City of Louisville
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Planning Commission
Staff Report
July 11, 2024

ITEM:	PUPL-000427-2022 and VACA-000515-2024, East Street Village Final Subdivision Plat, Final Planned Unit Development, and Easement Vacation.
PLANNER:	Matt Post, Senior Planner
REPRESENTATIVE:	Paul Norquist, Design Practice Inc.
EXISTING ZONING:	Residential Medium Density (R-M)
LOCATION:	533 and 421 East Street
TOTAL SITE AREA:	3.69 Acres (160,870 SF)
REQUEST:	Approval of Resolution 8, Series 2024, recommending approval of a Final Planned Unit Development (PUD), Final Plat, and Easement Vacation for 15 single-family homes and 21 townhome units on a 3.69-acre parcel.

VICINITY MAP:

SUMMARY:
The applicant, Design Practice INC, representing East Street, LLC, requests approval of a Final Planned Unit Development (PUD) and Final Plat to create 36 residential lots. The lots will include a mix of 15, detached single-family homes and 21 townhomes units with vehicular access provided to all units from a private loop road. Detached single-family homes and townhomes are permitted uses in the Residential Medium-Density (R-M) zone district. The applicant is requesting waivers to applicable yard and bulk standards and subdivision design standards described below.

The Planning Commission recommended approval of the Preliminary PUD and Plat for this project on October 12, 2023, with City Council approving on November 28, 2023. No significant changes have been proposed by the applicant between the preliminary and final process.

BACKGROUND:
The proposed development will be accessed via East Street with two access points proposed connected by a private loop road. The site is bound on the north by the Pine Street Plaza commercial area that is zoned commercial community (C-C), the west by the BNSF railroad right-of-way that is zoned residential medium-density (R-M), and the south by single-family detached homes which are zoned R-M.

The subject properties are not platted and contain 10 single-family detached units with accessory structures originally built or relocated to the site between the 1900's and the 1960's. The Historic Preservation Commission approved the demolition of all structures at 421 East St on July 17, 2023, and 533 East St on July 24, 2023.

PROPOSALS:

Final Plat
The request includes a proposal to subdivide the existing property into 36 residential lots and 8 outlots (Outlots A-H). The residential lots range in size from 1,805 square-feet to 3,698 square-feet. The combined outlots total 1.35 acres and contain private roadways, parking areas, common open space, utilities, and drainage areas. The outlots will be shared areas maintained by a required HOA and owned by East St, LLC. A Subdivision Improvement Agreement (SIA) is currently under review outlining maintenance and improvement responsibilities. Staff and the applicant must agree to the terms of the SIA prior City Council hearing and approval.

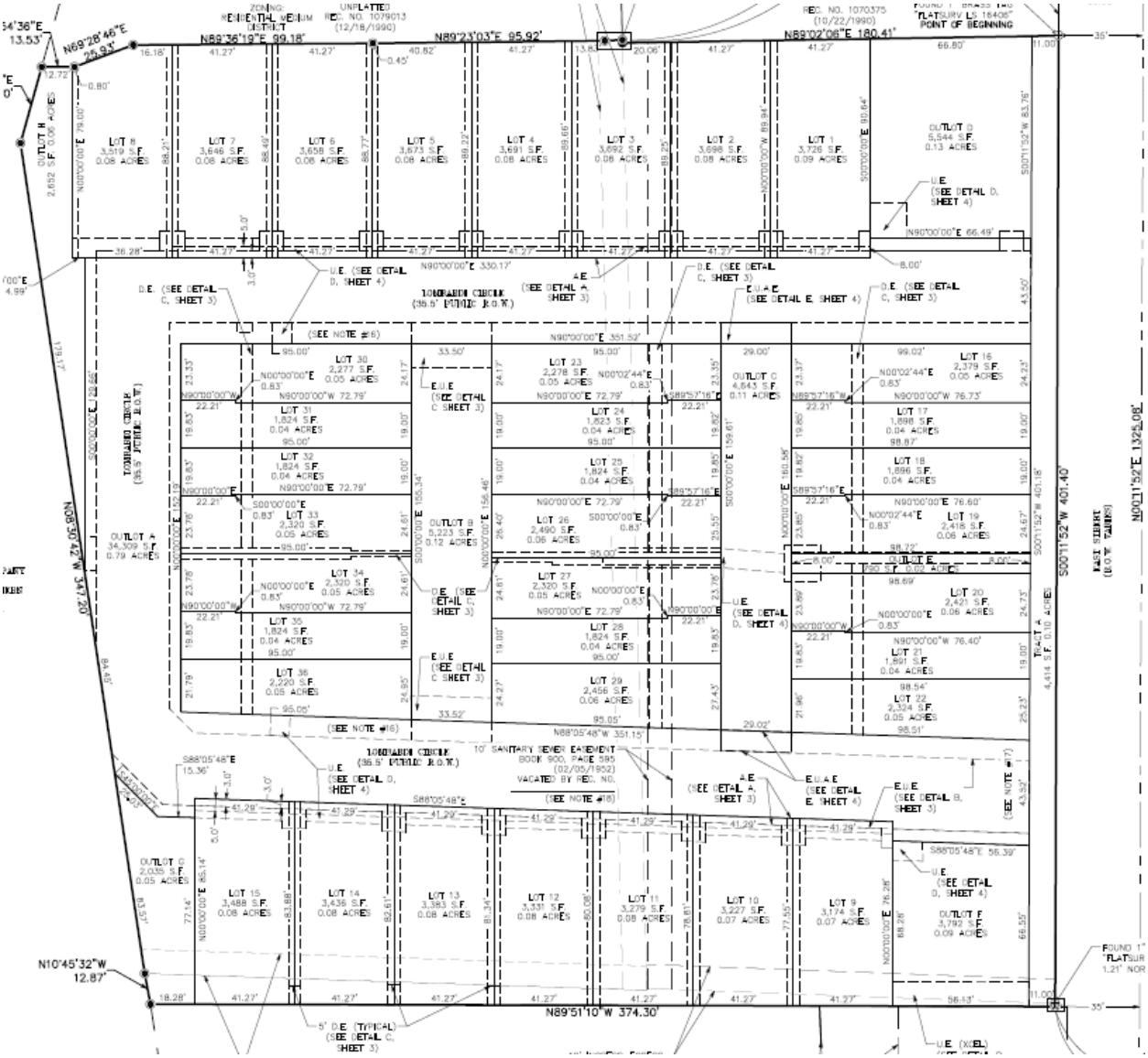


Figure 1: East Street Village Final Plat

The easternmost side of the site will include a 4,414 square-foot (0.1 acre) right-of-way dedication (Tract A) directly adjacent to East Street which will accommodate a new, detached sidewalk in front of the site. Pursuant to Louisville Municipal Code (LMC) Sec, 16.16.060, 15% of the land proposed for residential subdivision shall be dedicated to the City for public purposes (e.g., park), or the applicant may elect to pay a fee in lieu with the approval of City Council. The applicant has requested to pay the fee in lieu.

An existing 10-foot sanitary sewer easement belonging to the Louisville Sanitation District will be vacated via an Easement Vacation request with the Final Plat and PUD applications. The City is a successor to this easement and staff have no objections to the vacation request. New sewer utilities will serve the proposed structures and will be contained within Outlots A and C.

The Final Plat complies with all design standards in the LMC Ch. 16.16, except as noted in the table below. The applicant has requested modifications to the subdivision design standards which are detailed further below.

Final Planned Unit Development (PUD)

The Final PUD proposes a mix of 15 single-family detached units and 21 townhome units, totaling 36 residential dwelling units on site. All units are located on individual lots which will allow for the fee simple sale of the properties. The single-family homes are located on the south and north sides of the property with the townhome units in the center. All dwelling units are designed to include fenced-in private yard space and two-car garages, while an additional 24 visitor parking spaces are included within the site. A 6-foot cedar privacy fence is proposed on the north side of the site and will visually buffer the property from the commercial development to the north at Pine Street Plaza. A 26-foot wide looped drive aisle (Lombardi Circle) provides access to all units and connects to East Street in two locations, while a 23-foot alley bisects the site providing additional access to 12, alley-loaded townhome garages.

A 5,223 square-foot common open space area is provided on Outlot B which is designed to accommodate the main entrance of 14 townhomes on site. The area will be landscaped with low-water shrubs and drought tolerant fescue sod and is further improved by pedestrian connections to the dwelling units with seating areas.

A 5-foot wide sidewalk is proposed along both sides of Lombardi Circle, adjacent to the proposed townhomes, providing a direct pedestrian connection to the detached sidewalk on East Street and the open common open space on site.

Landscaping includes low-water shrubs, grasses, perennials, and trees in common areas and in the unfenced front yards of the residential units. A variety of trees and rock mulch are included in private yard spaces. All residences, including the townhomes, will include private fenced-in yards.

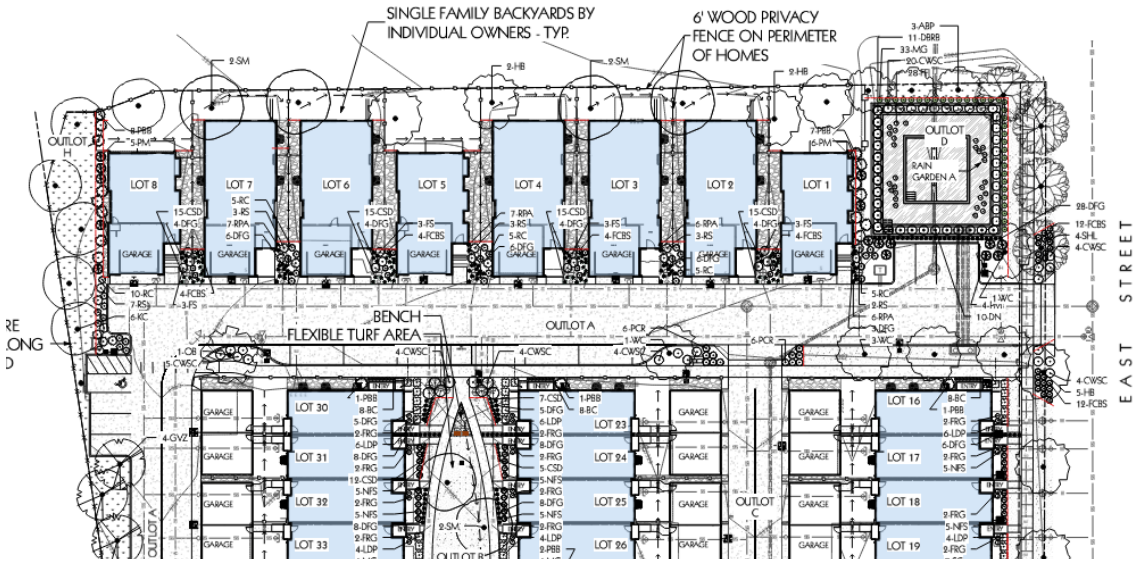


Figure 2: North-half landscape and site plan

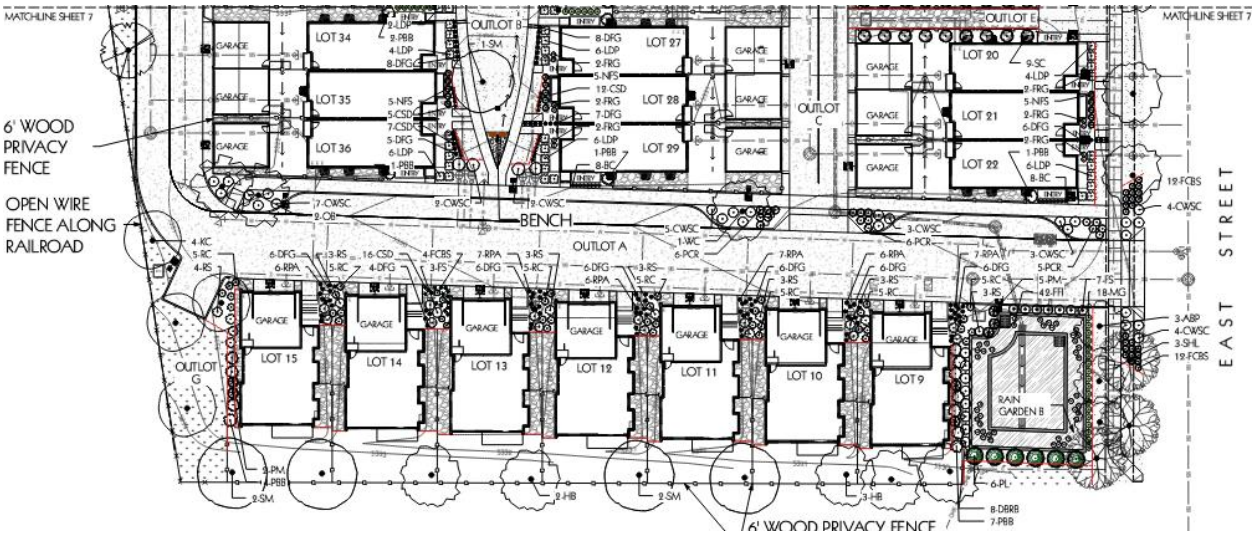


Figure 3: South-half landscape and site plan

Outlots D and F on the northeast and southeast corners of the site will be HOA-maintained and utilized for detention and water quality in a terraced design that also acts as a landscape buffer. A variety of plantings are provided around the detention areas, which will include a regionally specific rain garden seed mix.

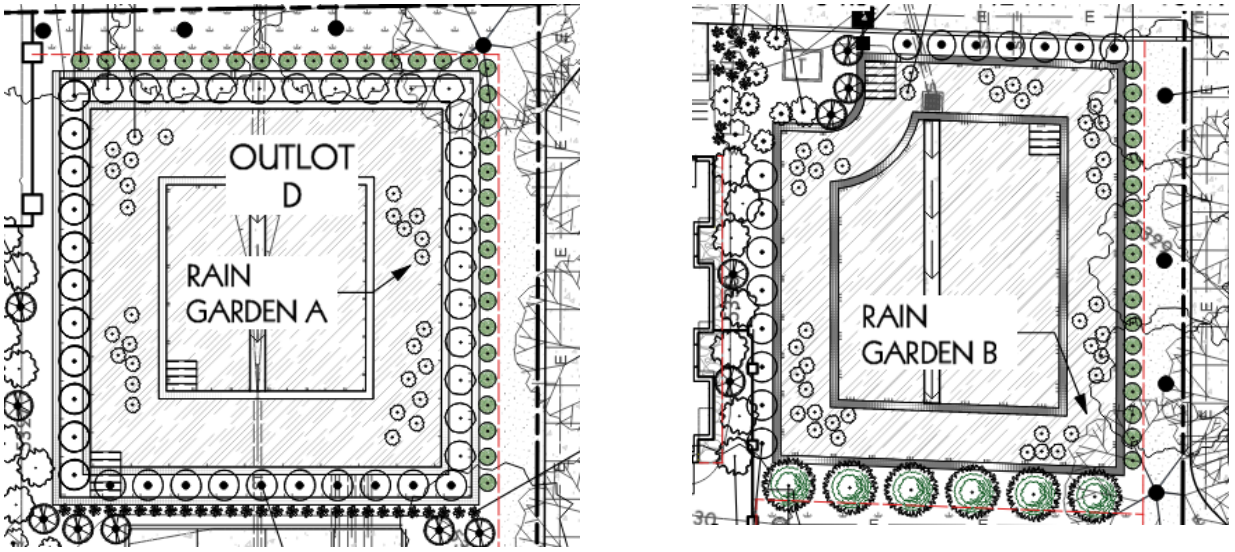


Figure 4: Rain Gardens in Outlot D (left) and Outlot F (right)

Lots 1-15 include single-family detached homes with two proposed home models. The "Type 1" models have a 1,500 square-foot footprint and 3,366 square-feet of total livable space over two stories and a basement. Three material palettes are proposed and detailed in sheet 14 of the PUD Exhibit (attachment 4). Materials include a wood and cementitious shingle, cementitious siding, vertical or horizontal wood-textured steel plank siding, standing seam metal roofs, and black trimmed windows and garage doors.

This model is proposed on lots 1, 3, 5, 7, and 9-15. The maximum height proposed for this model is 34 feet 1 5/8 inches.

Figure 5: Type 1 Single-Family with type 1-A exterior materials

The “Type 2” single-family detached model has a 1,978 square-foot footprint and 3,825 square-feet of total livable space over two stories and a basement. Materials include cedar, steel plank, and cementitious siding, standing seam metal roofs, and black trimmed windows and garage doors. The models are proposed on lots 2, 4, 6, and 8. The maximum height proposed is 28 feet 11 7/8 inches.

Figure 6: Type 2 Single-Family home with type 2-A exterior materials

The proposed townhomes are alley-loaded with detached, two-car garages. Two different designs provide variation in options and visual articulation, with included material optionality. The units are three stories in height with garden level basements and rooftop decks. Materials include cedar, steel plank, and cementitious siding,

standing seam metal roofs, and black trimmed windows and garage doors. Type A units are up to 38 ft. 7 3/8 inches in tall and Type B units are up to 35 feet 10 3/8 inches tall. Both unit types require height waivers.

Figure 7: Townhouse and material options

The photometric plan on the site shows brighter footcandles along the drive aisles, common open space, and residential entries. Lighting complies with the standards of LMC.

A traffic impact study was submitted for the development. A 2025 traffic conditions table shows that, at full expected buildout, the intersections near the development will maintain a level of service of C or better. The full traffic study is included as attachment 5.

Year 2025 Traffic Conditions

Intersection	Control	Background		Total - Scenario 1		Total - Scenario 2	
		Morning	Evening	Morning	Evening	Morning	Evening
1 - SH 42 / Pine Street	Signalized	B	C	B	C	B	C
2 - SH 42 / 96th Street / Lock Street	Signalized	C	C	C	C	C	C
3 - Pine Street / East Street	Side-Street Stop	B	B	B	B	B	B
4 - East Street / North Access	Side-Street Stop	---		A	A	A	A
5 - East Street / South Access	Side-Street Stop	---		A	A	A	A

Figure 8: Traffic Study – Anticipated Conditions with Proposed Development

The applicants are proposing waivers to the yard and bulk requirements in the Residential-Medium Density zone district. A full list of requested waivers is in the analysis section of this report.

ANALYSIS:

Final Plat

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

1. *Whether the plat conforms to all of the requirements of Title 16 (Subdivisions);*
    - The applicant is requesting three modifications from Title 16 requirements. An analysis of the modification criteria are provided below. The plat conforms to all other requirements of Title 16.

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, smaller parcels, 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. The private road provides access to the residential lots for pedestrians and vehicular traffic. Easements will be established for utility service, and the site was reviewed for emergency access by the Fire Protection District. The plat allows for a residential land use and meets permitted densities for the net site area.

The applicant is requesting the following modifications to LMC Title 16 subdivision standards. The applicant is also requesting modifications to the zone district yard and bulk requirements as described in the final PUD analysis section below.

Subdivision Modifications Requested:

Requirement	Subdivision Standard	Requested Value
Block length Sec. 16.16.040(B)	400 ft. between street intersections	193 ft.
Lot Depth Sec. 16.16.050(C)	Depth of residential lots shall not exceed 2.5 times the width (2.5:1)	Up to 5.2:1
Lot Frontage Sec. 16.16.050(D)	50 ft. front lot line	19 ft.

In granting a modification of a subdivision plat processed concurrently with a planned unit development, the following requirements must be satisfied per LMC Sec. 16.24.030.B (modifications for subdivisions process concurrently with a PUD):

1. *The modification, if granted, will not alter the essential character of the neighborhood or district in which the property is located, nor substantially or permanently impair the appropriate use or development of adjacent property;*
    - The modifications result in a development with similar street patterns and lot shapes to nearby residential developments along East Street. The modifications would allow for narrower, deeper lots, which mimic development patterns in the surrounding area. The reduced distance between street intersections allows for greater site circulation by creating a private drive to loop through the site and matches the existing character of the surrounding area. East Street is a frontage road and other existing developments along this road have intersections closer than 400 ft. from one another. Staff find this criteria to be satisfied.

2. *The modification is necessary to meet the purposes set forth in section 17.28.010 (purpose statement for PUDs);*
    - The proposed modifications help provide a greater variety of design for urban living. The narrow, deep lots provide a mix of housing types that would otherwise not be possible at the proposed density without the modification.

Larger lots would likely need a cul-de-sac or similar turnaround design or fewer overall lots, resulting in less density than is currently proposed. The modifications provide flexibility over conventional land-control regulations by allowing smaller lots that provide a more contemporary housing product. Staff find this criteria to be satisfied.

3. *The modification is warranted by the design and amenities incorporated in the development plan, and the needs of residents for usable or functional open space and buffer areas can be met;*
    - The modifications are warranted by the narrow, tall designs of the proposed housing units. This design allows for functional open space with private yards and common private green space for residents. Staff finds this criteria is satisfied.

4. *There are no reasonable design alternatives that would remove the need for the requested modification or would reduce the amount of the modification required;*
    - The intersection distance reduction is needed to create site circulation with the proposed lot configurations. Alternatives would result in a single entry drive for the site, which creates greater congestion and would severely alter the site layout. The narrow, deep lots are necessary to provide the proposed residential units. Fewer units would be able to be constructed if standard lot depth and frontages are applied, which contradicts the R-M zoning's density allowance for the site. Staff finds this criteria is satisfied.

5. *No additional dwelling units shall result from approval of the modification beyond what the underlying zoning would otherwise allow;*
    - The proposal results in 36 dwelling units, which is less than the maximum 37 dwelling unit allowance for the net lot area in the R-M zone district. Staff finds this criteria is satisfied.

The applicant is requesting a fee-in-lieu for the required 15% public use land dedication in Section 16.16.060 of the LMC. Staff recommend approval of this option due to the overall size of the development, and the proximity to existing parks and public uses relative to the site. Each residential lot contains a private yard space and Outlot B functions as a common open space area for residents. The site has several parks and trails within 1-mile of the site, including Miner's Field, Memory Square Park, the Coal Creek Trail network, and Louisville Community Park. The site is also within a quarter mile of Downtown Louisville, which provides walkable amenities for residents.

Final Planned Unit Development

The site design is regulated by Chapter 17.28 of the LMC, the yard and bulk requirements in the Residential-Medium Density zone district, and the 2013 Comprehensive Plan.

Inclusionary Housing
The applicant is proposing the fee in lieu option to satisfy requirements in the Inclusionary Housing chapter of the Municipal Code. The fee amount is calculated through Section 17.76.050(B) and will be paid for each market-rate unit as a prerequisite to receive each unit's building permit. City Council approval is required to utilize the fee in lieu option in accordance with LMC Sec. 17.76.050(H).

Staff recommend approval of the fee in lieu option for this development. The project provides a variety of housing types, including townhome units and mid-sized single-family units that may be more attainable than typical single-family detached housing. The City can leverage the inclusionary fees through other funding sources and partnerships to achieve affordable units off-site.

2013 Comprehensive Plan
The subject property has an "Urban" designation in the Comprehensive Plan's future land use framework (p. 24) and is consistent with several Plan policies. Specifically, the proposal fits many characteristics of the Plan's urban pattern areas (p. 19) through alley/rear loaded properties, smaller blocks/parcels, street oriented buildings, and formal landscaping. The proposal also fits the neighborhood development type, which includes a range of densities up to multi-family communities, adjacent public spaces, and well defined edges through fencing and building layout/ architectural style (p. 22).

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

- PRINCIPLE NH-4. The character and identity of existing residential neighborhoods should be maintained while allowing for evolution and reinvestment (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)

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

- It is compatible with existing nearby residential developments such as Clementine Commons and Sunnyside Place;
- The housing is less than a quarter mile distance to downtown, making it walkable for most residents. The resulting customer base supports vibrant retail and commercial centers downtown that serves local residents;
- The proposed housing ensures a variety of housing types to meet changing social needs of current and future residents; and
- The housing would meet the needs of multiple types of residents by providing a variety of floor plans for different needs.

PUD Waiver Compliance with LMC Sec. 17.28.110
LMC Section 17.28.110 sets forth the PUD waiver process and criteria. The applicant requests zoning waivers from the Residential Medium (R-M) zoning requirements as set forth below. All proposed structures will require waivers from the minimum lot area, lot coverage, front setbacks, and side interior setbacks. Height waivers have been requested and are outlined in the relevant table below.

Bulk Standard Waivers Requested:

Yard/Bulk Requirement (Sec. 17.12.040)	R-M Standard	Requested Value
Minimum Lot Area	7,000 sq. ft.	Min. 1,805 sq. ft.
Lot Coverage	35% per lot	Up to 73.5% per lot
Front Yard Setback	25 ft.	Min. 7 ft. 4 in.
Side Interior Setback	7ft	0 ft.
Rear Setback	25 ft.	0ft.
Structure Height	35 ft.	Up to 39 ft. 1/8 in

Strict adherence to the dimensional standards of the R-M zone district would limit the number of dwellings permitted, resulting in larger units on fewer lots. The intent of the R-M zone district is to provide areas which are primarily used for or permit multifamily development at duplex or townhouse densities (LMC Sec. 17.12.010). The requested waivers will support the intent of the zone district by allowing a reasonable, modern density of townhouses and single-family homes while supporting on-site green space, additional visitor parking, and appropriate site circulation.

Height Waivers Requested:

LOT #	WAIVER REQUEST	LOT #	WAIVER REQUEST	LOT #	WAIVER REQUEST
16	3'-5 3/4"	23	3'-2 3/4"	30	3'-7 3/8"
17	0'-8 5/8"	24	0'-5 5/8"	31	0'-10 1/8"
18	0'-8 5/8""	25	0'-5 5/8"	32	0'-10 1/8"
19	3'-5 3/4"	26	3'-2 3/4"	33	3'-7 3/8"
20	2'-11 1/2"	27	4'-0 1/8"	34	4'-0 1/8"
21	0'-2 3/8"	28	1'-3"	35	1'-3"
22	2'-11 1/2"	29	4'-0 1/8"	36	4'-0 1/8"

Elevations of the tallest townhouse units are depicted below. The requested height waiver will allow for gable roof designs that are consistent with adjacent developments at Clementine Commons and Sunnyside Place. The dashed line depicts the maximum height permitted height of 35 feet in the R-M zone district. Staff find the waiver request to be reasonable and in-line with the intent of the height limitations.

Figure 9: East Street Village

Figure 10: Sunnyside Place

Figure 11: Clementine Commons

Compliance to Section 17.28.120 – Criteria for Development Plan

Section 17.28.120 of the Louisville Municipal Code lists 28 criteria for PUDs that must be satisfied or found not applicable in order to approve a PUD. Overall, staff find that the proposed development meets the PUD review criteria. The residential uses are appropriate for the R-M zoning and provide a diversity of housing types that are

architecturally compatible with other residential developments along East Street. The site design includes a private road and 5-foot wide sidewalk network that provides access to the residential lots for pedestrians and vehicles. The buildings are sited to provide seven street-oriented townhomes and visual relief through building spacing and landscaped outlots. Water-efficient landscaping and fencing provides privacy and screening from adjacent sites such as the BNSF railroad to the west.

Full analysis and staff's recommended finding of each criterion is provided in the Appendix at the end of this staff report.

PUBLIC COMMENTS:
Public comment received to date are included as attachment 6.

STAFF RECOMMENDATION:
Staff recommend approval of Resolution 8, Series 2024 recommending approval of a Final Planned Unit Development (PUD), Final Plat, and Easement Vacation for 15 single-family homes and 21 townhome units on a 3.6 acre parcel located at 421 and 533 East Street.

ATTACHMENTS:
1. Resolution 8, Series 2024
2. Final Plat
3. Final PUD
4. Application Materials
5. Traffic Impact Study
6. Public Comments

APPENDIX: PUD Criteria Analysis – East St Village

Criteria 17.28.120 (A)	Finding	Narrative
1. An appropriate relationship to the surrounding area.	Compliant	The uses are appropriate for the area and permitted in the R-M zone district. The site design is consistent with the context of the surrounding neighborhoods along East St.
2. Circulation in terms of the internal street circulation system, designed for the type of traffic generated, safety, separation from living areas, convenience, access, and noise and exhaust control. Proper circulation in parking areas in terms of safety, convenience, separation and screening.	Compliant	The application provides for adequate and safe internal circulation. Sidewalks are provided parallel to the main private drive and parking spaces are located to have adequate visibility when maneuvering in and out of spaces.
3. Consideration and provision for low and moderate-income housing	Compliant	The project provides more diversity of housing types that contribute to housing options for the City and neighborhood. A fee in lieu is proposed in order to support affordable housing off-site.
4. Functional open space in terms of optimum preservation of natural features, including trees and drainage areas, recreation, views, density relief and convenience of function	Compliant	There are no significant natural features that staff found needed to be preserved. Existing trees proposed for removal are considered undesirable by the City Forester.
5. Variety in terms of housing types, densities, facilities and open space	Compliant	The project provides a variety of housing through the construction of 3-bedroom townhomes and 3 to 4 bedroom detached single-family homes.

Criteria 17.28.120 (A)	Finding	Narrative
6. Privacy in terms of the needs of individuals, families and neighbors	Compliant	A 6-foot privacy fence will be constructed along the perimeter of the site, which provides privacy for residents and neighboring properties. Trees are proposed in the rear yards of the single-family homes, providing additional screening. The rooftop decks are oriented east-west and are screened between townhome units through pergola designs and parapets. The rooftop decks are adequately spaced from adjacent buildings.
7. Pedestrian and bicycle traffic in terms of safety, separation, convenience, access points of destination and attractiveness	Compliant	The project proposes internal walkways for pedestrians and bikes and has access to on-site amenities such as the common open space in Outlot B. The sidewalks connect to East St and provide access to downtown, City parks, and nearby trails.
8. Building types in terms of appropriateness to density, site relationship and bulk	Compliant	Proposed housing meets the allowed density for R-M zoned properties. The housing units vary in size and larger units are proposed towards the middle of the site with less bulk facing out to adjacent properties on the edges.
9. Building design in terms of orientation, spacing, materials, color, texture, storage, signs and lighting	Compliant	Buildings are oriented towards the street and townhomes are alley-loaded with entrances facing pedestrian areas. Materials are compatible with neighboring properties through horizontal siding and similar high-sloped gabled roof forms. Houses are adequately spaced for each housing type, with zero-lot lines on townhome sides and rear alley-facing garages. Lighting is shielded and a lower light temperature.

Criteria 17.28.120 (A)	Finding	Narrative
10. Landscaping of total site in terms of purpose, such as screening, ornamental types used, and materials used, if any; and maintenance, suitability and effect on the neighborhood	Compliant	Proposed trees help screen the single-family homes from adjacent properties in the rear. Entrances to each unit have a mix of landscaping materials. The rain gardens in the east help screen the neighborhood and provide entry landscaping adjacent to the private drive.
11. Compliance with all applicable development design standards and guidelines and all applicable regulations pertaining to matters of state interest, as specified in chapter 17.32	Not applicable	Per Sec. 17.32.060 subsection C and D, this section does not apply to this development.
12. None of the standards for annexation specified in chapter 16.32 have been violated	Not applicable	The property has been part of the City since at least 1910.
13. Services including utilities, fire and police protection, and other such services are available or can be made available to adequately serve the development specified in the final development plan	Not applicable	Development agreements will be prepared for the final development plan.
Criteria 17.28.120 (B)	Finding	Narrative
1. Development shall be in accordance with the adopted elements of the comprehensive development plan of the city, and in accordance with any adopted development design standards and guidelines.	Compliant, with waivers	Developers are requesting waivers to have narrower, deeper lots than permitted in Title 17, along with height for narrower but taller townhome units. The waivers help meet the elements of urban neighborhood development in the 2013 Comprehensive Plan.
2. No structures in a planned unit development shall encroach upon the floodplain. Existing bodies of water and existing stream courses shall not be channelized or altered in a planned unit development plan.	Compliant	The property is not located in a floodplain.
3. No occupied structure shall be located on ground showing severe subsidence potential without adequate design and study approved specifically by the city.	Compliant	There is no known severe subsidence on the property.

Criteria 17.28.120 (A)	Finding	Narrative
4. The proposal should utilize and preserve existing vegetation, land forms, waterways, and historical or archeological sites in the best manner possible. Steep slopes and important natural drainage systems shall not be disrupted. How the proposal meets this provision, including an inventory of how existing vegetation is included in the proposal, shall be set forth on the landscape plan submitted to the city.	Compliant	Existing trees proposed for removal are considered undesirable by the City Forester. The property is not considered a significant historical site or landmark - the Historical Preservation Commission has reviewed the existing structures and approved a demolition permit for the properties.
5. Visual relief and variety of visual sitings shall be located within a development in the overall site plan. Such relief shall be accomplished by building placements, shortened or interrupted street vistas, visual access to open space and other methods of design.	Compliant	Corridors of visual relief are provided through the side interior setbacks of the single-family detached homes, as well as outlots facing east-west through the townhomes. Shorter buildings are placed on the edges of the site with taller townhome buildings towards the middle.
6. Open space within the project shall be located in such a manner as to facilitate pedestrian use and to create an area that is usable and accessible to residents of surrounding developments.	Compliant	The common space on the site is accessible through the main sidewalk network, which connects to East St and to the residential unit entrances.
7. Street design should minimize through traffic passing residential units. Suggested standards with respect to paving widths, housing setbacks and landscaping are set forth in public works standards of the city and applicable development design standards and guidelines. The system of streets, including parking lots, shall aid the order and aesthetic quality of the development.	Compliant	The development has a single private drive that loops around the neighborhood, creating circulation that is not conducive to through-traffic since there are no additional destinations. Sidewalks are 5-feet wide and streets and alleyways are an adequate width. Parking lots are subdued on the site and screened from East St.

Criteria 17.28.120 (A)	Finding	Narrative
8. There shall exist an internal pedestrian circulation system separate from the vehicular system such that allows access to adjacent parcels as well as to parks, open space or recreation facilities within the development. Pedestrian links to trail systems of the city shall be provided.	Compliant	Sidewalks are provided parallel to the main private drive and provide access to downtown, City parks, and trail networks.
9. The project and development should attempt to incorporate features which reduce the demand for water usage.	Compliant	Rock mulch is used in lieu of turf grass on much of the private yard space. Plantings are generally low to medium water use.
10. Landscape plans shall attempt to reduce heating and cooling demands of buildings through the selection and placement of landscape materials, paving, vegetation, earth forms, walls, fences, or other materials.	Compliant	Trees are placed on site in locations that provide shade to the detached single-family units.
11. Proposed developments shall be buffered from collector and arterial streets. Such buffering may be accomplished by earthen berms, landscaping, leafing patterns, and other materials. Entrance islands defining traffic patterns along with landscaping shall be incorporated into entrances to developments.	Compliant	The development is buffered from East St by the location of the rain garden and detention ponds in Outlots D and F, along with the median and sidewalks along East St.
12. There shall be encouraged the siting of lot arrangement, building orientation and roof orientation in developments so as to obtain the maximum use of solar energy for heating.	Compliant	Many buildings in the development are oriented north-south and have roof areas that could be utilized for solar energy in the future.
13. The overall PUD shall provide a variety of housing types.	Compliant	The PUD Amendment provides triplex, quadplex, and single-family detached housing units.
14. Neighborhoods within a PUD shall provide a range of housing size.	Compliant	The PUD Amendment provides a mix of detached and attached single-family housing ranging from 2,889 square-feet to 3,825 square-feet.

Criteria 17.28.120 (A)	Finding	Narrative
15. Architectural design of buildings shall be compatible in design with the contours of the site, compatible with surrounding designs and neighborhoods, shall promote harmonious transitions and scale in character in areas of different planned uses, and shall contribute to a mix of styles within the city.	Compliant	The PUD Amendment proposes architecture that is compatible in size and architecture with surrounding neighborhoods on East St. The larger townhomes are situated towards the middle of the site with two-story homes on the edges to act as a transition space with surrounding single-family areas in Old Town.

RESOLUTION NO. 8
SERIES 2024

A RESOLUTION RECOMMENDING APPROVAL OF A FINAL PLANNED UNIT DEVELOPMENT, A FINAL PLAT, AND AN EASEMENT VACATION TO ALLOW 15 SINGLE-FAMILY HOMES AND 21 TOWNHOME UNITS ON A 3.69 ACRE PARCEL AT 421 AND 533 EAST STREET

WHEREAS, there has been submitted to the Louisville Planning Commission an application for a Final Plat and Final Planned Unit Development (PUD) to allow 15 single-family homes and 21 townhome units on a series of unplatted properties at Tract 704 and 704-A in the City of Louisville (421 and 533 East Street); and

WHEREAS, there has been submitted to the Louisville Planning Commission a request to vacate a sanitary sewer easement belonging to the Louisville Sanitation District which the city is successor to; and

WHEREAS, City staff has reviewed the information submitted and found that, with the eleven requested waivers and modifications, the application complies with the Louisville zoning regulations, the Louisville subdivision 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 July 11, 2024 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 Final Planned Unit Development, a Final Plat, and an Easement Vacation to allow construction of 15 single-family homes and 21 townhome units at 421 and 533 East Street.

PASSED AND ADOPTED this 11th day of July, 2024.

By: _____
Steve Brauneis, Chair
Planning Commission

Attest: _____
Debra Baskett, Secretary
Planning Commission

EAST STREET VILLAGE
FINAL PLAT

A SUBDIVISION OF TRACT 704 AND TRACT 704-A
LOCATED IN THE SOUTHEAST QUARTER OF SECTION 8, TOWNSHIP 1 SOUTH,
RANGE 69 WEST OF THE 6TH P.M.,
CITY OF LOUISVILLE, COUNTY OF BOULDER, STATE OF COLORADO

SHEET 1 OF 4

TOTAL AREA = 160,870 SQ. FT., OR 3.69 ACRES, MORE OR LESS

Certificate of Dedication and Ownership

KNOW ALL MEN BY THESE PRESENTS, THAT THE UNDERSIGNED BEING THE OWNER OF THOSE PARCELS OF LAND AS DESCRIBED IN THE RECORDS OF BOULDER COUNTY, RECORDED ON MAY 10, 2021 AT RECEPTION NUMBER 3883814, AND RECORDED ON MAY 11, 2021 AT RECEPTION NO. 03884149, LOCATED IN THE SOUTHEAST QUARTER OF SECTION 8, TOWNSHIP 1 SOUTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, CITY OF LOUISVILLE, BOULDER COUNTY, STATE OF COLORADO, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

A PARCEL OF LAND LOCATED IN THE SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 8, TOWNSHIP 1 SOUTH, RANGE 69 WEST, OF THE 6TH P.M., CITY OF LOUISVILLE, COUNTY OF BOULDER, STATE OF COLORADO, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS;

CONSIDERING THE NORTH LINE OF THE SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 8 TO BEAR NORTH 89°54'36" WEST, A DISTANCE OF 2647.60 FEET, BETWEEN A FOUND 2" ALUMINUM CAP IN RANGE BOX, STAMPED "S1/16 S8-S9 4846 1983" AT THE SOUTH 1/16 CORNER OF SECTION 8-9 AND A FOUND 2-1/2" ALUMINUM CAP ON 2" ALUMINUM PIPE, STAMPED "1/16 COR" AT THE CENTER-SOUTH 1/16 CORNER OF SAID SECTION 8, WITH ALL BEARINGS CONTAINED HEREIN RELATIVE THERETO.

COMMENCING AT SAID SOUTH 1/16 CORNER OF SECTIONS 8 AND 9, THENCE ALONG SAID NORTH LINE OF THE SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER, NORTH 89°54'36" WEST, A DISTANCE OF 35.03 FEET;

THENCE LEAVING SAID NORTH LINE, SOUTH 00°05'24" WEST, A DISTANCE OF 17.59 FEET TO A POINT ON THE WEST RIGHT-OF-WAY LINE OF EAST STREET AND THE POINT OF BEGINNING;

THENCE ALONG SAID WEST RIGHT-OF-WAY LINE, SOUTH 00°11'52" WEST, A DISTANCE OF 401.40 FEET;

THENCE LEAVING SAID WEST RIGHT-OF-WAY LINE, NORTH 89°51'10" WEST, A DISTANCE OF 374.30 FEET TO A POINT ON THE EAST RIGHT-OF-WAY LINE OF THE BURLINGTON NORTHERN RAILROAD;

THENCE ALONG SAID EAST RIGHT-OF-WAY LINE THE FOLLOWING THREE (3) COURSES,

1) NORTH 10°45'32" WEST, A DISTANCE OF 12.87 FEET;

2) THENCE NORTH 08°30'42" WEST, A DISTANCE OF 347.20 FEET;

3) THENCE NORTH 15°37'40" EAST, A DISTANCE OF 32.70 FEET;

THENCE LEAVING SAID EAST RIGHT-OF-WAY LINE, SOUTH 89°54'36" EAST, A DISTANCE OF 13.53 FEET;

THENCE NORTH 69°28'46" EAST, A DISTANCE OF 25.93 FEET;

THENCE NORTH 89°36'19" EAST, A DISTANCE OF 99.18 FEET;

THENCE NORTH 89°23'03" EAST, A DISTANCE OF 95.92 FEET;

THENCE NORTH 86°40'43" EAST, A DISTANCE OF 7.36 FEET;

THENCE SOUTH 01°29'02" EAST, A DISTANCE OF 1.33 FEET;

THENCE NORTH 89°02'06" EAST, A DISTANCE OF 180.41 FEET, MORE OR LESS, TO THE POINT OF BEGINNING.

CONTAINING 160,870 SQ.FT., OR 3.69 ACRES, MORE OR LESS.

HAS LAID OUT, SUBDIVIDED AND PLATTED SAID LAND AS PER DRAWING HEREON CONTAINED UNDER THE NAME AND STYLE OF EAST STREET VILLAGE FINAL PLAT, A SUBDIVISION OF A PART OF THE CITY OF LOUISVILLE, COUNTY OF BOULDER, STATE OF COLORADO, AND BY THESE PRESENTS DOES HEREBY DEDICATE TO THE CITY OF LOUISVILLE AND THE PUBLIC THE PUBLIC ACCESS EASEMENTS ACROSS OUTLOTS A, B, C, D, E, F, G AND H AS SHOWN ON THE ACCOMPANYING PLAT FOR THE PUBLIC USE THEREOF FOREVER; DOES HEREBY DEDICATE TO THE USE OF THE CITY OF LOUISVILLE AND ALL EMERGENCY SERVICE PROVIDERS THE EMERGENCY ACCESS EASEMENTS AS SHOWN ON THE ACCOMPANYING PLAT FOR PROVISION OF SUCH SERVICES; DOES HEREBY DEDICATE TO THE USE OF THE CITY OF LOUISVILLE THOSE EXCLUSIVE UTILITY EASEMENTS AS SHOWN ON THE ACCOMPANYING PLAT FOR THE EXCLUSIVE USE THEREOF, AND DOES HEREBY DEDICATE TO THE USE OF THE CITY OF LOUISVILLE AND ALL MUNICIPALLY OWNED AND/OR FRANCHISED UTILITIES AND SERVICES THOSE OTHER UTILITY EASEMENTS, DRAINAGE EASEMENTS AND OTHER EASEMENTS AS SHOWN ON THE ACCOMPANYING PLAT FOR THE CONSTRUCTION, INSTALLATION, OPERATION, MAINTENANCE, REPAIR AND REPLACEMENT FOR ALL SERVICES INCLUDING WITHOUT LIMITING THE GENERALITY OF THE FOREGOING, TELEPHONE AND ELECTRIC LINES, WORKS, POLES AND UNDERGROUND CABLES, GAS PIPELINES, WATER PIPELINES, SANITARY SEWER LINES, STREET LIGHTS, CULVERTS, HYDRANTS, DRAINAGE DITCHES AND DRAINS AND ALL APPURTENANCES THERETO, IT BEING EXPRESSLY UNDERSTOOD AND AGREED BY THE UNDERSIGNED THAT ALL EXPENSES AND COSTS INVOLVED IN CONSTRUCTING AND INSTALLING SANITARY SEWER SYSTEM WORKS AND LINES, GAS SERVICE LINES, ELECTRICAL SERVICE WORKS AND LINES, STORM SEWERS AND DRAINS, STREET LIGHTING, GRADING AND LANDSCAPING, CURBS, GUTTERS, STREET PAVEMENT, SIDEWALKS AND OTHER SUCH UTILITIES AND SERVICES SHALL BE GUARANTEED AND PAID FOR BY THE SUBDIVIDER OR ARRANGEMENTS MADE BY THE SUBDIVIDER THEREOF WHICH ARE APPROVED BY THE CITY OF LOUISVILLE, COLORADO AND SUCH SUMS SHALL NOT BE PAID BY THE CITY OF LOUISVILLE, COLORADO, AND THAT ANY ITEMS SO CONSTRUCTED OR INSTALLED WHEN ACCEPTED BY THE CITY OF LOUISVILLE, COLORADO, SHALL BECOME THE SOLE PROPERTY OF SAID CITY OF LOUISVILLE, COLORADO, EXCEPT PRIVATE ROADWAY CURBS, GUTTER, AND PAVEMENT AND ITEMS OWNED BY MUNICIPALLY FRANCHISED UTILITIES AND/OR U.S. LUMEN LINK, INC. WHICH WHEN CONSTRUCTED OR INSTALLED SHALL REMAIN THE PROPERTY OF THE OWNER AND SHALL NOT BECOME THE PROPERTY OF THE CITY OF LOUISVILLE, COLORADO.

EXECUTED THIS _____ DAY OF _____, 20___ A.D.

FOR: EAST ST, LLC, A COLORADO LIMITED LIABILITY COMPANY

BY: _____

ACKNOWLEDGMENT

STATE OF)
) SS
COUNTY OF)

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME THIS _____ DAY OF _____, 20___ A.D.,

BY _____ OF EAST ST, LLC, A COLORADO LIMITED LIABILITY COMPANY, OWNER OF THE PROPERTY DESCRIBED HEREON.

WITNESS MY HAND AND OFFICIAL SEAL

MY COMMISSION EXPIRES: _____

_____
NOTARY PUBLIC

Notes

1. CHICAGO TITLE INSURANCE COMPANY COMMITMENT NUMBER CS0602047 AMENDMENT 4, DATED MAY 25, 2023 AT 8:00 A.M., WAS ENTIRELY RELIED UPON FOR RECORDED INFORMATION REGARDING RIGHTS-OF-WAY, EASEMENTS AND ENCUMBRANCES IN THE PREPARATION OF THIS SURVEY. THE PROPERTIES SHOWN AND DESCRIBED HEREON ARE ALL OF THE PROPERTY DESCRIBED IN SAID TITLE COMMITMENT.
2. 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. THIS SURVEY IS VALID ONLY IF PRINT HAS SEAL AND SIGNATURE OF SURVEYOR.
4. BASIS OF BEARINGS: GPS DERIVED BEARINGS BASED ON A BEARING OF NORTH 89°54'36" WEST ALONG THE NORTH LINE OF THE SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 8, BETWEEN A FOUND 2" ALUMINUM CAP IN RANGE BOX, STAMPED "S1/16 S8-S9 4846 1983" AT THE SOUTH 1/16 CORNER OF SECTION 8-9 AND A FOUND 2-1/2" ALUMINUM CAP ON 2" ALUMINUM PIPE, STAMPED "1/16 COR" AT THE CENTER-SOUTH 1/16 CORNER OF SAID SECTION AS SHOWN HEREON. COLORADO STATE PLANE COORDINATE SYSTEM, NORTH ZONE, NORTH AMERICAN DATUM 1983 (NAD83). ALL BEARINGS SHOWN HEREON ARE RELATIVE THERETO.
5. ANY PERSON WHO KNOWINGLY REMOVES, ALTERS OR DEFACES ANY PUBLIC LAND SURVEY MONUMENT AND/OR BOUNDARY MONUMENT OR ACCESSORY, COMMITS A CLASS TWO (2) MISDEMEANOR PURSUANT TO STATE STATUTE C.R.S. SEC 18-4-508. WHOEVER WILLFULLY DESTROYS, DEFACES, CHANGES, OR REMOVES TO ANOTHER PLACE ANY SECTION CORNER, QUARTER-SECTION CORNER, OR MEANDER POST, ON ANY GOVERNMENT LINE OF SURVEY, OR WILLFULLY CUTS DOWN ANY WITNESS TREE OR ANY TREE BLAZED TO MARK THE LINE OF A GOVERNMENT SURVEY, OR WILLFULLY DEFACES, CHANGES, OR REMOVES ANY MONUMENT OR BENCH MARK OF ANY GOVERNMENT SURVEY, SHALL BE FINED UNDER THIS TITLE OR IMPRISONED NOT MORE THAN SIX MONTHS, OR BOTH. 18 U.S.C. § 1858.
6. THE DISTANCE MEASUREMENTS SHOWN HEREON ARE U.S. SURVEY FOOT.
7. FLOOD INFORMATION: THE SUBJECT PROPERTY IS LOCATED IN ZONE X, AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN ACCORDING TO THE FEMA FLOOD INSURANCE RATE MAP; COMMUNITY-PANEL NO. 08013C-0582 K, DATED AUGUST 15, 2019. FLOOD INFORMATION IS SUBJECT TO CHANGE.
8. DATES OF FIELDWORK: APRIL 05, 2017, FEBRUARY 25 & MARCH 18, 2021.
9. THE WORD "CERTIFY" AS SHOWN AND USED HEREON MEANS AN EXPRESSION OF PROFESSIONAL OPINION REGARDING THE FACTS OF THIS SURVEY AND DOES NOT CONSTITUTE A WARRANTY OR GUARANTEE, EXPRESSED OR IMPLIED.
10. THE TOTAL AREA OF THE SUBJECT PROPERTY IS 160,870 SQ. FT. OR 3.69 ACRES, MORE OR LESS. AREA AS SHOWN HEREON IS A RESULTANT FACTOR, NOT A DETERMINATIVE FACTOR, AND MAY CHANGE SIGNIFICANTLY WITH MINOR VARIATIONS IN FIELD MEASUREMENTS OR THE SOFTWARE USED TO PERFORM THE CALCULATIONS. FOR THIS REASON, THE AREA IS SHOWN AS A "MORE OR LESS" FIGURE, AND IS NOT TO BE RELIED UPON AS AN ACCURATE FACTOR FOR REAL ESTATE SALES PURPOSES.
11. EXCLUSIVE UTILITY EASEMENTS ARE RESERVED FOR CITY OF LOUISVILLE EXCLUSIVE USE FOR CITY WATER, SANITARY SEWER AND STORM SEWER FACILITIES. DRY UTILITY 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 OWNER' S 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 TRAVERSE DRY UTILITY EASEMENTS WITHOUT REQUIREMENT FOR FURTHER PERMISSION. NO JOINT USE OF ANY CITY EXCLUSIVE UTILITY EASEMENTS IS PERMITTED WITHOUT THE EXPRESS WRITTEN APPROVAL OF THE CITY AND EXECUTION OF A JOINT USE AGREEMENT, WHICH SHALL BE AT THE CITY' S DISCRETION.
12. THE CITY OF LOUISVILLE SHALL REVIEW AND APPROVE THE LOCATIONS OF UTILITY LINES, PEDESTALS AND CABINETS WITHIN PUBLIC PROPERTY AND CITY OF LOUISVILLE EXCLUSIVE UTILITY EASEMENTS.
13. 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.
14. THE CITY OF LOUISVILLE IS GRANTED A 10' MAINTENANCE ACCESS EASEMENT WHERE ACCESS IS REASONABLY AVAILABLE BEYOND THE EXCLUSIVE UTILITY EASEMENTS GRANTED TO THE CITY BY THIS PLAT. THE 10' MAINTENANCE ACCESS EASEMENT SHALL BE ALLOWED ON EITHER SIDE OF THE EXCLUSIVE UTILITY EASEMENT, OR 5' ON EACH SIDE OF THE EXCLUSIVE UTILITY EASEMENT, IN EITHER CASE THIS EASEMENT IS NOT MEANT TO RESTRICT BUILDING OR IMPROVEMENTS ALLOWED WITHIN THE PUD, BUT INSTEAD ALLOW ACCESS WHERE REASONABLY AVAILABLE ON SITE. MINIMUM SURFACE DISTURBANCE IS ALLOWED BY THE CITY'S USE WITHIN THIS EASEMENT.
15. THERE ARE 2.5' WIDE SIDE YARD DRAINAGE EASEMENTS FOR LOTS 1-15.
16. THERE ARE 3.5 UTILITY AND MAINTENANCE EASEMENTS ACROSS OUTLOT A, NORTH OF LOTS 16, 23, 30 AND SOUTH OF LOTS 22, 29, 36.
17. A SURFACE MAINTENANCE EASEMENT EXISTS, ADJACENT WESTERLY TO THE WEST LINE OF TRACT A, BEING 4' IN WIDTH AS MEASURED FROM THE BACK OF THE EXISTING WALK.
18. SANITARY SEWER EASEMENT, RECORDED WITH BOULDER COUNTY ON FEBRUARY 5, 1952 IN BOOK 900, PAGE 595 IS VACATED BY CITY OF LOUISVILLE ORDINANCE _____, SERIES 2024.
19. TRACTS 704 AND 704-A, AS SHOWN IN THE TITLE BLOCK, ARE PER THE LEGAL DESCRIPTIONS PROVIDED BY THE COUNTY OF BOULDER PROPERTY SEARCH WEBSITE. SAID TRACTS ARE UNPLATTED.
20. OWNERS INFORMATION:
    EAST ST LLC,
    8911 LITTLE RAVEN TRAIL,
    NIWOT, CO 80503

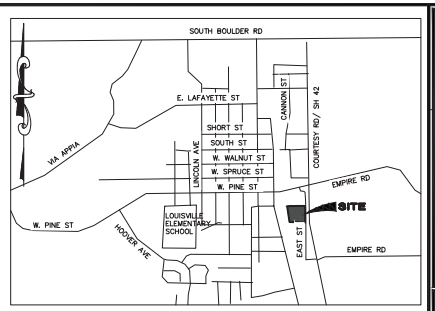
Boundary Closure Report

COURSE: S00°11'52"W	LENGTH:	401.40'
COURSE: N89°51'10"W	LENGTH:	374.30'
COURSE: N10°45'32"W	LENGTH:	12.87'
COURSE: N08°30'42"W	LENGTH:	379.06'
COURSE: S89°54'36"E	LENGTH:	27.05'
COURSE: N69°28'46"E	LENGTH:	25.93'
COURSE: N89°36'19"E	LENGTH:	99.18'
COURSE: N89°23'03"E	LENGTH:	95.92'
COURSE: N86°40'43"E	LENGTH:	7.36'
COURSE: S01°29'02"E	LENGTH:	1.33'
COURSE: N89°02'06"E	LENGTH:	180.41'

AREA: 161,083 SQ. FT.
ERROR CLOSURE: 0.01
PRECISION 1: 160481

Sheet Index

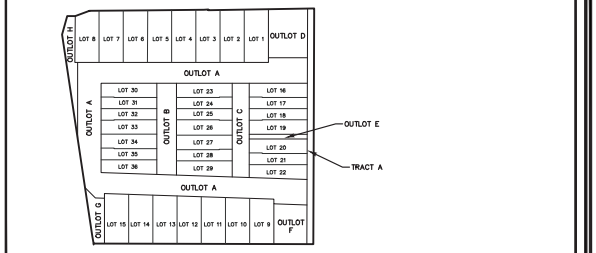
SHEET 1	COVER SHEET
SHEET 2	BOUNDARY AND LOT INFORMATION
SHEET 3-4	EASEMENT DETAILS



Vicinity Map
NOT TO SCALE

Outlot Table

	OWNER	MAINTENANCE	USE
OUTLOT A	EAST ST, LLC	HOA	PUBLIC ACCESS, PUBLIC UTILITIES, PRIVATE UTILITIES, AND DRAINAGE (SEE NOTE #14)
OUTLOT B	EAST ST, LLC	HOA	LANDSCAPE BUFFER, PEDESTRIAN ACCESS, UTILITY SERVICES, AND DRAINAGE (SEE NOTE #14)
OUTLOT C	EAST ST, LLC	HOA	PRIVATE ACCESS, PUBLIC UTILITIES, PRIVATE UTILITIES, AND DRAINAGE (SEE NOTE #14)
OUTLOT D	EAST ST, LLC	HOA	LANDSCAPE BUFFER, PARKING, PUBLIC UTILITIES, PRIVATE UTILITIES, DRAINAGE, AND STORMWATER DETENTION (SEE NOTE #14)
OUTLOT E	EAST ST, LLC	HOA	PRIVATE ACCESS, PUBLIC UTILITIES, PRIVATE UTILITIES, AND DRAINAGE
OUTLOT F	EAST ST, LLC	HOA	LANDSCAPE BUFFER, PARKING, PUBLIC UTILITIES, PRIVATE UTILITIES, DRAINAGE, AND STORMWATER DETENTION
OUTLOT G	EAST ST, LLC	HOA	LANDSCAPE BUFFER, AND PARKING
OUTLOT H	EAST ST, LLC	HOA	LANDSCAPE BUFFER, AND PARKING



Planning Commission Certificate

APPROVED THIS _____ DAY OF _____, 20____ BY THE PLANNING COMMISSION OF THE CITY OF LOUISVILLE, COLORADO.
RESOLUTION NO. ___, SERIES _____.

City Council Certificate

APPROVED THIS _____ DAY OF _____, 20____ BY THE CITY COUNCIL OF THE CITY OF LOUISVILLE, COLORADO.
RESOLUTION NO. ___, SERIES _____.

(CITY SEAL)

_____
MAYOR SIGNATURE

_____
CITY CLERK SIGNATURE

Surveyor's Statement

I, JAMES Z. GOWAN, A LAND SURVEYOR LICENSED IN THE STATE OF COLORADO, HEREBY STATE FOR AND ON BEHALF OF FLATIRONS, INC., THAT A SURVEY OF EAST STREET VILLAGE FINAL PLAT WAS CONDUCTED BY ME OR UNDER MY RESPONSIBLE CHARGE ON MARCH 18, 2021; THAT THE ACCOMPANYING PLAT ACCURATELY AND PROPERLY SHOWS SAID SUBDIVISION AND THE SURVEY THEREOF.

JAMES Z. GOWAN
COLORADO P.L.S. #29038
VICE PRESIDENT, FLATIRONS, INC.

DRAFT
WORKING COPY ONLY. ONLY FINAL VERSION WILL HAVE STAMP AND SIGNATURE

DRAFT
WORKING COPY ONLY. ONLY FINAL VERSION WILL HAVE STAMP AND SIGNATURE

DATE
REVISION
1 2 3 4 5 6 7 8 9

EAST STREET VILLAGE
FINAL PLAT

COPYRIGHT 2024 FLATIRONS, INC.

Flatirons, Inc.
Land Surveying Services
www.flatironsinc.com

450 E. 96TH AVE, STE. 395
DENVER, CO 80229
PH: (303) 443-7001
FAX: (303) 443-9830

4581 LOGAN ST.
DENVER, CO 80216
PH: (303) 936-6997
FAX: (303) 923-3180

855 FOURTH AVE.
LONGMONT, CO 80501
PH: (303) 776-1733
FAX: (303) 776-4355

JOB NUMBER: 22-78,982
DATE: 06-12-2024
DRAWN BY: M. VOYLES
CHECKED BY: JZG/JJK

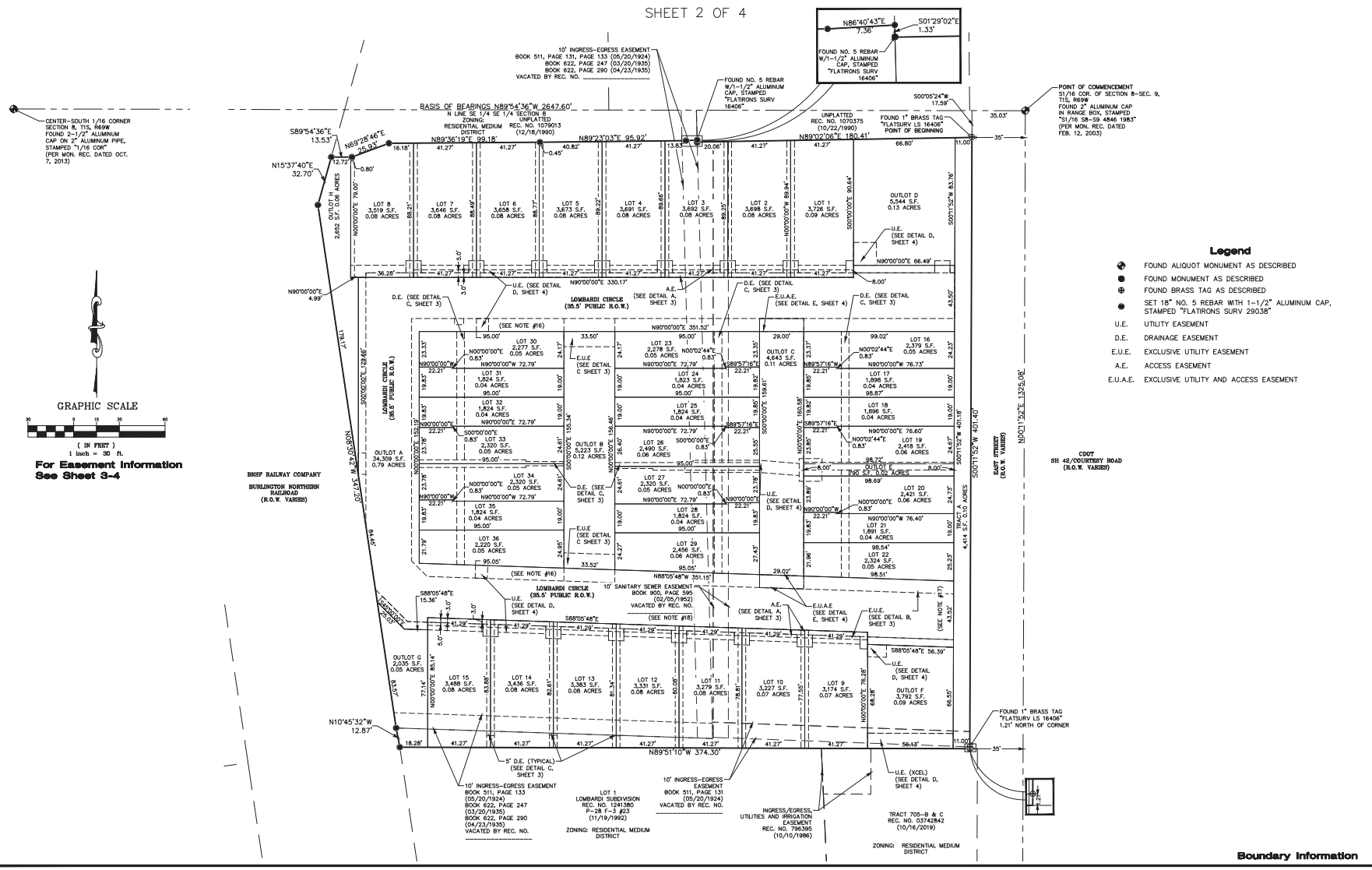
SHEET 1 OF 4

BY:M.VOYLES FILE:78982_EAST STREET VILLAGE_PLAT (C3D).DWG DATE:6/12/2024 4:08 PM

EAST STREET VILLAGE
FINAL PLAT

A SUBDIVISION OF TRACT 704 AND TRACT 704-A
LOCATED IN THE SOUTHEAST QUARTER OF SECTION 8, TOWNSHIP 1 SOUTH,
RANGE 69 WEST OF THE 6TH P.M.,
CITY OF LOUISVILLE, COUNTY OF BOULDER, STATE OF COLORADO

SHEET 2 OF 4



DATE
REVISION

EAST STREET VILLAGE
FINAL PLAT

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Flatirons, Inc.
Land Surveying Services
www.Flatironsinc.com
4601 LOGAN ST.
DENVER, CO 80216
PH: (303) 936-6997
FAX: (303) 923-3180
855 FOURTH AVE.
LONGMONT, CO 80501
PH: (303) 776-1733
FAX: (303) 776-4355
3825 IRIS AVE. STE. 395
BOULDER, CO 80301
PH: (303) 443-7001
FAX: (303) 443-9830

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SEAL

JOB NUMBER: 22-78,982
DATE: 06-12-2024
DRAWN BY: M. VOYLES
CHECKED BY: JZG/JJK
SHEET 2 OF 4

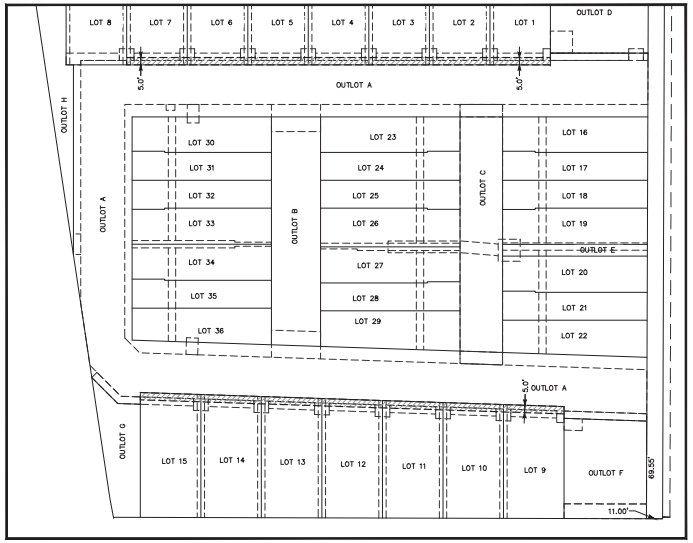
BY:M:\VOYLES FILES\78982_EAST STREET VILLAGE_FP.TY (COA).DWG DATE:6/12/2024 4:08 PM

EAST STREET VILLAGE
FINAL PLAT

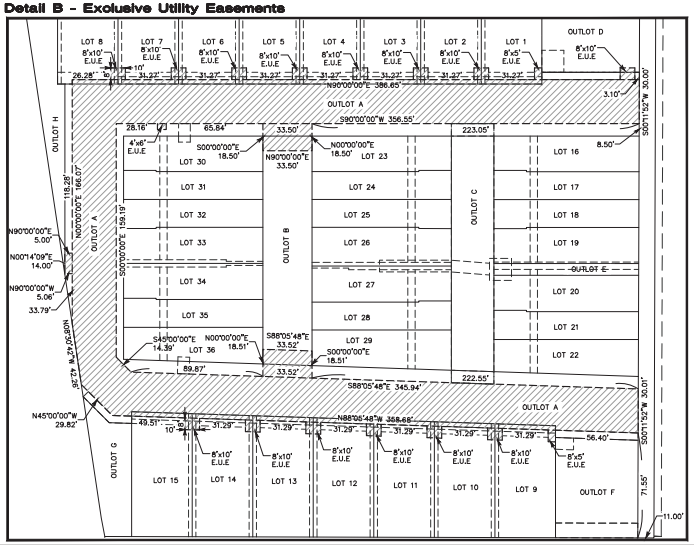
A SUBDIVISION OF TRACT 704 AND TRACT 704-A
LOCATED IN THE SOUTHEAST QUARTER OF SECTION 8, TOWNSHIP 1 SOUTH,
RANGE 69 WEST OF THE 6TH P.M.,
CITY OF LOUISVILLE, COUNTY OF BOULDER, STATE OF COLORADO

SHEET 3 OF 4

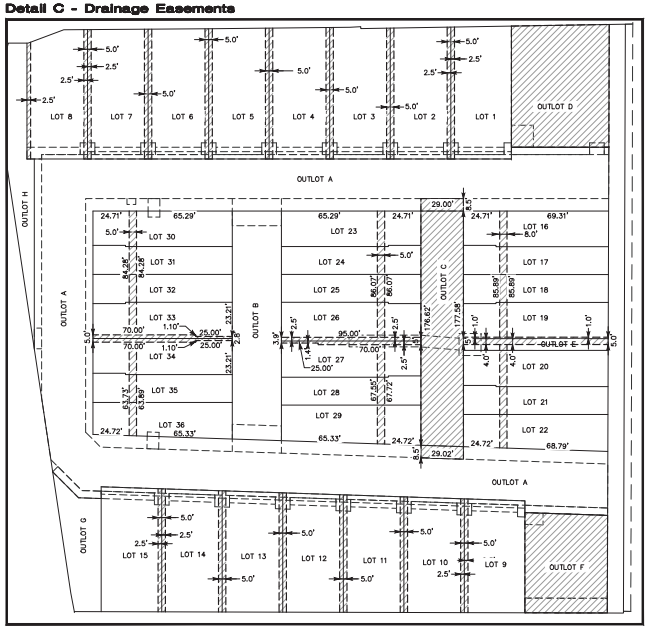
Detail A - Access Easement



Detail B - Exclusive Utility Easements



Detail C - Drainage Easements



Legend

✥	FOUND ALIQUOT MONUMENT AS DESCRIBED
●	FOUND MONUMENT AS DESCRIBED
⊕	FOUND BRASS TAG AS DESCRIBED
●	SET 18" NO. 5 REBAR WITH 1-1/2" ALUMINUM CAP, STAMPED "FLATIRONS SURV 29038"
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT
E.U.E.	EXCLUSIVE UTILITY EASEMENT
A.E.	ACCESS EASEMENT
E.U.A.E.	EXCLUSIVE UTILITY AND ACCESS EASEMENT

GRAPHIC SCALE

40 0 20 40 80

(IN FEET)
1 inch = 40 ft.

Easement Details

DATE

REVISION

1 2 3 4 5 6 7 8 9

EAST STREET VILLAGE
FINAL PLAT

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Flatirons, Inc.
Land Surveying Services
www.flatironsinc.com

LONGMONT, CO 80501
PH: (303) 776-1733
FAX: (303) 776-4356

DENVER, CO 80216
PH: (303) 443-7001
FAX: (303) 443-9830

BOULDER, CO 80305
PH: (303) 926-6997
FAX: (303) 923-3180

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WILL HAVE STAMP
AND SIGNATURE

SEAL

JOB NUMBER: 22-78,982
DATE: 06-12-2024
DRAWN BY: M. VOYLES
CHECKED BY: JZG/JJK

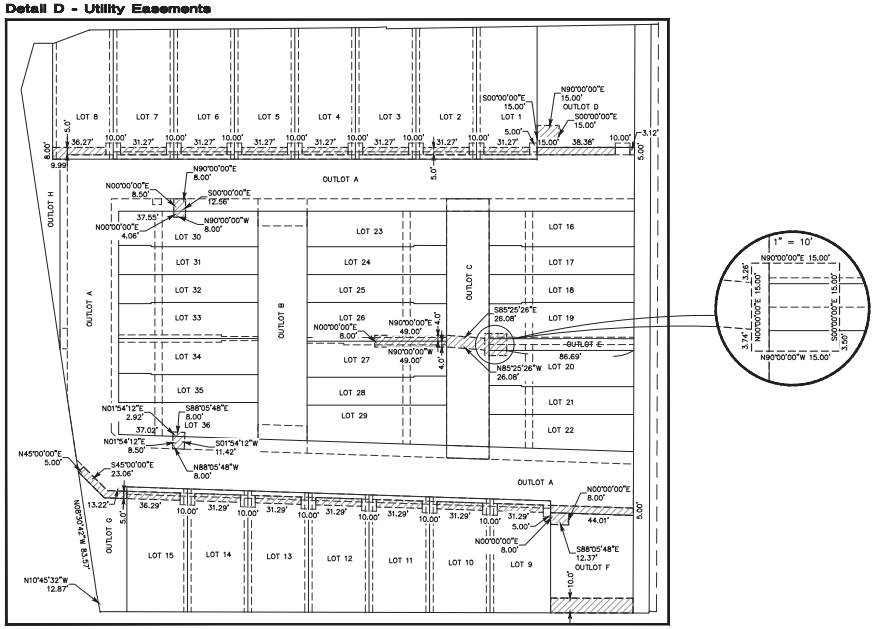
SHEET 3 OF 4

BY:MVOYLES FILE:P:\PROJ_EAST STREET VILLAGE_PLAT\ (COA)\PRO DATE:6/12/2024 4:08 PM

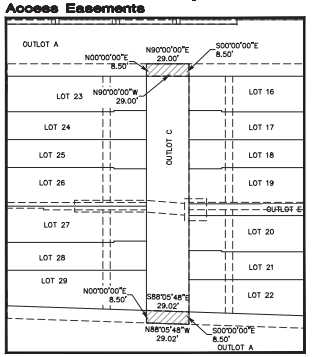
EAST STREET VILLAGE
FINAL PLAT

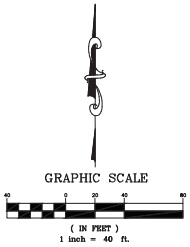
A SUBDIVISION OF TRACT 704 AND TRACT 704-A
LOCATED IN THE SOUTHEAST QUARTER OF SECTION 8, TOWNSHIP 1 SOUTH,
RANGE 69 WEST OF THE 6TH P.M.,
CITY OF LOUISVILLE, COUNTY OF BOULDER, STATE OF COLORADO

Detail D - Utility Easements



Detail E - Exclusive Utility and Access Easements





Legend

◆	FOUND ALIQUOT MONUMENT AS DESCRIBED
●	FOUND MONUMENT AS DESCRIBED
⊕	FOUND BRASS TAG AS DESCRIBED
●	SET 18" NO. 5 REBAR WITH 1-1/2" ALUMINUM CAP, STAMPED "FLATIRONS SURV 29038"
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT
E.U.E.	EXCLUSIVE UTILITY EASEMENT
A.E.	ACCESS EASEMENT
E.U.A.E.	EXCLUSIVE UTILITY AND ACCESS EASEMENT

Easement Details

REVISION	DATE
1	
2	
3	
4	
5	
6	
7	
8	
9	

EAST STREET VILLAGE
FINAL PLAT

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Flatirons, Inc.
Land Surveying Services
www.flatironsinc.com
4601 LOGAN ST.
DENVER, CO 80216
PH: (303) 936-6997
FAX: (303) 923-3180
850 FOURTH AVE.
LONGMONT, CO 80501
PH: (303) 776-1733
FAX: (303) 776-4355
3825 IRIS AVE, STE. 395
BOULDER, CO 80301
PH: (303) 443-7001
FAX: (303) 443-9830

DRAFT
WORKING COPY ONLY
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WILL HAVE STAMP
AND SIGNATURE
(SEAL)

JOB NUMBER:	22-78,982
DATE:	06-12-2024
DRAWN BY:	M. VOYLES
CHECKED BY:	JZG/JJK

SHEET 4 OF 4

BY:MVOYLES FILE:P:\PROJ_EAST STREET VILLAGE_PF\9 (CD)\DWG DATE:6/12/2024 4:09 PM

EAST ST VILLAGE

FINAL PLANNED UNIT DEVELOPMENT
CITY OF LOUISVILLE, COUNTY OF BOULDER, STATE OF COLORADO
CASE #PUPL-0427-2022

DESIGN PRACTICE_INC
2842 W 44th
Denver CO 80211
www.designpracticedenver.com
info@designpracticedenver.com
PHONE_303 561 3000

SIGNATURES

OWNERSHIP SIGNATURE BLOCK

THE UNDERSIGNED, AS THE OWNER OF THE LANDS DESCRIBED HEREIN, HEREBY AGRES ON BEHALF OF ITSELF, AND ITS HEIRS, SUCCESSORS AND ASSIGNS TO DEVELOP AND MAINTAIN THE PROPERTY DESCRIBED HEREON IN ACCORDANCE AND COMPLIANCE WITH THIS APPROVED PLAN AND THE LOUIVLLE MUNICIPAL CODE.

EAST ST LLC

WITNESS MY/OUR HAND(S) SEAL(S) THIS_____DAY OF_____, 20_____

BY:
BOBBY STIER - MANAGER

STATE OF _____
COUNTY OF _____

SIGNED BEFORE ME ON _____, 20___

BY_____

_____
(NOTARY'S OFFICIAL SIGNATURE)
NOTARY STAMP

_____
(TITLE OF OFFICE)

_____
(COMMISSION EXPIRATION)

CITY COUNCIL CERTIFICATE

APPROVED THIS_____DAY OF_____, 20_____

BY THE CITY COUNCIL OF THE CITY OF LOUISVILLE, COLORADO

RESOLUTION NO. _____ SERIES_____

_____ _____
MAYOR CITY CLERK

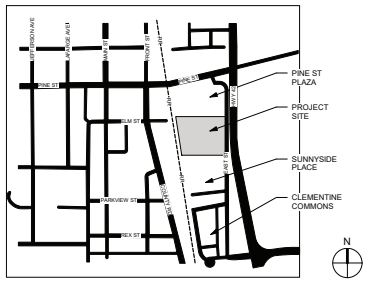
PLANNING COMMISSION CERTIFICATE:

RECOMMENDED FOR APPROVAL THIS_____DAY OF_____, 20___

BY THE PLANNING COMMISSION OF THE CITY OF LOUISVILLE, COLORADO

RESOLUTION NO. _____ SERIES_____

VICINITY MAP



HOA NOTES

1: ALL COMMON AREAS, OUTLOTS, DRIVES, SIDEWALKS, LANDSCAPING, AND OTHER COMMON IMPROVEMENTS WITHIN THE SUBDIVISION SHALL BE PROVIDED AS SHOWN ON THIS PUD BY THE DEVELOPER, AND SUCH IMPROVEMENTS SHALL BE MAINTAINED IN PERPETUITY BY THE HOA FOR THE SUBDIVISION.
2: THE HOA SHALL BE RESPONSIBLE FOR REPAIRS TO SURFACE IMPROVEMENTS WITHIN THE EXCLUSIVE UTILITY EASEMENTS DAMAGED BY THE CITY OPERATION/ MAINTENANCE/ REPAIR/ REPLACEMENT OF CITY FACILITIES

PROJECT TEAM

OWNER INFO
Name: EAST ST LLC
Contact: JESSE TRUMAN
Address: 9557 PARADISE LANE BROOMFIELD, CO 80020
Phone: 303-915-7203
E-Mail: JESSETRUMAN@GMAIL.COM

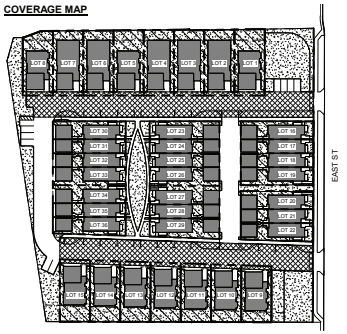
ARCHITECT
Name: DESIGN PRACTICE INC
Contact: PAUL NORQUIST
Address: 2842 W 44TH AVE DENVER, CO 80211
Phone: 303-561-3000
E-Mail: PNORQUIST@DESIGNPRACTICEDENVER.COM

CIVIL ENGINEER
Name: THE SANITAS GROUP
Contact: LESLIE EWY
Address: 901 FRONT ST, STE 350 LOUISVILLE, CO 80027
Phone: 303-481-2710
E-Mail: LEWY@THESANITASGROUP.COM

LANDSCAPE ARCHITECT
Name: OUTSIDE LA
Contact: SANDI GIBSON
Address: 2623 BURGESS CREEK RD STEAMBOAT SPRINGS, CO 80487
Phone: 303-517-9256
E-Mail: OSLA@ME.COM

SITE COVERAGE

COVERAGE MAP



COVERAGE LEGEND

PRIVATE STREETS
BUILDING COVERAGE
COMMON OPEN SPACE
PRIVATE YARD
ALLEY/DRIVE AISLE/SIDEWALKS/EXTERIOR STAIRS/WINDOW WELLS

COVERAGE TABLE

	AREA (SF)	AREA (ACRES)
GROSS SITE AREA	156,458 SF	3.60
PRIVATE STREETS	25,295 SF	0.58
NET SITE AREA	131,376 SF	3.02
BUILDING COVERAGE	52,904 SF	1.20
HARDSCAPE AREA	48,374 SF	1.11
SUBTOTAL (IMPERVIOUS)	101,278 SF	2.31
LANDSCAPE AREA	49,146 SF	1.14
DETENTION AREA	6,247 SF	0.14

PROJECT DATA

PROJECT LOCATION: 421-533 EAST ST

LEGAL DESCRIPTION: A SUBDIVISION OF TRACT 704 (533 EAST STREET) AND TRACT 704-A (421 AND 565 EAST STREET), LOCATED IN THE SOUTHEAST QUARTER OF SECTION 8, TOWNSHIP 1 SOUTH, RANGE 69 WEST OF THE 6TH P.M., CITY OF LOUISVILLE, COUNTY OF BOULDER, STATE OF COLORADO

PROJECT DESCRIPTION: THE FINAL PUD INCLUDES REDEVELOPMENT OF APPROXIMATELY 3.6 ACRES. NEW CONSTRUCTION INCLUDES 15 SINGLE FAMILY HOMES AND 21 TOWNHOME UNITS WITH DETACHED GARAGES

ZONING: RM (RESIDENTIAL MEDIUM DENSITY)

PROPOSED USE: SINGLE FAMILY DETACHED AND SINGLE FAMILY ATTACHED

LAND AREA AND DENSITY

GROSS LAND AREA: 156,458 SF (3.60 ACRES) AFTER DEDICATION OF R.O.W.

PRIVATE STREETS: 25,295 SF

NET LAND AREA: 131,163 SF

131,163 NSF ÷ 3,500 SF/D.U. = 37.47 DWELLING UNITS ALLOWED
PROJECT PROPOSAL = 36 DWELLING UNITS

MAXIMUM BUILDING COVERAGE FOR SUBDIVISION:
ALLOWED: 156,458 x 35% = 54,760 SF
PROPOSED: 52,904 SF = 33.8%

TOTAL OPEN SPACE OF SUBDIVISION: 52,982 SF
OPEN SPACE OF COMMON AREAS: 21,683 SF = 15.5% OF NET LAND AREA
PRIVATE YARDS: 31,299 SF
(DOES NOT INCLUDE BUILDING COVERAGE, DRIVES, PRIVATE STREETS OR PUBLIC AND PRIVATE SIDEWALKS)

WAIVER REQUESTS

WAIVERS (FROM LOUISVILLE MUNICIPAL CODE)

	CODE SECTION	REQUIREMENT	PROPOSED CONDITION
01	16.16.040 - BLOCKS SUBSECTION B.	BLOCKS SHALL BE AT LEAST 400 FEET IN LENGTH	193 FEET BETWEEN PRIVATE STREET ENTRANCES
02	16.16.050 - LOTS SUBSECTION C.	THE MAXIMUM DEPTH OF ALL RESIDENTIAL LOTS SHALL NOT EXCEED 2 1/2 TIMES THE WIDTH THEREOF.	TOWNHOME UNIT LOTS EXCEED THE RATIO
03	16.16.050 - LOTS SUBSECTION D.	THE MINIMUM LOT FRONTAGE, AS MEASURED ALONG THE FRONT LOT LINES SHALL BE 50 FEET.	ALL LOT WIDTHS WITHIN THE PROJECT ARE LESS THAN 50 FEET IN WIDTH
04	17.12.040 - YARD AND BULK REQUIREMENTS ITEM 1 - MIN LOT AREA	MINIMUM LOT AREA SINGLE FAMILY - 7,000 SF	LOT AREAS RANGE FROM 3174 SF - 3726 SF
05	17.12.040 - YARD AND BULK REQUIREMENTS ITEM 3 - MIN LOT AREA PER D.U.	MINIMUM LOT AREA PER D.U. (TOWNHOMES)- 3,500 SF	TOWNHOME LOTS RANGE FROM 2456 SF - 1805 SF (INTERNAL UNITS)
06	17.12.040 - YARD AND BULK REQUIREMENTS ITEM 4 - MAX LOT COVERAGE	MAXIMUM LOT COVERAGE - 35%	ON THE INDIVIDUAL LOTS, ALL UNITS EXCEED THE 35% ALLOWABLE LOT COVERAGE. OVERALL BUILDING COVERAGE FOR THE SITE IS < 35%
07	17.12.040 - YARD AND BULK REQUIREMENTS ITEM 5 - FRONT SETBACK	FRONT YARD SETBACK - 25 FEET	ALL UNITS ARE CLOSER THAN 25' AT THE FRONT YARD SETBACK RANGE: 8'-0" TO 11'-9 1/2"
08	17.12.040 - YARD AND BULK REQUIREMENTS ITEM 7 - SIDE INTERIOR SETBACK	SIDE INTERIOR SETBACK - 7 FEET SINGLE FAMILY LOTS	SINGLE FAMILY UNITS ARE DESIGNED WITH A 5' SIDE SETBACK.
09	17.12.040 - YARD AND BULK REQUIREMENTS ITEM 7 - SIDE INTERIOR SETBACK	SIDE INTERIOR SETBACK - 7 FEET TOWNHOME LOTS	ATTACHED TOWNHOME UNITS WITH SHARED WALL HAVE 0' SETBACK AT SHARED WALL CONDITION RANGE: 0'-0" TO 6'-4 7/8"
10	17.12.040 - YARD AND BULK REQUIREMENTS ITEM 8 - REAR SETBACK	REAR SETBACK - 25 FEET	SINGLE FAMILY UNITS REAR SETBACKS RANGE: 5'-1 7/8" TO 27'-7"
11	17.12.040 - YARD AND BULK REQUIREMENTS ITEM 9 - MAX HEIGHT	MAXIMUM HEIGHT - 35 FEET	TOWNHOME UNITS EXCEED THE 35' MAXIMUM HEIGHT (SEE HEIGHT WAIVER TABLE)

HEIGHT WAIVER REQUESTS BY LOT (ABOVE 35' ALLOWABLE)

LOT #	WAIVER REQUEST	LOT #	WAIVER REQUEST	LOT #	WAIVER REQUEST
16	3'-5 3/4"	23	3'-2 3/4"	30	3'-7 3/8"
17	0'-8 5/8"	24	0'-5 5/8"	31	0'-10 1/8"
18	0'-8 5/8"*	25	0'-5 5/8"	32	0'-10 1/8"
19	3'-5 3/4"	26	3'-2 3/4"	33	3'-7 3/8"
20	2'-11 1/2"	27	4'-0 1/8"	34	4'-0 1/8"
21	0'-2 3/8"	28	1'-3"	35	1'-3"
22	2'-11 1/2"	29	4'-0 1/8"	36	4'-0 1/8"

SHEET INDEX

NO.	SHEET TITLE	NO.	SHEET TITLE
1	COVER SHEET	9	SITE PHOTOMETRIC PLAN
2	DEVELOPMENT PLAN	10	ILLUMINAIRE CUT SHEETS
3	UTILITY CONNECTION PLAN	11	TH TYPE 1 ELEVATIONS
4	GRADING AND DRAINAGE PLAN	12	TH TYPE 1 ELEVATIONS
5	LANDSCAPE PLAN - NORTH	13	TH TYPE 2 ELEVATIONS
6	LANDSCAPE PLAN - SOUTH	14	TH TYPE 2 ELEVATIONS
7	LANDSCAPE NOTES & DETAILS	15	SFR TYPE 1 ELEVATIONS
8	LIGHTING COVER & DETAILS	16	SFR TYPE 2 ELEVATIONS

PROJECT DESCRIPTION

THE PUD PROPOSAL IS FOR A RESIDENTIAL DEVELOPMENT WITH A MIX OF FEE-SIMPLE RESIDENTIAL PRODUCT TYPES WITHIN THE SITE. THE PROPOSAL CALLS FOR 15 STAND-ALONE SINGLE-FAMILY UNITS AND 21 TOWNHOME UNITS WITH DETACHED GARAGES. THE UNITS ARE DESIGNED TO FILL A GAP IN HOUSING TYPE AVAILABILITY IN OLD-TOWN LOUISVILLE. SMALLER LOTS ALLOW FOR AN INCREASE IN DENSITY WHICH HELPS KEEP THE COST DOWN WHILE INCREASING THE NUMBER OF HOUSEHOLDS IN WALKABLE PROXIMITY TO OLD-TOWN. THE TOWNHOME DESIGNS PROVIDE AFFORDABILITY WHILE DETACHING THE GARAGES ALLOWS FOR PRIVATE OUTDOOR SPACE TO THE OWNERS. 5 OF THE SINGLE FAMILY HOMES ARE DESIGNED WITH MAIN FLOOR PRIMARY SUITES TO APPEAL TO AN OLDER DEMOGRAPHIC WHILE THE REMAINING SINGLE FAMILY HOMES MAINTAIN A MODEST FOOTPRINT BY TODAY'S NEW CONSTRUCTION STANDARDS TO KEEP THE PRICE-POINT ATTAINABLE WHILE STILL PROVIDING SMALL OUTDOOR PRIVATE SPACES FOR THE RESIDENTS.

SITE DATA TABLE

ZONE DISTRICT	**MEDIUM DENSITY RESIDENTIAL**	**RM**
PROPOSED USE	**15 SINGLE FAMILY HOMES AND 21 TOWNHOME UNITS**	

LAND AREA & DENSITY	**SQUARE FEET**	**ACRES**
GROSS SITE AREA	156,458 SF	3.60
PRIVATE STREETS	25,295 SF	0.58
NET SITE AREA	131,163 SF	3.02
DWELLING UNITS	**ALLOWABLE**	**PROPOSED**
ALLOWABLE DENSITY	37.0 UNITS	36 UNITS

PUD YARD AND BULK REQUIREMENTS

LOT_ / UNIT TYPE		1-8 SINGLE FAMILY DETACHED	9-15 SINGLE FAMILY DETACHED	16-22 TOWNHOMES	23-29 TOWNHOMES	30-36 TOWNHOMES
	REQUIRED					
MIN LOT AREA	7,000 SF	3519 SF	3174 SF	1873 SF	1805 SF	1805 SF
MIN LOT WIDTH	60'	41'-3 1/4"	41'-3 1/4"	19'-0"	19'-0"	19'-0"
UNIT FOOTPRINT		1978 SF	1514 SF	1441 SF	1441 SF	1441 SF
MAX LOT COVERAGE	35%	56.2%	47.7%	76.9%	79.8%	79.8%
MAX HEIGHT	35'-0"	35'-0"	35'-0"	37'-11 3/4" [1]	38'-11 1/8" [1]	38'-8 3/4" [1]
BUILDING SETBACKS[8]						
FRONT YARD						
PRIVATE DRIVE		8'-0"	8'-11 1/4"	N/A	N/A	N/A
COMMON SPACE		N/A	N/A	N/A	7'-3 1/2"	7'-3 1/2"
ABUTTING ROW		N/A	N/A	10'-10 3/4"	N/A	N/A
REAR YARD						
INTERNAL LOT LINE		12'-9 7/8" [2]	13'-11 3/8"	N/A	N/A	N/A
SIDE YARD						
BETWEEN UNITS		5'-0"	5'-0"	0' - 5'-7 3/8" [3]	0' - 6'-4 7/8" [3]	0' - 5'-6 1/8" [3]
INTERNAL LOT LINE		5'-0"	5'-0"	N/A	N/A	N/A
TO PRIVATE DRIVE		N/A	N/A	2'-10 3/8" [4]	5'-0 3/4"	3'-2 1/4" [5]

COVERAGE	**ALLOWABLE**	**PROPOSED**	
BUILDING COVERAGE	54,760 SF	52,440 SF	
BUILDING COVERAGE % (GROSS)	35.0%	33.5%	
OPEN SPACE	**SF**	**ACRES**	
COMMON OPEN SPACE (17.08.085)	5,129 SF	0.18	(OUTLOT B)
LANDSCAPE BUFFERS	15,980 SF	0.37	
DETENTION PONDS	6,247 SF	0.14	
PRIVATE YARDS	32,447 SF	0.74	

PARKING REQUIREMENTS PER DWELLING UNIT				
SPACES REQUIRED	2	2	2	2
SPACES PROVIDED	2	2	2	2
SITE PARKING [7]				

FOOTNOTES:

1: SEE ADJACENT HEIGHT WAIVER REQUEST TABLE

2: AT LOT 7 (NORTH WEST CORNER)

3: FEE SIMPLE LOTS ARE CREATED FOR THE INDIVIDUAL TOWNHOME UNITS. SEE WAIVER REQUEST TABLE FOR 0' INTERNAL LOT LINE SETBACK WAIVER FOR ATTACHED UNITS

4: AT LOT 22, SOUTH WEST CORNER OF GARAGE TO LOT PROPERTY LINE.

5: AT LOT 36, SOUTH WEST CORNER OF GARAGE TO LOT PROPERTY LINE.

6: ON SITE OPEN SPACE IS A COMBINATION OF COMMON AREAS AND PRIVATE OPEN SPACE. OVERALL BUILDING COVERAGE FOR THIS SUBDIVISION SHALL NOT BE GREATER THAN 35%

7: THERE ARE 24 SURFACE PARKING SPACES PROVIDED WITHIN THE PROJECT.

8: SETBACKS ARE TO THE MOST CONSTRAINED CONDITION OF EACH LOT GROUPING

ISSUED

NO.	DESCRIPTION	DATE	NO.	DESCRIPTION	DATE
1	PRELIMINARY PUD	07-28-2022	7	FINAL PUD	03-29-2024
2	PRELIMINARY PUD	02-10-2023			
3	PRELIMINARY PUD	05-30-2023			
4	PRELIMINARY PUD	08-10-2023			
5	FINAL PUD	12-12-2023			
6	FINAL PUD	01-19-2024			

COVER SHEET SHEET: 1

SCALE: DATE: MAR 29 2024

EAST ST VILLAGE

421-533 EAST ST - FINAL PLANNED UNIT DEVELOPMENT
CITY OF LOUISVILLE, COUNTY OF BOULDER, STATE OF COLORADO
CASE #PUPL-0427-2022

The Sanitas Group
901 FRONT ST, SUITE 350
LOUISVILLE, CO 80027
303.981.9238

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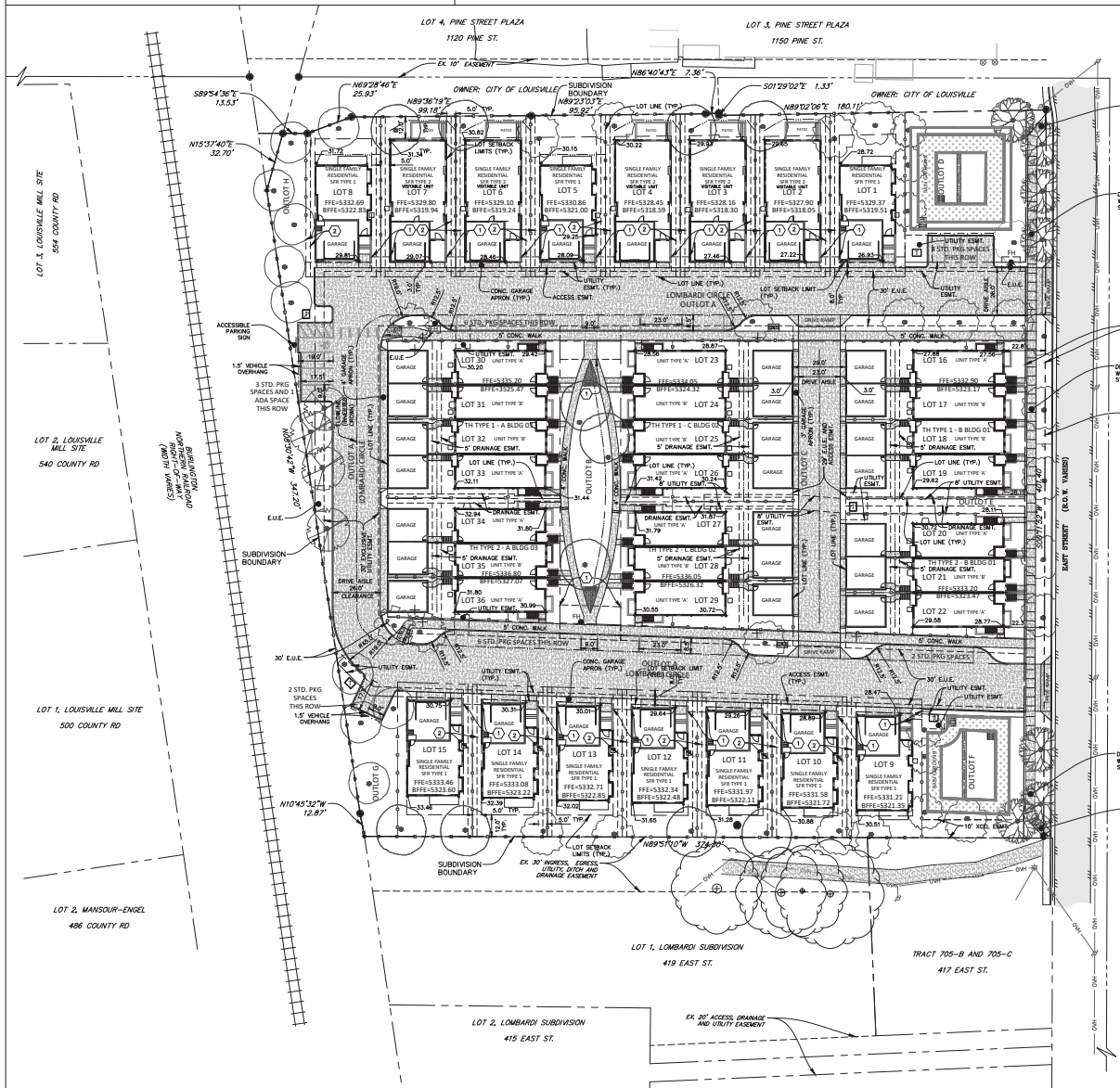
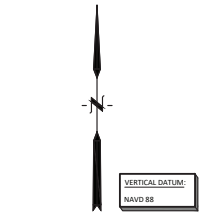




LEGEND

- PROPERTY BOUNDARY
- ADJACENT LOT LINE
- EASEMENT
- CHANNEL OR SWALE FLOWLINE
- FENCE
- FIRE HYDRANT (EXISTING, PROPOSED)
- EXISTING CONCRETE
- PROPOSED STANDARD CONCRETE
- EXISTING ASPHALT PAVEMENT
- PROPOSED ASPHALT
- EXISTING TREES
- PROPOSED TREES

ABBREVIATIONS

AC	ACRE
CONC	CONCRETE
E	ELECTRICAL SERVICE
ESMT	EASEMENT
E.U.E.	EXCLUSIVE UTILITY EASEMENT
EX.	EXISTING
F	FIRE SERVICE
HOA	HOME OWNERS ASSOCIATION
INV	INVERT
IR	IRRIGATION WATER SERVICE
LF	LINEAR FOOT
MH	MANHOLE
NGVD	NATIONAL GEODETIC VERTICAL DATUM
PVC	POLYVINYL CHLORIDE
RCP	REINFORCED CONCRETE PIPE
R.O.W.	RIGHT-OF-WAY
S	SANITARY SEWER SERVICE
SHT	SHEET
STM	STORM
TYP	TYPICAL
VCP	VITRIFIED CLAY PIPE
W	DOMESTIC WATER SERVICE
WM	WATER METER

KEY NOTES

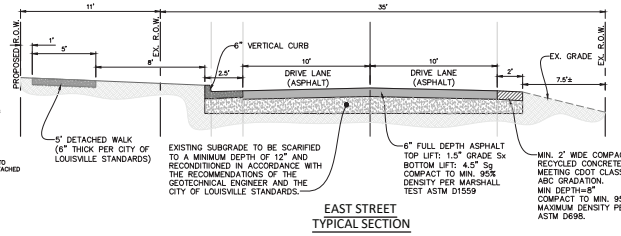
1. EXCLUSIVE UTILITY EASEMENT (E.U.E.) FOR WATER SERVICE CURB STOP AND METER SETTING (TYP); REFER TO SUBDIVISION PLAT FOR DIMENSIONS.
2. 5' WIDE DRAINAGE EASEMENT CENTERED ON LOT LINE.

NO PARKING - FIRE LANE SIGN REQUIREMENTS:

"NO PARKING - FIRE LANE" SIGNS SHALL BE PROVIDED ALONG ACCESS LANE IN AREAS WITHOUT DESIGNATED PARKING AND IN FRONT OF FIRE HYDRANTS AS NECESSARY TO PROTECT FIRE ACCESS. FINAL DETAILS OF SIGN DESIGN AND PLACEMENT LOCATIONS TO BE COORDINATE WITH CITY AND FIRE DISTRICT AS PART OF CIVIL FINAL CONSTRUCTION DOCUMENTS REVIEW AND APPROVALS.

DEVELOPMENT PLAN NOTES:

1. HOA SHALL MAINTAIN THE EAST STREET RIGHT-OF-WAY LANDSCAPING ABUTTING THE DEVELOPMENT.
2. HOA SHALL PROVIDE SNOW REMOVAL FOR EAST STREET PUBLIC WALK ABUTTING THE DEVELOPMENT.
3. HOA SHALL MAINTAIN THE ON SITE STORM SEWER FACILITIES UNLESS OTHERWISE NOTED.
4. A 30' EXCLUSIVE UTILITY EASEMENT SHALL BE DEDICATED FOR THE PUBLIC WATER MAIN AND PUBLIC SANITARY SEWER MAIN TO BE LOCATED IN OUTLOT A. A 5' WIDE UTILITY MAINTENANCE EASEMENT IS PROVIDED ON EITHER SIDE OF THE E.U.E. EACH OF THESE EASEMENTS ARE NOTED ON THE DEVELOPMENT PLAN. REFER TO THE SUBDIVISION PLAT FOR DIMENSIONS.
5. DRY UTILITIES MAY CROSS THE EXCLUSIVE UTILITY EASEMENT WITH A SEPARATE CROSSING AGREEMENT BETWEEN CITY AND UTILITY PROVIDER. UTILITY CROSSINGS SHOWN ON THESE PUD PLANS ARE GENERAL IN NATURE AND FINAL DETAILS WILL BE COMPLETED WITH THE FORMAL CROSSING AGREEMENTS.
6. LOTS 23-36 SHALL BE SPRINKLED WITH AN NFPR 13R SYSTEM SUPPLIED BY DOMESTIC WATER.



EAST STREET
TYPICAL SECTION
NO SCALE

ACCESSIBLE PARKING SIGN DETAIL (A)
NO SCALE

811
Know what's below.
Call before you dig.

ISSUED					
NO.	DESCRIPTION	DATE	NO.	DESCRIPTION	DATE
1	PRELIMINARY PUD	07-28-2022	7	FINAL PUD	03-29-2024
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6	FINAL PUD	01-19-2024			

DEVELOPMENT PLAN	SHEET: **2**
SCALE: **1" = 30'**	**DATE: MAR 29 2024**

EAST ST VILLAGE

421-533 EAST ST - FINAL PLANNED UNIT DEVELOPMENT
CITY OF LOUISVILLE, COUNTY OF BOULDER, STATE OF COLORADO
CASE #PUPL-0427-2022

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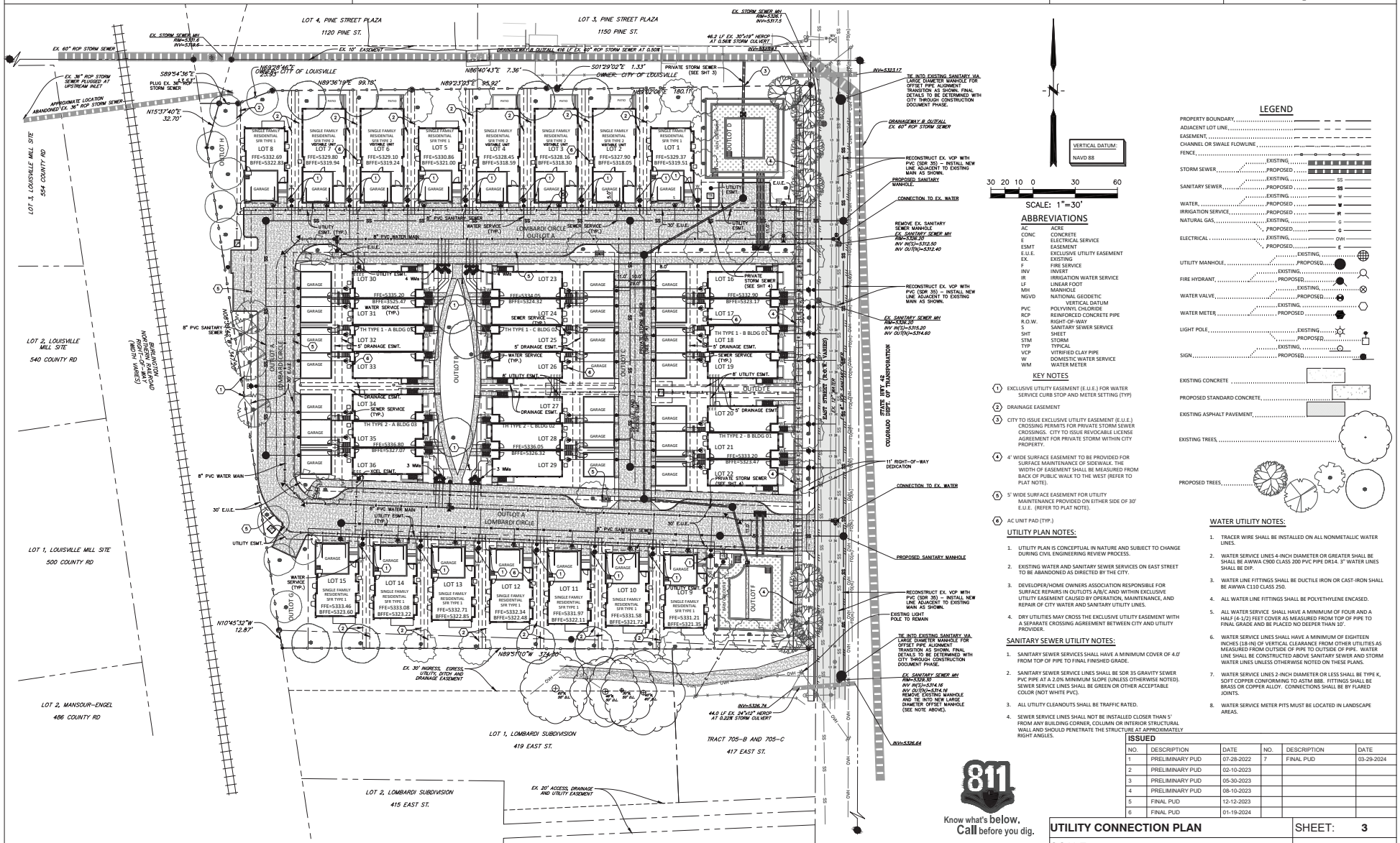

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W	DOMESTIC WATER SERVICE
WM	WATER METER

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1. EXCLUSIVE UTILITY EASEMENT (E.U.E.) FOR WATER SERVICE CURB STOP AND METER SETTING (TYP)
2. DRAINAGE EASEMENT
3. CITY TO ISSUE EXCLUSIVE UTILITY EASEMENT (E.U.E.) CROSSING PERMITS FOR PRIVATE STORM SEWER CROSSINGS. CITY TO ISSUE REVOCABLE LICENSE AGREEMENT FOR PRIVATE STORM WITHIN CITY PROPERTY.
4. 4' WIDE SURFACE EASEMENT TO BE PROVIDED FOR SURFACE MAINTENANCE OF SIDEWALK. THE WIDTH OF EASEMENT SHALL BE MEASURED FROM BACK OF PUBLIC WALK TO THE WEST (REFER TO PLAT NOTE).
5. 5' WIDE SURFACE EASEMENT FOR UTILITY MAINTENANCE PROVIDED ON EITHER SIDE OF 30' E.U.E. (REFER TO PLAT NOTE).
6. AC UNIT PAD (TYP.)

UTILITY PLAN NOTES:

1. UTILITY PLAN IS CONCEPTUAL IN NATURE AND SUBJECT TO CHANGE DURING CIVIL ENGINEERING REVIEW PROCESS.
2. EXISTING WATER AND SANITARY SEWER SERVICES ON EAST STREET TO BE ABANDONED AS DIRECTED BY THE CITY.
3. DEVELOPER/HOME OWNERS ASSOCIATION RESPONSIBLE FOR SURFACE REPAIRS IN OUTLOTS A/B/C AND WITHIN EXCLUSIVE UTILITY EASEMENT CAUSED BY OPERATION, MAINTENANCE, AND REPAIR OF CITY WATER AND SANITARY UTILITY LINES.
4. DRY UTILITIES MAY CROSS THE EXCLUSIVE UTILITY EASEMENT WITH A SEPARATE CROSSING AGREEMENT BETWEEN CITY AND UTILITY PROVIDER.

SANITARY SEWER UTILITY NOTES:

1. SANITARY SEWER SERVICES SHALL HAVE A MINIMUM COVER OF 4.0' FROM TOP OF PIPE TO FINAL FINISHED GRADE.
2. SANITARY SEWER SERVICE LINES SHALL BE SDR 35 GRAVITY SEWER PVC PIPE AT A 2.0% MINIMUM SLOPE (UNLESS OTHERWISE NOTED). SEWER SERVICE LINES SHALL BE GREEN OR OTHER ACCEPTABLE COLOR (NOT WHITE PVC).
3. ALL UTILITY CLEANOUTS SHALL BE TRAFFIC RATED.
4. SEWER SERVICE LINES SHALL NOT BE INSTALLED CLOSER THAN 5' FROM ANY BUILDING CORNER, COLUMN OR INTERIOR STRUCTURAL WALL AND SHOULD PENETRATE THE STRUCTURE AT APPROXIMATELY RIGHT ANGLES.

LEGEND

PROPERTY BOUNDARY
ADJACENT LOT LINE
EASEMENT
CHANNEL OR SWALE FLOWLINE
FENCE
STORM SEWER — EXISTING / PROPOSED
SANITARY SEWER — EXISTING / PROPOSED (SS)
WATER — EXISTING / PROPOSED (W)
IRRIGATION SERVICE — PROPOSED (IR)
NATURAL GAS — EXISTING / PROPOSED (G)
ELECTRICAL — EXISTING / PROPOSED (OHE)
UTILITY MANHOLE — EXISTING / PROPOSED
FIRE HYDRANT — EXISTING / PROPOSED
WATER VALVE — EXISTING / PROPOSED
WATER METER — EXISTING / PROPOSED
LIGHT POLE — EXISTING / PROPOSED
SIGN — EXISTING / PROPOSED
EXISTING CONCRETE
PROPOSED STANDARD CONCRETE
EXISTING ASPHALT PAVEMENT
EXISTING TREES
PROPOSED TREES

WATER UTILITY NOTES:

1. TRACER WIRE SHALL BE INSTALLED ON ALL NONMETALLIC WATER LINES.
2. WATER SERVICE LINES 4-INCH DIAMETER OR GREATER SHALL BE SHALL BE AWWA C900 CLASS 200 PVC PIPE DR14. 3" WATER LINES SHALL BE DIP.
3. WATER LINE FITTINGS SHALL BE DUCTILE IRON OR CAST-IRON SHALL BE AWWA C110 CLASS 250.
4. ALL WATER LINE FITTINGS SHALL BE POLYETHYLENE ENCASED.
5. ALL WATER SERVICE SHALL HAVE A MINIMUM OF FOUR AND A HALF (4-1/2) FEET COVER AS MEASURED FROM TOP OF PIPE TO FINAL GRADE AND BE PLACED NO DEEPER THAN 10'.
6. WATER SERVICE LINES SHALL HAVE A MINIMUM OF EIGHTEEN INCHES (18-IN) OF VERTICAL CLEARANCE FROM OTHER UTILITIES AS MEASURED FROM OUTSIDE OF PIPE TO OUTSIDE OF PIPE. WATER LINE SHALL BE CONSTRUCTED ABOVE SANITARY SEWER AND STORM WATER LINES UNLESS OTHERWISE NOTED ON THESE PLANS.
7. WATER SERVICE LINES 2-INCH DIAMETER OR LESS SHALL BE TYPE K, SOFT COPPER CONFORMING TO ASTM B88. FITTINGS SHALL BE BRASS OR COPPER ALLOY. CONNECTIONS SHALL BE BY FLARED JOINTS.
8. WATER SERVICE METER PITS MUST BE LOCATED IN LANDSCAPE AREAS.

Know what's below. Call before you dig.

ISSUED

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6	FINAL PUD	01-19-2024			

UTILITY CONNECTION PLAN | SHEET: 3

SCALE: 1" = 30' | DATE: MAR 29 2024

EAST ST VILLAGE

421-533 EAST ST - FINAL PLANNED UNIT DEVELOPMENT
CITY OF LOUISVILLE, COUNTY OF BOULDER, STATE OF COLORADO
CASE #PUPL-0427-2022

The Sanitas Group
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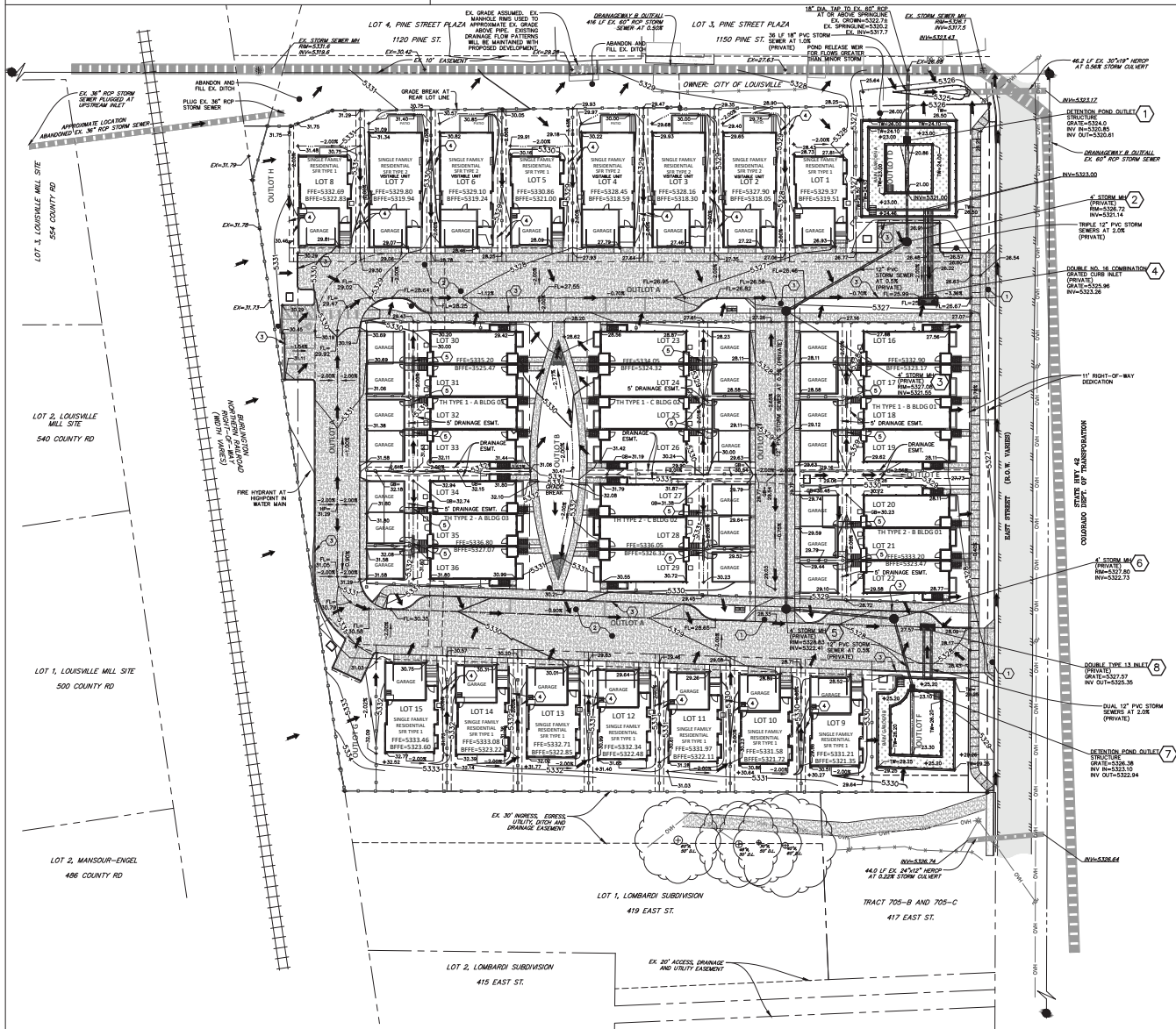

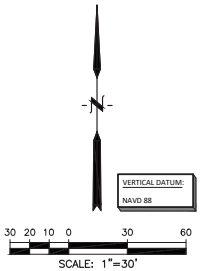

KEY NOTES

1. CONCRETE DRIVE RAMP
2. REINFORCED CONCRETE PAVEMENT
3. CURB (NO GUTTER) WITH 6" REVEAL
4. DRAINAGE EASEMENT
5. CULVERT OR SIDEWALK CHASE

LEGEND

PROPERTY BOUNDARY
ADJACENT LOT LINE
EASEMENT
CHANNEL OR SWALE FLOWLINE
FENCE
STORM SEWER, EXISTING / PROPOSED
MAJOR CONTOUR, EXISTING / PROPOSED
MINOR CONTOUR, EXISTING / PROPOSED
SPOT ELEVATION, PROPOSED
ELECTRICAL (OVERHEAD), EXISTING / PROPOSED
UTILITY MANHOLE, EXISTING / PROPOSED
FIRE HYDRANT, EXISTING / PROPOSED
LIGHT POLE, EXISTING / PROPOSED
SIGN, EXISTING / PROPOSED
STORM STRUCTURE DESIGNATOR, EXISTING / PROPOSED
EXISTING CONCRETE
PROPOSED STANDARD CONCRETE
EXISTING ASPHALT PAVEMENT
EXISTING TREES

PLAN NOTES

1. REFER TO SHEET 3 FOR UNDERGROUND UTILITY LOCATIONS. THIS PLAN IS LIMITED TO SURFACE IMPROVEMENTS, ASSOCIATED GRADING AND UNDERGROUND STORM SEWER PIPING.
2. THIS PLAN SHEET PRESENTS DRAINAGE EASEMENTS FOR EVALUATION OF SURFACE IMPROVEMENTS, ASSOCIATED GRADING AND UNDERGROUND STORM SEWER PIPE. REFER TO SHEETS 2 AND 3 FOR ALL OTHER EASEMENTS.

GRADING NOTES

1. ALL SPOT ELEVATIONS ARE TO FLOWLINE OF CURB AND GUTTER, TOP OF PAVING OR FINISHED GRADE LANDSCAPE AREA UNLESS OTHERWISE NOTED.
2. ALL PROPOSED CONTOURS ARE TO TOP OF FINISHED PAVING AND LANDSCAPED AREAS UNLESS OTHERWISE NOTED.
3. ADD 5300 TO ALL PROPOSED SPOT ELEVATIONS TO REACH PROJECT VERTICAL DATUM.
4. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN AND PROVIDE FOR ADEQUATE DRAINAGE THROUGH THE SITE DURING THE PROCESS OF EXCAVATION, GRADING AND EMBANKMENT. THE GRADE SHALL BE MAINTAINED IN SUCH CONDITION THAT IT IS WELL DRAINED AT ALL TIMES.
5. LANDSCAPE SLOPES SHALL BE 2% OR GREATER AND SHALL NOT EXCEED 4:1 (H:V) UNLESS OTHERWISE NOTED ON THESE PLANS AND APPROVED BY THE CITY INSPECTOR/ENGINEER.
6. MATCH EXISTING GRADES AT LIMITS OF CONSTRUCTION.

RAIN GARDEN NOTES

1. RAIN GARDENS A AND B ARE COMBINATION RAIN GARDEN AND DETENTION PONDS.
2. INLETS COLLECT STORM DRAINAGE FROM THE PRIVATE DRIVES AND DISCHARGES THE DRAINAGE INTO THE RAIN GARDEN LEVEL OF THE DETENTION POND. ONCE THE WATER QUALITY CAPTURE VOLUME IS EXCEED, THE RAIN GARDENS SPILL INTO THE CENTRAL LOWER LEVEL OF THE DETENTION POND. REFER TO THE STORM DRAINAGE REPORT FOR ADDITIONAL DISCUSSION OF THE DRAINAGE PATTERNS FOR THIS PROJECT.
3. RAIN GARDEN B FLOWS TO RAIN GARDEN A BY PRIVATE STORM SEWER.
4. METAL ACCESS STAIRS ARE PROVIDED FOR ACCESS INTO EACH RAIN GARDEN AND DETENTION POND LEVELS. MAINTENANCE ACTIVITIES SHALL BE PERFORMED BY HAND (RAKING, SHOVELING, PLANT CARE, ETC.) VIA THESE METAL ACCESS STAIRS.
5. RAIN GARDEN B OUTER PERIMETER WALL EXCEEDS 30". LANDSCAPING AND/OR HANDRAIL WILL BE PROVIDED FOR FALL PROTECTION.

811 Know what's below. Call before you dig.

ISSUED

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GRADING AND DRAINAGE PLAN | SHEET: 4

SCALE: 1" = 30' | DATE: MAR 29 2024

EAST ST VILLAGE

X421-533 EAST ST - FINAL PLANNED UNIT DEVELOPMENT
CITY OF LOUISVILLE, COUNTY OF BOULDER, STATE OF COLORADO
CASE #PUPL-0427-2022

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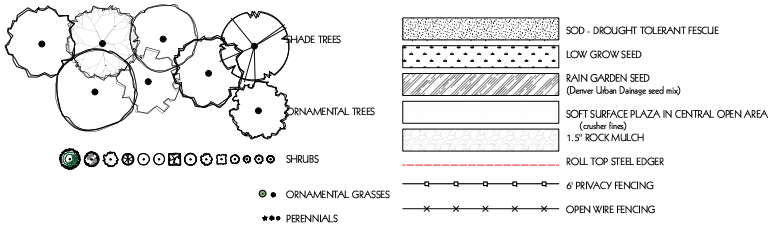
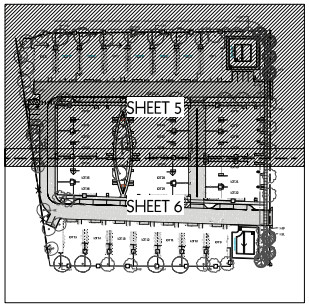
LEGEND:



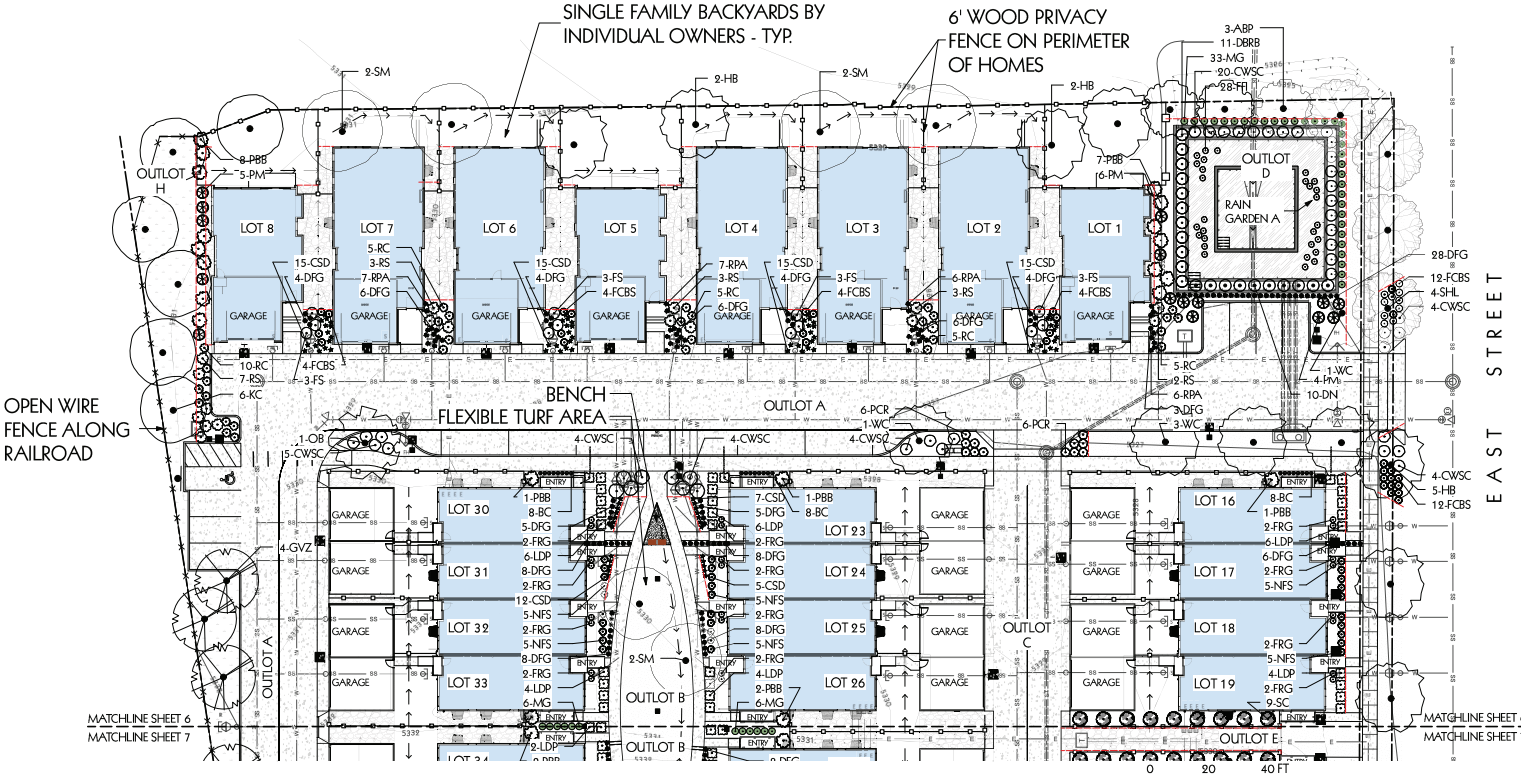
LANDSCAPE REQUIREMENTS: 5/22/23	
TOTAL LOT SIZE:	156,669
TOTAL AREA COVERED BY BUIDING, PARKING LOT OR PATIO	118,592
TOTAL LANDSCAPE AREA: (21%)	31,753
TOTAL HARDSCAPE AREA:	6,324
	PROPOSED
TOTAL NUMBER OF STREET TREES (all deciduous)	10
TOTAL NUMBER OF STREET SHRUBS	64
TOTAL NUMBER OF PERIMETER TREES	40
TOTAL NUMBER OF PERIMETER SHRUBS	50
TOTAL NUMBER OF PARKING LOT TREES	5
TOTAL NUMBER OF PARKING LOT SHRUBS	47



KEY MAP

GENERAL NOTES:

1. IRRIGATION SYSTEM OPERATION IN ROW REQUIRES PUBLIC WORKS INSPECTION AND APPROVAL PRIOR CONSTRUCTION ACCEPTANCE. NO OVERSPRAY ONTO PAVED SURFACES.
2. STREET TREES SHALL BE CENTERED WITHIN THE TREE LAWN. IN AREAS IRRIGATION IN THE TREE LAWNS SHALL BE SUBSURFACE IN ALL AREAS. IRRIGATION IN THE TREE LAWNS SHALL BE ON A CENTRAL SYSTEM CONTROLLED BY THE HOA.



LANDSCAPE PLAN - NORTH

SCALE: 1"=20'-0"

ISSUED					
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LANDSCAPE PLAN - NORTH	SHEET: 5
SCALE: 1"=20'-0"	DATE: MAR 29, 2024

EAST ST VILLAGE

X421-533 EAST ST - FINAL PLANNED UNIT DEVELOPMENT
CITY OF LOUISVILLE, COUNTY OF BOULDER, STATE OF COLORADO
CASE #PUPL-0427-2022

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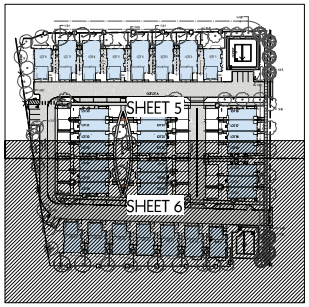
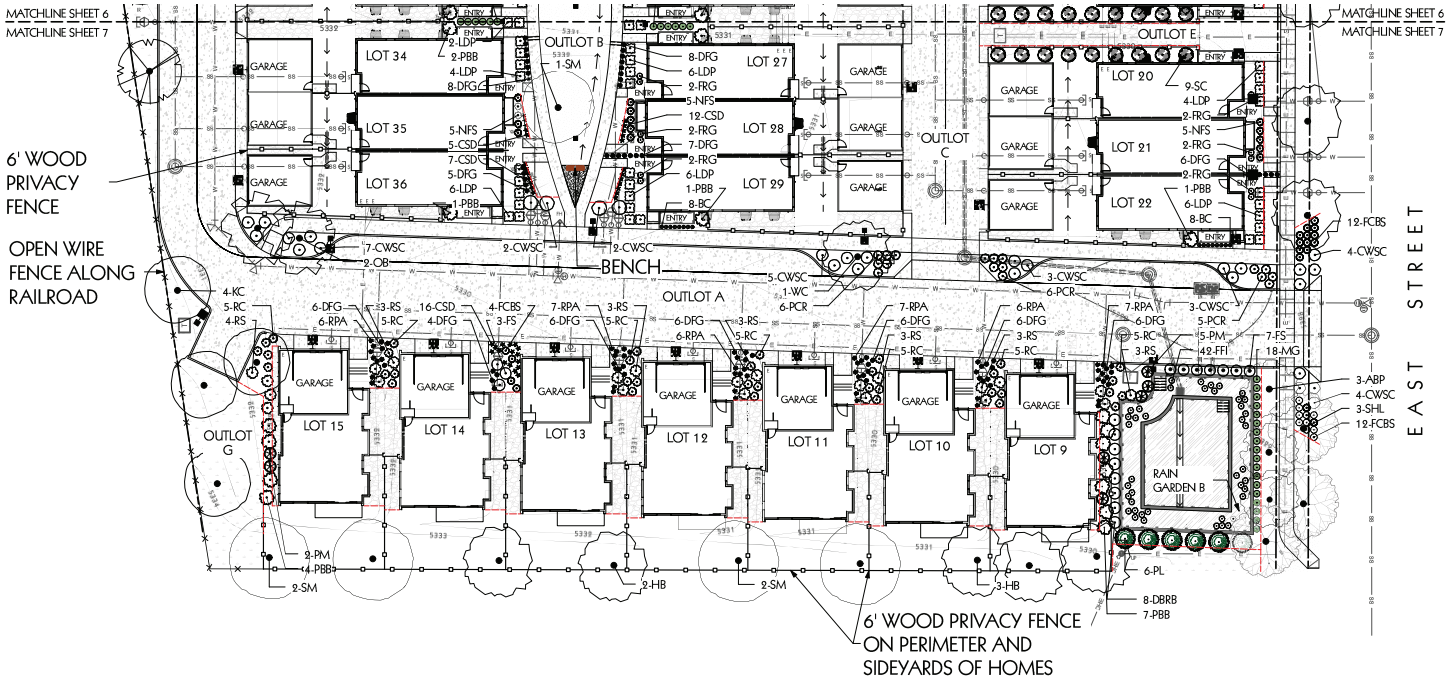
LEGEND:

SHADE TREES
ORNAMENTAL TREES
SHRUBS
ORNAMENTAL GRASSES
PERENNIALS

SOD - DROUGHT TOLERANT FESCUE
LOW GROW SEED
RAIN GARDEN SEED (Denver Urban Dainage seed mix)
SOFT SURFACE PLAZA IN CENTRAL OPEN AREA (crusher fines) 1.5" ROCK MULCH
ROLL TOP STEEL EDGER
6' PRIVACY FENCING
OPEN WIRE FENCING



KEY MAP



GENERAL NOTES:

1. IRRIGATION SYSTEM OPERATION IN ROW REQUIRES PUBLIC WORKS INSPECTION AND APPROVAL PRIOR CONSTRUCTION ACCEPTANCE. NO OVERSPRAY ONTO PAVED SURFACES.
2. STREET TREES SHALL BE CENTERED WITHIN THE TREE LAWN. IN AREAS IRRIGATION IN THE TREE LAWNS SHALL BE SUBSURFACE IN ALL AREAS. IRRIGATION IN THE TREE LAWNS SHALL BE ON A CENTRAL SYSTEM CONTROLLED BY THE HOA.

LANDSCAPE PLAN - SOUTH

0 20 40 FT

SCALE: 1"=20'-0"

ISSUED					
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6	FINAL PUD	01-19-2024			

LANDSCAPE PLAN - SOUTH	SHEET: 6
SCALE: 1'=20'-0"	DATE: MAR 29, 2024

EAST ST VILLAGE

421-533 EAST ST - FINAL PLANNED UNIT DEVELOPMENT
CITY OF LOUISVILLE, COUNTY OF BOULDER, STATE OF COLORADO
CASE #PUPL-0427-2022

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PLANT SCHEDULE - 5/22/23

ABBREV.	SCIENTIFIC NAME	COMMON NAME	SIZE	QTY	MATURE HT.
CANOPY TREES:					
GVZ	Zelkova serrata 'Green Vase'	Green Vase Zelkova	2.5" cal.	4	50'
HB	Celtis occidentalis 'Chicagoland'	Western Chicagoland Hackberry	2.5" cal.	14	55'
KC	Gymnocladus dioicus	Kentucky Coffeetree	2.5" cal.	10	55'
OB	Aesculus glabra	Ohio Buckeye	2.5" cal.	3	35'
SHL	Gleditsia triacanthos var. inermis 'Shademaster'	Shademaster Honeylocust	2.5" cal.	7	45'
SM	Acer saccharum 'Green Mountain'	Green Mountain Sugar Maple	2.5" cal.	11	45'
WC	Catalpa speciosa	Northern Catalpa	2.5" cal.	6	50'
			TOTAL	55	
ORNAMENTAL TREES:					
ABP	Pyrus calleryana 'Autumn Blaze'	Autumn Blaze Pear	6' ht. Clump	6	25'
			TOTAL	6	
SHRUBS:					
CWSC	Prunus besseyi Pawnee Buttes	Creeping Western Sand Cherry	5 gal.	75	2'
DBRB	Ericameria nauseosus nauseosus	Dwarf Blue Rabbitbrush	5 gal.	19	3'
DN	Physocarpus opulifolius 'Nanus'	Dwarf Ninebark	5 gal.	10	4'
FCBS	Caeryopteris x clandonensis 'First Choice'	First Choice Blue Spirea	5 gal.	68	2.5'
FFI	Amorpha nana	Fragrant False Indigo	5 gal.	70	3'
FS	Spiraea x bumalda 'Froebelii'	Froebel Spirea	5 gal.	22	3.5'
LDP	Ligustrum vulgare 'Lodense'	Lodense Privet	5 gal.	64	3'
NFS	Spiraea japonica 'Neon Flash'	Neon Flash Spirea	5 gal.	45	2.5'
PBB	Buddleja davidii nanhoensis ' Petite Plum '	Compact Purple Butterfly Bush	5 gal.	36	5'
PCR	Rosa x 'Meipotal'	Carefree Delight™ Shrub Rose	5 gal.	29	3'
PL	Syringa x josiflexa 'Royalty'	Royalty Lilac	5 gal.	6	8'
PM	Arctostaphylos x coloradoensis Panchito	Panchito Manzanita	5 gal.	22	2'
RC	Cotoneaster horizontalis	Rock Cotoneaster	5 gal.	65	2.5'
RS	Perovskia atriplicifolia 'Little Spire'	Little Spire Russian Sage	5 gal.	40	
SC	Cotoneaster divaricatus	Spreading Cotoneaster	5 gal.	18	5'
			TOTAL	589	
PERENNIALS, ORNAMENTAL GRASSES, VINES:					
BC	Geranium sanguineum	Bloody Cranesbill	1 gal.	40	18"
CSD	Leucanthemum x superbum 'Silver Princess'	Compact Shasta Daisy	1 gal.	124	18"
DFG	Pennisetum alopecuroides 'Hameln'	Dwarf Fountain Grass	1 gal.	187	2'
FRG	Calamagrostis x acutiflora ' Karl Foerster '	Foerster Feather Reed Grass	1 gal.	36	18"
MG	Miscanthus sinensis 'Morning Light'	Morning Light Maiden Grass	1 gal.	63	4'
			TOTAL	450	

Native Seed Mix

Common Name	Scientific Name	Lb/ac (PLS)*
Western wheatgrass	Pascopyrum smithii	3.5
Slender wheatgrass	Elymus trachycaulus	4
Sideoats grama	Bouteloua curtipendula	3
Blue grama	Bouteloua gracilis	1
Little bluestem	Schizachyrium scoparium	2
Needle and thread grass	Hesperostipa comata	2
Sand dropseed	Sporobolus cryptandrus	0.02
	Total	15.52

* Please note that the pounds per acre are in PLS (Pure Live Seed) and must be ordered that way.

* This mix is based on 75 seeds/ square foot and is only calculated for one acre. This mix is based on the contractor using a drill seed application. Contractor is responsible for calculating the appropriate seed amounts to purchase. Mix should be doubled if hand applied.

RAIN GARDEN SEED MIX:

COMMON NAME	SCIENTIFIC NAME	% OF TOTAL	PLS PER ACRE
Prairie sandreed	Calamovilfa longifolia	25%	6 LBS.
Indian ricegrass	Oryzopsis hymenoides	20%	6 LBS.
Sand dropseed	Sporobolus cryptandrus	15%	6 LBS.
Western wheatgrass	Pascopyrum smithii	10%	6 LBS.
Blanket flower	Gaillardia aristata	5%	1 LBS.
Prairie coneflower	Ratibida columnifera	5%	1 LBS.
Purple prairie clover	Dalea purpurea Purple	5%	1 LBS.
White yarrow	Achillea lanulosa	5%	1 LBS.
Golden columbine	Aquilegia caerulea	5%	1 LBS.
Sulphur flower	Eriogonum umbellatum	5%	1 LBS.
	TOTAL	100%	30 LBS

PLANT NOTES:

1. ALL PLANT MATERIAL SHALL MEET SPECIFICATIONS OF THE AMERICAN ASSOCIATION OF NURSERYMEN (AAN) FOR NUMBER ONE GRADE. ALL TREES SHALL BE BALLED AND BURLAPPED OR EQUIVALENT. ALL PLANT MATERIALS SHALL HAVE ALL WIRE, TWINE OR OTHER CONTAINMENT MATERIALS, EXCEPT FOR BURLAP, REMOVED FROM TRUNK AND ROOT BALL OF THE PLANT PRIOR TO PLANTING.

2. TREES SHALL NOT BE PLANTED CLOSER 7 FEET TO ANY SEWER OR WATER LINE. TREE PLANTING SHALL BE COORDINATED WITH XCEL ENERGY COMPANY. LOCATIONS OF ALL UTILITIES SHALL BE VERIFIED IN THE FIELD PRIOR TO PLANTING. APPLICANT SHALL ADD ROOT BARRIER ADJACENT TO BACK OF PUBLIC WALK WHEN TREES ARE PLANTED WITHIN 5' OF WALK OR CURB.

3. ALL SHRUBS SHALL BE PLANTED NO LESS THAN 2' FROM ANY SIDEWALK OR CURB.

4. GRADES SHALL BE SET TO ALLOW FOR PROPER DRAINAGE AWAY FROM STRUCTURES. GRADES SHALL MAINTAIN SMOOTH PROFILES AND BE FREE OF SURFACE DEBRIS, BUMPS, AND DEPRESSIONS.

5. DEVELOPERS SHALL ENSURE THAT THE LANDSCAPE PLAN IS COORDINATED WITH THE PLANS DONE BY OTHER CONSULTANTS SO THAT THE PROPOSED GRADING, STORM DRAINAGE, OR OTHER CONSTRUCTIONS DOES NOT CONFLICT NOR PRECLUDE INSTALLATION AND MAINTENANCE OF LANDSCAPE ELEMENTS ON THIS PLAN.

6. ALL SHRUB AND PERENNIAL BEDS AREAS SHALL BE MULCHED WITH A 4" LAYER OF WOOD BARK MULCH. TREE BEDS PLANTED IN CRUSHER FINES AT FRONT ENTRY. NO FABRIC TO BE INSTALLED IN ANY OF THE BEDS. INSTALL 3" DEPTH OF 1.5" MOUNTAIN MIX GRANITE NEXT TO BUILDING FOUNDATIONS - NO FABRIC REQUIRED.

7. PRIOR TO INSTALLATION OF PLANT MATERIALS, AREAS THAT HAVE BEEN COMPACTED OR DISTURBED BY CONSTRUCTION ACTIVITY SHALL BE THOROUGHLY LOOSENED, ORGANIC SOIL AMENDMENTS SHALL BE INCORPORATED AT THE RATE OF AT LEAST FIVE (5) CUBIC YARDS PER 1000 SQUARE FEET OF LANDSCAPE AREA IN ALL TURF AND SHRUB BEDS.

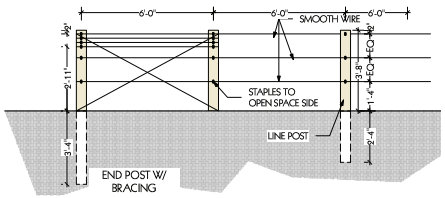
8. SOD TO BE DROUGHT TOLERANT FESCUE.

9. ALL LANDSCAPE (PLANT MATERIALS AND GRASS) WILL BE IRRIGATED WITH AN AUTOMATIC SYSTEM. TURF AREAS WILL HAVE A SPRAY ZONE. PLANTS WITH LIKE WATER REQUIREMENTS ARE SHOWN TOGETHER IN ORDER TO HAVE AN EFFICIENT USE OF WATER.

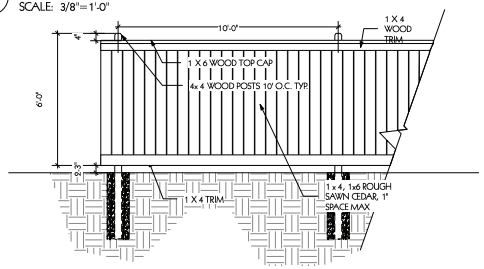
10. CONTRACTOR SHALL VERIFY ALL MATERIAL QUANTITIES PRIOR TO INSTALLATION. ACTUAL NUMBER OF PLANT SYMBOLS SHALL HAVE PRIORITY OVER THE QUANTITY DESIGNATED.

11. REFER TO THE CITY OF LOUISVILLE DESIGN AND CONSTRUCTION STREETSCAPING STANDARDS FOR ALL WORK WITHIN PUBLIC AREAS, INCLUDING TREE PROTECTION STANDARDS. THE DEVELOPER WILL MAKE EVERY EFFORT POSSIBLE TO PROTECT TREES WITHIN THE SITE USING THE SAME STANDARDS.

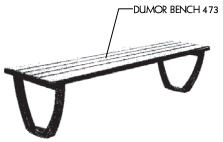
12. ALL PRIVATE & COMMON OR PUBLIC LANDSCAPING SHOWN SHALL BE PROVIDED BY DEVELOPER. THE HOA WILL BE RESPONSIBLE FOR MAINTAINING LANDSCAPING IN THE FRONT AND SIDES OF THE FEE SIMPLE LOTS, IN THE COMMON AREAS WHERE LANDSCAPING IS INDICATED ON THIS PLAN AS WELL AS THE ROW LANDSCAPE ALONG EAST STREET. THE HOA WILL ALSO BE RESPONSIBLE FOR SNOW REMOVAL OF PUBLIC WALK ALONG EAST STREET. MAINTENANCE REQUIREMENTS OF THE HOA MAY NOT BE TRANSFERRED OR ASSIGNED WITHOUT CITY COUNCIL APPROVAL OF A PUD AMENDMENT.



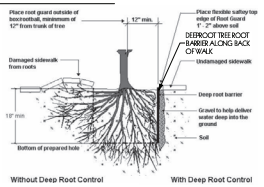
OPEN WIRE FENCING
SCALE: 3/8"=1'-0"



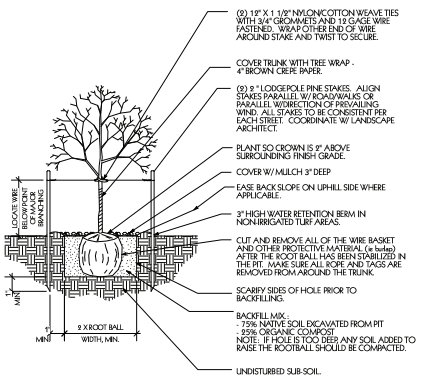
CEDAR PRIVACY FENCING
SCALE: 3/8"=1'-0"



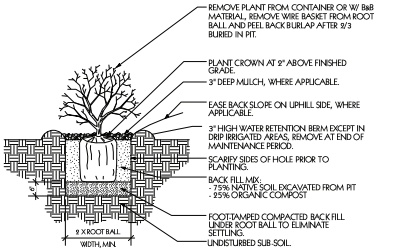
BENCH



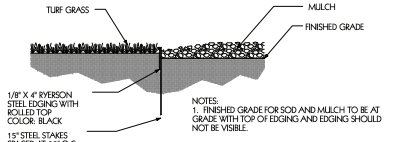
TREE ROOT BARRIER



DECIDUOUS TREE PLANTING & STAKING
SCALE: NTS



TYPICAL SHRUB PLANTING
SCALE: NTS



EDGING
SCALE: NTS

ISSUED

NO.	DESCRIPTION	DATE	NO.	DESCRIPTION	DATE
1	PRELIMINARY PUD	07-28-2022	7	FINAL PUD	03-29-2024
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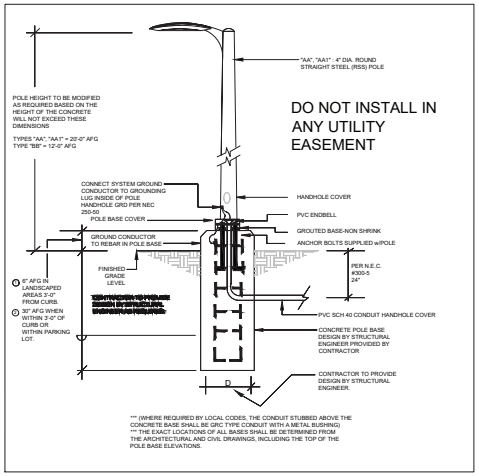
5	FINAL PUD	12-12-2023			
6	FINAL PUD	01-19-2024			

LANDSCAPE NOTES & DETAILS | SHEET: 7
SCALE: 1'=20'-0" | DATE: MAR 29, 2024

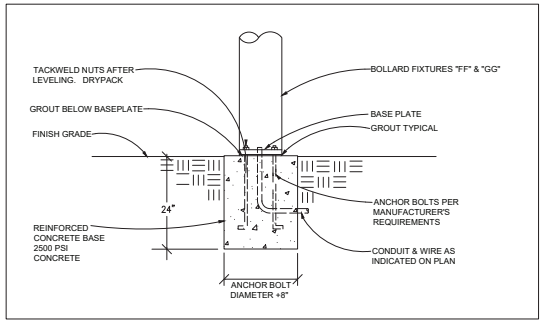
EAST ST VILLAGE

FINAL PLANNED UNIT DEVELOPMENT
CITY OF LOUISVILLE, COUNTY OF BOULDER, STATE OF COLORADO
CASE #PUPL-0427-2022

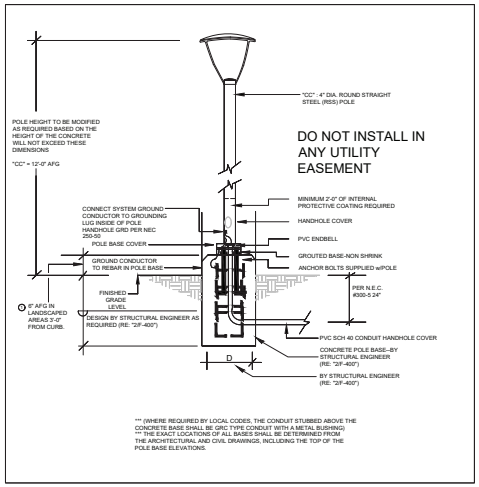
DESIGN
PRACTICE_INC
2842 W 44th
Denver CO 80211
www.designpracticedenver.com
info@designpracticedenver.com
PHONE_303 561 3000



1 TYPES "AA, AA1, BB" POLE BASE DETAIL
SCALE: N.T.S.



2 TYPES "FF" & "GG" POLE BASE DETAIL
SCALE: N.T.S.



3 TYPE "CC" POLE BASE DETAIL
SCALE: N.T.S.

NOTE:

"LIGHTING LOCATIONS WITHIN THE CITY OF LOUISVILLE EXCLUSIVE UTILITY EASEMENT SHALL BE APPROVED BY THE CITY. EUE CROSSING PERMIT REQUIRED. "

LEGEND

SYMBOL	DESCRIPTION
	ARM MOUNTED ROADWAY POLE
	GROUND MOUNTED BOLLARD
	POST TOP AREA LIGHT
	WALL MOUNTED AREA LIGHT

SHEET INDEX

ISSUE	SHEET NO.	SHEET DESCRIPTION
29 MARCH, 2024 - FINAL PUD	8	LIGHTING COVER SHEET & DETAILS
19 JANUARY, 2024 FINAL PUD	9	PHOTOMETRIC SITE PLAN
23 MAY, 2023 PRELIM. PLANNED UNIT DEV.	10	ILLUMINAIRE CUT SHEETS
10 AUGUST, 2023 PRELIM. PLANNED UNIT DEV.		

CODES & DESIGN CRITERIA

JURISDICTION:	CITY OF LOUISVILLE
ELECTRICAL CODE:	2020 N.E.C.
ENERGY CODE:	2021 I.E.C.C.

LUMINAIRE SCHEDULE

FIXT. TYPE	MANUFACTURER NAME	MANUFACTURER CATALOG NUMBER	FINISH	LAMP DATA	LAMP WATTS	MOUNTING METHOD	MTG HEIGHT	MTG DEPTH	DESCRIPTION	VOLTS
AA	LITHONIA	RAD1-LED-P5-30K-PATH HS-MVOLT-RPA -DBLXD	BLK	1-LED BY MFR		RE: 1 SHT: "5"	20'-0" AFG			120/277
AA1	LITHONIA	RAD1-LED-P5-30K-ASY-MVOLT-RPA -DBLXD	BLK	1-LED BY MFR		RE: 1 SHT: "5"	20'-0" AFG			120/277
BB	LITHONIA	RAD1-LED-P2-30K-PATH HS-MVOLT-RPA -DBLXD	BLK	1-LED BY MFR		RE: 1 SHT: "5"	12'-0" AFG			120/277
CC	LITHONIA	RADPT-LED-P3-30K-SYM-MVOLT-PT4 -DBLXD	BLK	1-LED BY MFR		RE: 3 SHT: "5"	12'-0" AFG			120/277
DD	LITHONIA	WDGE2-LED-P3-30K-80 CRI-T4M-MVOLT-SRM-DBLXD	BLK	1-LED BY MFR		WALL	9'-0" AFG			120/277
EE	LITHONIA	WDGE2-LED-P3-30K-80 CRI-TFTM-MVOLT-SRM-DBLXD	BLK	1-LED BY MFR		WALL	9'-0" AFG			120/277
FF	LITHONIA	RAD8-LED-P4-30K-ASY-MVOLT-BTS-BCC -DBLXD	BLK	1-LED BY MFR	19	RE: 2 SHT: "5"	42"			120/277
GG	LITHONIA	RAD8-LED-P3-30K-ASY-MVOLT-BTS-BCC -DBLXD	BLK	1-LED BY MFR	13	RE: 2 SHT: "5"	42"			120/277

811 Know what's below. Call before you dig.

JCAA
4100 Wadsworth Blvd
Wheat Ridge, CO 80033
p 303.985.3260

#22-106

ISSUED					
NO.	DESCRIPTION	DATE	NO.	DESCRIPTION	DATE
1	PRELIMINARY PUD	07-28-2022	7	FINAL PUD	03-29-2024
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LIGHTING COVER SHEET AND DETAILS — SHEET: 8
SCALE: N.T.S. — DATE: MAR 29, 2024

EAST ST VILLAGE

FINAL PLANNED UNIT DEVELOPMENT
CITY OF LOUISVILLE, COUNTY OF BOULDER, STATE OF COLORADO
CASE #PUPL-0427-2022

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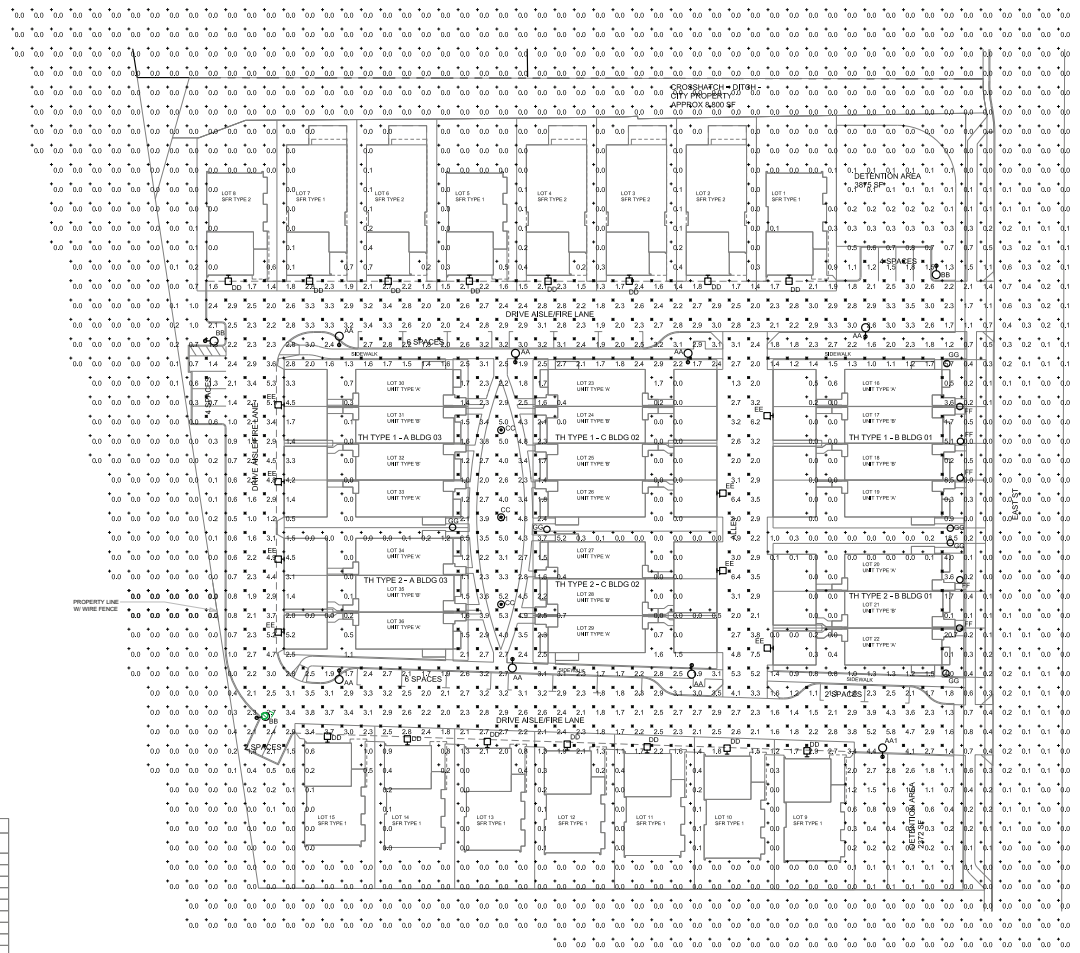
Info@designpracticedenver.com
PHONE_303 561 3000



1 SITE PHOTOMETRIC PLAN
SCALE: 1"=30'-0"

Statistics						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
drive fire lane		2.6 fc	5.8 fc	1.0 fc	5.8:1	2.6:1
east entries		6.4 fc	20.7 fc	2.6 fc	8.0:1	3.2:1
garage lane		3.2 fc	7.5 fc	1.3 fc	5.8:1	2.5:1
parking2		0.9 fc	1.4 fc	0.6 fc	2.3:1	1.5:1
parking4		2.0 fc	3.0 fc	1.2 fc	2.5:1	1.7:1
parking5		1.8 fc	2.5 fc	1.1 fc	2.3:1	1.6:1
parking6		2.6 fc	3.2 fc	1.8 fc	1.8:1	1.4:1
parking 1		1.5 fc	1.9 fc	1.2 fc	1.6:1	1.3:1
parking 3		2.6 fc	3.2 fc	1.8 fc	1.8:1	1.4:1
plaza		2.9 fc	6.5 fc	1.0 fc	6.5:1	2.8:1
sidewalk1		2.1 fc	3.1 fc	1.3 fc	2.4:1	1.6:1
sidewalk2		1.7 fc	5.7 fc	1.0 fc	5.7:1	1.7:1
sidewalk3		1.8 fc	1.8 fc	1.7 fc	1.1:1	1.1:1
sidewalk4		2.4 fc	3.2 fc	1.7 fc	1.9:1	1.4:1

811 Know what's below. Call before you dig.

JCAA
4100 Wadsworth Blvd.
Wheat Ridge, CO 80033
p 303.985.3280

NORTH

ISSUED					
NO.	DESCRIPTION	DATE	NO.	DESCRIPTION	DATE
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5	FINAL PUD	12-12-2023			
6	FINAL PUD	01-19-2024			

PHOTOMETRIC SITE PLAN
SCALE:
SHEET: 9
DATE: MAR 29, 2024

EAST ST VILLAGE

FINAL PLANNED UNIT DEVELOPMENT
CITY OF LOUISVILLE, COUNTY OF BOULDER, STATE OF COLORADO
CASE #PUPL-0427-2022

DESIGN PRACTICE_INC
2842 W 44th
Denver CO 80211
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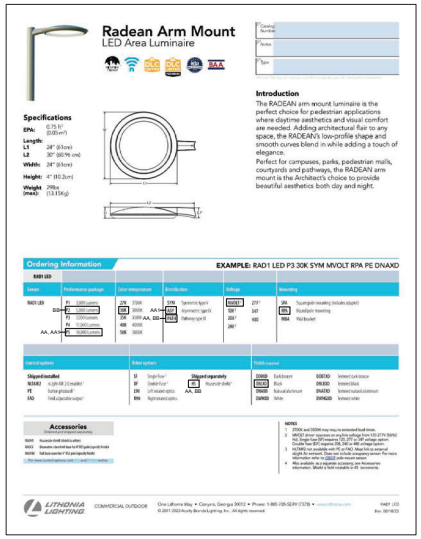
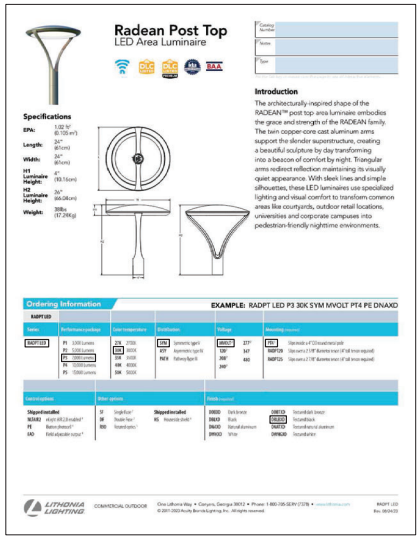
info@designpracticedenver.com
PHONE_303 561 3000

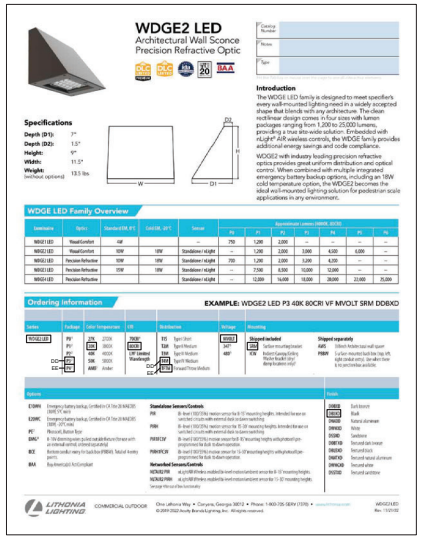
TYPE "AA, AA1, & BB" (FULL CUT-OFF)



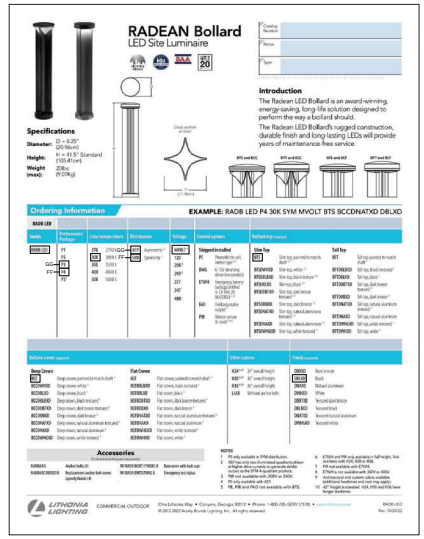
TYPE "CC" (FULL CUT-OFF)



TYPE "DD & EE" (FULL CUT-OFF)



TYPE "FF & GG" (FULL CUT-OFF)



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6	FINAL PUD	01-19-2024			

811 Know what's below. Call before you dig.

JCA CONSULTING ENGINEERS, LLC
JCAA
4100 Wadsworth Blvd
Wheat Ridge, CO 80033
p 303.985.3260

#22-106

ILLUMINAIRE CUT SHEETS	SHEET: 10
SCALE: N.T.S.	DATE: MAR 29, 2024

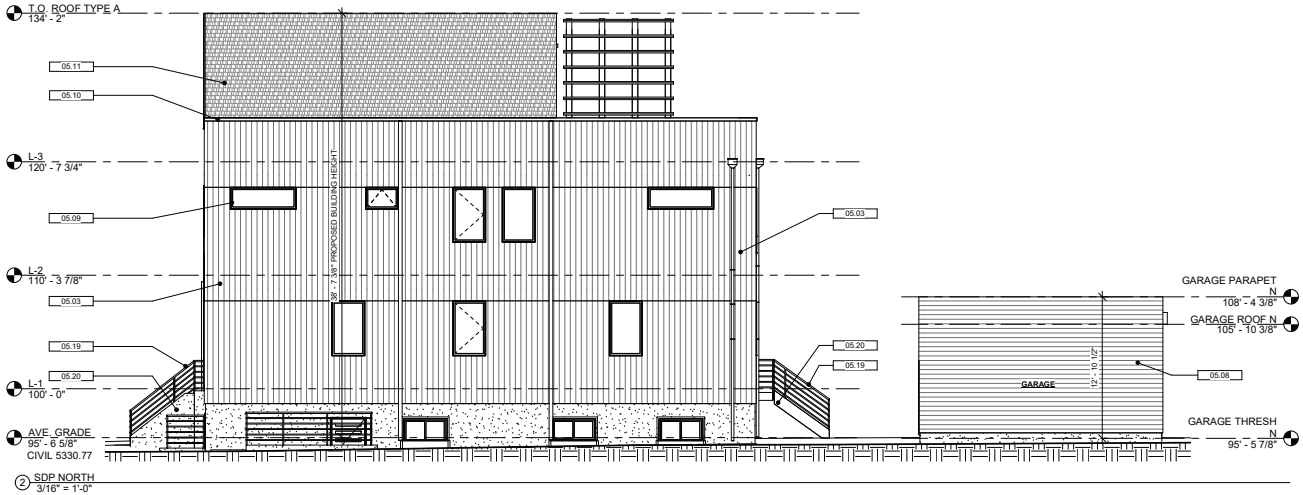
EAST ST VILLAGE

FINAL PLANNED UNIT DEVELOPMENT
CITY OF LOUISVILLE, COUNTY OF BOULDER, STATE OF COLORADO
CASE #PUPL-0427-2022

DESIGN
PRACTICE_INC
2842 W 44th
Denver CO 80211
www.designpracticedenver.com
info@designpracticedenver.com
PHONE_303 561 3000

TH TYPE 1 MATERIAL PALETTE 'A'
SEE EXHIBIT SHEET 15 FOR ADDITIONAL MATERIAL PALETTES OF THE TH TYPE 1 BUILDINGS.

PUD ELEVATION KEYNOTES	
Key Value	Keynote Text
05.01	VESTA 5" STEEL PLANK SIDING - HORZ - IRONSTONE
05.03	VESTA 5" STEEL PLANK SIDING - VERT - WHITE
05.07	5" SHIPLAP CEDAR SIDING - NATURAL STAIN
05.08	HARDIPLANK SMOOTH LAP SIDING - WHITE
05.09	ANDERSON 100 SERIES COMPOSITE WINDOW - BLACK
05.10	METAL FLASHING OVER 1X4 FASCIA - CHARCOAL
05.11	30 YR DIMENSIONAL SHINGLE - CHARCOAL
05.14	CEMENTITIOUS RAISED WALL DETAIL PTD. CHARCOAL
05.15	COMPOSITE ENTRY DOOR - PTD
05.19	POWDER COATED STEEL RAILING - BLACK
05.20	STEEL STAIR W/CONCRETE TREADS - BLACK
05.21	SKYLIGHT
05.26	VESTA DRIP CAP STARTER FLASHING - WHITE
05.27	VESTA DRIP CAP OVER UTILITY TRIM REVEAL - WHITE



② SDP NORTH
3/16" = 1'-0"

① SDP EAST
3/16" = 1'-0"

ISSUED					
NO.	DESCRIPTION	DATE	NO.	DESCRIPTION	DATE
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6	FINAL PUD	01-19-2024			

TH TYPE 1 - ELEVATIONS	SHEET: 11
SCALE:	DATE: MAR 29 2024

EAST ST VILLAGE

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PUD ELEVATION KEYNOTES	
Key Value	Keynote Text
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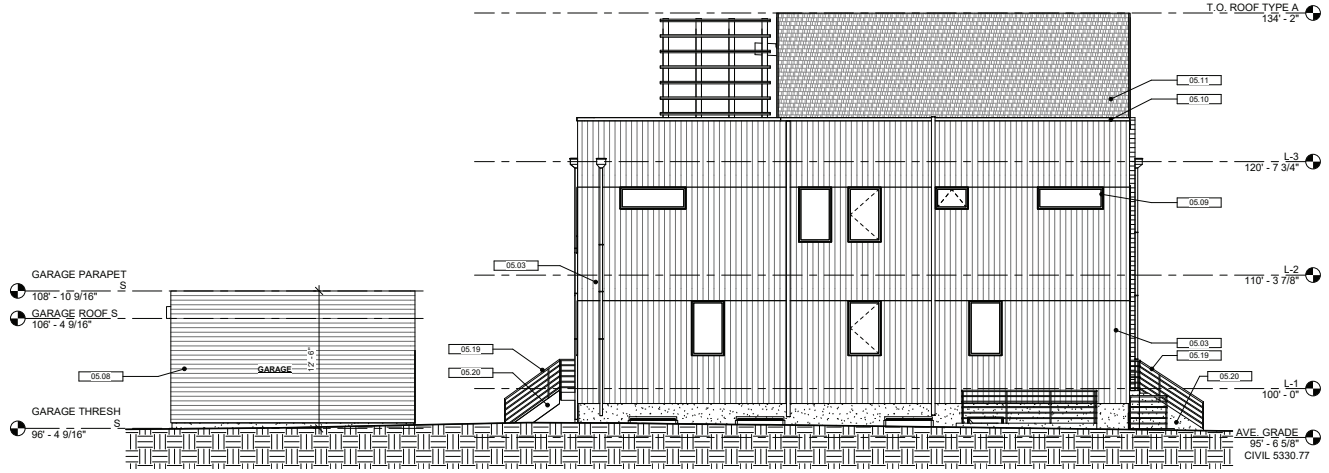
05.08	HARDIPLANK SMOOTH LAP SIDING - WHITE
05.09	ANDERSON 100 SERIES COMPOSITE WINDOW - BLACK
05.10	METAL FLASHING OVER 1X4 FASCIA - CHARCOAL
05.11	30 YR DIMENSIONAL SHINGLE - CHARCOAL
05.14	CEMENTITIOUS RAISED WALL DETAIL PTD- CHARCOAL
05.15	COMPOSITE ENTRY DOOR - PTD
05.19	POWDER COATED STEEL RAILING - BLACK
05.20	STEEL STAIR W/CONCRETE TREADS - BLACK
05.21	SKYLIGHT
05.26	VESTA DRIP CAP STARTER FLASHING - WHITE
05.27	VESTA DRIP CAP OVER UTILITY TRIM REVEAL - WHITE



② SDP SOUTH
3/16" = 1'-0"

① SDP WEST
3/16" = 1'-0"

ISSUED					
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TH TYPE 1 - ELEVATIONS	SHEET: 12
SCALE:	DATE: MAR 29 2024

EAST ST VILLAGE

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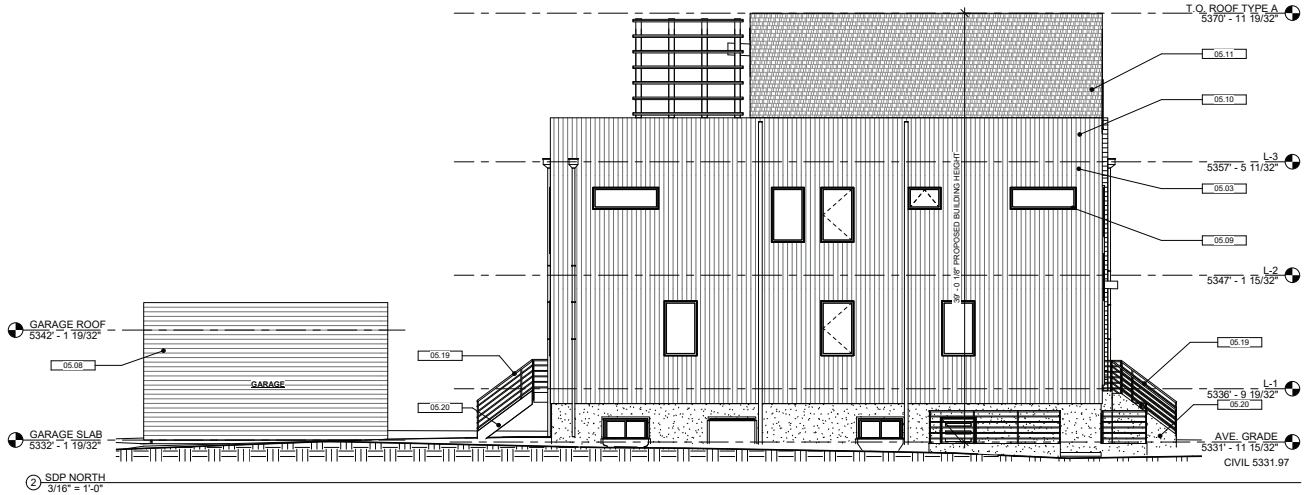
PHONE_303 561 3000

TH TYPE 2 MATERIAL PALETTE 'A'
SEE EXHIBIT SHEET 15 FOR ADDITIONAL MATERIAL PALETTES OF THE TH TYPE 1 BUILDINGS.

PUD ELEVATION KEYNOTES	
Key Value	Keynote Text
05.01	VESTA 5" STEEL PLANK SIDING - HORZ - IRONSTONE
05.03	VESTA 5" STEEL PLANK SIDING - VERT - WHITE
05.07	5" SHIPLAP CEDAR SIDING - NATURAL STAIN
05.08	HARDIPLANK SMOOTH LAP SIDING - WHITE
05.09	ANDERSON 100 SERIES COMPOSITE WINDOW - BLACK
05.10	METAL FLASHING OVER 1X4 FASCIA - CHARCOAL
05.11	30 YR DIMENSIONAL SHINGLE - CHARCOAL
05.19	POWDER COATED STEEL RAILING - BLACK
05.20	STEEL STAIR W/CONCRETE TREADS - BLACK
05.21	SKYLIGHT
05.25	RAISED WINDOW ACCENT - BLACK



② SDP NORTH
3/16" = 1'-0"

① SDP EAST
3/16" = 1'-0"

ISSUED					
NO.	DESCRIPTION	DATE	NO.	DESCRIPTION	DATE
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TH TYPE 2 - ELEVATIONS	SHEET: 13
SCALE:	DATE: MAR 29 2024

EAST ST VILLAGE

FINAL PLANNED UNIT DEVELOPMENT
CITY OF LOUISVILLE, COUNTY OF BOULDER, STATE OF COLORADO
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TH TYPE 1 MATERIAL PALETTE 'A'
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PUD ELEVATION KEYNOTES	
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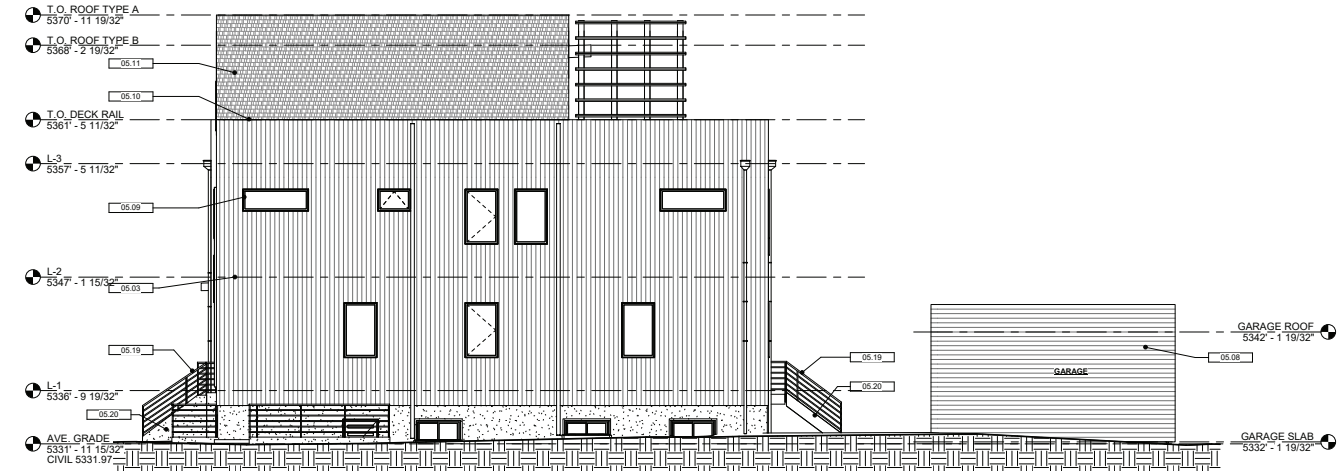
05.08	HARDIPLANK SMOOTH LAP SIDING - WHITE
05.09	ANDERSON 100 SERIES COMPOSITE WINDOW - BLACK
05.10	METAL FLASHING OVER 1X4 FASCIA - CHARCOAL
05.11	30 YR DIMENSIONAL SHINGLE - CHARCOAL
05.15	COMPOSITE ENTRY DOOR - PTD
05.19	POWDER COATED STEEL RAILING - BLACK
05.20	STEEL STAIR W/CONCRETE TREADS - BLACK
05.21	SKYLIGHT



② SDP SOUTH
3/16" = 1'-0"

① SDP WEST
3/16" = 1'-0"

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TH TYPE 2 - ELEVATIONS	SHEET: 14
SCALE:	DATE: MAR 29 2024

EAST ST VILLAGE

FINAL PLANNED UNIT DEVELOPMENT
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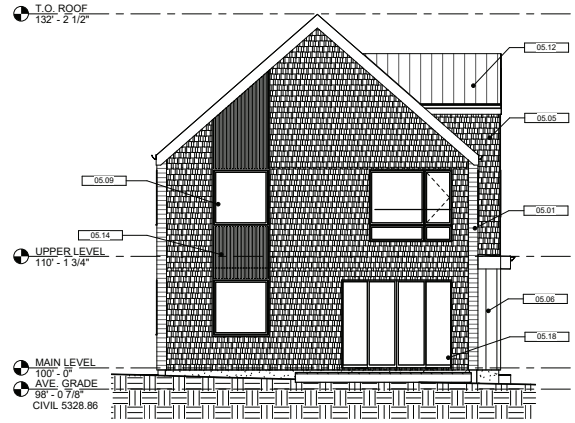
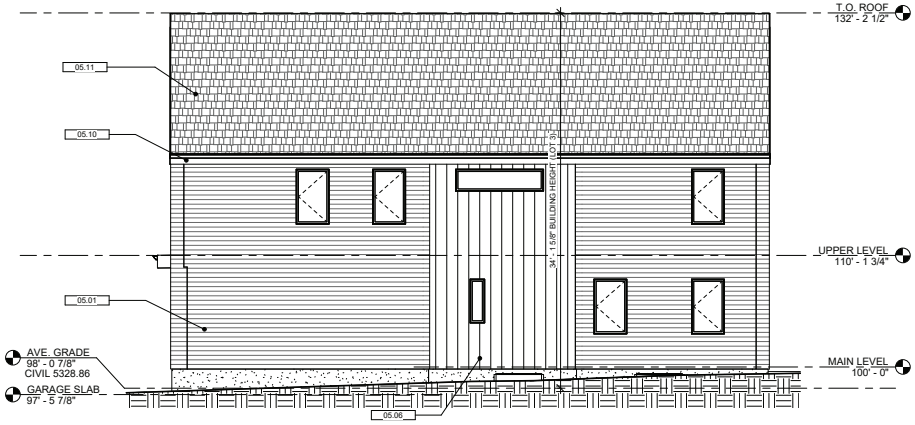
info@designpracticedenver.com
PHONE_303 561 3000



4 SDP - SOUTH ELEVATION
3/16" = 1'-0"

3 SDP - EAST ELEVATION
3/16" = 1'-0"



2 SDP - WEST ELEVATION
3/16" = 1'-0"

1 SDP - NORTH ELEVATION
3/16" = 1'-0"

SFR TYPE 1 MATERIAL PALETTE 'A'
SEE EXHIBIT SHEET 14 FOR ADDITIONAL MATERIAL PALETTES OF THE SFR TYPE 1 UNITS.

PUD MATERIALS	
Key Value	Keynote Text
05.01	VESTA 5" STEEL PLANK SIDING - HORZ - IRONSTONE
05.05	CEMENTITIOUS SHINGLE SIDING - BM 188
05.06	12" SANDING SEAM METAL SIDING - CHARCOAL
05.09	ANDERSON 100 SERIES COMPOSITE WINDOW - BLACK
05.10	METAL FLASHING OVER 1X4 FASCIA - CHARCOAL
05.11	30 YR DIMENSIONAL SHINGLE - CHARCOAL
05.12	12" STANDING SEAM METAL ROOFING - CHARCOAL
05.13	PTD WOOD SCREEN ENTRY SCREEN - CHARCOAL
05.14	CEMENTITIOUS RAISED WALL DETAIL PTD- CHARCOAL
05.15	COMPOSITE ENTRY DOOR - PTD
05.16	GLAZED OVERHEAD GARAGE DOOR - BLACK
05.18	COMPOSITE SLIDING DOOR - BLACK

ISSUED

NO.	DESCRIPTION	DATE	NO.	DESCRIPTION	DATE
1	PRELIMINARY PUD	07-28-2022	7	FINAL PUD	03-29-2024
2	PRELIMINARY PUD	02-10-2023			
3	PRELIMINARY PUD	05-30-2023			
4	PRELIMINARY PUD	08-10-2023			
5	FINAL PUD	12-12-2023			
6	FINAL PUD	01-19-2024			

SFR TYPE 1 - ELEVATIONS — SHEET: 15
SCALE: — DATE: MAR 29 2024

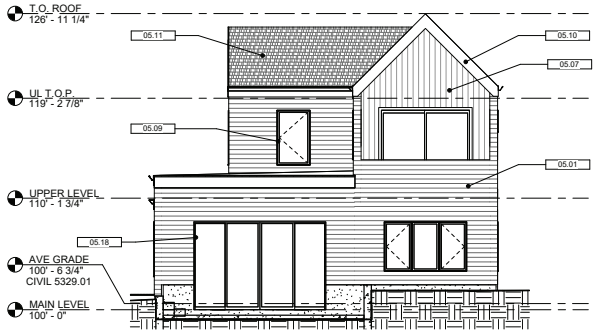
EAST ST VILLAGE

FINAL PLANNED UNIT DEVELOPMENT
CITY OF LOUISVILLE, COUNTY OF BOULDER, STATE OF COLORADO
CASE #PUPL-0427-2022

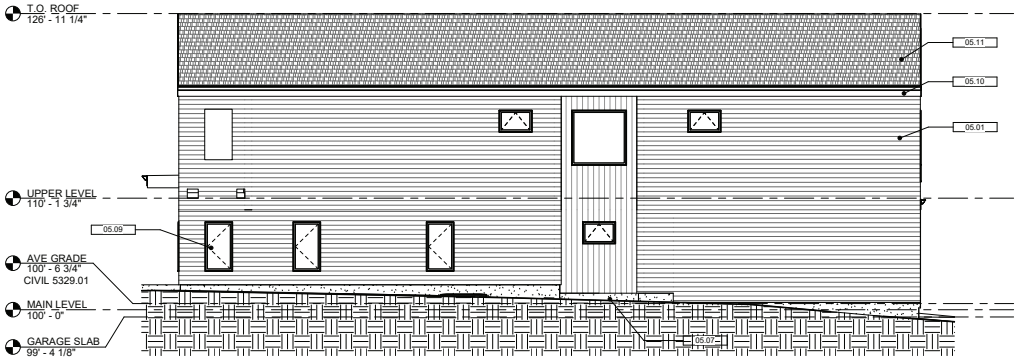
DESIGN
PRACTICE_INC
2842 W 44th
Denver CO 80211
www.designpracticedenver.com
info@designpracticedenver.com
PHONE_303 561 3000

SFR TYPE 1 MATERIAL PALETTE 'A'
SEE EXHIBIT SHEET 14 FOR ADDITIONAL MATERIAL PALETTES OF THE SFR TYPE 1 UNITS.

PUD KEYNOTES	
Key Value	Keynote Text
05.01	VESTA 5" STEEL PLANK SIDING - HORZ - IRONSTONE
05.07	5" SHIPLAP CEDAR SIDING - NATURAL STAIN
05.09	ANDERSON 100 SERIES COMPOSITE WINDOW - BLACK
05.10	METAL FLASHING OVER 1X4 FASCIA - CHARCOAL
05.11	30 YR DIMENSIONAL SHINGLE - CHARCOAL
05.13	PTD WOOD SCREEN ENTRY SCREEN - CHARCOAL
05.15	COMPOSITE ENTRY DOOR - PTD
05.16	GLAZED OVERHEAD GARAGE DOOR - BLACK
05.18	COMPOSITE SLIDING DOOR - BLACK

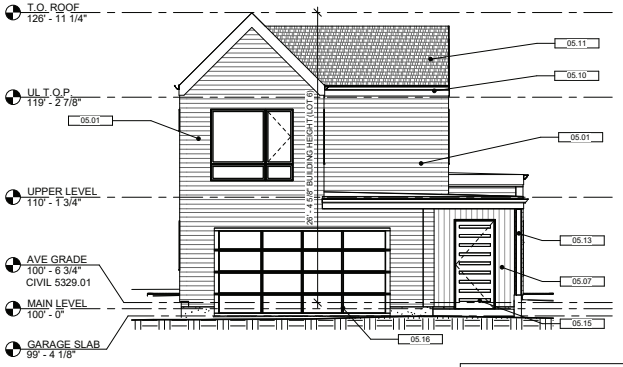


4 SDP - NORTH ELEVATION (REFERENCE LOT 4)
3/16" = 1'-0"



3 SDP - WEST ELEVATION (REFERENCE LOT 4)
3/16" = 1'-0"

2 SDP - EAST ELEVATION (REFERENCE LOT 4)
3/16" = 1'-0"



1 SDP - SOUTH ELEVATION (REFERENCE LOT 4)
3/16" = 1'-0"

ISSUED					
NO.	DESCRIPTION	DATE	NO.	DESCRIPTION	DATE
1	PRELIMINARY PUD	07-28-2022	7	FINAL PUD	03-29-2024
2	PRELIMINARY PUD	02-10-2023			
3	PRELIMINARY PUD	05-30-2023			
4	PRELIMINARY PUD	08-10-2023			
5	FINAL PUD	12-12-2023			
6	FINAL PUD	01-19-2024			

SFR TYPE 2 - ELEVATIONS — SHEET: 16
SCALE: — DATE: MAR 29 2024

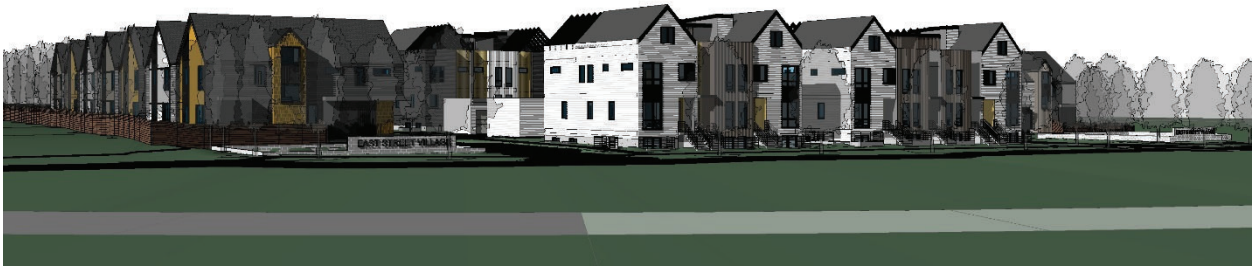
August 10, 2023

City of Louisville
Ellie Hassan

Re: East St Village
421-533 Multi Family Development Proposal
Preliminary PUD Submittal 3

Dear Ms. Hassan,

East St LLC is seeking a Planned Urban Development (PUD) for a multi-unit development on the lots currently addressed as 421-533 East St. The pre-application meeting for this project was held on March 30th 2021. The first Preliminary PUD was submitted on Aug 31st 2022 with comments received on October 12th 2022. The second Preliminary PUD was submitted on February 10th 2023 with comments received on April 17th 2023. Preliminary PUD 3 was submitted on June 6th 2023 with comments received on July 21st 2023.
The PUD proposal is for a residential only development with a mix of fee-simple residential product types within the site. There are 15 stand-alone single-family units, 9 middle Rowhome units, and 12 end Rowhome units. The proposed unit count is 36 market rate units.



Project View from SE

Existing Site Information:
Currently there are 10 structures on the East side of the parcel with a mixture of homes, detached garages, and storage buildings. The West half of the site is undeveloped at this time and sits adjacent to the railroad tracks. The topography of the site is a gentle slope down from SW to the NE with about 10' of fall across the entirety of the site.
The site comprises approximately 156,458 SF (3.6 acre) after dedication of R.O.W. for East St.

Waiver Requests/Comprehensive Plan Alignment:
The waivers we are requesting from the limitations of the RM zoning creates a development that better aligns with the goals of the 2013 Comprehensive Plan and allows for a development that is superior to what the RM zoning would allow. The lot size and setback requirements of the underlying zoning restricts the site in such a way that development would be inconsistent with the housing needs and walkability desires of the Comprehensive Plan. As noted in the 2013 Comprehensive Plan, and is even more so apparent today, the City of Louisville suffers from a lack of housing and a scarcity of developable land. While some progress has been made since 2013, the demand/desire for housing within the City has outpaced new development.

While the East St Village project is outside the boundary of the Downtown and the Highway 42 Revitalization District defined in the Comprehensive Plan, we see the project as an integral part of Downtown and an opportunity to provide an additional benefit to the Downtown core. The Project will bring much needed additional housing into the walkable core of Old Town Louisville. Market housing demands require different and new housing types from when the underlying zoning district was designed and implemented. By providing a mix of housing types and sizes, the Louisville community will benefit from the offering of a more diverse spectrum of household incomes.
The Waiver Requests necessary to elevate the development over the constraints of the underlying RM zoning include minimum lot sizes, setbacks, height and lot ratios. Waiver requests are required for both the Townhome product type and the proposed detached single-family units. By allowing for smaller lot sizes, shallower setbacks and a height exception for the townhome unit types, the waivers allow the project to provide a greater number of smaller units and a more diverse range of housing types and prices within walking distance to the downtown core.

Building Height Waiver:
We are asking for a waiver on overall building heights for the townhome units of this project. The maximum allowable building height in the underlying R-M district is 35'-0"

Refer to the Height Waiver Table on the cover sheet of the PUD submittal and Exhibit sheet EX-2 for details/dimensions of the request.

To minimize the impact on adjoining parcels, we have arranged the site so that the height compliant single-family units are located at the northern and southern boundaries of the site. The townhome units, where we are requesting a height waiver, are located in the middle portion of the site. This removes any direct adverse affect from the additional height requested on either of the parcels directly adjacent to our site. It is important to note that the northern border of our site abuts a City owned parcel that was previously a drainage ditch and creates a buffer from the Pine St Plaza property. The properties adjacent to our southern parcel line are encumbered by a 30' utility easement for the full East/West width of their parcels providing a buffer similar to the north side of the property. While the East St Village Development is near the Downtown area it is not a part of the Downtown Design Handbook and therefore not subject to the "Core" and "Transition" zones' height restrictions.

See the Site Height Exhibit included with this PUD submittal.

Lots Size/Setback Waivers:
We are requesting waivers that alter the Minimum Lot Area, Minimum Lot Width, Minimum Lot Area Per Dwelling (density) Maximum Lot Coverage, Minimum Front Yard Setback, Minimum Side Yard Setback from Interior Lot Line and Minimum Rear Yard Setback. As stated above, the limitation of the underlying RM zoning district would only allow for fewer and larger units on the site, which is inconsistent with the goals of the Comprehensive Plan.

Waiver table is included at the end of this document in addition to the Cover Sheet of the PUD.

Block Width Waiver:
We are asking for a waiver from section 16.16.040 for a minimum block width of 400' between the two entrances to the site. The proposed width between entrances is 192' – 7 3/8". This is necessary to create through access circulation on the site and enhanced emergency vehicle access.

Lot Depth to Width Ratio Waiver:
We are asking for a waiver from section 16.16.050 Subsection C for a maximum depth of a residential lot not to exceed 2 ½ times the lot width. The lots for the Townhome units, with their narrow form, all exceed this lot depth to width ratio. The long narrow lots are necessary to allow for the detached garages and private open space on these units.

Additional Zoning Related Items:

Parking:
Each of the units includes an attached or detached 2-car garage, depending on the type of unit. The proposal accommodates 24 surface guest parking spaces within the site.

Open Space:
East St Village distributes open space almost equally in regards to public Open Space versus Private Yards. The nature of the detached single-family type and the townhome type, allows for each unit to have an individual private outdoor yard space. The public open space is located at the entries of the townhome units both at East St and in the common open space in the middle of the site. We see this common outdoor space as a more reflective space, with permanent seating at the north and south ends and a small tree covered grass space in the center. While there is additional open space in the landscaped rain gardens on the East St side of the project, we see these functioning as open space buffers from the street to the homes. The proximity of the site gives walkable access to multiple public open space options. The Coal Creek Trail access is less than ¼ mile to the South which provides easy access to Community Park, Miners Field is less than ½ mile north and the proposal for the Hwy 42 revitalization will bring a new pedestrian connection to the east side of East St. We also see an opportunity to create a pedestrian connection to downtown via Pine St Plaza with a multi-use path running in the city owned space between our project and Pine St Plaza and would love to work with the city on a possible pedestrian underpass under the railroad R.O.W. to connect to Elm St to the West.
See Open Space exhibit on sheet EX-16.

Land Dedication:
In reference to the Louisville Municipal Code, Section 16.16.060.3, our proposal is to provide housing types that allow for individual owners to each have private yard space. In doing so, we are able to provide smaller standalone single family units in proximity to both the downtown business district and the already established neighborhood parks in the area. Likewise, by separating the garages from the main structure of our townhome units, we are able to provide each townhome unit with a private outdoor yard. To make the project economically viable, we need to keep our unit count as proposed. With stormwater detention required to stay onsite, this then limits the amount of common outdoor space available within the project boundaries. Under this proposal, we propose paying a fee-in-lieu of the public land dedication.

Inclusionary Housing:
The project proposes paying the Fee in Lieu for inclusionary housing referenced in Section 17.76.050. of the Louisville Municipal Code. Constructing like-kind for-sale affordable housing is not economically viable for this project. With the allowable density under the RM zoning, the development requires a certain size, quality and price point be met. The project is designed to provide mid-size townhome units and small to mid-sized single family units at a price point that standard lot infill new construction could not attain. Yet these price points will still be well above what would be required by the income standards set forth by the city. To provide 12% of the units as affordable would mean 5 of the 36 units would be required to be deed restricted and sold at a significant loss to the construction cost of those units. The

project owners have looked at the proforma under this scenario with the conclusion that this would kill the project. The value of the fee in lieu dollars being used by an affordable housing developer will have a much larger impact than what could be provided on site for this project and is the smarter alternative for the owner and the city.

Adjacent Parcel Impact:
The layout of East St Village is designed to minimize the impact on neighboring properties. By placing our detached single family lots along the North and South property lines, we reduce the massing facing the adjacent parcels. The spacing between these units allows for more light to filter through the edges of the site, reducing the visual impact of the project and creating visual pathways both into and out of the site. A townhome building type along the north and south property lines would create a much larger massing, visually closing off the site from the adjacent parcels. See the diagrams below for the proposed "skyline" as viewed from the north and south.

View from N-NW

View from S-SW

Proposed Project Information

Unit Sizes:
The proposed unit sizes as currently shown are as follows:

Townhouse Unit Type 'A'
Townhouse – 913 SF (Garden Level)
2372 SF (Above Grade)
2-Car Detached Garage – 400 SF

Townhouse Unit Type 'B'
Townhouse – 919 SF (Garden Level)
1928 SF (Above Grade)
2-Car Detached Garage – 400 SF

Single Family Unit Type 1 – Detached Single Family
Basement – 909 SF
Above Grade – 2453 SF
Total Conditioned – 3366 SF
2-Car Attached Garage – 538 SF

Single Family Unit Type 2 – Detached Single Family
Basement (Unfinished) – 1384 SF
Above Grade – 2441 SF
Total Conditioned – 3825 SF
2-Car Attached Garage – 493 SF

Materials:
The siding material palette to be used on the project include horizontal and vertical Vesta Steel Plank siding, smooth face cementitious lap siding, cementitious shingle siding, select cedar wood accent siding, and standing seam metal accent siding. The windows will be a composite window system, Anderson 100 series or similar. Roofing material is to be a 30 year dimensional shingle product on pitched roofs and membrane roofing on low sloped roofs.

Refer to the material board Exhibit included with the PUD drawing package

Synopsis:

The East St Village Development is designed to provide a variety of housing types in close proximity to Downtown Louisville. Through the waivers from the underlying RM zoning, we see this as an opportunity to provide superior walkable living options and needed additional density within the city center. The benefits the community are multiple, including diversification in housing type, socio-economic diversity and reduced congestion. Our vision is that the East St Village project will bring a real benefit to the community of Louisville.

Sincerely,

Paul Norquist
Design Practice Inc
303.561.3000

LOT SIZE AND SETBACK WAIVERS

LOT	1	2	3	4	5	6	7	8
Lot Area	3726	3698	3692	3691	3673	3658	3646	3519
Lot Width	41'-3 1/4"	41'-3 1/4"	41'-3 1/4"	41'-3 1/4"	41'-3 1/4"	41'-3 1/4"	41'-3 1/4"	41'-3 1/4"
Lot Coverage	40.6%	53.5%	41.0%	53.6%	41.2%	54.1%	41.5%	56.2%
PRIMARY BUILDING SETBACKS								
Front								
To Front PL in Private Drive	7'-3 1/8"	8'-2 5/8"	7'-3 1/8"	8'-2 5/8"	7'-3 1/8"	8'-2 5/8"	7'-3 1/8"	8'-2 5/8"
To Common Open Space	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
To Public ROW	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Rear								
To North PL	N/A	13'-11"	N/A	13'-10 1/4"	N/A	13'-1 1/4"	N/A	5'-1 7/8"
To Private Drive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Side								
Internal	5'	5'	5'	5'	5'	5'	5'	5'
Between Units	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

LOT	9	10	11	12	13	14	15
Lot Area	3174	3227	3279	3331	3383	3436	3488
Lot Width	41'-3 1/4"	41'-3 1/4"	41'-3 1/4"	41'-3 1/4"	41'-3 1/4"	41'-3 1/4"	41'-3 1/4"
Lot Coverage	47.7%	46.9%	46.2%	45.5%	44.8%	44.1%	43.4%
PRIMARY BUILDING SETBACKS							
Front							
To Private Drive	8'-11 1/4"	8'-11 1/4"	8'-11 1/4"	8'-11 1/4"	8'-11 1/4"	8'-11 1/4"	9'-0"
To Common Open Space	N/A	N/A	N/A	N/A	N/A	N/A	N/A
To Public ROW	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Rear							
To South PL	13'-11 3/8"	15'-2 3/8"	16'-5 5/8"	17'-8 7/8"	19'-0 1/8"	20'-3 3/8"	21'-5 7/8"
To Private Drive	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Side							
Internal	5'	5'	5'	5'	5'	5'	5'
Between Units	N/A	N/A	N/A	N/A	N/A	N/A	N/A

LOT SIZE AND SETBACK WAIVERS - ROWHOUSE LOTS

	LOT	16	17	18	19	20	21	22
Lot Area		2398	1879	1878	2436	2439	1873	2324
Lot Width		24'-2 3/4"	19'-0"	19'-0"	24'-8"	24'-8 3/4"	19'-0"	25'-7 1/8"
Lot Coverage		63.6%	76.7%	76.7%	62.6%	62.5%	76.9%	65.6%
PRIMARY BUILDING SETBACKS								
Front								
To Private Drive		N/A	N/A	N/A	N/A	N/A	N/A	N/A
To Common Open Space		N/A	N/A	N/A	N/A	N/A	N/A	N/A
To Public ROW		11'-9 1/2"	11'-2 1/2"	11'-1 3/4"	11'-6 7/8"	11'-5 5/8"	10'-10 3/4"	11'-3 3/4"
Rear								
Unit To Private Alley		N/A	N/A	N/A	N/A	N/A	N/A	N/A
Garage To Private Alley		0'	0'	0'	0'	0'	0'	0'
Side								
Internal (Non Shared Wall)		5'-1 1/2"	N/A	N/A	5'-7 5/8"	5'-7 5/8"	N/A	4'-1 1/8"
Between Units (Shared Wall)		0'	0'	0'	0'	0'	0'	0'
Garage Internal		5'-1 1/2"	1'-6 3/4"	1'-6 3/4"	5'-7 5/8"	5'-7 3/8"	1'-6 1/8"	2'-10 3/8"

	LOT	23	24	25	26	27	28	29
Lot Area		2296	1805	1805	2508	2338	1805	2456
Lot Width		24'-1 7/8"	19'-0"	19'-0"	26'-4 7/8"	24'-7 1/2"	19'-0"	27'-5 1/8"
Lot Coverage		66.4%	79.8%	79.8%	60.8%	65.2%	79.8%	62.1%
PRIMARY BUILDING SETBACKS								
Front								
To Private Drive		N/A	N/A	N/A	N/A	N/A	N/A	N/A
To Common Open Space		7'-9 1/2"	7'-3 1/2"	7'-3 1/2"	7'-9 1/2"	7'-9 1/2"	7'-3 1/2"	7'-9 1/2"
Rear								
Unit To Private Alley		N/A	N/A	N/A	N/A	N/A	N/A	N/A
Garage To Private Alley		0'	0'	0'	0'	0'	0'	0'
Side								
Internal (Non Shared Wall)		5'-0 3/4"	N/A	N/A	6'-4 7/8	6'-4 7/8	N/A	5'-11 1/8"
Between Units (Shared Wall)		0'	0'	0'	0'	0'	0'	0'
Garage Internal		5'-0 3/4"	1'-6 3/4"	1'-6 3/4"	6'-4 7/8	6'-4 7/8	1'-6"	8'-1"

	LOT	30	31	32	33	34	35	36
Lot Area		2296	1805	1805	2338	2338	1805	2220
Lot Width		24'-1 7/8"	19'-0"	19'-0"	24'-7 1/2"	24'-7 1/2"	19'-0"	24'-11 1/2"
Lot Coverage		66.4%	79.8%	79.8%	65.2%	65.2%	79.8%	68.7%
PRIMARY BUILDING SETBACKS								
Front								
To Private Drive		N/A	N/A	N/A	N/A	N/A	N/A	N/A
To Common Open Space		7'-9 1/2"	7'-3 1/2"	7'-3 1/2"	7'-9 1/2"	7'-9 1/2"	7'-3 1/2"	7'-9 1/2"
Rear								
Unit To Private Alley		N/A	N/A	N/A	N/A	N/A	N/A	N/A
Garage To Private Alley		3'-11 3/8"	3'-11 3/8"	3'-11 3/8"	3'-11 3/8"	3'-11 3/8"	3'-11 3/8"	3'-11 3/8"
Side								
Internal (Non Shared Wall)		5'- 0 3/4"	N/A	N/A	5'-6 1/8"	5'-6 1/8"	N/A	4'-5"
Between Units (Shared Wall)		0'	0'	0'	0'	0'	0'	0'
Garage Internal		5'-0 3/4"	1'-6 3/4"	1'-6 3/4"	5'-6 1/8"	5'-6 1/8"	1'-6"	3'-2 1/4"

Adjacent Property Owners List

417 East St
Jeffery and Emily Chiles
417 East St
Louisville CO 80027

415 East St
Definitely Dave Capital LLC
415 East St
Louisville CO 80027

1150 Pine St
Walter Rhoades American Legion
C/O Bob Ross
1150 Pine St
Louisville CO 80027

419 East St
Bernard Lombardi
419 East St
Louisville CO 80027

401 East St
Bould County Housing Authority
2525 13th St
Boulder CO 80304

1130 Pine – Pine St Plaza
Amterre Pine LLC
2318 Dennison Ln
Boulder CO 80305

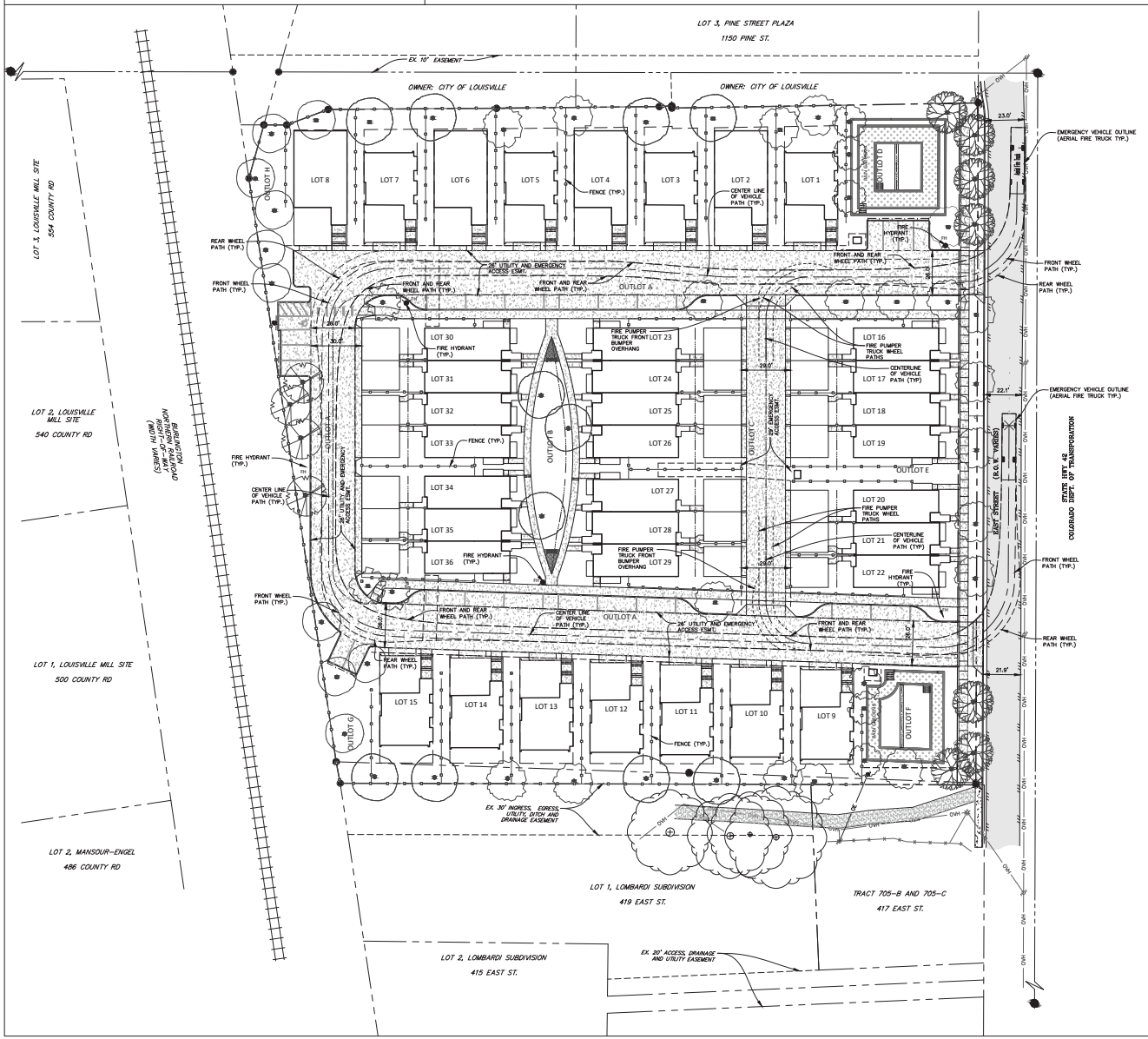
1120 Pine – Pine St Plaza
Amterre Pine LLC
2318 Dennison Ln
Boulder CO 80305

EAST ST VILLAGE

421-533 EAST ST - PRELIMINARY PLANNED UNIT DEVELOPMENT
CITY OF LOUISVILLE, COUNTY OF BOULDER, STATE OF COLORADO
CASE #PUPL-0427-2022

The Sanitas Group
901 FRONT ST, SUITE 350
LOUISVILLE, CO 80027
303.981.5238

DESIGN PRACTICE_INC
2842 W 44th
Denver CO 80211
www.designpracticedenver.com
info@designpracticedenver.com
PHONE_303 561 3000



LEGEND

- PROPERTY BOUNDARY
- ADJACENT LOT LINE
- EASEMENT
- CHANNEL OR SWALE FLOWLINE
- FIRE HYDRANT, EXISTING, PROPOSED
- EXISTING CONCRETE
- PROPOSED STANDARD CONCRETE
- EXISTING ASPHALT PAVEMENT
- PROPOSED ASPHALT
- EXISTING TREES

811 Know what's below. Call before you dig.

ISSUED					
NO.	DESCRIPTION	DATE	NO.	DESCRIPTION	DATE
1	PRELIMINARY PUD	07-28-2022			
2	PRELIMINARY PUD	02-10-2023			
3	PRELIMINARY PUD	05-30-2023			
4	PRELIMINARY PUD	08-08-2023			

EMERGENCY ACCESS PLAN | SHEET: **EX1**

SCALE: **1" = 30'** | **DATE: 08 AUG 2023**

EAST ST VILLAGE

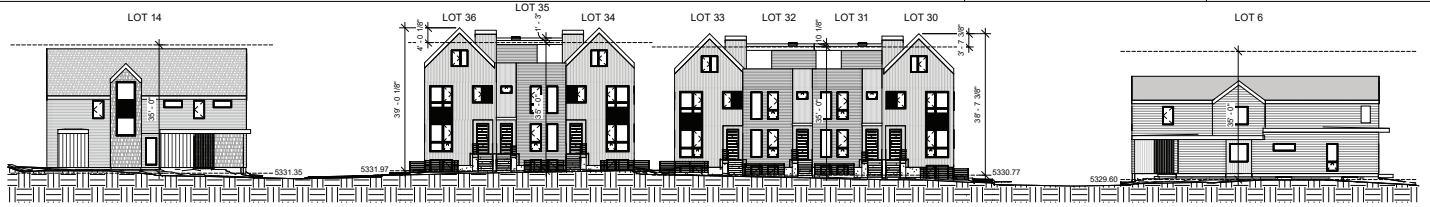
421-533 EAST ST - PRELIMINARY PLANNED UNIT DEVELOPMENT
CITY OF LOUISVILLE, COUNTY OF BOULDER, STATE OF COLORADO
CASE #PUPL-0427-2022

DESIGN
PRACTICE_INC
2842 W 44th
Denver CO 80211
www.designpracticedenver.com
info@designpracticedenver.com
PHONE_303 561 3000

AVERAGE GRADE CALCS

GRADES ARE NAVD 88

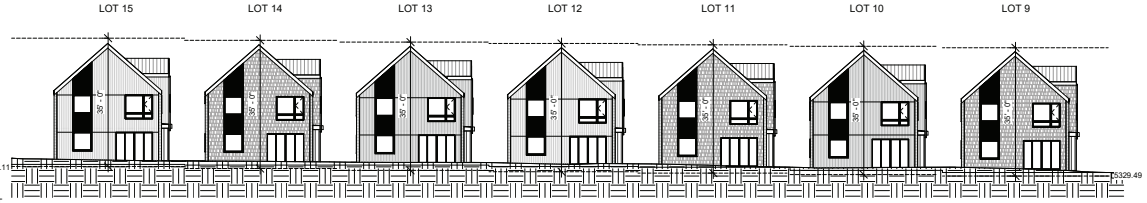
LOT #	FG HIGH POINT	FG LOW POINT	AVE. GRADE
01	5328.68	5326.95	5327.82
02	5329.55	5327.22	5328.39
03	5329.60	5327.52	5328.56
04	5330.13	5327.79	5328.96
05	5330.17	5328.10	5329.14
06	5330.74	5328.46	5329.60
07	5331.02	5329.06	5330.04
08	5332.00	5330.32	5331.16
09	5330.51	5328.47	5329.49
10	5330.88	5328.89	5329.89
11	5331.28	5329.26	5330.27
12	5331.65	5329.64	5330.65
13	5332.02	5330.01	5331.02
14	5332.39	5330.31	5331.35
15	5332.46	5330.75	5332.11
16-19	5329.62	5327.56	5328.59
20-22	5330.72	5328.11	5329.42
23-26	5331.42	5328.56	5329.99
27-29	5331.87	5330.55	5331.21
30-33	5332.11	5329.42	5330.77
34-36	5332.94	5330.99	5331.97



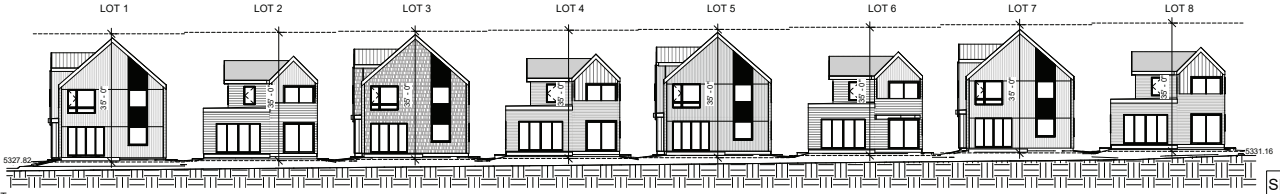
SITE - LOTS 30-36 EAST ELEVATION HEIGHT EXHIBIT
1/16" = 1'-0"

SITE - LOTS 23-29 WEST ELEVATION HEIGHT EXHIBIT
1/16" = 1'-0"

SITE - LOTS 16-22 EAST ELEVATION HEIGHT EXHIBIT
1/16" = 1'-0"



SITE - SOUTH ELEVATION HEIGHT EXHIBIT
1/16" = 1'-0"



SITE - NORTH ELEVATION HEIGHT EXHIBIT
1/16" = 1'-0"

ISSUED					
NO.	DESCRIPTION	DATE	NO.	DESCRIPTION	DATE
1	PRELIMINARY PUD	07-28-2022			
2	PRELIMINARY PUD	02-10-2023			
3	PRELIMINARY PUD	05-30-2023			
4	PRELIMINARY PUD	08-10-2023			

SITE ELEVATIONS HEIGHT EXHIBIT | SHEET: EX-2
SCALE: | DATE: AUG 10 2023

EAST ST VILLAGE

421-533 EAST ST - PRELIMINARY PLANNED UNIT DEVELOPMENT
CITY OF LOUISVILLE, COUNTY OF BOULDER, STATE OF COLORADO
CASE #PUPL-0427-2022

DESIGN
PRACTICE_INC
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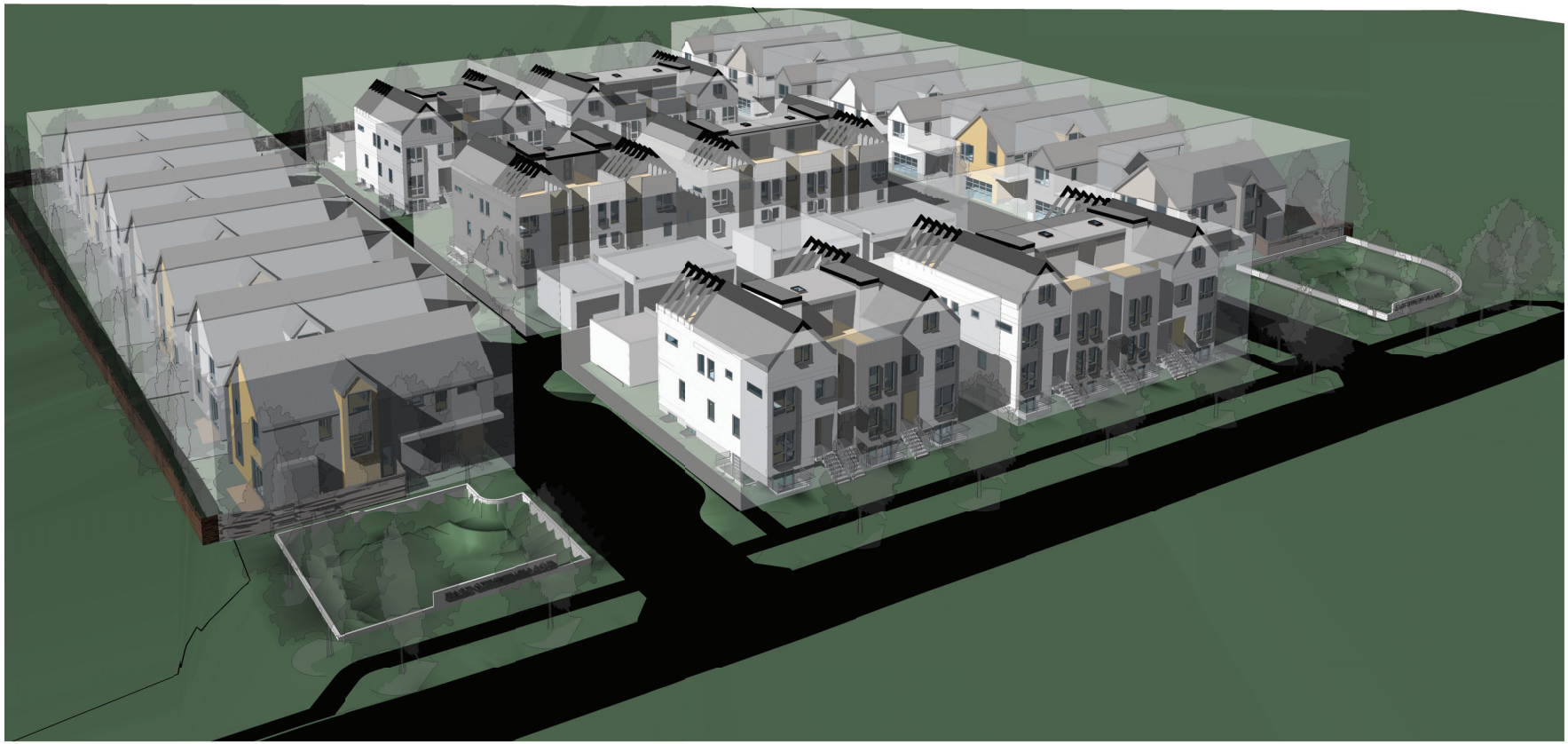
SHADED BOXES REPRESENT THE MAXIMUM BUILDABLE ENVELOPE UNDER RM ZONING FOR EACH OF THE PROPOSED LOTS/TOWNHOUSE BUILDINGS. THE SINGLE FAMILY HOMES AT THE SITE PERIMETER ARE ALL WITHIN THEIR RESPECTIVE ENVELOPES. THIS EXHIBIT SHOWS THE MINIMAL EXTENT TO WHICH THE TOWNHOUSE UNIT ROOFS EXTEND ABOVE THE ALLOWABLE HEIGHT TO BETTER CLARIFY THE WAIVER REQUEST.



ISSUED

NO.	DESCRIPTION	DATE	NO.	DESCRIPTION	DATE
1	PRELIMINARY PUD	07-28-2022			
2	PRELIMINARY PUD	02-10-2023			
3	PRELIMINARY PUD	05-30-2023			
4	PRELIMINARY PUD	08-10-2023			

SITE HEIGHT 3-D EXHIBIT	SHEET: EX-3
SCALE:	DATE: AUG 10 2023

EAST ST VILLAGE

421-533 EAST ST - PRELIMINARY PLANNED UNIT DEVELOPMENT
CITY OF LOUISVILLE, COUNTY OF BOULDER, STATE OF COLORADO
CASE #PUPL-0427-2022

DESIGN
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TH UNIT TYPE 'A' - TOWNHOUSE END UNIT

ROWHOUSE - END UNIT
TWO AND ONE HALF LEVELS OVER BASEMENT

MAIN UNIT
3 BEDROOM 2 1/2 BATH
BASEMENT - 913 SF
MAIN LEVEL - 923 SF
LEVEL 2 - 950 SF
ROOF LEVEL - 499 SF

TOTAL ABOVE GRADE - 2372 SF
TOTAL INCLD BASEMENT - 3398 SF

GARAGE - 400 SF +/-

UNIT TYPE 'B' - TOWNHOUSE MIDDLE UNIT

ROWHOUSE - MIDDLE UNIT
TWO LEVELS OVER BASEMENT
3 BEDROOM 3 1/2 BATH
BASEMENT LEVEL - 919 SF
MAIN LEVEL - 928 SF
LEVEL 2 - 928 SF
TOTAL ABOVE GRADE - 1928 SF
TOTAL INCLD BASEMENT - 2889 SF

GARAGE - 400 SF +/-

UNIT TYPE 'B' - TOWNHOUSE MIDDLE UNIT

ROWHOUSE - MIDDLE UNIT
TWO LEVELS OVER BASEMENT
3 BEDROOM 3 1/2 BATH
BASEMENT LEVEL - 919 SF
MAIN LEVEL - 928 SF
LEVEL 2 - 928 SF
TOTAL ABOVE GRADE - 1928 SF
TOTAL INCLD BASEMENT - 2889 SF

GARAGE - 400 SF +/-

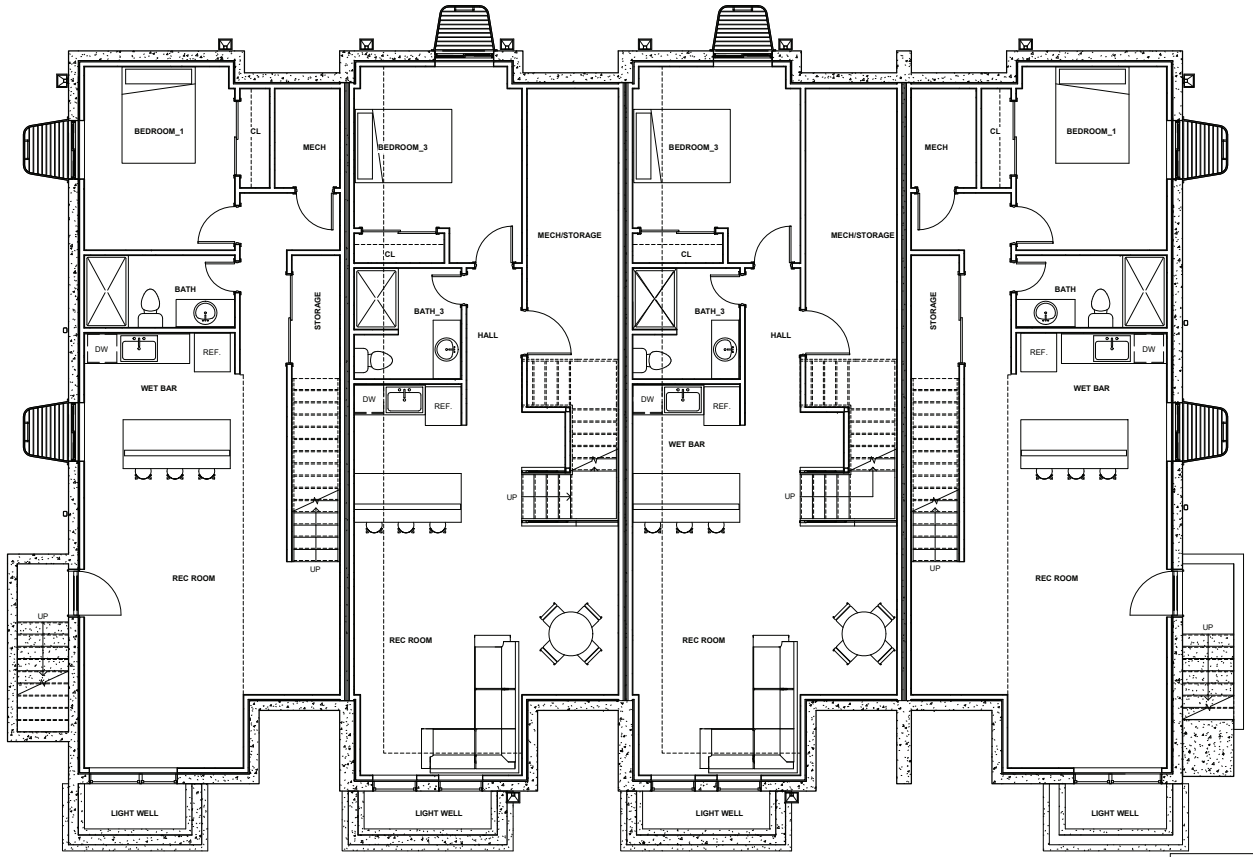
UNIT TYPE 'A' - TOWNHOUSE END UNIT

ROWHOUSE - END UNIT
TWO AND ONE HALF LEVELS OVER BASEMENT

MAIN UNIT
3 BEDROOM 2 1/2 BATH
BASEMENT - 913 SF
MAIN LEVEL - 923 SF
LEVEL 2 - 950 SF
ROOF LEVEL - 499 SF

TOTAL ABOVE GRADE - 2372 SF
TOTAL INCLD BASEMENT - 3398 SF

GARAGE - 400 SF +/-



1 GARDEN LEVEL PLAN
1/4" = 1'-0"

ISSUED

NO.	DESCRIPTION	DATE	NO.	DESCRIPTION	DATE
1	PRELIMINARY PUD	07-28-2022			
2	PRELIMINARY PUD	02-10-2023			
3	PRELIMINARY PUD	05-30-2023			
4	PRELIMINARY PUD	08-10-2023			

GARDEN LEVEL PLAN — SHEET: EX-4
SCALE: — DATE: AUG 10 2023

EAST ST VILLAGE

421-533 EAST ST - PRELIMINARY PLANNED UNIT DEVELOPMENT
CITY OF LOUISVILLE, COUNTY OF BOULDER, STATE OF COLORADO
CASE #PUPL-0427-2022

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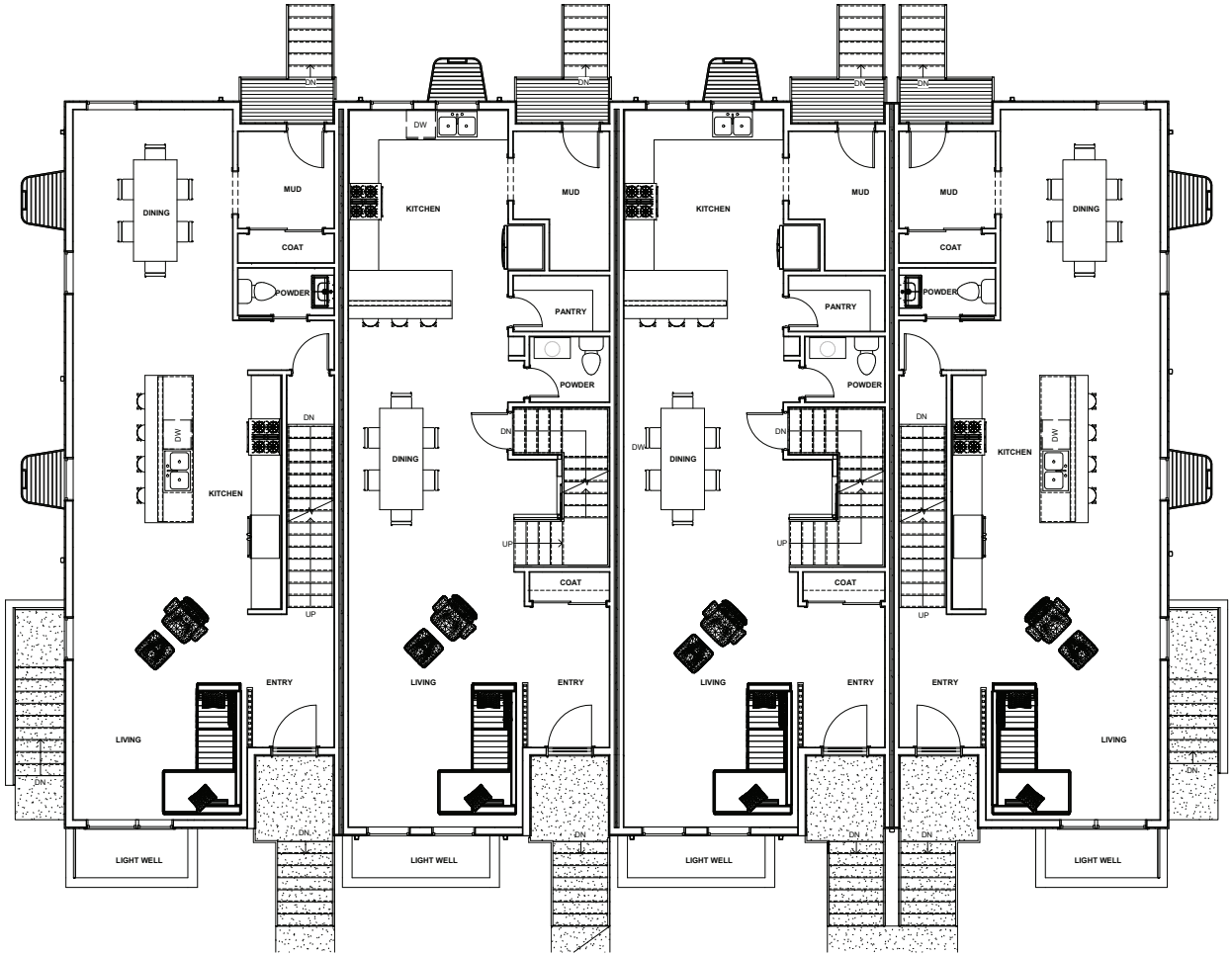

1 LEVEL 1 PLAN
1/4" = 1'-0"

ISSUED					
NO.	DESCRIPTION	DATE	NO.	DESCRIPTION	DATE
1	PRELIMINARY PUD	07-28-2022			
2	PRELIMINARY PUD	02-10-2023			
3	PRELIMINARY PUD	05-30-2023			
4	PRELIMINARY PUD	08-10-2023			

LEVEL 1 FLOOR PLAN	SHEET: EX-5
SCALE:	DATE: AUG 10 2023

EAST ST VILLAGE

421-533 EAST ST - PRELIMINARY PLANNED UNIT DEVELOPMENT
CITY OF LOUISVILLE, COUNTY OF BOULDER, STATE OF COLORADO
CASE #PUPL-0427-2022

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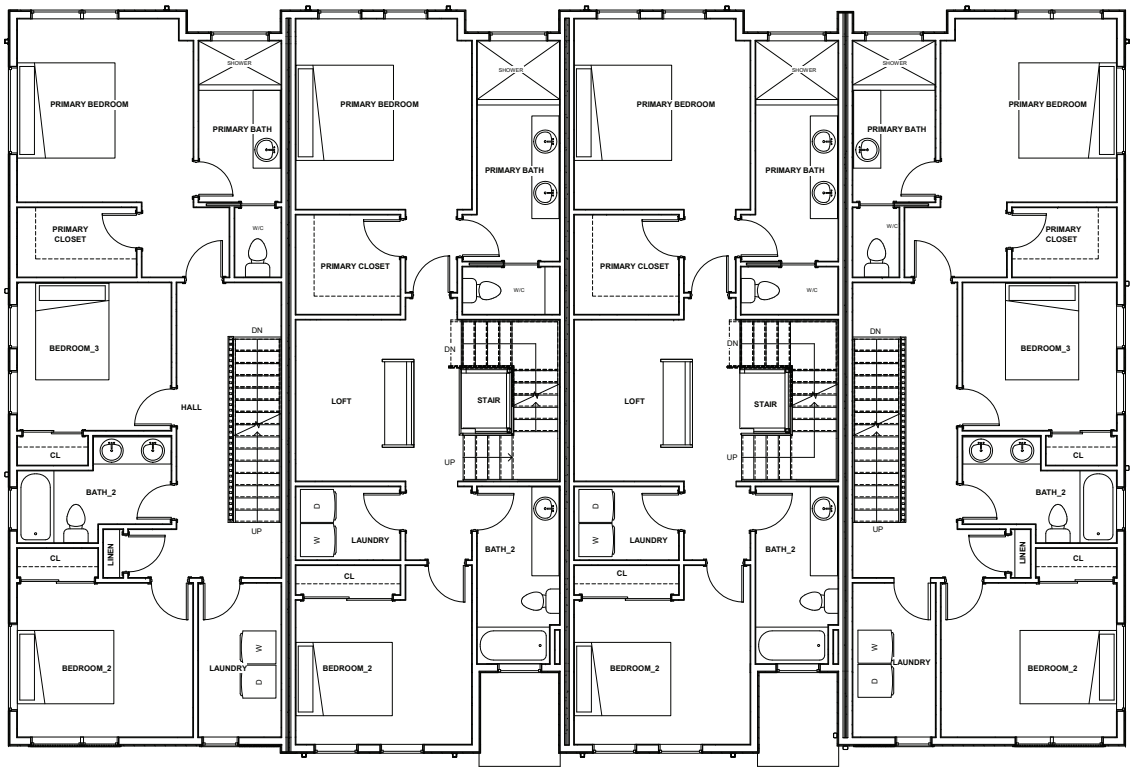

1 LEVEL 2 PLAN
1/4" = 1'-0"

ISSUED					
NO.	DESCRIPTION	DATE	NO.	DESCRIPTION	DATE
1	PRELIMINARY PUD	07-28-2022			
2	PRELIMINARY PUD	02-10-2023			
3	PRELIMINARY PUD	05-30-2023			
4	PRELIMINARY PUD	08-10-2023			

LEVEL 2 FLOOR PLAN	SHEET: EX-6
SCALE:	DATE: AUG 10 2023

EAST ST VILLAGE

421-533 EAST ST - PRELIMINARY PLANNED UNIT DEVELOPMENT
CITY OF LOUISVILLE, COUNTY OF BOULDER, STATE OF COLORADO
CASE #PUPL-0427-2022

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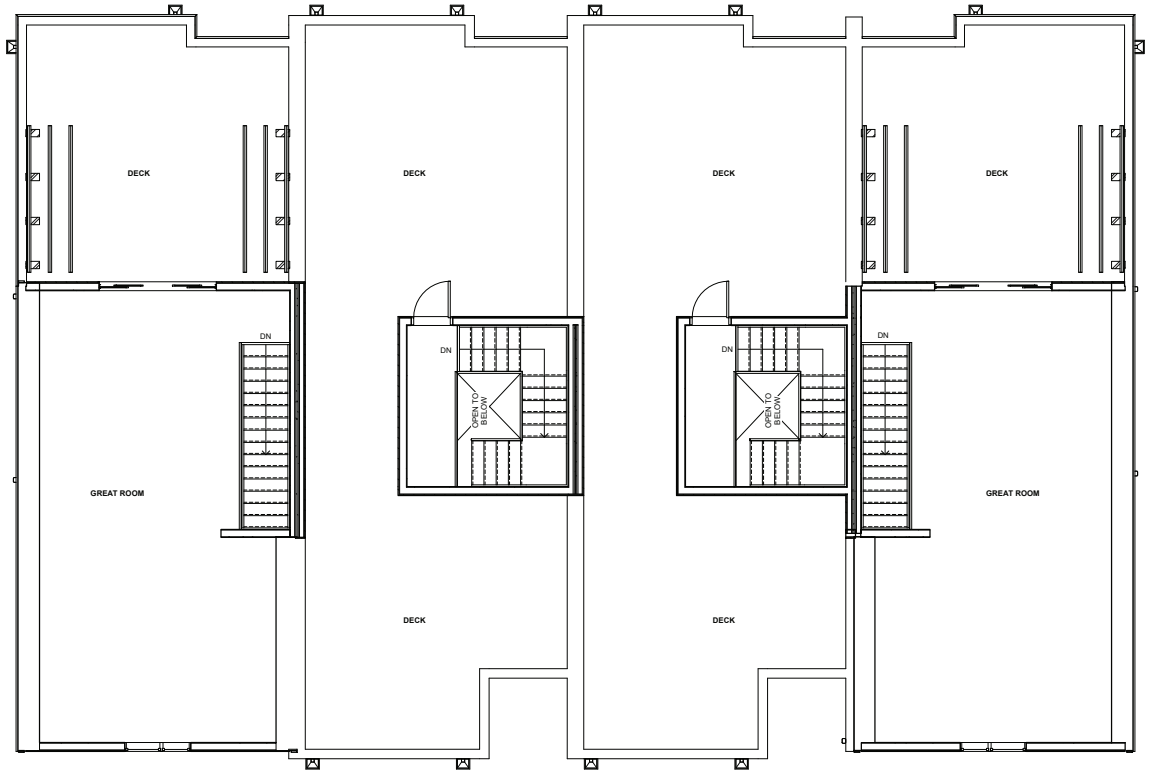

1 ROOF DECK LEVEL PLAN
1/4" = 1'-0"

ISSUED					
NO.	DESCRIPTION	DATE	NO.	DESCRIPTION	DATE
1	PRELIMINARY PUD	07-28-2022			
2	PRELIMINARY PUD	02-10-2023			
3	PRELIMINARY PUD	05-30-2023			
4	PRELIMINARY PUD	08-10-2023			

LEVEL 3/ ROOF DECK PLAN	SHEET: EX-7
SCALE:	DATE: AUG 10 2023

EAST ST VILLAGE

421-533 EAST ST - PRELIMINARY PLANNED UNIT DEVELOPMENT
CITY OF LOUISVILLE, COUNTY OF BOULDER, STATE OF COLORADO
CASE #PUPL-0427-2022

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TH UNIT TYPE 'A' - TOWNHOUSE END UNIT

ROWHOUSE - END UNIT
TWO AND ONE HALF LEVELS OVER BASEMENT

MAIN UNIT
3 BEDROOM 2 1/2 BATH
BASEMENT - 913 SF
MAIN LEVEL - 923 SF
LEVEL 2 - 950 SF
ROOF LEVEL - 499 SF

TOTAL ABOVE GRADE - 2372 SF
TOTAL INCLD BASEMENT - 3398 SF

GARAGE - 400 SF +/-

UNIT TYPE 'B' - TOWNHOUSE MIDDLE UNIT

ROWHOUSE - MIDDLE UNIT
TWO LEVELS OVER BASEMENT
3 BEDROOM 3 1/2 BATH
BASEMENT LEVEL - 919 SF
MAIN LEVEL - 928 SF
LEVEL 2 - 928 SF
TOTAL ABOVE GRADE - 1928 SF
TOTAL INCLD BASEMENT - 2889 SF

GARAGE - 400 SF

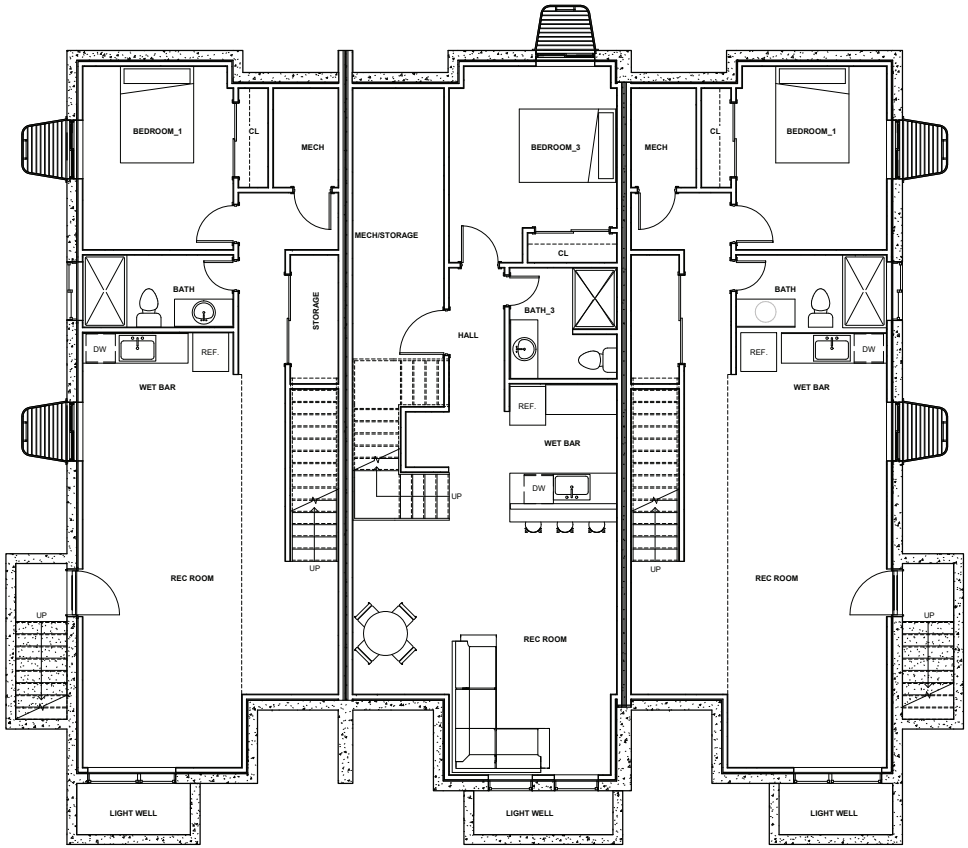
UNIT TYPE 'A' - TOWNHOUSE END UNIT

ROWHOUSE - END UNIT
TWO AND ONE HALF LEVELS OVER BASEMENT

MAIN UNIT
3 BEDROOM 2 1/2 BATH
BASEMENT - 913 SF
MAIN LEVEL - 923 SF
LEVEL 2 - 950 SF
ROOF LEVEL - 499 SF

TOTAL ABOVE GRADE - 2372 SF
TOTAL INCLD BASEMENT - 3398 SF

GARAGE - 400 SF +/-



1 GARDEN LEVEL PLAN
1/4" = 1'-0"

ISSUED					
NO.	DESCRIPTION	DATE	NO.	DESCRIPTION	DATE
1	PRELIMINARY PUD	07-28-2022			
2	PRELIMINARY PUD	02-10-2023			
3	PRELIMINARY PUD	05-30-2023			
4	PRELIMINARY PUD	08-10-2023			

GARDEN LEVEL PLAN — SHEET: EX-8
SCALE: — DATE: AUG 10 2023

EAST ST VILLAGE

421-533 EAST ST - PRELIMINARY PLANNED UNIT DEVELOPMENT
CITY OF LOUISVILLE, COUNTY OF BOULDER, STATE OF COLORADO
CASE #PUPL-0427-2022

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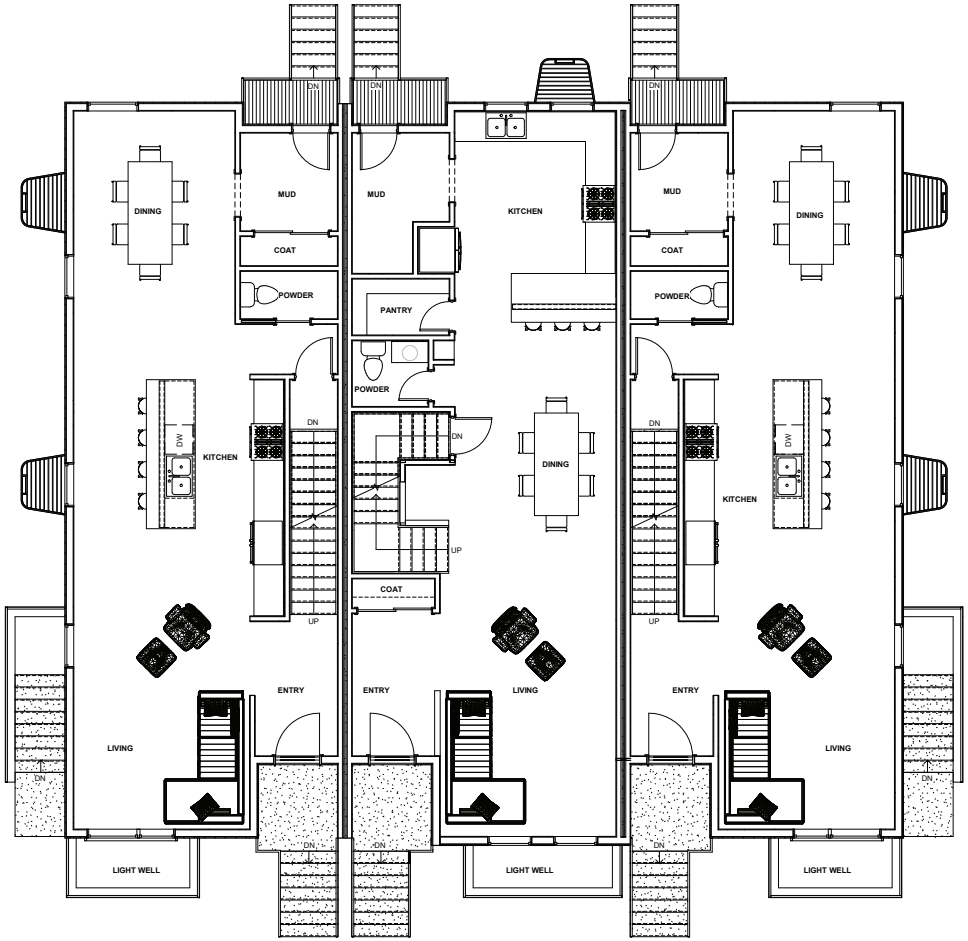

1 LEVEL 1 PLAN
1/4" = 1'-0"

ISSUED					
NO.	DESCRIPTION	DATE	NO.	DESCRIPTION	DATE
1	PRELIMINARY PUD	07-28-2022			
2	PRELIMINARY PUD	02-10-2023			
3	PRELIMINARY PUD	05-30-2023			
4	PRELIMINARY PUD	08-10-2023			

LEVEL 1 FLOOR PLAN	SHEET: EX-9
SCALE:	DATE: AUG 10 2023

EAST ST VILLAGE

421-533 EAST ST - PRELIMINARY PLANNED UNIT DEVELOPMENT
CITY OF LOUISVILLE, COUNTY OF BOULDER, STATE OF COLORADO
CASE #PUPL-0427-2022

DESIGN
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info@designpracticedenver.com
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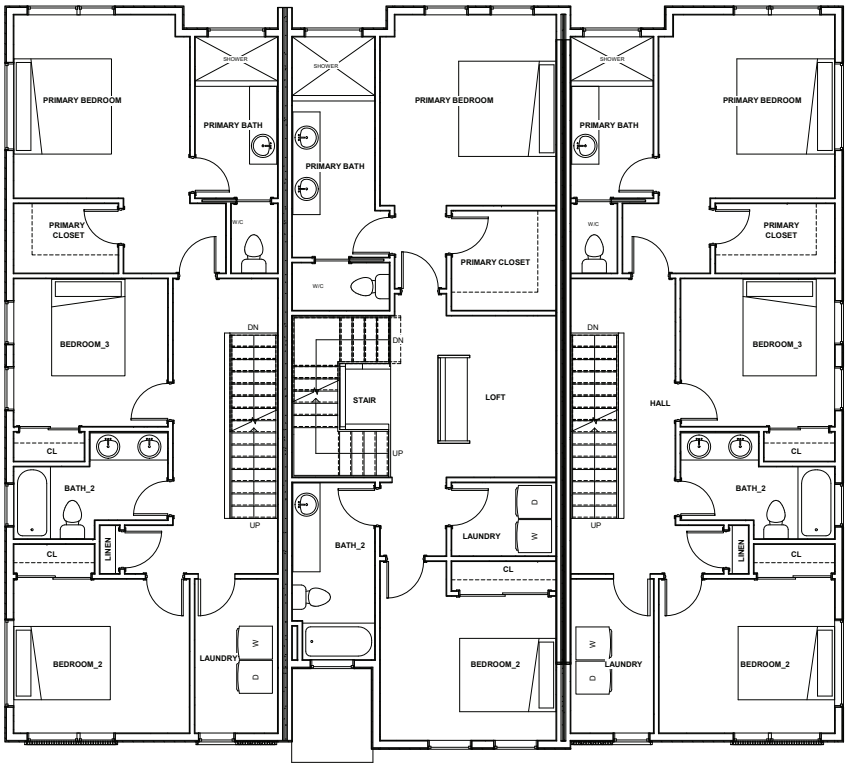

1 LEVEL 2 PLAN
1/4" = 1'-0"

ISSUED					
NO.	DESCRIPTION	DATE	NO.	DESCRIPTION	DATE
1	PRELIMINARY PUD	07-28-2022			
2	PRELIMINARY PUD	02-10-2023			
3	PRELIMINARY PUD	05-30-2023			
4	PRELIMINARY PUD	08-10-2023			

LEVEL 2 FLOOR PLAN	SHEET: EX-10
SCALE:	DATE: AUG 10 2023

EAST ST VILLAGE

421-533 EAST ST - PRELIMINARY PLANNED UNIT DEVELOPMENT
CITY OF LOUISVILLE, COUNTY OF BOULDER, STATE OF COLORADO
CASE #PUPL-0427-2022

DESIGN
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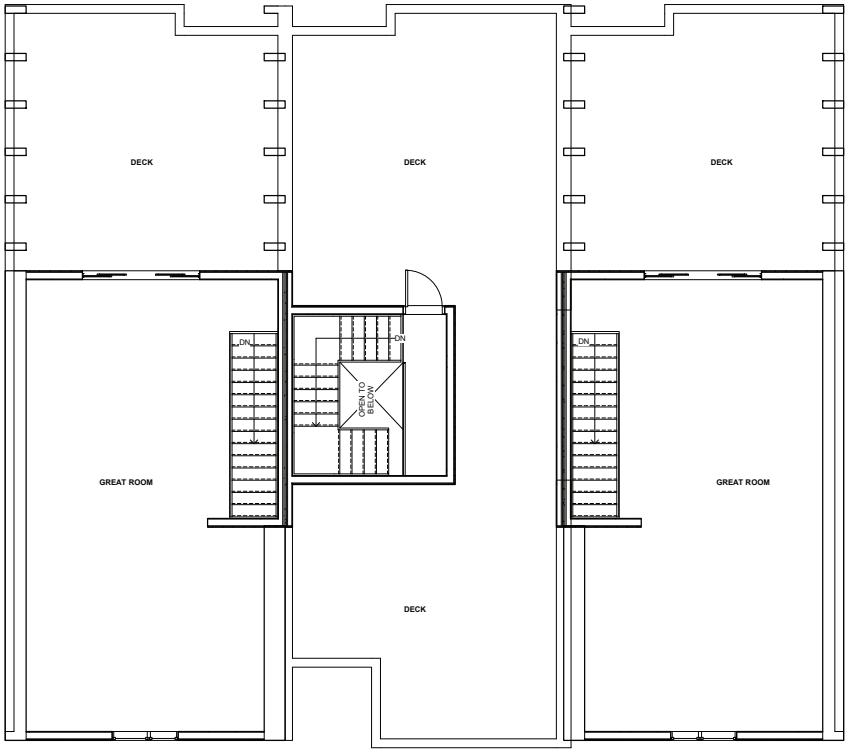

1 ROOF DECK LEVEL PLAN
1/4" = 1'-0"

ISSUED					
NO.	DESCRIPTION	DATE	NO.	DESCRIPTION	DATE
1	PRELIMINARY PUD	07-28-2022			
2	PRELIMINARY PUD	02-10-2023			
3	PRELIMINARY PUD	05-30-2023			
4	PRELIMINARY PUD	08-10-2023			

LEVEL 3/ ROOF DECK PLAN	SHEET: EX-11
SCALE:	DATE: AUG 10 2023

EAST ST VILLAGE

421-533 EAST ST - PRELIMINARY PLANNED UNIT DEVELOPMENT
CITY OF LOUISVILLE, COUNTY OF BOULDER, STATE OF COLORADO
CASE #PUPL-0427-2022

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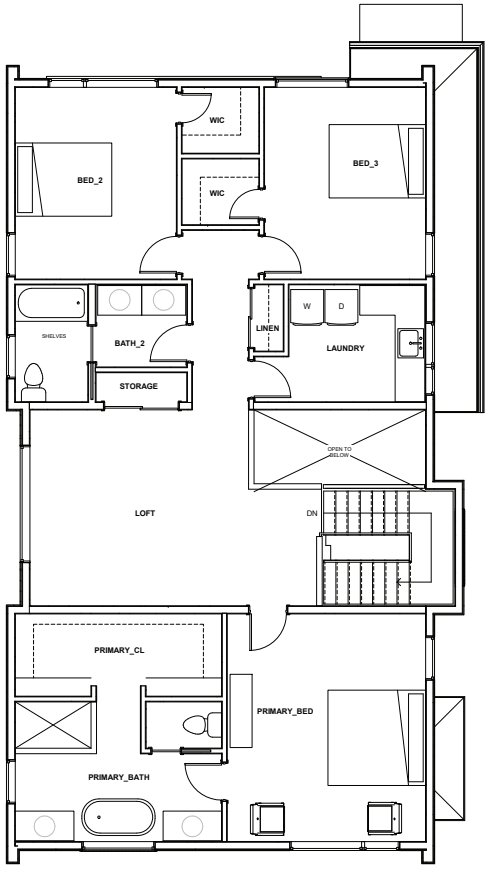
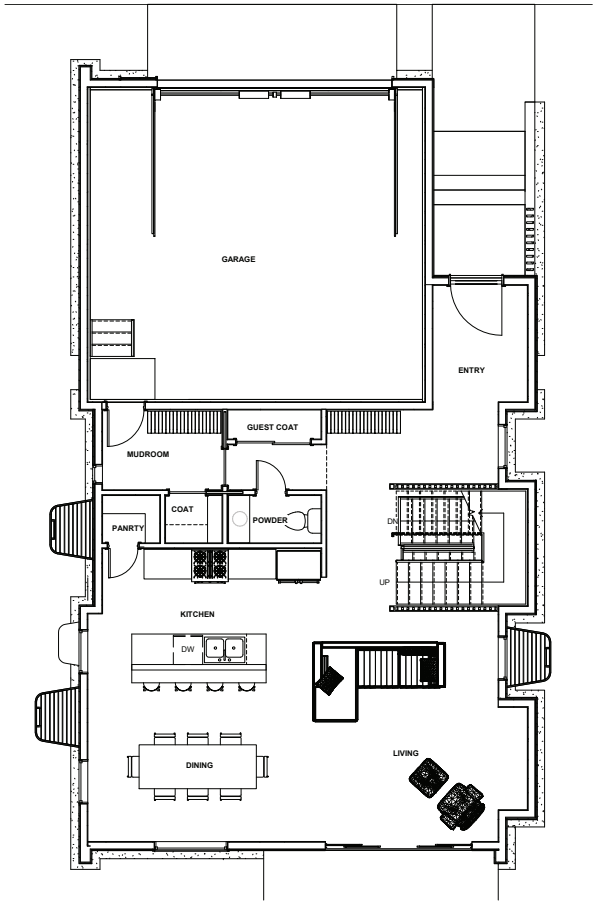


3 SDP - UPPER LEVEL
1/4" = 1'-0"

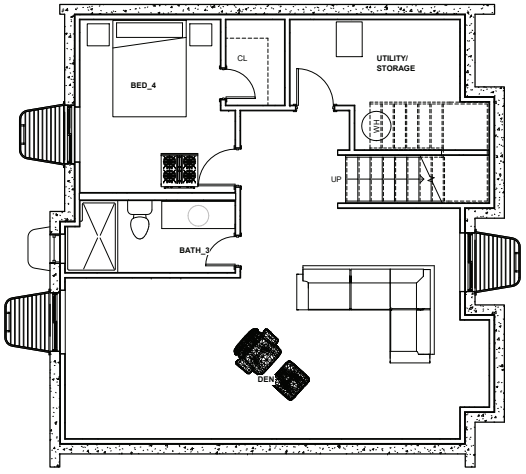


2 SDP - MAIN LEVEL
1/4" = 1'-0"

SINGLE FAMILY TYPE 1

STAND-ALONE SINGLE FAMILY
TWO LEVELS OVER BASEMENT
4 BEDROOM 3 1/2 BATH
BASEMENT - 909 SF
MAIN LEVEL - 973 SF
LEVEL 2 - 1484 SF
TOTAL ABOVE GRADE - 2457 SF
TOTAL - 3366 SF

GARAGE - 538 SF



1 SDP - LOWER LEVEL
1/4" = 1'-0"

ISSUED					
NO.	DESCRIPTION	DATE	NO.	DESCRIPTION	DATE
1	PRELIMINARY PUD	07-28-2022			
2	PRELIMINARY PUD	02-10-2023			
3	PRELIMINARY PUD	05-30-2023			
4	PRELIMINARY PUD	08-10-2023			

SFR TYPE 1 - PLANS	SHEET: EX-12
SCALE:	DATE: AUG 10 2023

EAST ST VILLAGE

421-533 EAST ST - PRELIMINARY PLANNED UNIT DEVELOPMENT
CITY OF LOUISVILLE, COUNTY OF BOULDER, STATE OF COLORADO
CASE #PUPL-0427-2022

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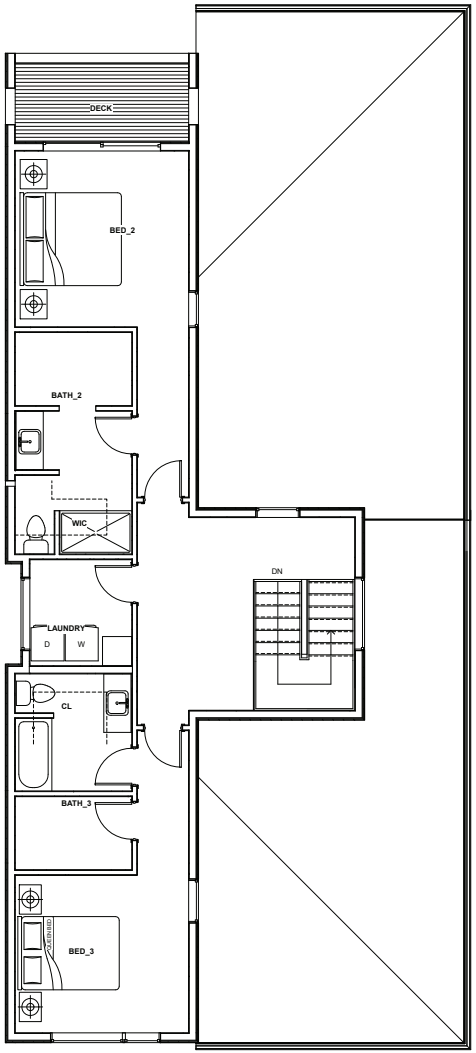
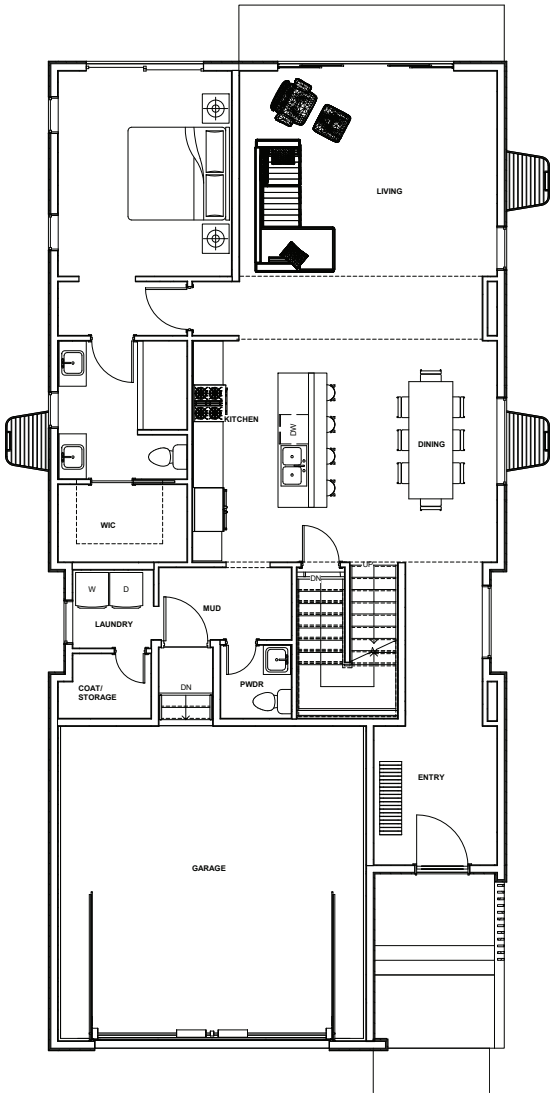
SINGLE FAMILY TYPE 2

STAND-ALONE SINGLE FAMILY
TWO LEVELS OVER BASEMENT
3 BEDROOM 2 1/2 BATH
BASEMENT - 1384 SF (UNFINISHED)
MAIN LEVEL - 1486 SF
LEVEL 2 - 956 SF
TOTAL ABOVE GRADE - 2441 SF
TOTAL - 3825 SF

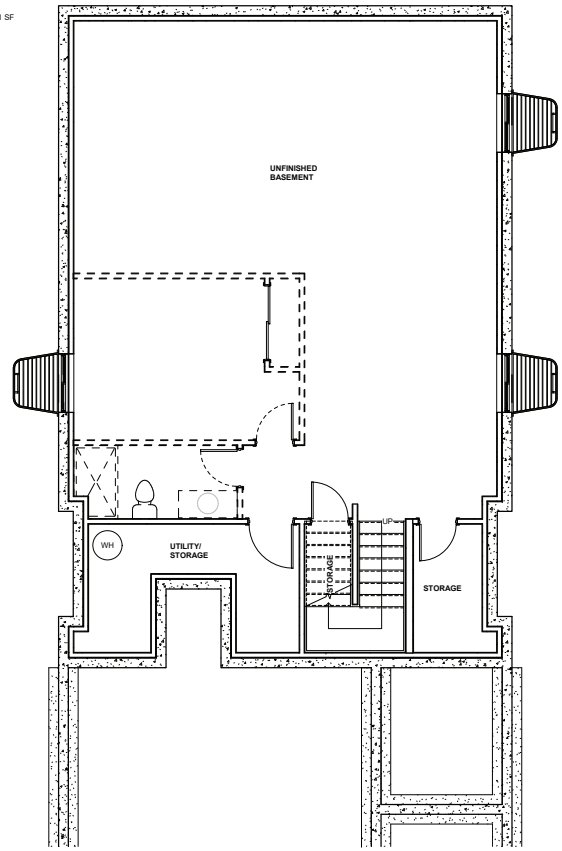
GARAGE - 493 SF



3 SDP - UPPER LEVEL
1/4" = 1'-0"



2 SDP - MAIN LEVEL
1/4" = 1'-0"



1 SDP - LOWER LEVEL
1/4" = 1'-0"

ISSUED

NO.	DESCRIPTION	DATE	NO.	DESCRIPTION	DATE
1	PRELIMINARY PUD	07-28-2022			
2	PRELIMINARY PUD	02-10-2023			
3	PRELIMINARY PUD	05-30-2023			
4	PRELIMINARY PUD	08-10-2023			

SFR TYPE 2 - PLANS	SHEET: EX-13
SCALE:	DATE: AUG 10 2023

EAST ST VILLAGE

421-533 EAST ST - PRELIMINARY PLANNED UNIT DEVELOPMENT
CITY OF LOUISVILLE, COUNTY OF BOULDER, STATE OF COLORADO
CASE #PUPL-0427-2022

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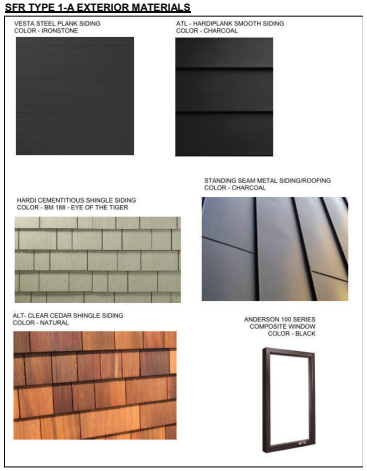
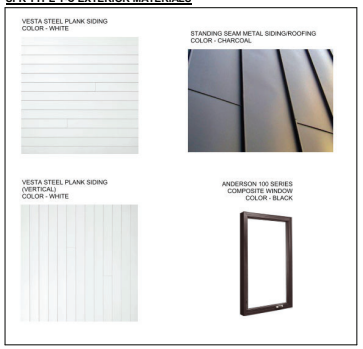
TYPE 1 SINGLE FAMILY (TYPE 1-A SHOWN)

SFR TYPE 1-A EXTERIOR MATERIALS



SFR TYPE 1-B EXTERIOR MATERIALS

SFR TYPE 1-C EXTERIOR MATERIALS



TYPE 2 SINGLE FAMILY (TYPE 2-A SHOWN)

SFR TYPE 2-A EXTERIOR MATERIALS

SFR TYPE 2-B EXTERIOR MATERIALS

ISSUED

NO.	DESCRIPTION	DATE	NO.	DESCRIPTION	DATE
1	PRELIMINARY PUD	07-28-2022			
2	PRELIMINARY PUD	02-10-2023			
3	PRELIMINARY PUD	05-30-2023			
4	PRELIMINARY PUD	08-10-2023			

EXTERIOR MATERIALS — SHEET: EX-14

SCALE: — DATE: AUG 10 2023

EAST ST VILLAGE

421-533 EAST ST - PRELIMINARY PLANNED UNIT DEVELOPMENT
CITY OF LOUISVILLE, COUNTY OF BOULDER, STATE OF COLORADO
CASE #PUPL-0427-2022

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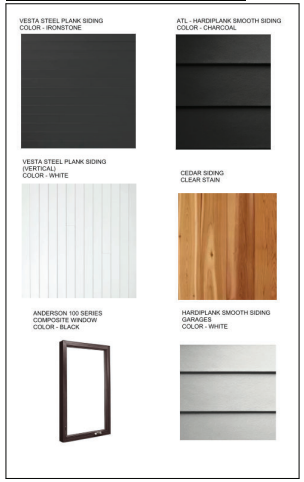
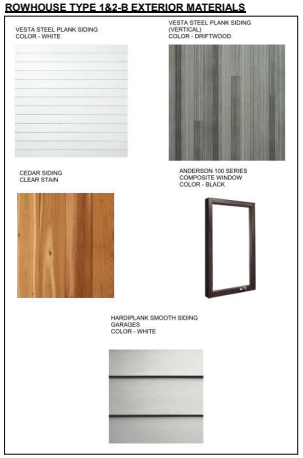
TYPE 1 & 2 ROWHOMES (TYPE 1-A SHOWN)

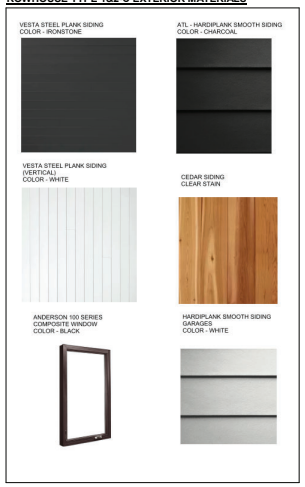
ROWHOUSE TYPE 1&2-A EXTERIOR MATERIALS



ROWHOUSE TYPE 1&2-B EXTERIOR MATERIALS



ROWHOUSE TYPE 1&2-C EXTERIOR MATERIALS



ISSUED

NO.	DESCRIPTION	DATE	NO.	DESCRIPTION	DATE
1	PRELIMINARY PUD	07-28-2022			
2	PRELIMINARY PUD	02-10-2023			
3	PRELIMINARY PUD	05-30-2023			
4	PRELIMINARY PUD	08-10-2023			

EXTERIOR MATERIALS — SHEET: EX-15
SCALE: — DATE: AUG 10 2023

EAST ST VILLAGE

421-533 EAST ST - PRELIMINARY PLANNED UNIT DEVELOPMENT
CITY OF LOUISVILLE, COUNTY OF BOULDER, STATE OF COLORADO
CASE #PUPL-0427-2022

DESIGN
PRACTICE_INC
2842 W 44th
Denver CO 80211
www.designpracticedenver.com
info@designpracticedenver.com
PHONE_303 561 3000

1 OPENSPACE EXHIBIT
1" = 30'-0"

ISSUED					
NO.	DESCRIPTION	DATE	NO.	DESCRIPTION	DATE
1	PRELIMINARY PUD	07-28-2022			
2	PRELIMINARY PUD	02-10-2023			
3	PRELIMINARY PUD	05-30-2023			
4	PRELIMINARY PUD	08-10-2023			

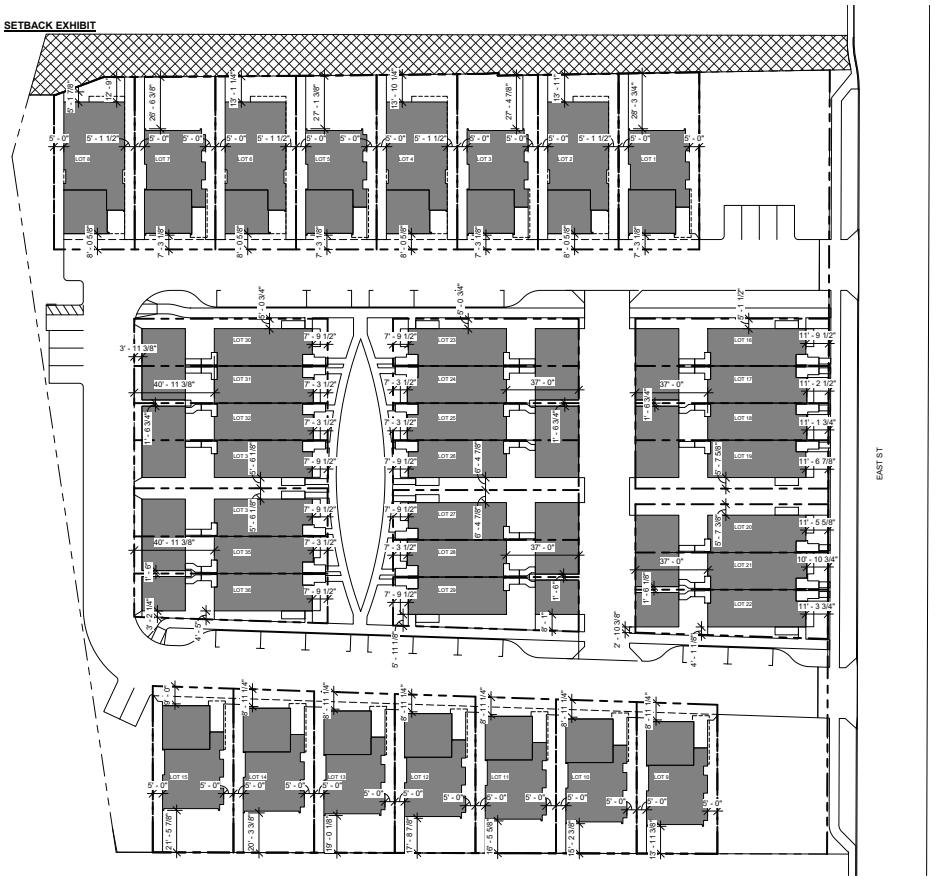
OPEN SPACE EXHIBIT	SHEET: EX-16
SCALE:	DATE: AUG 10 2023

EAST ST VILLAGE

421-533 EAST ST - PRELIMINARY PLANNED UNIT DEVELOPMENT
CITY OF LOUISVILLE, COUNTY OF BOULDER, STATE OF COLORADO
CASE #PUPL-0427-2022

DESIGN
PRACTICE_INC
2842 W 44th
Denver CO 80211
www.designpracticedenver.com
info@designpracticedenver.com
PHONE_303 561 3000

SETBACK EXHIBIT



1 SETBACK SITE PLAN
1" = 30'-0"

ISSUED					
NO.	DESCRIPTION	DATE	NO.	DESCRIPTION	DATE
1	PRELIMINARY PUD	07-28-2022			
2	PRELIMINARY PUD	02-10-2023			
3	PRELIMINARY PUD	05-30-2023			
4	PRELIMINARY PUD	08-10-2023			

SETBACK SITE PLAN	SHEET: EX-17
SCALE:	DATE: AUG 10 2023

East Street Village

Traffic Impact Study

TSC Capital Partners

Louisville, Colorado

June 2, 2023

Prepared By:

Sustainable Traffic Solutions, Inc.
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East Street Village

Traffic Impact Study

1.0 Introduction

TSC Capital Partners is proposing to develop two parcels on the west side of East Street between Pine Street and Lock Street. The development will include 15 single family dwelling units and 21 townhomes. It is possible that 12 of the townhomes will have a separate one bedroom apartment, so the traffic study analyzed the additional impact of the apartments. A vicinity map is contained in Figure 1 that shows the location of the site. Figure 2 contains a site plan for the development. Two full movement accesses are planned from East Street into the development.

A meeting was held with the City staff on February 3, 2023 to discuss the parameters of the traffic study. Email correspondence from the meeting is contained in Appendix A.

This study has been prepared in conformance with the Colorado DOT traffic impact study requirements[1].

2.0 Project Description

2.1 Study Area

The study area includes the following intersections.

- SH 42 / Pine Street
- SH 42 / 96th Street / Lock Street
- Pine Street / East Street

The existing laneage and traffic control are contained in Figure 3. The roadways that border the site are described as follows.

SH 42 is classified by CDOT as an NR-A roadway with a 45 MPH speed limit in the vicinity of the site.

Pine Street is a two-lane collector street that extends west from SH 42 and provides connections to downtown and the west side of Louisville.

Lock Street is a short local street that begins at SH 42 and provides access to development west of SH 42 and south of Pine Street.

East Street is a two-lane local street that runs between Pine Street and Lock Street.

[1] State Highway Access Code. The Transportation Commission of Colorado. March 2002.

2.2 Study Assumptions

The following assumptions were utilized for this study.

Short-Term Study Horizon. Year 2025 is assumed to be the short-term horizon because all of the homes are expected to be completed and occupied by the end of that year.

Long-Term Study Horizon. Year 2045 will be the long-term horizon because it is 20 years following the completion of the development.

Future Development. A vacant lot exists north of the East Street Village that was assumed to be developed with a 7,000 ft^2 fast casual restaurant. Based on the correspondence with the City staff, a fast casual restaurant was assumed because it is expected to generate more traffic than other possible uses for that lot. Traffic from the fast casual restaurant was included in the long-term background traffic volume scenario.

Growth in Background Traffic. Annual growth rates for arterial roadways were determined utilizing data from the Year 2050 DRCOG regional plan. The following annual growth rates were used in the study.

- SH 42 / 96th Street corridor – 1.1%
- SH 42 east of the SH 42 / 96th Street corridor – 1.2%

The Year 2020 volumes and Year 2050 projections provided by DRCOG are contained in Appendix B. The DRCOG data can be found at the following location.

https://drcog.org/services-and-resources/data-maps-and-modeling/travel-modeling

Saturation Flow Rate. The saturation flow rate was assumed to be 1,900 passenger cars / hour / lane.

Future 42 Improvements. The recommended improvements discussed in Table 9 of the Future 42[2] traffic study were assumed to be implemented by the Year 2045. They include four through lanes on the SH 42 / 96th Street corridor, revised laneage on the eastbound Pine Street approach to SH 42, and a two lane roundabout at Lock Street.

Peak Hour Factor (PHF). For the existing and the short-term planning horizons, the PHF was based on the data collected for the traffic study. At new approaches, the PHF was assumed to be 0.85 for all movements in all of the planning horizons. In the long-term horizon, the PHF was assumed to be 0.92 unless the existing PHF is higher than 0.92. In that case, the existing PHF was used in the analysis of the long-term volumes.

Signal Timing on SH 42. The timing of the signals on SH 42 was obtained from CDOT and used in the analysis.

[2] Future 42 – Appendix 1. Traffic Study. Kimley Horn. December 2022.

Truck Percentage. A truck percentage of 2% was assumed for all movements.

3.0 Year 2023 Traffic Volumes

Traffic count data were collected for the project on Thursday, February 23, 2023 by All Traffic Data. The traffic count data and email correspondence are contained in Appendix C. The Year 2023 peak hour volumes are summarized in Figures 4 and 5. Existing and future daily volumes are summarized in Table 1.

3.1 Level of Service Analysis

To evaluate the performance of the intersections within the study area, the level of service (LOS) was calculated using PTV VISTRO software. This software package utilizes criteria described in the Highway Capacity Manual[3]. LOS is a measure used to describe operational conditions at an intersection. LOS categories ranging from A to F are assigned based on the predicted delay in seconds per vehicle for the intersection as a whole, as well as for individual turning movements. LOS A indicates very good operations, and LOS F indicates poor, congested operations. In urban areas, LOS D is considered the minimum intersection operation.

The following table summarizes the analysis of the Year 2023 conditions. It shows that all of the intersections are currently operating at LOS C, or better. The level of service for intersections with side-street stop-control is determined by the movement with the highest delay value. The detailed analysis results are summarized in Table 2 and the VISTRO analysis results are contained in Appendix D.

Year 2023 Traffic Conditions

Intersection	Control	Peak Hour	
		Morning	Evening
1 - SH 42 / Pine Street	Signalized	B	C
2 - SH 42 / 96th Street / Lock Street	Signalized	C	C
3 - Pine Street / East Street	Side-Street Stop	B	B

4.0 Site Generated Traffic

4.1 Trip Generation

In order to estimate the traffic impacts associated with the development of the East Street Village, the amount of traffic generated by the proposed development was estimated using rates contained in the Institute of Transportation Engineers Trip Generation manual[4]. Table 3 includes the trip generation for two scenarios including Scenario 1 that includes apartments in 12 of the 21 townhomes, and Scenario 2 that does not include the apartments. Table 4 contains the trip generation for the fast casual restaurant.

[3] Highway Capacity Manual, 7th Edition. National Academy of Sciences, Engineering, and Medicine. 2022.

[4] Trip Generation, 11th Edition. Institute of Transportation Engineers. September 2021.

A 10% multimodal trip reduction was assumed in the trip generation estimates. This is a very conservative estimate for the residential land uses considering the proximity to Old Town and the RTD station at US 36 / McCaslin Boulevard. The site is a short bike ride from the RTD station. Working from home would also be included in this trip reduction. The trip reduction was assumed for the fast casual restaurant because of its proximity to Old Town and the residences around downtown.

4.2 Trip Distribution and Assignment

The trip distribution for the development is contained in Figure 6. It was based on the proximity of the site to major roadways in the area. The peak hour trip assignments are contained in Figures 7 through 12.

5.0 Year 2025 Traffic Conditions

The development is expected to be completed and occupied in the Year 2025. Background traffic volumes were developed by inflating the Year 2023 volumes by the growth rate that was discussed in Section 2.2. The background traffic volume scenarios are contained in Figures 13 and 14. Total traffic volume scenarios were developed by adding the trip assignment to the background traffic volume scenarios (see Figures 15 through 18).

The results of the analysis of the background and total traffic volume scenarios are summarized in the following table. It shows that all of the intersections are expected to operate at LOS C, or better. The analysis shows that the apartments in Scenario 1 will have no impact on the level of service. Figure 19 contains the laneage and traffic control assumed in the analysis of the total traffic volume scenarios. The detailed analysis results are summarized in Table 2 and the VISTRO analysis results are contained in Appendix D.

Year 2025 Traffic Conditions

Intersection	Control	Background		Total - Scenario 1		Total - Scenario 2	
		Morning	Evening	Morning	Evening	Morning	Evening
1 - SH 42 / Pine Street	Signalized	B	C	B	C	B	C
2 - SH 42 / 96th Street / Lock Street	Signalized	C	C	C	C	C	C
3 - Pine Street / East Street	Side-Street Stop	B	B	B	B	B	B
4 - East Street / North Access	Side-Street Stop	---		A	A	A	A
5 - East Street / South Access	Side-Street Stop	---		A	A	A	A

6.0 Year 2045 Traffic Conditions

The Year 2045 background and total traffic volume scenarios were determined as discussed in Section 6.0. The background traffic volume scenarios are contained in Figures 20 and 21, and the total traffic volume scenarios are contained in Figures 22 through 25.

The results of the analysis of the background and total traffic volume scenarios are summarized in the following table. It shows that all of the intersections are expected to operate at LOS A or LOS B. The analysis shows that the apartments in Scenario 1 will have no impact on the level of service. Figure 26 contains the laneage and traffic control assumed in the analysis of the total traffic volume scenarios. The detailed analysis results are summarized in Table 2 and the VISTRO analysis results are contained in Appendix D.

Year 2048 Traffic Conditions

Intersection	Control	Background		Total - Scenario 1		Total - Scenario 2	
		Morning	Evening	Morning	Evening	Morning	Evening
1 - SH 42 / Pine Street	Signalized	B	B	B	B	B	B
2 - SH 42 / 96th Street / Lock Street	Roundabout	A	A	A	A	A	A
3 - Pine Street / East Street	Side-Street Stop	B	B	B	B	B	B
4 - East Street / North Access	Side-Street Stop	---		A	A	A	A
5 - East Street / South Access	Side-Street Stop	---		A	A	A	A

7.0 Conclusions

STS has drawn the following conclusion based on the analysis performed for this project.

Intersection Operation. All of the intersections in this study area currently operating at acceptable levels of service and are expected to continue to operate at acceptable levels of service through the Year 2045. Therefore, this project will have minimal impact on the study area intersections. Additionally, the traffic from the 12 apartments in the townhomes will not impact the level of service.

Tables

Table 1 – Existing and Projected Daily Volumes
Table 2 – Intersection Operational Summary
Table 3 – Trip Generation Estimate – East Street Village
Table 4 – Trip Generation Estimate – Fast Casual Restaurant

Table 1. Existing and Projected Daily Traffic Volumes

Link	Year 2023 Traffic [1]	East Street Village Traffic	Year 2025		Fast Casual Restaurant Traffic	Year 2045	
			Background	Total		Background	Total
SH 42 north of Pine Street	17,590	120	17,930	18,050	240	21,610	21,730
SH 42 between Pine Street and Lock Street	15,577	60	15,880	15,940	60	19,180	19,240
96th Street South of Lock Street	15,000	90	15,290	15,380	180	18,440	18,530
Pine Street west of SH 42	6,030	30	6,030	6,060	240	6,270	6,300
Pine Street west of East Street	5,670	30	5,670	5,700	60	5,730	5,760
East Street south of Pine Street	770	60	770	830	310	1,080	1,140
Lock Street west of SH 42 / 96th Street	380	250	380	630	310	690	940
SH 42 east of 96th Street	7,400	60	7,580	7,640	120	9,560	9,620

Note

1. The Year 2023 volumes collected for the study are highlighted in yellow. All other existing volumes were estimated based on the peak hour to daily ratio for the evening peak hour.

Table 2. Intersection Operational Summary

Signalized Intersections [1]	Year 2023				Year 2025 Background				Year 2025 Total - Scenario 1				Year 2025 Total - Scenario 2				Year 2045 Background				Year 2045 Total - Scenario 1				Year 2045 Total - Scenario 2			
	Morning		Evening		Morning		Evening		Morning		Evening		Morning		Evening		Morning		Evening		Morning		Evening		Morning		Evening	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1 - SH 42 / Pine Street	19.6	B	21.6	C	19.7	B	21.7	C	19.8	B	21.9	C	19.8	B	21.7	C	13.4	B	15.0	B	13.5	B	15.0	B	13.5	B	15.0	B
2 - SH 42 / 96th Street / Lock Street	30.5	C	31.8	C	31.1	C	32.7	C	30.9	C	31.5	C	30.5	C	31.3	C	---				---				---			

Stop-Controlled Intersections [1]	Year 2023				Year 2025 Background				Year 2025 Total - Scenario 1				Year 2025 Total - Scenario 2				Year 2045 Background				Year 2045 Total - Scenario 1				Year 2045 Total - Scenario 2			
	Morning		Evening		Morning		Evening		Morning		Evening		Morning		Evening		Morning		Evening		Morning		Evening		Morning		Evening	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
3 - Pine Street / East Street	12.30	B	12.70	B	12.30	B	12.70	B	12.40	B	12.90	B	12.40	B	12.80	B	12.40	B	13.50	B	12.50	B	13.70	B	12.40	B	13.70	B
	NBLT		NBLT		NBLT		NBLT		NBLT		NBLT		NBLT		NBLT		NBLT		NBLT		NBLT		NBLT		NBLT		EBLT	
4 - East Street / North Access	---				---				8.70	A	9.10	A	8.70	A	9.00	A	---				8.80	A	9.30	A	8.70	A	9.30	A
									EBLT		EBLT		EBLT		EBLT						EBLT		EBLT		EBLT		NBLT	
5 - East Street / South Access	---				---				8.80	A	9.10	A	8.80	A	9.10	A	---				8.80	A	9.40	A	8.80	A	9.30	A
									EBLT		EBLT		EBLT		EBLT						EBLT		EBLT		EBLT		NBLT	

Roundabout [1]	Year 2023				Year 2025 Background				Year 2025 Total - Scenario 1				Year 2025 Total - Scenario 2				Year 2045 Background				Year 2045 Total - Scenario 1				Year 2045 Total - Scenario 2			
	Morning		Evening		Morning		Evening		Morning		Evening		Morning		Evening		Morning		Evening		Morning		Evening		Morning		Evening	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
2 - SH 42 / 96th Street / Lock Street	---				---				---				---				7.40	A	8.00	A	7.50	A	8.20	A	7.50	A	8.10	A

Notes

1. The level of service for intersections with side-street stop-control is determined by the movement with the highest delay value.

2. The level of service for signalized intersections and roundabouts is based on the delay for the entire intersection.

Table 3. Trip Generation Estimate - East Street Village

Scenario 1 - One Bedroom Apartments in 12 of the 21 Townhomes

Land Use [1]	ITE Code [2]	Size	Unit	Average Daily Trips				Morning Peak Hour Trips				Evening Peak Hour Trips			
				Rate	Total	In	Out	Rate	Total	In	Out	Rate	Total	In	Out
Single Family Detached Housing	210	15	DU	9.43	142	71	71	0.70	11	3	8	0.94	14	9	5
Multifamily (Low-Rise) (Not Close to Transit)	220	21	DU	6.74	142	71	71	0.40	8	2	6	0.51	11	7	4
Patio Home (One Bedroom Apartment)	210	12	DU	5.35	64	32	32	0.26	3	1	2	0.47	6	4	2
10% Multimodal Trip Reduction	---	---	---	---	-36	-17	-17	---	-2	-1	-1	---	-3	-2	-1
Total	---	---	---	---	312	156	156	---	20	5	15	---	28	18	10

Scenario 2 - No Apartments in the Townhomes

Land Use [1]	ITE Code [2]	Size	Unit	Average Daily Trips				Morning Peak Hour Trips				Evening Peak Hour Trips			
				Rate	Total	In	Out	Rate	Total	In	Out	Rate	Total	In	Out
Single Family Detached Housing	210	15	DU	9.43	142	71	71	0.70	11	3	8	0.94	14	9	5
Multifamily (Low-Rise) (Not Close to Transit)	220	21	DU	6.74	142	71	71	0.40	8	2	6	0.51	11	7	4
10% Multimodal Trip Reduction	---	---	---	---	-28	-14	-14	---	-2	-1	-1	---	-2	-2	-1
Total	---	---	---	---	256	128	128	---	17	4	13	---	22	14	8

Notes:

1. The assumed land uses were provided by Andy Johnson with DAJDESIGN.
2. The trip generation estimate is based on rates contained in Trip Generation, 11th Edition (Institute of Transportation Engineers, September 2021).
3. 12 of the townhomes will have a separate one bedroom apartment. The City agreed that the trip generation for a patio home was appropriate for this land use.

Table 4. Trip Generation Estimate - Fast Casual Restaurant

Land Use	ITE Code [1]	Size	Unit	Average Daily Trips				Morning Peak Hour Trips				Evening Peak Hour Trips			
				Rate	Total	In	Out	Rate	Total	In	Out	Rate	Total	In	Out
Single Family Detached Housing	210	7	1,000 ft^2	97.14	680	340	340	1.43	10	5	5	12.55	88	48	40
10% Multimodal Trip Reduction	---	---	---	---	-68	-34	-34	---	-2	-1	-1	---	-9	-5	-4
Total	---	---	---	---	612	306	306	---	8	4	4	---	79	43	36

Notes:

1. The trip generation estimate is based on rates contained in Trip Generation, 11th Edition (Institute of Transportation Engineers, September 2021).

Figures

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Figure 16 – Year 2025 Total Traffic Volumes Scenario 1 Residential – Evening Peak Hour
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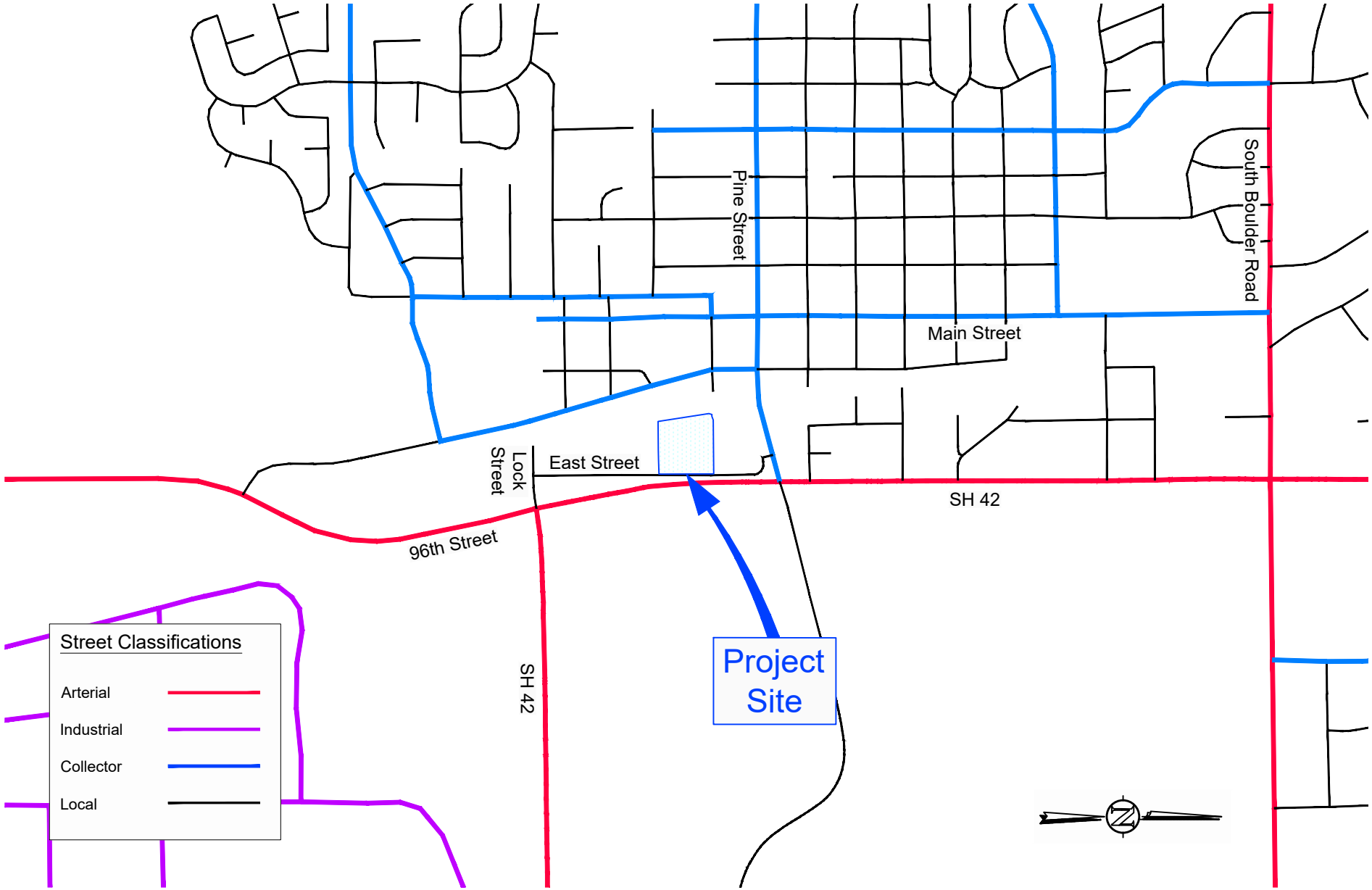
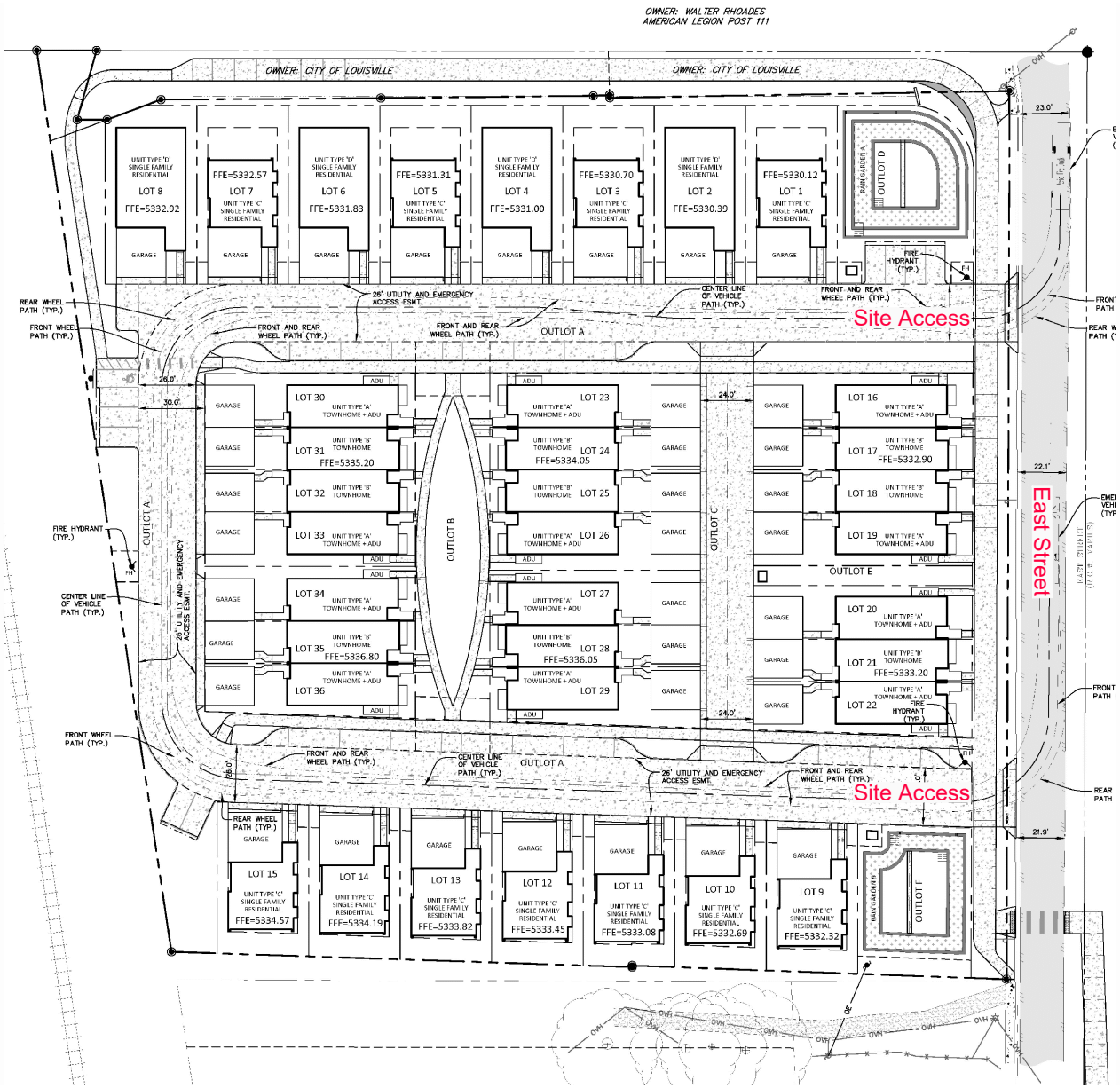
Figure 19 – Laneage and Traffic Control – Year 2025
Figure 20 – Year 2045 Background Traffic Volumes – Morning Peak Hour
Figure 21 – Year 2045 Background Traffic Volumes – Evening Peak Hour
Figure 22 – Year 2045 Total Traffic Volumes Scenario 1 Residential – Morning Peak Hour
Figure 23 – Year 2045 Total Traffic Volumes Scenario 1 Residential – Evening Peak Hour
Figure 24 – Year 2045 Total Traffic Volumes Scenario 2 Residential – Morning Peak Hour
Figure 25 – Year 2045 Total Traffic Volumes Scenario 2 Residential – Evening Peak Hour
Figure 26 – Laneage and Traffic Control – Year 2045



East Street Village Traffic Impact Study
VICINITY MAP

Scale	1" = 1,000'	Date	June 2, 2023	Drawn by	JLH	Job #	TSC Capital Partners	Figure	1



East Street Village Traffic Impact Study
SITE PLAN

Scale	NTS	Date	June 2, 2023	Drawn by	JLH	Job #	TSC Capital Partners	Figure	2

Figure 3 – Laneage and Traffic Control – Existing

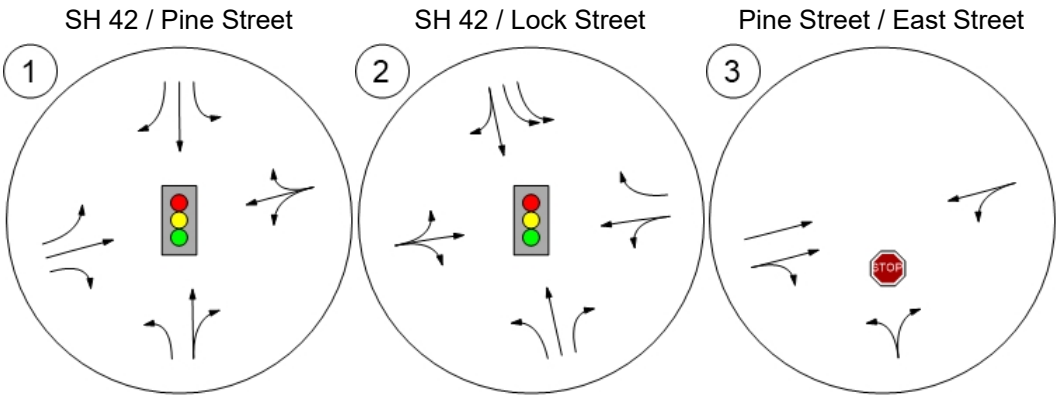


Figure 4 – Year 2023 Traffic Volumes – Morning Peak Hour

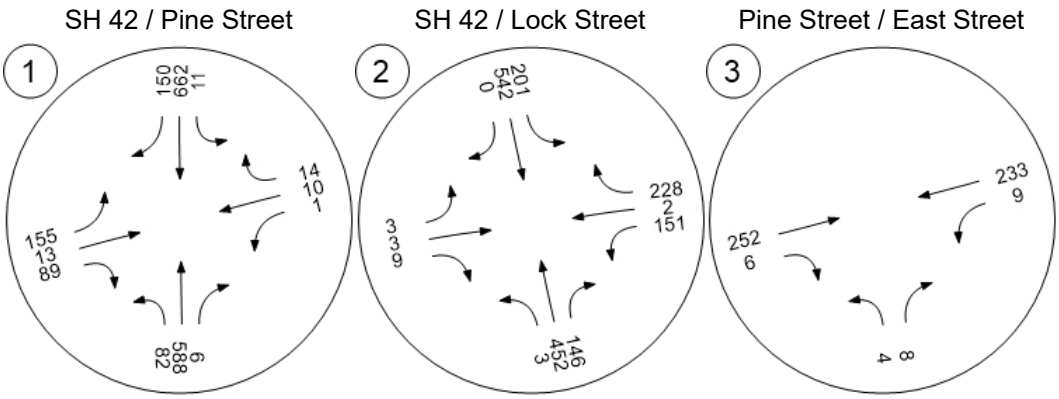
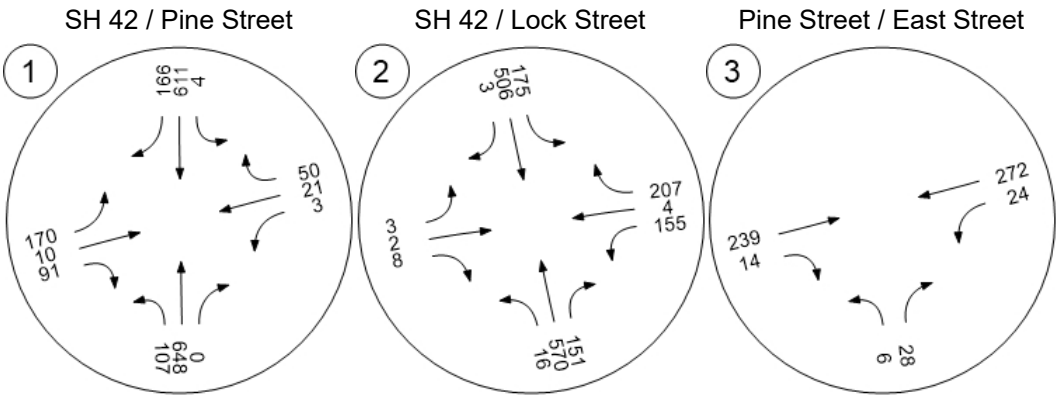
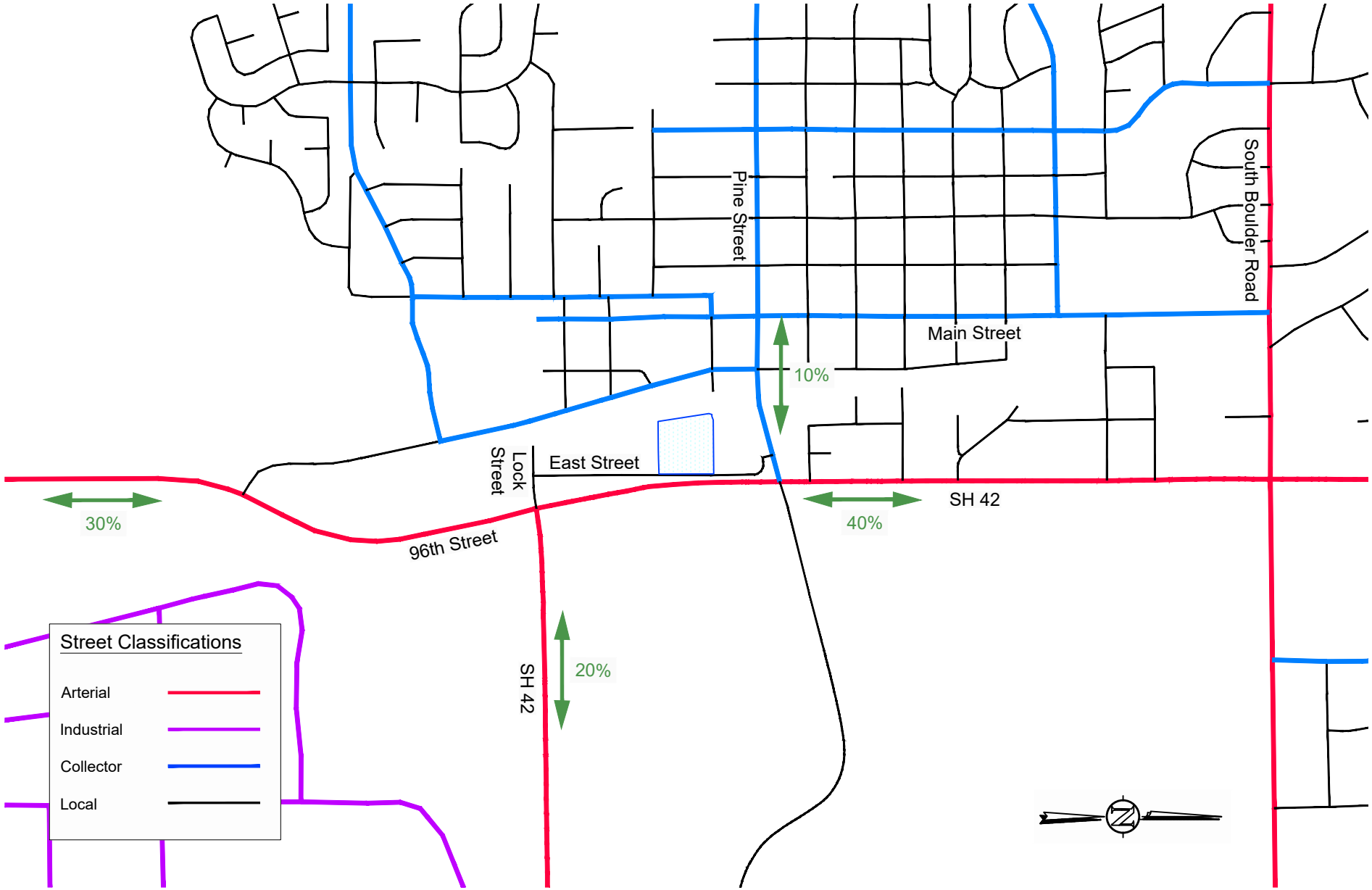


Figure 5 – Year 2023 Traffic Volumes – Evening Peak Hour



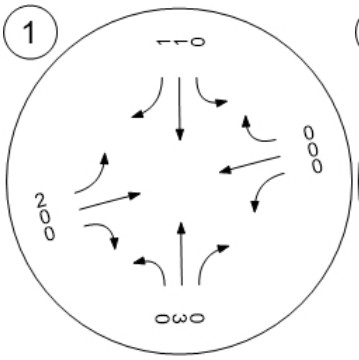


East Street Village Traffic Impact Study
TRIP DISTRIBUTION

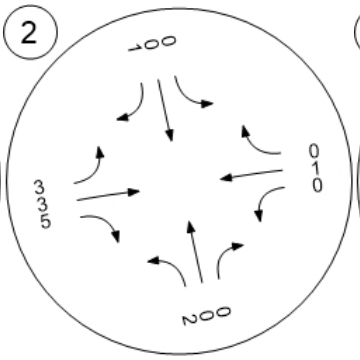
Scale	1" = 1,000'	Date	June 2, 2023	Drawn by	JLH	Job #	TSC Capital Partners	Figure	6

Figure 7 – Scenario 1 Residential Trip Assignment – Morning Peak Hour

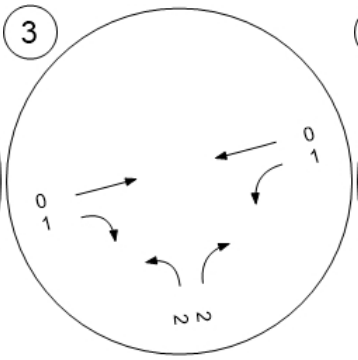
SH 42 / Pine Street



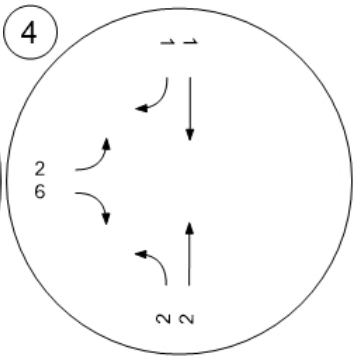
SH 42 / Lock Street



Pine Street / East Street



East Street / North Access



East Street / South Access

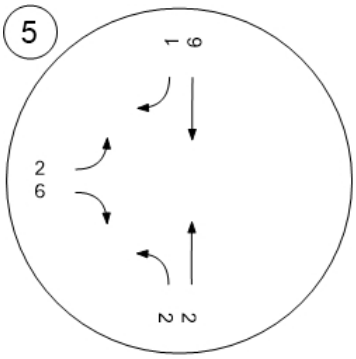
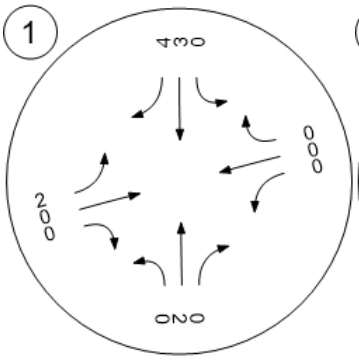
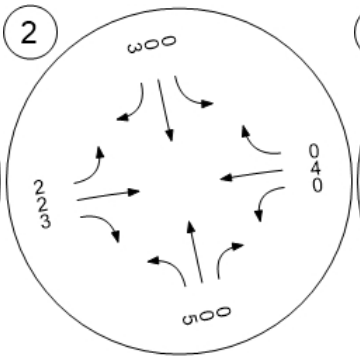


Figure 8 – Scenario 1 Residential Trip Assignment – Evening Peak Hour

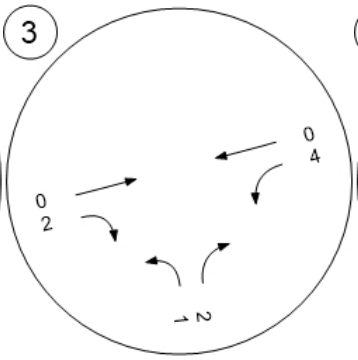
SH 42 / Pine Street



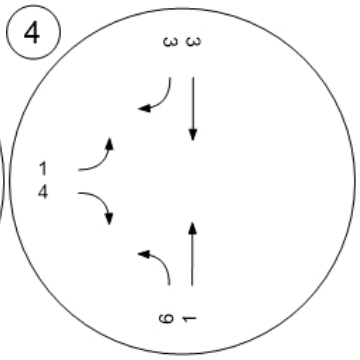
SH 42 / Lock Street



Pine Street / East Street



East Street / North Access



East Street / South Access

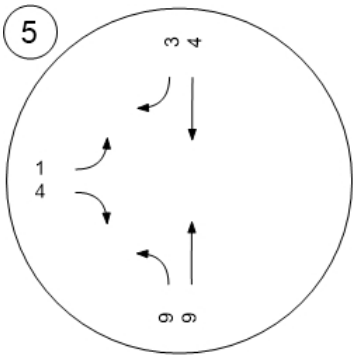
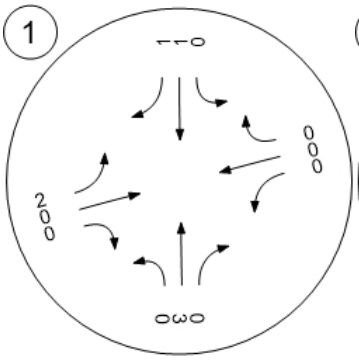
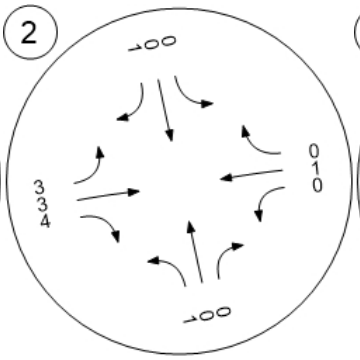


Figure 9 – Scenario 2 Residential Trip Assignment – Morning Peak Hour

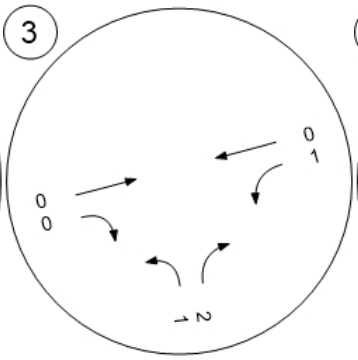
SH 42 / Pine Street



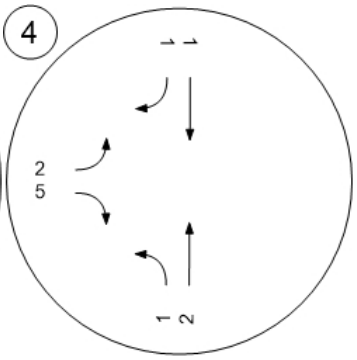
SH 42 / Lock Street



Pine Street / East Street



East Street / North Access



East Street / South Access

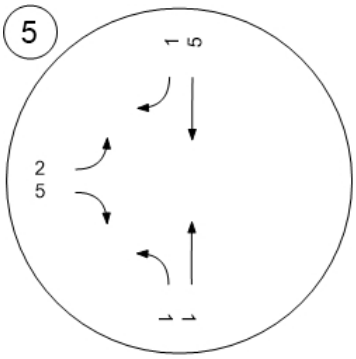
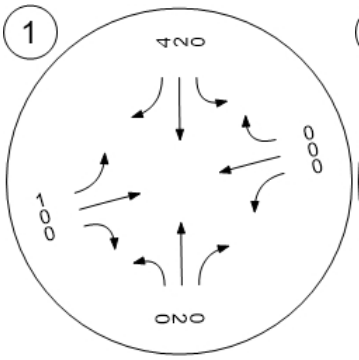
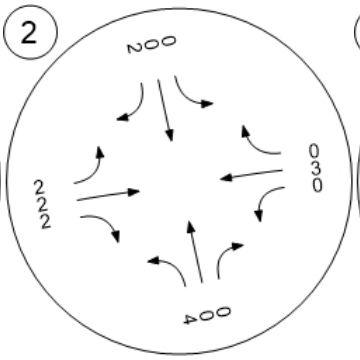


Figure 10 – Scenario 2 Residential Trip Assignment – Evening Peak Hour

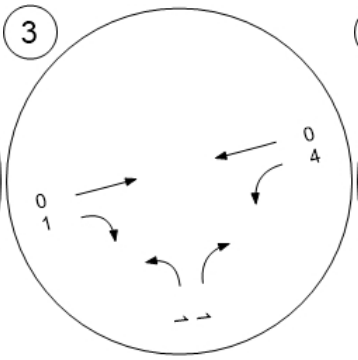
SH 42 / Pine Street



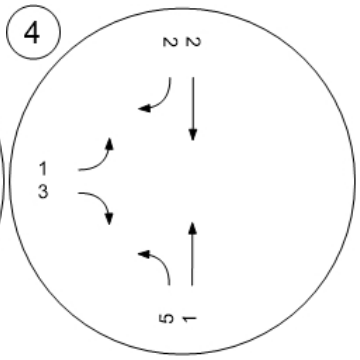
SH 42 / Lock Street



Pine Street / East Street



East Street / North Access



East Street / South Access

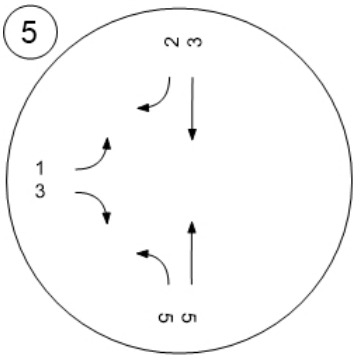
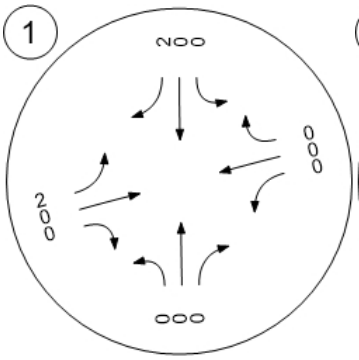
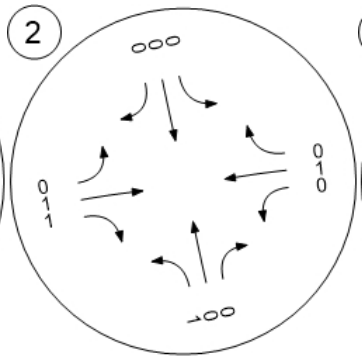


Figure 11 – Fast Casual Restaurant Trip Assignment – Morning Peak Hour

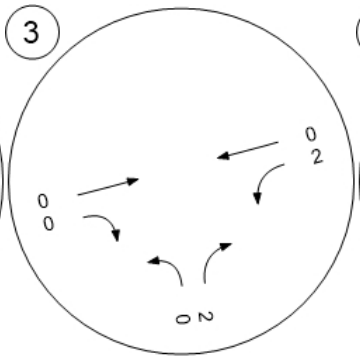
SH 42 / Pine Street



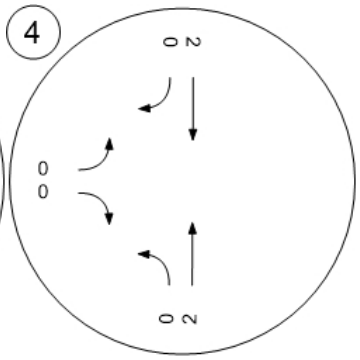
SH 42 / Lock Street



Pine Street / East Street



East Street / North Access



East Street / South Access

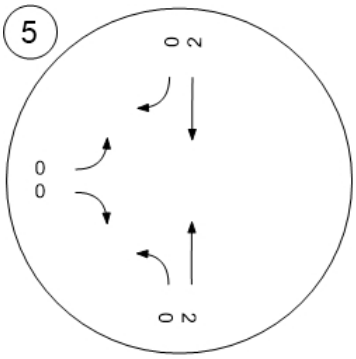
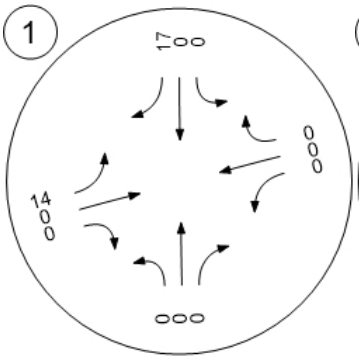
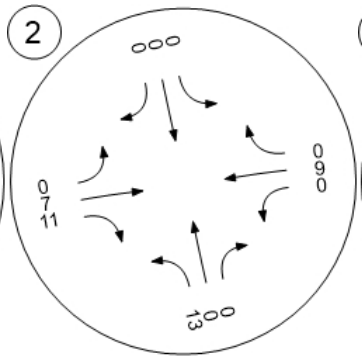


Figure 12 – Fast Casual Restaurant Trip Assignment – Evening Peak Hour

SH 42 / Pine Street



SH 42 / Lock Street



Pine Street / East Street

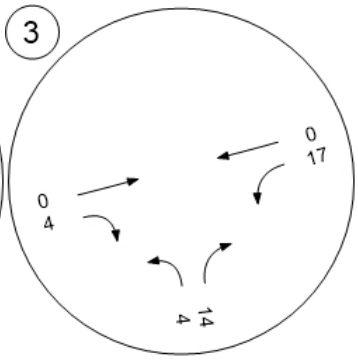


Figure 13 – Year 2025 Background Traffic Volumes – Morning Peak Hour

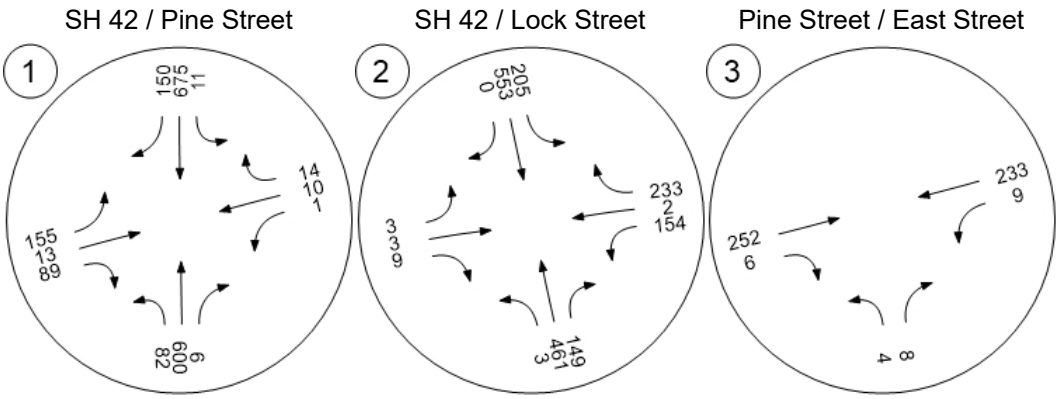


Figure 14 – Year 2025 Background Traffic Volumes – Evening Peak Hour

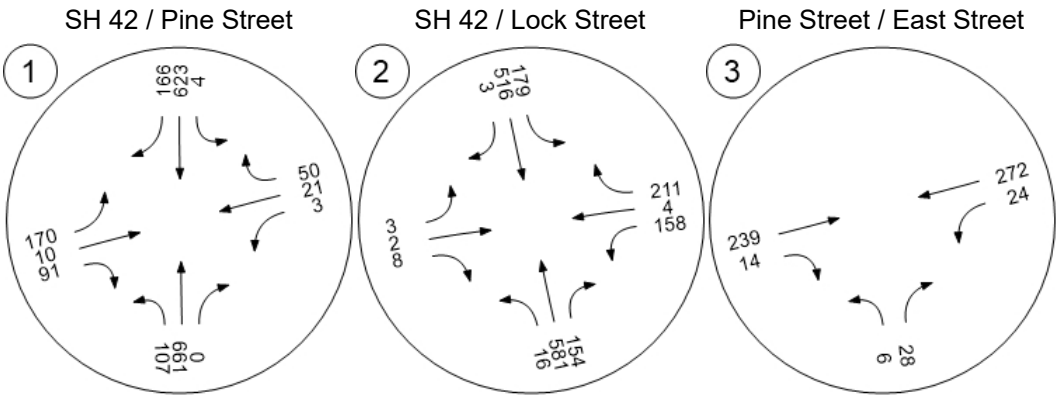
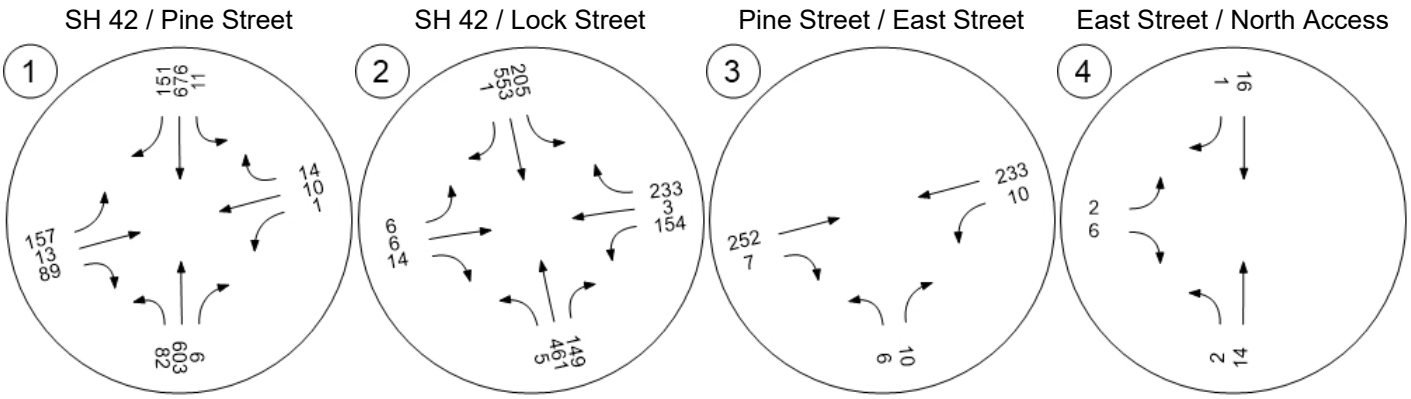


Figure 15 – Year 2025 Total Traffic Volumes Scenario 1 Residential – Morning Peak Hour



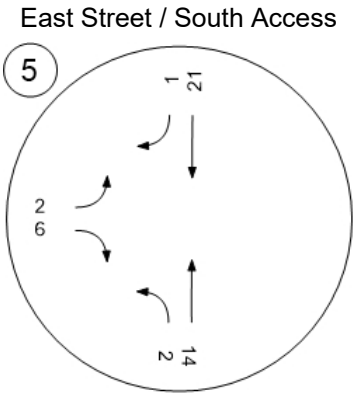
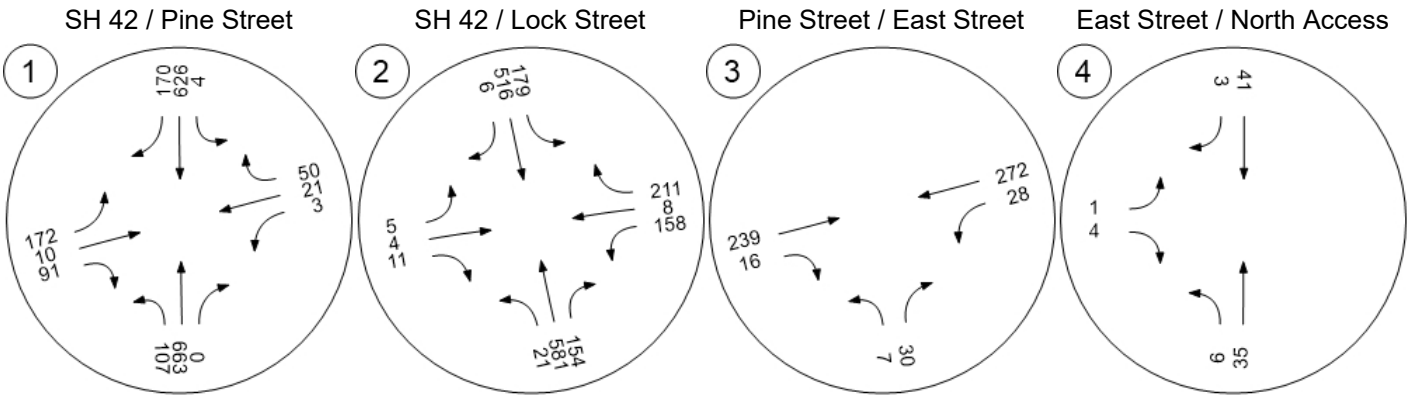


Figure 16 – Year 2025 Total Traffic Volumes Scenario 1 Residential – Evening Peak Hour



East Street / South Access

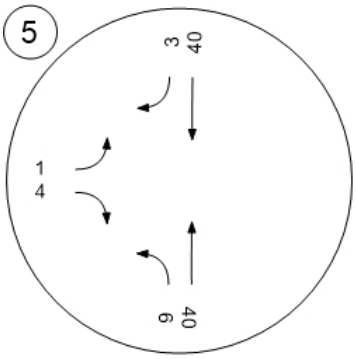
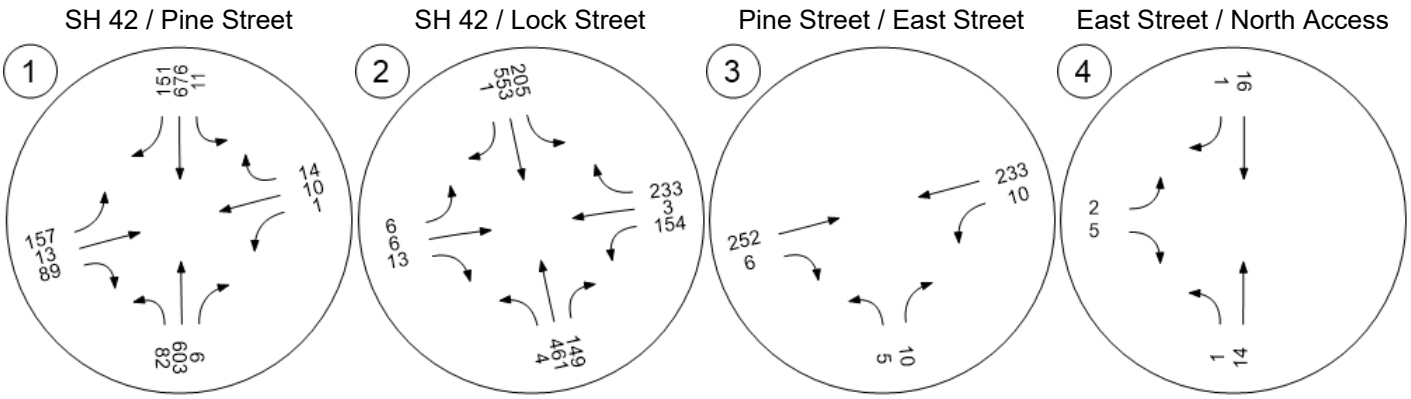


Figure 17 – Year 2025 Total Traffic Volumes Scenario 2 Residential – Morning Peak Hour



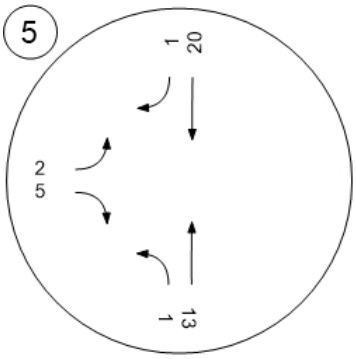
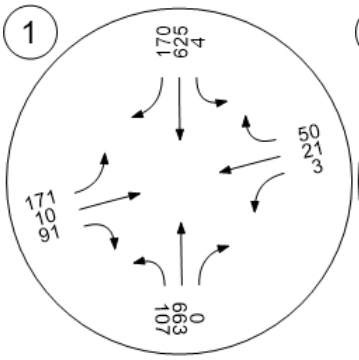
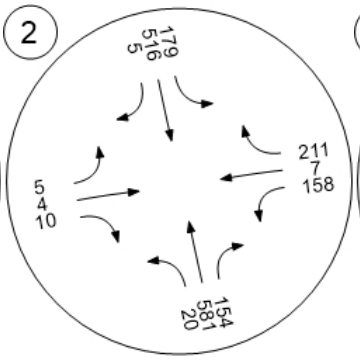


Figure 18 – Year 2025 Total Traffic Volumes Scenario 2 Residential – Evening Peak Hour

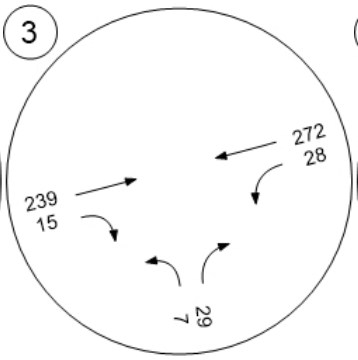
SH 42 / Pine Street



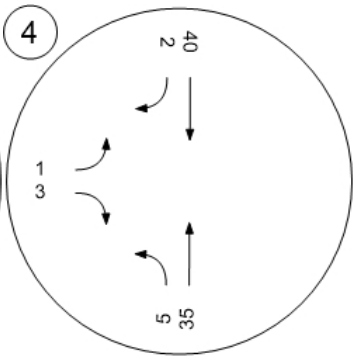
SH 42 / Lock Street



Pine Street / East Street



East Street / North Access



East Street / South Access

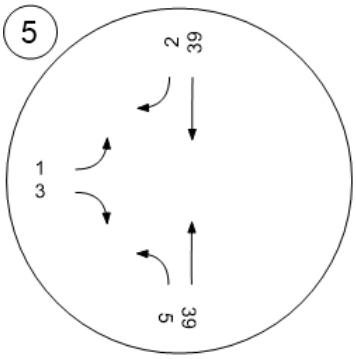
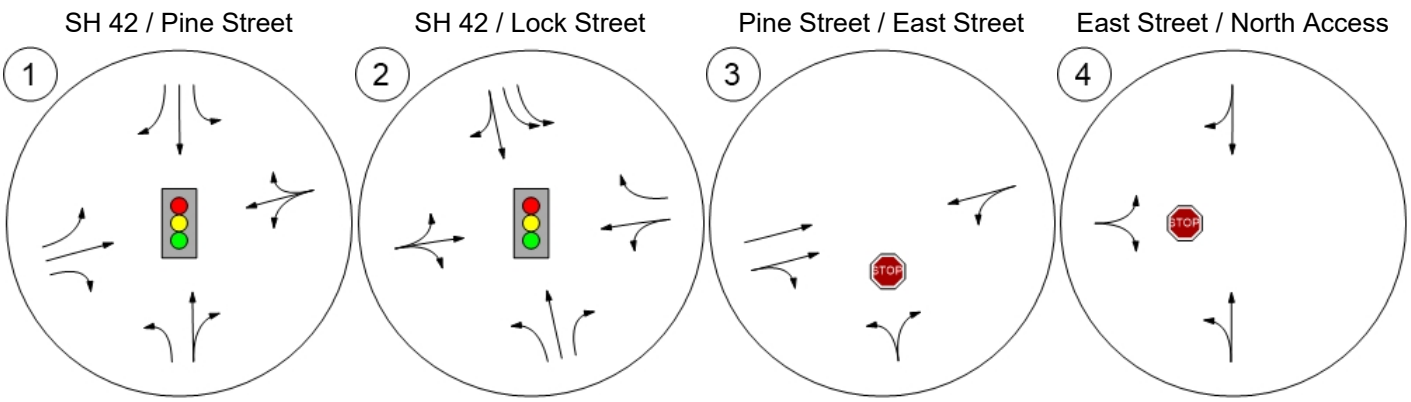


Figure 19 – Laneage and Traffic Control – Year 2025



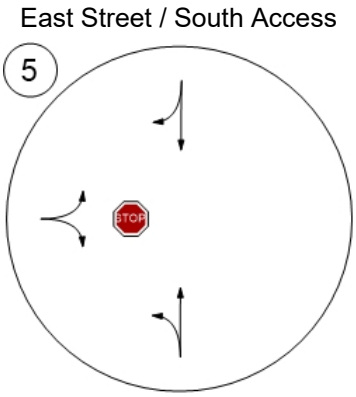
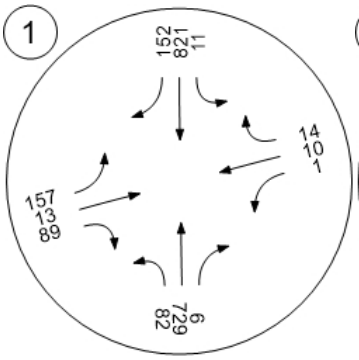
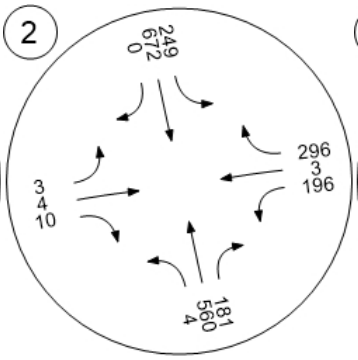


Figure 20 – Year 2045 Background Traffic Volumes – Morning Peak Hour

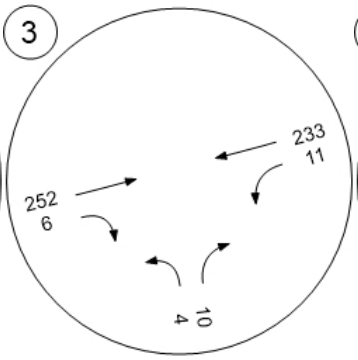
SH 42 / Pine Street



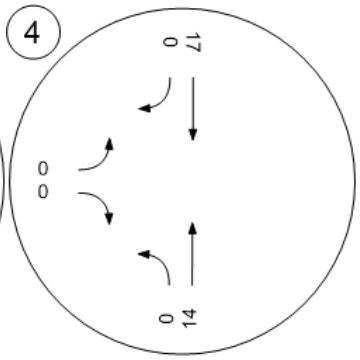
SH 42 / Lock Street



Pine Street / East Street



East Street / North Access



East Street / South Access

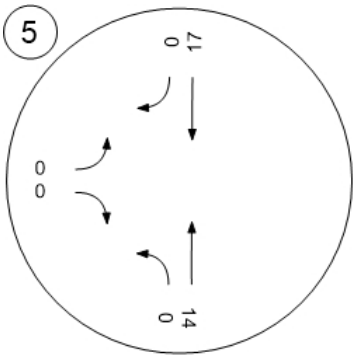


Figure 21 – Year 2045 Background Traffic Volumes – Evening Peak Hour

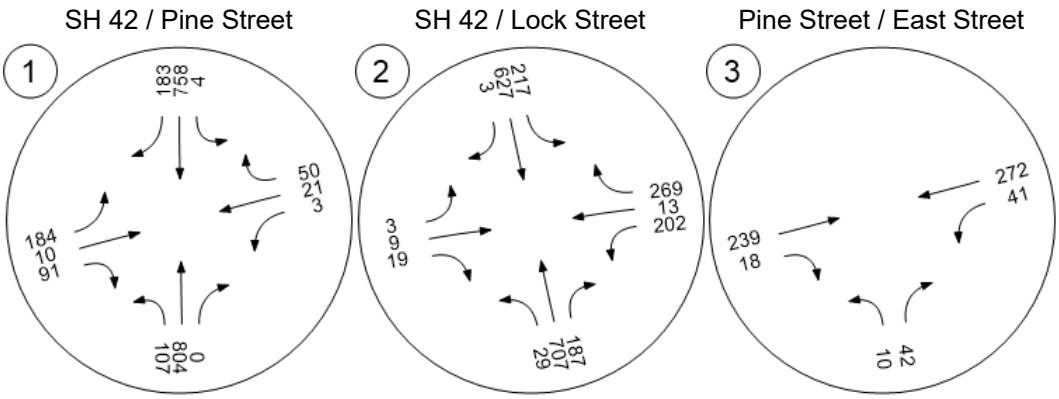
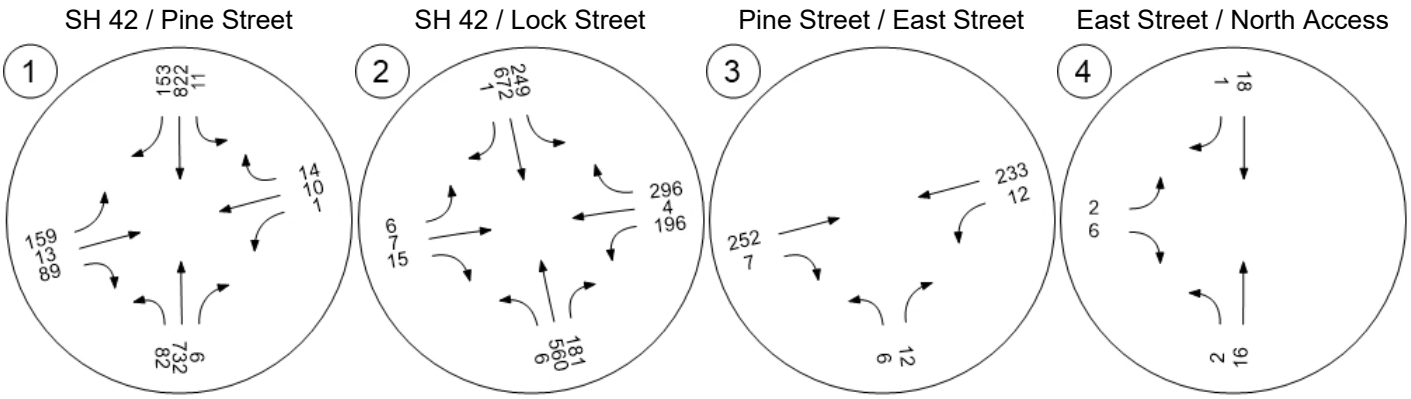


Figure 22 – Year 2045 Total Traffic Volumes Scenario 1 Residential – Morning Peak Hour



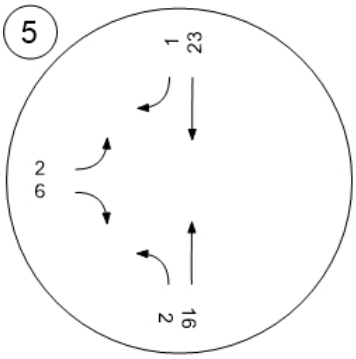
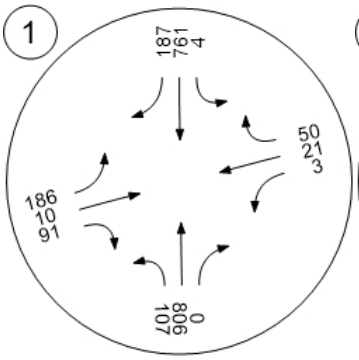
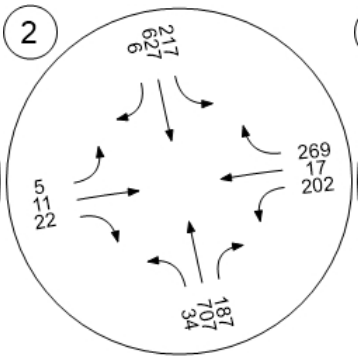


Figure 23 – Year 2045 Total Traffic Volumes Scenario 1 Residential – Evening Peak Hour

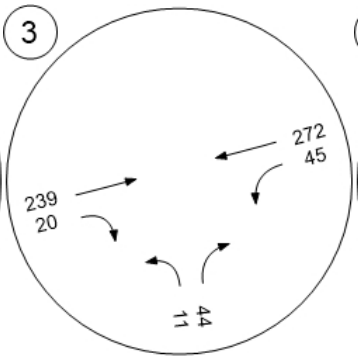
SH 42 / Pine Street



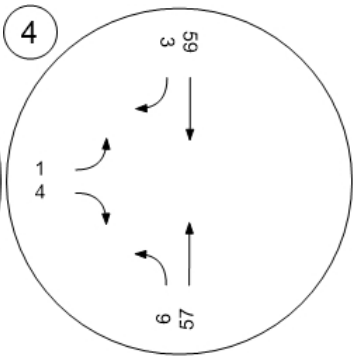
SH 42 / Lock Street



Pine Street / East Street



East Street / North Access



East Street / South Access

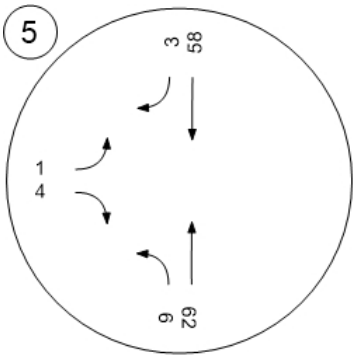
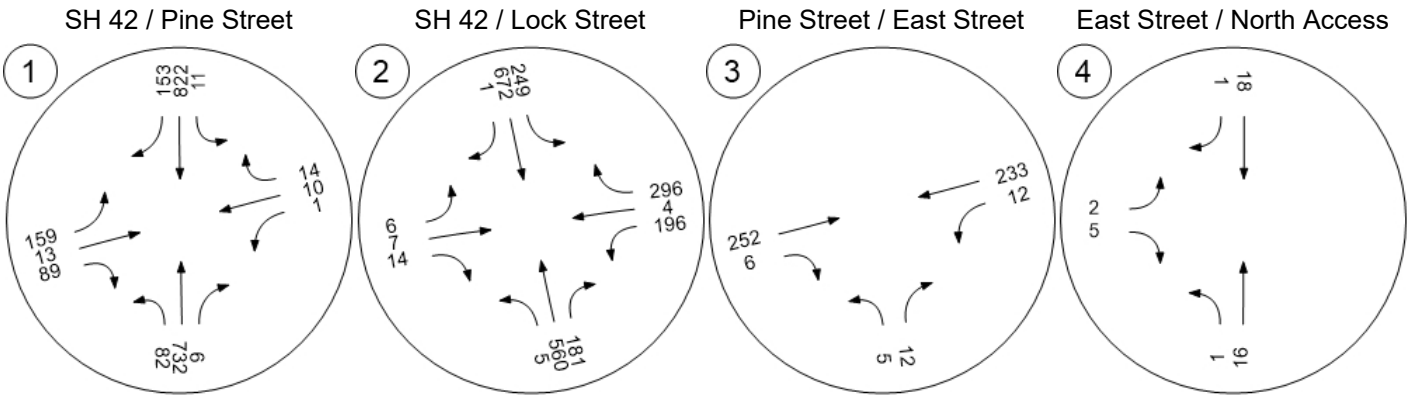


Figure 24 – Year 2045 Total Traffic Volumes Scenario 2 Residential – Morning Peak Hour



East Street / South Access

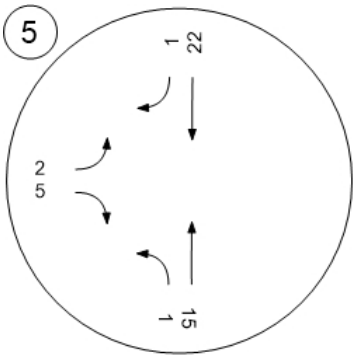
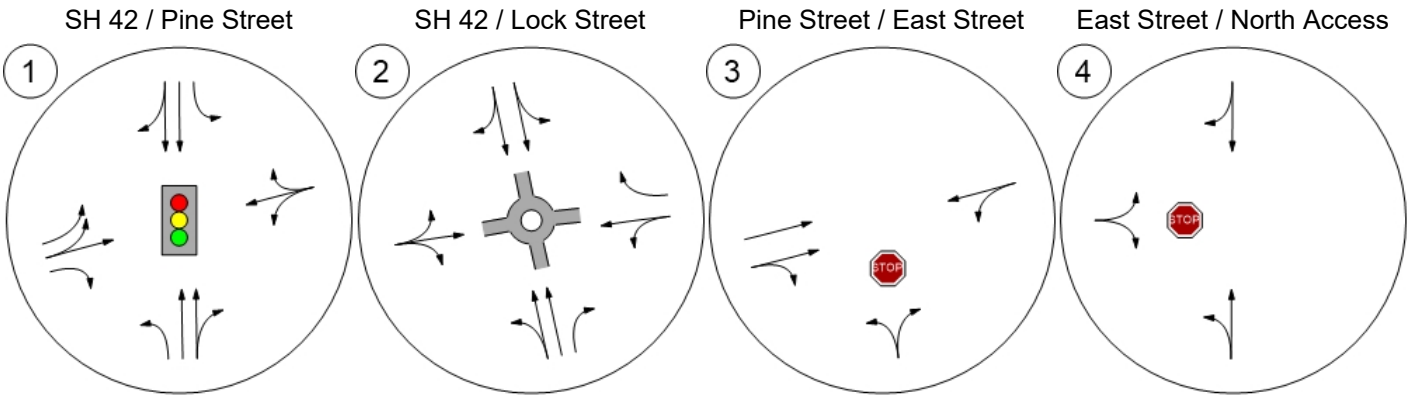
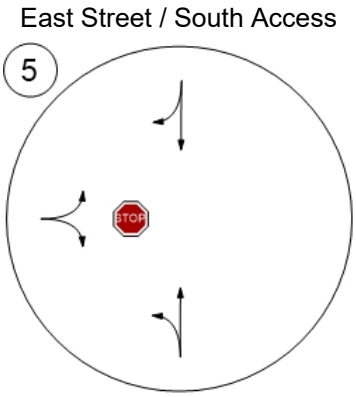


Figure 25 – Year 2045 Total Traffic Volumes Scenario 2 Residential – Evening Peak Hour

Figure 26 – Laneage and Traffic Control – Year 2045





Appendix A

Project Correspondence

Gmail Joe Henderson <thetrafficczar@gmail.com>

Meeting Notes - East Street Village Traffic Impact Study

6 messages

Joe Henderson <joe@sustainabletrafficsolutions.com> Tue, Feb 7, 2023 at 6:17 AM
To: Cameron Fowlkes <CameronF@louisvilleco.gov>, Craig Duffin <CraigD@louisvilleco.gov>, elizabethm@louisvilleco.gov
Cc: Andy Johnson <andy@dajdesign.com>

Friends,

These are my notes from our meeting last Friday. Please let me know if you have any changes or additions.

Intersections Included in the Study Area

- SH 42 / Pine Street
- Pine Street / East Street
- SH 42 / Lock Street
- Lock Street / East Street

Land Use Scenarios

- 15 single family dwelling units (SFDU trip generation)
- 21 townhomes
- Separate apartment in 12 of the townhomes (patio home trip generation rate for one bedroom apartments)
- The second scenario will be without the apartments

Future Development

- Assume 7,000 square feet future development behind the strip mall
- Land use will be retail or food service (choose the most restrictive)

Alternate Modes

- Assume none

--
Joseph L. Henderson, PE, PTOE
Principal
Sustainable Traffic Solutions, Inc.
823 West 124th Drive
Westminster, CO 80234
303.589.6875
joe@sustainabletrafficsolutions.com
sustainabletrafficsolutions.com

Licensed in CO, WY, and IA

Andy Johnson <andy@dajdesign.com> Tue, Feb 7, 2023 at 7:03 AM
To: Sustainable Traffic Solutions <joe@sustainabletrafficsolutions.com>
Cc: Cameron Fowlkes <CameronF@louisvilleco.gov>, Craig Duffin <CraigD@louisvilleco.gov>, elizabethm@louisvilleco.gov

Hi Joe,

I believe that covers everything we discussed. Would alternate modes include pedestrian, cycling, and mass transit, or does it include other modes?

Thanks.

Andy Johnson, AIA

DAJDESIGN
w. 303.527.1100
m. 303.249.1624
[Quoted text hidden]

Joe Henderson <joe@sustainabletrafficsolutions.com> Tue, Feb 7, 2023 at 9:44 AM
To: Andy Johnson <andy@dajdesign.com>
Cc: Cameron Fowlkes <CameronF@louisvilleco.gov>, Craig Duffin <CraigD@louisvilleco.gov>, elizabethm@louisvilleco.gov

Andy,

That's a great question. The response that I received about the path going by the development lead me to believe that there wouldn't be a significant number of people using the path to commute to downtown. However, the site is about a 10 minute bike ride to the RTD station at US 36 / McCaslin so there is potential that people could cycle to that station and get on a regional bus. Also, I think that working from home could be considered an alternate mode of transportation. While people aren't actually traveling, they are not commuting to work. Since the pandemic, I have a significant number of neighbors and friends who haven't gone back to the office or are only there part time. I would propose a 10% mode split for the traffic study. I actually think that this is a conservative number.

Joe
[Quoted text hidden]

Andy Johnson <andy@dajdesign.com> Tue, Feb 7, 2023 at 12:49 PM
To: Joe Henderson <joe@sustainabletrafficsolutions.com>
Cc: Cameron Fowlkes <CameronF@louisvilleco.gov>, Craig Duffin <CraigD@louisvilleco.gov>, "elizabethm@louisvilleco.gov" <elizabethm@louisvilleco.gov>

Joe,

I think the work from home component is significant and more than 10% (more like 25-40%), but let's stay with the notion of being conservative and go with 10%. I do not believe folks will be driving from this development to downtown or up to DELO, but I do think that despite the relatively proximity they will be driving to King Soopers for groceries. When the multi-purpose path goes in it will likely encourage alternate modes of transportation, but sadly the reality is that it will still be somewhat low. I think the multi-purpose path will encourage recreation more than commuting, which is great but it probably won't influence the traffic study enough to matter. Just my two cents.

Craig, Cameron, Elizabeth, does staff want to weigh in on what you would like to see from the report around the topics being discussed? Also, can you please review Joe's scope of work outline and make sure it meets the needs of staff's request for the traffic study?

Thanks!

Andy

--

Andy Johnson, AIA

DAJDESIGN

w. 303.527.1100

m. 303.249.1624

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Craig Duffin <craigd@louisvilleco.gov> Tue, Feb 7, 2023 at 5:39 PM
To: Andy Johnson <andy@dajdesign.com>, Joe Henderson <joe@sustainabletrafficsolutions.com>
Cc: Cameron Fowlkes <cfowlkes@louisvilleco.gov>, "elizabethm@louisvilleco.gov" <elizabethm@louisvilleco.gov>

Comments below in red.

From: Andy Johnson <andy@dajdesign.com>
Sent: Tuesday, February 7, 2023 12:50 PM
To: Joe Henderson <joe@sustainabletrafficsolutions.com>
Cc: Cameron Fowlkes <cfowlkes@louisvilleco.gov>; Craig Duffin <craigd@louisvilleco.gov>; elizabethm@louisvilleco.gov
Subject: RE: Meeting Notes - East Street Village Traffic Impact Study

Joe,

I think the work from home component is significant and more than 10% (more like 25-40%), but let's stay with the notion of being conservative and go with 10%. I do not believe folks will be driving from this development to downtown or up to DELO, but I do think that despite the relatively proximity they will be driving to King Soopers for groceries. When the multi-purpose path goes in it will likely encourage alternate modes of transportation, but sadly the reality is that it will still be somewhat low. I think the multi-purpose path will encourage recreation more than commuting, which is great but it probably won't influence the traffic study enough to matter. Just my two cents. Andy, have no feel for the work from home component or other alternate modes, just be conservative. Joe, RTD bus route passes by Main at Pine. CD.

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> [Quoted text hidden]
> [Quoted text hidden]
>
> > [Quoted text hidden]
> > [Quoted text hidden]
> >
> > > [Quoted text hidden]
> > - Lock Street / East Street. Joe, not concerned with this intersection. CD.
> >
> > Land Use Scenarios
> >
> > - 15 single family dwelling units (SFDU trip generation)
> > - 21 townhomes
> > - Separate apartment in 12 of the townhomes (patio home trip generation rate for one bedroom apartments)
> > - The second scenario will be without the apartments
> >
> > Future Development

- Assume 7,000 square feet future development behind the strip mall
- Land use will be retail or food service (choose the most restrictive)

Alternate Modes

- Assume none

--

Joseph L. Henderson, PE, PTOE

Principal

Sustainable Traffic Solutions, Inc.

823 West 124th Drive

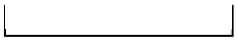
Westminster, CO 80234

303.589.6875

joe@sustainabletrafficsolutions.com

sustainabletrafficsolutions.com

Licensed in CO, WY, and IA



--

Joseph L. Henderson, PE, PTOE

Principal

Sustainable Traffic Solutions, Inc.

823 West 124th Drive

Westminster, CO 80234

303.589.6875

joe@sustainabletrafficsolutions.com

sustainabletrafficsolutions.com

Licensed in CO, WY, and IA

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This email originated from outside the City of Louisville's email environment. Do not click links or open attachments unless you validate the sender and know the content is safe. Please contact IT if you believe this email is suspicious.

Andy Johnson <andy@dajdesign.com> Tue, Feb 7, 2023 at 8:37 PM
To: Craig Duffin <craigd@louisvilleco.gov>
Cc: Joe Henderson <joe@sustainabletrafficsolutions.com>, Cameron Fowlkes <cfowlkes@louisvilleco.gov>, elizabethm@louisvilleco.gov

Craig, thanks.

Joe, looks like we can remove the intersection of Lock and East St based on Craigs comments. Thanks!

Andy

Andy Johnson
DAJDESIGN
m. 303.249.1624
w. 303.527.1100

On Feb 7, 2023, at 5:39 PM, Craig Duffin <craigd@louisvilleco.gov> wrote:

[Quoted text hidden]
[Quoted text hidden]

[Quoted text hidden]
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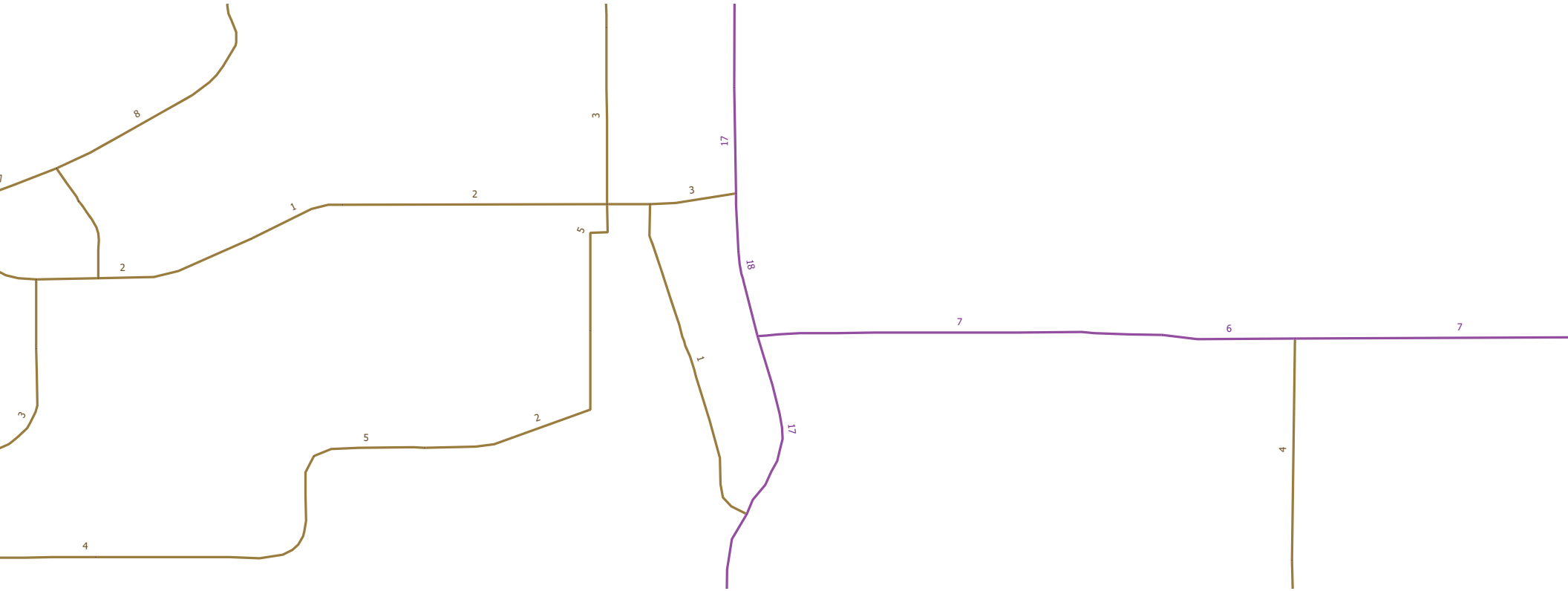
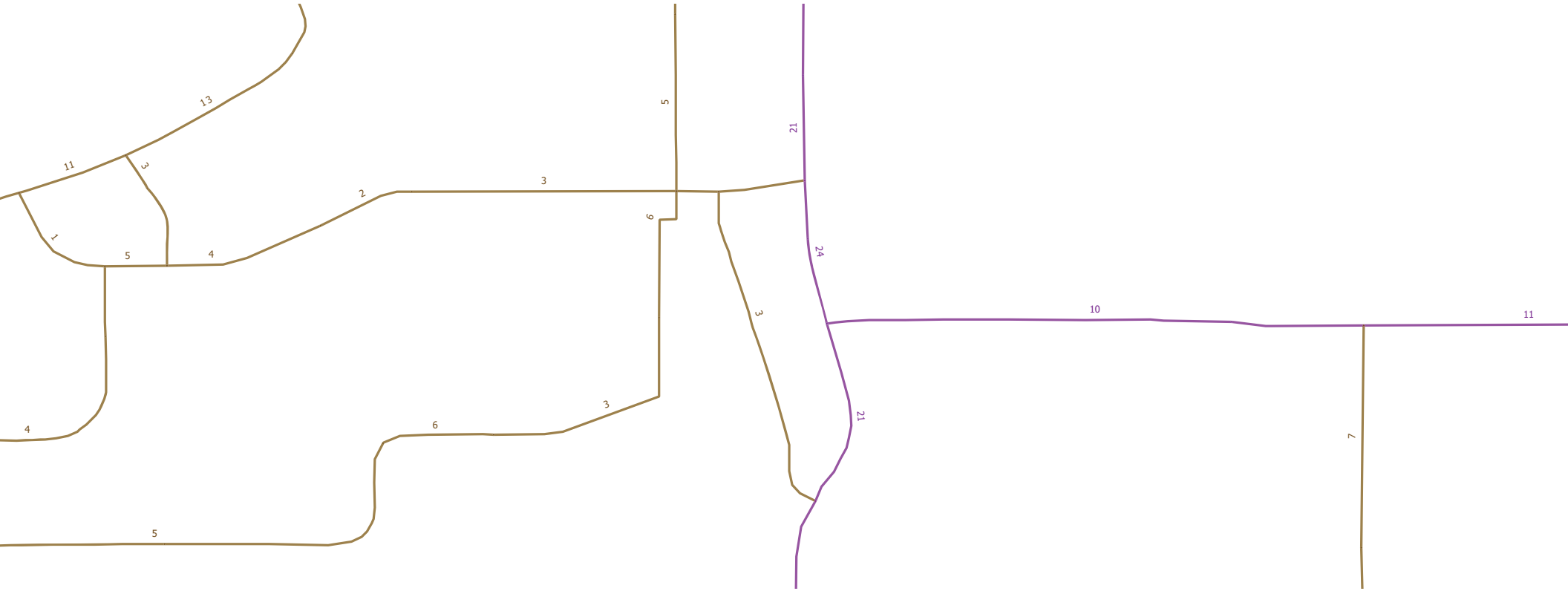
Appendix B

DRCOG Traffic Projections

Year 2020 Traffic Volumes



Year 2050 Traffic Volume Projections



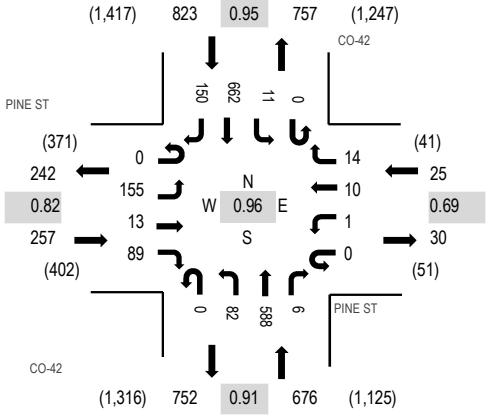
Appendix C

Traffic Count Data

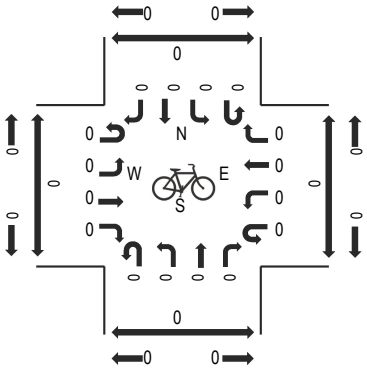
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 1 CO-42 & PINE ST AM
Date: Thursday, February 23, 2023
Peak Hour: 07:45 AM - 08:45 AM
Peak 15-Minutes: 08:00 AM - 08:15 AM

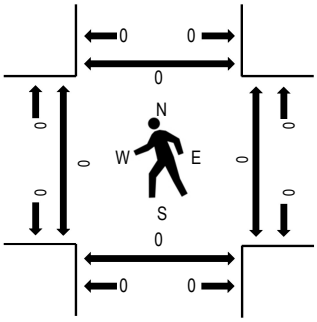
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

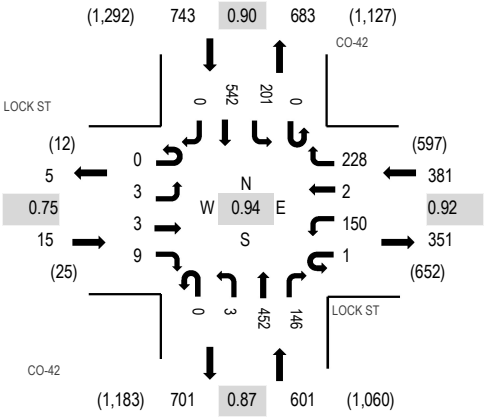
Traffic Counts - Motorized Vehicles

Interval Start Time	PINE ST Eastbound				PINE ST Westbound				CO-42 Northbound				CO-42 Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	9	0	7	0	0	1	0	0	8	64	3	0	0	96	9	197	1,268	0	0	0	0
7:15 AM	0	22	4	16	0	0	2	1	0	10	79	0	0	2	105	14	255	1,533	0	0	0	0
7:30 AM	0	24	1	8	0	0	3	2	0	6	122	0	0	2	164	31	363	1,723	0	0	0	0
7:45 AM	0	42	3	33	0	0	3	6	0	30	120	0	0	3	170	43	453	1,781	0	0	0	0
8:00 AM	0	50	2	19	0	0	2	2	0	18	163	3	0	4	164	35	462	1,717	0	0	0	0
8:15 AM	0	38	4	17	0	0	1	2	0	17	169	1	0	2	156	38	445		0	0	0	0
8:30 AM	0	25	4	20	0	1	4	4	0	17	136	2	0	2	172	34	421		0	0	0	0
8:45 AM	0	28	4	22	0	2	3	2	0	19	137	1	0	4	144	23	389		0	0	0	0
Count Total	0	238	22	142	0	3	19	19	0	125	990	10	0	19	1,171	227	2,985		0	0	0	0
Peak Hour	0	155	13	89	0	1	10	14	0	82	588	6	0	11	662	150	1,781		0	0	0	0

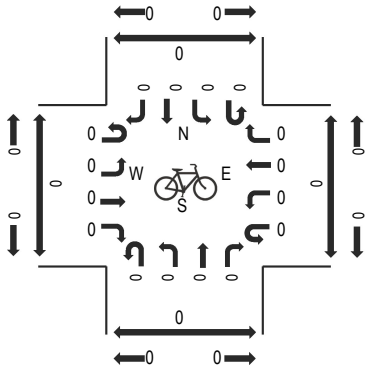
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 2 CO-42 & LOCK ST AM
Date: Thursday, February 23, 2023
Peak Hour: 07:45 AM - 08:45 AM
Peak 15-Minutes: 08:00 AM - 08:15 AM

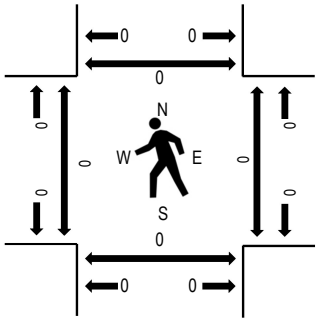
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

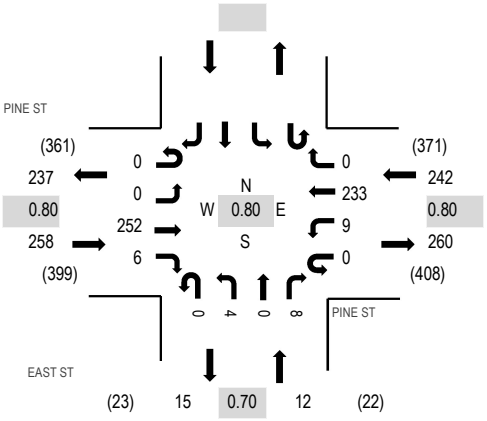
Traffic Counts - Motorized Vehicles

Interval Start Time	LOCK ST Eastbound				LOCK ST Westbound				CO-42 Northbound				CO-42 Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	1	1	1	0	14	1	16	0	1	57	25	0	27	69	1	214	1,290	0	0	0	0
7:15 AM	0	0	0	2	0	20	1	33	0	1	56	48	0	40	85	0	286	1,539	0	0	0	0
7:30 AM	0	0	0	4	0	23	0	37	0	1	95	37	0	34	123	0	354	1,686	0	0	0	0
7:45 AM	0	1	2	2	0	39	0	64	0	2	83	37	0	54	152	0	436	1,740	0	0	0	0
8:00 AM	0	1	0	5	0	42	0	58	0	0	128	50	0	49	130	0	463	1,684	0	0	0	0
8:15 AM	0	1	1	1	0	45	1	58	0	0	123	24	0	45	134	0	433		0	0	0	0
8:30 AM	0	0	0	1	1	24	1	48	0	1	118	35	0	53	126	0	408		0	0	0	0
8:45 AM	0	0	0	1	0	23	0	48	0	1	101	36	0	53	117	0	380		0	0	0	0
Count Total	0	4	4	17	1	230	4	362	0	7	761	292	0	355	936	1	2,974		0	0	0	0
Peak Hour	0	3	3	9	1	150	2	228	0	3	452	146	0	201	542	0	1,740		0	0	0	0

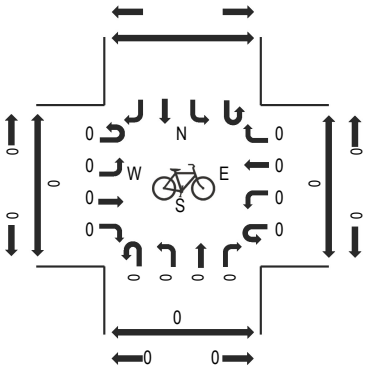
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 3 EAST ST & PINE ST AM
Date: Thursday, February 23, 2023
Peak Hour: 07:45 AM - 08:45 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

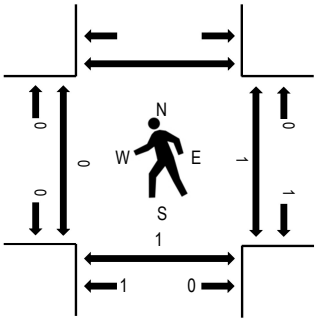
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

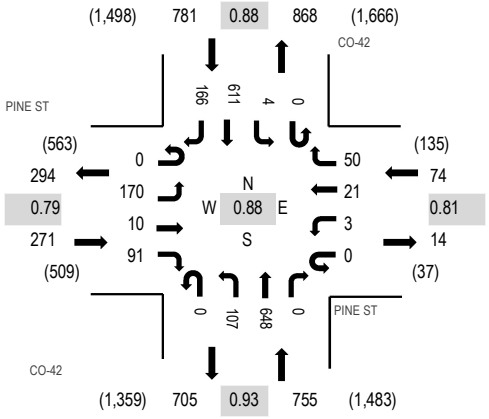
Traffic Counts - Motorized Vehicles

Interval Start Time	PINE ST Eastbound				PINE ST Westbound				EAST ST Northbound				Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	0	20	0	0	1	17	0	0	2	0	1					41	344	0	0	0	
7:15 AM	0	0	41	0	0	0	26	0	0	0	0	1					68	435	0	0	0	
7:30 AM	0	0	33	0	0	3	38	0	0	0	0	1					75	477	0	0	0	
7:45 AM	0	0	80	1	0	0	76	0	0	2	0	1					160	512	0	0	0	
8:00 AM	0	0	71	3	0	3	52	0	0	0	0	3					132	448	0	0	0	
8:15 AM	0	0	49	1	0	3	54	0	0	1	0	2					110		0	0	0	
8:30 AM	0	0	52	1	0	3	51	0	0	1	0	2					110		0	1	1	
8:45 AM	0	0	46	1	0	3	41	0	0	0	0	5					96		0	0	0	
Count Total	0	0	392	7	0	16	355	0	0	6	0	16					792		0	1	1	
Peak Hour	0	0	252	6	0	9	233	0	0	4	0	8					512		0	1	1	

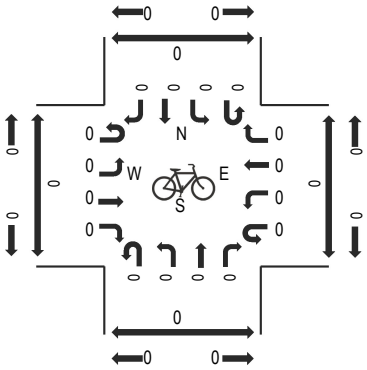
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 1 CO-42 & PINE ST PM
Date: Thursday, February 23, 2023
Peak Hour: 04:45 PM - 05:45 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

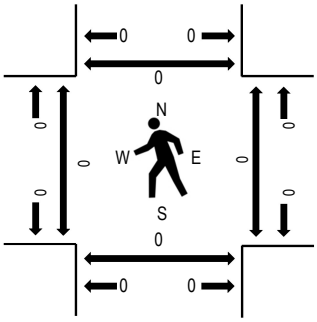
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

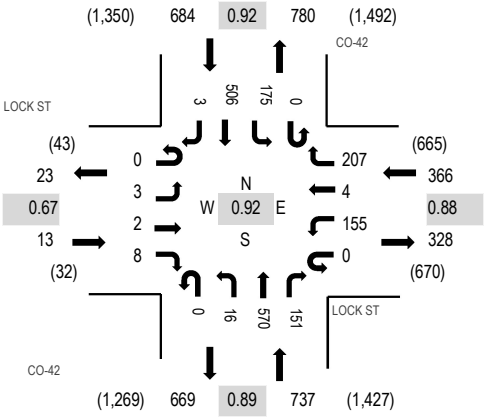
Traffic Counts - Motorized Vehicles

Interval Start Time	PINE ST Eastbound				PINE ST Westbound				CO-42 Northbound				CO-42 Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	43	2	29	0	1	4	13	0	23	173	2	0	1	154	52	497	1,816	0	0	0	0
4:15 PM	0	46	5	19	0	1	5	8	0	21	185	0	0	3	121	36	450	1,853	0	0	0	0
4:30 PM	0	20	2	27	0	1	5	14	0	28	134	2	0	2	154	30	419	1,848	0	0	0	0
4:45 PM	0	35	2	23	0	2	2	7	0	21	174	0	0	0	143	41	450	1,881	0	0	0	0
5:00 PM	0	56	4	26	0	1	5	17	0	36	167	0	0	2	178	42	534	1,809	0	0	0	0
5:15 PM	0	31	2	21	0	0	8	16	0	26	158	0	0	2	143	38	445		0	0	0	0
5:30 PM	0	48	2	21	0	0	6	10	0	24	149	0	0	0	147	45	452		0	0	0	0
5:45 PM	0	26	1	18	0	0	3	6	0	30	130	0	0	3	129	32	378		0	0	0	0
Count Total	0	305	20	184	0	6	38	91	0	209	1,270	4	0	13	1,169	316	3,625		0	0	0	0
Peak Hour	0	170	10	91	0	3	21	50	0	107	648	0	0	4	611	166	1,881		0	0	0	0

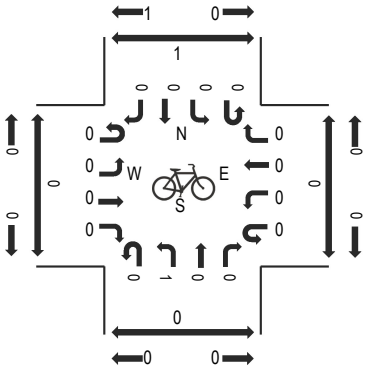
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 2 CO-42 & LOCK ST PM
Date: Thursday, February 23, 2023
Peak Hour: 04:15 PM - 05:15 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

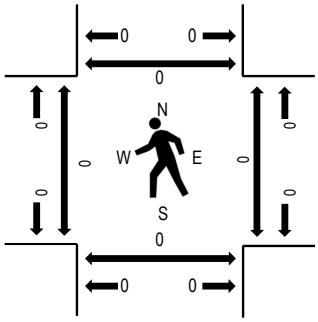
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

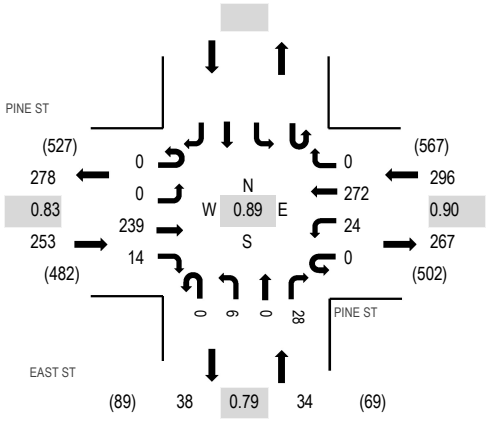
Traffic Counts - Motorized Vehicles

Interval Start Time	LOCK ST Eastbound				LOCK ST Westbound				CO-42 Northbound				CO-42 Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	0	2	4	0	32	3	53	0	2	143	38	0	54	129	3	463	1,774	0	1	0	1
4:15 PM	0	2	1	2	0	40	1	47	0	4	163	39	0	42	100	1	442	1,800	0	0	0	0
4:30 PM	0	0	0	2	0	48	1	44	0	4	118	39	0	41	127	0	424	1,784	0	0	0	0
4:45 PM	0	1	1	1	0	31	0	50	0	3	149	30	0	49	130	0	445	1,765	0	0	0	0
5:00 PM	0	0	0	3	0	36	2	66	0	5	140	43	0	43	149	2	489	1,700	0	0	0	0
5:15 PM	0	0	1	3	0	26	0	55	0	1	127	38	0	52	122	1	426		0	0	0	0
5:30 PM	0	0	0	5	0	34	3	36	0	1	136	41	0	28	120	1	405		0	0	0	0
5:45 PM	0	0	1	3	0	13	0	44	0	5	118	40	0	47	109	0	380		0	0	0	0
Count Total	0	3	6	23	0	260	10	395	0	25	1,094	308	0	356	986	8	3,474		0	1	0	1
Peak Hour	0	3	2	8	0	155	4	207	0	16	570	151	0	175	506	3	1,800		0	0	0	0

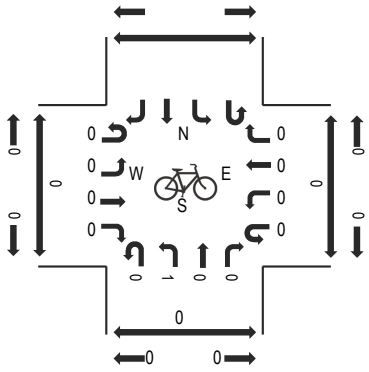
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 3 EAST ST & PINE ST PM
Date: Thursday, February 23, 2023
Peak Hour: 04:45 PM - 05:45 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

Peak Hour - Motorized Vehicles



Peak Hour - Bicycles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All Traffic Data Services

9660 W 44th Ave
Wheat Ridge, CO 80033
www.alltrafficdata.net

Site Code: 1
Station ID: 1
CO-42 S.O. Pine St

Start Time	23-Feb-23 Thu	NB	SB							Total
12:00 AM		13	15							28
01:00		16	15							31
02:00		17	17							34
03:00		17	19							36
04:00		29	35							64
05:00		48	121							169
06:00		143	253							396
07:00		441	599							1040
08:00		**683**	**717**							**1400**
09:00		459	474							933
10:00		391	452							843
11:00		464	465							929
12:00 PM		484	518							1002
01:00		463	505							968
02:00		542	509							1051
03:00		643	634							1277
04:00		**763**	675							**1438**
05:00		720	**684**							1404
06:00		439	455							894
07:00		304	294							598
08:00		240	246							486
09:00		164	138							302
10:00		100	76							176
11:00		39	39							78
Total		7622	7955							15577
Percent		48.9%	51.1%							
AM Peak	-	08:00	08:00	-	-	-	-	-	-	08:00
Vol.	-	683	717	-	-	-	-	-	-	1400
PM Peak	-	16:00	17:00	-	-	-	-	-	-	16:00
Vol.	-	763	684	-	-	-	-	-	-	1438
Grand Total		7622	7955							15577
Percent		48.9%	51.1%							
ADT		ADT 15,577		AADT 15,577						

Appendix D

VISTRO Analysis Results

Year 2023 Traffic Volume Scenarios

East Street Village TIS

Vistro File: C:\...\AM.vistro
Report File: C:\...\2023 AM.pdf

Scenario 1 2023 AM
6/1/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	SH 42 / Pine Street	Signalized	HCM 7th Edition	EB Left	0.512	19.6	B
2	SH 42 / Lock Street	Signalized	HCM 7th Edition	WB Left	0.577	30.5	C
3	Pine Street / East Street	Two-way stop	HCM 7th Edition	NB Left	0.012	12.3	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: SH 42 / Pine Street

Control Type:	Signalized	Delay (sec / veh):	19.6
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.512

Intersection Setup

Name	SH 42			SH 42			Pine Street			Empire Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	300.00	100.00	100.00	100.00	100.00	135.00	100.00	100.00	50.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	SH 42			SH 42			Pine Street			Empire Road		
Base Volume Input [veh/h]	82	588	6	11	662	150	155	13	89	1	10	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	3	0	0	75	0	0	45	0	0	7
Total Hourly Volume [veh/h]	82	588	3	11	662	75	155	13	44	1	10	7
Peak Hour Factor	0.9100	0.9100	0.9100	0.9500	0.9500	0.9500	0.8200	0.8200	0.8200	0.6900	0.6900	0.6900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	162	1	3	174	20	47	4	13	0	4	3
Total Analysis Volume [veh/h]	90	646	3	12	697	79	189	16	54	1	14	10
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	35	0	0	35	0	0	10	0	0	15	0
Maximum Green [s]	12	35	0	0	35	0	0	30	0	0	30	0
Amber [s]	3.0	4.0	0.0	0.0	4.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	17	85	0	0	68	0	0	20	0	0	15	0
Vehicle Extension [s]	3.0	6.0	0.0	0.0	6.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	2.0	3.0	0.0	0.0	3.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	Yes			Yes			No			No	
Maximum Recall	No	No			No			No			No	
Pedestrian Recall	No	No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	40.0	40.0	0.0	0.0	40.0	0.0	0.0	40.0	0.0	0.0	40.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	R	L	C	R	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.00	3.00	3.00	3.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	83	83	74	74	74	15	15	15	9
g / C, Green / Cycle	0.69	0.69	0.62	0.62	0.62	0.13	0.13	0.13	0.07
(v / s)_i Volume / Saturation Flow Rate	0.11	0.35	0.02	0.37	0.05	0.11	0.01	0.03	0.01
s, saturation flow rate [veh/h]	784	1868	782	1870	1589	1781	1870	1589	1743
c, Capacity [veh/h]	468	1294	397	1158	984	228	239	203	125
d1, Uniform Delay [s]	9.81	8.70	19.73	13.87	9.15	51.07	46.04	47.25	52.50
k, delay calibration	0.44	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.80	1.39	0.14	2.32	0.16	7.60	0.12	0.69	0.78
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.19	0.50	0.03	0.60	0.08	0.83	0.07	0.27	0.20
d, Delay for Lane Group [s/veh]	10.61	10.09	19.87	16.19	9.31	58.67	46.16	47.95	53.28
Lane Group LOS	B	B	B	B	A	E	D	D	D
Critical Lane Group	Yes	No	No	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.80	7.81	0.21	11.62	0.86	6.02	0.43	1.50	0.74
50th-Percentile Queue Length [ft/ln]	20.01	195.26	5.28	290.51	21.43	150.48	10.76	37.58	18.48
95th-Percentile Queue Length [veh/ln]	1.44	12.39	0.38	17.21	1.54	10.04	0.77	2.71	1.33
95th-Percentile Queue Length [ft/ln]	36.02	309.84	9.51	430.28	38.57	251.08	19.37	67.65	33.27

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.61	10.09	10.09	19.87	16.19	9.31	58.67	46.16	47.95	53.28	53.28	53.28
Movement LOS	B	B	B	B	B	A	E	D	D	D	D	D
d_A, Approach Delay [s/veh]	10.15			15.55			55.66			53.28		
Approach LOS	B			B			E			D		
d_I, Intersection Delay [s/veh]	19.61											
Intersection LOS	B											
Intersection V/C	0.512											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1333	1050	267	250
d_b, Bicycle Delay [s]	6.67	13.54	45.07	45.94
l_b,int, Bicycle LOS Score for Intersection	2.784	2.984	2.061	1.612
Bicycle LOS	C	C	B	A

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: SH 42 / Lock Street

Control Type:	Signalized	Delay (sec / veh):	30.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.577

Intersection Setup

Name	96th Street			SH 42			Lock Street			SH 42		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	2	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	400.00	540.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	600.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	540.00	0.00	0.00	0.00	0.00	0.00	150.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	96th Street			SH 42			Lock Street			SH 42		
Base Volume Input [veh/h]	3	452	146	201	542	0	3	3	9	151	2	228
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	73	0	0	0	0	0	5	0	0	114
Total Hourly Volume [veh/h]	3	452	73	201	542	0	3	3	4	151	2	114
Peak Hour Factor	0.8700	0.8700	0.8700	0.9000	0.9000	0.9000	0.7500	0.7500	0.7500	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	130	21	56	151	0	1	1	1	41	1	31
Total Analysis Volume [veh/h]	3	520	84	223	602	0	4	4	5	164	2	124
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	15	0	8	15	0	0	8	0	0	8	0
Maximum Green [s]	0	40	0	30	40	0	0	20	0	0	20	0
Amber [s]	0.0	4.0	0.0	3.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
All red [s]	0.0	2.0	0.0	1.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Split [s]	0	73	0	24	97	0	0	23	0	0	23	0
Vehicle Extension [s]	0.0	5.0	0.0	3.0	5.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	4.0	0.0	2.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
Minimum Recall		Yes		No	Yes			No			No	
Maximum Recall		No		No	No			No			No	
Pedestrian Recall		No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	40.0	0.0	40.0	40.0	0.0	0.0	40.0	0.0	0.0	40.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	6.00	6.00	6.00	4.00	6.00	6.00	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	4.00	4.00	4.00	2.00	4.00	4.00	4.00	4.00
g_i, Effective Green Time [s]	77	77	77	10	91	17	17	17
g / C, Green / Cycle	0.64	0.64	0.64	0.08	0.76	0.14	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.00	0.28	0.05	0.06	0.32	0.03	0.23	0.08
s, saturation flow rate [veh/h]	817	1870	1589	3459	1870	445	707	1589
c, Capacity [veh/h]	473	1196	1017	294	1418	102	160	225
d1, Uniform Delay [s]	14.75	10.78	8.22	53.66	5.17	45.18	54.66	47.91
k, delay calibration	0.50	0.50	0.50	0.11	0.50	0.11	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.02	1.15	0.16	3.98	0.93	0.55	81.53	2.09
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.01	0.43	0.08	0.76	0.42	0.13	1.04	0.55
d, Delay for Lane Group [s/veh]	14.78	11.93	8.38	57.64	6.11	45.73	136.20	50.00
Lane Group LOS	B	B	A	E	A	D	F	D
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.04	6.95	0.85	3.45	4.96	0.35	8.49	3.59
50th-Percentile Queue Length [ft/ln]	1.10	173.70	21.33	86.34	123.99	8.81	212.27	89.74
95th-Percentile Queue Length [veh/ln]	0.08	11.27	1.54	6.22	8.61	0.63	13.49	6.46
95th-Percentile Queue Length [ft/ln]	1.99	281.78	38.40	155.41	215.29	15.86	337.24	161.54

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	14.78	11.93	8.38	57.64	6.11	6.11	45.73	45.73	45.73	136.20	136.20	50.00
Movement LOS	B	B	A	E	A	A	D	D	D	F	F	D
d_A, Approach Delay [s/veh]	11.46			20.04			45.73			99.34		
Approach LOS	B			C			D			F		
d_I, Intersection Delay [s/veh]	30.48											
Intersection LOS	C											
Intersection V/C	0.577											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1117	1517	283	283
d_b, Bicycle Delay [s]	11.69	3.50	44.19	44.19
l_b,int, Bicycle LOS Score for Intersection	2.682	2.921	1.589	2.226
Bicycle LOS	B	C	A	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 3: Pine Street / East Street

Control Type:	Two-way stop	Delay (sec / veh):	12.3
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.012

Intersection Setup

Name	East Street		Pine Street		Pine Street	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	East Street		Pine Street		Pine Street	
Base Volume Input [veh/h]	4	8	252	6	9	233
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	8	252	6	9	233
Peak Hour Factor	0.7000	0.7000	0.8000	0.8000	0.8000	0.8000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	3	79	2	3	73
Total Analysis Volume [veh/h]	6	11	315	8	11	291
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	12.27	9.34	0.00	0.00	7.93	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.08	0.08	0.00	0.00	0.02	0.02
95th-Percentile Queue Length [ft/ln]	1.90	1.90	0.00	0.00	0.46	0.46
d_A, Approach Delay [s/veh]	10.38		0.00		0.29	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.41					
Intersection LOS	B					

East Street Village TIS

Vistro File: C:\...\pm.vistro
Report File: C:\...\2023 PM.pdf

Scenario 1 1 2023 PM
6/1/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	SH 42 / Pine Street	Signalized	HCM 7th Edition	EB Left	0.552	21.6	C
2	SH 42 / Lock Street	Signalized	HCM 7th Edition	WB Left	0.660	31.8	C
3	Pine Street / East Street	Two-way stop	HCM 7th Edition	NB Left	0.016	12.7	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: SH 42 / Pine Street

Control Type:	Signalized	Delay (sec / veh):	21.6
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.552

Intersection Setup

Name	SH 42			SH 42			Pine Street			Empire Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	300.00	100.00	100.00	100.00	100.00	135.00	100.00	100.00	50.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	SH 42			SH 42			Pine Street			Empire Road		
Base Volume Input [veh/h]	107	648	0	4	611	166	170	10	91	3	21	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	83	0	0	46	0	0	25
Total Hourly Volume [veh/h]	107	648	0	4	611	83	170	10	45	3	21	25
Peak Hour Factor	0.9300	0.9300	0.9300	0.8800	0.8800	0.8800	0.7900	0.7900	0.7900	0.8100	0.8100	0.8100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	174	0	1	174	24	54	3	14	1	6	8
Total Analysis Volume [veh/h]	115	697	0	5	694	94	215	13	57	4	26	31
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	35	0	0	35	0	0	10	0	0	10	0
Maximum Green [s]	12	35	0	0	35	0	0	30	0	0	30	0
Amber [s]	3.0	4.0	0.0	0.0	4.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	20	76	0	0	56	0	0	29	0	0	15	0
Vehicle Extension [s]	3.0	6.0	0.0	0.0	6.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	2.0	3.0	0.0	0.0	3.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	Yes			Yes			No			No	
Maximum Recall	No	No			No			No			No	
Pedestrian Recall	No	No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	40.0	40.0	0.0	0.0	40.0	0.0	0.0	40.0	0.0	0.0	40.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	R	L	C	R	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.00	3.00	3.00	3.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	81	81	72	72	72	17	17	17	9
g / C, Green / Cycle	0.68	0.68	0.60	0.60	0.60	0.14	0.14	0.14	0.07
(v / s)_i Volume / Saturation Flow Rate	0.15	0.37	0.01	0.37	0.06	0.12	0.01	0.04	0.04
s, saturation flow rate [veh/h]	781	1870	748	1870	1589	1781	1870	1589	1711
c, Capacity [veh/h]	448	1263	346	1124	955	255	268	227	125
d1, Uniform Delay [s]	11.11	10.07	23.00	15.19	10.16	50.12	44.38	45.71	53.46
k, delay calibration	0.49	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.34	1.74	0.08	2.55	0.21	7.46	0.07	0.57	2.92
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.26	0.55	0.01	0.62	0.10	0.84	0.05	0.25	0.49
d, Delay for Lane Group [s/veh]	12.45	11.81	23.07	17.74	10.36	57.58	44.45	46.28	56.38
Lane Group LOS	B	B	C	B	B	E	D	D	E
Critical Lane Group	Yes	No	No	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.14	9.41	0.10	12.27	1.09	6.81	0.34	1.55	1.87
50th-Percentile Queue Length [ft/ln]	28.51	235.22	2.41	306.69	27.33	170.22	8.54	38.87	46.86
95th-Percentile Queue Length [veh/ln]	2.05	14.44	0.17	18.01	1.97	11.09	0.62	2.80	3.37
95th-Percentile Queue Length [ft/ln]	51.32	360.98	4.33	450.30	49.19	277.20	15.38	69.96	84.34

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	12.45	11.81	11.81	23.07	17.74	10.36	57.58	44.45	46.28	56.38	56.38	56.38
Movement LOS	B	B	B	C	B	B	E	D	D	E	E	E
d_A, Approach Delay [s/veh]	11.90			16.90			54.72			56.38		
Approach LOS	B			B			D			E		
d_I, Intersection Delay [s/veh]	21.58											
Intersection LOS	C											
Intersection V/C	0.552											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1183	850	417	183
d_b, Bicycle Delay [s]	10.01	19.84	37.61	49.51
l_b,int, Bicycle LOS Score for Intersection	2.899	3.005	2.106	1.702
Bicycle LOS	C	C	B	A

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: SH 42 / Lock Street

Control Type:	Signalized	Delay (sec / veh):	31.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.660

Intersection Setup

Name	96th Street			SH 42			Lock Street			SH 42		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	2	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	400.00	540.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	600.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	540.00	0.00	0.00	0.00	0.00	0.00	150.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	96th Street			SH 42			Lock Street			SH 42		
Base Volume Input [veh/h]	16	570	151	175	506	3	3	2	8	155	4	207
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	76	0	0	2	0	0	4	0	0	104
Total Hourly Volume [veh/h]	16	570	75	175	506	1	3	2	4	155	4	103
Peak Hour Factor	0.8900	0.8900	0.8900	0.9200	0.9200	0.9200	0.6700	0.6700	0.6700	0.8800	0.8800	0.8800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	160	21	48	138	0	1	1	1	44	1	29
Total Analysis Volume [veh/h]	18	640	84	190	550	1	4	3	6	176	5	117
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	15	0	8	15	0	0	8	0	0	8	0
Maximum Green [s]	0	40	0	30	40	0	0	20	0	0	20	0
Amber [s]	0.0	4.0	0.0	3.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
All red [s]	0.0	2.0	0.0	1.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Split [s]	0	73	0	22	95	0	0	25	0	0	25	0
Vehicle Extension [s]	0.0	5.0	0.0	3.0	5.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	4.0	0.0	2.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
Minimum Recall		Yes		No	Yes			No			No	
Maximum Recall		No		No	No			No			No	
Pedestrian Recall		No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	40.0	0.0	40.0	40.0	0.0	0.0	40.0	0.0	0.0	40.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	6.00	6.00	6.00	4.00	6.00	6.00	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	4.00	4.00	4.00	2.00	4.00	4.00	4.00	4.00
g_i, Effective Green Time [s]	76	76	76	9	89	19	19	19
g / C, Green / Cycle	0.63	0.63	0.63	0.07	0.74	0.16	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.02	0.34	0.05	0.05	0.29	0.03	0.26	0.07
s, saturation flow rate [veh/h]	857	1870	1589	3459	1869	399	688	1589
c, Capacity [veh/h]	493	1185	1007	258	1386	102	168	252
d1, Uniform Delay [s]	14.95	12.24	8.50	54.34	5.68	43.70	53.85	45.86
k, delay calibration	0.50	0.50	0.50	0.11	0.50	0.11	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.14	1.77	0.16	4.06	0.85	0.55	91.24	1.33
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.04	0.54	0.08	0.74	0.40	0.13	1.08	0.46
d, Delay for Lane Group [s/veh]	15.09	14.01	8.66	58.40	6.53	44.25	145.09	47.19
Lane Group LOS	B	B	A	E	A	D	F	D
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.27	9.65	0.87	2.96	4.80	0.35	9.38	3.27
50th-Percentile Queue Length [ft/ln]	6.71	241.24	21.80	73.90	120.06	8.63	234.50	81.79
95th-Percentile Queue Length [veh/ln]	0.48	14.74	1.57	5.32	8.40	0.62	14.89	5.89
95th-Percentile Queue Length [ft/ln]	12.08	368.60	39.24	133.03	209.91	15.54	372.30	147.22

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	15.09	14.01	8.66	58.40	6.53	6.53	44.25	44.25	44.25	145.09	145.09	47.19
Movement LOS	B	B	A	E	A	A	D	D	D	F	F	D
d_A, Approach Delay [s/veh]	13.43			19.83			44.25			106.65		
Approach LOS	B			B			D			F		
d_I, Intersection Delay [s/veh]	31.78											
Intersection LOS	C											
Intersection V/C	0.660											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1117	1484	317	317
d_b, Bicycle Delay [s]	11.69	4.00	42.49	42.49
l_b,int, Bicycle LOS Score for Intersection	2.909	2.786	1.588	2.223
Bicycle LOS	C	C	A	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 3: Pine Street / East Street

Control Type:	Two-way stop	Delay (sec / veh):	12.7
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.016

Intersection Setup

Name	East Street		Pine Street		Pine Street	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	East Street		Pine Street		Pine Street	
Base Volume Input [veh/h]	6	28	239	14	24	272
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	28	239	14	24	272
Peak Hour Factor	0.7900	0.7900	0.8300	0.8300	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	9	72	4	7	76
Total Analysis Volume [veh/h]	8	35	288	17	27	302
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.04	0.00	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	12.69	9.44	0.00	0.00	7.90	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.18	0.18	0.00	0.00	0.05	0.05
95th-Percentile Queue Length [ft/ln]	4.51	4.51	0.00	0.00	1.14	1.14
d_A, Approach Delay [s/veh]	10.05		0.00		0.65	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.95					
Intersection LOS	B					

Year 2025 Traffic Volume Scenarios

East Street Village TIS

Vistro File: C:\...\AM.vistro
Report File: C:\...\2025 Back AM.pdf

Scenario 2 2025 Back AM
6/1/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	SH 42 / Pine Street	Signalized	HCM 7th Edition	EB Left	0.519	19.7	B
2	SH 42 / Lock Street	Signalized	HCM 7th Edition	WB Left	0.588	31.1	C
3	Pine Street / East Street	Two-way stop	HCM 7th Edition	NB Left	0.012	12.3	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: SH 42 / Pine Street

Control Type:	Signalized	Delay (sec / veh):	19.7
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.519

Intersection Setup

Name	SH 42			SH 42			Pine Street			Empire Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	300.00	100.00	100.00	100.00	100.00	135.00	100.00	100.00	50.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	SH 42			SH 42			Pine Street			Empire Road		
Base Volume Input [veh/h]	82	588	6	11	662	150	155	13	89	1	10	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0200	1.0000	1.0000	1.0200	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	3	0	0	75	0	0	45	0	0	7
Total Hourly Volume [veh/h]	82	600	3	11	675	75	155	13	44	1	10	7
Peak Hour Factor	0.9100	0.9100	0.9100	0.9500	0.9500	0.9500	0.8200	0.8200	0.8200	0.6900	0.6900	0.6900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	165	1	3	178	20	47	4	13	0	4	3
Total Analysis Volume [veh/h]	90	659	3	12	711	79	189	16	54	1	14	10
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	35	0	0	35	0	0	10	0	0	15	0
Maximum Green [s]	12	35	0	0	35	0	0	30	0	0	30	0
Amber [s]	3.0	4.0	0.0	0.0	4.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	17	85	0	0	68	0	0	20	0	0	15	0
Vehicle Extension [s]	3.0	6.0	0.0	0.0	6.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	2.0	3.0	0.0	0.0	3.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	Yes			Yes			No			No	
Maximum Recall	No	No			No			No			No	
Pedestrian Recall	No	No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	40.0	40.0	0.0	0.0	40.0	0.0	0.0	40.0	0.0	0.0	40.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	R	L	C	R	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.00	3.00	3.00	3.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	83	83	74	74	74	15	15	15	9
g / C, Green / Cycle	0.69	0.69	0.62	0.62	0.62	0.13	0.13	0.13	0.07
(v / s)_i Volume / Saturation Flow Rate	0.12	0.35	0.02	0.38	0.05	0.11	0.01	0.03	0.01
s, saturation flow rate [veh/h]	775	1868	773	1870	1589	1781	1870	1589	1743
c, Capacity [veh/h]	460	1294	389	1158	984	228	239	203	125
d1, Uniform Delay [s]	10.07	8.79	20.09	14.03	9.15	51.07	46.04	47.25	52.50
k, delay calibration	0.44	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.85	1.45	0.15	2.44	0.16	7.60	0.12	0.69	0.78
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.20	0.51	0.03	0.61	0.08	0.83	0.07	0.27	0.20
d, Delay for Lane Group [s/veh]	10.91	10.24	20.24	16.47	9.31	58.67	46.16	47.95	53.28
Lane Group LOS	B	B	C	B	A	E	D	D	D
Critical Lane Group	Yes	No	No	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.80	8.06	0.21	12.01	0.86	6.02	0.43	1.50	0.74
50th-Percentile Queue Length [ft/ln]	20.12	201.44	5.35	300.27	21.43	150.48	10.76	37.58	18.48
95th-Percentile Queue Length [veh/ln]	1.45	12.71	0.38	17.69	1.54	10.04	0.77	2.71	1.33
95th-Percentile Queue Length [ft/ln]	36.21	317.82	9.62	442.37	38.57	251.08	19.37	67.65	33.27

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.91	10.24	10.24	20.24	16.47	9.31	58.67	46.16	47.95	53.28	53.28	53.28
Movement LOS	B	B	B	C	B	A	E	D	D	D	D	D
d_A, Approach Delay [s/veh]	10.32			15.82			55.66			53.28		
Approach LOS	B			B			E			D		
d_I, Intersection Delay [s/veh]	19.69											
Intersection LOS	B											
Intersection V/C	0.519											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1333	1050	267	250
d_b, Bicycle Delay [s]	6.67	13.54	45.07	45.94
l_b,int, Bicycle LOS Score for Intersection	2.805	3.007	2.061	1.612
Bicycle LOS	C	C	B	A

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: SH 42 / Lock Street

Control Type:	Signalized	Delay (sec / veh):	31.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.588

Intersection Setup

Name	96th Street			SH 42			Lock Street			SH 42		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	2	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	400.00	540.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	600.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	540.00	0.00	0.00	0.00	0.00	0.00	150.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	96th Street			SH 42			Lock Street			SH 42		
Base Volume Input [veh/h]	3	452	146	201	542	0	3	3	9	151	2	228
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0200	1.0200	1.0200	1.0200	1.0000	1.0000	1.0000	1.0000	1.0200	1.0000	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	75	0	0	0	0	0	5	0	0	117
Total Hourly Volume [veh/h]	3	461	74	205	553	0	3	3	4	154	2	116
Peak Hour Factor	0.8700	0.8700	0.8700	0.9000	0.9000	0.9000	0.7500	0.7500	0.7500	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	132	21	57	154	0	1	1	1	42	1	32
Total Analysis Volume [veh/h]	3	530	85	228	614	0	4	4	5	167	2	126
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	15	0	8	15	0	0	8	0	0	8	0
Maximum Green [s]	0	40	0	30	40	0	0	20	0	0	20	0
Amber [s]	0.0	4.0	0.0	3.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
All red [s]	0.0	2.0	0.0	1.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Split [s]	0	73	0	24	97	0	0	23	0	0	23	0
Vehicle Extension [s]	0.0	5.0	0.0	3.0	5.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	4.0	0.0	2.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
Minimum Recall		Yes		No	Yes			No			No	
Maximum Recall		No		No	No			No			No	
Pedestrian Recall		No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	40.0	0.0	40.0	40.0	0.0	0.0	40.0	0.0	0.0	40.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	6.00	6.00	6.00	4.00	6.00	6.00	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	4.00	4.00	4.00	2.00	4.00	4.00	4.00	4.00
g_i, Effective Green Time [s]	77	77	77	10	91	17	17	17
g / C, Green / Cycle	0.64	0.64	0.64	0.09	0.76	0.14	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.00	0.28	0.05	0.07	0.33	0.03	0.24	0.08
s, saturation flow rate [veh/h]	808	1870	1589	3459	1870	445	707	1589
c, Capacity [veh/h]	464	1193	1014	300	1418	102	160	225
d1, Uniform Delay [s]	15.05	10.95	8.29	53.56	5.22	45.18	54.66	47.98
k, delay calibration	0.50	0.50	0.50	0.11	0.50	0.11	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.03	1.20	0.16	3.99	0.97	0.55	87.06	2.16
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.01	0.44	0.08	0.76	0.43	0.13	1.06	0.56
d, Delay for Lane Group [s/veh]	15.08	12.15	8.46	57.55	6.19	45.73	141.72	50.14
Lane Group LOS	B	B	A	E	A	D	F	D
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.04	7.18	0.87	3.53	5.11	0.35	8.74	3.66
50th-Percentile Queue Length [ft/ln]	1.12	179.41	21.72	88.24	127.72	8.81	218.38	91.38
95th-Percentile Queue Length [veh/ln]	0.08	11.57	1.56	6.35	8.82	0.63	13.92	6.58
95th-Percentile Queue Length [ft/ln]	2.01	289.24	39.09	158.82	220.39	15.86	347.88	164.48

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	15.08	12.15	8.46	57.55	6.19	6.19	45.73	45.73	45.73	141.72	141.72	50.14
Movement LOS	B	B	A	E	A	A	D	D	D	F	F	D
d_A, Approach Delay [s/veh]	11.66			20.10			45.73			102.61		
Approach LOS	B			C			D			F		
d_I, Intersection Delay [s/veh]	31.10											
Intersection LOS	C											
Intersection V/C	0.588											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1117	1517	283	283
d_b, Bicycle Delay [s]	11.69	3.50	44.19	44.19
l_b,int, Bicycle LOS Score for Intersection	2.703	2.949	1.589	2.239
Bicycle LOS	B	C	A	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 3: Pine Street / East Street

Control Type:	Two-way stop	Delay (sec / veh):	12.3
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.012

Intersection Setup

Name	East Street		Pine Street		Pine Street	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	East Street		Pine Street		Pine Street	
Base Volume Input [veh/h]	4	8	252	6	9	233
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	8	252	6	9	233
Peak Hour Factor	0.7000	0.7000	0.8000	0.8000	0.8000	0.8000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	3	79	2	3	73
Total Analysis Volume [veh/h]	6	11	315	8	11	291
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	12.27	9.34	0.00	0.00	7.93	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.08	0.08	0.00	0.00	0.02	0.02
95th-Percentile Queue Length [ft/ln]	1.90	1.90	0.00	0.00	0.46	0.46
d_A, Approach Delay [s/veh]	10.38		0.00		0.29	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.41					
Intersection LOS	B					

East Street Village TIS

Vistro File: C:\...\pm.vistro
Report File: C:\...\2025 Back PM.pdf

Scenario 2 2025 Back PM
6/1/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	SH 42 / Pine Street	Signalized	HCM 7th Edition	EB Left	0.560	21.7	C
2	SH 42 / Lock Street	Signalized	HCM 7th Edition	WB Left	0.675	32.7	C
3	Pine Street / East Street	Two-way stop	HCM 7th Edition	NB Left	0.016	12.7	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: SH 42 / Pine Street

Control Type:	Signalized	Delay (sec / veh):	21.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.560

Intersection Setup

Name	SH 42			SH 42			Pine Street			Empire Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	300.00	100.00	100.00	100.00	100.00	135.00	100.00	100.00	50.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	SH 42			SH 42			Pine Street			Empire Road		
Base Volume Input [veh/h]	107	648	0	4	611	166	170	10	91	3	21	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0200	1.0000	1.0000	1.0200	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	83	0	0	46	0	0	25
Total Hourly Volume [veh/h]	107	661	0	4	623	83	170	10	45	3	21	25
Peak Hour Factor	0.9300	0.9300	0.9300	0.8800	0.8800	0.8800	0.7900	0.7900	0.7900	0.8100	0.8100	0.8100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	178	0	1	177	24	54	3	14	1	6	8
Total Analysis Volume [veh/h]	115	711	0	5	708	94	215	13	57	4	26	31
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	35	0	0	35	0	0	10	0	0	10	0
Maximum Green [s]	12	35	0	0	35	0	0	30	0	0	30	0
Amber [s]	3.0	4.0	0.0	0.0	4.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	20	76	0	0	56	0	0	29	0	0	15	0
Vehicle Extension [s]	3.0	6.0	0.0	0.0	6.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	2.0	3.0	0.0	0.0	3.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	Yes			Yes			No			No	
Maximum Recall	No	No			No			No			No	
Pedestrian Recall	No	No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	40.0	40.0	0.0	0.0	40.0	0.0	0.0	40.0	0.0	0.0	40.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	R	L	C	R	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.00	3.00	3.00	3.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	81	81	72	72	72	17	17	17	9
g / C, Green / Cycle	0.68	0.68	0.60	0.60	0.60	0.14	0.14	0.14	0.07
(v / s)_i Volume / Saturation Flow Rate	0.15	0.38	0.01	0.38	0.06	0.12	0.01	0.04	0.04
s, saturation flow rate [veh/h]	773	1870	738	1870	1589	1781	1870	1589	1711
c, Capacity [veh/h]	440	1263	338	1124	955	255	268	227	125
d1, Uniform Delay [s]	11.40	10.20	23.48	15.38	10.16	50.12	44.38	45.71	53.46
k, delay calibration	0.49	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.43	1.82	0.08	2.68	0.21	7.46	0.07	0.57	2.92
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.26	0.56	0.01	0.63	0.10	0.84	0.05	0.25	0.49
d, Delay for Lane Group [s/veh]	12.83	12.01	23.56	18.06	10.36	57.58	44.45	46.28	56.38
Lane Group LOS	B	B	C	B	B	E	D	D	E
Critical Lane Group	Yes	No	No	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.15	9.72	0.10	12.68	1.09	6.81	0.34	1.55	1.87
50th-Percentile Queue Length [ft/ln]	28.69	243.04	2.44	317.06	27.33	170.22	8.54	38.87	46.86
95th-Percentile Queue Length [veh/ln]	2.07	14.83	0.18	18.52	1.97	11.09	0.62	2.80	3.37
95th-Percentile Queue Length [ft/ln]	51.64	370.87	4.39	463.07	49.19	277.20	15.38	69.96	84.34

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	12.83	12.01	12.01	23.56	18.06	10.36	57.58	44.45	46.28	56.38	56.38	56.38
Movement LOS	B	B	B	C	B	B	E	D	D	E	E	E
d_A, Approach Delay [s/veh]	12.13			17.20			54.72			56.38		
Approach LOS	B			B			D			E		
d_I, Intersection Delay [s/veh]	21.69											
Intersection LOS	C											
Intersection V/C	0.560											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1183	850	417	183
d_b, Bicycle Delay [s]	10.01	19.84	37.61	49.51
l_b,int, Bicycle LOS Score for Intersection	2.923	3.028	2.106	1.702
Bicycle LOS	C	C	B	A

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: SH 42 / Lock Street

Control Type:	Signalized	Delay (sec / veh):	32.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.675

Intersection Setup

Name	96th Street			SH 42			Lock Street			SH 42		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	2	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	400.00	540.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	600.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	540.00	0.00	0.00	0.00	0.00	0.00	150.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	96th Street			SH 42			Lock Street			SH 42		
Base Volume Input [veh/h]	16	570	151	175	506	3	3	2	8	155	4	207
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0200	1.0200	1.0200	1.0200	1.0000	1.0000	1.0000	1.0000	1.0200	1.0000	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	77	0	0	2	0	0	4	0	0	106
Total Hourly Volume [veh/h]	16	581	77	179	516	1	3	2	4	158	4	105
Peak Hour Factor	0.8900	0.8900	0.8900	0.9200	0.9200	0.9200	0.6700	0.6700	0.6700	0.8800	0.8800	0.8800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	163	22	49	140	0	1	1	1	45	1	30
Total Analysis Volume [veh/h]	18	653	87	195	561	1	4	3	6	180	5	119
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	15	0	8	15	0	0	8	0	0	8	0
Maximum Green [s]	0	40	0	30	40	0	0	20	0	0	20	0
Amber [s]	0.0	4.0	0.0	3.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
All red [s]	0.0	2.0	0.0	1.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Split [s]	0	73	0	22	95	0	0	25	0	0	25	0
Vehicle Extension [s]	0.0	5.0	0.0	3.0	5.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	4.0	0.0	2.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
Minimum Recall		Yes		No	Yes			No			No	
Maximum Recall		No		No	No			No			No	
Pedestrian Recall		No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	40.0	0.0	40.0	40.0	0.0	0.0	40.0	0.0	0.0	40.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	6.00	6.00	6.00	4.00	6.00	6.00	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	4.00	4.00	4.00	2.00	4.00	4.00	4.00	4.00
g_i, Effective Green Time [s]	76	76	76	9	89	19	19	19
g / C, Green / Cycle	0.63	0.63	0.63	0.08	0.74	0.16	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.02	0.35	0.05	0.06	0.30	0.03	0.27	0.07
s, saturation flow rate [veh/h]	848	1870	1589	3459	1869	399	688	1589
c, Capacity [veh/h]	485	1182	1005	263	1386	102	168	252
d1, Uniform Delay [s]	15.24	12.47	8.59	54.24	5.73	43.70	53.85	45.92
k, delay calibration	0.50	0.50	0.50	0.11	0.50	0.11	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.14	1.86	0.17	4.07	0.88	0.55	98.88	1.38
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.04	0.55	0.09	0.74	0.41	0.13	1.10	0.47
d, Delay for Lane Group [s/veh]	15.38	14.34	8.76	58.31	6.61	44.25	152.73	47.30
Lane Group LOS	B	B	A	E	A	D	F	D
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.27	10.01	0.91	3.03	4.94	0.35	9.73	3.33
50th-Percentile Queue Length [ft/ln]	6.79	250.32	22.74	75.81	123.53	8.63	243.35	83.33
95th-Percentile Queue Length [veh/ln]	0.49	15.20	1.64	5.46	8.59	0.62	15.50	6.00
95th-Percentile Queue Length [ft/ln]	12.23	380.05	40.94	136.47	214.67	15.54	387.58	149.99

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	15.38	14.34	8.76	58.31	6.61	6.61	44.25	44.25	44.25	152.73	152.73	47.30
Movement LOS	B	B	A	E	A	A	D	D	D	F	F	D
d_A, Approach Delay [s/veh]	13.72			19.93			44.25			111.46		
Approach LOS	B			B			D			F		
d_I, Intersection Delay [s/veh]	32.72											
Intersection LOS	C											
Intersection V/C	0.675											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1117	1484	317	317
d_b, Bicycle Delay [s]	11.69	4.00	42.49	42.49
l_b,int, Bicycle LOS Score for Intersection	2.937	2.812	1.588	2.236
Bicycle LOS	C	C	A	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 3: Pine Street / East Street

Control Type:	Two-way stop	Delay (sec / veh):	12.7
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.016

Intersection Setup

Name	East Street		Pine Street		Pine Street	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	East Street		Pine Street		Pine Street	
Base Volume Input [veh/h]	6	28	239	14	24	272
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	28	239	14	24	272
Peak Hour Factor	0.7900	0.7900	0.8300	0.8300	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	9	72	4	7	76
Total Analysis Volume [veh/h]	8	35	288	17	27	302
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.04	0.00	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	12.69	9.44	0.00	0.00	7.90	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.18	0.18	0.00	0.00	0.05	0.05
95th-Percentile Queue Length [ft/ln]	4.51	4.51	0.00	0.00	1.14	1.14
d_A, Approach Delay [s/veh]	10.05		0.00		0.65	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.95					
Intersection LOS	B					

East Street Village TIS

Vistro File: C:\...\AM.vistro
Report File: C:\...\2025 Total AM - Scenario 1.pdf

Scenario 3 2025 Total AM - Scenario 1
6/1/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	SH 42 / Pine Street	Signalized	HCM 7th Edition	EB Left	0.521	19.8	B
2	SH 42 / Lock Street	Signalized	HCM 7th Edition	WB Left	0.584	30.9	C
3	Pine Street / East Street	Two-way stop	HCM 7th Edition	NB Left	0.018	12.4	B
4	East Street / North Access	Two-way stop	HCM 7th Edition	EB Left	0.002	8.7	A
5	East Street / South Access	Two-way stop	HCM 7th Edition	EB Left	0.002	8.8	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: SH 42 / Pine Street

Control Type:	Signalized	Delay (sec / veh):	19.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.521

Intersection Setup

Name	SH 42			SH 42			Pine Street			Empire Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	300.00	100.00	100.00	100.00	100.00	135.00	100.00	100.00	50.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	SH 42			SH 42			Pine Street			Empire Road		
Base Volume Input [veh/h]	82	588	6	11	662	150	155	13	89	1	10	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0200	1.0000	1.0000	1.0200	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	3	0	0	1	1	2	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	3	0	0	76	0	0	45	0	0	7
Total Hourly Volume [veh/h]	82	603	3	11	676	75	157	13	44	1	10	7
Peak Hour Factor	0.9100	0.9100	0.9100	0.9500	0.9500	0.9500	0.8200	0.8200	0.8200	0.6900	0.6900	0.6900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	166	1	3	178	20	48	4	13	0	4	3
Total Analysis Volume [veh/h]	90	663	3	12	712	79	191	16	54	1	14	10
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	35	0	0	35	0	0	10	0	0	15	0
Maximum Green [s]	12	35	0	0	35	0	0	30	0	0	30	0
Amber [s]	3.0	4.0	0.0	0.0	4.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	17	85	0	0	68	0	0	20	0	0	15	0
Vehicle Extension [s]	3.0	6.0	0.0	0.0	6.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	3.0	0.0	0.0	3.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	Yes			Yes			No			No	
Maximum Recall	No	No			No			No			No	
Pedestrian Recall	No	No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	40.0	40.0	0.0	0.0	40.0	0.0	0.0	40.0	0.0	0.0	40.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	R	L	C	R	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.00	3.00	3.00	3.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	83	83	74	74	74	15	15	15	9
g / C, Green / Cycle	0.69	0.69	0.62	0.62	0.62	0.13	0.13	0.13	0.07
(v / s)_i Volume / Saturation Flow Rate	0.12	0.36	0.02	0.38	0.05	0.11	0.01	0.03	0.01
s, saturation flow rate [veh/h]	775	1868	770	1870	1589	1781	1870	1589	1743
c, Capacity [veh/h]	458	1292	385	1156	983	230	241	205	125
d1, Uniform Delay [s]	10.15	8.89	20.33	14.13	9.21	51.00	45.92	47.13	52.50
k, delay calibration	0.44	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.85	1.47	0.15	2.46	0.16	7.60	0.11	0.68	0.78
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.20	0.52	0.03	0.62	0.08	0.83	0.07	0.26	0.20
d, Delay for Lane Group [s/veh]	11.01	10.36	20.48	16.59	9.37	58.60	46.04	47.81	53.28
Lane Group LOS	B	B	C	B	A	E	D	D	D
Critical Lane Group	Yes	No	No	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.81	8.18	0.22	12.09	0.86	6.08	0.43	1.50	0.74
50th-Percentile Queue Length [ft/ln]	20.23	204.39	5.38	302.17	21.51	152.03	10.75	37.52	18.48
95th-Percentile Queue Length [veh/ln]	1.46	12.87	0.39	17.79	1.55	10.13	0.77	2.70	1.33
95th-Percentile Queue Length [ft/ln]	36.41	321.63	9.69	444.71	38.72	253.14	19.34	67.53	33.27

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	11.01	10.36	10.36	20.48	16.59	9.37	58.60	46.04	47.81	53.28	53.28	53.28
Movement LOS	B	B	B	C	B	A	E	D	D	D	D	D
d_A, Approach Delay [s/veh]	10.44			15.94			55.60			53.28		
Approach LOS	B			B			E			D		
d_I, Intersection Delay [s/veh]	19.80											
Intersection LOS	B											
Intersection V/C	0.521											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1333	1050	267	250
d_b, Bicycle Delay [s]	6.67	13.54	45.07	45.94
l_b,int, Bicycle LOS Score for Intersection	2.812	3.010	2.065	1.612
Bicycle LOS	C	C	B	A

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: SH 42 / Lock Street

Control Type:	Signalized	Delay (sec / veh):	30.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.584

Intersection Setup

Name	96th Street			SH 42			Lock Street			SH 42		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	2	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	400.00	540.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	600.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	540.00	0.00	0.00	0.00	0.00	0.00	150.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	96th Street			SH 42			Lock Street			SH 42		
Base Volume Input [veh/h]	3	452	146	201	542	0	3	3	9	151	2	228
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0200	1.0200	1.0200	1.0200	1.0000	1.0000	1.0000	1.0000	1.0200	1.0000	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	0	0	0	0	1	3	3	5	0	1	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	75	0	0	1	0	0	7	0	0	117
Total Hourly Volume [veh/h]	5	461	74	205	553	0	6	6	7	154	3	116
Peak Hour Factor	0.8700	0.8700	0.8700	0.9000	0.9000	0.9000	0.7500	0.7500	0.7500	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	132	21	57	154	0	2	2	2	42	1	32
Total Analysis Volume [veh/h]	6	530	85	228	614	0	8	8	9	167	3	126
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	15	0	8	15	0	0	8	0	0	8	0
Maximum Green [s]	0	40	0	30	40	0	0	20	0	0	20	0
Amber [s]	0.0	4.0	0.0	3.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
All red [s]	0.0	2.0	0.0	1.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Split [s]	0	73	0	24	97	0	0	23	0	0	23	0
Vehicle Extension [s]	0.0	5.0	0.0	3.0	5.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	4.0	0.0	2.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
Minimum Recall		Yes		No	Yes			No			No	
Maximum Recall		No		No	No			No			No	
Pedestrian Recall		No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	40.0	0.0	40.0	40.0	0.0	0.0	40.0	0.0	0.0	40.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	6.00	6.00	6.00	4.00	6.00	6.00	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	4.00	4.00	4.00	2.00	4.00	4.00	4.00	4.00
g_i, Effective Green Time [s]	77	77	77	10	91	17	17	17
g / C, Green / Cycle	0.64	0.64	0.64	0.09	0.76	0.14	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.01	0.28	0.05	0.07	0.33	0.06	0.23	0.08
s, saturation flow rate [veh/h]	808	1870	1589	3459	1870	425	725	1589
c, Capacity [veh/h]	464	1193	1014	300	1418	100	162	225
d1, Uniform Delay [s]	15.11	10.95	8.29	53.56	5.22	45.50	54.61	47.98
k, delay calibration	0.50	0.50	0.50	0.11	0.50	0.11	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.05	1.20	0.16	3.99	0.97	1.30	83.82	2.16
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.01	0.44	0.08	0.76	0.43	0.25	1.05	0.56
d, Delay for Lane Group [s/veh]	15.16	12.15	8.46	57.55	6.19	46.80	138.43	50.14
Lane Group LOS	B	B	A	E	A	D	F	D
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.09	7.18	0.87	3.53	5.11	0.69	8.72	3.66
50th-Percentile Queue Length [ft/ln]	2.24	179.41	21.72	88.24	127.72	17.20	217.95	91.38
95th-Percentile Queue Length [veh/ln]	0.16	11.57	1.56	6.35	8.82	1.24	13.84	6.58
95th-Percentile Queue Length [ft/ln]	4.04	289.24	39.09	158.82	220.39	30.97	346.03	164.48

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	15.16	12.15	8.46	57.55	6.19	6.19	46.80	46.80	46.80	138.43	138.43	50.14
Movement LOS	B	B	A	E	A	A	D	D	D	F	F	D
d_A, Approach Delay [s/veh]	11.68			20.10			46.80			100.85		
Approach LOS	B			C			D			F		
d_I, Intersection Delay [s/veh]	30.94											
Intersection LOS	C											
Intersection V/C	0.584											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1117	1517	283	283
d_b, Bicycle Delay [s]	11.69	3.50	44.19	44.19
l_b,int, Bicycle LOS Score for Intersection	2.708	2.951	1.612	2.241
Bicycle LOS	B	C	A	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 3: Pine Street / East Street

Control Type:	Two-way stop	Delay (sec / veh):	12.4
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.018

Intersection Setup

Name	East Street		Pine Street		Pine Street	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	East Street		Pine Street		Pine Street	
Base Volume Input [veh/h]	4	8	252	6	9	233
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	2	0	1	1	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	10	252	7	10	233
Peak Hour Factor	0.7000	0.7000	0.8000	0.8000	0.8000	0.8000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	4	79	2	3	73
Total Analysis Volume [veh/h]	9	14	315	9	13	291
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.02	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	12.39	9.41	0.00	0.00	7.94	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.11	0.11	0.00	0.00	0.02	0.02
95th-Percentile Queue Length [ft/ln]	2.67	2.67	0.00	0.00	0.55	0.55
d_A, Approach Delay [s/veh]	10.57		0.00		0.34	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.53					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 4: East Street / North Access

Control Type:	Two-way stop	Delay (sec / veh):	8.7
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

Intersection Setup

Name	East Street		East Street		Site Access	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	East Street		East Street		Site Access	
Base Volume Input [veh/h]	0	12	15	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	2	1	1	2	6
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	14	16	1	2	6
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	4	5	0	1	2
Total Analysis Volume [veh/h]	2	16	19	1	2	7
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	7.26	0.00	0.00	0.00	8.74	8.43
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.08	0.08	0.00	0.00	0.66	0.66
d_A, Approach Delay [s/veh]	0.81		0.00		8.50	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.94					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 5: East Street / South Access

Control Type:	Two-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

Intersection Setup

Name	East Street		East Street		Site Access	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	East Street		East Street		Site Access	
Base Volume Input [veh/h]	0	12	15	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	2	6	1	2	6
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	14	21	1	2	6
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	4	6	0	1	2
Total Analysis Volume [veh/h]	2	16	25	1	2	7
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	7.27	0.00	0.00	0.00	8.77	8.46
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.08	0.08	0.00	0.00	0.66	0.66
d_A, Approach Delay [s/veh]	0.81		0.00		8.53	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.72					
Intersection LOS	A					

East Street Village TIS

Vistro File: C:\...\pm.vistro
Report File: C:\...\2025 Total PM - Scenario 1.pdf

Scenario 3 3 2025 Total PM - Scenario 1
6/1/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	SH 42 / Pine Street	Signalized	HCM 7th Edition	EB Left	0.563	21.9	C
2	SH 42 / Lock Street	Signalized	HCM 7th Edition	WB Left	0.656	31.5	C
3	Pine Street / East Street	Two-way stop	HCM 7th Edition	NB Left	0.019	12.9	B
4	East Street / North Access	Two-way stop	HCM 7th Edition	EB Left	0.001	9.1	A
5	East Street / South Access	Two-way stop	HCM 7th Edition	EB Left	0.001	9.1	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: SH 42 / Pine Street

Control Type:	Signalized	Delay (sec / veh):	21.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.563

Intersection Setup

Name	SH 42			SH 42			Pine Street			Empire Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	300.00	100.00	100.00	100.00	100.00	135.00	100.00	100.00	50.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	SH 42			SH 42			Pine Street			Empire Road		
Base Volume Input [veh/h]	107	648	0	4	611	166	170	10	91	3	21	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0200	1.0000	1.0000	1.0200	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	2	0	0	3	4	2	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	85	0	0	46	0	0	25
Total Hourly Volume [veh/h]	107	663	0	4	626	85	172	10	45	3	21	25
Peak Hour Factor	0.9300	0.9300	0.9300	0.8800	0.8800	0.8800	0.7900	0.7900	0.7900	0.8100	0.8100	0.8100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	178	0	1	178	24	54	3	14	1	6	8
Total Analysis Volume [veh/h]	115	713	0	5	711	97	218	13	57	4	26	31
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	35	0	0	35	0	0	10	0	0	10	0
Maximum Green [s]	12	35	0	0	35	0	0	30	0	0	30	0
Amber [s]	3.0	4.0	0.0	0.0	4.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	20	76	0	0	56	0	0	29	0	0	15	0
Vehicle Extension [s]	3.0	6.0	0.0	0.0	6.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	3.0	0.0	0.0	3.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	Yes			Yes			No			No	
Maximum Recall	No	No			No			No			No	
Pedestrian Recall	No	No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	40.0	40.0	0.0	0.0	40.0	0.0	0.0	40.0	0.0	0.0	40.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	R	L	C	R	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.00	3.00	3.00	3.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	81	81	72	72	72	17	17	17	9
g / C, Green / Cycle	0.67	0.67	0.60	0.60	0.60	0.14	0.14	0.14	0.07
(v / s)_i Volume / Saturation Flow Rate	0.15	0.38	0.01	0.38	0.06	0.12	0.01	0.04	0.04
s, saturation flow rate [veh/h]	770	1870	737	1870	1589	1781	1870	1589	1711
c, Capacity [veh/h]	435	1260	335	1121	952	258	271	230	125
d1, Uniform Delay [s]	11.58	10.32	23.76	15.55	10.26	50.01	44.20	45.52	53.46
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.47	1.84	0.08	2.74	0.21	7.46	0.07	0.56	2.92
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.26	0.57	0.01	0.63	0.10	0.85	0.05	0.25	0.49
d, Delay for Lane Group [s/veh]	13.05	12.17	23.84	18.29	10.48	57.47	44.27	46.08	56.38
Lane Group LOS	B	B	C	B	B	E	D	D	E
Critical Lane Group	Yes	No	No	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.16	9.84	0.10	12.85	1.14	6.90	0.34	1.55	1.87
50th-Percentile Queue Length [ft/ln]	28.95	245.91	2.45	321.13	28.41	172.51	8.52	38.77	46.86
95th-Percentile Queue Length [veh/ln]	2.08	14.98	0.18	18.72	2.05	11.21	0.61	2.79	3.37
95th-Percentile Queue Length [ft/ln]	52.12	374.50	4.42	468.08	51.14	280.22	15.34	69.78	84.34

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	13.05	12.17	12.17	23.84	18.29	10.48	57.47	44.27	46.08	56.38	56.38	56.38
Movement LOS	B	B	B	C	B	B	E	D	D	E	E	E
d_A, Approach Delay [s/veh]	12.29			17.40			54.62			56.38		
Approach LOS	B			B			D			E		
d_I, Intersection Delay [s/veh]	21.85											
Intersection LOS	C											
Intersection V/C	0.563											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1183	850	417	183
d_b, Bicycle Delay [s]	10.01	19.84	37.61	49.51
l_b,int, Bicycle LOS Score for Intersection	2.926	3.041	2.111	1.702
Bicycle LOS	C	C	B	A

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: SH 42 / Lock Street

Control Type:	Signalized	Delay (sec / veh):	31.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.656

Intersection Setup

Name	96th Street			SH 42			Lock Street			SH 42		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	2	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	400.00	540.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	600.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	540.00	0.00	0.00	0.00	0.00	0.00	150.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	96th Street			SH 42			Lock Street			SH 42		
Base Volume Input [veh/h]	16	570	151	175	506	3	3	2	8	155	4	207
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0200	1.0200	1.0200	1.0200	1.0000	1.0000	1.0000	1.0000	1.0200	1.0000	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	0	0	0	0	3	2	2	3	0	4	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	77	0	0	3	0	0	6	0	0	106
Total Hourly Volume [veh/h]	21	581	77	179	516	3	5	4	5	158	8	105
Peak Hour Factor	0.8900	0.8900	0.8900	0.9200	0.9200	0.9200	0.6700	0.6700	0.6700	0.8800	0.8800	0.8800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	163	22	49	140	1	2	1	2	45	2	30
Total Analysis Volume [veh/h]	24	653	87	195	561	3	7	6	7	180	9	119
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	15	0	8	15	0	0	8	0	0	8	0
Maximum Green [s]	0	40	0	30	40	0	0	20	0	0	20	0
Amber [s]	0.0	4.0	0.0	3.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
All red [s]	0.0	2.0	0.0	1.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Split [s]	0	73	0	22	95	0	0	25	0	0	25	0
Vehicle Extension [s]	0.0	5.0	0.0	3.0	5.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	4.0	0.0	2.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
Minimum Recall		Yes		No	Yes			No			No	
Maximum Recall		No		No	No			No			No	
Pedestrian Recall		No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	40.0	0.0	40.0	40.0	0.0	0.0	40.0	0.0	0.0	40.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	6.00	6.00	6.00	4.00	6.00	6.00	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	4.00	4.00	4.00	2.00	4.00	4.00	4.00	4.00
g_i, Effective Green Time [s]	76	76	76	9	89	19	19	19
g / C, Green / Cycle	0.63	0.63	0.63	0.08	0.74	0.16	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.03	0.35	0.05	0.06	0.30	0.06	0.25	0.07
s, saturation flow rate [veh/h]	846	1870	1589	3459	1868	340	755	1589
c, Capacity [veh/h]	484	1182	1005	263	1385	94	178	252
d1, Uniform Delay [s]	15.39	12.47	8.59	54.24	5.74	43.95	53.62	45.92
k, delay calibration	0.50	0.50	0.50	0.11	0.50	0.11	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.19	1.86	0.17	4.07	0.89	1.10	84.54	1.38
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.05	0.55	0.09	0.74	0.41	0.21	1.06	0.47
d, Delay for Lane Group [s/veh]	15.59	14.34	8.76	58.31	6.63	45.05	138.17	47.30
Lane Group LOS	B	B	A	E	A	D	F	D
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.37	10.01	0.91	3.03	4.97	0.54	9.61	3.33
50th-Percentile Queue Length [ft/ln]	9.14	250.32	22.74	75.81	124.21	13.45	240.14	83.33
95th-Percentile Queue Length [veh/ln]	0.66	15.20	1.64	5.46	8.62	0.97	15.09	6.00
95th-Percentile Queue Length [ft/ln]	16.46	380.06	40.94	136.47	215.60	24.21	377.36	149.99

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	15.59	14.34	8.76	58.31	6.63	6.63	45.05	45.05	45.05	138.17	138.17	47.30
Movement LOS	B	B	A	E	A	A	D	D	D	F	F	D
d_A, Approach Delay [s/veh]	13.74			19.90			45.05			103.06		
Approach LOS	B			B			D			F		
d_I, Intersection Delay [s/veh]	31.47											
Intersection LOS	C											
Intersection V/C	0.656											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1117	1484	317	317
d_b, Bicycle Delay [s]	11.69	4.00	42.49	42.49
l_b,int, Bicycle LOS Score for Intersection	2.947	2.817	1.603	2.243
Bicycle LOS	C	C	A	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 3: Pine Street / East Street

Control Type:	Two-way stop	Delay (sec / veh):	12.9
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.019

Intersection Setup

Name	East Street		Pine Street		Pine Street	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	East Street		Pine Street		Pine Street	
Base Volume Input [veh/h]	6	28	239	14	24	272
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	2	0	2	4	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	30	239	16	28	272
Peak Hour Factor	0.7900	0.7900	0.8300	0.8300	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	9	72	5	8	76
Total Analysis Volume [veh/h]	9	38	288	19	31	302
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.04	0.00	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	12.86	9.48	0.00	0.00	7.91	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.20	0.20	0.00	0.00	0.05	0.05
95th-Percentile Queue Length [ft/ln]	5.01	5.01	0.00	0.00	1.31	1.31
d_A, Approach Delay [s/veh]	10.13		0.00		0.74	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	1.05					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 4: East Street / North Access

Control Type:	Two-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name	East Street		East Street		Site Access	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	East Street		East Street		Site Access	
Base Volume Input [veh/h]	0	34	38	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	6	1	3	3	1	4
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	35	41	3	1	4
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	10	12	1	0	1
Total Analysis Volume [veh/h]	7	41	48	4	1	5
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.32	0.00	0.00	0.00	9.07	8.56
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.02	0.02
95th-Percentile Queue Length [ft/ln]	0.29	0.29	0.00	0.00	0.46	0.46
d_A, Approach Delay [s/veh]	1.07		0.00		8.64	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.97					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 5: East Street / South Access

Control Type:	Two-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name	East Street		East Street		Site Access	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	East Street		East Street		Site Access	
Base Volume Input [veh/h]	0	34	36	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	6	6	4	3	1	4
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	40	40	3	1	4
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	12	12	1	0	1
Total Analysis Volume [veh/h]	7	47	47	4	1	5
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.32	0.00	0.00	0.00	9.10	8.55
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.02	0.02
95th-Percentile Queue Length [ft/ln]	0.29	0.29	0.00	0.00	0.46	0.46
d_A, Approach Delay [s/veh]	0.95		0.00		8.64	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.93					
Intersection LOS	A					

East Street Village TIS

Vistro File: C:\...\AM.vistro
Report File: C:\...\2025 Total AM - Scenario 2.pdf

Scenario 4 2025 Total AM - Scenatio 2
6/1/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	SH 42 / Pine Street	Signalized	HCM 7th Edition	EB Left	0.521	19.8	B
2	SH 42 / Lock Street	Signalized	HCM 7th Edition	WB Left	0.578	30.5	C
3	Pine Street / East Street	Two-way stop	HCM 7th Edition	NB Left	0.014	12.4	B
4	East Street / North Access	Two-way stop	HCM 7th Edition	EB Left	0.002	8.7	A
5	East Street / South Access	Two-way stop	HCM 7th Edition	EB Left	0.002	8.7	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: SH 42 / Pine Street

Control Type:	Signalized	Delay (sec / veh):	19.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.521

Intersection Setup

Name	SH 42			SH 42			Pine Street			Empire Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	300.00	100.00	100.00	100.00	100.00	135.00	100.00	100.00	50.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	SH 42			SH 42			Pine Street			Empire Road		
Base Volume Input [veh/h]	82	588	6	11	662	150	155	13	89	1	10	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0200	1.0000	1.0000	1.0200	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	3	0	0	1	1	2	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	3	0	0	76	0	0	45	0	0	7
Total Hourly Volume [veh/h]	82	603	3	11	676	75	157	13	44	1	10	7
Peak Hour Factor	0.9100	0.9100	0.9100	0.9500	0.9500	0.9500	0.8200	0.8200	0.8200	0.6900	0.6900	0.6900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	166	1	3	178	20	48	4	13	0	4	3
Total Analysis Volume [veh/h]	90	663	3	12	712	79	191	16	54	1	14	10
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	35	0	0	35	0	0	10	0	0	15	0
Maximum Green [s]	12	35	0	0	35	0	0	30	0	0	30	0
Amber [s]	3.0	4.0	0.0	0.0	4.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	17	85	0	0	68	0	0	20	0	0	15	0
Vehicle Extension [s]	3.0	6.0	0.0	0.0	6.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	3.0	0.0	0.0	3.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	Yes			Yes			No			No	
Maximum Recall	No	No			No			No			No	
Pedestrian Recall	No	No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	40.0	40.0	0.0	0.0	40.0	0.0	0.0	40.0	0.0	0.0	40.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	R	L	C	R	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.00	3.00	3.00	3.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	83	83	74	74	74	15	15	15	9
g / C, Green / Cycle	0.69	0.69	0.62	0.62	0.62	0.13	0.13	0.13	0.07
(v / s)_i Volume / Saturation Flow Rate	0.12	0.36	0.02	0.38	0.05	0.11	0.01	0.03	0.01
s, saturation flow rate [veh/h]	775	1868	770	1870	1589	1781	1870	1589	1743
c, Capacity [veh/h]	458	1292	385	1156	983	230	241	205	125
d1, Uniform Delay [s]	10.15	8.89	20.33	14.13	9.21	51.00	45.92	47.13	52.50
k, delay calibration	0.44	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.85	1.47	0.15	2.46	0.16	7.60	0.11	0.68	0.78
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.20	0.52	0.03	0.62	0.08	0.83	0.07	0.26	0.20
d, Delay for Lane Group [s/veh]	11.01	10.36	20.48	16.59	9.37	58.60	46.04	47.81	53.28
Lane Group LOS	B	B	C	B	A	E	D	D	D
Critical Lane Group	Yes	No	No	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.81	8.18	0.22	12.09	0.86	6.08	0.43	1.50	0.74
50th-Percentile Queue Length [ft/ln]	20.23	204.39	5.38	302.17	21.51	152.03	10.75	37.52	18.48
95th-Percentile Queue Length [veh/ln]	1.46	12.87	0.39	17.79	1.55	10.13	0.77	2.70	1.33
95th-Percentile Queue Length [ft/ln]	36.41	321.63	9.69	444.71	38.72	253.14	19.34	67.53	33.27

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	11.01	10.36	10.36	20.48	16.59	9.37	58.60	46.04	47.81	53.28	53.28	53.28
Movement LOS	B	B	B	C	B	A	E	D	D	D	D	D
d_A, Approach Delay [s/veh]	10.44			15.94			55.60			53.28		
Approach LOS	B			B			E			D		
d_I, Intersection Delay [s/veh]	19.80											
Intersection LOS	B											
Intersection V/C	0.521											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1333	1050	267	250
d_b, Bicycle Delay [s]	6.67	13.54	45.07	45.94
l_b,int, Bicycle LOS Score for Intersection	2.812	3.010	2.065	1.612
Bicycle LOS	C	C	B	A

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: SH 42 / Lock Street

Control Type:	Signalized	Delay (sec / veh):	30.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.578

Intersection Setup

Name	96th Street			SH 42			Lock Street			SH 42		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	2	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	400.00	540.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	600.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	540.00	0.00	0.00	0.00	0.00	0.00	150.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	96th Street			SH 42			Lock Street			SH 42		
Base Volume Input [veh/h]	3	452	146	201	542	0	3	3	9	151	2	228
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0200	1.0200	1.0200	1.0200	1.0000	1.0000	1.0000	1.0000	1.0200	1.0000	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	0	0	0	0	1	3	3	4	0	1	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	75	0	0	1	0	0	7	0	0	117
Total Hourly Volume [veh/h]	4	461	74	205	553	0	6	6	6	154	3	116
Peak Hour Factor	0.8700	0.8700	0.8700	0.9000	0.9000	0.9000	0.7500	0.7500	0.7500	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	132	21	57	154	0	2	2	2	42	1	32
Total Analysis Volume [veh/h]	5	530	85	228	614	0	8	8	8	167	3	126
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	15	0	8	15	0	0	8	0	0	8	0
Maximum Green [s]	0	40	0	30	40	0	0	20	0	0	20	0
Amber [s]	0.0	4.0	0.0	3.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
All red [s]	0.0	2.0	0.0	1.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Split [s]	0	73	0	24	97	0	0	23	0	0	23	0
Vehicle Extension [s]	0.0	5.0	0.0	3.0	5.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	4.0	0.0	2.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
Minimum Recall		Yes		No	Yes			No			No	
Maximum Recall		No		No	No			No			No	
Pedestrian Recall		No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	40.0	0.0	40.0	40.0	0.0	0.0	40.0	0.0	0.0	40.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	6.00	6.00	6.00	4.00	6.00	6.00	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	4.00	4.00	4.00	2.00	4.00	4.00	4.00	4.00
g_i, Effective Green Time [s]	77	77	77	10	91	17	17	17
g / C, Green / Cycle	0.64	0.64	0.64	0.09	0.76	0.14	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.01	0.28	0.05	0.07	0.33	0.06	0.23	0.08
s, saturation flow rate [veh/h]	808	1870	1589	3459	1870	404	742	1589
c, Capacity [veh/h]	464	1193	1014	300	1418	97	165	225
d1, Uniform Delay [s]	15.09	10.95	8.29	53.56	5.22	45.50	54.56	47.98
k, delay calibration	0.50	0.50	0.50	0.11	0.50	0.11	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.04	1.20	0.16	3.99	0.97	1.30	78.85	2.16
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.01	0.44	0.08	0.76	0.43	0.25	1.03	0.56
d, Delay for Lane Group [s/veh]	15.13	12.15	8.46	57.55	6.19	46.80	133.41	50.14
Lane Group LOS	B	B	A	E	A	D	F	D
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.07	7.18	0.87	3.53	5.11	0.66	8.62	3.66
50th-Percentile Queue Length [ft/ln]	1.87	179.41	21.72	88.24	127.72	16.52	215.53	91.38
95th-Percentile Queue Length [veh/ln]	0.13	11.57	1.56	6.35	8.82	1.19	13.63	6.58
95th-Percentile Queue Length [ft/ln]	3.36	289.24	39.09	158.82	220.39	29.74	340.68	164.48

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	15.13	12.15	8.46	57.55	6.19	6.19	46.80	46.80	46.80	133.41	133.41	50.14
Movement LOS	B	B	A	E	A	A	D	D	D	F	F	D
d_A, Approach Delay [s/veh]	11.67			20.10			46.80			97.96		
Approach LOS	B			C			D			F		
d_I, Intersection Delay [s/veh]	30.46											
Intersection LOS	C											
Intersection V/C	0.578											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1117	1517	283	283
d_b, Bicycle Delay [s]	11.69	3.50	44.19	44.19
l_b,int, Bicycle LOS Score for Intersection	2.706	2.951	1.611	2.241
Bicycle LOS	B	C	A	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 3: Pine Street / East Street

Control Type:	Two-way stop	Delay (sec / veh):	12.4
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.014

Intersection Setup

Name	East Street		Pine Street		Pine Street	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	East Street		Pine Street		Pine Street	
Base Volume Input [veh/h]	4	8	252	6	9	233
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	2	0	0	1	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	10	252	6	10	233
Peak Hour Factor	0.7000	0.7000	0.8000	0.8000	0.8000	0.8000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	4	79	2	3	73
Total Analysis Volume [veh/h]	7	14	315	8	13	291
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.02	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	12.35	9.37	0.00	0.00	7.93	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.09	0.09	0.00	0.00	0.02	0.02
95th-Percentile Queue Length [ft/ln]	2.35	2.35	0.00	0.00	0.55	0.55
d_A, Approach Delay [s/veh]	10.37		0.00		0.34	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.50					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 4: East Street / North Access

Control Type:	Two-way stop	Delay (sec / veh):	8.7
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

Intersection Setup

Name	East Street		East Street		Site Access	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	East Street		East Street		Site Access	
Base Volume Input [veh/h]	0	12	15	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	2	1	1	2	5
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	14	16	1	2	5
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	4	5	0	1	1
Total Analysis Volume [veh/h]	1	16	19	1	2	6
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	7.26	0.00	0.00	0.00	8.72	8.43
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.02	0.02
95th-Percentile Queue Length [ft/ln]	0.04	0.04	0.00	0.00	0.58	0.58
d_A, Approach Delay [s/veh]	0.43		0.00		8.50	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.67					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 5: East Street / South Access

Control Type:	Two-way stop	Delay (sec / veh):	8.7
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

Intersection Setup

Name	East Street		East Street		Site Access	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	East Street		East Street		Site Access	
Base Volume Input [veh/h]	0	12	15	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	1	5	1	2	5
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	13	20	1	2	5
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	4	6	0	1	1
Total Analysis Volume [veh/h]	1	15	24	1	2	6
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	7.27	0.00	0.00	0.00	8.74	8.45
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.02	0.02
95th-Percentile Queue Length [ft/ln]	0.04	0.04	0.00	0.00	0.59	0.59
d_A, Approach Delay [s/veh]	0.45		0.00		8.52	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.54					
Intersection LOS	A					

East Street Village TIS

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Report File: C:\...\2025 Total PM - Scenario 2.pdf

Scenario 4 4 2025 Total PM - Scenatio 2
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Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	SH 42 / Pine Street	Signalized	HCM 7th Edition	EB Left	0.561	21.7	C
2	SH 42 / Lock Street	Signalized	HCM 7th Edition	WB Left	0.655	31.3	C
3	Pine Street / East Street	Two-way stop	HCM 7th Edition	NB Left	0.019	12.8	B
4	East Street / North Access	Two-way stop	HCM 7th Edition	EB Left	0.001	9.0	A
5	East Street / South Access	Two-way stop	HCM 7th Edition	EB Left	0.001	9.1	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: SH 42 / Pine Street

Control Type:	Signalized	Delay (sec / veh):	21.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.561

Intersection Setup

Name	SH 42			SH 42			Pine Street			Empire Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	300.00	100.00	100.00	100.00	100.00	135.00	100.00	100.00	50.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	SH 42			SH 42			Pine Street			Empire Road		
Base Volume Input [veh/h]	107	648	0	4	611	166	170	10	91	3	21	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0200	1.0000	1.0000	1.0200	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	2	0	0	2	4	1	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	85	0	0	46	0	0	25
Total Hourly Volume [veh/h]	107	663	0	4	625	85	171	10	45	3	21	25
Peak Hour Factor	0.9300	0.9300	0.9300	0.8800	0.8800	0.8800	0.7900	0.7900	0.7900	0.8100	0.8100	0.8100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	178	0	1	178	24	54	3	14	1	6	8
Total Analysis Volume [veh/h]	115	713	0	5	710	97	216	13	57	4	26	31
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	35	0	0	35	0	0	10	0	0	10	0
Maximum Green [s]	12	35	0	0	35	0	0	30	0	0	30	0
Amber [s]	3.0	4.0	0.0	0.0	4.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	20	76	0	0	56	0	0	29	0	0	15	0
Vehicle Extension [s]	3.0	6.0	0.0	0.0	6.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	2.0	3.0	0.0	0.0	3.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	Yes			Yes			No			No	
Maximum Recall	No	No			No			No			No	
Pedestrian Recall	No	No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	40.0	40.0	0.0	0.0	40.0	0.0	0.0	40.0	0.0	0.0	40.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	R	L	C	R	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.00	3.00	3.00	3.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	81	81	72	72	72	17	17	17	9
g / C, Green / Cycle	0.68	0.68	0.60	0.60	0.60	0.14	0.14	0.14	0.07
(v / s)_i Volume / Saturation Flow Rate	0.15	0.38	0.01	0.38	0.06	0.12	0.01	0.04	0.04
s, saturation flow rate [veh/h]	770	1870	737	1870	1589	1781	1870	1589	1711
c, Capacity [veh/h]	437	1262	336	1123	954	256	269	228	125
d1, Uniform Delay [s]	11.48	10.25	23.62	15.45	10.21	50.08	44.32	45.65	53.46
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.45	1.83	0.08	2.71	0.21	7.46	0.07	0.57	2.92
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.26	0.56	0.01	0.63	0.10	0.84	0.05	0.25	0.49
d, Delay for Lane Group [s/veh]	12.94	12.08	23.70	18.16	10.42	57.54	44.39	46.21	56.38
Lane Group LOS	B	B	C	B	B	E	D	D	E
Critical Lane Group	Yes	No	No	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.15	9.79	0.10	12.77	1.13	6.84	0.34	1.55	1.87
50th-Percentile Queue Length [ft/ln]	28.81	244.75	2.45	319.17	28.31	170.98	8.54	38.83	46.86
95th-Percentile Queue Length [veh/ln]	2.07	14.92	0.18	18.63	2.04	11.13	0.61	2.80	3.37
95th-Percentile Queue Length [ft/ln]	51.86	373.04	4.40	465.66	50.96	278.21	15.37	69.90	84.34

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	12.94	12.08	12.08	23.70	18.16	10.42	57.54	44.39	46.21	56.38	56.38	56.38
Movement LOS	B	B	B	C	B	B	E	D	D	E	E	E
d_A, Approach Delay [s/veh]	12.20			17.27			54.69			56.38		
Approach LOS	B			B			D			E		
d_I, Intersection Delay [s/veh]	21.74											
Intersection LOS	C											
Intersection V/C	0.561											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1183	850	417	183
d_b, Bicycle Delay [s]	10.01	19.84	37.61	49.51
l_b,int, Bicycle LOS Score for Intersection	2.926	3.040	2.107	1.702
Bicycle LOS	C	C	B	A

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: SH 42 / Lock Street

Control Type:	Signalized	Delay (sec / veh):	31.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.655

Intersection Setup

Name	96th Street			SH 42			Lock Street			SH 42		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	2	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	400.00	540.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	600.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	540.00	0.00	0.00	0.00	0.00	0.00	150.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	96th Street			SH 42			Lock Street			SH 42		
Base Volume Input [veh/h]	16	570	151	175	506	3	3	2	8	155	4	207
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0200	1.0200	1.0200	1.0200	1.0000	1.0000	1.0000	1.0000	1.0200	1.0000	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	0	0	0	0	2	2	2	2	0	3	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	77	0	0	3	0	0	5	0	0	106
Total Hourly Volume [veh/h]	20	581	77	179	516	2	5	4	5	158	7	105
Peak Hour Factor	0.8900	0.8900	0.8900	0.9200	0.9200	0.9200	0.6700	0.6700	0.6700	0.8800	0.8800	0.8800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	163	22	49	140	1	2	1	2	45	2	30
Total Analysis Volume [veh/h]	22	653	87	195	561	2	7	6	7	180	8	119
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	15	0	8	15	0	0	8	0	0	8	0
Maximum Green [s]	0	40	0	30	40	0	0	20	0	0	20	0
Amber [s]	0.0	4.0	0.0	3.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
All red [s]	0.0	2.0	0.0	1.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Split [s]	0	73	0	22	95	0	0	25	0	0	25	0
Vehicle Extension [s]	0.0	5.0	0.0	3.0	5.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	4.0	0.0	2.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
Minimum Recall		Yes		No	Yes			No			No	
Maximum Recall		No		No	No			No			No	
Pedestrian Recall		No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	40.0	0.0	40.0	40.0	0.0	0.0	40.0	0.0	0.0	40.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	6.00	6.00	6.00	4.00	6.00	6.00	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	4.00	4.00	4.00	2.00	4.00	4.00	4.00	4.00
g_i, Effective Green Time [s]	76	76	76	9	89	19	19	19
g / C, Green / Cycle	0.63	0.63	0.63	0.08	0.74	0.16	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.03	0.35	0.05	0.06	0.30	0.06	0.25	0.07
s, saturation flow rate [veh/h]	847	1870	1589	3459	1869	340	752	1589
c, Capacity [veh/h]	484	1182	1005	263	1386	94	178	252
d1, Uniform Delay [s]	15.33	12.47	8.59	54.24	5.73	43.95	53.63	45.92
k, delay calibration	0.50	0.50	0.50	0.11	0.50	0.11	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.18	1.86	0.17	4.07	0.89	1.10	83.30	1.38
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.05	0.55	0.09	0.74	0.41	0.21	1.06	0.47
d, Delay for Lane Group [s/veh]	15.51	14.34	8.76	58.31	6.62	45.05	136.94	47.30
Lane Group LOS	B	B	A	E	A	D	F	D
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.33	10.01	0.91	3.03	4.95	0.54	9.53	3.33
50th-Percentile Queue Length [ft/ln]	8.35	250.32	22.74	75.81	123.87	13.45	238.30	83.33
95th-Percentile Queue Length [veh/ln]	0.60	15.20	1.64	5.46	8.61	0.97	14.97	6.00
95th-Percentile Queue Length [ft/ln]	15.03	380.06	40.94	136.47	215.14	24.21	374.29	149.99

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	15.51	14.34	8.76	58.31	6.62	6.62	45.05	45.05	45.05	136.94	136.94	47.30
Movement LOS	B	B	A	E	A	A	D	D	D	F	F	D
d_A, Approach Delay [s/veh]	13.73			19.92			45.05			102.19		
Approach LOS	B			B			D			F		
d_I, Intersection Delay [s/veh]	31.31											
Intersection LOS	C											
Intersection V/C	0.655											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1117	1484	317	317
d_b, Bicycle Delay [s]	11.69	4.00	42.49	42.49
l_b,int, Bicycle LOS Score for Intersection	2.944	2.815	1.601	2.241
Bicycle LOS	C	C	A	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 3: Pine Street / East Street

Control Type:	Two-way stop	Delay (sec / veh):	12.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.019

Intersection Setup

Name	East Street		Pine Street		Pine Street	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	East Street		Pine Street		Pine Street	
Base Volume Input [veh/h]	6	28	239	14	24	272
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	1	0	1	4	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	29	239	15	28	272
Peak Hour Factor	0.7900	0.7900	0.8300	0.8300	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	9	72	5	8	76
Total Analysis Volume [veh/h]	9	37	288	18	31	302
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.04	0.00	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	12.84	9.47	0.00	0.00	7.91	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.20	0.20	0.00	0.00	0.05	0.05
95th-Percentile Queue Length [ft/ln]	4.91	4.91	0.00	0.00	1.31	1.31
d_A, Approach Delay [s/veh]	10.13		0.00		0.74	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	1.04					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 4: East Street / North Access

Control Type:	Two-way stop	Delay (sec / veh):	9.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name	East Street		East Street		Site Access	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	East Street		East Street		Site Access	
Base Volume Input [veh/h]	0	34	38	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	1	2	2	1	3
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	35	40	2	1	3
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	10	12	1	0	1
Total Analysis Volume [veh/h]	6	41	47	2	1	4
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.32	0.00	0.00	0.00	9.05	8.54
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.02	0.02
95th-Percentile Queue Length [ft/ln]	0.25	0.25	0.00	0.00	0.38	0.38
d_A, Approach Delay [s/veh]	0.93		0.00		8.64	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.86					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 5: East Street / South Access

Control Type:	Two-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name	East Street		East Street		Site Access	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	East Street		East Street		Site Access	
Base Volume Input [veh/h]	0	34	36	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	5	3	2	1	3
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	39	39	2	1	3
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	11	11	1	0	1
Total Analysis Volume [veh/h]	6	46	46	2	1	4
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.32	0.00	0.00	0.00	9.07	8.54
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.02	0.02
95th-Percentile Queue Length [ft/ln]	0.25	0.25	0.00	0.00	0.38	0.38
d_A, Approach Delay [s/veh]	0.84		0.00		8.65	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.83					
Intersection LOS	A					

Year 2045 Traffic Volume Scenarios

East Street Village TIS

Vistro File: C:\...\AM.vistro
Report File: C:\...\2045 Back AM.pdf

Scenario 5 2045 Back AM
6/1/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	SH 42 / Pine Street	Signalized	HCM 7th Edition	EB Left	0.335	13.4	B
2	SH 42 / Lock Street	Roundabout	HCM 7th Edition	EB Right		7.4	A
3	Pine Street / East Street	Two-way stop	HCM 7th Edition	NB Left	0.012	12.4	B
4	East Street / North Access	Two-way stop	HCM 7th Edition	SB Thru	0.000	0.0	A
5	East Street / South Access	Two-way stop	HCM 7th Edition	SB Thru	0.000	0.0	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: SH 42 / Pine Street

Control Type:	Signalized	Delay (sec / veh):	13.4
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.335

Intersection Setup

Name	SH 42			SH 42			Pine Street			Empire Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	300.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	SH 42			SH 42			Pine Street			Empire Road		
Base Volume Input [veh/h]	82	588	6	11	662	150	155	13	89	1	10	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.2400	1.0000	1.0000	1.2400	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	2	2	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	3	0	0	76	0	0	45	0	0	7
Total Hourly Volume [veh/h]	82	729	3	11	821	76	157	13	44	1	10	7
Peak Hour Factor	0.9200	0.9200	0.9200	0.9500	0.9500	0.9500	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	198	1	3	216	20	43	4	12	0	3	2
Total Analysis Volume [veh/h]	89	792	3	12	864	80	171	14	48	1	11	8
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	35	0	0	35	0	0	10	0	0	15	0
Maximum Green [s]	12	35	0	0	35	0	0	30	0	0	30	0
Amber [s]	3.0	4.0	0.0	0.0	4.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	17	85	0	0	68	0	0	20	0	0	15	0
Vehicle Extension [s]	3.0	6.0	0.0	0.0	6.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	3.0	0.0	0.0	3.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	Yes			Yes			No			No	
Maximum Recall	No	No			No			No			No	
Pedestrian Recall	No	No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.00	3.00	3.00	3.00	3.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	90	90	90	81	81	81	10	10	10	7
g / C, Green / Cycle	0.75	0.75	0.75	0.67	0.67	0.67	0.08	0.08	0.08	0.06
(v / s)_i Volume / Saturation Flow Rate	0.13	0.21	0.21	0.02	0.26	0.26	0.05	0.05	0.03	0.01
s, saturation flow rate [veh/h]	683	1870	1867	683	1870	1815	1781	1794	1589	1743
c, Capacity [veh/h]	530	1397	1395	459	1260	1223	149	150	133	107
d1, Uniform Delay [s]	5.02	4.88	4.88	10.55	8.58	8.58	53.14	53.14	51.96	53.50
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.68	0.51	0.51	0.11	0.87	0.90	4.15	4.10	1.64	0.84
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.17	0.28	0.28	0.03	0.38	0.38	0.62	0.62	0.36	0.19
d, Delay for Lane Group [s/veh]	5.71	5.40	5.40	10.65	9.45	9.48	57.29	57.24	53.60	54.34
Lane Group LOS	A	A	A	B	A	A	E	E	D	D
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.62	3.00	3.00	0.15	5.44	5.29	2.86	2.88	1.43	0.60
50th-Percentile Queue Length [ft/ln]	15.50	74.98	74.89	3.68	136.03	132.24	71.59	71.92	35.75	14.99
95th-Percentile Queue Length [veh/ln]	1.12	5.40	5.39	0.27	9.27	9.06	5.15	5.18	2.57	1.08
95th-Percentile Queue Length [ft/ln]	27.90	134.97	134.80	6.63	231.66	226.54	128.86	129.46	64.36	26.99

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	5.71	5.40	5.40	10.65	9.47	9.48	57.27	57.24	53.60	54.34	54.34	54.34
Movement LOS	A	A	A	B	A	A	E	E	D	D	D	D
d_A, Approach Delay [s/veh]	5.43			9.48			56.51			54.34		
Approach LOS	A			A			E			D		
d_I, Intersection Delay [s/veh]	13.43											
Intersection LOS	B											
Intersection V/C	0.335											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1333	1050	267	250
d_b, Bicycle Delay [s]	6.67	13.54	45.07	45.94
l_b,int, Bicycle LOS Score for Intersection	2.291	2.411	2.018	1.604
Bicycle LOS	B	B	B	A

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: SH 42 / Lock Street

Control Type:	Roundabout	Delay (sec / veh):	7.4
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	96th Street			SH 42			Lock Street			SH 42		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	400.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	600.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	96th Street			SH 42			Lock Street			SH 42		
Base Volume Input [veh/h]	3	452	146	201	542	0	3	3	9	151	2	228
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.2400	1.2400	1.2400	1.2400	1.0000	1.0000	1.0000	1.0000	1.3000	1.0000	1.3000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	0	0	0	0	0	0	1	1	0	1	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	560	181	249	672	0	3	4	10	196	3	296
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	152	49	68	183	0	1	1	3	53	1	80
Total Analysis Volume [veh/h]	4	609	197	271	730	0	3	4	11	213	3	322
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	284			224			1238			628		
Exiting Flow Rate [veh/h]	973			953			7			481		
Demand Flow Rate [veh/h]	4	560	181	249	672	0	3	4	10	196	3	296
Adjusted Demand Flow Rate [veh/h]	4	609	197	271	730	0	3	4	11	213	3	322

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00	1380.00	1420.00	1420.00
B (coefficient)	0.00091	0.00091	0.00091	0.00091	0.00091	0.00102	0.00091	0.00091
HV Adjustment Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Entry Flow Rate [veh/h]	313	313	201	480	542	19	221	329
Capacity of Entry and Bypass Lanes [veh/h]	1098	1098	1098	1158	1158	391	802	802
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1076	1076	1076	1136	1136	383	786	786
X, volume / capacity	0.28	0.28	0.18	0.41	0.47	0.05	0.27	0.41

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A	A	B	A	A
95th-Percentile Queue Length [veh]	1.18	1.18	0.67	2.07	2.55	0.15	1.12	2.01
95th-Percentile Queue Length [ft]	29.53	29.53	16.72	51.80	63.68	3.69	27.99	50.31
Approach Delay [s/veh]	5.84			7.89		10.11	8.93	
Approach LOS	A			A		B	A	
Intersection Delay [s/veh]	7.44							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 3: Pine Street / East Street

Control Type:	Two-way stop	Delay (sec / veh):	12.4
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.012

Intersection Setup

Name	East Street		Pine Street		Pine Street	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	East Street		Pine Street		Pine Street	
Base Volume Input [veh/h]	4	8	252	6	9	233
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	2	0	0	2	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	10	252	6	11	233
Peak Hour Factor	0.7000	0.7000	0.8000	0.8000	0.8000	0.8000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	4	79	2	3	73
Total Analysis Volume [veh/h]	6	14	315	8	14	291
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.02	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	12.37	9.36	0.00	0.00	7.93	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.09	0.09	0.00	0.00	0.02	0.02
95th-Percentile Queue Length [ft/ln]	2.19	2.19	0.00	0.00	0.59	0.59
d_A, Approach Delay [s/veh]	10.26		0.00		0.36	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.49					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 4: East Street / North Access

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	East Street		East Street		Site Access	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	East Street		East Street		Site Access	
Base Volume Input [veh/h]	0	12	15	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	2	2	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	14	17	0	0	0
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	4	5	0	0	0
Total Analysis Volume [veh/h]	0	16	20	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.26	0.00	0.00	0.00	8.69	8.40
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		8.54	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 5: East Street / South Access

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	East Street		East Street		Site Access	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	East Street		East Street		Site Access	
Base Volume Input [veh/h]	0	12	15	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	2	2	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	14	17	0	0	0
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	4	5	0	0	0
Total Analysis Volume [veh/h]	0	16	20	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.26	0.00	0.00	0.00	8.69	8.40
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		8.54	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

East Street Village TIS

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Scenario 5 5 2045 Back PM
6/1/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	SH 42 / Pine Street	Signalized	HCM 7th Edition	EB Left	0.362	15.0	B
2	SH 42 / Lock Street	Roundabout	HCM 7th Edition	WB Right		8.0	A
3	Pine Street / East Street	Two-way stop	HCM 7th Edition	NB Left	0.029	13.5	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: SH 42 / Pine Street

Control Type:	Signalized	Delay (sec / veh):	15.0
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.362

Intersection Setup

Name	SH 42			SH 42			Pine Street			Empire Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	300.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	SH 42			SH 42			Pine Street			Empire Road		
Base Volume Input [veh/h]	107	648	0	4	611	166	170	10	91	3	21	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.2400	1.0000	1.0000	1.2400	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	17	14	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	92	0	0	46	0	0	25
Total Hourly Volume [veh/h]	107	804	0	4	758	91	184	10	45	3	21	25
Peak Hour Factor	0.9300	0.9300	0.9300	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	216	0	1	206	25	50	3	12	1	6	7
Total Analysis Volume [veh/h]	115	865	0	4	824	99	200	11	49	3	23	27
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	35	0	0	35	0	0	10	0	0	10	0
Maximum Green [s]	12	35	0	0	35	0	0	30	0	0	30	0
Amber [s]	3.0	4.0	0.0	0.0	4.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	20	76	0	0	56	0	0	29	0	0	15	0
Vehicle Extension [s]	3.0	6.0	0.0	0.0	6.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	2.0	3.0	0.0	0.0	3.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	Yes			Yes			No			No	
Maximum Recall	No	No			No			No			No	
Pedestrian Recall	No	No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.00	3.00	3.00	3.00	3.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	89	89	89	80	80	80	10	10	10	8
g / C, Green / Cycle	0.74	0.74	0.74	0.66	0.66	0.66	0.08	0.08	0.08	0.07
(v / s)_i Volume / Saturation Flow Rate	0.16	0.23	0.23	0.01	0.25	0.25	0.06	0.06	0.03	0.03
s, saturation flow rate [veh/h]	697	1870	1870	639	1870	1801	1781	1790	1589	1711
c, Capacity [veh/h]	533	1381	1381	421	1242	1196	149	150	133	119
d1, Uniform Delay [s]	5.42	5.33	5.33	11.46	9.03	9.03	53.55	53.55	51.99	53.62
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.93	0.59	0.59	0.04	0.88	0.91	6.02	5.97	1.70	2.61
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.22	0.31	0.31	0.01	0.38	0.38	0.71	0.71	0.37	0.45
d, Delay for Lane Group [s/veh]	6.34	5.93	5.93	11.51	9.91	9.95	59.57	59.52	53.69	56.23
Lane Group LOS	A	A	A	B	A	A	E	E	D	E
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.85	3.50	3.50	0.05	5.51	5.32	3.35	3.36	1.46	1.63
50th-Percentile Queue Length [ft/ln]	21.31	87.53	87.53	1.29	137.80	132.97	83.63	83.92	36.54	40.63
95th-Percentile Queue Length [veh/ln]	1.53	6.30	6.30	0.09	9.36	9.10	6.02	6.04	2.63	2.93
95th-Percentile Queue Length [ft/ln]	38.36	157.56	157.56	2.32	234.06	227.53	150.54	151.05	65.77	73.13

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	6.34	5.93	5.93	11.51	9.93	9.95	59.55	59.52	53.69	56.23	56.23	56.23
Movement LOS	A	A	A	B	A	A	E	E	D	E	E	E
d_A, Approach Delay [s/veh]	5.98			9.94			58.44			56.23		
Approach LOS	A			A			E			E		
d_I, Intersection Delay [s/veh]	14.97											
Intersection LOS	B											
Intersection V/C	0.362											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1183	850	417	183
d_b, Bicycle Delay [s]	10.01	19.84	37.61	49.51
l_b,int, Bicycle LOS Score for Intersection	2.368	2.400	2.065	1.688
Bicycle LOS	B	B	B	A

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: SH 42 / Lock Street

Control Type:	Roundabout	Delay (sec / veh):	8.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	96th Street			SH 42			Lock Street			SH 42		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	400.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	600.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	96th Street			SH 42			Lock Street			SH 42		
Base Volume Input [veh/h]	16	570	151	175	506	3	3	2	8	155	4	207
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.2400	1.2400	1.2400	1.2400	1.0000	1.0000	1.0000	1.0000	1.3000	1.0000	1.3000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	13	0	0	0	0	0	0	7	11	0	9	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	29	707	187	217	627	3	3	9	19	202	13	269
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	192	51	59	170	1	1	2	5	55	4	73
Total Analysis Volume [veh/h]	32	768	203	236	682	3	3	10	21	220	14	292
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	254			271			1161			819		
Exiting Flow Rate [veh/h]	941			1084			50			458		
Demand Flow Rate [veh/h]	29	707	187	217	627	3	3	9	19	202	13	269
Adjusted Demand Flow Rate [veh/h]	32	768	203	236	682	3	3	10	21	220	14	292

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00	1380.00	1420.00	1420.00
B (coefficient)	0.00091	0.00091	0.00091	0.00091	0.00091	0.00102	0.00091	0.00091
HV Adjustment Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Entry Flow Rate [veh/h]	408	408	208	442	498	35	239	298
Capacity of Entry and Bypass Lanes [veh/h]	1127	1127	1127	1110	1110	423	674	674
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1105	1105	1105	1088	1088	415	661	661
X, volume / capacity	0.36	0.36	0.18	0.40	0.45	0.08	0.35	0.44

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A	A	A	B	B
95th-Percentile Queue Length [veh]	1.67	1.67	0.67	1.94	2.37	0.27	1.60	2.26
95th-Percentile Queue Length [ft]	41.77	41.77	16.78	48.44	59.20	6.67	39.94	56.62
Approach Delay [s/veh]	6.50			7.87		9.88	11.14	
Approach LOS	A			A		A	B	
Intersection Delay [s/veh]	8.04							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 3: Pine Street / East Street

Control Type:	Two-way stop	Delay (sec / veh):	13.5
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.029

Intersection Setup

Name	East Street		Pine Street		Pine Street	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	East Street		Pine Street		Pine Street	
Base Volume Input [veh/h]	6	28	239	14	24	272
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	14	0	4	17	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	42	239	18	41	272
Peak Hour Factor	0.7900	0.7900	0.8300	0.8300	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	13	72	5	11	76
Total Analysis Volume [veh/h]	13	53	288	22	46	302
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.06	0.00	0.00	0.04	0.00
d_M, Delay for Movement [s/veh]	13.50	9.66	0.00	0.00	7.94	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.30	0.30	0.00	0.00	0.08	0.08
95th-Percentile Queue Length [ft/ln]	7.42	7.42	0.00	0.00	1.97	1.97
d_A, Approach Delay [s/veh]	10.42		0.00		1.05	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	1.45					
Intersection LOS	B					

East Street Village TIS

Vistro File: C:\...\AM.vistro
Report File: C:\...\2045 Total AM - Scenario 1.pdf

Scenario 6 2045 Total AM - Scenario 1
6/1/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	SH 42 / Pine Street	Signalized	HCM 7th Edition	EB Left	0.336	13.5	B
2	SH 42 / Lock Street	Roundabout	HCM 7th Edition	EB Right		7.5	A
3	Pine Street / East Street	Two-way stop	HCM 7th Edition	NB Left	0.018	12.5	B
4	East Street / North Access	Two-way stop	HCM 7th Edition	EB Left	0.002	8.8	A
5	East Street / South Access	Two-way stop	HCM 7th Edition	EB Left	0.002	8.8	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: SH 42 / Pine Street

Control Type:	Signalized	Delay (sec / veh):	13.5
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.336

Intersection Setup

Name	SH 42			SH 42			Pine Street			Empire Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	300.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	SH 42			SH 42			Pine Street			Empire Road		
Base Volume Input [veh/h]	82	588	6	11	662	150	155	13	89	1	10	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.2400	1.0000	1.0000	1.2400	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	3	0	0	1	3	4	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	3	0	0	77	0	0	45	0	0	7
Total Hourly Volume [veh/h]	82	732	3	11	822	76	159	13	44	1	10	7
Peak Hour Factor	0.9200	0.9200	0.9200	0.9500	0.9500	0.9500	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	199	1	3	216	20	43	4	12	0	3	2
Total Analysis Volume [veh/h]	89	796	3	12	865	80	173	14	48	1	11	8
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	35	0	0	35	0	0	10	0	0	15	0
Maximum Green [s]	12	35	0	0	35	0	0	30	0	0	30	0
Amber [s]	3.0	4.0	0.0	0.0	4.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	17	85	0	0	68	0	0	20	0	0	15	0
Vehicle Extension [s]	3.0	6.0	0.0	0.0	6.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	2.0	3.0	0.0	0.0	3.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	Yes			Yes			No			No	
Maximum Recall	No	No			No			No			No	
Pedestrian Recall	No	No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.00	3.00	3.00	3.00	3.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	90	90	90	81	81	81	10	10	10	7
g / C, Green / Cycle	0.75	0.75	0.75	0.67	0.67	0.67	0.08	0.08	0.08	0.06
(v / s)_i Volume / Saturation Flow Rate	0.13	0.21	0.21	0.02	0.26	0.26	0.05	0.05	0.03	0.01
s, saturation flow rate [veh/h]	683	1870	1868	680	1870	1815	1781	1794	1589	1743
c, Capacity [veh/h]	530	1397	1395	457	1260	1223	149	150	133	107
d1, Uniform Delay [s]	5.03	4.89	4.89	10.57	8.58	8.58	53.17	53.17	51.96	53.50
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.68	0.52	0.52	0.11	0.87	0.90	4.27	4.22	1.64	0.84
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.17	0.29	0.29	0.03	0.38	0.38	0.63	0.63	0.36	0.19
d, Delay for Lane Group [s/veh]	5.71	5.41	5.41	10.68	9.46	9.48	57.44	57.38	53.60	54.34
Lane Group LOS	A	A	A	B	A	A	E	E	D	D
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.62	3.02	3.01	0.15	5.45	5.30	2.90	2.91	1.43	0.60
50th-Percentile Queue Length [ft/ln]	15.50	75.47	75.37	3.69	136.22	132.44	72.48	72.81	35.75	14.99
95th-Percentile Queue Length [veh/ln]	1.12	5.43	5.43	0.27	9.28	9.07	5.22	5.24	2.57	1.08
95th-Percentile Queue Length [ft/ln]	27.90	135.84	135.67	6.64	231.93	226.80	130.46	131.06	64.36	26.99

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	5.71	5.41	5.41	10.68	9.47	9.48	57.41	57.38	53.60	54.34	54.34	54.34
Movement LOS	A	A	A	B	A	A	E	E	D	D	D	D
d_A, Approach Delay [s/veh]	5.44			9.49			56.63			54.34		
Approach LOS	A			A			E			D		
d_I, Intersection Delay [s/veh]	13.48											
Intersection LOS	B											
Intersection V/C	0.336											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1333	1050	267	250
d_b, Bicycle Delay [s]	6.67	13.54	45.07	45.94
l_b,int, Bicycle LOS Score for Intersection	2.295	2.413	2.022	1.604
Bicycle LOS	B	B	B	A

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: SH 42 / Lock Street

Control Type:	Roundabout	Delay (sec / veh):	7.5
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	96th Street			SH 42			Lock Street			SH 42		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	400.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	600.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	96th Street			SH 42			Lock Street			SH 42		
Base Volume Input [veh/h]	3	452	146	201	542	0	3	3	9	151	2	228
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.2400	1.2400	1.2400	1.2400	1.0000	1.0000	1.0000	1.0000	1.3000	1.0000	1.3000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	0	0	0	0	1	3	4	6	0	2	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	560	181	249	672	1	6	7	15	196	4	296
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	152	49	68	183	0	2	2	4	53	1	80
Total Analysis Volume [veh/h]	7	609	197	271	730	1	7	8	16	213	4	322
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	292			228			1238			635		
Exiting Flow Rate [veh/h]	978			957			12			486		
Demand Flow Rate [veh/h]	6	560	181	249	672	1	6	7	15	196	4	296
Adjusted Demand Flow Rate [veh/h]	7	609	197	271	730	1	7	8	16	213	4	322

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00	1380.00	1420.00	1420.00
B (coefficient)	0.00091	0.00091	0.00091	0.00091	0.00091	0.00102	0.00091	0.00091
HV Adjustment Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Entry Flow Rate [veh/h]	315	315	201	481	542	32	222	329
Capacity of Entry and Bypass Lanes [veh/h]	1089	1089	1089	1154	1154	391	797	797
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1068	1068	1068	1131	1131	383	781	781
X, volume / capacity	0.29	0.29	0.18	0.42	0.47	0.08	0.28	0.41

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A	A	B	A	A
95th-Percentile Queue Length [veh]	1.20	1.20	0.67	2.09	2.57	0.26	1.14	2.03
95th-Percentile Queue Length [ft]	30.03	30.03	16.87	52.20	64.21	6.57	28.41	50.83
Approach Delay [s/veh]	5.90			7.94		10.64	9.02	
Approach LOS	A			A		B	A	
Intersection Delay [s/veh]	7.53							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 3: Pine Street / East Street

Control Type:	Two-way stop	Delay (sec / veh):	12.5
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.018

Intersection Setup

Name	East Street		Pine Street		Pine Street	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	East Street		Pine Street		Pine Street	
Base Volume Input [veh/h]	4	8	252	6	9	233
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	4	0	1	3	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	12	252	7	12	233
Peak Hour Factor	0.7000	0.7000	0.8000	0.8000	0.8000	0.8000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	4	79	2	4	73
Total Analysis Volume [veh/h]	9	17	315	9	15	291
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.02	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	12.46	9.42	0.00	0.00	7.94	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.12	0.12	0.00	0.00	0.03	0.03
95th-Percentile Queue Length [ft/ln]	2.96	2.96	0.00	0.00	0.63	0.63
d_A, Approach Delay [s/veh]	10.47		0.00		0.39	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.60					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 4: East Street / North Access

Control Type:	Two-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

Intersection Setup

Name	East Street		East Street		Site Access	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	East Street		East Street		Site Access	
Base Volume Input [veh/h]	0	12	15	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	4	3	1	2	6
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	16	18	1	2	6
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	5	5	0	1	2
Total Analysis Volume [veh/h]	2	19	21	1	2	7
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	7.26	0.00	0.00	0.00	8.76	8.44
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.08	0.08	0.00	0.00	0.66	0.66
d_A, Approach Delay [s/veh]	0.69		0.00		8.51	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.75					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 5: East Street / South Access

Control Type:	Two-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

Intersection Setup

Name	East Street		East Street		Site Access	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	East Street		East Street		Site Access	
Base Volume Input [veh/h]	0	12	15	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	4	8	1	2	6
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	16	23	1	2	6
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	5	7	0	1	2
Total Analysis Volume [veh/h]	2	19	27	1	2	7
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	7.27	0.00	0.00	0.00	8.79	8.47
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.08	0.08	0.00	0.00	0.66	0.66
d_A, Approach Delay [s/veh]	0.69		0.00		8.54	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.58					
Intersection LOS	A					

East Street Village TIS

Vistro File: C:\...\pm.vistro
Report File: C:\...\2045 Total PM - Scenario 1.pdf

Scenario 6 2045 Total PM - Scenario 1
6/1/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	SH 42 / Pine Street	Signalized	HCM 7th Edition	EB Left	0.364	15.0	B
2	SH 42 / Lock Street	Roundabout	HCM 7th Edition	WB Right		8.2	A
3	Pine Street / East Street	Two-way stop	HCM 7th Edition	NB Left	0.032	13.7	B
4	East Street / North Access	Two-way stop	HCM 7th Edition	EB Left	0.001	9.3	A
5	East Street / South Access	Two-way stop	HCM 7th Edition	EB Left	0.001	9.4	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: SH 42 / Pine Street

Control Type:	Signalized	Delay (sec / veh):	15.0
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.364

Intersection Setup

Name	SH 42			SH 42			Pine Street			Empire Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	300.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	SH 42			SH 42			Pine Street			Empire Road		
Base Volume Input [veh/h]	107	648	0	4	611	166	170	10	91	3	21	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.2400	1.0000	1.0000	1.2400	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	2	0	0	3	21	16	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	94	0	0	46	0	0	25
Total Hourly Volume [veh/h]	107	806	0	4	761	93	186	10	45	3	21	25
Peak Hour Factor	0.9300	0.9300	0.9300	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	217	0	1	207	25	51	3	12	1	6	7
Total Analysis Volume [veh/h]	115	867	0	4	827	101	202	11	49	3	23	27
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	35	0	0	35	0	0	10	0	0	10	0
Maximum Green [s]	12	35	0	0	35	0	0	30	0	0	30	0
Amber [s]	3.0	4.0	0.0	0.0	4.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	20	76	0	0	56	0	0	29	0	0	15	0
Vehicle Extension [s]	3.0	6.0	0.0	0.0	6.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	2.0	3.0	0.0	0.0	3.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	Yes			Yes			No			No	
Maximum Recall	No	No			No			No			No	
Pedestrian Recall	No	No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.00	3.00	3.00	3.00	3.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	89	89	89	80	80	80	10	10	10	8
g / C, Green / Cycle	0.74	0.74	0.74	0.66	0.66	0.66	0.08	0.08	0.08	0.07
(v / s)_i Volume / Saturation Flow Rate	0.17	0.23	0.23	0.01	0.25	0.25	0.06	0.06	0.03	0.03
s, saturation flow rate [veh/h]	695	1870	1870	638	1870	1800	1781	1790	1589	1711
c, Capacity [veh/h]	531	1381	1381	420	1242	1195	149	150	133	119
d1, Uniform Delay [s]	5.43	5.34	5.34	11.48	9.05	9.05	53.58	53.58	51.99	53.62
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.93	0.60	0.60	0.04	0.89	0.92	6.21	6.16	1.70	2.61
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.22	0.31	0.31	0.01	0.38	0.38	0.71	0.71	0.37	0.45
d, Delay for Lane Group [s/veh]	6.37	5.93	5.93	11.52	9.94	9.97	59.79	59.74	53.69	56.23
Lane Group LOS	A	A	A	B	A	A	E	E	D	E
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.85	3.51	3.51	0.05	5.55	5.36	3.38	3.40	1.46	1.63
50th-Percentile Queue Length [ft/ln]	21.33	87.80	87.80	1.29	138.86	133.93	84.61	84.89	36.54	40.63
95th-Percentile Queue Length [veh/ln]	1.54	6.32	6.32	0.09	9.42	9.15	6.09	6.11	2.63	2.93
95th-Percentile Queue Length [ft/ln]	38.40	158.04	158.04	2.32	235.49	228.82	152.29	152.80	65.77	73.13

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	6.37	5.93	5.93	11.52	9.95	9.97	59.76	59.74	53.69	56.23	56.23	56.23
Movement LOS	A	A	A	B	A	A	E	E	D	E	E	E
d_A, Approach Delay [s/veh]	5.98			9.96			58.63			56.23		
Approach LOS	A			A			E			E		
d_I, Intersection Delay [s/veh]	15.03											
Intersection LOS	B											
Intersection V/C	0.364											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1183	850	417	183
d_b, Bicycle Delay [s]	10.01	19.84	37.61	49.51
l_b,int, Bicycle LOS Score for Intersection	2.370	2.406	2.068	1.688
Bicycle LOS	B	B	B	A

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: SH 42 / Lock Street

Control Type:	Roundabout	Delay (sec / veh):	8.2
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	96th Street			SH 42			Lock Street			SH 42		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	400.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	600.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	96th Street			SH 42			Lock Street			SH 42		
Base Volume Input [veh/h]	16	570	151	175	506	3	3	2	8	155	4	207
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.2400	1.2400	1.2400	1.2400	1.0000	1.0000	1.0000	1.0000	1.3000	1.0000	1.3000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	18	0	0	0	0	3	2	9	14	0	13	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	34	707	187	217	627	6	5	11	22	202	17	269
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	192	51	59	170	2	1	3	6	55	5	73
Total Analysis Volume [veh/h]	37	768	203	236	682	7	5	12	24	220	18	292
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	258			281			1161			826		
Exiting Flow Rate [veh/h]	945			1086			63			460		
Demand Flow Rate [veh/h]	34	707	187	217	627	6	5	11	22	202	17	269
Adjusted Demand Flow Rate [veh/h]	37	768	203	236	682	7	5	12	24	220	18	292

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00	1380.00	1420.00	1420.00
B (coefficient)	0.00091	0.00091	0.00091	0.00091	0.00091	0.00102	0.00091	0.00091
HV Adjustment Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Entry Flow Rate [veh/h]	411	411	208	444	501	42	243	298
Capacity of Entry and Bypass Lanes [veh/h]	1123	1123	1123	1101	1101	423	670	670
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1101	1101	1101	1079	1079	415	657	657
X, volume / capacity	0.37	0.37	0.18	0.40	0.45	0.10	0.36	0.44

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A	A	B	B	B
95th-Percentile Queue Length [veh]	1.70	1.70	0.67	1.98	2.42	0.33	1.65	2.29
95th-Percentile Queue Length [ft]	42.41	42.41	16.86	49.43	60.51	8.18	41.35	57.22
Approach Delay [s/veh]	6.56			8.00		10.14	11.29	
Approach LOS	A			A		B	B	
Intersection Delay [s/veh]	8.15							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 3: Pine Street / East Street

Control Type:	Two-way stop	Delay (sec / veh):	13.7
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.032

Intersection Setup

Name	East Street		Pine Street		Pine Street	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	East Street		Pine Street		Pine Street	
Base Volume Input [veh/h]	6	28	239	14	24	272
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	16	0	6	21	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	44	239	20	45	272
Peak Hour Factor	0.7900	0.7900	0.8300	0.8300	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	14	72	6	13	76
Total Analysis Volume [veh/h]	14	56	288	24	50	302
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.06	0.00	0.00	0.04	0.00
d_M, Delay for Movement [s/veh]	13.68	9.71	0.00	0.00	7.95	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.32	0.32	0.00	0.00	0.09	0.09
95th-Percentile Queue Length [ft/ln]	7.99	7.99	0.00	0.00	2.14	2.14
d_A, Approach Delay [s/veh]	10.50		0.00		1.13	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	1.54					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 4: East Street / North Access

Control Type:	Two-way stop	Delay (sec / veh):	9.3
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name	East Street		East Street		Site Access	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	East Street		East Street		Site Access	
Base Volume Input [veh/h]	0	34	38	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	6	23	21	3	1	4
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	57	59	3	1	4
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	17	17	1	0	1
Total Analysis Volume [veh/h]	7	67	69	4	1	5
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	7.37	0.00	0.00	0.00	9.33	8.65
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.02	0.02
95th-Percentile Queue Length [ft/ln]	0.29	0.29	0.00	0.00	0.47	0.47
d_A, Approach Delay [s/veh]	0.70		0.00		8.77	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.68					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 5: East Street / South Access

Control Type:	Two-way stop	Delay (sec / veh):	9.4
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name	East Street		East Street		Site Access	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	East Street		East Street		Site Access	
Base Volume Input [veh/h]	0	34	36	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	6	28	22	3	1	4
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	62	58	3	1	4
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	18	17	1	0	1
Total Analysis Volume [veh/h]	7	73	68	4	1	5
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	7.36	0.00	0.00	0.00	9.36	8.65
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.02	0.02
95th-Percentile Queue Length [ft/ln]	0.29	0.29	0.00	0.00	0.47	0.47
d_A, Approach Delay [s/veh]	0.64		0.00		8.77	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.66					
Intersection LOS	A					

East Street Village TIS

Vistro File: C:\...\AM.vistro
Report File: C:\...\2045 Total AM - Scenario 2.pdf

Scenario 7 2045 Total AM - Scenario 2
6/1/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	SH 42 / Pine Street	Signalized	HCM 7th Edition	EB Left	0.336	13.5	B
2	SH 42 / Lock Street	Roundabout	HCM 7th Edition	EB Right		7.5	A
3	Pine Street / East Street	Two-way stop	HCM 7th Edition	NB Left	0.014	12.4	B
4	East Street / North Access	Two-way stop	HCM 7th Edition	EB Left	0.002	8.7	A
5	East Street / South Access	Two-way stop	HCM 7th Edition	EB Left	0.002	8.8	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: SH 42 / Pine Street

Control Type:	Signalized	Delay (sec / veh):	13.5
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.336

Intersection Setup

Name	SH 42			SH 42			Pine Street			Empire Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	300.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	SH 42			SH 42			Pine Street			Empire Road		
Base Volume Input [veh/h]	82	588	6	11	662	150	155	13	89	1	10	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.2400	1.0000	1.0000	1.2400	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	3	0	0	1	3	4	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	3	0	0	77	0	0	45	0	0	7
Total Hourly Volume [veh/h]	82	732	3	11	822	76	159	13	44	1	10	7
Peak Hour Factor	0.9200	0.9200	0.9200	0.9500	0.9500	0.9500	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	199	1	3	216	20	43	4	12	0	3	2
Total Analysis Volume [veh/h]	89	796	3	12	865	80	173	14	48	1	11	8
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	35	0	0	35	0	0	10	0	0	15	0
Maximum Green [s]	12	35	0	0	35	0	0	30	0	0	30	0
Amber [s]	3.0	4.0	0.0	0.0	4.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	17	85	0	0	68	0	0	20	0	0	15	0
Vehicle Extension [s]	3.0	6.0	0.0	0.0	6.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	3.0	0.0	0.0	3.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	Yes			Yes			No			No	
Maximum Recall	No	No			No			No			No	
Pedestrian Recall	No	No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.00	3.00	3.00	3.00	3.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	90	90	90	81	81	81	10	10	10	7
g / C, Green / Cycle	0.75	0.75	0.75	0.67	0.67	0.67	0.08	0.08	0.08	0.06
(v / s)_i Volume / Saturation Flow Rate	0.13	0.21	0.21	0.02	0.26	0.26	0.05	0.05	0.03	0.01
s, saturation flow rate [veh/h]	683	1870	1868	680	1870	1815	1781	1794	1589	1743
c, Capacity [veh/h]	530	1397	1395	457	1260	1223	149	150	133	107
d1, Uniform Delay [s]	5.03	4.89	4.89	10.57	8.58	8.58	53.17	53.17	51.96	53.50
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.68	0.52	0.52	0.11	0.87	0.90	4.27	4.22	1.64	0.84
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.17	0.29	0.29	0.03	0.38	0.38	0.63	0.63	0.36	0.19
d, Delay for Lane Group [s/veh]	5.71	5.41	5.41	10.68	9.46	9.48	57.44	57.38	53.60	54.34
Lane Group LOS	A	A	A	B	A	A	E	E	D	D
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.62	3.02	3.01	0.15	5.45	5.30	2.90	2.91	1.43	0.60
50th-Percentile Queue Length [ft/ln]	15.50	75.47	75.37	3.69	136.22	132.44	72.48	72.81	35.75	14.99
95th-Percentile Queue Length [veh/ln]	1.12	5.43	5.43	0.27	9.28	9.07	5.22	5.24	2.57	1.08
95th-Percentile Queue Length [ft/ln]	27.90	135.84	135.67	6.64	231.93	226.80	130.46	131.06	64.36	26.99

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	5.71	5.41	5.41	10.68	9.47	9.48	57.41	57.38	53.60	54.34	54.34	54.34
Movement LOS	A	A	A	B	A	A	E	E	D	D	D	D
d_A, Approach Delay [s/veh]	5.44			9.49			56.63			54.34		
Approach LOS	A			A			E			D		
d_I, Intersection Delay [s/veh]	13.48											
Intersection LOS	B											
Intersection V/C	0.336											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1333	1050	267	250
d_b, Bicycle Delay [s]	6.67	13.54	45.07	45.94
l_b,int, Bicycle LOS Score for Intersection	2.295	2.413	2.022	1.604
Bicycle LOS	B	B	B	A

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: SH 42 / Lock Street

Control Type:	Roundabout	Delay (sec / veh):	7.5
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	96th Street			SH 42			Lock Street			SH 42		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	400.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	600.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	96th Street			SH 42			Lock Street			SH 42		
Base Volume Input [veh/h]	3	452	146	201	542	0	3	3	9	151	2	228
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.2400	1.2400	1.2400	1.2400	1.0000	1.0000	1.0000	1.0000	1.3000	1.0000	1.3000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	0	0	0	0	1	3	4	5	0	2	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	560	181	249	672	1	6	7	14	196	4	296
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	152	49	68	183	0	2	2	4	53	1	80
Total Analysis Volume [veh/h]	5	609	197	271	730	1	7	8	15	213	4	322
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	292			226			1238			633		
Exiting Flow Rate [veh/h]	977			957			10			486		
Demand Flow Rate [veh/h]	5	560	181	249	672	1	6	7	14	196	4	296
Adjusted Demand Flow Rate [veh/h]	5	609	197	271	730	1	7	8	15	213	4	322

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00	1380.00	1420.00	1420.00
B (coefficient)	0.00091	0.00091	0.00091	0.00091	0.00091	0.00102	0.00091	0.00091
HV Adjustment Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Entry Flow Rate [veh/h]	314	314	201	481	542	31	222	329
Capacity of Entry and Bypass Lanes [veh/h]	1089	1089	1089	1156	1156	391	798	798
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1068	1068	1068	1133	1133	383	783	783
X, volume / capacity	0.29	0.29	0.18	0.42	0.47	0.08	0.28	0.41

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A	A	B	A	A
95th-Percentile Queue Length [veh]	1.20	1.20	0.67	2.08	2.56	0.25	1.13	2.03
95th-Percentile Queue Length [ft]	29.90	29.90	16.87	52.05	64.00	6.34	28.34	50.68
Approach Delay [s/veh]	5.90			7.92		10.60	9.00	
Approach LOS	A			A		B	A	
Intersection Delay [s/veh]	7.51							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 3: Pine Street / East Street

Control Type:	Two-way stop	Delay (sec / veh):	12.4
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.014

Intersection Setup

Name	East Street		Pine Street		Pine Street	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	East Street		Pine Street		Pine Street	
Base Volume Input [veh/h]	4	8	252	6	9	233
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	4	0	0	3	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	12	252	6	12	233
Peak Hour Factor	0.7000	0.7000	0.8000	0.8000	0.8000	0.8000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	4	79	2	4	73
Total Analysis Volume [veh/h]	7	17	315	8	15	291
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.02	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	12.43	9.39	0.00	0.00	7.94	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.11	0.11	0.00	0.00	0.03	0.03
95th-Percentile Queue Length [ft/ln]	2.63	2.63	0.00	0.00	0.63	0.63
d_A, Approach Delay [s/veh]	10.28		0.00		0.39	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.56					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 4: East Street / North Access

Control Type:	Two-way stop	Delay (sec / veh):	8.7
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

Intersection Setup

Name	East Street		East Street		Site Access	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	East Street		East Street		Site Access	
Base Volume Input [veh/h]	0	12	15	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	4	3	1	2	5
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	16	18	1	2	5
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	5	5	0	1	1
Total Analysis Volume [veh/h]	1	19	21	1	2	6
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	7.26	0.00	0.00	0.00	8.75	8.44
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.02	0.02
95th-Percentile Queue Length [ft/ln]	0.04	0.04	0.00	0.00	0.59	0.59
d_A, Approach Delay [s/veh]	0.36		0.00		8.51	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.51					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 5: East Street / South Access

Control Type:	Two-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

Intersection Setup

Name	East Street		East Street		Site Access	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	East Street		East Street		Site Access	
Base Volume Input [veh/h]	0	12	15	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	3	7	1	2	5
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	15	22	1	2	5
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	4	6	0	1	1
Total Analysis Volume [veh/h]	1	18	26	1	2	6
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	7.27	0.00	0.00	0.00	8.77	8.46
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.02	0.02
95th-Percentile Queue Length [ft/ln]	0.04	0.04	0.00	0.00	0.59	0.59
d_A, Approach Delay [s/veh]	0.38		0.00		8.54	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.40					
Intersection LOS	A					

East Street Village TIS

Vistro File: C:\...\pm.vistro
Report File: C:\...\2045 Total PM - Scenario 2.pdf

Scenario 7 2045 Total PM - Scenario 2
6/1/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	SH 42 / Pine Street	Signalized	HCM 7th Edition	EB Left	0.364	15.0	B
2	SH 42 / Lock Street	Roundabout	HCM 7th Edition	WB Right		8.1	A
3	Pine Street / East Street	Two-way stop	HCM 7th Edition	NB Left	0.032	13.7	B
4	East Street / North Access	Two-way stop	HCM 7th Edition	EB Left	0.001	9.3	A
5	East Street / South Access	Two-way stop	HCM 7th Edition	EB Left	0.001	9.3	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: SH 42 / Pine Street

Control Type:	Signalized	Delay (sec / veh):	15.0
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.364

Intersection Setup

Name	SH 42			SH 42			Pine Street			Empire Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	300.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	SH 42			SH 42			Pine Street			Empire Road		
Base Volume Input [veh/h]	107	648	0	4	611	166	170	10	91	3	21	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.2400	1.0000	1.0000	1.2400	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	2	0	0	2	21	15	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	94	0	0	46	0	0	25
Total Hourly Volume [veh/h]	107	806	0	4	760	93	185	10	45	3	21	25
Peak Hour Factor	0.9300	0.9300	0.9300	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	217	0	1	207	25	50	3	12	1	6	7
Total Analysis Volume [veh/h]	115	867	0	4	826	101	201	11	49	3	23	27
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	35	0	0	35	0	0	10	0	0	10	0
Maximum Green [s]	12	35	0	0	35	0	0	30	0	0	30	0
Amber [s]	3.0	4.0	0.0	0.0	4.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	20	76	0	0	56	0	0	29	0	0	15	0
Vehicle Extension [s]	3.0	6.0	0.0	0.0	6.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	2.0	3.0	0.0	0.0	3.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	Yes			Yes			No			No	
Maximum Recall	No	No			No			No			No	
Pedestrian Recall	No	No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.00	3.00	3.00	3.00	3.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	89	89	89	80	80	80	10	10	10	8
g / C, Green / Cycle	0.74	0.74	0.74	0.66	0.66	0.66	0.08	0.08	0.08	0.07
(v / s)_i Volume / Saturation Flow Rate	0.17	0.23	0.23	0.01	0.25	0.25	0.06	0.06	0.03	0.03
s, saturation flow rate [veh/h]	695	1870	1870	638	1870	1799	1781	1790	1589	1711
c, Capacity [veh/h]	531	1381	1381	420	1242	1195	149	150	133	119
d1, Uniform Delay [s]	5.43	5.34	5.34	11.48	9.05	9.05	53.57	53.56	51.99	53.62
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.93	0.60	0.60	0.04	0.89	0.92	6.11	6.06	1.70	2.61
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.22	0.31	0.31	0.01	0.38	0.38	0.71	0.71	0.37	0.45
d, Delay for Lane Group [s/veh]	6.36	5.93	5.93	11.52	9.93	9.97	59.68	59.63	53.69	56.23
Lane Group LOS	A	A	A	B	A	A	E	E	D	E
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.85	3.51	3.51	0.05	5.55	5.35	3.36	3.38	1.46	1.63
50th-Percentile Queue Length [ft/ln]	21.33	87.80	87.80	1.29	138.66	133.73	84.12	84.40	36.54	40.63
95th-Percentile Queue Length [veh/ln]	1.54	6.32	6.32	0.09	9.41	9.14	6.06	6.08	2.63	2.93
95th-Percentile Queue Length [ft/ln]	38.39	158.04	158.04	2.32	235.22	228.56	151.41	151.92	65.77	73.13

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	6.36	5.93	5.93	11.52	9.95	9.97	59.66	59.63	53.69	56.23	56.23	56.23
Movement LOS	A	A	A	B	A	A	E	E	D	E	E	E
d_A, Approach Delay [s/veh]	5.98			9.96			58.53			56.23		
Approach LOS	A			A			E			E		
d_I, Intersection Delay [s/veh]	15.00											
Intersection LOS	B											
Intersection V/C	0.364											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1183	850	417	183
d_b, Bicycle Delay [s]	10.01	19.84	37.61	49.51
l_b,int, Bicycle LOS Score for Intersection	2.370	2.405	2.066	1.688
Bicycle LOS	B	B	B	A

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: SH 42 / Lock Street

Control Type:	Roundabout	Delay (sec / veh):	8.1
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	96th Street			SH 42			Lock Street			SH 42		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	400.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	600.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	96th Street			SH 42			Lock Street			SH 42		
Base Volume Input [veh/h]	16	570	151	175	506	3	3	2	8	155	4	207
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.2400	1.2400	1.2400	1.2400	1.0000	1.0000	1.0000	1.0000	1.3000	1.0000	1.3000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	17	0	0	0	0	2	2	9	13	0	12	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	33	707	187	217	627	5	5	11	21	202	16	269
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	192	51	59	170	1	1	3	6	55	4	73
Total Analysis Volume [veh/h]	36	768	203	236	682	5	5	12	23	220	17	292
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	258			278			1161			825		
Exiting Flow Rate [veh/h]	944			1086			59			460		
Demand Flow Rate [veh/h]	33	707	187	217	627	5	5	11	21	202	16	269
Adjusted Demand Flow Rate [veh/h]	36	768	203	236	682	5	5	12	23	220	17	292

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00	1380.00	1420.00	1420.00
B (coefficient)	0.00091	0.00091	0.00091	0.00091	0.00091	0.00102	0.00091	0.00091
HV Adjustment Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Entry Flow Rate [veh/h]	411	411	208	443	499	41	242	298
Capacity of Entry and Bypass Lanes [veh/h]	1123	1123	1123	1103	1103	423	671	671
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1101	1101	1101	1081	1081	415	658	658
X, volume / capacity	0.37	0.37	0.18	0.40	0.45	0.10	0.36	0.44

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A	A	B	B	B
95th-Percentile Queue Length [veh]	1.69	1.69	0.67	1.96	2.40	0.32	1.64	2.29
95th-Percentile Queue Length [ft]	42.33	42.33	16.86	49.11	60.09	7.97	41.04	57.14
Approach Delay [s/veh]	6.56			7.96		10.10	11.26	
Approach LOS	A			A		B	B	
Intersection Delay [s/veh]	8.13							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 3: Pine Street / East Street

Control Type:	Two-way stop	Delay (sec / veh):	13.7
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.032

Intersection Setup

Name	East Street		Pine Street		Pine Street	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	East Street		Pine Street		Pine Street	
Base Volume Input [veh/h]	6	28	239	14	24	272
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	15	0	5	21	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	43	239	19	45	272
Peak Hour Factor	0.7900	0.7900	0.8300	0.8300	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	14	72	6	13	76
Total Analysis Volume [veh/h]	14	54	288	23	50	302
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.06	0.00	0.00	0.04	0.00
d_M, Delay for Movement [s/veh]	13.66	9.69	0.00	0.00	7.95	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.31	0.31	0.00	0.00	0.09	0.09
95th-Percentile Queue Length [ft/ln]	7.78	7.78	0.00	0.00	2.14	2.14
d_A, Approach Delay [s/veh]	10.51		0.00		1.13	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	1.52					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 4: East Street / North Access

Control Type:	Two-way stop	Delay (sec / veh):	9.3
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name	East Street		East Street		Site Access	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	East Street		East Street		Site Access	
Base Volume Input [veh/h]	0	34	38	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	23	20	2	1	3
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	57	58	2	1	3
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	17	17	1	0	1
Total Analysis Volume [veh/h]	6	67	68	2	1	4
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.36	0.00	0.00	0.00	9.30	8.64
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.02	0.02
95th-Percentile Queue Length [ft/ln]	0.25	0.25	0.00	0.00	0.39	0.39
d_A, Approach Delay [s/veh]	0.60		0.00		8.77	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.59					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 5: East Street / South Access

Control Type:	Two-way stop	Delay (sec / veh):	9.3
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name	East Street		East Street		Site Access	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	East Street		East Street		Site Access	
Base Volume Input [veh/h]	0	34	36	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	27	21	2	1	3
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	61	57	2	1	3
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	18	17	1	0	1
Total Analysis Volume [veh/h]	6	72	67	2	1	4
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.36	0.00	0.00	0.00	9.32	8.64
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.02	0.02
95th-Percentile Queue Length [ft/ln]	0.25	0.25	0.00	0.00	0.39	0.39
d_A, Approach Delay [s/veh]	0.57		0.00		8.77	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.58					
Intersection LOS	A					

From: Jeff Meier
To: Planning
Subject: East Street Village
Date: Saturday, June 29, 2024 12:32:57 PM

I received notice of the July 11 meeting on this development.
I live across the RR tracks and just south of the property. I can see it from my backyard.
I support East Street and look forward to it's adding housing that will support the downtown businesses and community
Please approve this development
Jeff Meier
970 948-6666

Jeff Meier
970 948-6666

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From: Conor Seyle
To: Planning
Subject: Letter in support of East Street Village proposal
Date: Sunday, June 30, 2024 8:20:34 AM

Dear planning commission members,

My name is Daniel Conor Seyle, and I am an owner with my wife of 397 County Road, very close to the proposed “East Street Village” project (case PUPL-000427-2022). I am writing to indicate my support for this project: I believe it provides needed housing for the city, and is a good step towards increasing housing density and housing availability downtown. I encourage the commission to approve this proposal.

Thank you,
-Conor

Sent from my iPhone

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