-	-	-	-
Stage 2	0	861	-	-	-	-	-	-
Approach	WB	NB		SB				
HCM Control Delay, s	14			1.2				
HCM LOS	B							
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT				
Capacity (veh/h)	-	-	516	1158				
HCM Lane V/C Ratio	-	-	0.23	0.019				
HCM Control Delay (s)	-	-	14	8.2	0			
HCM Lane LOS	-	-	B	A	A			
HCM 95th %tile Q(veh)	-	-	0.9	0.1				

10: Front Street & Harper Street
 2045 Total AM without Front Street Connection.syn

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	6	0	0	3	0	0
Future Volume (vph)	6	0	0	3	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.865					
Flt Protected	0.950					
Satd. Flow (prot)	1770	0	0	1611	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	0	1611	0	0
Link Speed (mph)	25	25		25		
Link Distance (ft)	380	365		210		
Travel Time (s)	10.4	10.0		5.7		
Confl. Peds. (#/hr)	5	132	70		70	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	7	0	0	3	0	0
Sign Control	Free	Free		Free		
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 16.5%				ICU Level of Service A		
Analysis Period (min) 15						

11: Courtesy Road (SH 42) & Harper Street
 2045 Total AM without Front Street Connection.syn

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				 	 	
Traffic Volume (vph)	0	19	0	1060	1250	2
Future Volume (vph)	0	19	0	1060	1250	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt	0.865					
Flt Protected						
Satd. Flow (prot)	0	1611	0	3539	3539	0
Flt Permitted						
Satd. Flow (perm)	0	1611	0	3539	3539	0
Link Speed (mph)	30			45	45	
Link Distance (ft)	189			369	420	
Travel Time (s)	4.3			5.6	6.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	21	0	1152	1361	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	44.6%			ICU Level of Service A		
Analysis Period (min)	15					

11: Courtesy Road (SH 42) & Harper Street
 2045 Total AM without Front Street Connection.syn

Intersection

Int Delay, s/veh 0.1

Movement EBL EBR NBL NBT SBT SBR

Lane Configurations		↗		↑↑	↑↑	
Traffic Vol, veh/h	0	19	0	1060	1250	2
Future Vol, veh/h	0	19	0	1060	1250	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	21	0	1152	1359	2

Major/Minor Minor2 Major1 Major2

Conflicting Flow All	-	681	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	393	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	393	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach EB NB SB

HCM Control Delay, s	14.7	0	0
HCM LOS	B		

Minor Lane/Major Mvmt NBT EBLn1 SBT SBR

Capacity (veh/h)	-	393	-	-
HCM Lane V/C Ratio	-	0.053	-	-
HCM Control Delay (s)	-	14.7	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.2	-	-

1: Main Street & S Boulder Road
2045 Total PM without Front Street Connection.syn

	→	↘	↶	↙	←	↖	↗
Lane Group	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↘	↑↑	↘	↘
Traffic Volume (vph)	1661	102	21	69	1318	89	194
Future Volume (vph)	1661	102	21	69	1318	89	194
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		120		225		0	115
Storage Lanes		1		1		1	1
Taper Length (ft)				25		0	
Lane Util. Factor	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Ped Bike Factor		0.97				0.99	0.95
Frt		0.850					0.850
Flt Protected				0.950		0.950	
Satd. Flow (prot)	3539	1583	0	1770	3539	1770	1583
Flt Permitted				0.070		0.950	
Satd. Flow (perm)	3539	1531	0	130	3539	1759	1505
Right Turn on Red		Yes					Yes
Satd. Flow (RTOR)		63					92
Link Speed (mph)	35				35	30	
Link Distance (ft)	636				400	1210	
Travel Time (s)	12.4				7.8	27.5	
Confl. Peds. (#/hr)		5		5		5	32
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)							
Lane Group Flow (vph)	1805	111	0	98	1433	97	211
Turn Type	NA	Perm	custom	pm+pt	NA	Perm	Perm
Protected Phases	2			1	6		
Permitted Phases		2	1	6		8	8
Detector Phase	2	2	1	1	6	8	8
Switch Phase							
Minimum Initial (s)	35.0	35.0	5.0	5.0	35.0	5.0	5.0
Minimum Split (s)	41.0	41.0	11.0	11.0	41.0	35.0	35.0
Total Split (s)	85.0	85.0	14.0	14.0	99.0	21.0	21.0
Total Split (%)	70.8%	70.8%	11.7%	11.7%	82.5%	17.5%	17.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-1.0	0.0
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	5.0
Lead/Lag	Lag	Lag	Lead	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	None	C-Max	None	None
Act Effect Green (s)	84.4	84.4		97.3	97.3	14.7	13.7
Actuated g/C Ratio	0.70	0.70		0.81	0.81	0.12	0.11
v/c Ratio	0.73	0.10		0.43	0.50	0.45	0.84
Control Delay	13.6	3.3		11.6	7.7	55.1	55.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	13.6	3.3		11.6	7.7	55.1	55.7
LOS	B	A		B	A	E	E
Approach Delay	13.0				7.9	55.5	
Approach LOS	B				A	E	
Queue Length 50th (ft)	430	11		35	229	69	90

1: Main Street & S Boulder Road
 2045 Total PM without Front Street Connection.syn



Lane Group	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Queue Length 95th (ft)	535	30		m41	m234	124	#205
Internal Link Dist (ft)	556				320	1130	
Turn Bay Length (ft)		120		225			115
Base Capacity (vph)	2487	1094		242	2870	249	280
Starvation Cap Reductn	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.73	0.10		0.40	0.50	0.39	0.75

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 22 (18%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.84

Intersection Signal Delay: 14.4

Intersection LOS: B

Intersection Capacity Utilization 83.2%

ICU Level of Service E

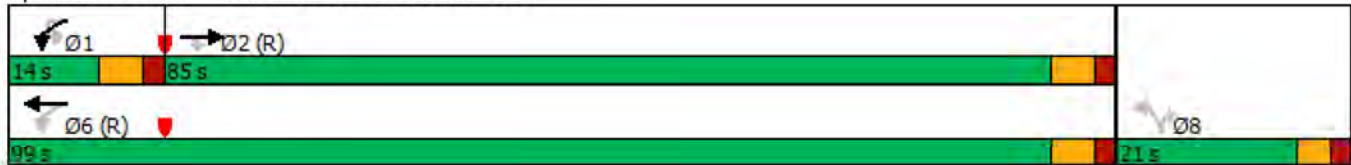
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Main Street & S Boulder Road



2: Front Street/Private Access & S Boulder Road
2045 Total PM without Front Street Connection.syn

												
Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	0	1829	63	4	30	1423	5	0	0	64	0	0
Future Volume (vph)	0	1829	63	4	30	1423	5	0	0	64	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50		70		0	0		0	0	
Storage Lanes	0		1		1		0	0		1	0	
Taper Length (ft)	25				25			25			25	
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850							0.865		
Flt Protected					0.950							
Satd. Flow (prot)	0	3539	1583	0	1770	3539	0	0	0	1611	0	0
Flt Permitted					0.950							
Satd. Flow (perm)	0	3539	1583	0	1770	3539	0	0	0	1611	0	0
Link Speed (mph)		35				35			20			20
Link Distance (ft)		400				360			338			476
Travel Time (s)		7.8				7.0			11.5			16.2
Confl. Peds. (#/hr)	10		10	5	10		10	5		5	5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1988	68	0	37	1552	0	0	0	70	0	0
Sign Control		Free				Free			Stop			Stop
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	63.1%											
Analysis Period (min)	15											
	ICU Level of Service B											

2: Front Street/Private Access & S Boulder Road
2045 Total PM without Front Street Connection.syn

Lane Group	SBR
Lane Configurations	7
Traffic Volume (vph)	5
Future Volume (vph)	5
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Ped Bike Factor	
Frt	0.865
Flt Protected	
Satd. Flow (prot)	1611
Flt Permitted	
Satd. Flow (perm)	1611
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	5
Peak Hour Factor	0.92
Shared Lane Traffic (%)	
Lane Group Flow (vph)	5
Sign Control	
Intersection Summary	

2: Front Street/Private Access & S Boulder Road
 2045 Total PM without Front Street Connection.syn

Intersection													
Int Delay, s/veh	0.8												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑		↓	↑↑				↑			↑
Traffic Vol, veh/h	0	1829	63	4	30	1423	5	0	0	64	0	0	5
Future Vol, veh/h	0	1829	63	4	30	1423	5	0	0	64	0	0	5
Conflicting Peds, #/hr	10	0	10	5	10	0	10	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	70	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1988	68	4	33	1547	5	0	0	70	0	0	5
Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	-	0	0	1988	2066	0	0	-	-	1009	-	-	791
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	6.44	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	2.52	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	76	267	-	-	0	0	238	0	0	332
Stage 1	0	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	0	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-			-	-						
Mov Cap-1 Maneuver	-	-	-	182	182	-	-	-	-	235	-	-	327
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB			
HCM Control Delay, s	0			0.7			26.6			16.2			
HCM LOS							D			C			
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	WBR	SBLn1						
Capacity (veh/h)	235	-	-	182	-	-	327						
HCM Lane V/C Ratio	0.296	-	-	0.203	-	-	0.017						
HCM Control Delay (s)	26.6	-	-	29.7	-	-	16.2						
HCM Lane LOS	D	-	-	D	-	-	C						
HCM 95th %tile Q(veh)	1.2	-	-	0.7	-	-	0.1						

3: Cannon Circle/Private Access & S Boulder Road
2045 Total PM without Front Street Connection.syn

												
Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	23	48	1876	47	2	62	1453	12	0	0	80	0
Future Volume (vph)	23	48	1876	47	2	62	1453	12	0	0	80	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		90		0		80		0	0		0	0
Storage Lanes		1		0		1		0	0		1	0
Taper Length (ft)		25				25			25			25
Lane Util. Factor	0.95	1.00	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.996				0.999				0.865	
Flt Protected		0.950				0.950						
Satd. Flow (prot)	0	1770	3525	0	0	1770	3536	0	0	0	1611	0
Flt Permitted		0.950				0.950						
Satd. Flow (perm)	0	1770	3525	0	0	1770	3536	0	0	0	1611	0
Link Speed (mph)			35				35			20		
Link Distance (ft)			360				465			339		
Travel Time (s)			7.0				9.1			11.6		
Confl. Peds. (#/hr)	5	10		10	5	10		10	5		5	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	77	2090	0	0	69	1592	0	0	0	87	0
Sign Control			Free				Free			Stop		
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	72.4%						ICU Level of Service C					
Analysis Period (min)	15											

3: Cannon Circle/Private Access & S Boulder Road
2045 Total PM without Front Street Connection.syn



Lane Group	SBT	SBR
Lane Configurations		↗
Traffic Volume (vph)	0	66
Future Volume (vph)	0	66
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		0
Storage Lanes		1
Taper Length (ft)		
Lane Util. Factor	1.00	1.00
Ped Bike Factor		
Frt		0.865
Flt Protected		
Satd. Flow (prot)	0	1611
Flt Permitted		
Satd. Flow (perm)	0	1611
Link Speed (mph)	20	
Link Distance (ft)	431	
Travel Time (s)	14.7	
Confl. Peds. (#/hr)		5
Peak Hour Factor	0.92	0.92
Shared Lane Traffic (%)		
Lane Group Flow (vph)	0	72
Sign Control	Stop	
Intersection Summary		

3: Cannon Circle/Private Access & S Boulder Road
2045 Total PM without Front Street Connection.syn

Intersection														
Int Delay, s/veh	2.2													
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Vol, veh/h	23	48	1876	47	2	62	1453	12	0	0	80	0	0	66
Future Vol, veh/h	23	48	1876	47	2	62	1453	12	0	0	80	0	0	66
Conflicting Peds, #/hr	5	10	0	10	5	10	0	10	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	-	90	-	-	-	80	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	25	52	2039	51	2	67	1579	13	0	0	87	0	0	72
Major/Minor	Major1				Major2				Minor1				Minor2	
Conflicting Flow All	1592	1602	0	0	2090	2100	0	0	-	-	1060	-	-	811
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	6.44	4.14	-	-	6.44	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.52	2.22	-	-	2.52	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	137	404	-	-	65	258	-	-	0	0	220	0	0	322
Stage 1	-	-	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %			-	-			-	-						
Mov Cap-1 Maneuver	213	213	-	-	220	220	-	-	-	-	217	-	-	317
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB				WB				NB				SB	
HCM Control Delay, s	1.1				1.2				32.3				19.6	
HCM LOS									D				C	
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1						
Capacity (veh/h)	217	213	-	-	220	-	-	317						
HCM Lane V/C Ratio	0.401	0.362	-	-	0.316	-	-	0.226						
HCM Control Delay (s)	32.3	31.2	-	-	28.8	-	-	19.6						
HCM Lane LOS	D	D	-	-	D	-	-	C						
HCM 95th %tile Q(veh)	1.8	1.6	-	-	1.3	-	-	0.9						

4: Courtesy Road (SH 42) & S Boulder Road
2045 Total PM without Front Street Connection.syn

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (vph)	39	757	962	247	453	832	258	1	199	910	328	12
Future Volume (vph)	39	757	962	247	453	832	258	1	199	910	328	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		150		100	225		270		0		0	
Storage Lanes		2		1	2		1		2		1	
Taper Length (ft)		25			25				25			
Lane Util. Factor	0.95	0.97	0.95	1.00	0.97	0.95	1.00	0.95	0.97	0.95	1.00	0.95
Ped Bike Factor				0.98			0.98				0.98	
Frt				0.850			0.850				0.850	
Flt Protected		0.950			0.950				0.950			
Satd. Flow (prot)	0	3433	3539	1583	3433	3539	1583	0	3433	3539	1583	0
Flt Permitted		0.315			0.950				0.286			
Satd. Flow (perm)	0	1138	3539	1555	3433	3539	1546	0	1034	3539	1556	0
Right Turn on Red				Yes			Yes				Yes	
Satd. Flow (RTOR)				173			196				287	
Link Speed (mph)			35			35				45		
Link Distance (ft)			465			1815				418		
Travel Time (s)			9.1			35.4				6.3		
Confl. Peds. (#/hr)				5			10				5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	865	1046	268	492	904	280	0	217	989	357	0
Turn Type	custom	Prot	NA	Perm	Prot	NA	Perm	custom	Prot	NA	Perm	custom
Protected Phases		5	2		1	6			3	8		
Permitted Phases	5			2			6	3			8	7
Detector Phase	5	5	2	2	1	6	6	3	3	8	8	7
Switch Phase												
Minimum Initial (s)	5.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	5.0	6.0	6.0	5.0
Minimum Split (s)	10.0	10.0	37.0	37.0	10.0	37.0	37.0	10.0	10.0	40.0	40.0	10.0
Total Split (s)	24.0	24.0	43.0	43.0	18.0	37.0	37.0	18.0	18.0	41.0	41.0	18.0
Total Split (%)	20.0%	20.0%	35.8%	35.8%	15.0%	30.8%	30.8%	15.0%	15.0%	34.2%	34.2%	15.0%
Yellow Time (s)	3.0	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0	4.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		-1.0	-2.0	-2.0	-1.0	-2.0	-2.0		-1.0	-2.0	-2.0	
Total Lost Time (s)		4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	
Lead/Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lag
Lead-Lag Optimize?												
Recall Mode	None	None	C-Max	C-Max	None	Max	Max	None	None	Max	Max	None
Act Effect Green (s)		20.0	39.0	39.0	14.0	33.0	33.0		14.0	37.0	37.0	
Actuated g/C Ratio		0.17	0.32	0.32	0.12	0.28	0.28		0.12	0.31	0.31	
v/c Ratio		4.58	0.91	0.43	1.23	0.93	0.49		1.81	0.91	0.53	
Control Delay		1631.4	42.6	9.6	167.8	58.8	14.5		421.8	48.8	12.1	
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	
Total Delay		1631.4	42.6	9.6	167.8	58.8	14.5		421.8	48.8	12.1	
LOS		F	D	A	F	E	B		F	D	B	
Approach Delay			669.2			83.4				92.2		
Approach LOS			F			F				F		
Queue Length 50th (ft)		~650	410	76	~242	359	50		~131	395	63	

4: Courtesy Road (SH 42) & S Boulder Road
 2045 Total PM without Front Street Connection.syn

			
Lane Group	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (vph)	177	697	423
Future Volume (vph)	177	697	423
Ideal Flow (vphpl)	1900	1900	1900
Storage Length (ft)	185		270
Storage Lanes	2		1
Taper Length (ft)	25		
Lane Util. Factor	0.97	0.95	1.00
Ped Bike Factor			0.98
Frt			0.850
Flt Protected	0.950		
Satd. Flow (prot)	3433	3539	1583
Flt Permitted	0.290		
Satd. Flow (perm)	1048	3539	1555
Right Turn on Red			Yes
Satd. Flow (RTOR)			276
Link Speed (mph)		45	
Link Distance (ft)		1337	
Travel Time (s)		20.3	
Confl. Peds. (#/hr)			5
Peak Hour Factor	0.92	0.92	0.92
Shared Lane Traffic (%)			
Lane Group Flow (vph)	205	758	460
Turn Type	Prot	NA	Perm
Protected Phases	7	4	
Permitted Phases			4
Detector Phase	7	4	4
Switch Phase			
Minimum Initial (s)	5.0	6.0	6.0
Minimum Split (s)	10.0	36.0	36.0
Total Split (s)	18.0	41.0	41.0
Total Split (%)	15.0%	34.2%	34.2%
Yellow Time (s)	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	4.0
Lead/Lag	Lag	Lag	Lag
Lead-Lag Optimize?			
Recall Mode	None	Max	Max
Act Effct Green (s)	14.0	37.0	37.0
Actuated g/C Ratio	0.12	0.31	0.31
v/c Ratio	1.68	0.69	0.69
Control Delay	372.3	40.6	19.9
Queue Delay	0.0	0.0	0.0
Total Delay	372.3	40.6	19.9
LOS	F	D	B
Approach Delay		81.7	
Approach LOS		F	
Queue Length 50th (ft)	~119	271	124

4: Courtesy Road (SH 42) & S Boulder Road
 2045 Total PM without Front Street Connection.syn

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU
Queue Length 95th (ft)		#780	#534	m109	#351	#484	133		#211	#516	124	
Internal Link Dist (ft)			385			1735				338		
Turn Bay Length (ft)		150		100	225		270					
Base Capacity (vph)		189	1150	622	400	973	567		120	1091	678	
Starvation Cap Reductn		0	0	0	0	0	0		0	0	0	
Spillback Cap Reductn		0	0	0	0	0	0		0	0	0	
Storage Cap Reductn		0	0	0	0	0	0		0	0	0	
Reduced v/c Ratio		4.58	0.91	0.43	1.23	0.93	0.49		1.81	0.91	0.53	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT, Start of Yellow, Master Intersection

Natural Cycle: 140

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 4.58

Intersection Signal Delay: 271.7

Intersection LOS: F

Intersection Capacity Utilization 95.6%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

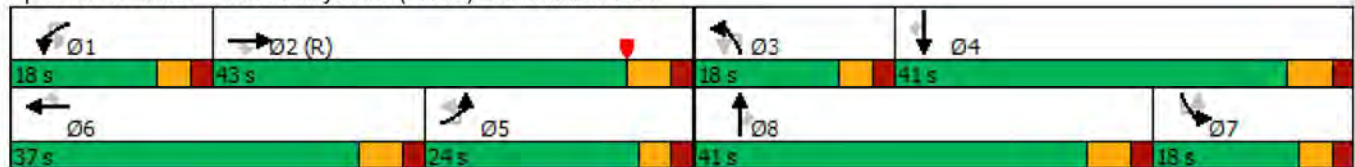
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: Courtesy Road (SH 42) & S Boulder Road



4: Courtesy Road (SH 42) & S Boulder Road
 2045 Total PM without Front Street Connection.syn



Lane Group	SBL	SBT	SBR
Queue Length 95th (ft)	#199	342	250
Internal Link Dist (ft)		1257	
Turn Bay Length (ft)	185		270
Base Capacity (vph)	122	1091	670
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	1.68	0.69	0.69
Intersection Summary			

5: Courtesy Road (SH 42) & Cannon Circle
 2045 Total PM without Front Street Connection.syn

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				 	 	
Traffic Volume (vph)	0	26	0	1458	1367	21
Future Volume (vph)	0	26	0	1458	1367	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	140			0
Storage Lanes	0	1	0			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor						
Frt		0.865			0.998	
Flt Protected						
Satd. Flow (prot)	0	1611	0	3539	3532	0
Flt Permitted						
Satd. Flow (perm)	0	1611	0	3539	3532	0
Link Speed (mph)	20			45	45	
Link Distance (ft)	418			430	418	
Travel Time (s)	14.3			6.5	6.3	
Confl. Peds. (#/hr)			5			5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	28	0	1585	1509	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	48.5%			ICU Level of Service A		
Analysis Period (min)	15					

5: Courtesy Road (SH 42) & Cannon Circle
 2045 Total PM without Front Street Connection.syn

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	
Traffic Vol, veh/h	0	26	0	1458	1367	21
Future Vol, veh/h	0	26	0	1458	1367	21
Conflicting Peds, #/hr	0	0	5	0	0	5
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	28	0	1585	1486	23

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	- 760	- 0	- 0
Stage 1	- -	- -	- -
Stage 2	- -	- -	- -
Critical Hdwy	- 6.94	- -	- -
Critical Hdwy Stg 1	- -	- -	- -
Critical Hdwy Stg 2	- -	- -	- -
Follow-up Hdwy	- 3.32	- -	- -
Pot Cap-1 Maneuver	0 349	0 -	- -
Stage 1	0 -	0 -	- -
Stage 2	0 -	0 -	- -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	- 347	- -	- -
Mov Cap-2 Maneuver	- -	- -	- -
Stage 1	- -	- -	- -
Stage 2	- -	- -	- -

Approach	EB	NB	SB
HCM Control Delay, s	16.3	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT EBLn1	SBT	SBR
Capacity (veh/h)	- 347	- -	- -
HCM Lane V/C Ratio	- 0.081	- -	- -
HCM Control Delay (s)	- 16.3	- -	- -
HCM Lane LOS	- C	- -	- -
HCM 95th %tile Q(veh)	- 0.3	- -	- -

6: Courtesy Road (SH 42) & Griffith Street/Sports Complex Access
2045 Total PM without Front Street Connection.syn

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	2	17	0	39	1	1	1	19	1415	2	1	1291
Future Volume (vph)	2	17	0	39	1	1	1	19	1415	2	1	1291
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		50		0	50		0	225		0	500	
Storage Lanes		1		0	1		0	1		0	1	
Taper Length (ft)		25			25			25			25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95
Ped Bike Factor												
Frt			0.850			0.925						
Flt Protected		0.950			0.950			0.950			0.950	
Satd. Flow (prot)	0	1770	1583	0	1770	1723	0	1770	3539	0	1770	3539
Flt Permitted		0.800			0.800			0.950			0.950	
Satd. Flow (perm)	0	1490	1583	0	1490	1723	0	1770	3539	0	1770	3539
Right Turn on Red				Yes			Yes			Yes		
Satd. Flow (RTOR)			273			1						
Link Speed (mph)			30			20			45			45
Link Distance (ft)			439			281			380			359
Travel Time (s)			10.0			9.6			5.8			5.4
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	20	42	0	1	2	0	21	1540	0	1	1403
Turn Type	Perm	Perm	NA		Perm	NA		Prot	NA		Prot	NA
Protected Phases			4			8		5	2		1	6
Permitted Phases	4	4			8							
Detector Phase	4	4	4		8	8		5	2		1	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0		5.0	5.0		5.0	5.0		5.0	5.0
Minimum Split (s)	25.0	25.0	25.0		25.0	25.0		11.0	24.5		11.0	25.0
Total Split (s)	11.0	11.0	11.0		11.0	11.0		11.0	39.0		10.0	38.0
Total Split (%)	18.3%	18.3%	18.3%		18.3%	18.3%		18.3%	65.0%		16.7%	63.3%
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0		4.0	3.5		4.0	4.0
All-Red Time (s)	2.0	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0
Lost Time Adjust (s)		-2.0	-2.0		-2.0	-2.0		-2.0	-1.5		-2.0	-2.0
Total Lost Time (s)		4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0
Lead/Lag								Lag	Lag		Lead	Lead
Lead-Lag Optimize?								Yes	Yes		Yes	Yes
Recall Mode	None	None	None		None	None		None	C-Max		None	Max
Act Effect Green (s)		7.0	7.0		7.0	7.0		7.0	49.0		6.6	48.8
Actuated g/C Ratio		0.12	0.12		0.12	0.12		0.12	0.82		0.11	0.81
v/c Ratio		0.12	0.10		0.01	0.01		0.10	0.53		0.01	0.49
Control Delay		24.9	0.5		24.0	21.0		25.1	5.0		31.0	5.1
Queue Delay		0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0
Total Delay		24.9	0.5		24.0	21.0		25.1	5.0		31.0	5.1
LOS		C	A		C	C		C	A		C	A
Approach Delay			8.3			22.0			5.3			4.8
Approach LOS			A			C			A			A
Queue Length 50th (ft)		7	0		0	0		7	90		1	245

6: Courtesy Road (SH 42) & Griffith Street/Sports Complex Access
 2045 Total PM without Front Street Connection.syn

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	137
Future Volume (vph)	137
Ideal Flow (vphpl)	1900
Storage Length (ft)	273
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Ped Bike Factor	0.98
Frt	0.850
Flt Protected	
Satd. Flow (prot)	1583
Flt Permitted	
Satd. Flow (perm)	1546
Right Turn on Red	Yes
Satd. Flow (RTOR)	164
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Bikes (#/hr)	5
Peak Hour Factor	0.92
Shared Lane Traffic (%)	
Lane Group Flow (vph)	149
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Detector Phase	6
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	25.0
Total Split (s)	38.0
Total Split (%)	63.3%
Yellow Time (s)	4.0
All-Red Time (s)	2.0
Lost Time Adjust (s)	-2.0
Total Lost Time (s)	4.0
Lead/Lag	Lead
Lead-Lag Optimize?	Yes
Recall Mode	Max
Act Effct Green (s)	48.8
Actuated g/C Ratio	0.81
v/c Ratio	0.12
Control Delay	1.7
Queue Delay	0.0
Total Delay	1.7
LOS	A
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	16

6: Courtesy Road (SH 42) & Griffith Street/Sports Complex Access
 2045 Total PM without Front Street Connection.syn

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Queue Length 95th (ft)		m19	0		4	6		24	265		m1	m282
Internal Link Dist (ft)			359			201			300			279
Turn Bay Length (ft)		50			50			225			500	
Base Capacity (vph)		173	425		173	201		206	2890		195	2878
Starvation Cap Reductn		0	0		0	0		0	0		0	0
Spillback Cap Reductn		0	0		0	0		0	0		0	0
Storage Cap Reductn		0	0		0	0		0	0		0	0
Reduced v/c Ratio		0.12	0.10		0.01	0.01		0.10	0.53		0.01	0.49

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 48 (80%), Referenced to phase 2:NBT, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.53

Intersection Signal Delay: 5.1

Intersection LOS: A

Intersection Capacity Utilization 53.6%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Courtesy Road (SH 42) & Griffith Street/Sports Complex Access

 Ø1	 Ø2 (R)	 Ø4
10 s	39 s	11 s
 Ø6	 Ø5	 Ø8
36 s	11 s	11 s

6: Courtesy Road (SH 42) & Griffith Street/Sports Complex Access
2045 Total PM without Front Street Connection.syn



Lane Group	SBR
Queue Length 95th (ft)	m26
Internal Link Dist (ft)	
Turn Bay Length (ft)	273
Base Capacity (vph)	1288
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.12
Intersection Summary	

7: Cannon Street & Griffith Street
2045 Total PM without Front Street Connection.syn

												
Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	2	36	22	1	27	133	1	19	1	11	0	2
Future Volume (vph)	2	36	22	1	27	133	1	19	1	11	0	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150		150		150	150		150	150	
Storage Lanes	0		0		0		0	0		0	0	
Taper Length (ft)	25				25			25			25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.950				0.999			0.952			
Flt Protected		0.998				0.992			0.970			
Satd. Flow (prot)	0	1766	0	0	0	1846	0	0	1720	0	0	1863
Flt Permitted		0.998				0.992			0.970			
Satd. Flow (perm)	0	1766	0	0	0	1846	0	0	1720	0	0	1863
Link Speed (mph)		30				30			25			25
Link Distance (ft)		390				439			346			362
Travel Time (s)		8.9				10.0			9.4			9.9
Confl. Peds. (#/hr)	5		5		5		5	5		5	5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	65	0	0	0	176	0	0	34	0	0	2
Sign Control		Free				Free			Stop			Stop
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	31.3%											
Analysis Period (min)	15											
	ICU Level of Service A											

7: Cannon Street & Griffith Street
2045 Total PM without Front Street Connection.syn

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	0
Future Volume (vph)	0
Ideal Flow (vphpl)	1900
Storage Length (ft)	150
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	1.00
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	5
Peak Hour Factor	0.92
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Sign Control	
Intersection Summary	

7: Cannon Street & Griffith Street
2045 Total PM without Front Street Connection.syn

Intersection													
Int Delay, s/veh	1.4												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕				↕			↕			↕	
Traffic Vol, veh/h	2	36	22	1	27	133	1	19	1	11	0	2	0
Future Vol, veh/h	2	36	22	1	27	133	1	19	1	11	0	2	0
Conflicting Peds, #/hr	5	0	5	0	5	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	39	24	1	29	145	1	21	1	12	0	2	0
Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	151	0	0	-	68	0	0	270	271	61	276	283	156
Stage 1	-	-	-	-	-	-	-	60	60	-	209	211	-
Stage 2	-	-	-	-	-	-	-	210	211	-	67	72	-
Critical Hdwy	4.12	-	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1430	-	-	-	1533	-	-	683	636	1004	676	626	890
Stage 1	-	-	-	-	-	-	-	951	845	-	793	728	-
Stage 2	-	-	-	-	-	-	-	792	728	-	943	835	-
Platoon blocked, %		-	-			-	-						
Mov Cap-1 Maneuver	1423	-	-	~-29	~-29	-	-	674	629	994	660	619	882
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	674	629	-	660	619	-
Stage 1	-	-	-	-	-	-	-	945	840	-	788	724	-
Stage 2	-	-	-	-	-	-	-	786	724	-	925	830	-
Approach	EB			WB			NB			SB			
HCM Control Delay, s	0.3						10			10.8			
HCM LOS							B			B			
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1					
Capacity (veh/h)	759	1423	-	-	+	-	-	619					
HCM Lane V/C Ratio	0.044	0.002	-	-	-	-	-	0.004					
HCM Control Delay (s)	10	7.5	0	-	-	-	-	10.8					
HCM Lane LOS	B	A	A	-	-	-	-	B					
HCM 95th %tile Q(veh)	0.1	0	-	-	-	-	-	0					
Notes													
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined				*: All major volume in platoon					

8: Griffith Street & Front Street
2045 Total PM without Front Street Connection.syn

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	4	66	6	5	160	0	2	0	1	3	0	0
Future Volume (vph)	4	66	6	5	160	0	2	0	1	3	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150	150		150	0		0		0	
Storage Lanes	0		0	0		0	0		0		0	
Taper Length (ft)	25			25			25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.989						0.955				0.932
Flt Protected		0.998			0.999			0.968				0.976
Satd. Flow (prot)	0	1839	0	0	1861	0	0	1722	0	0	0	1694
Flt Permitted		0.998			0.999			0.968				0.976
Satd. Flow (perm)	0	1839	0	0	1861	0	0	1722	0	0	0	1694
Link Speed (mph)		30			30			25				25
Link Distance (ft)		405			390			333				365
Travel Time (s)		9.2			8.9			9.1				10.0
Confl. Peds. (#/hr)	5		10	10		5	5		5		5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	83	0	0	179	0	0	3	0	0	0	6
Sign Control		Free			Free			Stop				Stop
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	22.1%											
Analysis Period (min)	15											
	ICU Level of Service A											

8: Griffith Street & Front Street
2045 Total PM without Front Street Connection.syn

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	3
Future Volume (vph)	3
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	1.00
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	5
Peak Hour Factor	0.92
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Sign Control	
Intersection Summary	

8: Griffith Street & Front Street
2045 Total PM without Front Street Connection.syn

Intersection													
Int Delay, s/veh	0.6												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations		↕			↕			↕				↕	
Traffic Vol, veh/h	4	66	6	5	160	0	2	0	1	3	0	0	3
Future Vol, veh/h	4	66	6	5	160	0	2	0	1	3	0	0	3
Conflicting Peds, #/hr	5	0	10	10	0	5	5	0	5	0	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	72	7	5	174	0	2	0	1	3	0	0	3
Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	179	0	0	89	0	0	285	283	91	0	278	286	184
Stage 1	-	-	-	-	-	-	94	94	-	0	189	189	-
Stage 2	-	-	-	-	-	-	191	189	-	0	89	97	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	-	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1397	-	-	1506	-	-	667	626	967	0	674	623	858
Stage 1	-	-	-	-	-	-	913	817	-	0	813	744	-
Stage 2	-	-	-	-	-	-	811	744	-	0	918	815	-
Platoon blocked, %		-	-		-	-				-			
Mov Cap-1 Maneuver	1390	-	-	1492	-	-	652	612	953	0	663	609	850
Mov Cap-2 Maneuver	-	-	-	-	-	-	652	612	-	0	663	609	-
Stage 1	-	-	-	-	-	-	902	806	-	0	806	737	-
Stage 2	-	-	-	-	-	-	801	737	-	0	910	804	-
Approach	EB			WB			NB			SB			
HCM Control Delay, s	0.4			0.2			10			9.3			
HCM LOS							B			A			
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1					
Capacity (veh/h)	729	1390	-	-	1492	-	-	850					
HCM Lane V/C Ratio	0.004	0.003	-	-	0.004	-	-	0.004					
HCM Control Delay (s)	10	7.6	0	-	7.4	0	-	9.3					
HCM Lane LOS	B	A	A	-	A	A	-	A					
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0					

9: Main Street & Griffith Street
 2045 Total PM without Front Street Connection.syn

							
Lane Group	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	94	48	238	39	1	35	144
Future Volume (vph)	94	48	238	39	1	35	144
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor							
Frt	0.954		0.981				
Flt Protected	0.968						0.990
Satd. Flow (prot)	1720	0	1827	0	0	0	1844
Flt Permitted	0.968						0.990
Satd. Flow (perm)	1720	0	1827	0	0	0	1844
Link Speed (mph)	30		30				30
Link Distance (ft)	405		350				1210
Travel Time (s)	9.2		8.0				27.5
Confl. Peds. (#/hr)	2	10		7	10	7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)							
Lane Group Flow (vph)	154	0	301	0	0	0	196
Sign Control	Stop		Free				Free
Intersection Summary							
Area Type:	Other						
Control Type:	Unsignalized						
Intersection Capacity Utilization	44.4%			ICU Level of Service A			
Analysis Period (min)	15						

9: Main Street & Griffith Street
2045 Total PM without Front Street Connection.syn

Intersection							
Int Delay, s/veh	3.2						
Movement	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations							
Traffic Vol, veh/h	94	48	238	39	1	35	144
Future Vol, veh/h	94	48	238	39	1	35	144
Conflicting Peds, #/hr	2	10	0	7	10	7	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	-	0
Grade, %	0	-	0	-	-	-	0
Peak Hour Factor	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	102	52	259	42	1	38	157
Major/Minor	Minor1	Major1		Major2			
Conflicting Flow All	522	297	0	0	-	308	0
Stage 1	287	-	-	-	-	-	-
Stage 2	235	-	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	2.218	-
Pot Cap-1 Maneuver	515	742	-	-	-	1253	-
Stage 1	762	-	-	-	-	-	-
Stage 2	804	-	-	-	-	-	-
Platoon blocked, %			-	-			-
Mov Cap-1 Maneuver	510	730	-	-	~ -37	~ -37	-
Mov Cap-2 Maneuver	510	-	-	-	-	-	-
Stage 1	757	-	-	-	-	-	-
Stage 2	802	-	-	-	-	-	-
Approach	WB	NB		SB			
HCM Control Delay, s	13.7	0					
HCM LOS	B						
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBL	SBT		
Capacity (veh/h)	-	-	568	+	-		
HCM Lane V/C Ratio	-	-	0.272	-	-		
HCM Control Delay (s)	-	-	13.7	-	-		
HCM Lane LOS	-	-	B	-	-		
HCM 95th %tile Q(veh)	-	-	1.1	-	-		
Notes							
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon	

10: Front Street & Harper Street
 2045 Total PM without Front Street Connection.syn

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	6	0	0	7	0	0
Future Volume (vph)	6	0	0	7	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.865					
Flt Protected	0.950					
Satd. Flow (prot)	1770	0	0	1611	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	0	1611	0	0
Link Speed (mph)	25	25		25		
Link Distance (ft)	380	365		210		
Travel Time (s)	10.4	10.0		5.7		
Confl. Peds. (#/hr)	5	132	70		70	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	7	0	0	8	0	0
Sign Control	Free	Free		Free		
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 16.5%			ICU Level of Service A			
Analysis Period (min) 15						

11: Courtesy Road (SH 42) & Harper Street
 2045 Total PM without Front Street Connection.syn

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				 	 	
Traffic Volume (vph)	0	87	0	1400	1331	8
Future Volume (vph)	0	87	0	1400	1331	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.865			0.999	
Flt Protected						
Satd. Flow (prot)	0	1611	0	3539	3536	0
Flt Permitted						
Satd. Flow (perm)	0	1611	0	3539	3536	0
Link Speed (mph)	30			45	45	
Link Distance (ft)	209			359	430	
Travel Time (s)	4.8			5.4	6.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	95	0	1522	1456	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	49.1%			ICU Level of Service A		
Analysis Period (min)	15					

11: Courtesy Road (SH 42) & Harper Street
 2045 Total PM without Front Street Connection.syn

Intersection

Int Delay, s/veh 0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	
Traffic Vol, veh/h	0	87	0	1400	1331	8
Future Vol, veh/h	0	87	0	1400	1331	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	95	0	1522	1447	9

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	- 728	- 0	- 0
Stage 1	- -	- -	- -
Stage 2	- -	- -	- -
Critical Hdwy	- 6.94	- -	- -
Critical Hdwy Stg 1	- -	- -	- -
Critical Hdwy Stg 2	- -	- -	- -
Follow-up Hdwy	- 3.32	- -	- -
Pot Cap-1 Maneuver	0 366	0 -	- -
Stage 1	0 -	0 -	- -
Stage 2	0 -	0 -	- -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	- 366	- -	- -
Mov Cap-2 Maneuver	- -	- -	- -
Stage 1	- -	- -	- -
Stage 2	- -	- -	- -

Approach	EB	NB	SB
HCM Control Delay, s	18.2	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT EBLn1	SBT	SBR
Capacity (veh/h)	- 366	- -	- -
HCM Lane V/C Ratio	- 0.258	- -	- -
HCM Control Delay (s)	- 18.2	- -	- -
HCM Lane LOS	- C	- -	- -
HCM 95th %tile Q(veh)	- 1	- -	- -

1: Main Street & S Boulder Road
2045 Total SAT without Front Street Connection.syn

	→	↘	↶	↙	←	↖	↗
Lane Group	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↘	↑↑	↘	↘
Traffic Volume (vph)	1086	90	26	67	1025	59	107
Future Volume (vph)	1086	90	26	67	1025	59	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		120		225		0	115
Storage Lanes		1		1		1	1
Taper Length (ft)				25		0	
Lane Util. Factor	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Ped Bike Factor		0.97		1.00		0.99	0.95
Frt		0.850					0.850
Flt Protected				0.950		0.950	
Satd. Flow (prot)	3539	1583	0	1770	3539	1770	1583
Flt Permitted				0.190		0.950	
Satd. Flow (perm)	3539	1535	0	353	3539	1761	1504
Right Turn on Red		Yes					Yes
Satd. Flow (RTOR)		97					116
Link Speed (mph)	35				35	30	
Link Distance (ft)	636				400	1210	
Travel Time (s)	12.4				7.8	27.5	
Confl. Peds. (#/hr)		5		5		5	39
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)							
Lane Group Flow (vph)	1180	98	0	101	1114	64	116
Turn Type	NA	Perm	custom	pm+pt	NA	Perm	Perm
Protected Phases	2			1	6		
Permitted Phases		2	1	6		8	8
Detector Phase	2	2	1	1	6	8	8
Switch Phase							
Minimum Initial (s)	35.0	35.0	5.0	5.0	35.0	5.0	5.0
Minimum Split (s)	41.0	41.0	11.0	11.0	41.0	35.0	35.0
Total Split (s)	70.0	70.0	12.0	12.0	82.0	18.0	18.0
Total Split (%)	70.0%	70.0%	12.0%	12.0%	82.0%	18.0%	18.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-1.0	0.0
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	5.0
Lead/Lag	Lag	Lag	Lead	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	None	C-Max	None	None
Act Effct Green (s)	72.0	72.0		82.0	82.0	10.0	9.0
Actuated g/C Ratio	0.72	0.72		0.82	0.82	0.10	0.09
v/c Ratio	0.46	0.09		0.25	0.38	0.36	0.48
Control Delay	7.5	1.5		3.2	3.3	47.0	15.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	7.5	1.5		3.2	3.3	47.0	15.0
LOS	A	A		A	A	D	B
Approach Delay	7.0				3.2	26.4	
Approach LOS	A				A	C	
Queue Length 50th (ft)	158	0		13	91	39	0

1: Main Street & S Boulder Road
 2045 Total SAT without Front Street Connection.syn



Lane Group	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Queue Length 95th (ft)	227	16		m19	m106	78	50
Internal Link Dist (ft)	556				320	1130	
Turn Bay Length (ft)		120		225			115
Base Capacity (vph)	2546	1132		409	2901	246	296
Starvation Cap Reductn	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.46	0.09		0.25	0.38	0.26	0.39

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 59 (59%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.48

Intersection Signal Delay: 6.6

Intersection LOS: A

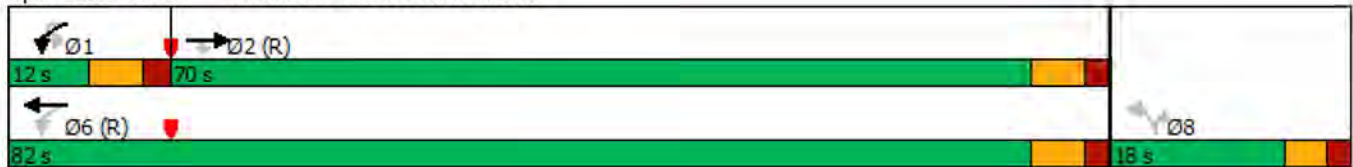
Intersection Capacity Utilization 66.9%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Main Street & S Boulder Road



2: Front Street/Private Access & S Boulder Road
 2045 Total SAT without Front Street Connection.syn

												
Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↑↑	↗		↘	↑↑				↗		
Traffic Volume (vph)	0	1209	30	3	16	1170	4	0	0	36	0	0
Future Volume (vph)	0	1209	30	3	16	1170	4	0	0	36	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50		70		0	0		0	0	
Storage Lanes	0		1		1		0	0		1	0	
Taper Length (ft)	25				25			25			25	
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850							0.865		
Flt Protected					0.950							
Satd. Flow (prot)	0	3539	1583	0	1770	3539	0	0	0	1611	0	0
Flt Permitted					0.950							
Satd. Flow (perm)	0	3539	1583	0	1770	3539	0	0	0	1611	0	0
Link Speed (mph)		35				35			20			20
Link Distance (ft)		400				360			338			476
Travel Time (s)		7.8				7.0			11.5			16.2
Confl. Peds. (#/hr)	10		10	5	10		10	5		5	5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1314	33	0	20	1276	0	0	0	39	0	0
Sign Control		Free				Free			Stop			Stop
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	45.0%											
Analysis Period (min)	15											
	ICU Level of Service A											

2: Front Street/Private Access & S Boulder Road
2045 Total SAT without Front Street Connection.syn



Lane Group	SBR
Lane Configurations	7
Traffic Volume (vph)	1
Future Volume (vph)	1
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Ped Bike Factor	
Frt	0.865
Flt Protected	
Satd. Flow (prot)	1611
Flt Permitted	
Satd. Flow (perm)	1611
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	5
Peak Hour Factor	0.92
Shared Lane Traffic (%)	
Lane Group Flow (vph)	1
Sign Control	
Intersection Summary	

2: Front Street/Private Access & S Boulder Road
 2045 Total SAT without Front Street Connection.syn

Intersection													
Int Delay, s/veh	0.3												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↘	↑↑				↗			↗
Traffic Vol, veh/h	0	1209	30	3	16	1170	4	0	0	36	0	0	1
Future Vol, veh/h	0	1209	30	3	16	1170	4	0	0	36	0	0	1
Conflicting Peds, #/hr	10	0	10	5	10	0	10	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	70	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1314	33	3	17	1272	4	0	0	39	0	0	1
Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	-	0	0	1314	1357	0	0	-	-	672	-	-	653
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	6.44	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	2.52	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	208	503	-	-	0	0	398	0	0	410
Stage 1	0	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	0	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-			-	-						
Mov Cap-1 Maneuver	-	-	-	396	396	-	-	-	-	392	-	-	404
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB			
HCM Control Delay, s	0			0.2			15.2			13.9			
HCM LOS							C			B			
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	WBR	SBLn1						
Capacity (veh/h)	392	-	-	396	-	-	404						
HCM Lane V/C Ratio	0.1	-	-	0.052	-	-	0.003						
HCM Control Delay (s)	15.2	-	-	14.6	-	-	13.9						
HCM Lane LOS	C	-	-	B	-	-	B						
HCM 95th %tile Q(veh)	0.3	-	-	0.2	-	-	0						

3: Cannon Circle/Private Access & S Boulder Road
 2045 Total SAT without Front Street Connection.syn

												
Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	15	28	1156	27	1	52	1084	12	0	0	58	0
Future Volume (vph)	15	28	1156	27	1	52	1084	12	0	0	58	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		90		0		80		0	0		0	0
Storage Lanes		1		0		1		0	0		1	0
Taper Length (ft)		25				25			25			25
Lane Util. Factor	0.95	1.00	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.997				0.998				0.865	
Flt Protected		0.950				0.950						
Satd. Flow (prot)	0	1770	3529	0	0	1770	3532	0	0	0	1611	0
Flt Permitted		0.950				0.950						
Satd. Flow (perm)	0	1770	3529	0	0	1770	3532	0	0	0	1611	0
Link Speed (mph)			35				35			20		
Link Distance (ft)			360				465			339		
Travel Time (s)			7.0				9.1			11.6		
Confl. Peds. (#/hr)	5	10		10	5	10		10	5		5	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	46	1286	0	0	58	1191	0	0	0	63	0
Sign Control			Free				Free			Stop		
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	51.7%						ICU Level of Service A					
Analysis Period (min)	15											

3: Cannon Circle/Private Access & S Boulder Road
 2045 Total SAT without Front Street Connection.syn



Lane Group	SBT	SBR
Lane Configurations		↗
Traffic Volume (vph)	0	82
Future Volume (vph)	0	82
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		0
Storage Lanes		1
Taper Length (ft)		
Lane Util. Factor	1.00	1.00
Ped Bike Factor		
Frt		0.865
Flt Protected		
Satd. Flow (prot)	0	1611
Flt Permitted		
Satd. Flow (perm)	0	1611
Link Speed (mph)	20	
Link Distance (ft)	431	
Travel Time (s)	14.7	
Confl. Peds. (#/hr)		5
Peak Hour Factor	0.92	0.92
Shared Lane Traffic (%)		
Lane Group Flow (vph)	0	89
Sign Control	Stop	
Intersection Summary		

3: Cannon Circle/Private Access & S Boulder Road
2045 Total SAT without Front Street Connection.syn

Intersection															
Int Delay, s/veh	1.4														
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations															
Traffic Vol, veh/h	15	28	1156	27	1	52	1084	12	0	0	58	0	0	82	
Future Vol, veh/h	15	28	1156	27	1	52	1084	12	0	0	58	0	0	82	
Conflicting Peds, #/hr	5	10	0	10	5	10	0	10	5	0	5	5	0	5	
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	
RT Channelized	-	-	-	None	-	-	-	None	-	-	None	-	-	None	
Storage Length	-	90	-	-	-	80	-	-	-	-	0	-	-	0	
Veh in Median Storage, #	-	-	0	-	-	-	0	-	-	0	-	-	0	-	
Grade, %	-	-	0	-	-	-	0	-	-	0	-	-	0	-	
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92	92	
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Mvmt Flow	16	30	1257	29	1	57	1178	13	0	0	63	0	0	89	
Major/Minor	Major1			Major2			Minor1			Minor2					
Conflicting Flow All	1191	1201	0	0	1286	1296	0	0	-	-	658	-	-	611	
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Critical Hdwy	6.44	4.14	-	-	6.44	4.14	-	-	-	-	6.94	-	-	6.94	
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Follow-up Hdwy	2.52	2.22	-	-	2.52	2.22	-	-	-	-	3.32	-	-	3.32	
Pot Cap-1 Maneuver	250	577	-	-	217	531	-	-	0	0	407	0	0	437	
Stage 1	-	-	-	-	-	-	-	-	0	0	-	0	0	-	
Stage 2	-	-	-	-	-	-	-	-	0	0	-	0	0	-	
Platoon blocked, %			-	-			-	-							
Mov Cap-1 Maneuver	349	349	-	-	508	508	-	-	-	-	401	-	-	431	
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Approach	EB			WB			NB			SB					
HCM Control Delay, s	0.6			0.6			15.6			15.5					
HCM LOS							C			C					
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1							
Capacity (veh/h)	401	349	-	-	508	-	-	431							
HCM Lane V/C Ratio	0.157	0.134	-	-	0.113	-	-	0.207							
HCM Control Delay (s)	15.6	16.9	-	-	13	-	-	15.5							
HCM Lane LOS	C	C	-	-	B	-	-	C							
HCM 95th %tile Q(veh)	0.6	0.5	-	-	0.4	-	-	0.8							

4: Courtesy Road (SH 42) & S Boulder Road
2045 Total SAT without Front Street Connection.syn

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (vph)	31	508	607	147	322	681	173	4	216	464	253	7
Future Volume (vph)	31	508	607	147	322	681	173	4	216	464	253	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		150		100	225		270		0		0	
Storage Lanes		2		1	2		1		2		1	
Taper Length (ft)		25			25				25			
Lane Util. Factor	0.95	0.97	0.95	1.00	0.97	0.95	1.00	0.95	0.97	0.95	1.00	0.95
Ped Bike Factor				0.98			0.98				0.98	
Frt				0.850			0.850				0.850	
Flt Protected		0.950			0.950				0.950			
Satd. Flow (prot)	0	3433	3539	1583	3433	3539	1583	0	3433	3539	1583	0
Flt Permitted		0.371			0.950				0.500			
Satd. Flow (perm)	0	1341	3539	1557	3433	3539	1549	0	1807	3539	1557	0
Right Turn on Red				Yes			Yes				Yes	
Satd. Flow (RTOR)				207			218				275	
Link Speed (mph)			35			35				45		
Link Distance (ft)			465			1815				418		
Travel Time (s)			9.1			35.4				6.3		
Confl. Peds. (#/hr)				5			10				5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	586	660	160	350	740	188	0	239	504	275	0
Turn Type	custom	Prot	NA	Perm	Prot	NA	Perm	custom	Prot	NA	Perm	custom
Protected Phases		5	2		1	6			3	8		
Permitted Phases	5			2			6	3			8	7
Detector Phase	5	5	2	2	1	6	6	3	3	8	8	7
Switch Phase												
Minimum Initial (s)	5.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	5.0	6.0	6.0	5.0
Minimum Split (s)	10.0	10.0	37.0	37.0	10.0	37.0	37.0	10.0	10.0	40.0	40.0	10.0
Total Split (s)	18.0	18.0	38.0	38.0	14.0	34.0	34.0	12.0	12.0	36.0	36.0	12.0
Total Split (%)	18.0%	18.0%	38.0%	38.0%	14.0%	34.0%	34.0%	12.0%	12.0%	36.0%	36.0%	12.0%
Yellow Time (s)	3.0	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0	4.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		-1.0	-2.0	-2.0	-1.0	-2.0	-2.0		-1.0	-2.0	-2.0	
Total Lost Time (s)		4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	
Lead/Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lag
Lead-Lag Optimize?												
Recall Mode	None	None	C-Max	C-Max	None	Max	Max	None	None	Max	Max	None
Act Effect Green (s)		14.0	34.0	34.0	10.0	30.0	30.0		8.0	32.0	32.0	
Actuated g/C Ratio		0.14	0.34	0.34	0.10	0.30	0.30		0.08	0.32	0.32	
v/c Ratio		3.13	0.55	0.24	1.02	0.70	0.30		1.66	0.45	0.40	
Control Delay		990.3	26.2	2.6	99.5	35.2	3.7		356.1	25.0	7.3	
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	
Total Delay		990.3	26.2	2.6	99.5	35.2	3.7		356.1	25.0	7.3	
LOS		F	C	A	F	D	A		F	C	A	
Approach Delay			425.3			48.1				98.0		
Approach LOS			F			D				F		
Queue Length 50th (ft)		~344	127	0	~119	218	0		~116	134	1	

4: Courtesy Road (SH 42) & S Boulder Road
 2045 Total SAT without Front Street Connection.syn

			
Lane Group	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (vph)	140	506	341
Future Volume (vph)	140	506	341
Ideal Flow (vphpl)	1900	1900	1900
Storage Length (ft)	185		270
Storage Lanes	2		1
Taper Length (ft)	25		
Lane Util. Factor	0.97	0.95	1.00
Ped Bike Factor			0.98
Frt			0.850
Flt Protected	0.950		
Satd. Flow (prot)	3433	3539	1583
Flt Permitted	0.500		
Satd. Flow (perm)	1807	3539	1557
Right Turn on Red			Yes
Satd. Flow (RTOR)			251
Link Speed (mph)		45	
Link Distance (ft)		1337	
Travel Time (s)		20.3	
Confl. Peds. (#/hr)			5
Peak Hour Factor	0.92	0.92	0.92
Shared Lane Traffic (%)			
Lane Group Flow (vph)	160	550	371
Turn Type	Prot	NA	Perm
Protected Phases	7	4	
Permitted Phases			4
Detector Phase	7	4	4
Switch Phase			
Minimum Initial (s)	5.0	6.0	6.0
Minimum Split (s)	10.0	36.0	36.0
Total Split (s)	12.0	36.0	36.0
Total Split (%)	12.0%	36.0%	36.0%
Yellow Time (s)	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	4.0
Lead/Lag	Lag	Lag	Lag
Lead-Lag Optimize?			
Recall Mode	None	Max	Max
Act Effect Green (s)	8.0	32.0	32.0
Actuated g/C Ratio	0.08	0.32	0.32
v/c Ratio	1.11	0.49	0.56
Control Delay	152.0	29.2	12.5
Queue Delay	0.0	0.0	0.0
Total Delay	152.0	29.2	12.5
LOS	F	C	B
Approach Delay		41.6	
Approach LOS		D	
Queue Length 50th (ft)	~60	147	56

4: Courtesy Road (SH 42) & S Boulder Road
2045 Total SAT without Front Street Connection.syn

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU
Queue Length 95th (ft)		#441	177	21	#213	285	34		#201	129	85	
Internal Link Dist (ft)			385			1735				338		
Turn Bay Length (ft)		150		100	225		270					
Base Capacity (vph)		187	1203	666	343	1061	617		144	1132	685	
Starvation Cap Reductn		0	0	0	0	0	0		0	0	0	
Spillback Cap Reductn		0	0	0	0	0	0		0	0	0	
Storage Cap Reductn		0	0	0	0	0	0		0	0	0	
Reduced v/c Ratio		3.13	0.55	0.24	1.02	0.70	0.30		1.66	0.45	0.40	

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:EBT, Start of Yellow, Master Intersection

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 3.13

Intersection Signal Delay: 168.2

Intersection LOS: F

Intersection Capacity Utilization 87.1%

ICU Level of Service E

Analysis Period (min) 15

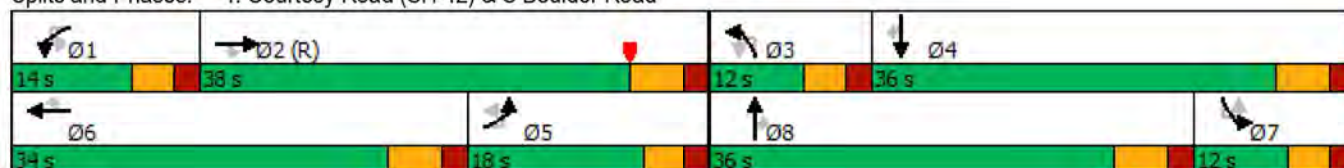
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 4: Courtesy Road (SH 42) & S Boulder Road



4: Courtesy Road (SH 42) & S Boulder Road
2045 Total SAT without Front Street Connection.syn



Lane Group	SBL	SBT	SBR
Queue Length 95th (ft)	#126	198	146
Internal Link Dist (ft)		1257	
Turn Bay Length (ft)	185		270
Base Capacity (vph)	144	1132	668
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	1.11	0.49	0.56
Intersection Summary			

5: Courtesy Road (SH 42) & Cannon Circle
 2045 Total SAT without Front Street Connection.syn

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				 	 	
Traffic Volume (vph)	0	11	0	935	955	16
Future Volume (vph)	0	11	0	935	955	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	140			0
Storage Lanes	0	1	0			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor						
Frt		0.865			0.998	
Flt Protected						
Satd. Flow (prot)	0	1611	0	3539	3532	0
Flt Permitted						
Satd. Flow (perm)	0	1611	0	3539	3532	0
Link Speed (mph)	20			45	45	
Link Distance (ft)	418			420	418	
Travel Time (s)	14.3			6.4	6.3	
Confl. Peds. (#/hr)			5			5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	12	0	1016	1055	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	36.9%			ICU Level of Service A		
Analysis Period (min)	15					

5: Courtesy Road (SH 42) & Cannon Circle
 2045 Total SAT without Front Street Connection.syn

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	
Traffic Vol, veh/h	0	11	0	935	955	16
Future Vol, veh/h	0	11	0	935	955	16
Conflicting Peds, #/hr	0	0	5	0	0	5
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	12	0	1016	1038	17
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	533	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	491	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	489	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	12.5	0		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT EBLn1		SBT	SBR		
Capacity (veh/h)	- 489		-	-		
HCM Lane V/C Ratio	- 0.024		-	-		
HCM Control Delay (s)	- 12.5		-	-		
HCM Lane LOS	- B		-	-		
HCM 95th %tile Q(veh)	- 0.1		-	-		

6: Courtesy Road (SH 42) & Griffith Street/Sports Complex Access
2045 Total SAT without Front Street Connection.syn

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	7	21	2	1	6	21	863	43	11	895	50
Future Volume (vph)	20	7	21	2	1	6	21	863	43	11	895	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		0	50		0	225		0	500		273
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor												0.98
Frt		0.889			0.869			0.993				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1656	0	1770	1619	0	1770	3514	0	1770	3539	1583
Flt Permitted	0.800			0.800			0.950			0.950		
Satd. Flow (perm)	1490	1656	0	1490	1619	0	1770	3514	0	1770	3539	1545
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23			7			13				196
Link Speed (mph)		30			20			45			45	
Link Distance (ft)		439			281			380			369	
Travel Time (s)		10.0			9.6			5.8			5.6	
Confl. Bikes (#/hr)												5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	22	31	0	2	8	0	23	985	0	12	973	54
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								6
Detector Phase	4	4		8	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	25.0	25.0		25.0	25.0		11.0	24.5		11.0	25.0	25.0
Total Split (s)	11.0	11.0		11.0	11.0		14.0	27.0		12.0	25.0	25.0
Total Split (%)	22.0%	22.0%		22.0%	22.0%		28.0%	54.0%		24.0%	50.0%	50.0%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	3.5		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0		-2.0	-1.5		-2.0	-2.0	-2.0
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lead/Lag							Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None		None	C-Max		None	Max	Max
Act Effect Green (s)	7.0	7.0		7.0	7.0		8.3	38.6		7.8	38.2	38.2
Actuated g/C Ratio	0.14	0.14		0.14	0.14		0.17	0.77		0.16	0.76	0.76
v/c Ratio	0.11	0.12		0.01	0.03		0.08	0.36		0.04	0.36	0.04
Control Delay	20.4	11.0		18.5	13.3		17.7	4.8		17.5	4.7	0.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	20.4	11.0		18.5	13.3		17.7	4.8		17.5	4.7	0.7
LOS	C	B		B	B		B	A		B	A	A
Approach Delay		14.9			14.3			5.1			4.7	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)	6	3		1	0		6	44		5	116	0

6: Courtesy Road (SH 42) & Griffith Street/Sports Complex Access
 2045 Total SAT without Front Street Connection.syn

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (ft)	17	15		5	9		20	153		m11	m171	m3
Internal Link Dist (ft)		359			201			300			289	
Turn Bay Length (ft)	50			50			225			500		273
Base Capacity (vph)	208	251		208	232		354	2715		283	2704	1226
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.11	0.12		0.01	0.03		0.06	0.36		0.04	0.36	0.04

Intersection Summary

Area Type: Other

Cycle Length: 50

Actuated Cycle Length: 50

Offset: 48 (96%), Referenced to phase 2:NBT, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.36

Intersection Signal Delay: 5.2

Intersection LOS: A

Intersection Capacity Utilization 39.7%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Courtesy Road (SH 42) & Griffith Street/Sports Complex Access

 Ø1	 Ø2 (R)	 Ø4
12 s	27 s	11 s
 Ø6	 Ø5	 Ø8
25 s	14 s	11 s

7: Cannon Street & Griffith Street
2045 Total SAT without Front Street Connection.syn

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	31	20	15	63	1	14	0	16	1	0	1
Future Volume (vph)	0	31	20	15	63	1	14	0	16	1	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150	150		150	150		150	150		150
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.947			0.998			0.928			0.932	
Flt Protected					0.991			0.977			0.976	
Satd. Flow (prot)	0	1764	0	0	1842	0	0	1689	0	0	1694	0
Flt Permitted					0.991			0.977			0.976	
Satd. Flow (perm)	0	1764	0	0	1842	0	0	1689	0	0	1694	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		390			439			346			362	
Travel Time (s)		8.9			10.0			9.4			9.9	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	56	0	0	85	0	0	32	0	0	2	0
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization 22.8%												
ICU Level of Service A												
Analysis Period (min) 15												

7: Cannon Street & Griffith Street
2045 Total SAT without Front Street Connection.syn

Intersection												
Int Delay, s/veh	2.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	31	20	15	63	1	14	0	16	1	0	1
Future Vol, veh/h	0	31	20	15	63	1	14	0	16	1	0	1
Conflicting Peds, #/hr	5	0	5	5	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	34	22	16	68	1	15	0	17	1	0	1
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	74	0	0	61	0	0	156	156	55	165	167	79
Stage 1	-	-	-	-	-	-	50	50	-	106	106	-
Stage 2	-	-	-	-	-	-	106	106	-	59	61	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1526	-	-	1542	-	-	810	736	1012	800	726	981
Stage 1	-	-	-	-	-	-	963	853	-	900	807	-
Stage 2	-	-	-	-	-	-	900	807	-	953	844	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1519	-	-	1535	-	-	795	721	1002	772	711	972
Mov Cap-2 Maneuver	-	-	-	-	-	-	795	721	-	772	711	-
Stage 1	-	-	-	-	-	-	958	849	-	896	794	-
Stage 2	-	-	-	-	-	-	885	794	-	932	840	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			1.4			9.2			9.2		
HCM LOS							A			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	893	1519	-	-	1535	-	-	861				
HCM Lane V/C Ratio	0.037	-	-	-	0.011	-	-	0.003				
HCM Control Delay (s)	9.2	0	-	-	7.4	0	-	9.2				
HCM Lane LOS	A	A	-	-	A	A	-	A				
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0				

8: Griffith Street & Front Street
2045 Total SAT without Front Street Connection.syn

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	53	3	1	74	3	8	0	0	0	0	4
Future Volume (vph)	6	53	3	1	74	3	8	0	0	0	0	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150	150		150	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.994			0.995						0.865	
Flt Protected		0.995			0.999			0.950				
Satd. Flow (prot)	0	1842	0	0	1852	0	0	1770	0	0	1611	0
Flt Permitted		0.995			0.999			0.950				
Satd. Flow (perm)	0	1842	0	0	1852	0	0	1770	0	0	1611	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		405			390			333			365	
Travel Time (s)		9.2			8.9			9.1			10.0	
Confl. Peds. (#/hr)	5		10	10		5	5		5	5		5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	68	0	0	84	0	0	9	0	0	4	0
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization 23.0%				ICU Level of Service A								
Analysis Period (min) 15												

8: Griffith Street & Front Street
2045 Total SAT without Front Street Connection.syn

Intersection												
Int Delay, s/veh	1.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	53	3	1	74	3	8	0	0	0	0	4
Future Vol, veh/h	6	53	3	1	74	3	8	0	0	0	0	4
Conflicting Peds, #/hr	5	0	10	10	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	58	3	1	80	3	9	0	0	0	0	4
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	88	0	0	71	0	0	175	174	75	168	174	92
Stage 1	-	-	-	-	-	-	84	84	-	89	89	-
Stage 2	-	-	-	-	-	-	91	90	-	79	85	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1508	-	-	1529	-	-	788	719	986	796	719	965
Stage 1	-	-	-	-	-	-	924	825	-	918	821	-
Stage 2	-	-	-	-	-	-	916	820	-	930	824	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1501	-	-	1514	-	-	770	704	972	785	704	956
Mov Cap-2 Maneuver	-	-	-	-	-	-	770	704	-	785	704	-
Stage 1	-	-	-	-	-	-	911	813	-	909	816	-
Stage 2	-	-	-	-	-	-	907	815	-	921	812	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.7			0.1			9.7			8.8		
HCM LOS							A			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	770	1501	-	-	1514	-	-	956				
HCM Lane V/C Ratio	0.011	0.004	-	-	0.001	-	-	0.005				
HCM Control Delay (s)	9.7	7.4	0	-	7.4	0	-	8.8				
HCM Lane LOS	A	A	A	-	A	A	-	A				
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0				

9: Main Street & Griffith Street
 2045 Total SAT without Front Street Connection.syn

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	63	27	144	46	14	138
Future Volume (vph)	63	27	144	46	14	138
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.960		0.967			
Flt Protected	0.966					0.995
Satd. Flow (prot)	1727	0	1801	0	0	1853
Flt Permitted	0.966					0.995
Satd. Flow (perm)	1727	0	1801	0	0	1853
Link Speed (mph)	30		30			30
Link Distance (ft)	405		350			1210
Travel Time (s)	9.2		8.0			27.5
Confl. Peds. (#/hr)	6	2		17	17	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	97	0	207	0	0	165
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	31.3%			ICU Level of Service A		
Analysis Period (min)	15					

9: Main Street & Griffith Street
2045 Total SAT without Front Street Connection.syn

Intersection						
Int Delay, s/veh	2.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	63	27	144	46	14	138
Future Vol, veh/h	63	27	144	46	14	138
Conflicting Peds, #/hr	6	2	0	17	17	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	68	29	157	50	15	150
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	385	201	0	0	224	0
Stage 1	199	-	-	-	-	-
Stage 2	186	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	618	840	-	-	1345	-
Stage 1	835	-	-	-	-	-
Stage 2	846	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	597	825	-	-	1323	-
Mov Cap-2 Maneuver	597	-	-	-	-	-
Stage 1	812	-	-	-	-	-
Stage 2	841	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	11.5	0		0.7		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	651	1323	-	
HCM Lane V/C Ratio	-	-	0.15	0.012	-	
HCM Control Delay (s)	-	-	11.5	7.8	0	
HCM Lane LOS	-	-	B	A	A	
HCM 95th %tile Q(veh)	-	-	0.5	0	-	

10: Front Street & Harper Street
 2045 Total SAT without Front Street Connection.syn

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	4	0	0	9	0	0
Future Volume (vph)	4	0	0	9	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.865					
Flt Protected	0.950					
Satd. Flow (prot)	1770	0	0	1611	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	0	1611	0	0
Link Speed (mph)	25	25		25		
Link Distance (ft)	380	365		210		
Travel Time (s)	10.4	10.0		5.7		
Confl. Peds. (#/hr)	5	132	70		70	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	4	0	0	10	0	0
Sign Control	Free	Free		Free		
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 16.5%			ICU Level of Service A			
Analysis Period (min) 15						

11: Courtesy Road (SH 42) & Harper Street
 2045 Total SAT without Front Street Connection.syn

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				 	 	
Traffic Volume (vph)	0	49	0	878	931	6
Future Volume (vph)	0	49	0	878	931	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.865			0.999	
Flt Protected						
Satd. Flow (prot)	0	1611	0	3539	3536	0
Flt Permitted						
Satd. Flow (perm)	0	1611	0	3539	3536	0
Link Speed (mph)	30			45	45	
Link Distance (ft)	201			369	420	
Travel Time (s)	4.6			5.6	6.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	53	0	954	1019	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	35.9%			ICU Level of Service A		
Analysis Period (min)	15					

11: Courtesy Road (SH 42) & Harper Street
 2045 Total SAT without Front Street Connection.syn

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	
Traffic Vol, veh/h	0	49	0	878	931	6
Future Vol, veh/h	0	49	0	878	931	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	53	0	954	1012	7

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	- 510	- 0	- 0
Stage 1	- -	- -	- -
Stage 2	- -	- -	- -
Critical Hdwy	- 6.94	- -	- -
Critical Hdwy Stg 1	- -	- -	- -
Critical Hdwy Stg 2	- -	- -	- -
Follow-up Hdwy	- 3.32	- -	- -
Pot Cap-1 Maneuver	0 509	0 -	- -
Stage 1	0 -	0 -	- -
Stage 2	0 -	0 -	- -
Platoon blocked, %		- -	- -
Mov Cap-1 Maneuver	- 509	- -	- -
Mov Cap-2 Maneuver	- -	- -	- -
Stage 1	- -	- -	- -
Stage 2	- -	- -	- -

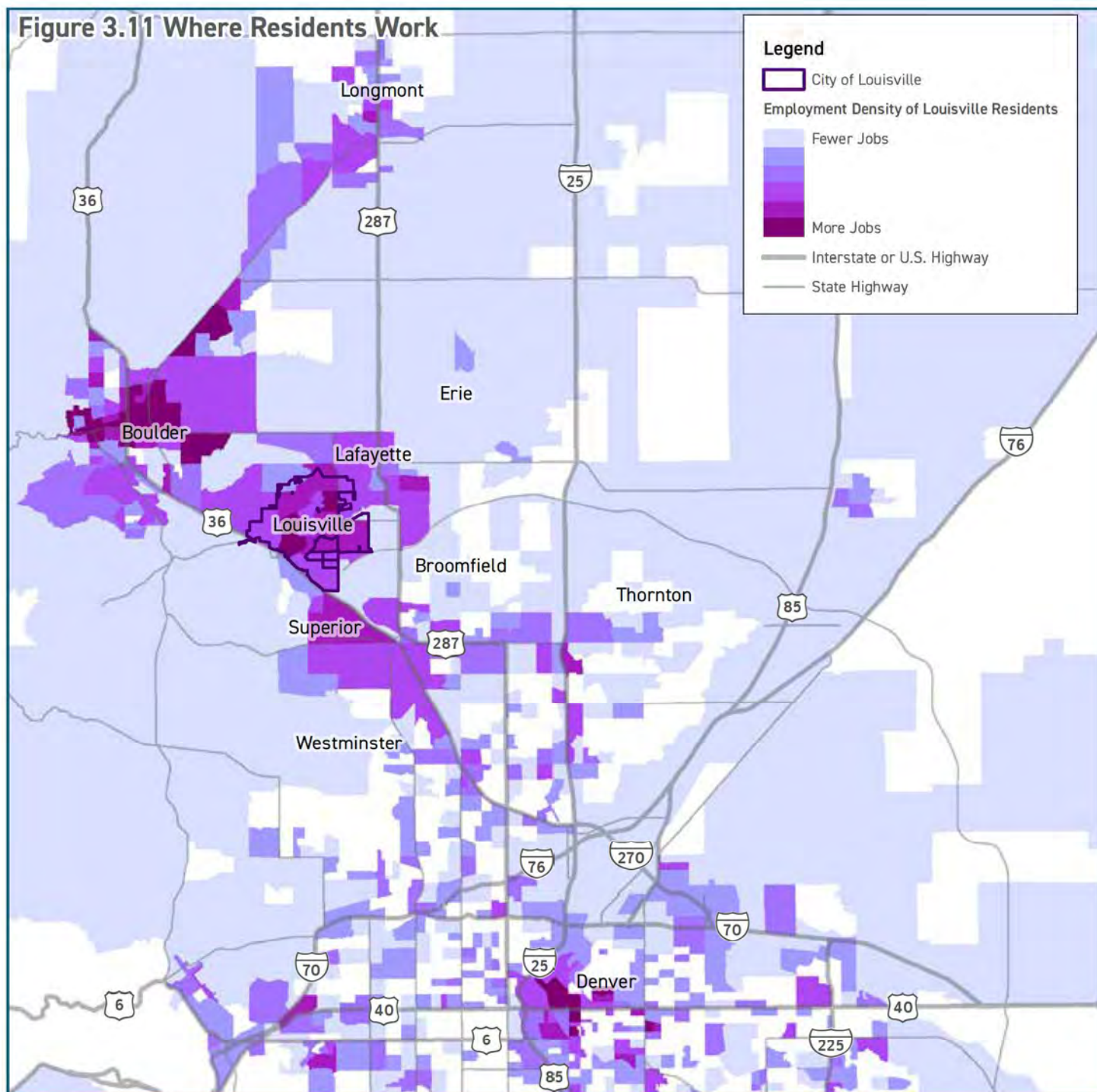
Approach	EB	NB	SB
HCM Control Delay, s	12.9	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT EBLn1	SBT	SBR
Capacity (veh/h)	- 509	- -	- -
HCM Lane V/C Ratio	- 0.105	- -	- -
HCM Control Delay (s)	- 12.9	- -	- -
HCM Lane LOS	- B	- -	- -
HCM 95th %tile Q(veh)	- 0.3	- -	- -

Appendix O: Louisville TMP Pages

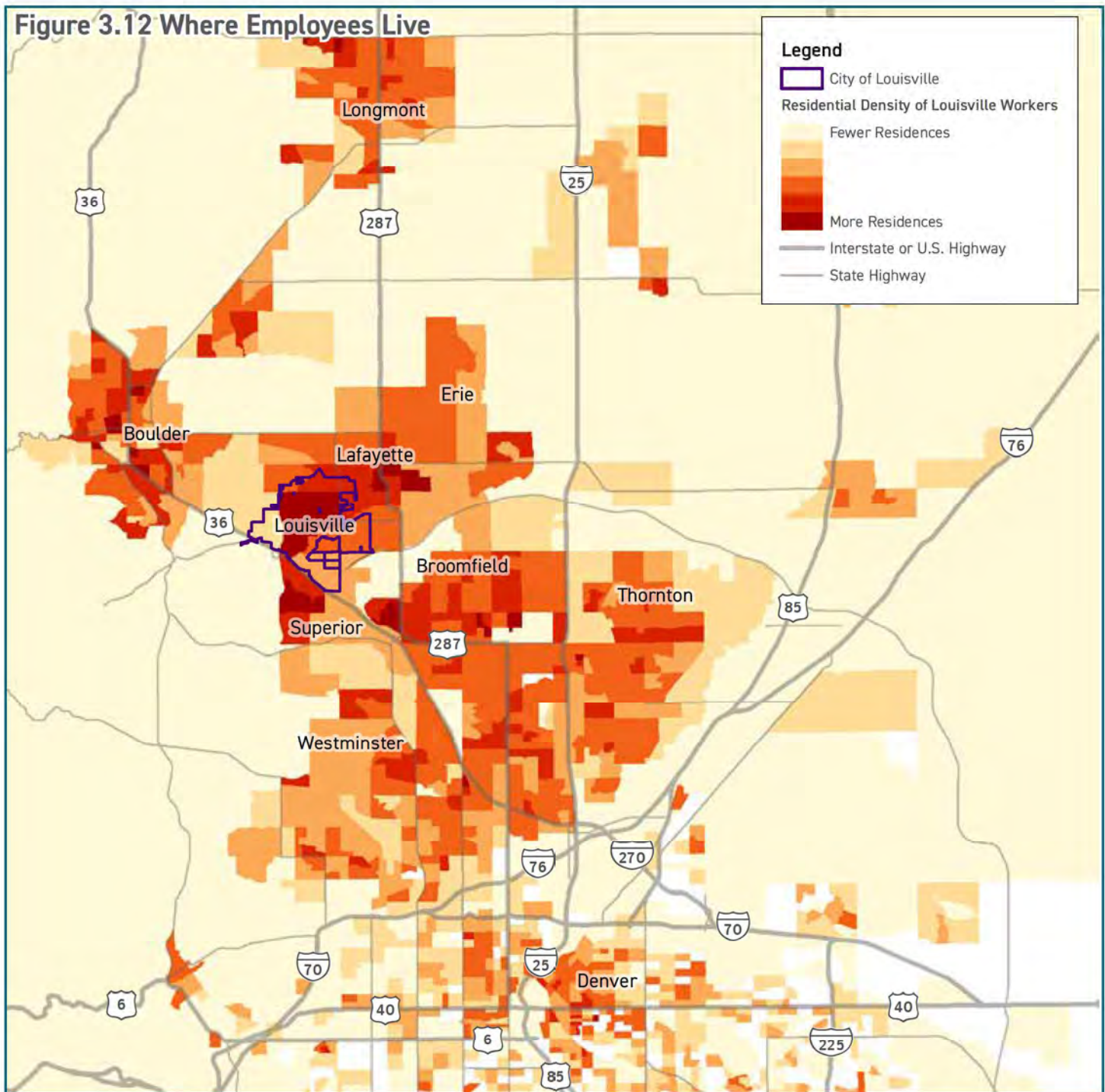
Where Louisville Residents Work

Figure 3.11 uses US Census data to show where Louisville residents work. Areas with a darker color have a larger density of residents working in that area. The majority of residents work within Boulder County, with a high number also working in Denver and lesser amounts spread throughout the north metro region. The highest areas of employment for Louisville residents are in the Cities of Boulder (28%) and Denver (14%). Approximately 89% of employed residents work outside of Louisville. This data helps identify key commuting corridors such as US 36, US 287, and Highway 119.



Where Louisville Employees Live

Figure 3.12 maps the location of where Louisville employees live. Only 7% of employees live in Louisville, while the rest live in cities across the region. Approximately 7% of workers live in each of the following: Denver, Broomfield, Boulder, and Westminster. Thornton and Lafayette account for another 6%, each. Strong regional corridors and connections allow Louisville to attract employees who live in other locations throughout the Denver region. Direct access via the Northwest Parkway, US 36, US 287, and Highway 7 provide key connections to Louisville. Approximately 93% of employees live outside of Louisville, adding stress on the transportation network from daily commuting.



HOW PEOPLE MOVE IN LOUISVILLE

This section uses Census data paired with transportation demand model (TDM) data from DRCOG to identify trip types and modes for travel occurring within Louisville.

Trips in Louisville

The TDM separates travel into two key types based on the origin and destination and are then divided into work-based and nonwork-based trips. The TDM is an activity based model that factors in all trips made between an origin and destination. For example, a trip that begins at home, stops for coffee, and goes to a school before traveling to work would ultimately be counted as a work-based trip. A trip that begins at home, goes to the gym, goes to the grocery store, then back home would be classified as a nonwork-based trip.

Currently, only 40.1% of all trips made within, to, or from Louisville are work related. This proportion is projected to generally stay the same (39.5%) over the next 20 years. This means a significant portion of trips occurring on the network are not related to commuting to work.

Transportation planning is often focused on the needs of commuting trips. To adequately plan for the functionality of the transportation system as a whole, however, it is important to address the variety of trip types and distances. Commuting trips are some of the longest trips that people make on a regular basis, and are therefore more likely to be completed by car than by walking or biking. Nonwork-based trips are typically much shorter. These shorter trips can be more strongly influenced by enhancing modal options, particularly walking and biking.

What is a Travel Demand Model?

The Denver Regional Council of Governments (DRCOG) develops a travel demand model (TDM) that estimates trip types, origins and destinations, modes, and trip lengths for all trips occurring in the region. This information is based on population, employment and development patterns, and multiple surveys estimate travel patterns. The TDM is a useful tool to help understand current and future demand and impacts on the transportation network.

Linking Trips and Land Use

As housing costs continue to rise, more growth is occurring further out in the region, resulting in more, and longer commutes. This places additional stress on the transportation network leading to increased congestion. Allowing transit supportive development patterns and land uses, such as mixed use development at higher densities, can accommodate a variety of trips without the need for driving, therefore reducing stress on the transportation network. An example is the DELO development developed under the City's mixed use zoning standards.

Appendix P: Railroad Queue Calculations

Train Queue Calculations

FullScenario	Int Dir	Volume (vph)	Train Delay (min)	Avg # of Vehicles per Train Event	(95th Percentile) Cumulative Poisson Distribution	(95th Percentile) Vehicles in Queue	(50th Percentile) Cumulative Poisson Distribution	(50th Percentile) Vehicles in Queue	(95th Percentile) Queue Length (ft.)	(50th Percentile) Queue Length (ft.)
Total 2026 With Front Street AM	EB	88	3	4.4	0.964	8	0.551	4	200	100
Total 2026 With Front Street PM	EB	93	3	4.7	0.952	8	0.504	4	200	100
Total 2026 With Front Street SAT	EB	72	3	3.6	0.969	7	0.515	3	175	75
Total 2026 With Front Street AM	WB	167	3	8.4	0.954	13	0.544	8	325	200
Total 2026 With Front Street PM	WB	179	3	9.0	0.960	14	0.594	9	350	225
Total 2026 With Front Street SAT	WB	122	3	6.1	0.953	10	0.590	6	250	150
Total 2026 With Front Street AM	EB	88	5	7.3	0.963	12	0.549	7	300	175
Total 2026 With Front Street PM	EB	93	5	7.8	0.973	13	0.627	8	325	200
Total 2026 With Front Street SAT	EB	72	5	6.0	0.957	10	0.606	6	250	150
Total 2026 With Front Street AM	WB	167	5	13.9	0.954	20	0.579	14	500	350
Total 2026 With Front Street PM	WB	179	5	14.9	0.969	22	0.577	15	550	375
Total 2026 With Front Street SAT	WB	122	5	10.2	0.969	16	0.562	10	400	250
Total 2026 Without Front Street AM	EB	82	3	4.1	0.976	8	0.609	4	200	100
Total 2026 Without Front Street PM	EB	78	3	3.9	0.955	7	0.648	4	175	100
Total 2026 Without Front Street SAT	EB	64	3	3.2	0.955	6	0.603	3	150	75
Total 2026 Without Front Street AM	WB	127	3	6.4	0.971	11	0.550	6	275	150
Total 2026 Without Front Street PM	WB	147	3	7.4	0.963	12	0.547	7	300	175
Total 2026 Without Front Street SAT	WB	99	3	5.0	0.970	9	0.625	5	225	125
Total 2026 Without Front Street AM	EB	82	5	6.8	0.954	11	0.624	7	275	175
Total 2026 Without Front Street PM	EB	78	5	6.5	0.966	11	0.527	6	275	150
Total 2026 Without Front Street SAT	EB	64	5	5.3	0.954	9	0.558	5	225	125
Total 2026 Without Front Street AM	WB	127	5	10.6	0.958	16	0.510	10	400	250
Total 2026 Without Front Street PM	WB	147	5	12.3	0.956	18	0.547	12	450	300
Total 2026 Without Front Street SAT	WB	99	5	8.3	0.958	13	0.558	8	325	200
Total 2045 With Front Street AM	EB	87	3	4.4	0.966	8	0.561	4	200	100
Total 2045 With Front Street PM	EB	89	3	4.5	0.962	8	0.542	4	200	100
Total 2045 With Front Street SAT	EB	68	3	3.4	0.977	7	0.558	3	175	75
Total 2045 With Front Street AM	WB	153	3	7.7	0.952	12	0.503	7	300	175
Total 2045 With Front Street PM	WB	170	3	8.5	0.973	14	0.523	8	350	200
Total 2045 With Front Street SAT	WB	113	3	5.7	0.970	10	0.503	5	250	125
Total 2045 With Front Street AM	EB	87	5	7.3	0.966	12	0.562	7	300	175
Total 2045 With Front Street PM	EB	89	5	7.4	0.960	12	0.537	7	300	175
Total 2045 With Front Street SAT	EB	68	5	5.7	0.970	10	0.501	5	250	125
Total 2045 With Front Street AM	WB	153	5	12.8	0.964	19	0.601	13	475	325
Total 2045 With Front Street PM	WB	170	5	14.2	0.968	21	0.553	14	525	350
Total 2045 With Front Street SAT	WB	113	5	9.4	0.969	15	0.533	9	375	225
Total 2045 Without Front Street AM	EB	81	3	4.1	0.977	8	0.619	4	200	100
Total 2045 Without Front Street PM	EB	74	3	3.7	0.965	7	0.687	4	175	100
Total 2045 Without Front Street SAT	EB	60	3	3.0	0.966	6	0.647	3	150	75
Total 2045 Without Front Street AM	WB	110	3	5.5	0.975	10	0.529	5	250	125
Total 2045 Without Front Street PM	WB	142	3	7.1	0.970	12	0.584	7	300	175
Total 2045 Without Front Street SAT	WB	90	3	4.5	0.960	8	0.532	4	200	100
Total 2045 Without Front Street AM	EB	81	5	6.8	0.957	11	0.636	7	275	175
Total 2045 Without Front Street PM	EB	74	5	6.2	0.950	10	0.580	6	250	150
Total 2045 Without Front Street SAT	EB	60	5	5.0	0.968	9	0.616	5	225	125
Total 2045 Without Front Street AM	WB	110	5	9.2	0.953	14	0.565	9	350	225
Total 2045 Without Front Street PM	WB	142	5	11.8	0.967	18	0.595	12	450	300
Total 2045 Without Front Street SAT	WB	90	5	7.5	0.957	12	0.525	7	300	175
Background 2026 AM	EB	82	3	4.1	0.976	8	0.609	4	200	100
Background 2026 PM	EB	78	3	3.9	0.955	7	0.648	4	175	100
Background 2026 SAT	EB	64	3	3.2	0.955	6	0.603	3	150	75
Background 2026 AM	WB	116	3	5.8	0.965	10	0.638	6	250	150
Background 2026 PM	WB	137	3	6.9	0.953	11	0.621	7	275	175
Background 2026 SAT	WB	93	3	4.7	0.952	8	0.504	4	200	100
Background 2026 AM	EB	82	5	6.8	0.954	11	0.624	7	275	175
Background 2026 PM	EB	78	5	6.5	0.966	11	0.527	6	275	150
Background 2026 SAT	EB	64	5	5.3	0.954	9	0.558	5	225	125
Background 2026 AM	WB	116	5	9.7	0.962	15	0.500	9	375	225
Background 2026 PM	WB	137	5	11.4	0.957	17	0.530	11	425	275
Background 2026 SAT	WB	93	5	7.8	0.973	13	0.627	8	325	200
Background 2045 AM	EB	81	3	4.1	0.977	8	0.619	4	200	100
Background 2045 PM	EB	74	3	3.7	0.965	7	0.687	4	175	100
Background 2045 SAT	EB	60	3	3.0	0.966	6	0.647	3	150	75
Background 2045 AM	WB	102	3	5.1	0.964	9	0.598	5	225	125
Background 2045 PM	WB	128	3	6.4	0.969	11	0.542	6	275	150
Background 2045 SAT	WB	84	3	4.2	0.972	8	0.590	4	200	100
Background 2045 AM	EB	81	5	6.8	0.957	11	0.636	7	275	175
Background 2045 PM	EB	74	5	6.2	0.950	10	0.580	6	250	150
Background 2045 SAT	EB	60	5	5.0	0.968	9	0.616	5	225	125
Background 2045 AM	WB	102	5	8.5	0.973	14	0.523	8	350	200
Background 2045 PM	WB	128	5	10.7	0.955	16	0.500	10	400	250
Background 2045 SAT	WB	84	5	7.0	0.973	12	0.599	7	300	175

Louisville Middle School Travel Map



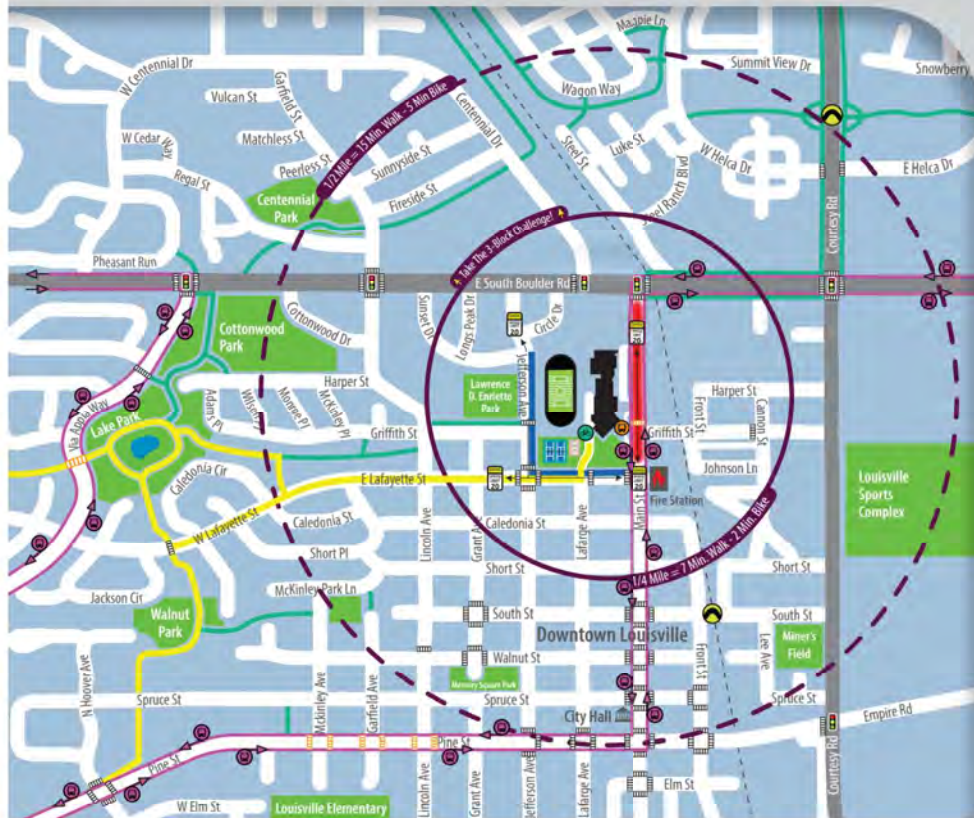
The 3 Block Challenge

Easy As **1** **2** **3**

- High Traffic Congestion & No U-Turns (Avoid)
- Hug n' Go
- Walk & Bike Path (Paved)
- Low-Stress Route
- Crosswalks
- Enhanced Crosswalk
- Rail Road
- Underpass
- Bike Parking
- School Bus Drop Off
- The Dash Bus Stop
- Traffic Light
- School Slow Zone (20mph)
- Louisville Middle School

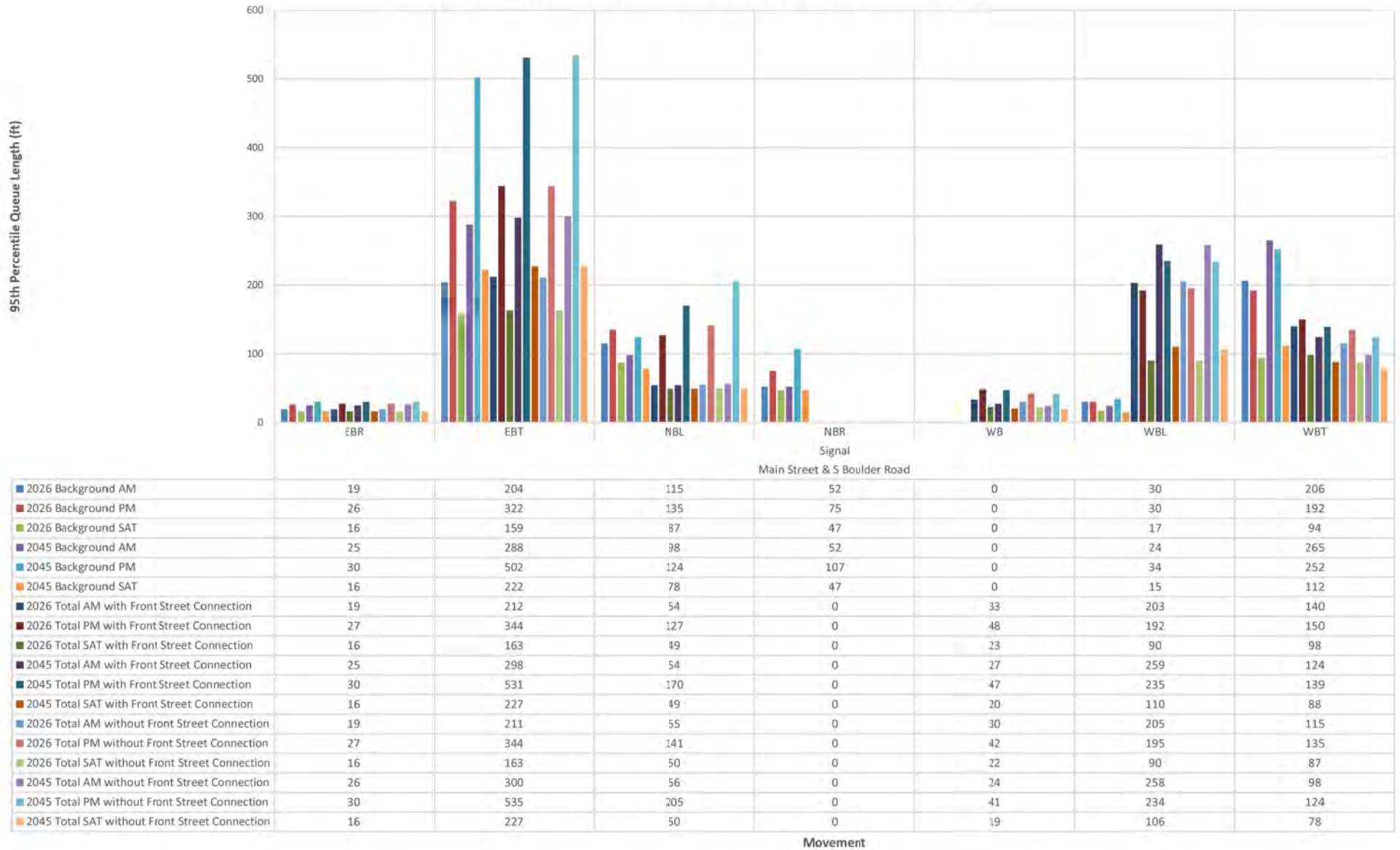


Questions about student transportation?
Email: saferoutes@BVSD.org | Phone: 720-561-5120

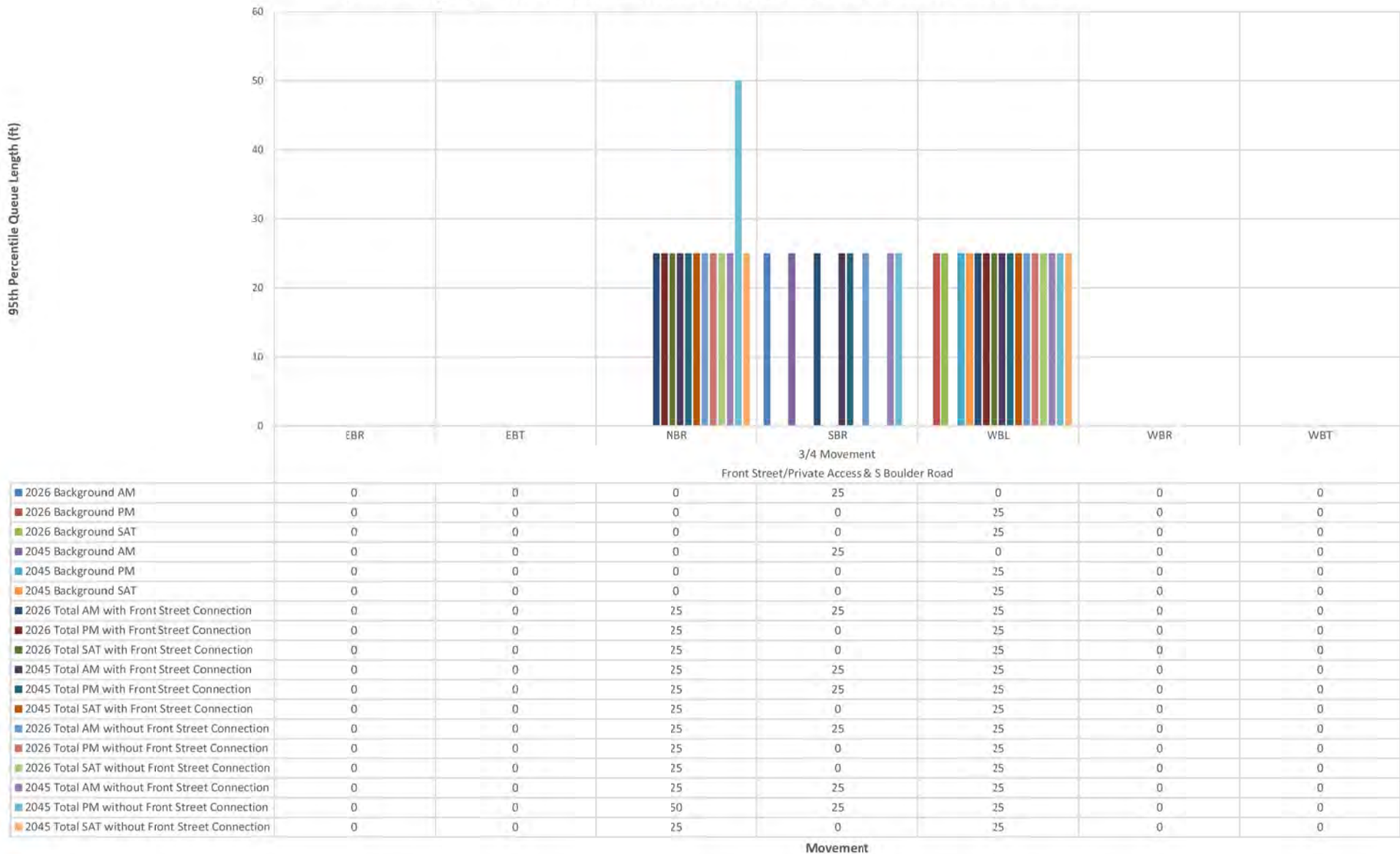


Appendix R: Intersection Queues

Queue Lengths - Intersection 1: Main Street & S Boulder Road

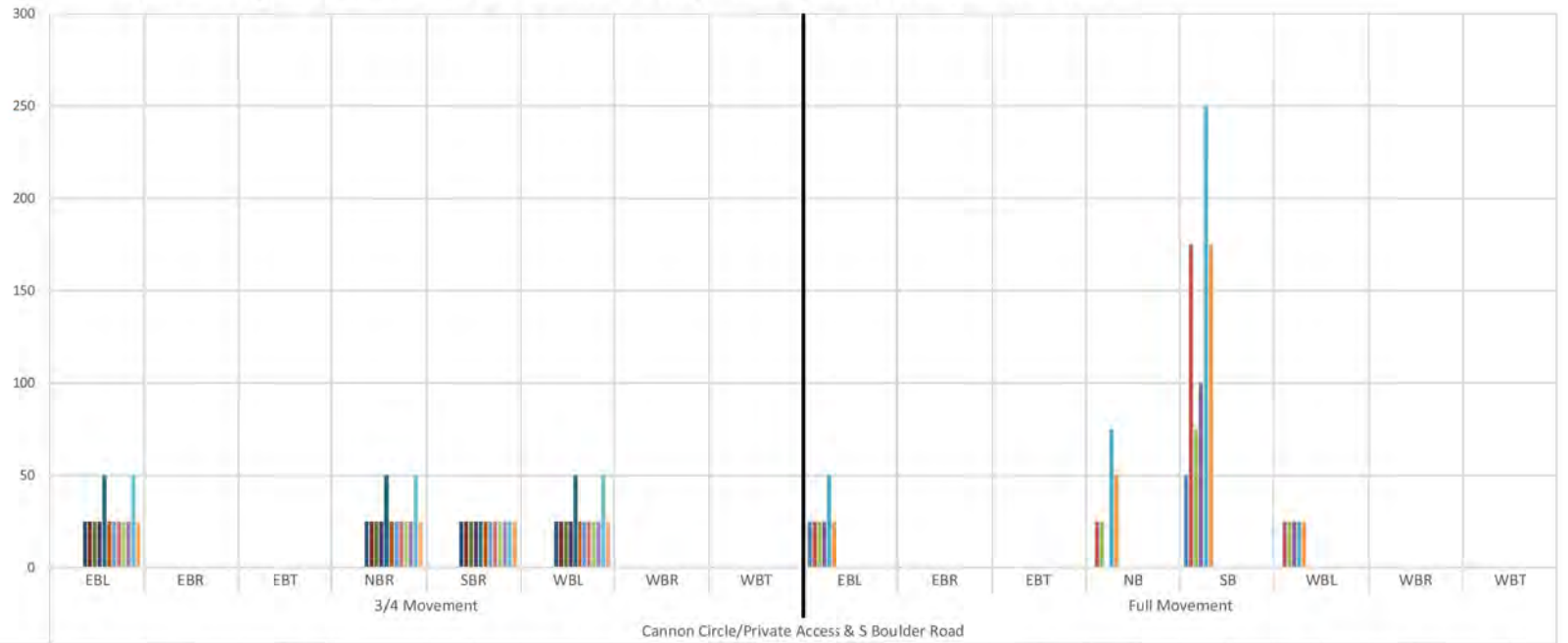


Queue Lengths - Intersection 2: Front Street/Private Access & S Boulder Road



Queue Lengths - Intersection 3: Cannon Circle/Private Access & S Boulder Road

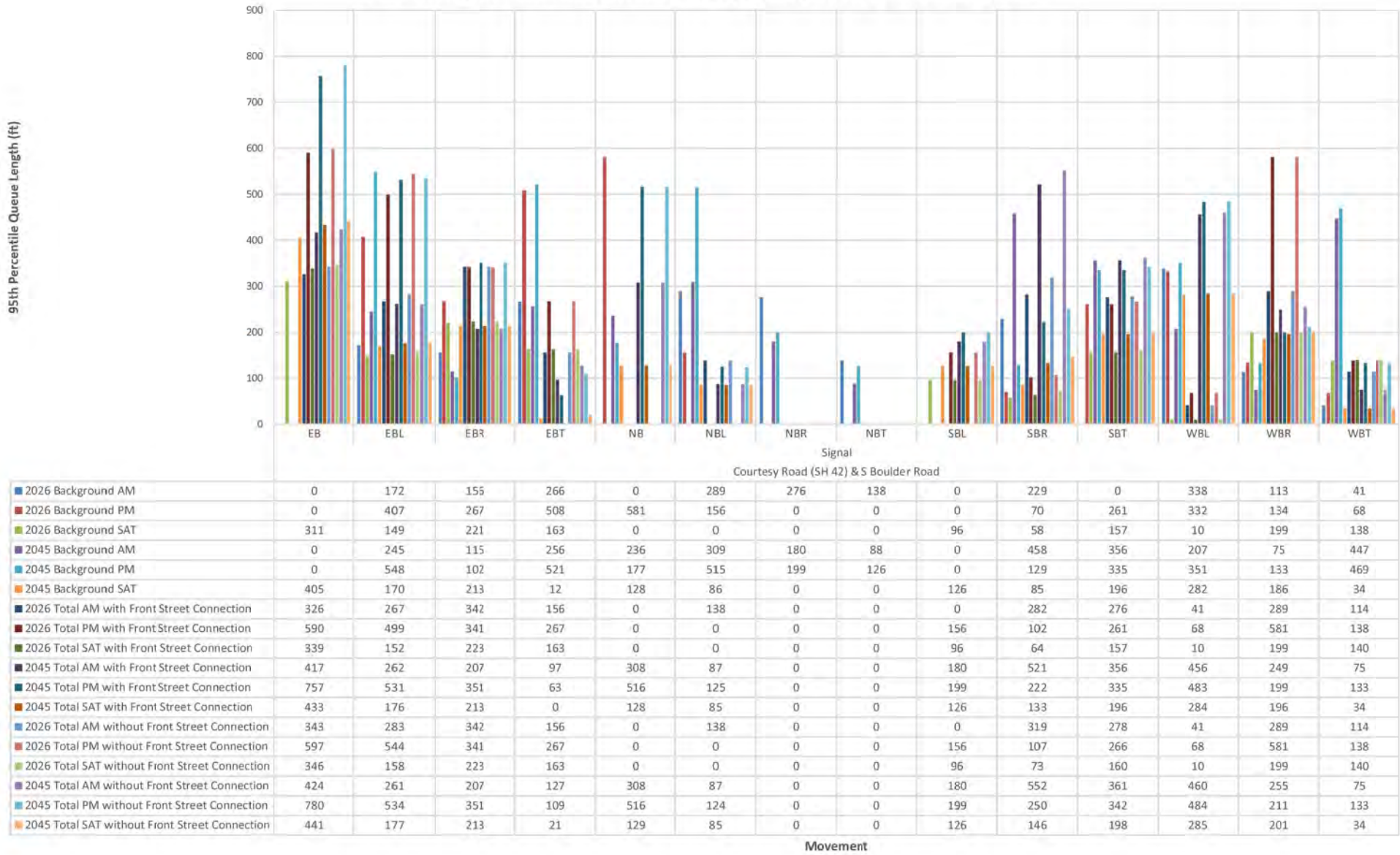
95th Percentile Queue Length (ft)



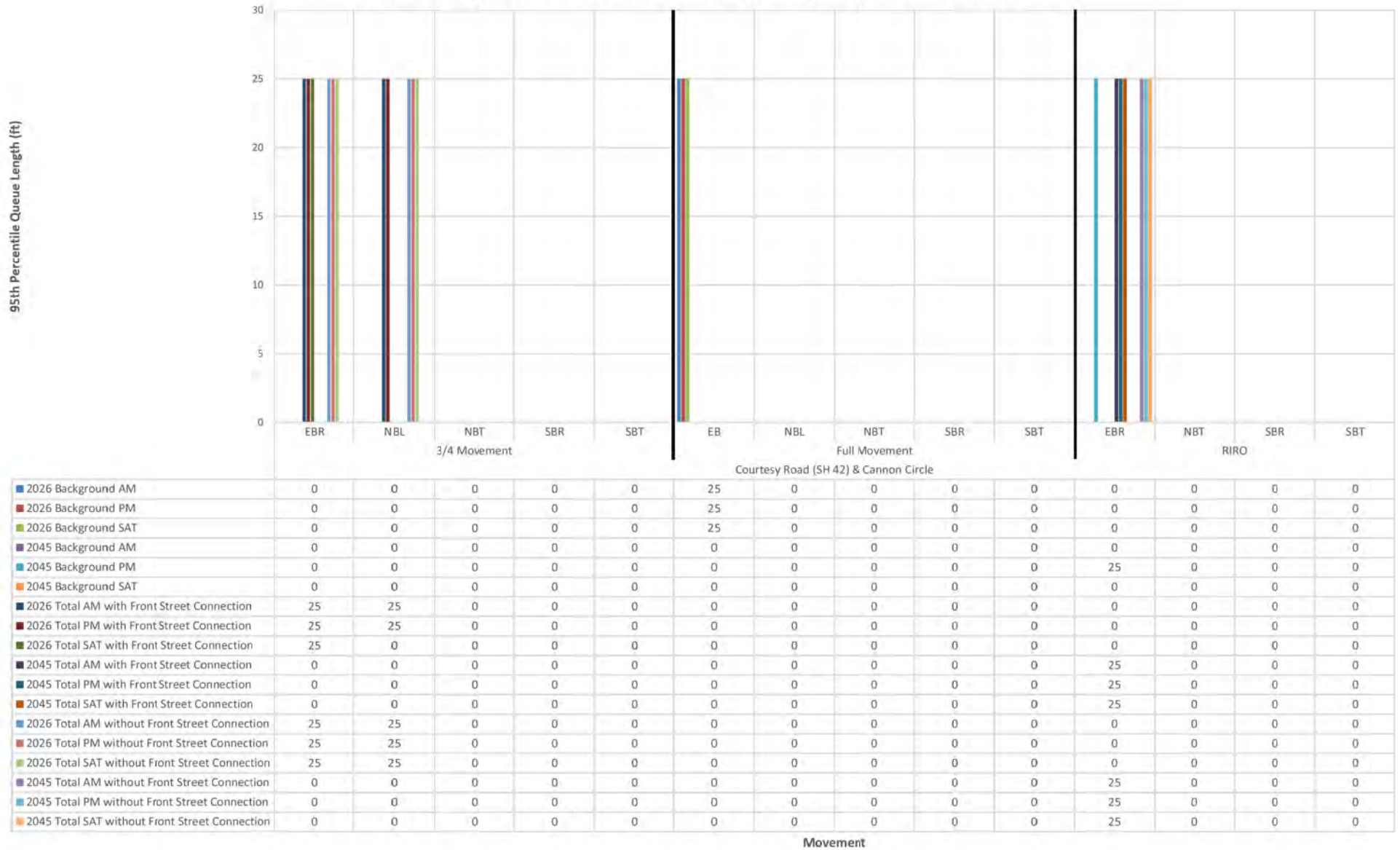
2026 Background AM	0	0	0	0	0	0	0	0	0	25	0	0	0	50	0	0	0
2026 Background PM	0	0	0	0	0	0	0	0	0	25	0	0	25	175	25	0	0
2026 Background SAT	0	0	0	0	0	0	0	0	0	25	0	0	25	75	25	0	0
2045 Background AM	0	0	0	0	0	0	0	0	0	25	0	0	0	100	25	0	0
2045 Background PM	0	0	0	0	0	0	0	0	0	50	0	0	75	250	25	0	0
2045 Background SAT	0	0	0	0	0	0	0	0	0	25	0	0	50	175	25	0	0
2026 Total AM with Front Street Connection	25	0	0	25	25	25	0	0	0	0	0	0	0	0	0	0	0
2026 Total PM with Front Street Connection	25	0	0	25	25	25	0	0	0	0	0	0	0	0	0	0	0
2026 Total SAT with Front Street Connection	25	0	0	25	25	25	0	0	0	0	0	0	0	0	0	0	0
2045 Total AM with Front Street Connection	25	0	0	25	25	25	0	0	0	0	0	0	0	0	0	0	0
2045 Total PM with Front Street Connection	50	0	0	50	25	50	0	0	0	0	0	0	0	0	0	0	0
2045 Total SAT with Front Street Connection	25	0	0	25	25	25	0	0	0	0	0	0	0	0	0	0	0
2026 Total AM without Front Street Connection	25	0	0	25	25	25	0	0	0	0	0	0	0	0	0	0	0
2026 Total PM without Front Street Connection	25	0	0	25	25	25	0	0	0	0	0	0	0	0	0	0	0
2026 Total SAT without Front Street Connection	25	0	0	25	25	25	0	0	0	0	0	0	0	0	0	0	0
2045 Total AM without Front Street Connection	25	0	0	25	25	25	0	0	0	0	0	0	0	0	0	0	0
2045 Total PM without Front Street Connection	50	0	0	50	25	50	0	0	0	0	0	0	0	0	0	0	0
2045 Total SAT without Front Street Connection	25	0	0	25	25	25	0	0	0	0	0	0	0	0	0	0	0

Movement

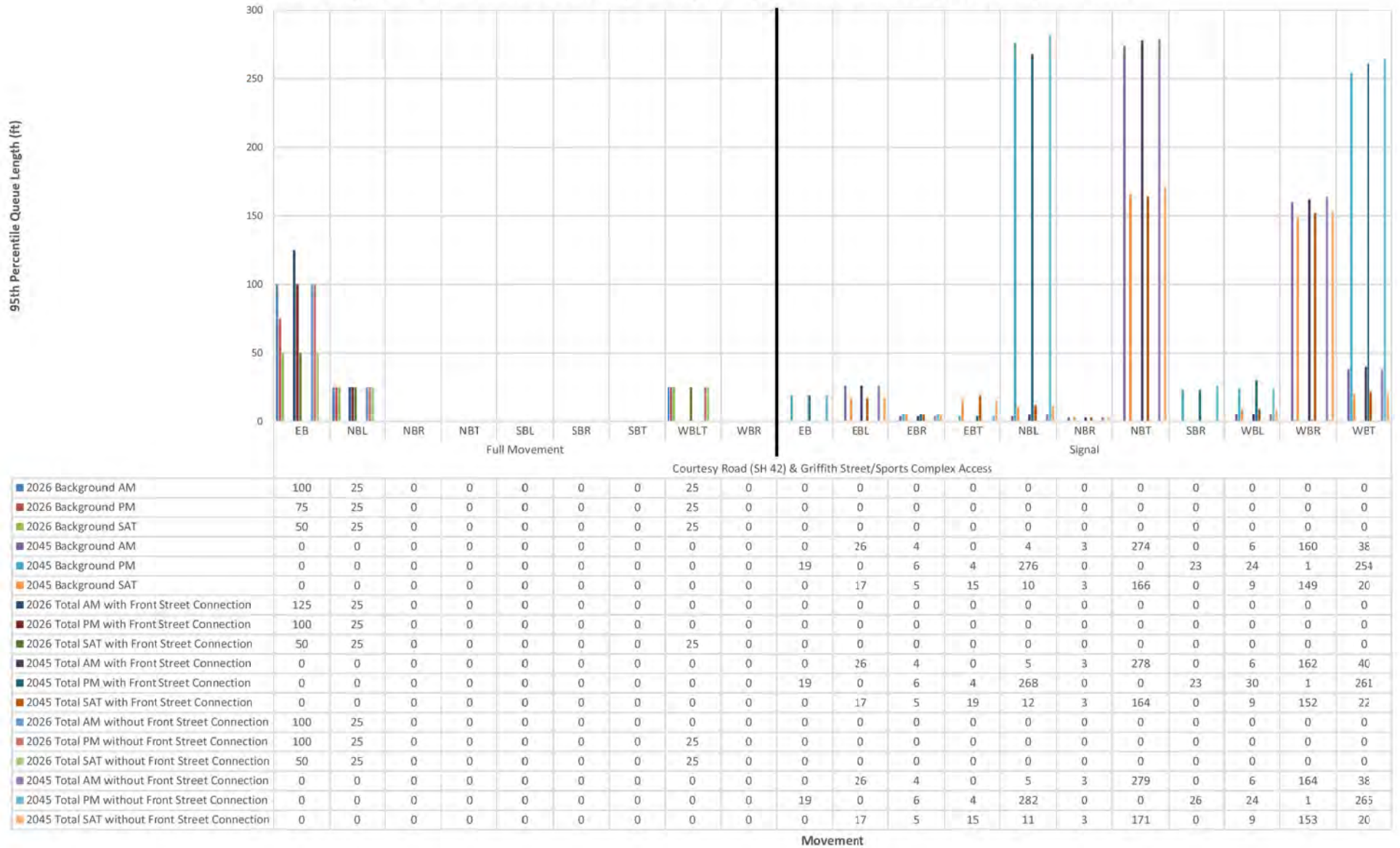
Queue Lengths - Intersection 4: Courtesy Road (SH 42) & S Boulder Road



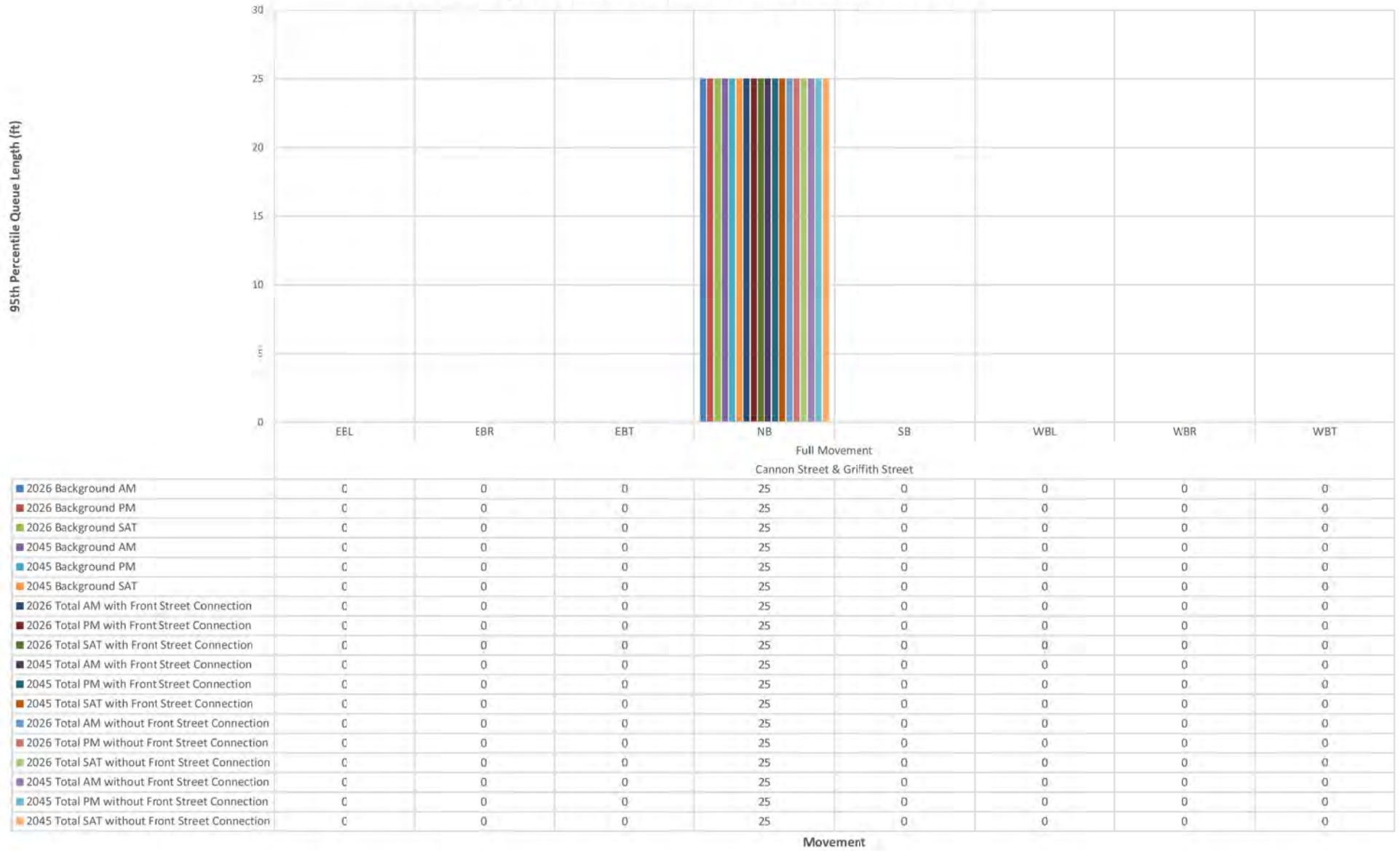
Queue Lengths - Intersection 5: Courtesy Road (SH 42) & Cannon Circle



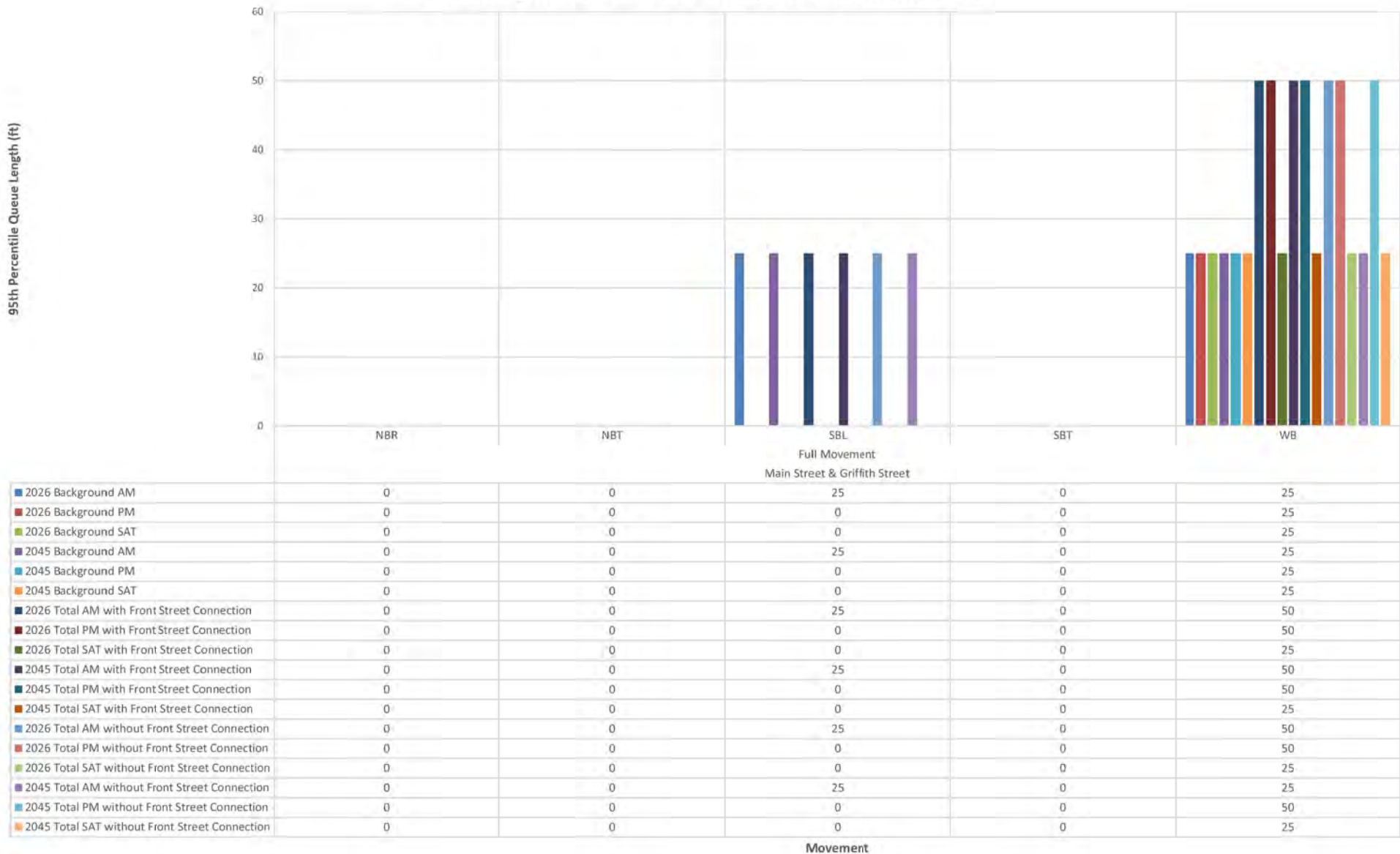
Queue Lengths - Intersection 6: Courtesy Road (SH 42) & Griffith Street/Sports Complex Access



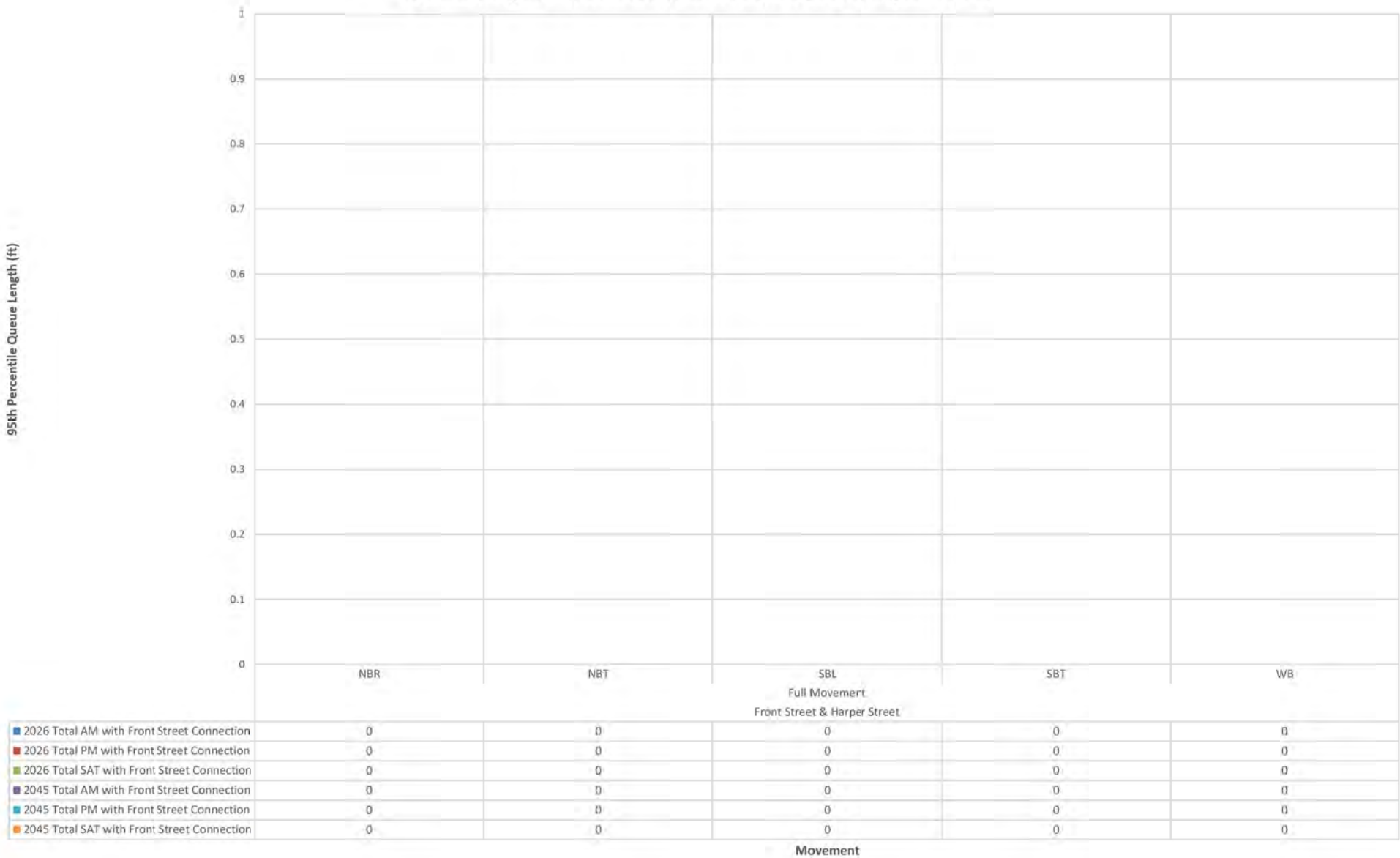
Queue Lengths - Intersection 7: Cannon Street & Griffith Street



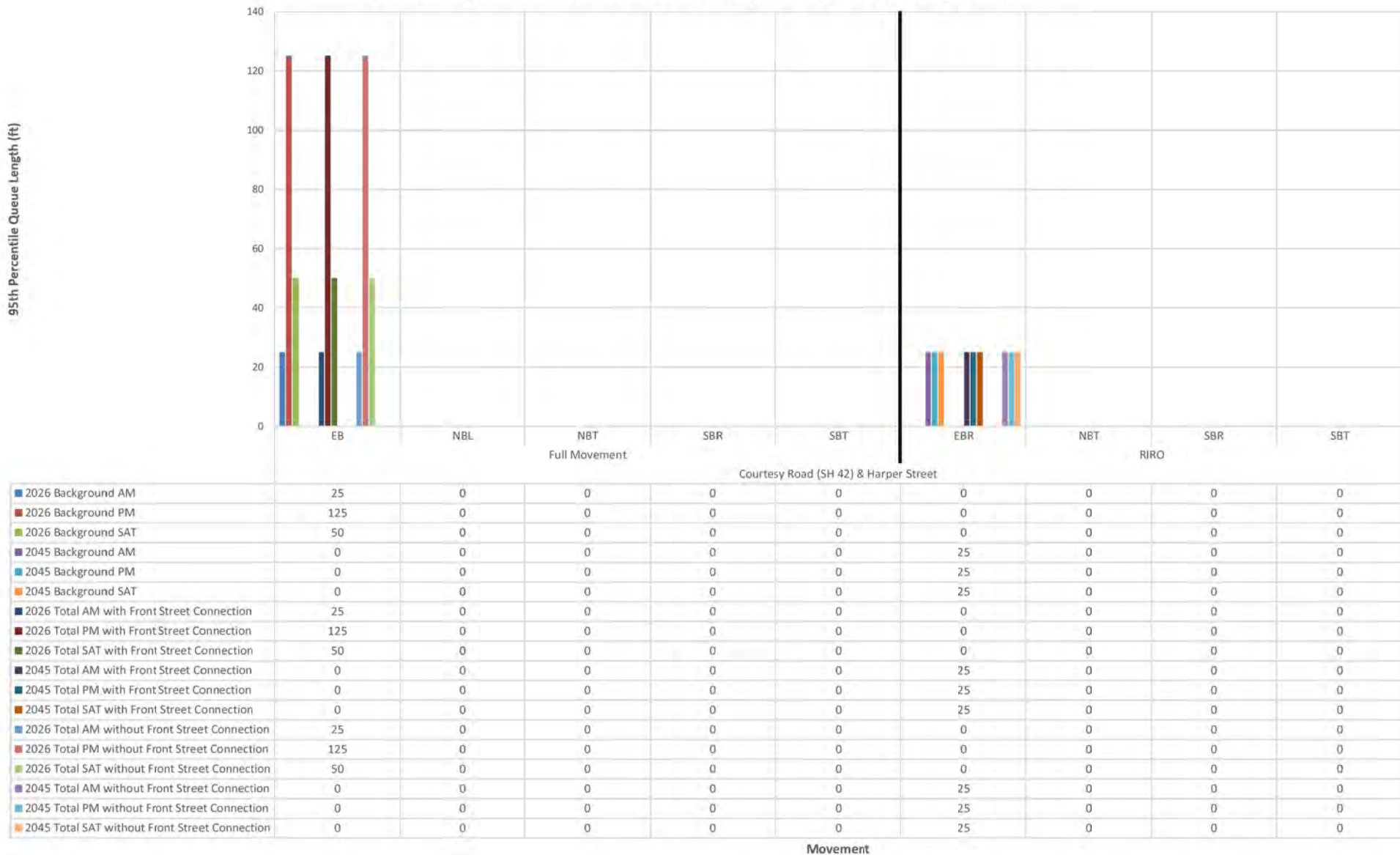
Queue Lengths - Intersection 9: Main Street & Griffith Street

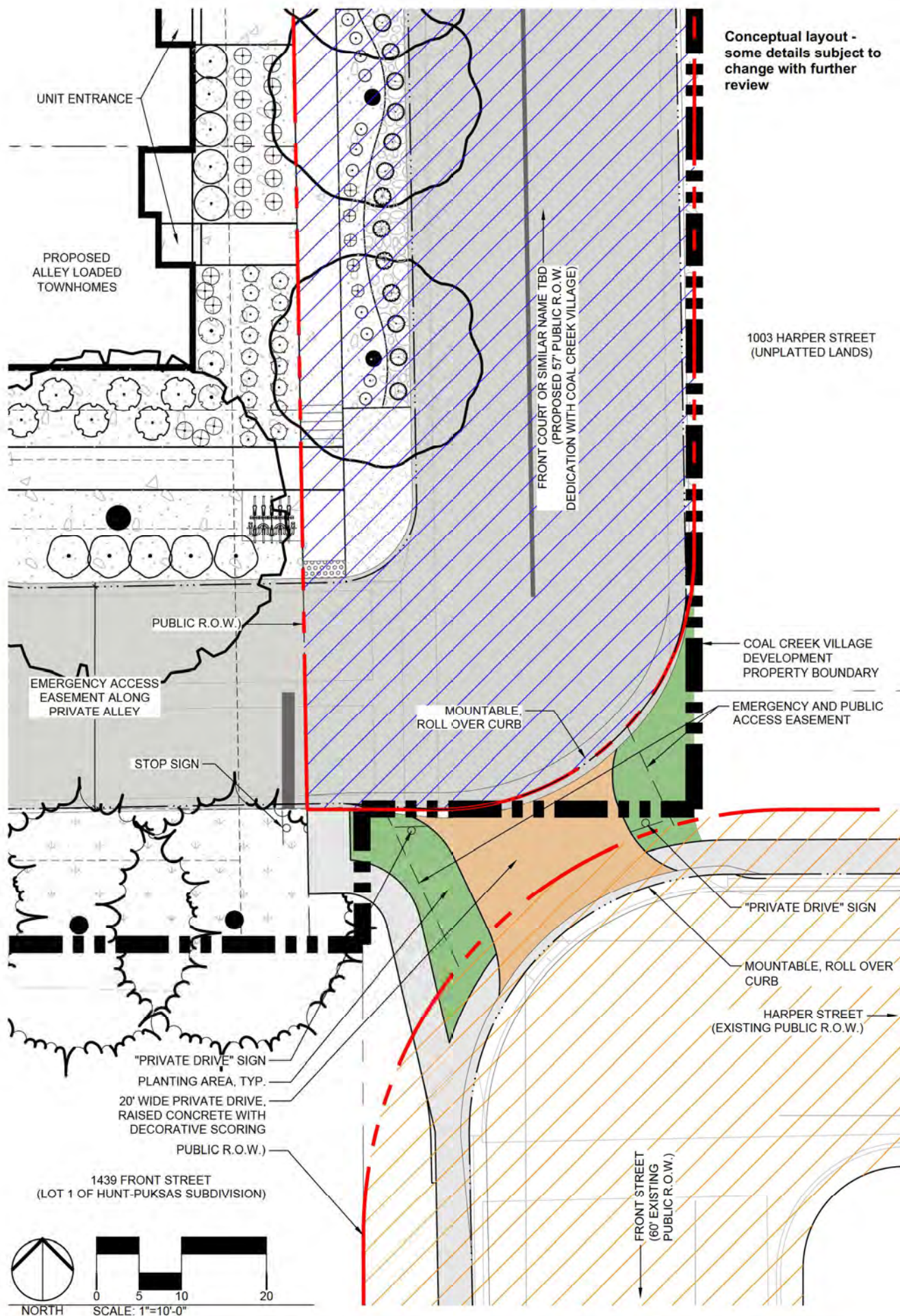


Queue Lengths - Intersection 10: Front Street & Harper Street



Queue Lengths - Intersection 11: Courtesy Road (SH 42) & Harper Street





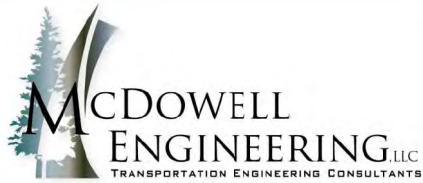
Conceptual layout -
some details subject to
change with further
review



NORTH



SCALE: 1"=10'-0"



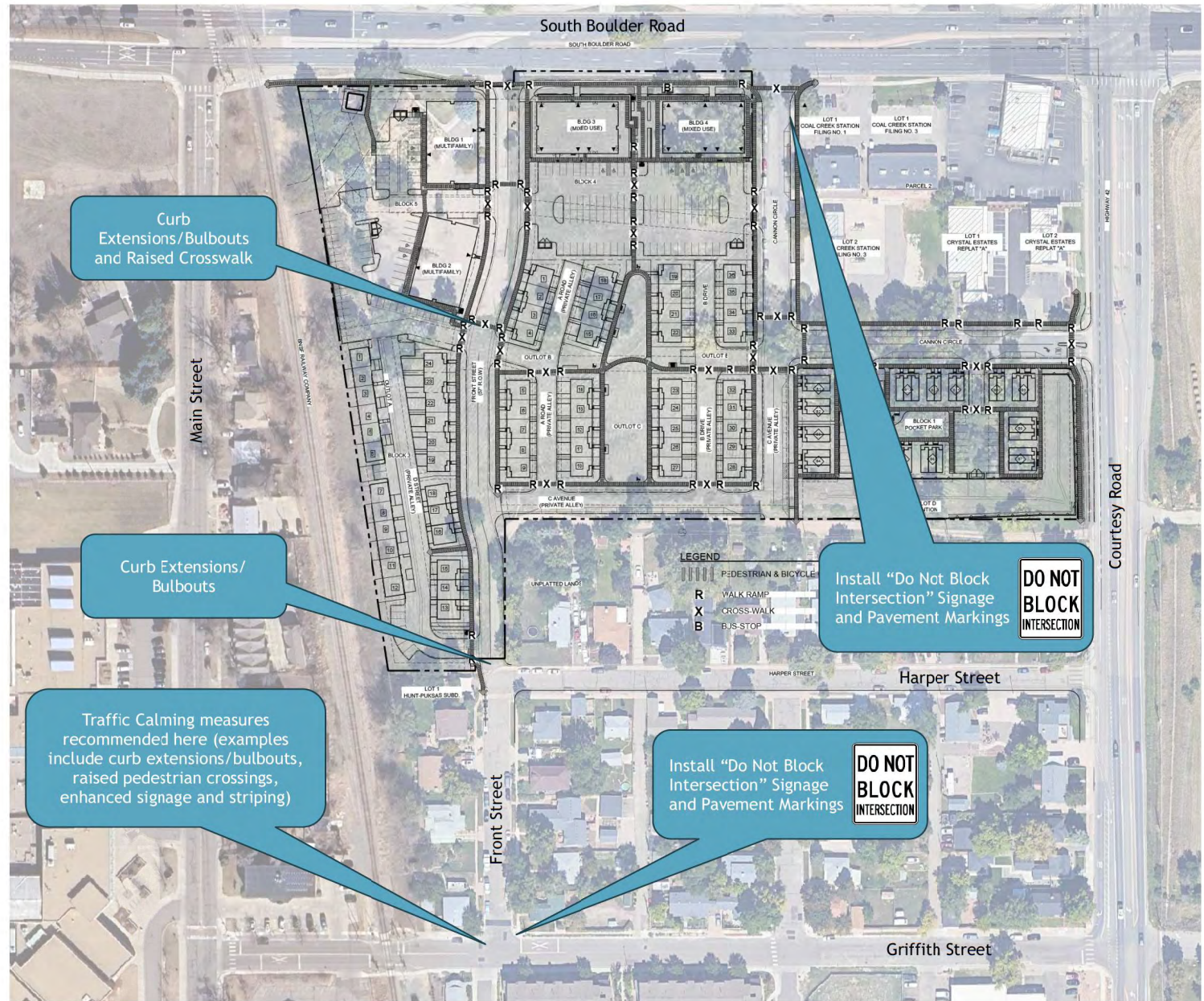
Coal Creek Village

Traffic Calming Concepts

June 3, 2025

Revised July 18, 2025

Revised August 25, 2025



Save Little Italy - Push For Responsible Development of Coal Creek Village



The Issue

Dear Neighbors and Friends,

As residents of Louisville, and especially those of us in the historic Little Italy neighborhood, we welcome thoughtful growth. Development can bring energy and opportunity to our city — and it must also respect existing neighborhoods, schools, and infrastructure.

The current Coal Creek Village plan poses serious concerns that could negatively impact Little Italy, DELO, Louisville Middle School, and the broader community. We are asking the City of Louisville and the developers to slow down, listen, and work with residents to find responsible and creative solutions before approvals move forward.

Quick Overview:

-Traffic & Safety: Don't route 900% more cars down Little Italy's one-block of Front Street and its alley — this is a street where pedestrian traffic, including kids to school is high, that

leads to a parking lot, a train crossing, and into the already unmanageable Middle School traffic. Make reasonable plans for traffic safety, particularly where an emergency evacuation is concerned.

-Neighborhood Character: Protect historic Little Italy's access, safety, and livability by keeping through-traffic out and ensuring fair utility and alleyway improvements. The current Planning Department's focus on densification is working counter to Louisville's values.

-Green Space & Drainage: Require more trees, green or open space, and stormwater management to prevent flooding, preserve neighboring houses, and deal with snow storage. We stand, in this community for parks, open space, trail connectivity, and childrens safe pathways to school.

Expanded Concerns

1. Traffic & Safety on Front Street and the Alley Behind Harper St.

Current city plans route significant traffic through Little Italy — a small, historic block that was never designed for cut-through driving. This is an attempt to solve already deficient road infrastructure that causes traffic delays already.

With 188 units planned (vs. the originally approved 51), this could bring up to 900% more cars directly into a school zone where Louisville Middle School kids walk (no buses provided), and traffic is already messy twice a day. It also greatly increases the risk of disaster in the case of emergency evacuations like the one that came just a few years ago with the Marshall Fire. The gridlock that happened in this area would only be worsened by adding 188 households to evacuate and would in no way be resolved by opening Front Street.

Residents ask that the Front Street and alley connections be limited to emergency vehicles, bikes, and pedestrians only. Other developments in Louisville have had to be retroactively closed to through traffic — let's prevent that mistake here. We also have proposed and discussed various solutions including making the developer's part of Front Street be a non straight street, using the alley access to access both neighborhoods, and requesting the developer to put funds towards solving the Hwy 42/S. Boulder Rd. intersection so that traffic funneling is not necessary. The Planning Department has refused to consider other solutions and has communicated that the Front Street throughway is their only solution.

2. Green Space, Drainage, and Flood Risk

The site is a natural drainage area and contains small wetlands vital to wildlife. The Goodhue Ditch also runs through the property. Current plans increase impermeable

surfaces, creating real flooding risks for Little Italy and Hwy 42. As the developers have yet to show residents the engineering plans for drainage, only have explained that they plan a detention pond, real fears exist around an area of town that already floods in wet conditions.

The proposed alleyway drainage is inadequate and could leave residents and the city with costly long-term problems.

We are asking for modern stormwater design, preserved wetlands, and sufficient green space with mature tree plantings, especially where the development meets existing neighborhoods. One solution the residents have proposed is to put a park in the Southwest corner of the site, which would allow for storm storage, permeable ground, a buffer between the old neighborhood and the new development, and fulfill the land dedication requirement that the city is waiving - their explanation being that historically they've waived these requirements when the previous approval had it waived. This is an example of the city taking a pro developer stance rather than working with or for the residents and working ways that are set, rather than searching for creative solutions to real problems.

3. Preserving Neighborhood Character & Fair Access

Little Italy has relied on its alleyways and property access for over 70 years, and was platted in the late 1800s. Current designs would cut off or narrow this access, creating legal risks (including Adverse Possession claims) and threatening residents' rights. The city claims that they need to create a grid pattern to match the downtown grid of streets, but have failed to note that current infrastructure does not allow nor will ever allow a grid system to exist east of the railroad tracks, where the proposed development site lies. Developers could adjust the plan slightly — removing as few as 4 units — to maintain fair alley access while still achieving their goals. They could also share and improve the alley in use rather than building a new road directly parallel to the current alley. Residents have also proposed this solution as a win-win for both Little Italy and the new development, to no comment from developer or City of Louisville. We also ask for shared infrastructure improvements, including buried utilities, sewer and water upgrades, and neighborhood buffering, so that old and new neighborhoods thrive together. This stems from problems already arising in Little Italy with old systems failing in the recent past. In the least, we feel it is reasonable for a city official who has the knowledge about connecting these two neighborhoods facilities be present at the Planning Commission meeting and that residents get to hear a plan that makes sense.

Our Request

We are not anti-development. We are pro-responsible development. We simply ask that the City of Louisville Planning Commission not approve the Preliminary Plat until:

Traffic cut-throughs into Little Italy are removed or redesigned for safety, and traffic plans around emergency evacuations are developed.

Drainage, snow removal, and green infrastructure are addressed, and

Resident access and neighborhood character are protected.

This is about finding common ground — building a new neighborhood that works with, not against, the ones that are already here.

Please sign to show your support for a safer, greener, and more respectful Coal Creek Village development.

Thank you for standing with your neighbors.

City Council

November 18, 2025 (1st Reading)

COAL CREEK VILLAGE

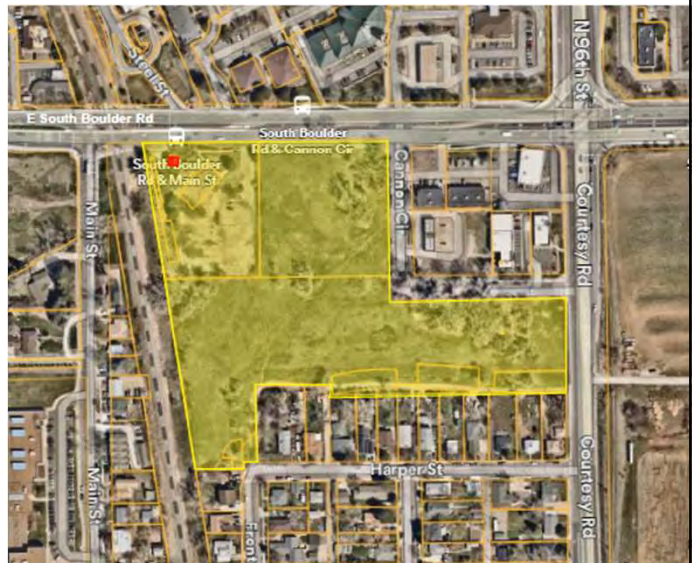
Approval of Ordinance No. 1910, Series 2025, rezoning portions of Caledonia Place Subdivision Plat from CC-MU (Commercial Community – Mixed Use) and R-M (Residential Medium Density) to MU-R (Residential Mixed Use) and Amending Exhibit A, Land Use Exhibit, Referenced in LMC Chapter 17.14.



Presented by Mail Post, AICP, Senior Planner

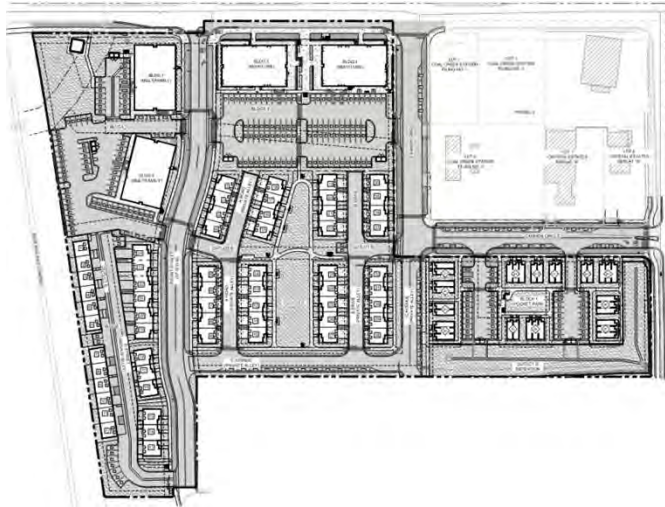
Coal Creek Village

- Planning Commission hearings held on September 12th, 2024 and October 10th, 2024.
- Planning Commission requested a revised Traffic Impact Study (TIS), continued hearing to December 12, 2024.
- Planning Commission hearing held on October 9th, 2025.



Summary: Coal Creek Village

- Approval of a Preliminary PUD and Plat for 188 dwelling units and 13,534 square feet of commercial space on 10.7 acres
- Rezoning from Commercial Community Mixed-Use (CC-MU) and Residential Medium Density (R-M) to Residential Mixed-Use (MU-R)
- Amendment to Land Use Plan, Exhibit A
- Special Review Use to allow multifamily on the ground floor in the MU-R zone district



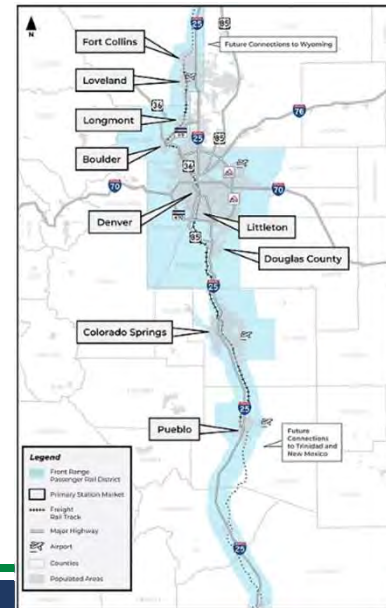
Background: Coal Creek Village

- Located in the Highway 42 Revitalization Area and the Highway 42 Urban Renewal Area.
- In 2013, the property was rezoned from Commercial Business (C-B) to MU-R and CC-MU.
- In 2016, the City Council approved a Final PUD and Plat, known as Coal Creek Station, allowing 51 dwelling units and almost 29,500 square feet of commercial space.
- Applicant did not execute the Final PUD, and eligibility for permit issuance lapsed on May 17, 2019.



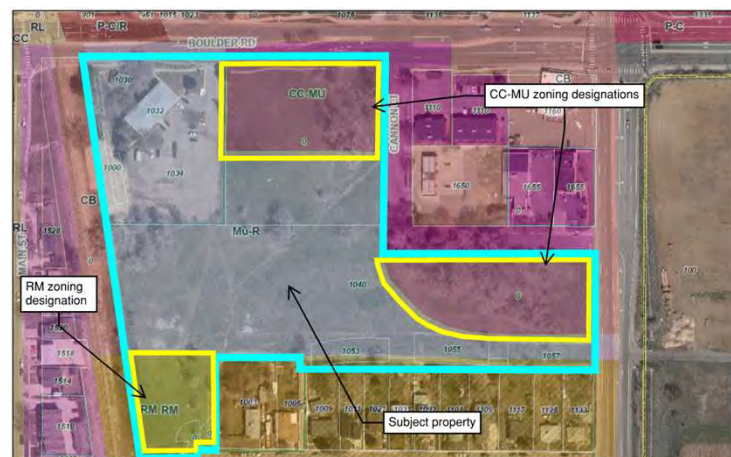
Background: HWY 42 Revitalization Area & Transit

- 2024: RTD completed the *Northwest Rail Peak Service Feasibility Study*, with participation from Louisville and other northwest jurisdictions.
- March 2025: RTD, CDOT, and the Front Range Passenger Rail District (FRPRD) submitted an implementation plan to the State, confirming that shared passenger rail service in the Northwest Corridor is feasible and supported by funding through SB 24-184, SB 24-230, and a federal CRISI grant.
- June 2025: RTD entered into an inter-agency agreement to negotiate track access with BNSF for future passenger rail operations.
- SB 24-184: Establishes a rental vehicle fee to support Northwest Rail implementation
- SB 24-230: Creates a fee on oil and gas production, with a portion dedicated to passenger rail funding.

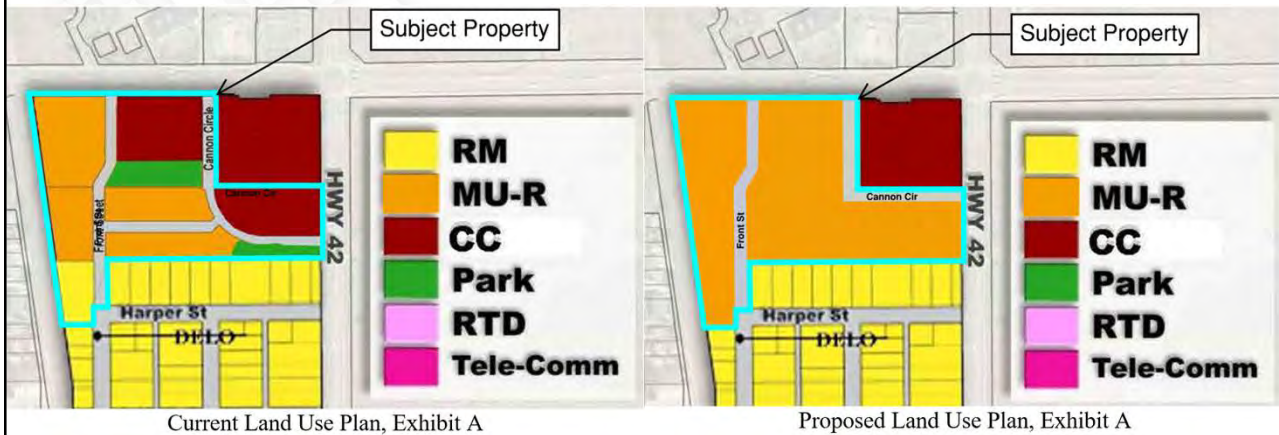


Proposal: Coal Creek Village – Rezoning

- Rezone the northeast and east side of the site from CC-MU to MU-R
- Rezone a southwest portion of the site from R-M to MU-R
- In 2013, the property was rezoned from Commercial Business (C-B) to MU-R and CC-MU.
- This is a discretionary rezone, as the site was already rezoned under the mandatory provision.

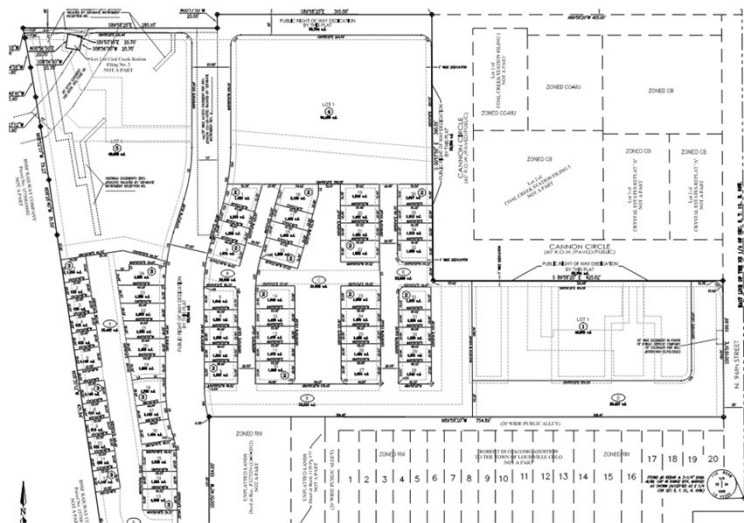


Proposal: Coal Creek Village – Land Use Plan



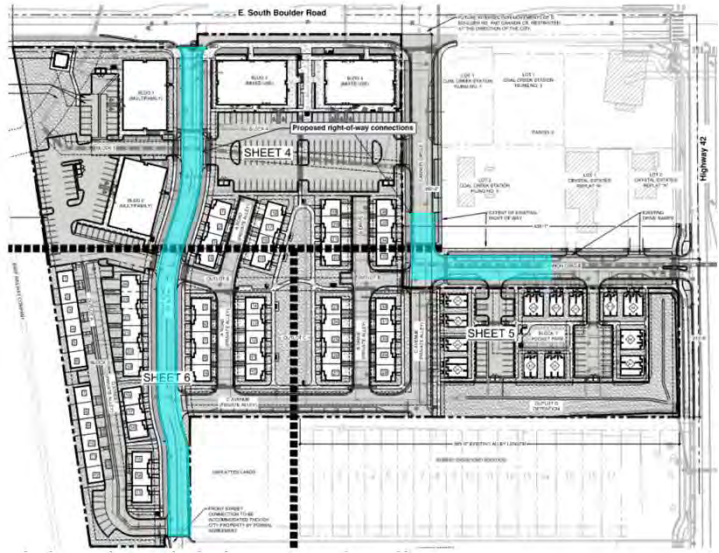
Proposal: Coal Creek Village – Preliminary Plat

- Subdivide the 10.7-acre site
- 60 townhome lots, allowing for the fee-simple sale of those units.
- 4 Outlots will include drainage and detention areas, utility areas, private streets, and open space and parks.
- Two private parks are included totaling 23,258 square feet.
- The City will accept 1.2 acres of right-of-way dedication to allow for the construction of Front Street and Cannon Circle through site.



Proposal: Coal Creek Village – Preliminary PUD

- 60 townhomes, 96 apartments, and 32 “micro” townhome units are proposed.
- Apartments will be in 4 buildings, two mixed-use and two exclusively residential
- 13,534 square feet of commercial space
- Front Street and Cannon Circle will be connected
- Detached sidewalks and tree lawns
- 23,258 square feet of park space
- 316 parking spaces proposed



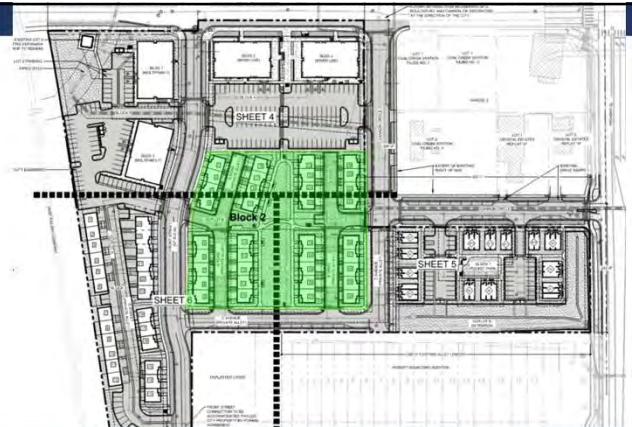
Proposal: Block 1

- 32 “micro” townhomes between 350-400 square feet in size.
- 22 – 25-feet in height.
- Centralized, 2,350 square-foot pocket park
- Applicant states availability at an attainable price point



Proposal: Block 2

- 36 four- and five-unit townhomes
- 40-foot maximum height.
- Centralized, 20,908 square-foot private park



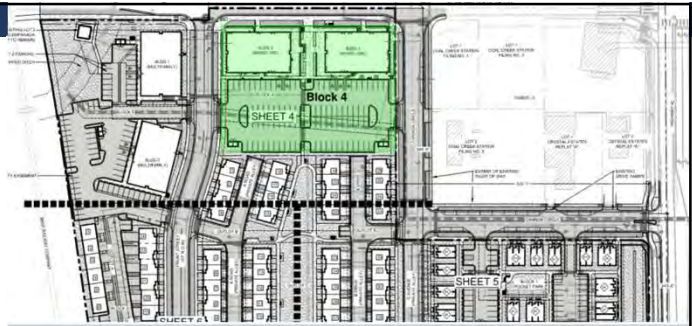
Proposal: Block 3

- 32 three- and six-unit townhomes
- Height restricted units adjacent to Little Italy
- All other units 40 feet in height



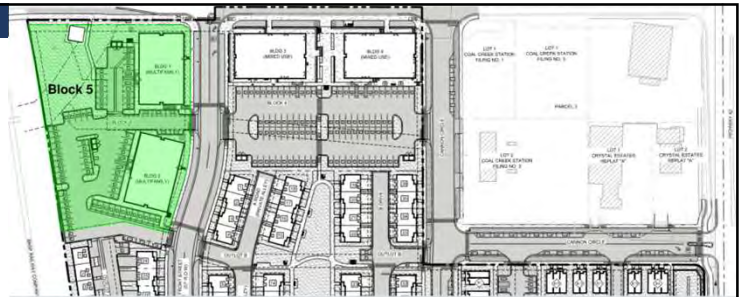
Proposal: Block 4

- Two mixed-use buildings and associated parking
- Ground-floor commercial and multifamily on floors 2 and 3
- Maximum height of 45 feet
- Adjacent to South Boulder Road



Proposal: Block 5

- Two multifamily buildings and associated parking
- Maximum height of 45 feet
- SRU required for ground floor multifamily



Analysis: Coal Creek Village – Rezoning

- LMC Sec. 17.44.050 – Declaration Policy for Rezoning
 - *Policy No. 2 The area for which rezoning is requested has changed or is changing to such a degree that it is in the public interest to encourage a redevelopment of the area;*
- Changed Conditions:
 - Lack of market feasibility for purely commercial uses.
 - Stimulate development of the vacant areas to achieve mixed-use environment on arterial roadway and provide additional housing.

Analysis: Coal Creek Village – Preliminary Plat

- Conforms to LMC Sec. 16.12.075:
 - ✓ Conforms to Title 16 (subdivisions)
 - ✓ Consistent with the Comprehensive Plan
 - ✓ Utility service and circulation proposals meet city standards.
 - ✓ Public Land Dedication satisfied with previous subdivisions.

Analysis: Coal Creek Village – Preliminary PUD

- MUDDSG – block width and length design standards
- MUDDSG – public sidewalk width
- LMC Sec. 17.14.060 – Minimum lot width of 40 feet
- LMC Sec. 17.14.060 – Minimum building coverage of 40%
- LMC Sec. 17.14.060 – 20-foot rear yard setback
- LMC Sec. 17.14.060 – 70% of street facing property lines must contain building



Analysis: Coal Creek Village – Preliminary PUD

- Inclusionary Housing
 - Applicant intends to satisfy the inclusionary housing requirement with on-site units.
 - 12% of units shall be affordable
 - Half shall be provided at or below 60% of AMO
 - Half shall be provided between 60% and 80% AMI
 - Design, size, and materials shall be equivalent to market rate units.

Analysis: Coal Creek Village – SRU

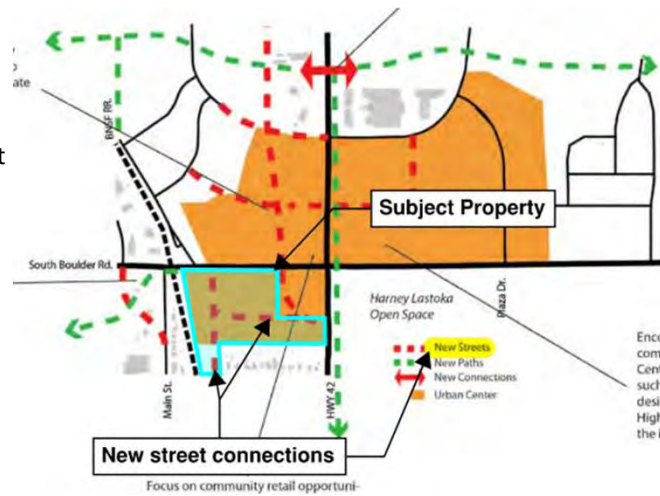
- Comprehensive Plan policies support corridor development pattern consisting of multifamily, mixed-use development.
- Redevelopment of the site will lead to economic stability and in-line with the Highway 42 Revitalization area goals
- The site of the proposed SRU functions efficiently
- External effects are controlled through appropriate lighting, building and site design, and additional road networks.
- Adds pedestrian ways and further improvements along South Boulder Road

Analysis: Coal Creek Village – MUDDSG

- MUDDSG establish standards for site design, circulation, and building form within the MU-R district.
- Street and block layout mirror Downtown Louisville's street network, creating a connected, walkable framework.
- The street connections promote multimodal access, improves circulation and visibility, and supports future connections to surrounding neighborhoods.
- Overall design advances the MUDDSG goal of a cohesive, mixed-use environment.

Analysis: 2013 Comp Plan

- Property lies within the Highway 42 and South Boulder Road Urban Center, designated as an Urban Corridor.
- Comprehensive Plan calls for an interconnected street network, multimodal access, and pedestrian-scaled building design.
- Supports redevelopment with mid- to high-density multifamily and mixed commercial uses.
- Envisions a cohesive, walkable center with new street connections and smaller parcels
- Corridor development type promotes retail, commercial, and multifamily uses that reinforce a connected urban fabric.



Analysis: 2013 Comp Plan Policies

- PRINCIPAL NH-3.1 - Streets shall form an interconnected network (p. 37).
- POLICY NH-3.4 - Diverse housing opportunities shall be available for residents of varying income levels (p. 38).
- PRINCIPLE NH-4 - The character and identity of existing residential neighborhoods should be maintained while allowing for evolution and reinvestment (p. 38).
- POLICY NH-4.7 - Housing should support vibrant retail and commercial centers that serve local residents (p. 38).
- PRINCIPLE NH-5. - There should be a mix of housing types and pricing to meet changing economic, social, and multi-generational needs of those who reside, and would like to reside, in Louisville (p. 38).
- POLICY NH-5.3 - Higher density housing should be located primarily in the centers and corridors of the Framework (p. 38).
- PRINCIPAL ED-3 - The City should be responsive to market opportunities as they occur and maintain and enhance the City's competitive position to attract development that adheres to the Community Vision (p. 38).

Analysis: SBR Small Area Plan

- Designates the site for medium-density residential (10–20 du/ac) and retail/office uses.
- Retail/office uses align with the property's current CC-MU zoning.
- Encourages new street connections, including the **Front Street connection**, to strengthen overall network connectivity and support a walkable mixed-use environment



Analysis: Transportation Plan

- Transportation Plan (2019) (TP)
 - Provides a citywide framework for a safe, efficient, multimodal transportation system.
 - Guides near- and long-term decisions consistent with community values and land use goals.
- Application Consistency with TP Goals:
 - Efficient and Safe Transportation Systems (p. 1.6): Adds vehicular, bicycle, and pedestrian connections that minimize network conflicts.
 - Cohesive and Layered System of Streets and Trails (p. 1.6): Expands multimodal connectivity for walking, biking, and driving.
 - Complete Streets that Enhance Livability (p. 1.7): The Front Street connection improves circulation for all modes with traffic calming and safer pedestrian crossings

Analysis: Housing Plan

- Establishes goals to:
 - Increase opportunities for residential development in appropriate locations
 - Expand and maintain access to affordable housing
 - Diversify housing stock through mixed-use and mixed-income neighborhoods (p. 26)
- Key Actions Supported by This Application:
 - Action 1.1 (p. 31–32): Supports rezoning and redevelopment of underutilized commercial property for additional residential capacity.
 - Action 3.2 (p. 46–47): Expands opportunities for multifamily housing within commercial zones.
 - Housing Needs Assessment (p. 2): Advances goal to diversify Louisville’s housing stock to meet future demand.

Analysis: Traffic Impact Study

- Updated TIS includes new counts, expanded intersection analysis, and long-term conditions with and without the Front Street connection.
- Results show the development integrates safely and efficiently into the roadway network **with** the Front Street connection.
- The Front Street connection provides:
 - Improved circulation and traffic distribution
 - Transportation redundancy and network resilience
 - Safer, more efficient operations consistent with City and regional planning efforts
- **Staff find the connection essential to maintaining acceptable traffic conditions and network compatibly.**

Table 11: Anticipated Front Street Traffic Volumes with and without the Connection between South Boulder Road and Griffith Street

Scenario	Traffic Volume in vph (vehicle trips per hour)			Time between vehicles (average gap time)		
	AM	PM	SAT	AM	PM	SAT
Total 2045 With Front St Connection	79 vph	93 vph	67 vph	1 car every 45 seconds	1 car every 38 seconds	1 car every 53 seconds
Total 2045 Without Front St Connection	9 vph	13 vph	13 vph	1 car every 400 seconds (6.5 minutes)	1 car every 276 seconds (4.6 minutes)	1 car every 276 seconds (4.6 minutes)

Table 9: Total Traffic LOS (with the Front Street Connection)

#	Intersection	Traffic Control	Approach	Year 2026 Total with Front Street Level of Service (Delay in Seconds)			Year 2045 Total with Front Street Level of Service (Delay in Seconds)		
				AM	PM	SAT	AM	PM	SAT
				EB	WB	NB	EB	WB	NB
1	South Boulder Road & Main Street	Signal	EB	A (2.7)	A (2.0)	A (2.0)	A (2.7)	A (2.7)	A (2.7)
			WB	A (1.4)	A (2.5)	A (2.5)	A (1.4)	A (2.5)	A (2.5)
			NB	A (2.2)	A (2.4)	A (2.4)	A (2.2)	A (2.4)	A (2.4)
			SB	A (2.5)	A (2.5)	A (2.5)	A (2.5)	A (2.5)	A (2.5)
2	South Boulder Road & Front Street	Signal	EB	A (2.7)	A (2.0)	A (2.0)	A (2.7)	A (2.7)	A (2.7)
			WB	A (1.4)	A (2.5)	A (2.5)	A (1.4)	A (2.5)	A (2.5)
			NB	A (2.2)	A (2.4)	A (2.4)	A (2.2)	A (2.4)	A (2.4)
			SB	A (2.5)	A (2.5)	A (2.5)	A (2.5)	A (2.5)	A (2.5)
3	South Boulder Road & Cannon Circle	Signal	EB	A (2.7)	A (2.0)	A (2.0)	A (2.7)	A (2.7)	A (2.7)
			WB	A (1.4)	A (2.5)	A (2.5)	A (1.4)	A (2.5)	A (2.5)
			NB	A (2.2)	A (2.4)	A (2.4)	A (2.2)	A (2.4)	A (2.4)
			SB	A (2.5)	A (2.5)	A (2.5)	A (2.5)	A (2.5)	A (2.5)
4	SH 42 (Courtney Road) & South Boulder Road	Signal	EB	A (2.7)	A (2.0)	A (2.0)	A (2.7)	A (2.7)	A (2.7)
			WB	A (1.4)	A (2.5)	A (2.5)	A (1.4)	A (2.5)	A (2.5)
			NB	A (2.2)	A (2.4)	A (2.4)	A (2.2)	A (2.4)	A (2.4)
			SB	A (2.5)	A (2.5)	A (2.5)	A (2.5)	A (2.5)	A (2.5)
5	SH 42 (Courtney Rd) & Cannon Circle	Signal	EB	A (2.7)	A (2.0)	A (2.0)	A (2.7)	A (2.7)	A (2.7)
			WB	A (1.4)	A (2.5)	A (2.5)	A (1.4)	A (2.5)	A (2.5)
			NB	A (2.2)	A (2.4)	A (2.4)	A (2.2)	A (2.4)	A (2.4)
			SB	A (2.5)	A (2.5)	A (2.5)	A (2.5)	A (2.5)	A (2.5)
6	SH 42 (Courtney Road) & Griffith Street	Signal	EB	A (2.7)	A (2.0)	A (2.0)	A (2.7)	A (2.7)	A (2.7)
			WB	A (1.4)	A (2.5)	A (2.5)	A (1.4)	A (2.5)	A (2.5)
			NB	A (2.2)	A (2.4)	A (2.4)	A (2.2)	A (2.4)	A (2.4)
			SB	A (2.5)	A (2.5)	A (2.5)	A (2.5)	A (2.5)	A (2.5)
7	Griffith Street & Cannon Circle	Signal	EB	A (2.7)	A (2.0)	A (2.0)	A (2.7)	A (2.7)	A (2.7)
			WB	A (1.4)	A (2.5)	A (2.5)	A (1.4)	A (2.5)	A (2.5)
			NB	A (2.2)	A (2.4)	A (2.4)	A (2.2)	A (2.4)	A (2.4)
			SB	A (2.5)	A (2.5)	A (2.5)	A (2.5)	A (2.5)	A (2.5)
8	Griffith Street & Front Street	Signal	EB	A (2.7)	A (2.0)	A (2.0)	A (2.7)	A (2.7)	A (2.7)
			WB	A (1.4)	A (2.5)	A (2.5)	A (1.4)	A (2.5)	A (2.5)
			NB	A (2.2)	A (2.4)	A (2.4)	A (2.2)	A (2.4)	A (2.4)
			SB	A (2.5)	A (2.5)	A (2.5)	A (2.5)	A (2.5)	A (2.5)
9	Griffith Street & Main Street	Signal	EB	A (2.7)	A (2.0)	A (2.0)	A (2.7)	A (2.7)	A (2.7)
			WB	A (1.4)	A (2.5)	A (2.5)	A (1.4)	A (2.5)	A (2.5)
			NB	A (2.2)	A (2.4)	A (2.4)	A (2.2)	A (2.4)	A (2.4)
			SB	A (2.5)	A (2.5)	A (2.5)	A (2.5)	A (2.5)	A (2.5)
10	Harper Street & Front Street	Signal	EB	A (2.7)	A (2.0)	A (2.0)	A (2.7)	A (2.7)	A (2.7)
			WB	A (1.4)	A (2.5)	A (2.5)	A (1.4)	A (2.5)	A (2.5)
			NB	A (2.2)	A (2.4)	A (2.4)	A (2.2)	A (2.4)	A (2.4)
			SB	A (2.5)	A (2.5)	A (2.5)	A (2.5)	A (2.5)	A (2.5)
11	SH 42 (Courtney Rd) & Harper Street	Signal	EB	A (2.7)	A (2.0)	A (2.0)	A (2.7)	A (2.7)	A (2.7)
			WB	A (1.4)	A (2.5)	A (2.5)	A (1.4)	A (2.5)	A (2.5)
			NB	A (2.2)	A (2.4)	A (2.4)	A (2.2)	A (2.4)	A (2.4)
			SB	A (2.5)	A (2.5)	A (2.5)	A (2.5)	A (2.5)	A (2.5)

Recommendation: Coal Creek Village

Staff recommend approval of an Ordinance No. 1910, Series 2025, rezoning portions of Caledonia Place Subdivision Plat from CC-MU (Commercial Community – Mixed Use) and R-M (Residential Medium Density) to MU-R (Residential Mixed Use) and Amending Exhibit A, Land Use Exhibit, Referenced in LMC Chapter 17.14.

Second Reading and Public Hearing on January 6th, 2026

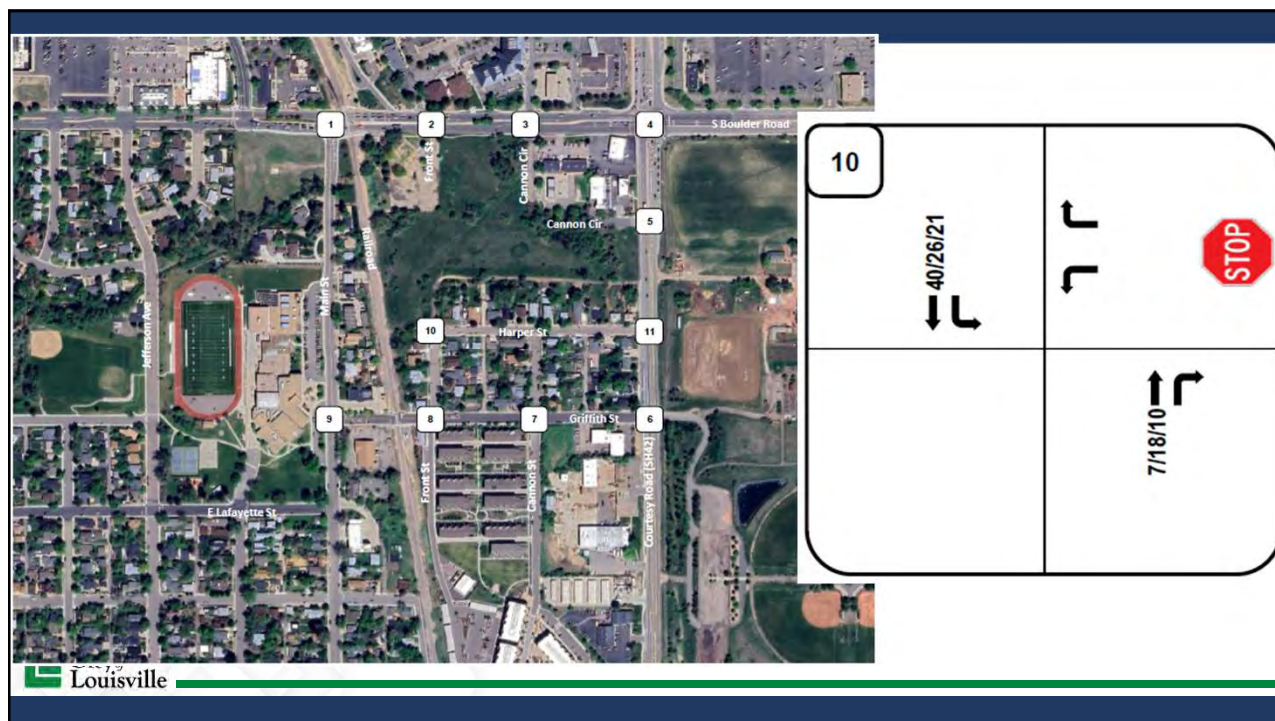


Table 5: Background Traffic Level of Service													
#	Intersection	Traffic Control	Approach	Year 2026 Background Level of Service (Delay in Seconds)					Year 2045 Background Level of Service (Delay in Seconds)				
				AM		PM		SAT	AM		PM		SAT
				P1	P2	P1	P2		P1	P2	P1	P2	
1	South Boulder Road & Main Street	Signal	EB1	A(15)	A(25)	A(25)	A(25)	A(25)	B(30)	B(30)	A(20)	A(20)	
			EBR	A(15)	A(24)	A(24)	A(24)	A(24)	A(13)	A(13)	A(19)	A(19)	
			WB1	A(15)	A(14)	A(14)	A(14)	A(15)	A(15)	A(15)	A(15)		
			WBR	A(15)	A(13)	A(13)	A(13)	A(15)	A(15)	A(15)	A(15)		
			SB	D(55)	D(53)	D(53)	D(53)	D(53)	D(53)	D(53)	D(53)		
2	South Boulder Road & Front Street	N/SB Stop	NB1	B(13)	B(15)	B(14)	B(14)	B(14)	C(20)	C(20)	B(15)	B(15)	
			WB1	C(15)	C(14)	C(14)	C(12)	C(20)	C(20)	C(20)	C(20)		
			NB	C(15)	C(15)	C(15)	C(15)	C(15)	C(15)	C(15)	C(15)		
			WB	C(15)	C(13)	C(13)	C(12)	C(15)	C(15)	C(15)	C(15)		
			EB	C(16)	C(16)	B(12)	C(12)	C(18)	C(18)	C(15)	C(15)		
3	South Boulder Road & Cannon Circle	N/SB Stop	WB1	B(10)	B(16)	B(10)	B(12)	B(12)	C(23)	C(23)	B(16)	B(16)	
			NB	B(12)	C(17)	C(17)	C(17)	C(18)	C(18)	C(18)	C(18)		
			WB	C(15)	C(13)	C(13)	C(12)	C(15)	C(15)	C(15)	C(15)		
			EB	C(15)	C(15)	C(15)	C(15)	C(15)	C(15)	C(15)	C(15)		
			EB1	D(55)	F(121)	F(121)	F(121)	F(121)	F(121)	F(121)	F(121)		
4	SH 42 (Courtney Road) & South Boulder Road	Signal	EBT	C(20)	C(46)	C(24)	C(24)	C(24)	D(41)	F(7)	C(25)	B(8)	
			EBR	C(16)	C(46)	C(24)	C(24)	C(24)	C(17)	C(17)	C(17)		
			WB1	A(15)	A(29)	A(29)	A(29)	A(29)	A(15)	A(15)	A(15)		
			WBR	A(16)	A(27)	A(27)	A(27)	A(27)	A(14)	A(14)	A(14)		
			NB1	A(16)	A(29)	A(29)	A(29)	A(29)	A(15)	A(15)	A(15)		
5	SH 42 (Courtney Road) & Griffin Street	EB/SB Stop	NB1	D(50)	F(124)	F(124)	F(124)	F(124)	D(48)	D(48)	D(48)		
			NBT	D(50)	F(124)	F(124)	F(124)	F(124)	D(48)	D(48)	D(48)		
			WB1	C(16)	C(16)	C(16)	C(16)	C(16)	C(16)	C(16)	C(16)		
			WBR	C(16)	C(16)	C(16)	C(16)	C(16)	C(16)	C(16)	C(16)		
			SB	C(16)	C(16)	C(16)	C(16)	C(16)	C(16)	C(16)	C(16)		
6	SH 42 (Courtney Road) & Griffin Street	Signal	EB1	A(15)	A(25)	A(25)	A(25)	A(25)	B(30)	B(30)	A(20)	A(20)	
			EBR	A(15)	A(24)	A(24)	A(24)	A(24)	A(13)	A(13)	A(19)	A(19)	
			WB1	A(15)	A(14)	A(14)	A(14)	A(15)	A(15)	A(15)	A(15)		
			WBR	A(15)	A(13)	A(13)	A(13)	A(15)	A(15)	A(15)	A(15)		
			SB	D(55)	D(53)	D(53)	D(53)	D(53)	D(53)	D(53)	D(53)		
7	Griffin Street & Cannon Street	N/SB Stop	NB1	B(13)	B(15)	B(14)	B(14)	B(14)	C(20)	C(20)	B(15)	B(15)	
			WB1	C(15)	C(14)	C(14)	C(12)	C(20)	C(20)	C(20)	C(20)		
			NB	C(15)	C(15)	C(15)	C(15)	C(15)	C(15)	C(15)	C(15)		
			WB	C(15)	C(13)	C(13)	C(12)	C(15)	C(15)	C(15)	C(15)		
			EB	C(16)	C(16)	B(12)	C(12)	C(18)	C(18)	C(15)	C(15)		
8	Griffin Street & Front Street	N/SB Stop	NB1	B(13)	B(15)	B(14)	B(14)	B(14)	C(20)	C(20)	B(15)	B(15)	
			WB1	C(15)	C(14)	C(14)	C(12)	C(20)	C(20)	C(20)	C(20)		
			NB	C(15)	C(15)	C(15)	C(15)	C(15)	C(15)	C(15)	C(15)		
			WB	C(15)	C(13)	C(13)	C(12)	C(15)	C(15)	C(15)	C(15)		
			EB	C(16)	C(16)	B							
9	Harper Street & Main Street	WB Stop	WB	A(13)	A(6)	A(6)	A(9)	A(12)	A(10)	A(7)	A(7)		
			WB										
			WB										
			WB										
			WB										
10	SH 42 (Courtney Road) & Harper Street	EB Stop	NB1	D(33)	D(10)	F(60)	B(14)	F(7)	C(28)	B(29)			
			NB1										
			NB1										
			NB1										
			NB1										

Table 9: Total Traffic LOS (with the Front Street Connection)													
#	Intersection	Traffic Control	Approach	Year 2026 Total with Front Street Level of Service (Delay in Seconds)				Year 2045 Total with Front Street Level of Service (Delay in Seconds)					
				AM		PM		SAT		AM		PM	
				WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
1	South Boulder Road Main Street	Signal	N/SB	WB	A-70	A-71	A-70	A-70	A-64	A-63	A-71	A-71	
				EB	A-64	A-72	A-72	A-72	A-72	A-72	A-72		
				NB	A-71	A-70	A-70	A-70	A-70	A-70	A-70		
				WB	A-68	A-62	A-70	A-70	A-67	A-67	A-70		
2	South Boulder Road and Front Street	N/SB	N/SB	WB	A-64	A-68	A-68	A-64	A-63	A-62	A-63		
				EB	B-70	B-70	B-70	B-70	B-70	B-70			
				NB	B-70	B-70	B-70	B-70	B-70	B-70			
				WB	B-70	B-70	B-70	B-70	B-70	B-70			
3	Canon Circle	N/SB	Stop	WB	C-12	C-13	C-13	C-13	C-13	C-13	C-13		
				EB	C-13	C-13	C-13	C-13	C-13	C-13			
				NB	C-13	C-13	C-13	C-13	C-13	C-13			
				WB	C-13	C-13	C-13	C-13	C-13	C-13			
4	SH 42 (Courtney Road) and South Boulder Road	Signal	N/SB	WB	A-65	A-65	A-65	A-65	A-65	A-65	A-65		
				EB	A-65	A-65	A-65	A-65	A-65	A-65			
				NB	A-65	A-65	A-65	A-65	A-65	A-65			
				WB	A-65	A-65	A-65	A-65	A-65	A-65			
5	SH 42 (Courtney Rd) and Canon Circle	EB/Stop	N/SB	WB	A-65	A-65	A-65	A-65	A-65	A-65	A-65		
				EB	A-65	A-65	A-65	A-65	A-65	A-65			
				NB	A-65	A-65	A-65	A-65	A-65	A-65			
				WB	A-65	A-65	A-65	A-65	A-65	A-65			
6	SH 42 (Courtney Rd) and Griffith Street	Signal	N/SB	WB	A-65	A-65	A-65	A-65	A-65	A-65	A-65		
				EB	A-65	A-65	A-65	A-65	A-65	A-65			
				NB	A-65	A-65	A-65	A-65	A-65	A-65			
				WB	A-65	A-65	A-65	A-65	A-65	A-65			
7	Griffith Street and Canon Street	N/SB/Stop	N/SB	WB	A-65	A-65	A-65	A-65	A-65	A-65	A-65		
				EB	A-65	A-65	A-65	A-65	A-65	A-65			
				NB	A-65	A-65	A-65	A-65	A-65	A-65			
				WB	A-65	A-65	A-65	A-65	A-65	A-65			
8	Griffith Street and Front Street	N/SB/Stop	N/SB	WB	A-65	A-65	A-65	A-65	A-65	A-65	A-65		
				EB	A-65	A-65	A-65	A-65	A-65	A-65			
				NB	A-65	A-65	A-65	A-65	A-65	A-65			
				WB	A-65	A-65	A-65	A-65	A-65	A-65			
9	Griffith Street and Main Street	WB/Stop	N/SB	WB	A-65	A-65	A-65	A-65	A-65	A-65	A-65		
				EB	A-65	A-65	A-65	A-65	A-65	A-65			
				NB	A-65	A-65	A-65	A-65	A-65	A-65			
				WB	A-65	A-65	A-65	A-65	A-65	A-65			
10	Harper Street and Court Street	WB/Stop	N/SB	WB	A-65	A-65	A-65	A-65	A-65	A-65	A-65		
				EB	A-65	A-65	A-65	A-65	A-65	A-65			
				NB	A-65	A-65	A-65	A-65	A-65	A-65			
				WB	A-65	A-65	A-65	A-65	A-65	A-65			
11	SH 42 (Courtney Rd) and Harper Street	EB/Stop	N/SB	WB	A-65	A-65	A-65	A-65	A-65	A-65	A-65		
				EB	A-65	A-65	A-65	A-65	A-65	A-65			
				NB	A-65	A-65	A-65	A-65	A-65	A-65			
				WB	A-65	A-65	A-65	A-65	A-65	A-65			

[illegible]

Recommendation: Coal Creek Village – Conditions

- The applicant will work with staff in the Final PUD process to redesign the proposed sidewalk and right-of-way improvements adjacent to South Boulder Road.
- The Final PUD shall comply with Colorado SB24-005, which prohibits local governments from permitting the installation of “nonfunctional turf,” as defined in the legislation.
- The improvements described in the traffic calming exhibit (Attachment 6), including the Front Street/Harper Street design concept, shall be incorporated into the Final PUD and Plat applications, subject to further staff review.
- The applicant shall work with staff and the property owner at 1110 E. South Boulder Road to modify the plans as necessary and ensure that vehicular access to the property from Cannon Circle is provided

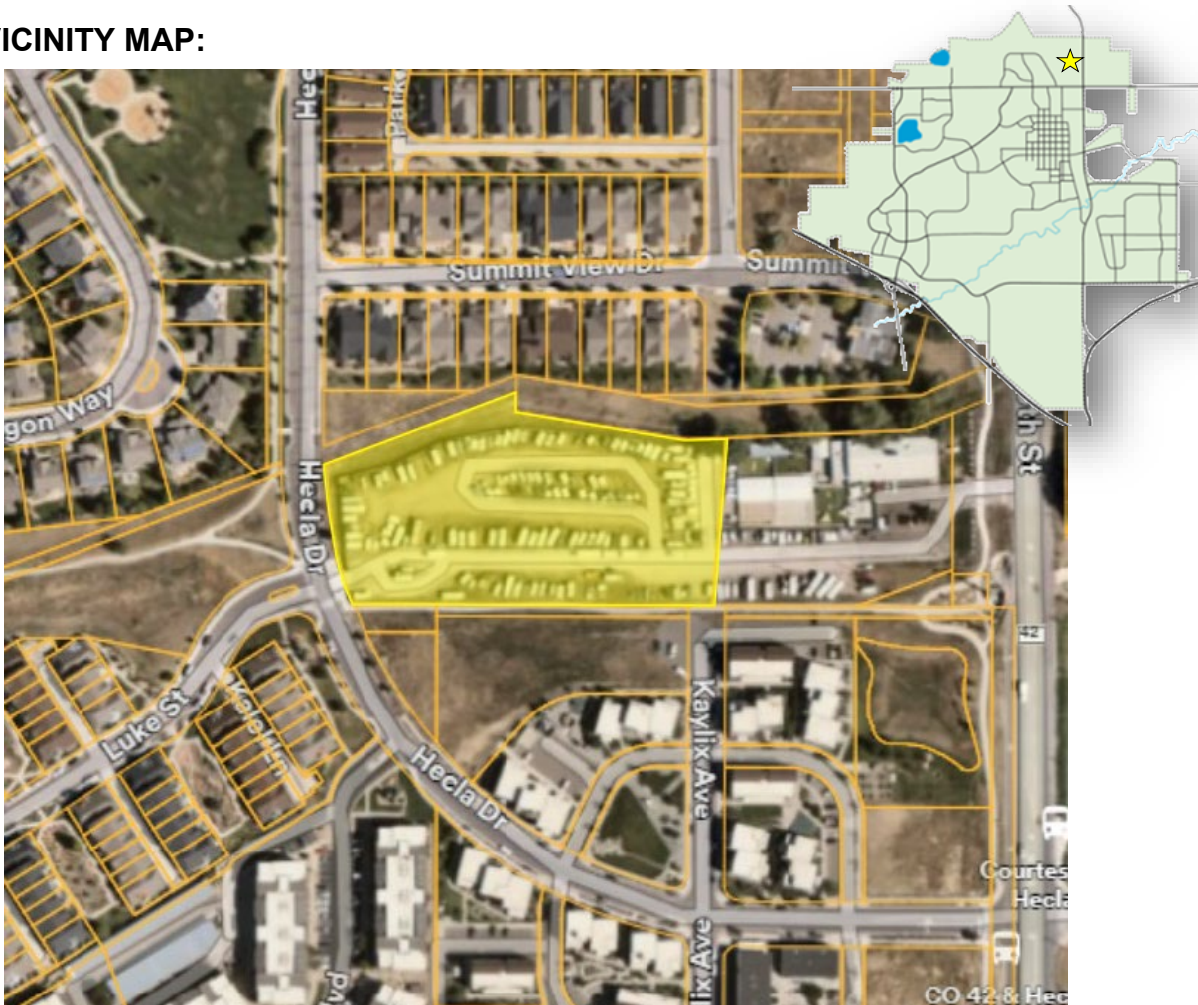
SUBJECT: **ORDINANCE NO. 1906, SERIES 2025 – AN ORDINANCE
APPROVING THE 1ST AMENDMENT TO THE NORTH LOUISVILLE
GENERAL DEVELOPMENT PLAN AT 2101 N COURTESY ROAD –
2ND READING, PUBLIC HEARING (advertised City of Louisville
website 10/08/2025)**

DATE: **NOVEMBER 18, 2025**

PREPARED BY: **MATT POST, AICP, SENIOR PLANNER**

PRESENTED BY: **MATT POST, AICP, SENIOR PLANNER**

VICINITY MAP:



SUMMARY:

The applicant, Courtesy Louisville, LLC, is requesting approval of the North Louisville General Development Plan (GDP), 1st Amendment (**Attachment 4**). The proposed amendment would permit residential land uses on the subject property, which is currently limited to commercial uses under the existing GDP. In addition, the applicant is requesting that yard and bulk standards, including building setbacks, height, and lot coverage, as well as density limitations, be established through the GDP Amendment process.

BACKGROUND / PRIOR DISCUSSIONS:

The subject site is currently occupied by Louisville Boat and RV Storage, which allows for the outdoor storage of recreational vehicles, boats, and trailers in a secured, fenced facility. The site is accessed on the west at Hecla Drive, and on the east from Highway 42 via a private access easement with the adjacent property.

The site is bound on the north by a portion of the Davidson Highline Ditch and the Lanterns PUD duplex development, zoned Planned Community Residential (P-R), on the east The Divine Canine dog day care center, zoned Planned Community Commercial (P-C), on the south by the Kestrel multifamily development, zoned Planned Community Residential (P-R), and on the west by Hecla Drive and additional residential development, zoned Planned Community Residential (P-R).

The City approved the [North Louisville General Development Plan](#) in 1989, which originally encompassed approximately 65 acres designated for commercial, office, residential, and mixed-use residential land uses. Large portions of the original GDP area have since been incorporated into other GDPs, including the Takoda GDP (and subsequent amendments) and the North End GDP (and subsequent amendments), while the subject property has remained within the North Louisville GDP boundary. Commercial uses are the only use permitted on the property.



Vicinity Map

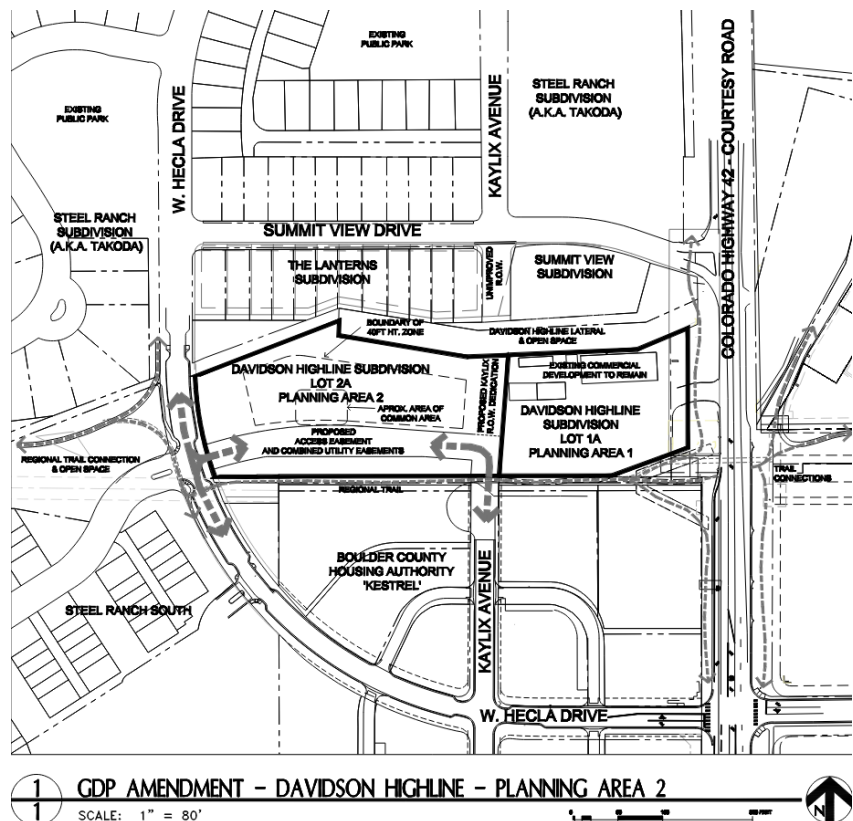
The current use on the subject property was originally permitted as part of the [Davidson Highline Planned Unit Development](#) (PUD) and approved in 1990. That PUD authorized improvements on the site, including the buildings located east of the subject property, which are presently occupied by The Divine Canine. The property has been subdivided multiple times since its initial approval, most recently in 2021, resulting in the creation of Lot 1A, occupied by The Divine Canine, and Lot 2A, which is the current extent of the subject property.

In October 2024, the applicant presented a Concept Plan (**Attachment 5**) to City Council to receive non-binding feedback on a potential GDP Amendment and the development of the site as a permanently affordable, deed-restricted homeownership community. The proposal included housing products designed to serve a range of household Area Median Income (AMI) levels, spanning below 80% AMI through above 120% AMI. City Council provided generally supportive feedback on both the proposed GDP Amendment and the applicant's intent to pursue the development concept, which envisioned 44–48 dwelling units in a mix of townhouses and duplexes at a density of approximately 14–15 dwelling units per acre. Video of that meeting is available [here](#).

[LINK: October 15, 2024 City Council Meeting Video \(1:17.05\)](#)

DEVELOPMENT PROPOSAL:

The applicant requests approval of the First Amendment to the North Louisville General Development Plan (GDP) to allow residential land use throughout the subject property. The proposed permitted uses include single-family and multifamily dwellings, duplexes, accessory dwelling units, and accessory structures. As part of this request, the applicant proposes a maximum of 51 dwelling units, which would result in a maximum density of 17.42 dwelling units per acre. This density figure represents the upper limit of potential development and would not prescribe a specific unit count.



Proposed North Louisville GDP, 1st Amendment

The applicant has indicated that the GDP Amendment is intended to facilitate redevelopment of the site as a permanently affordable, middle-income multifamily (townhome) housing community, with the potential for some units to be offered at market rate. Lot 1A, located immediately to the east, would remain in commercial use. Stormwater drainage, detention, and water quality improvements are proposed to be constructed under a granted drainage easement to serve both Lot 1A and Lot 2A.

Redevelopment of the site may proceed through the PUD and subdivision plat process only if the GDP Amendment is approved. If approved, subsequent applications will be required for site-specific details, at which time staff will evaluate conformance with the adopted GDP document and the PUD standards outlined in Louisville Municipal Code (LMC) Sec. 17.28. Staff will also apply the provisions of LMC Sec. 17.76 (Inclusionary Housing Ordinance) to ensure compliance.

If the GDP Amendment is approved, the applicant would be required to proceed with subsequent entitlement processes, including Planned Unit Development (PUD) and subdivision plat applications. These steps would establish detailed site design, infrastructure improvements, and lot configuration necessary to formally authorize development of the property, and would be considered at public hearings by the Planning Commission and City Council.

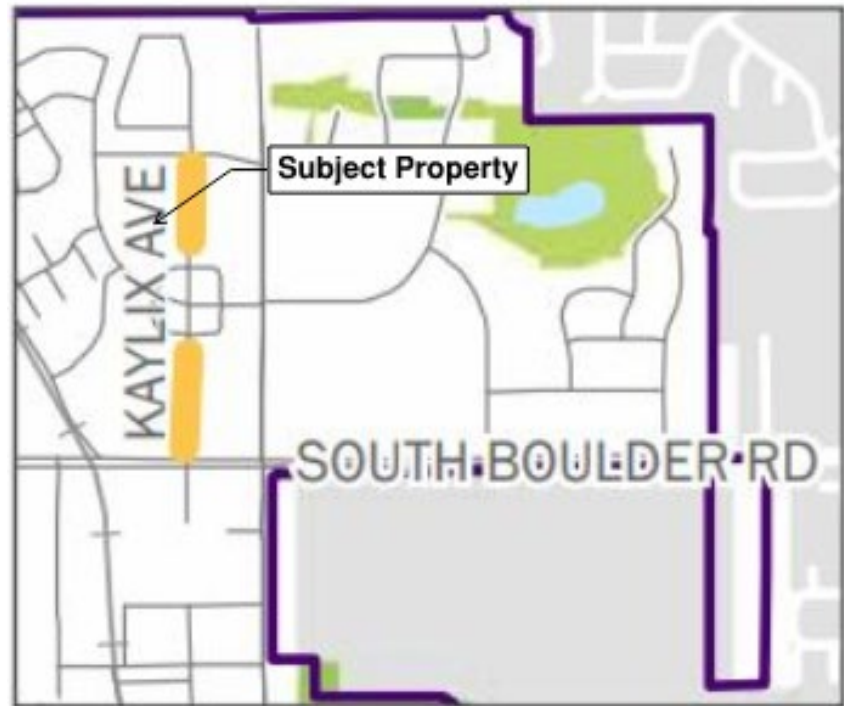
Site access will be provided from Hecla Drive by way of an existing access easement that intersects Hecla Drive and extends through Lot 1A to Highway 42. Consistent with existing conditions, no direct access to Highway 42 is proposed or will be considered as part of this GDP Amendment. Within the development, a centrally located common area is planned to serve as the primary open space amenity, oriented toward the center of the site to provide a shared focal point for residents. On-site open space is a required element of all PUD applications and will be a consideration in the review and approval of any subsequent PUD submittal. Open space must be functional, providing for the optimum preservation of natural features such as trees and drainage areas, as well as opportunities for recreation, visual relief, and convenience of use.

The GDP depicts a future right-of-way dedication on the site to complete the Kaylix Avenue connection between Summit View Drive and South Boulder Road, as called for in the City's [Transportation Plan](#). The Transportation Plan identifies this connection to establish a continuous local street network. Extending Kaylix Avenue through the site would provide a direct north–south route and an additional link within the local street system. The Transportation Plan further notes that this connection would assist in distributing traffic more evenly and reduce reliance on adjacent arterial roadways.

At the referenced Concept Plan hearing before City Council on October 2024, Council expressed support for allowing only pedestrian and bicycle path improvements within the Kaylix Avenue dedication area, while still accepting the full right-of-way dedication for a

potential future connection. This approach would be in lieu of constructing the roadway through the site, in recognition of the financial limitations associated with the proposed middle-income, deed-restricted housing project.

The right-of-way dedication for the future Kaylix Avenue connection would be accepted at the time of a formal development application, as part of the PUD and subdivision plat process. This GDP Amendment does not require the Planning



Transportation Master Plan – Kaylix Ave Connection Exhibit (p. 4-20)

Commission to determine the type of transportation improvements that will ultimately occur within the Kaylix Avenue right-of-way, as that determination will be made during the PUD process

The proposed GDP establishes bulk and dimensional standards that govern building form and development patterns on the site. These standards typically address elements such as setbacks, building height, lot coverage, and minimum lot width. For this proposal, the standards reflect a townhome development pattern and include 0-foot side setbacks for attached townhome units and no minimum lot coverage. A minimum lot width of 20 feet is proposed to accommodate standard townhome units. Setbacks from public rights-of-way

are

BULK AND DIMENSIONAL STANDARDS		
	PLANNING AREA 1 (NOT INCL.)	PLANNING AREA 2
MINIMUM LOT AREA		N/A
MINIMUM LOT WIDTH		20'
MAXIMUM LOT COVERAGE		N/A
MAXIMUM BLDG. HEIGHT - PRINCIPAL USE		35' (40' within designated area)
MAXIMUM BLDG. HEIGHT - ACCESSORY USE		25'
BUILDING SETBACKS		
FRONT YARD *(1)		
TO PRIVATE STREET		8'
TO PUBLIC ROW		15'
TO COMMON AREAS *(3) OR PUBLIC OPEN SPACE		5'
REAR YARD - PRINCIPAL USES		10' *(2)
REAR YARD - ACCESSORY USES - ATTACHED OR DETACHED		3' *(2)
SIDE YARD - PRINCIPAL AND ACCESSORY USES		
BETWEEN ATTACHED UNITS		0'
ABUTTING PRIVATE STREET OR ALLEY		3'
ABUTTING PUBLIC ROW		10' (5' at Kaylix ROW)
ABUTTING COMMON AREAS *(3)		2'
INTERIOR LOT LINE		2'
	NO CHANGES WITH THIS AMENDMENT	
BULK AND DIMENSIONAL STANDARDS - KEY NOTES*		
1 Unenclosed porches may encroach into required front setback up to 4'. On the south side of east-west access easement, building projections less than 12'w and 16'h may encroach into required front setback up to 4'.		
2 Rear Setback - 0' to alley or private drive and 5' to common areas, Open Space, or non-buildable easement at least 10' wide.		
3 "Common Areas" include privately owned/maintained parks and open spaces within the development for the use of the residents, landscape buffers, etc.		

Proposed Bulk and Dimensional Standards

CITY COUNCIL COMMUNICATION

proposed at 15 feet for front yards and 10 feet for side yards, with a reduced 5-foot side setback adjacent to the Kaylix Avenue dedication. The proposed standards are generally consistent with those adopted for the surrounding Takoda GDP, with additional consideration given to setbacks from public rights-of-way.

The proposal includes an allowance for limited architectural encroachments on the south side of the site, into the proposed front setback, which will face north. This portion of the property is constrained by multiple utilities and easements, including the previously referenced access easement, which restrict development potential within those areas. To address these constraints, the applicant proposes to allow building projections, up to 12 feet in width and 16 feet in height, to encroach a maximum of 4 feet into the required setback. The purpose of this provision is to accommodate architectural articulation and to provide flexibility for integrating enclosed storage areas within the proposed unit types. This approach is intended to balance the site's physical limitations with the goal of achieving a functional and visually varied building form.

In response to concerns raised by adjacent residents during the Concept Plan hearing, the applicant has incorporated a height transition area into the proposal. Building heights would be limited to a maximum of 35 feet along the perimeter of the site to better relate to adjacent development, while heights of up to 40 feet would be permitted within the interior of the site. This transition is intended to balance neighborhood compatibility with the ability to achieve the residential density envisioned for the site.



Height Transition Area Rendering

The applicant proposes a maximum density of 17.42 dwelling units per acre, or 51 dwelling units on the site, to align with the townhome development form envisioned in this application. The proposed density establishes a cap on the total number of units that may be developed, while allowing flexibility for a lower unit count at final buildout based on detailed site design and subsequent entitlement review.

The applicant has submitted a concept plan (**Attachment 5**) to illustrate how development under the proposed GDP Amendment could potentially occur on the property. The concept plan depicts a total of 48 dwelling units, arranged in a mix of townhomes and duplexes. It

is important to note that this plan is provided for illustrative purposes only. The Concept Plan is intended to demonstrate one possible development scenario and the general form that could be achieved under the proposed GDP standards. It does not, however, constitute a development proposal, nor does it bind the applicant to a specific layout, unit count, or design. Final development details, including building placement, site circulation, architecture, and landscaping, will be subject to review and approval through subsequent PUD and subdivision processes.

ANALYSIS:

The subject property will remain within the Planned Community Zone District (PCZD), regardless of any GDP amendment. Review of this GDP Amendment is therefore subject to the provisions of Louisville Municipal Code (LMC) Sec. 17.72, which governs the PCZD. Amendments to a GDP are subject to the same process and requirements as the original approval. The purpose of the PCZD, as outlined in LMC Sec. 17.72.010, includes the following statements that are applicable to this application:

- *The purpose of the PCZD is to encourage, preserve and improve the health, safety and general welfare of the people of the city by encouraging the use of contemporary land planning principles and coordinated community design.*
- *The PCZD is created in recognition of the economic and cultural advantages that will accrue to the residents of an integrated, planned community development of sufficient size to provide related areas for various housing types, retail, service activities, recreation, schools and public facilities, and other uses of land.*

Section 17.72.030 includes the following applicability statement:

- *The PCZD may be applied only to such land as the city shall determine to be suitable for such a development.*

Comprehensive Plan Policies***Comprehensive and Small Area Plans***

This property is referenced in both the [Comprehensive Plan](#) and the [South Boulder Road Small Area Plan](#). Within the Comprehensive Plan, the property is located in the Highway 42 Urban Corridor with an Urban Neighborhood designation. The Urban Pattern (p. 19) for this designation calls for an interconnected street network with multimodal transportation opportunities, development on smaller parcels, and street-oriented building placement with an emphasis on pedestrian scale and massing. The identified neighborhood development types are predominately residential and may range from low-density to high-density multifamily communities. Based on this guidance, the Urban Neighborhood designation at this location would support a mid- to high-density multifamily project.

The South Boulder Road Small Area Plan designates the property for medium-density residential development (p. 21), which is generally defined as a density range of 10 to 20 dwelling units per acre.

The GDP Amendment supports housing policies within the Comprehensive Plan, including:

- *PRINCIPLE NH-5. There should be a mix of housing types and pricing to meet changing economic, social, and multigenerational needs of those who reside, and would like to reside, in Louisville.*
- *Policy NH-5.1: Housing should meet the needs of seniors, empty-nesters, disabled, renters, first time homebuyers and all others by ensuring a variety of housing types, prices, and styles are created and maintained.*

The GDP amendment would provide a greater mix of housing types than what currently exists in the area, as Louisville's housing stock is about 70% detached single family residential. A PUD process that includes public hearings is a required next step for any redevelopment of the subject site. At that time the development would also have to meet the City's Inclusionary Housing Ordinance that addresses the affordability of any new residential units.

Louisville Housing Plan

The proposed GDP amendment is consistent with the adopted [Louisville Housing Plan](#) (May 2024). The Housing Plan establishes three primary goals, which are to increase opportunities for residential development in appropriate locations, to expand and maintain affordable housing for low- to middle-income households including the local workforce, and to diversify the housing stock by encouraging mixed-use and mixed-income neighborhoods with a wider range of housing types to serve different household sizes, incomes, and demographics (p. 26).

The plan further identifies the importance of supporting housing opportunities for low- and middle-income households, recognizing that many workforce households fall within this income category yet struggle to access homeownership in Louisville. Strategies to provide more income-restricted housing include:

- *Action 1.1 Establish Criteria and Identify Areas for Zoning Changes to Support Additional Residential Development:* The Plan recommends rezoning underutilized commercial properties to increase residential capacity and address housing demand (p. 31–32).

- *Action 1.2 Consider Offering a Height Bonus or Additional Density:* The Plan supports providing density and height incentives for projects that include affordable and mixed-income housing (p. 32).
- *Action 3.2 Expand Allowances for More Housing Types:* This action calls for expanding allowances for multifamily housing in commercial zones and considering stand-alone residential development in appropriate commercial areas (p. 46–47).

Based on adopted policies, including the Housing Plan with its recommended height and density incentives for affordability, as well as the Comprehensive Plan and South Boulder Road Small Area Plan, staff find the proposed maximum density of 17.42 dwelling units per acre (51 units) to be reasonable and consistent with adopted policy. While the proposed density is higher than some nearby townhome projects, it remains below the maximum densities achieved in the area, and it represents a cap rather than a requirement, with actual buildout potentially resulting in fewer units depending on site design and future entitlement review.

Development	Total Units	DUs / Acre
Steel Ranch Townhomes (The Overlook)	58	8.9
Steel Ranch Apartments (North Main at Steel Ranch)	228	24.2
Steel Ranch Patio Homes	38	5.5
Steel Ranch Single Family	114	3.23
Lanterns	24	6.3
The Foundry – current PUD	32	5.5
North Louisville GDP Amendment	51	17.42

Density Comparison

Staff find that the proposed GDP amendment to allow residential land uses on the subject property is consistent with several adopted policies, including the Comprehensive Plan, the South Boulder Road Small Area Plan, and the Louisville Housing Plan. These adopted plans identify the need to diversify Louisville’s housing stock, promote mixed-income and workforce housing opportunities, and encourage residential development in locations that are currently underutilized. The proposed GDP amendment also aligns with policies that support medium- to high-density residential development, allow for density and height incentives to advance affordability goals, and prioritize housing opportunities for households in the middle-income range.

2025 COUNCIL WORK PLAN:

The proposed GDP Amendment, which would allow residential land uses on the subject property to support that applicant’s goal of developing a middle-income, deed-restricted community, would support the Council’s 2025 Work Plan goal of implementing the Housing Plan to support new, affordable dwelling units in the City.

SUBJECT: ORDINANCE NO. 1906, SERIES 2025

DATE: NOVEMBER 18, 2025

PAGE 10 OF 10

FISCAL IMPACT:

Budgeted?: **Not Applicable**

ALTERNATIVE(S):

The City Council may elect to approve this application with conditions or deny it. If the application is denied, the existing General Development Plan will remain in effect.

PLANNING COMMISSION RECOMMENDATION:

The Planning Commission recommended approval of this application on September 11, 2025. Video of that meeting is available [here](#).

RECOMMENDATION:

Staff recommends approval of Ordinance No. 1906, Series 2025, approval of the North Louisville General Development Plan, 1st Amendment to allow residential land uses at 2101 N Courtesy Rd.

ATTACHMENT(S):

1. Ordinance No. 1906, Series 2025
2. PC Resolution No. 10, Series 2025
3. Application Materials
4. North Louisville GDP, 1st Amendment
5. Concept Plan
6. North Louisville GDP
7. Presentation

**ORDINANCE NO. 1906
SERIES 2025**

**AN ORDINANCE APPROVING THE 1ST AMENDMENT TO THE NORTH
LOUISVILLE GENERAL DEVELOPMENT PLAN AT 2101 N COURTESY ROAD**

WHEREAS, the City of Louisville (the “City”), is a Colorado home rule municipal corporation duly organized and existing under laws of the State of Colorado and the City of Louisville Home Rule Charter (the “City Charter”); and

WHEREAS, Courtesy Louisville LLC, A Colorado Limited Liability Company, is the owner of certain real property at 2101 N Courtesy Rd, totaling approximately 1.68 acres, which property is located in Lot 2A of the Davidson Highline Subdivision, Replat 2, within Parcel K and Parcel I of the North Louisville General Development Plan (GDP); and

WHEREAS, the Property is currently zoned Planned Community Zone District (PCZD) and permitted uses are set forth in the North Louisville General Development Plan, executed on January 16, 1990; and

WHEREAS, the owner has submitted to the City a request for approval of the First Amendment to the North Louisville General Development Plan (“First Amendment”), to revise the uses permitted on the Property; and

WHEREAS, the owner has submitted to the City a request for approval of the First Amendment to revise the bulk and dimensional standards on the Property; and

WHEREAS, after a duly noticed public hearing held September 11, 2025, where evidence and testimony were entered into the record, including the Louisville Planning Commission Staff Report dated September 11, 2025, the Louisville Planning Commission has forwarded a recommendation to the City Council to approve the First Amendment; and

WHEREAS, City Council has provided notice of a public hearing on said ordinance by publication as provided by law and held a public hearing as provided in said notice; and

WHEREAS, The City Council finds the First Amendment is consistent with the requirements of the Planned Community Zone District chapter of the Louisville Municipal Code, and the criteria, requirements, and provisions of other applicable sections of the Louisville Municipal Code, and the principles and policies of the City of Louisville 2013 Comprehensive Plan, The South Boulder Road Small Area Plan, and the City of Louisville Housing Plan.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF LOUISVILLE, COLORADO:

Section 1. The City Council of the City of Louisville hereby approves the First Amendment to the North Louisville General Development Plan (the “First Amendment”), a

copy of which is attached hereto as Exhibit A.

Section 2. Said amendment shall be recorded in the Offices of the Boulder County Clerk and Recorder.

INTRODUCED, READ, PASSED ON FIRST READING AND ORDERED PUBLISHED this 7th day of October 2025.

Christopher M. Leh, Mayor

ATTEST:

Genny Kline, City Clerk

PUBLIC HEARING AND SECOND READING WILL BE THE 18TH DAY OF NOVEMBER, 2025, AT 6:00 P.M. AT LOUISVILLE CITY HALL, 749 MAIN STREET, LOUISVILLE, CO 80027.

PASSED AND ADOPTED ON SECOND AND FINAL READING, this 18th day of November 2025.

Christopher M. Leh, Mayor

ATTEST:

Genny Kline, City Clerk

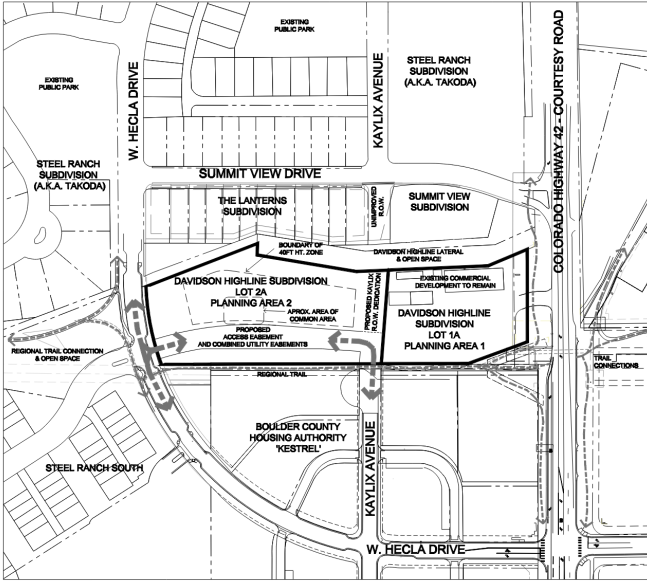
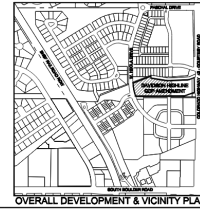
APPROVED AS TO FORM:

Kelly PC, City Attorney

Exhibit A

NORTH LOUISVILLE GENERAL DEVELOPMENT PLAN - 1st AMENDMENT SOUTHEAST QUARTER OF SECTION 5, TOWNSHIP 1 SOUTH RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN CITY OF LOUISVILLE, COUNTY OF BOULDER, STATE OF COLORADO

PROJECT DIRECTORY	
Property Owner: COURTESY LOUISVILLE LLC 2818 Vermont Road #5 Boulder, CO 80501 303.443.0027	Architect / Planning Consultant: HARTRONFT ASSOCIATES, P.C. 160 Spruce Street, Suite 2C Louisville, CO 80527 admin@harcdesign.com 303.875-8084
Affordable Housing Consultant: Michael Reis 303.807.8877 michaelreis@gmail.com	Civil Engineering Consultant: SiteWorks Studio 2101 Pearl Street, Boulder CO 80502 303.918.7859 info@siteworksstudio.com



1 GDP AMENDMENT - DAVIDSON HIGHLINE - PLANNING AREA 2
SCALE: 1" = 80'

SIGNATURES	
Owner Acknowledgment By signing this GDP , the owner acknowledges and accepts the requirements and intent set forth in this GDP . Witness my hand and seal this ____ day of _____, 20__.	Planned Commission Certificate Approved this ____ day of _____, 20__ by the Planning Commission of the City of Louisville, Colorado. Resolution No. _____ Series _____
Owner Name and Signature: Owner Name and Signature: GDP Land Company LLC (Notary Seal)	City Councils Comments Approved this ____ day of _____, 20__ by the City Council of the City of Louisville, Colorado. Resolution No. _____ Series _____ (City Seal)
Notary Name (print): Notary Signature: _____ My Commission Expires: _____	Mayor Signature City Clerk Signature: _____

GENERAL INFORMATION	
LEGAL DESCRIPTION: SOUTHEAST QUARTER OF SECTION 5, TOWNSHIP 1 SOUTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, CITY OF LOUISVILLE, COUNTY OF BOULDER, STATE OF COLORADO	PLANNING AREA 1 (NOT BCL) Lot 2A, Davidson Highline Subdivision
STREET ADDRESS: 2818 Vermont Road #5	PLANNING AREA 2 Lot 2A, Davidson Highline Subdivision
OWNER: GDP Land Company LLC	PLANNING AREA 3 Lot 2A, Davidson Highline Subdivision
APPLICANT: GDP Land Company LLC	PLANNING AREA 4 Lot 2A, Davidson Highline Subdivision

LAND USE SUMMARY	
LAND USE: Residential Single-Family Detached	PLANNING AREA 1 (NOT BCL) Residential Single-Family Detached
ALLOWABLE LAND USE: Residential Single-Family Detached	PLANNING AREA 2 Residential Single-Family Detached
PROPOSED DEVELOPMENT: Residential Single-Family Detached	PLANNING AREA 3 Residential Single-Family Detached

BULK AND DIMENSIONAL STANDARDS	
MINIMUM LOT AREA: 10,000 sq. ft.	PLANNING AREA 1 (NOT BCL) 10,000 sq. ft.
MINIMUM LOT WIDTH: 30 ft.	PLANNING AREA 2 30 ft.
MINIMUM LOT DEPTH: 30 ft.	PLANNING AREA 3 30 ft.
MINIMUM LOT AREA: 10,000 sq. ft.	PLANNING AREA 4 10,000 sq. ft.
MINIMUM LOT WIDTH: 30 ft.	PLANNING AREA 5 30 ft.
MINIMUM LOT DEPTH: 30 ft.	PLANNING AREA 6 30 ft.
MINIMUM LOT AREA: 10,000 sq. ft.	PLANNING AREA 7 10,000 sq. ft.
MINIMUM LOT WIDTH: 30 ft.	PLANNING AREA 8 30 ft.
MINIMUM LOT DEPTH: 30 ft.	PLANNING AREA 9 30 ft.

1 GDP AMENDMENT - DAVIDSON HIGHLINE - PLANNING AREA 2
SCALE: 1" = 80'

HARTRONFT ASSOCIATES
PLANNING
ARCHITECTURE
INTERIOR DESIGN

160 Spruce Street, #2C
Louisville, CO 80527
TEL: 303.875.8084
FAX: 303.875.8085

**NORTH LOUISVILLE GENERAL
DEVELOPMENT PLAN - 1st AMENDMENT**
2101 N. COURTESY ROAD
COURTESY LOUISVILLE LLC GO THISTLE COMMUNITIES

**GDP
AMENDMENT**
1 of 1

**RESOLUTION NO. 10
SERIES 2025**

**A RESOLUTION APPROVING A REQUEST FOR THE FIRST AMENDMENT TO THE
NORTH LOUISVILLE GENERAL DEVELOPMENT PLAN TO ALLOW RESIDENTIAL
LAND USES**

WHEREAS, there has been submitted to the Louisville Planning Commission an application for the First Amendment to the North Louisville General Development Plan ("GDP"), to allow residential land uses at 2101 N Courtesy Road, and;

WHEREAS, City Staff has reviewed the information submitted and found that the requested GDP Amendment is consistent with the Louisville Comprehensive Plan, the South Boulder Road Small Area Plan, and the Louisville Housing Plan, which collectively support mixed-income housing opportunities, redevelopment of underutilized commercial property for residential uses, and medium- to high-density residential development;

WHEREAS, the Planning Commission has considered the application at a duly noticed public hearing on September 11, 2025, where evidence and testimony were entered into the record, including the findings in the Louisville Planning Commission Staff Reports dated September 11, 2025; and

NOW THEREFORE, BE IT RESOLVED a resolution approving a request for the First Amendment to the North Louisville General Development Plan to allow residential land uses.

PASSED AND ADOPTED this 11th day of September, 2025.

Attest: 
Cullen Choi, Secretary
Planning Commission

By: 
Steve Brauneis, Chair
Planning Commission

Development Review Application Form

Please complete this form and include it with the submittal documents for your development review application. Applications will not be processed until all required information is provided to the satisfaction of the City of Louisville Planning Department.

Property Information

Common Address(es): 2101 Courtesy Road, Louisville Colorado

Legal Description:

Lot 2A Block _____ Subdivision Davidson Highline Subdivision Replat 2

Lot Area: 128,068 Sq. Ft. or 2.94 +/- Acres

LAND USE PROCESS (check all that apply)

- ☐ Annexation
- ☐ Concept Plan
- ☐ Easement Vacation
- ☐ Oil and Gas
- ☒ General Development Plan (GDP)
 - ☒ Amendment
 - ☐ New GDP
- ☐ Planned Unit Development (PUD)
 - ☐ Amendment
 - ☐ Preliminary
 - ☐ New PUD
- ☐ Rezoning
- ☐ Special Review Use (SRU)
 - ☐ Amendment
 - ☐ New SRU
- ☐ Subdivision
 - ☐ Final or Replat
 - ☐ Preliminary Plat
- ☐ Temporary Use Permit
- ☐ Variance
- ☐ Vested Property Right
- ☐ Wireless Facility
- ☐ Other: _____

PROJECT DESCRIPTION:

The project consists of redevelopment of an existing RV and boat storage yard into a permanently affordable (attainable) multifamily housing development consisting of approximately 28 to 48 dwelling units. The eastern portion of this previous PUD (Lot 1A) will remain in its current commercial use, with enhancements to the stormwater drainage, detention and water quality facilities to serve both Lot 1A and Lot 2A). Only private roads are planned throughout the development at this time. Subsequent to this GDP Amendment review a Preliminary and Final PUD and Plat are anticipated to seek approval for this development. The goal of this development is to provide more affordable housing opportunities in Louisville for an under-served portion of the housing market in this area, (missing middle). Additional information in attached narrative.

Property Owner Information

Name: Courtesy Louisville LLC , Paul D'Angelo, CEO Entity (if applicable) Thistle Community Housing

Address: 6000 Spine Road, #101, Boulder, CO 80301

Application Representative Information

Name: Michael Reis (copy to Erik Hartronft) Entity (if applicable) MichaelReis LLC

Address: 738 Pear Court, Louisville CO 80027 (copy to Hartronft Associates, p.c. 950 Spruce Street, #2C, Louisville, CO 80027)

Certification/Signature

I certify that the information I have submitted is true and correct to the best of my knowledge and in filing the application and submittal documents, I am acting as and/or with the knowledge and consent of those persons who are owners of the subject property or are parties to this application.

Paul D'Angelo

Signature*

Paul D'Angelo, CEO Thistle Community Housing

Print Name

March 27, 2025

Date

***If acting as a representative/agent of the owner, include written authorization from the owner that certifies the agent's right to submit this application**



**HARTRONFT
ASSOCIATES**
A Professional Corporation

*Planning
Architecture
Interior Design*

950 Spruce Street, #2C
Louisville, CO 80027
TEL: 303.673.9304
FAX: 303.673.9319
www.hapcdesign.com

Mr. Rob Zuccaro, Planning & Building Safety Director
Mr. Matt Post, Senior Planner
City of Louisville
Planning Department
749 Main Street
Louisville, CO 80027

04 April, 2025

Re: Davidson Highline Subdivision – GDP Amendment
2101 N. Courtesy Rd.
Courtesy Louisville LLC c/o Thistle Community Housing

Rob and Matt,

We are pleased to submit the attached GDP Amendment for the Davidson Highline Subdivision Redevelopment, also referred to as Courtesy Louisville. This is an amendment to the North Louisville PCZD General Development Plan.

This proposal includes the redevelopment of Lot 2A, and a small portion of Lot 1A, of the Davidson Highline Subdivision Replat 2. The two-lot subdivision has been owned and developed previously by Rob and Carol Lathrop, and Lot 2A was recently purchased by Thistle Community Housing, as Courtesy Louisville LLC with the intent to develop multifamily housing on that portion of the property. Thistle is a non-profit developer and manager of affordable housing in Boulder County.

The project consists of redevelopment of an existing RV and boat storage yard into a permanently affordable (attainable) multifamily housing development. A number of units may also be market rate. The eastern portion of this previous PUD (Lot 1A) will remain in its current commercial use, with enhancements to the stormwater drainage, detention and water quality facilities to serve both Lot 1A and Lot 2A. The owners of Lot 1A have granted a drainage easement to handle this. Only private roads and alleys are planned throughout the development. It is our understanding that public land dedication has been previously satisfied for this platted property.

We have previously submitted a Concept Plan which was reviewed by City Council on 10/15/24. Subsequent to this GDP Amendment, we intend to submit a Preliminary and Final PUD (Amendment 3) and Plat (Replat 3) to accommodate this development. The goal of this development is to provide more affordable housing opportunities in Louisville for an under-served portion of the housing market in the area, (missing middle).

It is the Owner's intent to satisfy the 12% inclusionary housing requirement on-site. Additional information regarding the housing proposed for this development is indicated in the attached letter from Thistle Community Housing.

Thank you for this opportunity to present this redevelopment plan. Please let us know if there is any additional information that may be required, or if you have any questions regarding this project.

Sincerely,

J. Erik Hartronft, AIA, LEED® AP



2919 Valmont Road #5 | Boulder, CO 80301
P: (303) 443-0007
www.thistlecommunityhousing.org
Producing, Preserving & Protecting Affordable Housing since 1985



April 2, 2025

Paul D'Angelo, CEO
Thistle Communities
2919 Valmont Road #5
Boulder, CO 80301

Mr. Rob Zuccaro, Planning and Building Safety Director
Mr. Matt Post, Senior Planner
City of Louisville Planning Department
749 Main Street
Louisville, CO 80027

RE: Courtesy Louisville LLC – GDP Amendment

Dear Rob and Matt,

On behalf of Thistle Communities, I am writing to supplement the General Development Plan (GDP) application materials for our Courtesy Louisville development at 2101 N. Courtesy Road and to request an expedited placement on the Planning and City Council agenda. We are eager to advance this project, which aligns with the City of Louisville's housing goals by providing much-needed affordable, attainable, and Missing Middle homeownership workforce housing options—currently absent in Louisville.

Thistle Communities is a nonprofit organization dedicated to creating and maintaining permanently affordable housing in Boulder County. Since our inception, we have successfully developed numerous affordable housing projects in Boulder and Longmont, ensuring access to high-quality homes for individuals and families. Our mission is to foster inclusive, sustainable communities where everyone can access safe and affordable housing.

In January 2024, Thistle Communities acquired the Courtesy Louisville site from Rob and Carol Lathrop, who sought to see the property utilized for affordable housing. Our mission and vision for the site align with their intent.

Following the Concept Plan meeting in October, we refined our development approach while maintaining our commitment to a permanently affordable, deed-restricted homeownership community serving a range of Area Median Income (AMI) levels. The site's prime infill location—near transit, shopping, and essential services—makes it ideal for an affordable, attainable housing community. Its connectivity will enhance residents' quality of life by providing convenient access to transportation and amenities.

Louisville's housing study highlights key goals that align with this project: expanding affordable housing, fostering diverse and inclusive communities, and ensuring new developments are sustainable and well-integrated. The Courtesy Louisville development is designed to meet these goals by offering high-quality, affordable, and workforce housing in an environmentally sustainable and well-connected neighborhood.

With this letter, we are submitting supporting GDP application documents prepared by Hartronft Associates. Given the timing constraints tied to funding applications, we respectfully request the City's support in expediting this review and placement on the Planning and City Council agendas. Advancing this project efficiently will enable us to pursue essential funding opportunities that require local approvals.

We appreciate your time and consideration and look forward to working collaboratively with the City of Louisville to realize our shared housing goals. Let us know if you need anything else to help with this process.

Sincerely,

Paul D'Angelo
CEO, Thistle Communities

Michael Reis
Affordable Housing Consultant



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Interior Design*

950 Spruce Street, #2C
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www.hapcdesign.com

27 August, 2025

Re: Davidson Highline Subdivision – GDP Amendment
Response to City of Louisville Referral -2nd Round Comments
Supplemental Exhibits

The following exhibits to our GDP submittal are supplemental to help illustrate certain aspects of the proposal, as requested by staff. The drawings are conceptual in nature and do not necessarily depict the final design for this development.

Also, please note as requested the Concept Plan that has been previously reviewed by the city is attached for your reference. The Proposed GDP would allow for a similar density to that design, or less.

Refer to the Final PUD for actual building and site design.

Illustration regarding projections into front yard setbacks in designated areas:

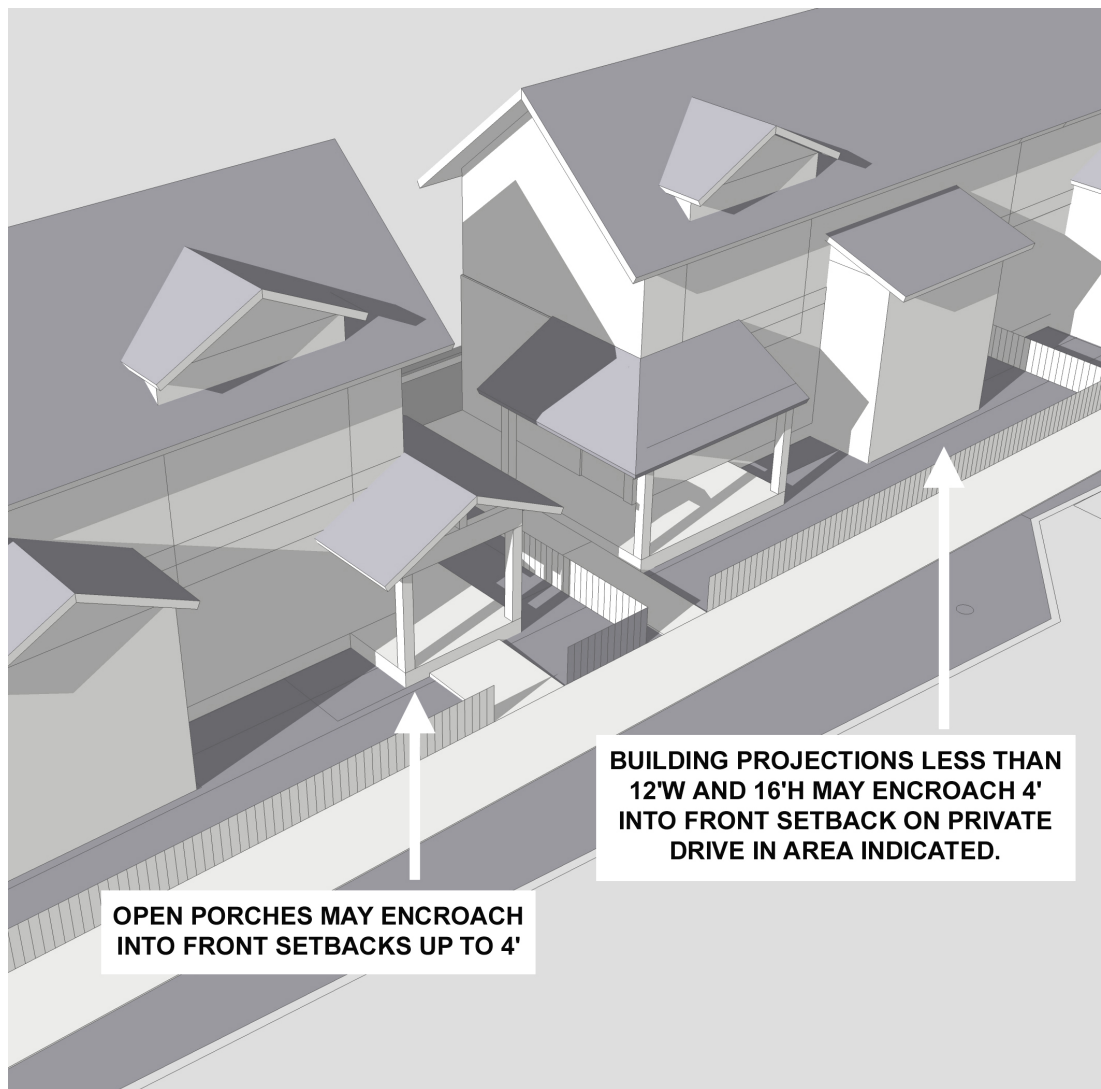


Illustration regarding area where 40' height is allowed for sloping roof forms:



**40' HEIGHT IN DESIGNATED CENTRAL
AREA OF SITE ALLOWS FOR 3-STORY
MULTI-UNIT BUILDINGS WITH
SLOPED ROOFS INSTEAD OF
FLAT ROOFS. WHERE POSSIBLE
BUILDING HEIGHT IS MINIMIZED
BY SURROUNDING GRADES**

Attachment: 04-CourtesyLouisville-Concept Site Plan-072324.pdf

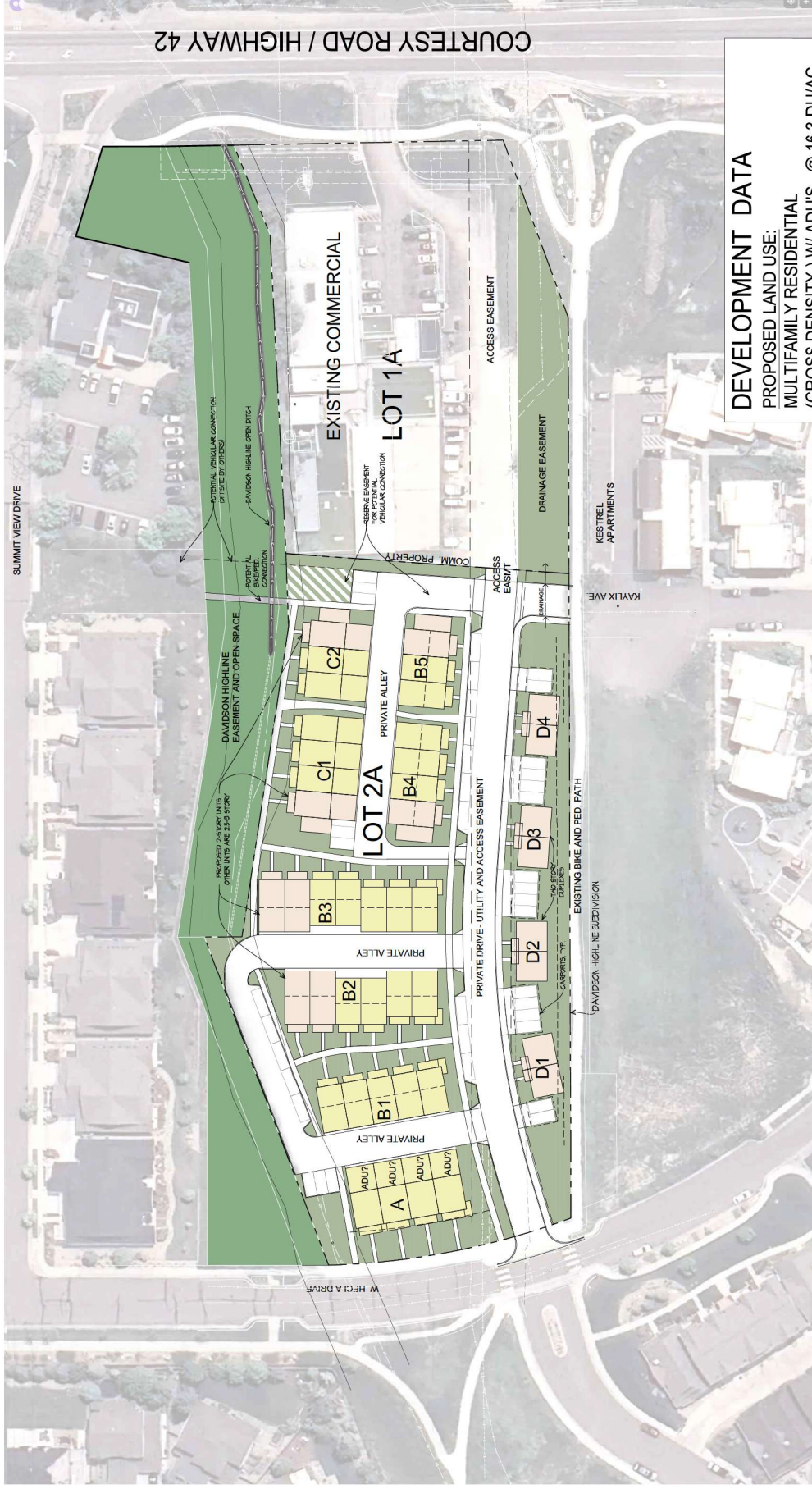
Property Owner:
COURTESY LOUISVILLE LLC
c/o Thrive Community Housing
2919 Valmont Road #6
Boulder, CO 80301
303.443.0007

Architect / Planning Consultant:
HARTSTREET ASSOCIATES, P.C.
950 Spruce Street, Suite 2C
Louisville, CO 80027
admin@thapdesign.com
303.473.9304

Affordable Housing Consultant:
Michael Reis
303.807.5977
michaelreisllc@gmail.com

Civil Engineering Consultant:
SiteWorks Studio
2101 Pearl Street, Boulder CO
303.918.7859
info@siteworksstudio.com

The map illustrates the Davidson Highline Subdivision, which is divided into Planning Area 1 (Lot 1A) and Planning Area 2 (Lot 2A). The subdivision is situated between Kaylix Avenue to the north and Steel Ranch South to the south. To the west of the subdivision is the Steel Ranch Subdivision (A.K.A. Takoda), and to the east is the Boulder County Housing Authority 'Kestrel'. The map also shows the Summit View Subdivision and The Lanterns Subdivision. Key infrastructure includes Kaylix Avenue, W. Hecla Drive, and Steel Ranch South. A proposed Kaylix R.O.W. dedication is shown, along with a boundary of 40ft ft. zone. A regional trail connection and open space are also indicated. The map includes various labels for existing commercial development to remain, existing public parks, and trail connections.



DEVELOPMENT DATA

PROPOSED LAND USE: MULTIFAMILY RESIDENTIAL (GROSS DENSITY) W/ADU'S @ 16.3 DU/AC

GROSS SITE AREA: 2.94 ac
RESIDENTIAL UNITS: 44 DU
PROPOSED ADU'S: 4 DU
ALL UNITS NORTH OF PRIVATE DRIVE HAVE 2 PARKING SPACES IN PRIVATE GARAGES. DUPLEXES SOUTH OF DRIVE HAVE PRIVATE CARPORTS.
22 GUEST PARKING SPACES ARE PROVIDED.

BUILDING COVERAGE =
(PER GROSS SITE AREA)

NOTE: - SITE PLAN AND SITE DATA IS CONCEPTUAL AND SUBJECT TO CHANGE



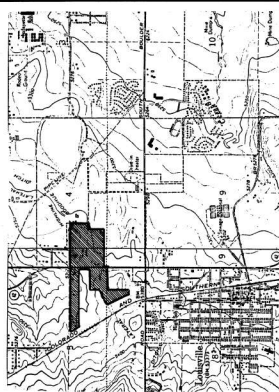
SITE DEVELOPMENT CONCEPT PLAN – CONTEXT

SCALE: 1" = 80'

NORTH LOUISVILLE PCZD GENERAL DEVELOPMENT PLAN

NORTH LOUISVILLE G.D.P. AMENDMENT RES. NO. 2 SERIES #1991 2/5/91

SCALE: 1" = 200'



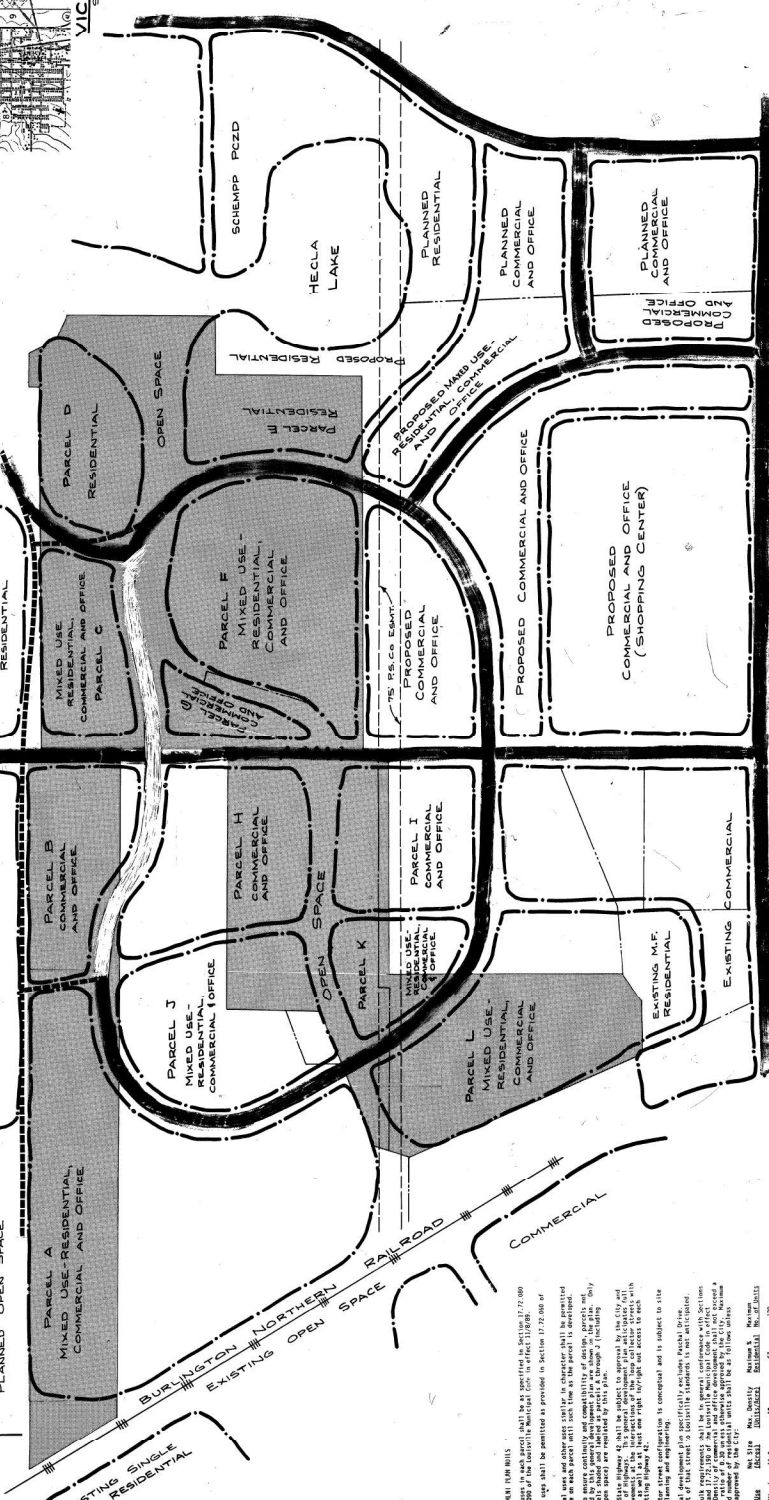
VICINITY MAP
SCALE: 1" = 2000'

CITY OF LAFAYETTE
PLANNED RESIDENTIAL

BOULDER COUNTY
EXISTING SINGLE FAMILY
RESIDENTIAL

CITY OF LAFAYETTE
PLANNED "EMPLOYMENT"

CITY OF LAFAYETTE
PLANNED OPEN SPACE



SOUTH BOULDER ROAD

CITY COUNCIL APPROVAL:

APPROVED BY THE CITY COUNCIL OF LOUISVILLE THIS 10th DAY OF Dec., 1989

BY MOTION, *Kimberly...* ATTEST: *Barbara E. Eardley*
CITY CLERK

CLERK AND RECORDS CLERK: *Barbara E. Eardley*

STATE OF COLORADO

COUNTY OF BOULDER

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BY MOTION, *Kimberly...* ATTEST: *Barbara E. Eardley*
CITY CLERK

GENERAL DEVELOPMENT PLAN

12/19/89

NORTH LOUISVILLE

DRAWING NUMBER

DRAWING NUMBER

DRAWING NUMBER

DRAWING NUMBER

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City Council Public Hearing

November 18, 2025 (2nd Reading)

North Louisville GDP, 1st Amendment (Highline Davidson GDP Amendment)

Approval of Ordinance No. 1906, Series 2025, approval of the North Louisville General Development Plan, 1st Amendment to allow residential land uses at 2101 N Courtesy Rd.

Presented by Matt Post, Senior Planner



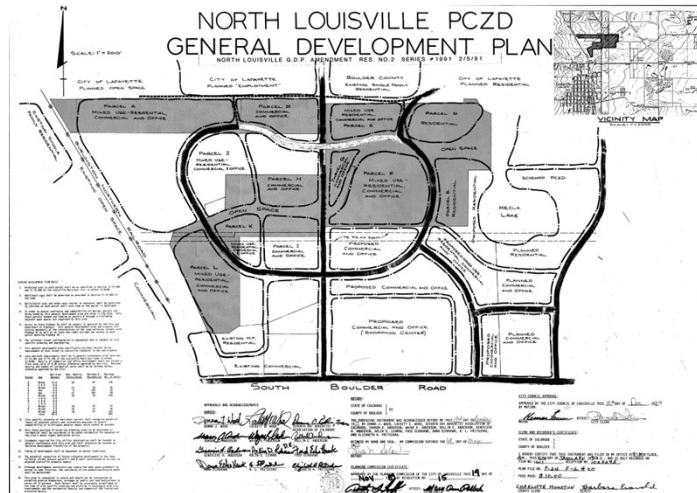
Summary: North Louisville GDP Amendment

- Applicant requests approval of the **North Louisville General Development Plan (GDP), 1st Amendment** to:
 - Permit residential land uses on the property (currently limited to commercial uses under the existing GDP).
 - Establish yard and bulk standards—including building setbacks, height, lot coverage—and density limitations through the GDP Amendment process.



Background: North Louisville GDP Amendment

- Site is occupied by Louisville Boat and RV Storage, which allows outdoor storage of RVs, boats, and trailers in a secured, fenced facility.
- North Louisville GDP approved in 1989, covering 65 acres for commercial, office, residential, and mixed-use residential uses.
- Portions of original GDP area incorporated into other GDPs (Takoda GDP and North End GDP and their amendments).
- Subject property has remained within North Louisville GDP boundary and is limited to commercial uses.



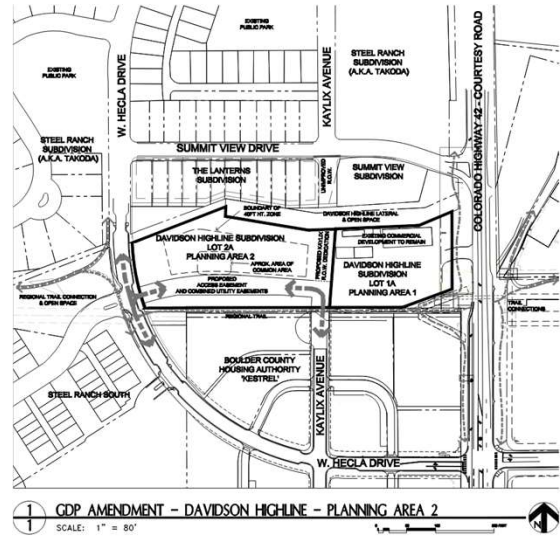
Background: North Louisville GDP Amendment

- Current use permitted under the Davidson Highline PUD, which also authorized improvements east of the property (now The Divine Canine).
- Property subdivided multiple times, most recently in 2021, creating Lot 1A (The Divine Canine) and Lot 2A (subject property).
- Applicant presented a Concept Plan to City Council to consider GDP Amendment and permanently affordable, deed-restricted homeownership community.
- Concept envisioned 44–48 dwelling units in a mix of townhouses and duplexes at 14–15 DU/acre.
- City Council provided generally supportive feedback on the amendment and development concept.



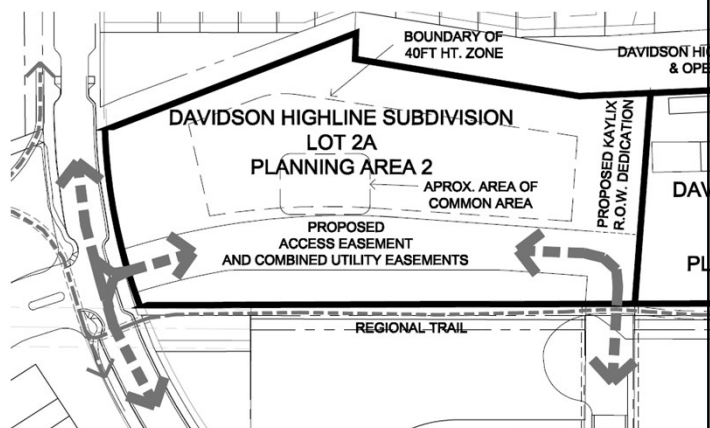
Proposal: North Louisville GDP Amendment

- Approval of the First Amendment to the North Louisville GDP to allow residential land use throughout the subject property.
- Proposed permitted uses: single-family and multifamily dwellings, duplexes, accessory dwelling units, and accessory structures.
- Proposed maximum: 51 dwelling units (maximum density of 17.42 DU/acre), representing an upper limit rather than a required unit count.



Proposal: North Louisville GDP Amendment

- Access provided from Hecla Drive
- Centrally located common area planned as the primary open space amenity
- On-site open space required for all PUD applications and will be reviewed with subsequent PUD submittals
- Open space must be functional, preserving natural features (trees, drainage areas) and providing recreation, visual relief, and convenience of use.



Proposal: North Louisville GDP Amendment

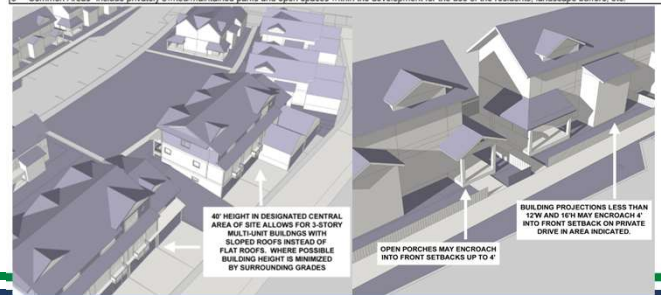
- GDP depicts future right-of-way dedication to complete the Kaylix Avenue connection
- City Council indicated support for requiring only pedestrian and bicycle improvements within the dedication area.
- Dedication would be required during the PUD and Plat process.



Proposal: North Louisville GDP Amendment

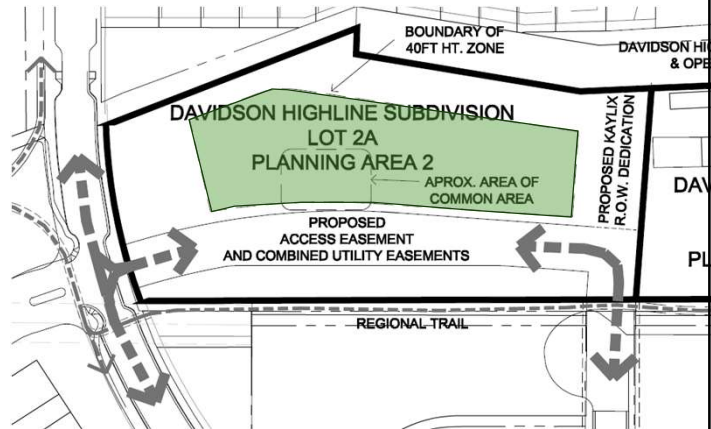
- Bulk and Dimensional Standards Reflect townhome development:
 - 0-foot side setbacks attached units.
 - No minimum lot coverage requirement.
 - Minimum lot width of 20 feet for standard townhome unit
- Setbacks from public rights-of-way:
 - 15-foot front yard setback.
 - 10-foot side yard setback
 - Reduced 5-foot side setback adjacent to the Kaylix Avenue dedication.
- Standards are generally consistent with the surrounding Takoda GDP, with added consideration for rights-of-way setbacks.

BULK AND DIMENSIONAL STANDARDS		
	PLANNING AREA 1 (NOT INCL.)	PLANNING AREA 2
MINIMUM LOT AREA		N/A
MINIMUM LOT WIDTH		20'
MAXIMUM LOT COVERAGE		N/A
MAXIMUM BLDG. HEIGHT - PRINCIPAL USE		35' (40' within designated area)
MAXIMUM BLDG. HEIGHT - ACCESSORY USE		25'
BUILDING SETBACKS		
FRONT YARD (1)		
TO PRIVATE STREET		8'
TO PUBLIC ROW		15'
TO COMMON AREAS (3) OR PUBLIC OPEN SPACE		5'
REAR YARD - PRINCIPAL USES		10' (2)
REAR YARD - ACCESSORY USES - ATTACHED OR DETACHED		5' (2)
SIDE YARD - PRINCIPAL AND ACCESSORY USES		3'
BETWEEN ATTACHED UNITS		0'
ABUTTING PRIVATE STREET OR ALLEY		3'
ABUTTING PUBLIC ROW		10' (5' at Kaylix ROW)
ABUTTING COMMON AREAS (3)		2'
INTERIOR LOT LINE		2'
BULK AND DIMENSIONAL STANDARDS - KEY NOTES*		
1. Unenclosed porches may encroach into required front setback up to 4'.		
On the south side of east-west access easement, building projections less than 12" and 16" may encroach into required front setback up to 4'.		
2. Rear Setback - 0' to alley or private drive and 5' to common areas, Open Space, or non-buildable easement at least 10' wide.		
3. "Common Areas" include privately owned/maintained parks and open spaces within the development for the use of the residents, landscape buffers, etc.		



Proposal: North Louisville GDP Amendment

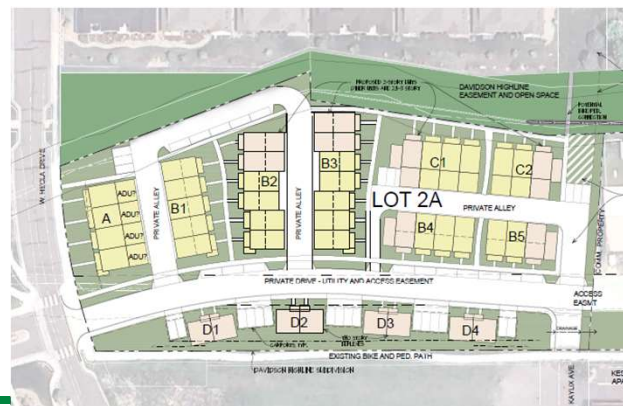
- Height Transition
 - Incorporates a height transition area in response to concerns from adjacent residents
 - Maximum building height limited to 35 feet along the site perimeter to relate to surrounding development.
 - Heights up to 40 feet permitted in the site interior.



Proposal: North Louisville GDP Amendment

- Proposed Density
 - Maximum of 17.42 dwelling units per acre, or 51 total dwelling units.
 - Establishes a cap on total units while allowing flexibility for fewer units at final buildout.
 - Final unit count to be determined through site design and subsequent entitlement review.
 - Concept Plan – 48 dwelling units

Development	Total Units	DUs / Acre
Steel Ranch Townhomes (The Overlook)	58	8.9
Steel Ranch Apartments (North Main at Steel Ranch)	228	24.2
Steel Ranch Patio Homes	38	5.5
Steel Ranch Single Family	114	3.23
Lanterns	24	6.3
The Foundry – current PUD	32	5.5
North Louisville GDP Amendment	51	17.42



Analysis: North Louisville GDP Amendment

- Planned Community Zone District (PCZD) Context:
 - Subject property will remain within the PCZD regardless of GDP amendment.
 - Amendments follow the same process and requirements as the original GDP approval
- Purpose of the PCZD (LMC Sec. 17.72.010)
 - Encourage, preserve, and improve the health, safety, and general welfare of the community through contemporary land planning principles and coordinated community design.
 - Recognize the economic and cultural advantages of an integrated, planned community development that provides areas for various housing types, retail, service activities, recreation, schools, public facilities, and other land uses.

Analysis: North Louisville GDP Amendment

- **South Boulder Road Small Area Plan**
 - Designates the property for medium-density residential development (10–20 dwelling units per acre).
- **Comprehensive Plan**
 - Within the Highway 42 Urban Corridor with an Urban Neighborhood designation.
 - Urban Pattern:
 - Interconnected street network with multimodal transportation opportunities.
 - Development on smaller parcels and street-oriented building placement.
 - Pedestrian scale and massing emphasized.

Analysis: North Louisville GDP Amendment

- **Comprehensive Plan Cont.**

- Neighborhood development types are predominantly residential, ranging from low- to high-density multifamily.
- Supports mid- to high-density multifamily development at this location.

- **Comprehensive Plan Housing Policies Supported by GDP Amendment:**

- **Principle NH-5:** Encourage a mix of housing types and pricing to meet economic, social, and multigenerational needs of current and future residents.
- **Policy NH-5.1:** Provide housing that meets needs of seniors, empty-nesters, disabled individuals, renters, first-time homebuyers, and others through a variety of housing types, prices, and styles.

Analysis: North Louisville GDP Amendment

- **City of Louisville Housing Plan**

- Supports the Plan's three primary goals:
 - Increase opportunities for residential development in appropriate locations.
 - Expand and maintain affordable housing for low- to middle-income households, including the local workforce.
 - Diversify housing stock by encouraging mixed-use and mixed-income neighborhoods with a wider range of housing types for various household sizes, incomes, and demographics.

Analysis: North Louisville GDP Amendment

- **City of Louisville Housing Plan Cont.**

- Relevant strategies from the Housing Plan:
 - **Action 1.1:** Establish criteria and identify areas for zoning changes to support additional residential development, including rezoning underutilized commercial properties (p. 31–32).
 - **Action 1.2:** Consider offering a height bonus or additional density for projects including affordable and mixed-income housing (p. 32).
 - **Action 3.2:** Expand allowances for multifamily housing in commercial zones and consider stand-alone residential development in appropriate commercial areas (p. 46–47).

Analysis: North Louisville GDP Amendment

- **Staff Finding:**
 - Proposed GDP amendment to allow residential land uses is consistent with multiple adopted policies:
 - Comprehensive Plan
 - South Boulder Road Small Area Plan
 - Louisville Housing Plan
 - Supports key policy objectives:
 - Diversify Louisville's housing stock.
 - Promote mixed-income and workforce housing opportunities.
 - Encourage residential development on underutilized properties.
 - Support medium- to high-density residential development.
 - Allow density and height incentives to advance affordability goals.

Recommendation: North Louisville GDP Amendment

Planning Commission recommended approval of this application on September 11, 2025

Staff recommends approval of Ordinance No.1906, Series 2025, approval of the North Louisville General Development Plan, 1st Amendment to allow residential land uses