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CITY COUNCIL COMMUNICATION
AGENDA ITEM 10B

SUBJECT: **AVISTA ADVENTIST HOSPITAL**

i. ORDINANCE 1904, SERIES 2025 – AN ORDINANCE APPROVING THE CONOCOPHILLIPS CAMPUS GDP AMENDMENT NO. 1 – 1ST READING, SET PUBLIC HEARING

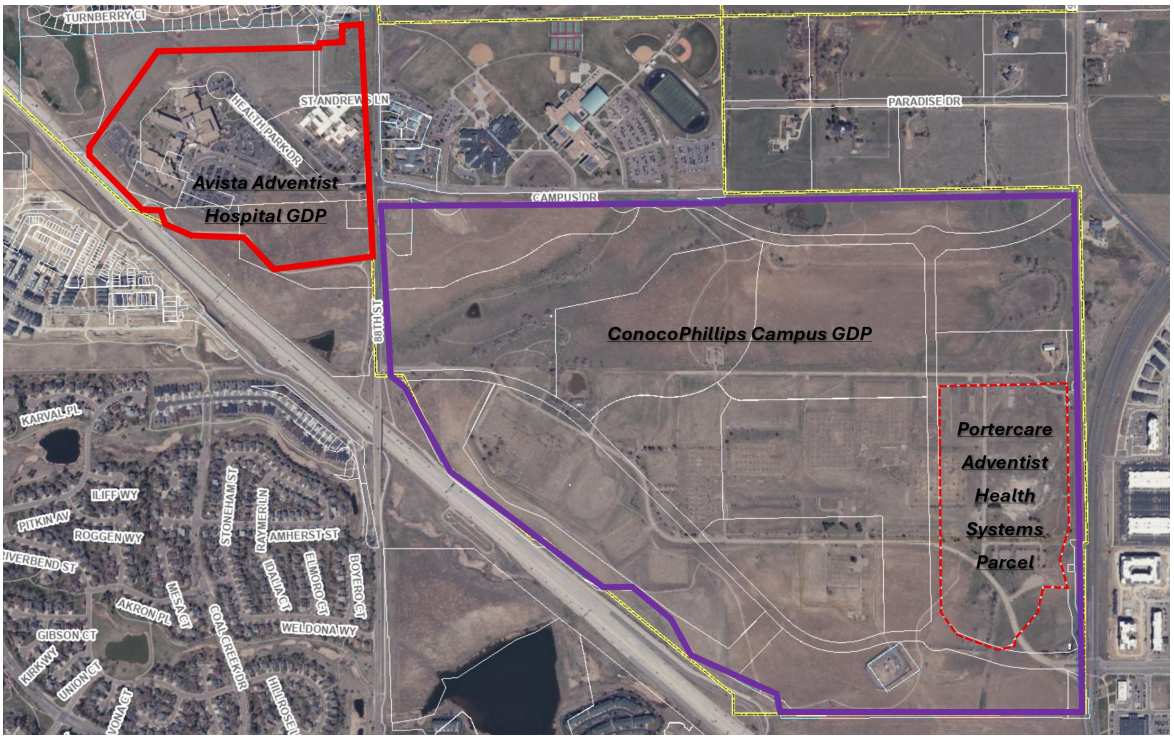
ii. ORDINANCE 1905, SERIES 2025 – AN ORDINANCE APPROVING THE AVISTA ADVENTIST HOSPITAL GDP AMENDMENT NO. 2 – 1ST READING, SET PUBLIC HEARING

DATE: **OCTOBER 7, 2025**

PREPARED BY: **ROB ZUCCARO, COMMUNITY DEVELOPMENT DIRECTOR**

PRESENTED BY: **ROB ZUCCARO, COMMUNITY DEVELOPMENT DIRECTOR**

VICINITY MAP:



SUMMARY:
The applicant, Portercare Adventist Health Systems, requests two simultaneous amendments to the Avista Adventist Hospital General Development Plan (GDP) and the ConocoPhillips Campus GDP (Redtail Ridge) (see Attachment Nos. 4 and 5 for proposed GDPs). The amendments are in support of the applicant's desire to build a new hospital

campus within the Redtail Ridge development on Lot 1, Block 2 of Redtail Ridge, Filing No. 1.

The following summarizes the proposed amendments:

Avista Adventist Hospital GDP, Amendment No. 2

- Reduce the maximum building area allowed from 750,000 sq. ft. to 398,694 sq. ft., which represents existing development within the GDP boundary.
- Dedicate to the City an approximately 7.5-acre parcel for use as Open Space, noted as Lot B on proposed GDP amendment.
- Modify the building setbacks adjacent to Lot B to be 5' for parking and drive aisles and 20' for buildings. This replaces a 50' setback for two-story buildings and 100' setbacks for three-story buildings on north side of the development, and a 75' setback for all buildings on the northwest side development but will increase overall setbacks from adjoining residential development when taking into consideration the Lot B dedication.

ConcoPhillips Campus GDP, Amendment No. 1

- Add 364,400 sq. ft. of allowed building area to Lot 1, Block 2 of Redtail Ridge Filing No. 1, which was purchased by Portercare Adventist Health Systems. The building area allowance would be in addition to the maximum 2,542,380 sq. ft. of allowed building area within the Redtail Ridge development, bringing the total development cap to 2,906,780 sq. ft. With the Avista Adventist Campus GDP removing 351,306 sq. ft. of future development potential from that GDP area, this would result in a net increase of 13,094 sq. ft. of additional development allowed between the two GDP areas.
- Establish three height zones for:
    - 2-3 story buildings (maximum of 45' tall, 50' to parapet, 65' to mechanical screen),
    - 4 story buildings (maximum of 60' tall, 65' to parapet, 80' to mechanical screen), and
    - 5 story buildings (maximum of 85' tall, 90' to parapet, 105' to mechanical penthouse).
- Establish building massing standards to ensure architectural interest and moderate visual impacts of taller building elements. This includes design standards for building projections and building step-back standards for building elements above 45' in height.

BACKGROUND / PRIOR DISCUSSIONS:

Avista Adventist Hospital GDP

The original Avista Adventist Hospital campus was annexed into the City in 1986 and zoned Agriculture. The property was then platted and developed as the Centennial Health Park, starting in 1987. There have been six subdivision plat amendments, with the last amendment taking place in 2002. The subdivision plats have resulted in the establishment

of multiple parcels for the development of medical facilities and offices, public utility and access easements, and right of way dedication for Health Park Drive.

- 1987 – Health Park Subdivision Filing No. 1
- 1988 – Health Park Subdivision Filing No. 2
- 1990 – Health Park Subdivision Filing No. 3
- 1990 – Health Park Subdivision Filing No. 4
- 1996 – Health Park Subdivision Filing No. 5
- 2002 – Health Park Subdivision Filing No. 6

In 1998, a portion of the subject property was rezoned to Planned Community Zone District – Commercial (PCZD-C) along with approval of the initial GDP for the property. In 2002, an additional 13 acre parcel on the north side of the property was annexed, zoned to PCZD-C, and incorporated in the Avista Hospital GDP area.

- 1998 Avista Adventist Hospital GDP
- 2002 Avista Adventist Hospital GDP (Amendment No. 1)

As part of the 2002 annexation, a 10-acre parcel on the north and northwest sides of the GDP area was dedicated for open space (see Attachment No. 10 for Annexation Agreement, Section 15). This dedication was required by the US 36 Corridor Comprehensive Development Plan Intergovernmental Agreement (IGA) and First Amendment to the Agreement, which specifically addressed the open space dedication requirement.

- 2000 - US 36 Corridor Comprehensive Development Plan IGA
- 2002 - First Amendment to the36 Corridor Comprehensive Development Plan IGA

The proposed public use dedication area (Lot B on proposed GDP amendment) is contiguous to the original 10-acre open space parcel, extending the overall open space parcel to approximately 17.5 acres.

Current development within the Avista Adventist Hospital GDP includes the AdventHealth Avista Hospital and associated medical office buildings, and Centennial Peaks Hospital. The 2002 Avista Adventist Hospital GDP includes a maximum development cap of 750,000 sq. ft. of building area. The existing development within the Avista Adventist Hospital GDP boundaries totals 398,694 sq. ft. of building area, with 351,306 sq. ft. remaining for future development.

<u>ConcoPhillips Campus GDP</u>

The ConcoPhillips Campus GDP is the former location of StorageTek Corporation. StorageTek established its original campus on 310 acres within unincorporated Boulder County. The City subsequently annexed the 310-acre campus in 1978. The StorageTek campus included approximately 1.6 million sq. ft. of building area at full build-out.

ConocoPhillps acquired the property in 2008 and completed demolition of the StorageTek campus in 2009 to facilitate a new research campus. In 2009, ConocoPhillips petitioned

the City to annex 80 acres of land adjacent to the 310-acre campus and requested rezoning of the entire property to Planned Community Zone District – Commercial (PCZD-C).

In 2010, the City rezoned the property to PCZD-C and approved the ConocoPhillips Campus GDP, a Zoning Agreement, Preliminary Subdivision Plat, and Preliminary Planned Unit Development (PUD) for the ConocoPhillips development. The GDP included an approximately 2.5 million sq. ft. development cap, set allowed land uses, setbacks, parking standards, and required a minimum public land dedication of 12%, matching the minimum code requirement. ConocoPhillips later abandoned its development plans and sold the property. The Preliminary Subdivision Plat and Preliminary PUD were never finalized and have since expired. A metro district was also established to help fund infrastructure for the development.

- 2010 – ConocoPhillips Campus GDP

In 2024, the City approved a final plat for the Redtail Ridge development, with the intent to develop the property consistent with the standards set by the ConocoPhillips Campus GDP. The plat approval included dedication of 139 acres of public use lands, created multiple development parcels, established utility and access easements, dedicated public road rights of way, including an extension of Campus Drive, and included an agreement for expansion of the City's wastewater treatment plant. The developer is currently installing the horizontal infrastructure and public roads and completing initial over-lot grading for the development.

- 2024 – Redtail Ridge, Filing No. 1

<u>Ordinance No. 1996, Series 2025</u>
On July 8, 2025, the City Council adopted Ordinance 1896, Series 2025, which amended Section 17.72.190 of the Louisville Municipal Code regarding Yard and Bulk requirements for GDPs. Specifically, this ordinance amendment allows Yard and Bulk requirements (e.g. setbacks, lot coverage, and building heights) to be set through the approval of a GDP or GDP amendment.

Prior to this code amendment, GDPs were prohibited from establishing Yard and Bulk standards that were inconsistent with certain underlying zoning requirements. Deviations to the Yard and Bulk standards could only be approved through the waiver process at the time of PUD approval. This was found to be inconsistent with the intent of GDPs to create custom zoning standards for the district that will define the type and character of the development. The limitation also led to GDPs that did not provide the landowner clear guidance on the desired development standards and uncertainty in the development review process.

PROPOSAL:

Avista Adventist Hospital GDP

The proposed amendment would reduce maximum allowed building area on the Avista Adventist Hospital GDP and is intended to serve as a "density swap" where the unused development area is transferred to the ConocoPhillips Campus GDP. This is accomplished by updating the "Building Area Summary" note to set the maximum allowed building area to reflect existing campus development at 398,694 sq. ft. and remove the remaining 351,306 sq. ft of development allotment for future phases. This would not prohibit future development within the new development cap if existing buildings were to be demolished.

Figure 1: Existing and Proposed Maximum Development Areas

Existing GDP Note

BUILDING AREA SUMMARY

EXISTING FACILITIES:	
Avista Hospital	170,000 SF
MOB I	40,000 SF
MOB II/ASC	86,200 SF
Centennial Peaks facility	53,777 SF
subtotal	**349,977 SF**
FUTURE PHASES:	
Planning Areas	400,023 SF
Total Maximum Buildout	**750,000 SF**

Proposed GDP Note

BUILDING AREA SUMMARY

EXISTING FACILITIES:		
Avista Hospital		198,847 SF
MOB I		40,000 SF
MOB II/ASC		86,200 SF
Centennial Peaks facility		64,907 SF
Spicer Residences	east -	4,625 SF
	west-	4,115 SF
subtotal		**398,694 SF**
FUTURE PHASES:		
Planning Areas (Buildable SF)		0 SF
Total Maximum Buildout		**398,694 SF**

Part of the intent of the "density swap" is to limit the gross new development area between the two GDPs, and thus, limit any potential traffic impacts and impacts on City water and sewer utilities. As part of this request, the applicant provided a traffic study and analysis of wastewater infrastructure capacity to demonstrate that adequate infrastructure would be in place as part of the Redtail Ridge development. The City's Public Works Department determined that there is adequate water infrastructure in place and did not request an analysis.

The applicant is also proposing dedication of an approximately 7.5-acre parcel for open space (Lot B). The dedication area covers approximately half of a 15-acre parcel listed on the Open Space Advisory Board's 2023 Candidate Open Space Ranking map as a *High Priority* (see Attachment No. 11, Parcel DD). The applicant requests that the City manage the new open space parcel as Open Space-Preserve Land as defined under Section 15-4 of the City Charter, and that the City does not develop public trails, trailheads or other amenities on the parcel, unless such agreement is amended in the future. A separate agreement is proposed related to dedication of the parcel, which would be transferred to the City by separate action following approval of the GDP amendments (Attachment No. 8).

This public land dedication is not being made to meet a municipal code requirement for public use dedications, as the property is already subdivided and no new development is proposed within the Avista Adventist Hospital GDP area. Public use dedications are required when a property is initially subdivided, totaling 12% of commercial areas and 15% of residential areas, or cash in lieu of land dedication (LMC Sec. 16.16.060). Additional public use dedications may be required as part of the Planned Unit Development (PUD) approval process when certain criteria are met (LMC Sec. 17.28.080). This proposal does not include a PUD development proposal.

Figure 2: Proposed Open Space Dedication Area

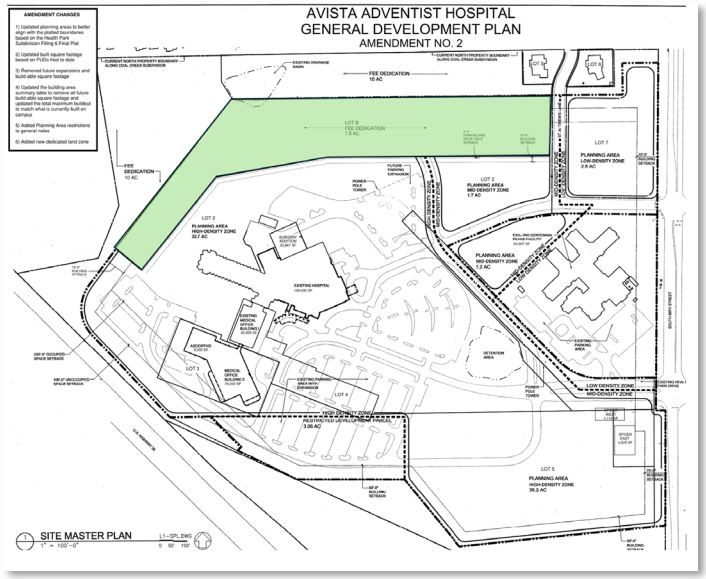
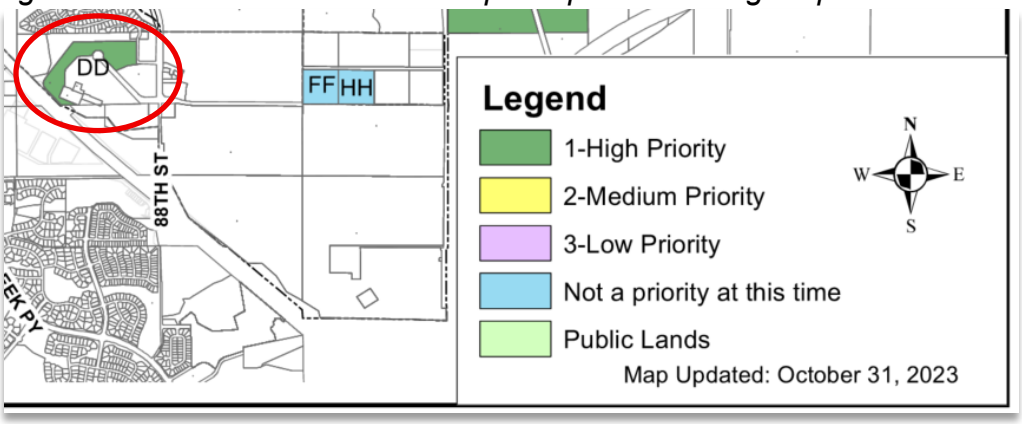


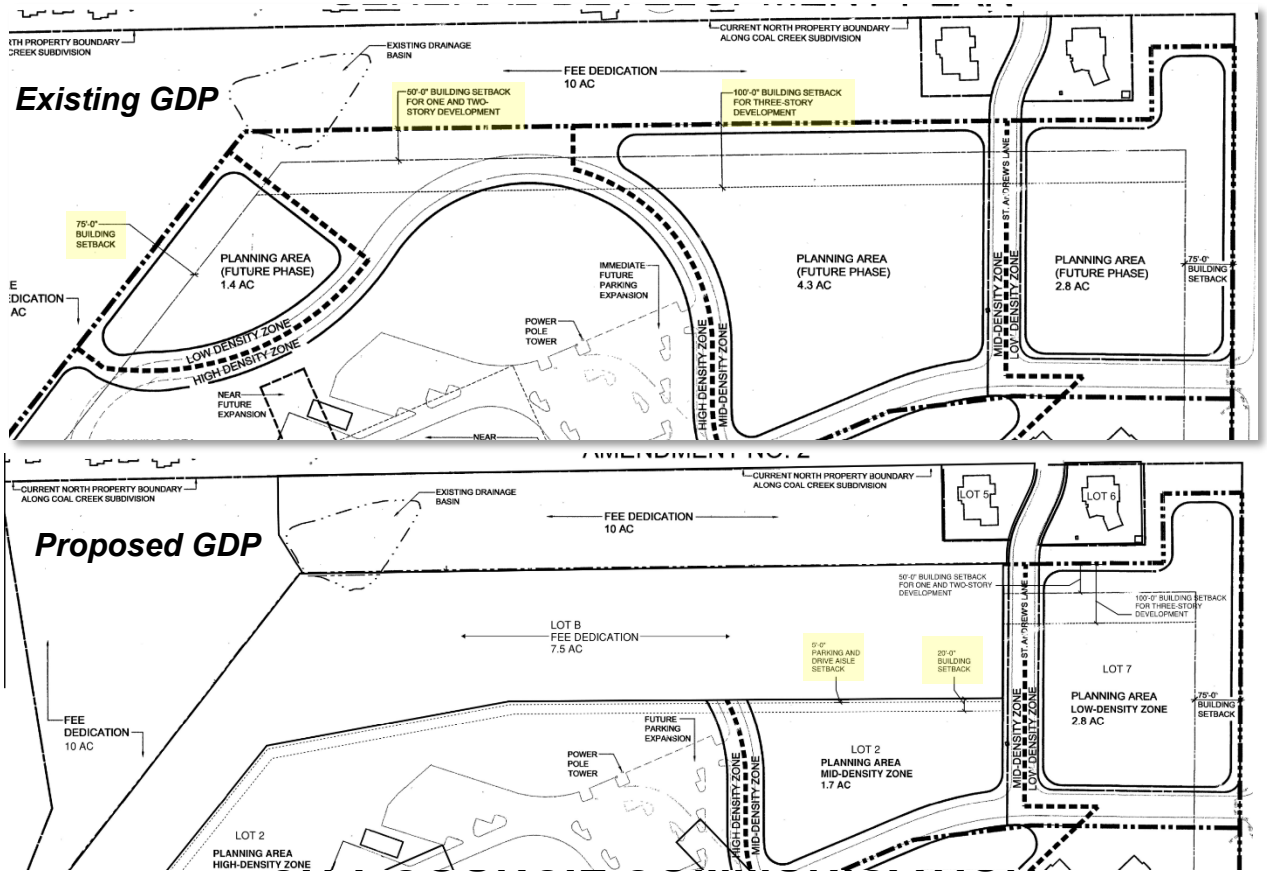
Figure 3: Aerial of Proposed Open Space Dedication Area

Figure 4: OSAB 2023 Candidate Open Space Ranking Map



The current GDP includes building setback notes requiring a minimum 50' setback for one and two-story buildings and 100' setback for three-story buildings along the north boundary of the development, and a 75' setback along the northwest boundary of the development. As part of the public dedication of Lot B, the applicant requests that these setbacks be modified to be 5' for parking and drive aisles and 20' for buildings. When taken together with the public land dedication area, the minimum setbacks would be increased from the adjoining residential development to the north.

Figure 5: Existing and Proposed Setback Notes



ConocoPhillips Campus GDP

As part of the "density swap," the applicant proposes adding 364,400 sq. ft. of additional allowed building area to Lot 1, Block 2 of Redtail Ridge Filing No. 1, which is owned by Portercare Adventist Health Systems and the anticipated site of a new hospital campus development. The proposed GDP labels this lot as the "Hospital Parcel." When added to the existing development cap within Redtail Ridge of 2,542,380 sq. ft., the total allowed development equals 2,906,780 sq. ft. As previously noted, the "density swap" would limit the overall development allowance between the two GDPs and result in a net increase of 13,094 sq. ft. of allowed building area.

Figure 6: Proposed GDP Note Addressing Additional Development Allowance

SITE INFORMATION

GROSS DEVELOPABLE AREA (PUD BOUNDARY):	391.719 ACRES (MINIMUM 0.15 F.A.R.) * FOR LEGAL DESCRIPTION SEE EXHIBIT A OF ORDINANCE NO. 1569 SERIES 2010
ZONING:	PLANNED COMMUNITY ZONED DISTRICT (PCZD) - COMMERCIAL WITH PUD-C OVERLAY
PLANNED ACCESS:	NORTHWEST PARKWAY, CAMPUS DRIVE, SOUTH 88TH STREET

* THE F.A.R APPLIES TO THE GROSS AREA OF THE ENTIRE DEVELOPMENT AND IS NOT PARCEL-SPECIFIC. THIS GDP ACKNOWLEDGES AN ADDITIONAL 364,400 SF ALLOCATED TO THE HOSPITAL PARCEL, ON TOP OF THE ALLOCATED DEVELOPMENT SQUARE FOOTAGE.THE 364,400 SF IS IN CONSIDERATION WITH A DENSITY SWAP FROM HEALTH PARK 1.

The applicant also proposes adding a notation to the Permitted Use table to clarify that Hospital and Medical Office Buildings are allowed commercial uses within Redtail Ridge. Staff finds that the commercial zoning designation allows Hospital and Medical Office Buildings, but the note provides additional clarity to this allowance.

Figure 7: Proposed Use Note Amendment

PERMITTED USES

PERMITTED USE	COMMENTS / REMARKS	PARKING REQUIREMENTS
PROFESSIONAL, BUSINESS, AND ADMINISTRATIVE OFFICES	-	4 / 1,000 S.F.
EDUCATIONAL AND TRAINING FACILITIES	MEETING ROOMS AND SOCIAL SPACE FOR EMPLOYEES AND VISITORS	0.5/ 1,000 S.F.
PRIVATE SHORT TERM LODGING FOR CONOCOPHILLIPS EMPLOYEES AND GUESTS	OVERNIGHT ACCOMMODATIONS FOR EMPLOYEES/VISITORS	0.5 / ROOM
PEDESTRIAN PLAZAS AND PEDESTRIAN WAYS	-	-
PRIVATE, NONCOMMERCIAL, RECREATIONAL AND SOCIAL FACILITIES	-	1 / 1,000 S.F.
PARKING LOTS AND PARKING BUILDINGS	SURFACE AND STRUCTURED PARKING	-
CAMPUS ORIENTED CHILDCARE CENTER	PRIVATE CHILDCARE FOR EMPLOYEES	1.5 SPACES PER TEACHER PLUS ONE SPACE PER ADMINISTRATIVE EMPLOYEE
RESEARCH/OFFICE AND CORPORATE USES AND FACILITIES FOR THE RESEARCH, DEVELOPMENT, MANUFACTURING, FABRICATION, PROCESSING, OR ASSEMBLY OF SCIENTIFIC OR TECHNICAL PRODUCTS, OR OTHER PRODUCTS	-	1.25 / 1,000 S.F.
BUILDING MOUNTED CMRS FACILITIES	-	-
CAMPUS ORIENTED FOOD SERVICE	RESTAURANTS, CAFETERIAS, OR CAFES FOR USE BY EMPLOYEES/VISITORS INTEGRATED THROUGHOUT THE CAMPUS	-
COMMERCIAL USES, INCLUDING BUT NOT LIMITED TO BUILDING CONTRACTOR'S EQUIPMENT YARDS, TRANSPORTATION CENTERS AND SERVICED, WAREHOUSES AND STORAGE FACILITIES	STORAGE OF MATERIALS IN SUPPORT OF THE CAMPUS RESEARCH AND DEVELOPMENT FACILITY, HELIPAD (SPECIAL REVIEW USE), HOSPITAL, MEDICAL OFFICE BUILDINGS	1 / 1,000 S.F.
PRIVATE UTILITY USES	TO ALLOW THE EXISTING SANITARY LIFT STATION, POTENTIAL SUBSURFACE GEO EXCHANGE FIELD, SOLAR PANELS, BUILDING MOUNTED WIND POWERED ELECTRICAL GENERATION FACILITIES, AND CENTRAL MECHANICAL, ELECTRICAL, AND PLUMBING FACILITY	-
OTHER USES AS ESTABLISHED BY THE CITY COUNCIL AS FOUND TO BE SPECIFICALLY COMPATIBLE FOR COMMERCIAL AND OFFICE PLANNING AREAS	-	-

Within the Hospital Parcel, the applicant proposes the establishment of three building height zones and building massing design standards. The three height zones are for three-story, four-story, and five-story buildings. The standards include different maximum heights for the buildings, the parapets, and mechanical screen structures. Due to some of the unique requirements for hospital and medical office developments, the proposed maximum heights are taller than what would be expected in non-medical office buildings.

The proposed building massing design standards would require building step-backs of 15 feet for building elements above 45' and limit the footprint of building elements above 45' to 50% of the lower building footprint. This is intended to moderate the visual impacts of the building massing for taller buildings. The proposed standards also include allowances for architectural projections and "defining

Figure 8: Hospital Parcel Height Zones

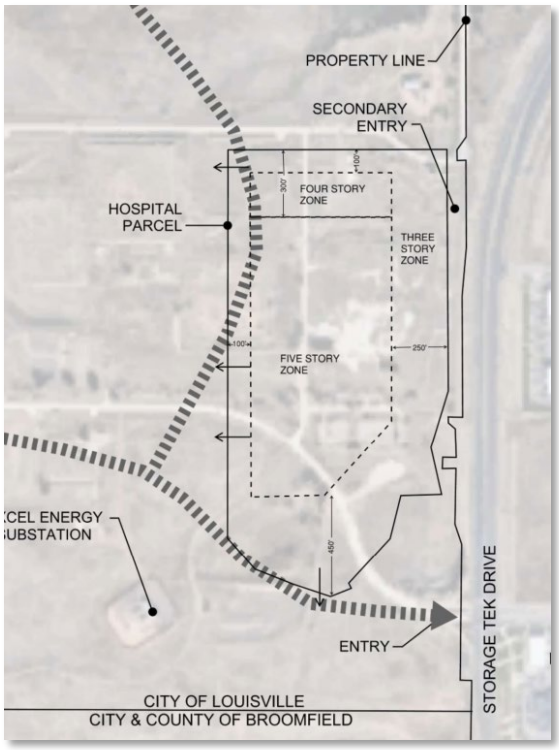


Figure 9: Proposed Height and Massing Standards

HOSPITAL PARCEL
FOR THE HOSPITAL PARCEL (LOT 1, BLOCK 1) BUILDING HEIGHTS ARE EXPECTED TO RANGE FROM THREE TO FIVE OCCUPIABLE STORIES, RANGING IN HEIGHT FROM 50' TO 90'. UNOCCUPIED MECHANICAL SCREENING OF UP TO 20' WOULD BE ABOVE THE 5 STORIES. THE HOSPITAL PARCEL WILL BE ZONED TO SUPPORT LOWER THREE-STORY BUILDING HEIGHTS TOWARDS THE NORTH, EAST, AND WEST PROPERTY BOUNDARIES CONCENTRATING THE 5-STORY STRUCTURES CENTRALLY WITHIN THE SITE. REFER TO THE GRAPHIC FOR PARCEL HEIGHT ZONES.

BUILDING HEIGHT ZONING:
THREE STORY ZONE:
45'-0" MAXIMUM BUILDING HEIGHT
50'-0" PARAPET HEIGHT
65'-0" MECHANICAL PENTHOUSE HEIGHT*

FOUR STORY ZONE:
60'-0" MAXIMUM BUILDING HEIGHT
65'-0" PARAPET HEIGHT
80'-0" MECHANICAL PENTHOUSE HEIGHT*

FIVE STORY ZONE:
85'-0" MAXIMUM BUILDING HEIGHT
90'-0" PARAPET HEIGHT
105'-0" MECHANICAL PENTHOUSE HEIGHT*

*ROOF ACCESS AND ELEVATOR OVERUN IS EXCLUDED FROM THE BUILDING HEIGHT

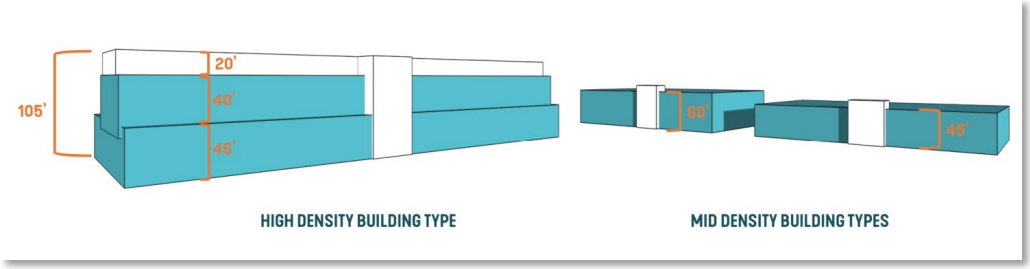
BUILDING MASSING DESIGN PARAMETERS:
FOR BUILDING FACADES EXCEEDING 100 FEET IN LENGTH AND MORE THAN 45 FT IN HEIGHT, A RELIEF IN THE BUILDING MASSING IS REQUIRED TO REDUCE VISUAL MONOTONY AND ENHANCE ARCHITECTURAL INTEREST:
- A MAXIMUM HEIGHT OF 45 FEET IS PERMITTED BEFORE A MINIMUM HORIZONTAL SETBACK OF 15 FEET IS REQUIRED FROM THE PRIMARY BUILDING FACE.
- A PROJECTED RELIEF ELEMENT MAY EXTEND OUTWARD FROM THE MAIN BUILDING MASS BY A MINIMUM OF 2 FEET, PROVIDED IT CONTRIBUTES TO THE OVERALL ARTICULATION AND DESIGN OF THE FACADE.
- THE FOOTPRINT OF EACH FLOOR ABOVE 45 FEET SHALL NOT EXCEED 50% OF THE FOOTPRINT OF THE BUILDING AT OR BELOW 45 FEET.
- ANY ROOFTOP ENCLOSURE (E.G., MECHANICAL PENTHOUSES) MUST BE SET BACK A MINIMUM OF 10 FEET FROM THE EDGE OF THE BUILDING MASS, UNLESS IT IS ARCHITECTURALLY INTEGRATED INTO THE OVERALL DESIGN OF THE BUILDING.
- EXCEPTION: A DEFINING ARCHITECTURAL ELEMENT OR DISTINCT BUILDING FORM WITH A TOTAL WIDTH OF LESS THAN 100 FEET IS EXEMPT FROM THE ABOVE SETBACK AND RELIEF REQUIREMENTS. A MINIMUM 2-FOOT DEPTH VARIATION FROM THE ADJACENT PRIMARY FACADE PLANE MUST STILL BE PROVIDED TO ENSURE VISUAL ARTICULATION.

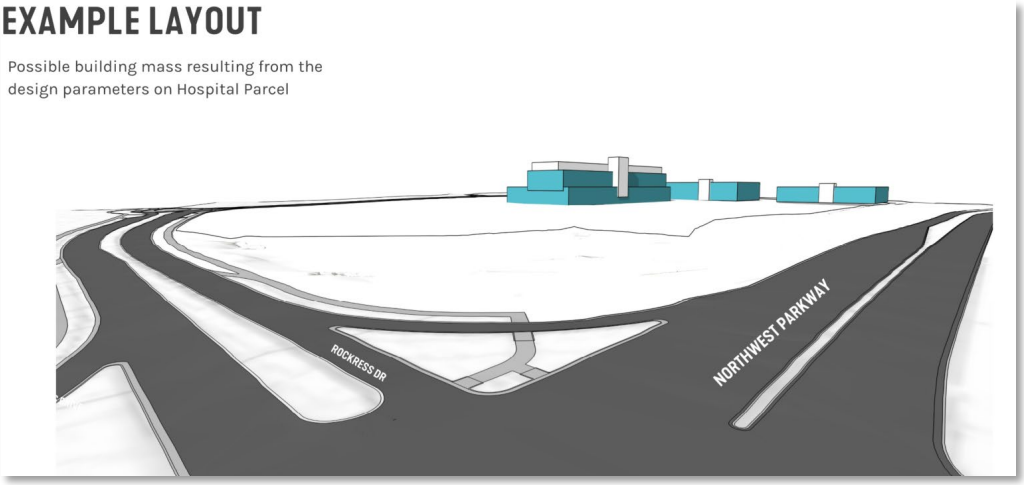
DEFINING ARCHITECTURAL ELEMENTS MAY INCLUDE, BUT ARE NOT LIMITED TO:
-VERTICAL CIRCULATION TOWERS (E.G., STAIR OR ELEVATOR CORES)
-ENTRY PAVILIONS OR LOBBIES
-ARCHITECTURAL EYEBROWS OR ROOF OVERHANGS
-BRANDED OR SCULPTURAL FACADE FEATURES
-CORNER ELEMENTS OR TURRETS
-ATRIUM VOLUMES OR LIGHT WELLS
-DISTINCTIVE ROOF FORMS

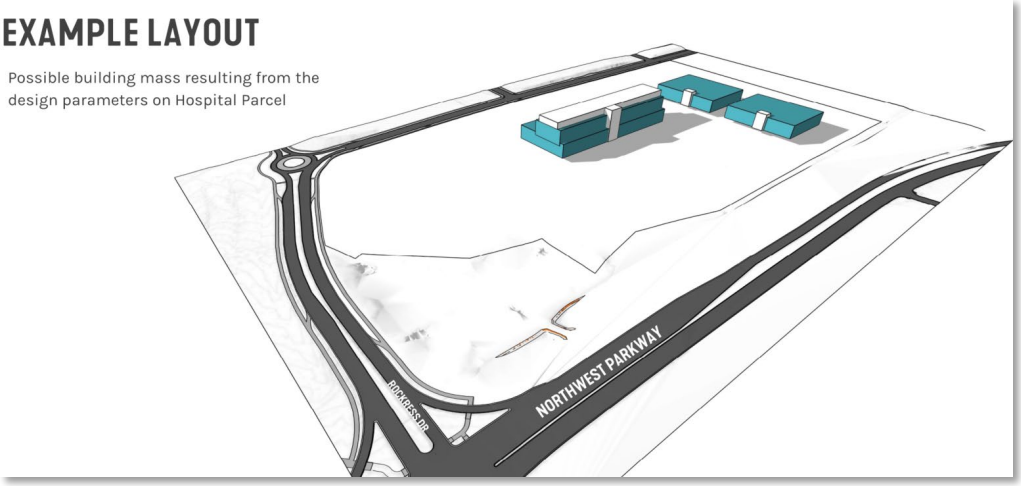
architectural elements," including requirements for depth variations for these elements. Rooftop enclosures would need to be set back an additional 10' from the edge of the buildings.

The applicant has provided a massing study and examples of intended architecture in support of the request (see Attachment No. 7).

Figure 10: Massing Diagrams







ANALYSIS:
LMC Chapter 17.72 outlines the requirements for PCZD-zoned properties and the standards for GDPs. Sec.17.72.060 of this chapter notes that existing GDPs may be amended, subject to the same procedure as the original approval.

> *Any adopted planned community general development plan and supplementary development standards may be amended, revised or territory added thereto, pursuant to the same procedure and subject to the same limitations and requirements by which such plan was originally approved.*

LMC Sec. 17.72.010 outlines the purpose of the PCZD as follows:

> *The purpose of the planned community zone district is to encourage, preserve and improve the health, safety and general welfare of the people of the city by encouraging the use of contemporary land planning principles and coordinated community design. The planned community zone district is created in recognition of the economic and cultural advantages that will accrue to the residents of an integrated, planned community development of sufficient size to provide related areas for various housing types, retail and service activities, recreation, schools and public facilities, and other uses of land. This district is designed for use where the area comprising such development project is under single ownership or control at the time of its classification as this district.*

Staff finds that the proposed GDP amendments are consistent with the purpose of the PCZD. The proposed amendments to the ConocoPhillips Campus GDP for the Hospital Parcel establish minimum standards to address building massing, ensuring quality architectural design of the taller building elements. The Hospital Parcel is also located at the lowest elevation point of the Redtail Ridge development, which helps mitigate overall height in relation to surrounding development. The building heights will also be consistent with taller building heights allowed in Broomfield immediately to the east across NW Parkway. The Broomfield development includes existing buildings up to five stories, with the zoning providing height allowances in three districts of up to 70', 80', and 13 stories (specific height not defined).

For the Avista Adventist Hospital GDP, the public land dedications on the north side of the development and revised setbacks will continue to provide an appropriate buffer to the Coal Creek neighborhood to the north.

LMC Sec. 17.72.030 requires that a GDP address the following items:

A. *The proposed use of all lands within the subject property;*

B. *The type or character of development and the number of dwelling units per gross acre proposed;*

C. The proposed location of school sites, parks, open spaces, recreation facilities and other public and quasi-public facilities; and

D. The proposed location of all streets shall be coordinated with the adopted general street plan for the city

Staff finds that the proposed GDP amendments are consistent with these standards. There are no changes to the allowed land uses. The design standards, including the revised minimum setbacks and height and massing standards, will reflect an appropriate type of character of development within each GDP area that compliments surrounding development. The proposal also includes dedication of additional open space in a location designed as a high priority by the City. No changes are proposed to the street network for either development.

Comprehensive Plan

The 2013 Comprehensive Plan includes both the Avista Adventist Hospital GDP and ConocoPhillips Campus GDP as part of the Phillips 66 Special District, which is designated as a Rural special district.

- see pp. 35-36 for Special Districts

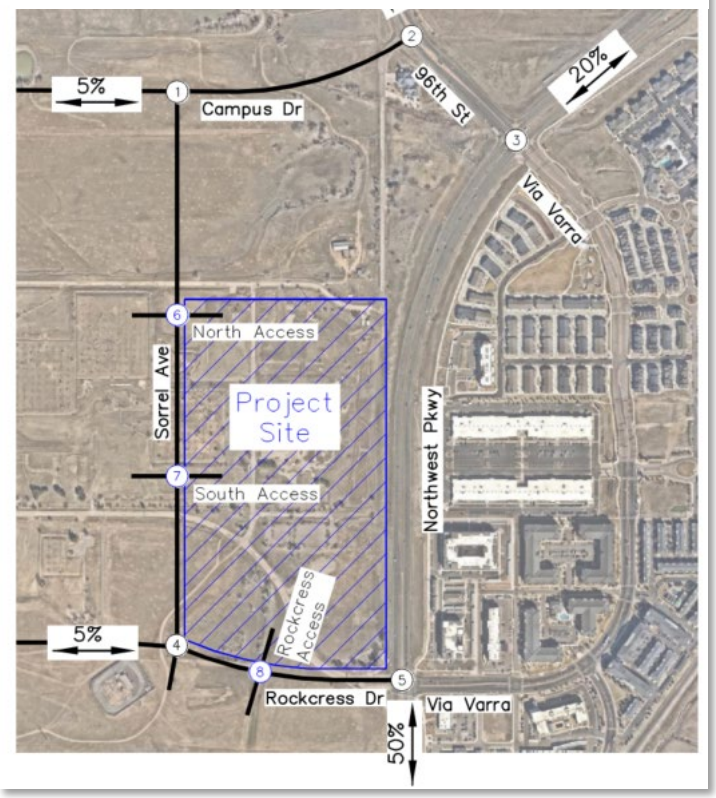
At the time of the drafting of the 2013 Comprehensive Plan, the City anticipated that ConocoPhillips would develop a research campus at what is now Redtail Ridge. The policies within the Comprehensive Plan reflect this anticipated development. The Comprehensive Plan notes that within Rural special districts building heights may exceed three stories if structures are clustered, located outside of the public view shed, and buffered by surrounding topography and open space. The Preliminary PUD approved for the ConocoPhillps Campus included building heights up to 95’ in one subarea, and 65’ in several other subareas of that plan.

Staff finds that the proposed building heights that exceed three stories for the Hospital Parcel would be consistent with these policies. The Redtail Ridge final plat created a significant open space buffer along the north and west sides of the development, resulting in a clustering of the development on the south and east sides of the development. There is a large open space parcel located in Broomfield between US 36 and the Hospital Parcel that will buffer the development from the south. The building massing standards established on the GDP amendment will also help to ensure the additional heights are appropriately designed to ensure the taller building masses are further buffered from public view.

Traffic Study

The applicant submitted a traffic study that addresses the change in development allocations between the two GDP areas and analyzes the overall impact of the increased development area within the Hospital Parcel at Redtail Ridge (see Attachment No. 6). The trip distribution for the Hospital Parcel is expected to include 50% of trips to/from US 36/NW Parkway south, 20% of trips to/from NW Parkway north, 20% of trips to/from 96th Street, 5% of trips to/from Campus Drive, and 5% of trips to/from Rockcress Drive. The study also shows three access points to the Hospital Parcel, one from Rockcress Drive and one from Sorrel Avenue.

Figure 11: Traffic Study Trip Distributions



With the relocation of the hospital campus from its 88th Street location, and with a larger planned hospital campus at Redtail Ridge, the traffic study estimates an additional 658 weekday trips, with 47 more trips during the morning peak hour and 61 more trips during the afternoon peak hour.

The traffic study includes recommended transportation improvements that would supplement the transportation infrastructure currently being constructed as part of the Redtail Ridge development (pp 3-5 of study). The study concludes that, with the recommended improvements, that traffic will operate acceptable through the long-term study horizon. Staff recommends a condition that the applicant provide an updated traffic study with future PUD applications and that the necessary transportation infrastructure and development agreements to complete the improvements be addressed at the time of PUD approvals.

Wastewater Facilities Analysis

Part of the Redtail Ridge development is the construction of a sewer lift station within the development and the necessary infrastructure to distribute the effluent to the City's wastewater treatment plant. As part of this application, staff requested an analysis to demonstrate that the current infrastructure plans will accommodate the additional development that the GDP amendments would allow within the Redtail Ridge development (see Attachment 9). The City's Public Works department has reviewed the analysis and

finds that current plans for the lift station and wastewater infrastructure are adequate to accommodate the planned development.

PUBLIC COMMENTS:
See Attachment No. 15 for public comments received prior to publication of this report.

2025 COUNCIL WORK PLAN:
This item is not on the 2025 City Council Workplan.

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

ALTERNATIVE(S):
The following are potential alternatives for consideration:

- Approve the Ordinances for each GDP on first reading and set the public hearing for second reading.
- Not approve the Ordinances.

RECOMMENDATIONS:
OSAB Recommendation:
The Open Space Advisory Board (OSAB) held a public hearing on September 24, 2025 to review the proposal for public land dedication and voted unanimously to recommend approval. Staff will provide the draft minutes as an attachment to the second reading memo. OSAB also added the following additional recommendation to the approval resolution.

> *The Board further recommends that prior to the City Council hearing that the applicant meets with City staff to explore if additional areas of Parcel DD, designated as a High Priority by OSAB as shown on the 2023 Priority Acquisition Map, may be considered for dedication, that the applicant consider allowing designation of the property as Open Space – Protected Land, and consider if a trail alignment could be allowed through the designated parcel at a future date.*

The additional recommendation does not include any conditions that would need to be met prior to the City Council hearing and is intended to encourage further discussions on allowing a potential future public trail through the dedicated open space and to provide additional dedication area within Parcel DD.

Planning Commission Recommendation:
The Planning Commission held a public hearing on September 25, 2025 to review the proposed GDP amendments and voted unanimously to recommend approval. Staff will provide the draft minutes as an attachment to the second reading memo. The meeting video can be viewed at the following link:

Link: Meeting Video (0:7:45 to 1:40:15)

The Planning Commission also unanimously approved a separate motion that matched OSAB's recommendation to City Council regarding allowing trail access through the open space dedication parcel.

> *The Planning Commission recommends that prior to the City Council hearing that the applicant meets with City staff to explore if additional areas of Parcel DD, designated as a High Priority by OSAB as shown on the 2023 Priority Acquisition Map, may be considered for dedication, that the applicant consider allowing designation of the property as Open Space – Protected Land, and consider if a trail alignment could be allowed through the designated parcel at a future date.*

Staff Recommendation:
Staff recommends approval of Ordinance No. 1904, Series 2025 and Ordinance No. 1905, Series 2025 on first reading and setting the public hearing for second reading.

ATTACHMENT(S):

1. Ordinance No. 1904, Series 2025
2. Ordinance No. 1905, Series 2025
3. Application Forms
4. Proposed Avista Adventist Hospital GDP, Amendment No. 2
5. Proposed ConocoPhillips Campus GDP, Amendment No. 1
6. July 2025 AdventHealth Louisville Traffic Study
7. ConocoPhillips Campus GDP Amendment Massing Study
8. Land Dedication Agreement
9. Wastewater Analysis
10. 2002 PorterCare Adventist Health System Annexation Agreement
11. 2023 Candidate Open Space Ranking map
12. OSAB Resolution 1, Series 2025, Recommending Approval of the Open Space Dedication as Part of the Adventists Hospital General Development Plan, Amendment No. 2
13. Planning Commission Resolution 12, Series 2025, Recommending Approval of the Avista Adventists Hospital General Development Plan, Amendment No. 2
14. Planning Commission Resolution 13, Series 2025, Recommending Approval of ConocoPhillips Campus GDP, Amendment No. 1
15. Public Comments
16. Staff Presentation

ORDINANCE NO. 1904
SERIES 2025

AN ORDINANCE APPROVING THE CONOCO PHILLIPS CAMPUS GDP, AMENDMENT NO. 1

WHEREAS, the City of Louisville (the "City"), is a Colorado home rule municipal corporation duly organized and existing under laws of the State of Colorado and the City of Louisville Home Rule Charter (the "City Charter"); and

WHEREAS, the ConocoPhillips Campus GDP is the former location of the StorageTek Corporation, which established its original campus on 310 acres in unincorporated Boulder County, and was annexed to the City in 1978; and

WHEREAS, in 2009, an additional 80 acres of adjacent land was annexed to the City and in 2010 the entire property was rezoned to Planned Community Zone District – Commercial (PCZD-C) and the ConocoPhillips Campus GDP was approved; and

WHEREAS, the City has received an application to amend the ConocoPhillips Campus GDP, as it pertains to Lot 1, Block 2, Redtail Ridge Filing No. 1 subdivision, labeled as the "Hospital Parcel" on the proposed GDP amendment ("Amendment No. 1"), which would increase the total allowed development area, clarify allowed commercial uses, and establish building height and massing standards; and

WHEREAS, after a duly noticed public hearing held September 25, 2025, at which evidence and testimony were entered into the record, including the Louisville Planning Commission Staff Report dated September 11, 2025, the Louisville Planning Commission has forwarded a recommendation to the City Council to conditionally approve Amendment No. 1; and

WHEREAS, City Council has provided notice of a public hearing on said ordinance by publication as provided by law and held a public hearing as provided in said notice; and

WHEREAS, The City Council finds Amendment No.1 is consistent with the requirements of the Planned Community Zone District chapter of the Louisville Municipal Code; the criteria, requirements, and provisions of other applicable sections of the Louisville Municipal Code; and the principles and polices of the City of Louisville 2013 Comprehensive Plan, The South Boulder Road Small Area Plan, and the City of Louisville Housing Plan.

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

Section 1. The City Council hereby approves the ConocoPhillips Campus General Development Plan, Amendment No. 1 ("Amendment No.1"), subject to the following condition:

Future Planned Unit Development applications for Lot 1, Block 2 of Redtail Ridge Filing No. 1 shall include a traffic study and a development agreement requiring the construction by the applicant of any transportation infrastructure needed to accommodate the development.

Section 2. Amendment No. 1 shall be recorded in the Offices of the Boulder County Clerk and Recorder.

INTRODUCED, READ, PASSED ON FIRST READING AND ORDERED PUBLISHED this 7th day of October 2025.

_____
Christopher M. Leh, Mayor

ATTEST:

_____
Genny Kline, Interim City Clerk

PUBLIC HEARING AND SECOND READING WILL BE THE 21st of OCTOBER 2025, AT 6:00 P.M. AT LOUISVILLE CITY HALL, 749 MAIN STREET, LOUISVILLE, CO 80027.

PASSED AND ADOPTED ON SECOND AND FINAL READING, this __ day of _____, 2025.

_____
Christopher M. Leh, Mayor

ATTEST:

_____
Genny Kline, Interim City Clerk

APPROVED AS TO FORM:
Kelly PC, City Attorney

_____
Kathleen M. Kelly

ORDINANCE NO. 1905
SERIES 2025

AN ORDINANCE APPROVING THE AVISTA ADVENTIST HOSPITAL GDP, AMENDMENT NO. 2

WHEREAS, the City of Louisville (the "City"), is a Colorado home rule municipal corporation duly organized and existing under laws of the State of Colorado and the City of Louisville Home Rule Charter (the "City Charter"); and

WHEREAS, the original Avista Adventist Hospital campus was annexed to the City in 1986 and zoned Agriculture, then platted and developed as the Centennial Health Park, starting in 1987; and

WHEREAS, in 1998, a portion of the subject property was rezoned to Planned Community Zone District – Commercial (PCZD-C) under the name Avista Hospital General Development Plan, and in 2022 an additional 13-acre parcel on the north side of the property was annexed, zoned PCZD-C, and incorporated into the Avista Hospital GDP Area as Avista Adventist Hospital General Development Plan Amendment No. 1; and

WHEREAS, the City has received an application to further amend the GDP ("Amendment No. 2") to revise the maximum allowed development area, revise setback standards and other associated development notes, and provide for dedication of an approximately 7.5-acre parcel for open space; and

WHEREAS, after a duly noticed public hearing held September 24, 2025, at which evidence and testimony were entered into the record, the Open Space Advisory Board recommend the City Council approve the proposed public use dedication of approximately 7.5 acres to be designated Open Space as part of the Avista Adventist Hospital General Development Plan, Amendment No. 2; and

WHEREAS, after a duly noticed public hearing held September 25, 2025, at which evidence and testimony were entered into the record, including the Louisville Planning Commission Staff Report dated September 11, 2025, the Louisville Planning Commission has forwarded a recommendation to the City Council to approve Amendment No. 2; and

WHEREAS, City Council has provided notice of a public hearing on said ordinance by publication as provided by law and held a public hearing as provided in said notice; and

WHEREAS, The City Council finds Amendment No. 2 is consistent with the requirements of the Planned Community Zone District chapter of the Louisville Municipal Code; the criteria, requirements, and provisions of other applicable sections of the Louisville Municipal Code; and the principles and polices of the City of Louisville 2013 Comprehensive Plan, The South Boulder Road Small Area Plan, and the City of Louisville Housing Plan.

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

Section 1. The City Council hereby approves the Avista Adventist Hospital General Development Plan, Amendment No. 2 ("Amendment No. 2").

Section 2. Amendment No. 2 shall be recorded in the Offices of the Boulder County Clerk and Recorder.

INTRODUCED, READ, PASSED ON FIRST READING AND ORDERED PUBLISHED this 7th day of October 2025.

_____
Christopher M. Leh, Mayor

ATTEST:

_____
Genny Kline, Interim City Clerk

PUBLIC HEARING AND SECOND READING WILL BE THE 21ST DAY OF OCTOBER, AT 6:00 P.M. AT LOUISVILLE CITY HALL, 749 MAIN STREET, LOUISVILLE, CO 80027.

PASSED AND ADOPTED ON SECOND AND FINAL READING, this __ day of _____, 2025.

_____
Christopher M. Leh, Mayor

ATTEST:

_____
Genny Kline, Interim City Clerk

APPROVED AS TO FORM:
Kelly PC, City Attorney

_____
Kathleen M. Kelly

Docusign Envelope ID: 9BE5AC06-3394-4F53-9731-BB764E59341B

City of Louisville
COLORADO • SINCE 1878

Community Development Department

749 Main Street • Louisville CO 80027 • 303.335.4592 • www.louisvilleco.gov

Development Review Application Form

Please complete this form and include it with the submittal documents for your development review application. Applications will not be processed until all required information is provided to the satisfaction of the City of Louisville Planning Department.

Property Information

Common Address(es): 100 Health Park Dr, Louisville, CO 80027

Legal Description:

Lot Tract A, Lot 1 - 7 Block _____ Subdivision Health Park Subdivision Filing No. 6

Lot Area: _____ Sq. Ft. or ~66 Total Acres

LAND USE PROCESS (check all that apply)

- ☐ Annexation
- ☐ Concept Plan
- ☐ Easement Vacation
- ☐ Oil and Gas
- ■ General Development Plan (GDP)
  - ■ Amendment
  - ☐ New GDP
- ☐ Planned Unit Development (PUD)
  - ☐ Amendment
  - ☐ Preliminary
  - ☐ New PUD
- ☐ Rezoning
- ☐ Special Review Use (SRU)
  - ☐ Amendment
  - ☐ New SRU
- ☐ Subdivision
  - ☐ Final or Replat
  - ☐ Preliminary Plat
- ☐ Temporary Use Permit
- ☐ Variance
- ☐ Vested Property Right
- ☐ Wireless Facility
- ☐ Other: _____

PROJECT DESCRIPTION:

Amendment to the Avista Adventist Hospital 2002 GDP to reduce the allowable square footage and transfer said square footage to the ConocoPhillips Campus GDP. This density transfer is necessary to support the new AdventHealth Louisville Hospital Campus located on the east side of the Redtail Ridge Subdivision.

In addition to the reduction in build-able square footage, graphical updates to the plan to better align the planning areas to the platted and PUD boundaries is included with this amendment.

Property Owner Information

Name: David Nelson Entity (if applicable) Portercare Adventist Health System

Address: 6061 S. Willow Drive, Suite 210, Greenwood Village, CO 80112

Phone: _____ Email: david.nelson@adventhealth.com

Application Representative Information

Name: Valerie Wilkins Entity (if applicable) Adams Management Services

Address: 336 Broad Street, Suite 300, Rome, GA 30161

Phone: 720.799.3041 Email: vwilkins@adamspmc.com

Certification/Signature

I certify that the information I have submitted is true and correct to the best of my knowledge and in filing the application and submittal documents, I am acting as and/or with the knowledge and consent of those persons who are owners of the subject property or are parties to this application.

Signed by:
David Nelson
F0FE21EEBCEC490...

Signature* | David Nelson Print Name | 5/2/2025 Date

***If acting as a representative/agent of the owner, include written authorization from the owner that certifies the agent's right to submit this application**

Docusign Envelope ID: 9BE5AC06-3394-4F53-9731-BB764E59341B

City of Louisville
COLORADO • SINCE 1878

Community Development Department

749 Main Street • Louisville CO 80027 • 303.335.4592 • www.louisvilleco.gov

Development Review Application Form

Please complete this form and include it with the submittal documents for your development review application. Applications will not be processed until all required information is provided to the satisfaction of the City of Louisville Planning Department.

Property Information

Common Address(es): TBD

Legal Description:

Lot 1 Block 2 Subdivision Redtail Ridge Filing No. 1

Lot Area: _____ Sq. Ft. or 40 Acres

LAND USE PROCESS (check all that apply)

- ☐ Annexation
- ☐ Concept Plan
- ☐ Easement Vacation
- ☐ Oil and Gas
- ☐ General Development Plan (GDP)
  - ☐ Amendment
  - ☐ New GDP
- ☐ Planned Unit Development (PUD)
  - ☐ Amendment
  - ☐ Preliminary
  - ☐ New PUD
- ☐ Rezoning
- ☐ Special Review Use (SRU)
  - ☐ Amendment
  - ☐ New SRU
- ☐ Subdivision
  - ☐ Final or Replat
  - ☐ Preliminary Plat
- ☐ Temporary Use Permit
- ☐ Variance
- ☐ Vested Property Right
- ☐ Wireless Facility
- ☐ Other: _____

PROJECT DESCRIPTION:

Amendment to the ConocoPhillips Campus GDP is being requested to support the new AdventHealth Louisville Hospital Campus located on the east side of the Retail Ridge Subdivision. Amendments to the GDP consist of the following:
-Identify and include the allowable square footage transfer from the Avista Adventist Hospital 2002 GDP.
-Adjust Floor Area Ratio for hospital parcel to reflect density transfer from Avista Adventist Hospital 2002 GDP.
-Addition of hospital and medical office building uses to the "Permitted Uses" for better clarity on specific uses.
-Increase in the allowable height for the hospital parcel only.

Property Owner Information

Name: David Nelson Entity (if applicable) Portercare Adventist Health System

Address: 6061 S. Willow Drive, Suite 210, Greenwood Village, CO 80112

Phone: _____ Email: david.nelson@adventhealth.com

Application Representative Information

Name: Valerie Wilkins Entity (if applicable) Adams Management Services

Address: 336 Broad Street, Suite 300, Rome, GA 30161

Phone: 720.799.3041 Email: vwilkins@adamspmc.com

Certification/Signature

I certify that the information I have submitted is true and correct to the best of my knowledge and in filing the application and submittal documents, I am acting as and/or with the knowledge and consent of those persons who are owners of the subject property or are parties to this application.

Signed by:

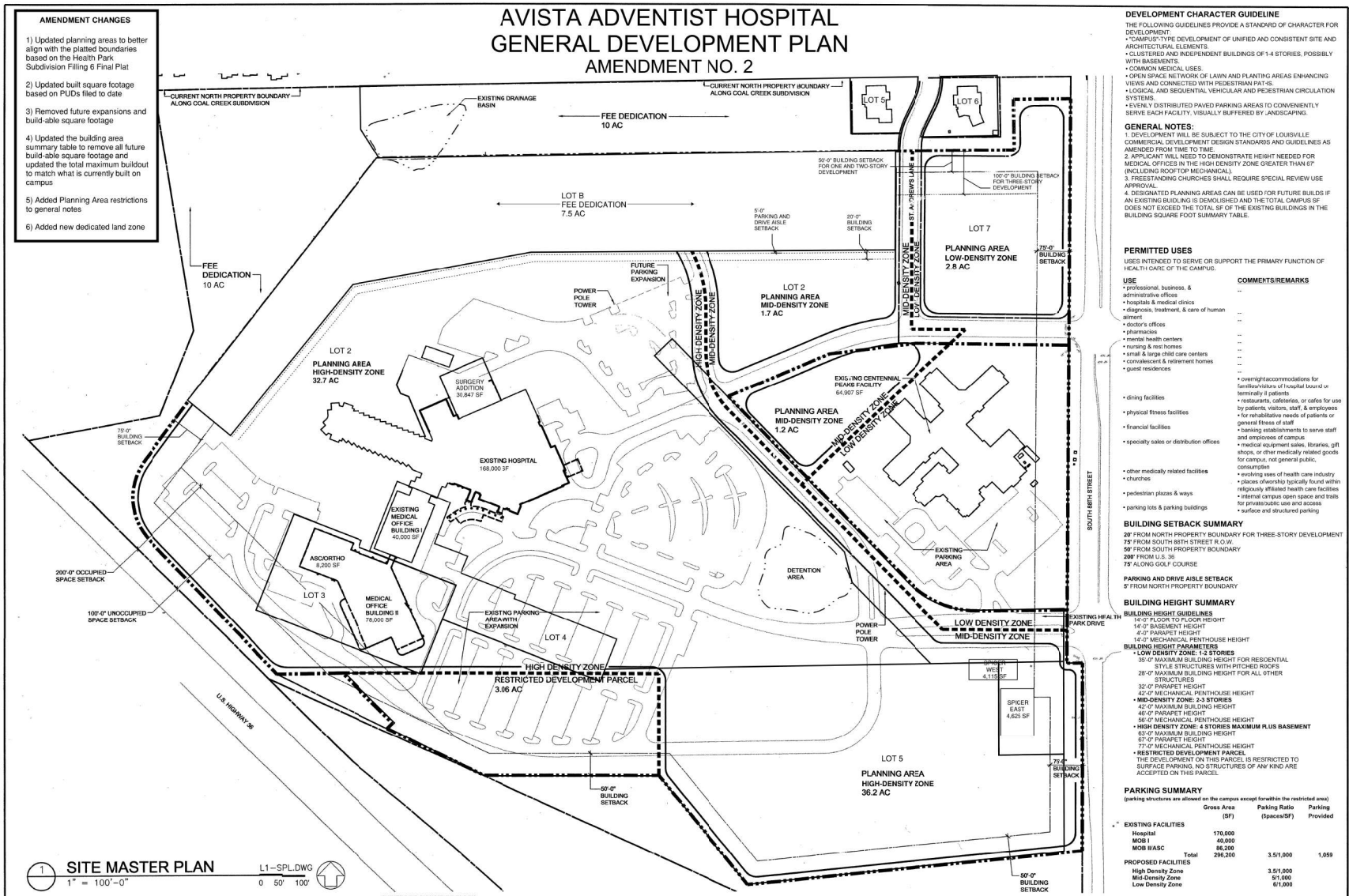
David Nelson

F0EE21EEBCEC490...

Signature* | David Nelson Print Name | 5/2/2025 Date

***If acting as a representative/agent of the owner, include written authorization from the owner that certifies the agent's right to submit this application**

AVISTA ADVENTIST HOSPITAL
GENERAL DEVELOPMENT PLAN
AMENDMENT NO. 2



AMENDMENT CHANGES

1) Updated planning areas to better align with the platted boundaries based on the Health Park Subdivision Filling 6 Final Plat

2) Updated built square footage based on PUDs filed to date

3) Removed future expansions and build-able square footage

4) Updated the building area summary table to remove all future build-able square footage and updated the total maximum buildout to match what is currently built on campus

5) Added Planning Area restrictions to general notes

6) Added new dedicated land zone

DEVELOPMENT CHARACTER GUIDELINE

THE FOLLOWING GUIDELINES PROVIDE A STANDARD OF CHARACTER FOR DEVELOPMENT:
- "CAMPUS"-TYPE DEVELOPMENT OF UNIFIED AND CONSISTENT SITE AND ARCHITECTURAL ELEMENTS.
- CLUSTERED AND INDEPENDENT BUILDINGS OF 1-4 STORIES, POSSIBLY WITH BASEMENTS.
- COMMON MEDICAL USES.
- OPEN SPACE NETWORK OF LAWN AND PLANTING AREAS ENHANCING VIEWS AND CONNECTED WITH PEDESTRIAN PATHS.
- LOGICAL AND SEQUENTIAL VEHICULAR AND PEDESTRIAN CIRCULATION SYSTEMS.
- EVENLY DISTRIBUTED PAVED PARKING AREAS TO CONVENIENTLY SERVE EACH FACILITY, VISUALLY BUFFERED BY LANDSCAPING.

GENERAL NOTES:

1. DEVELOPMENT WILL BE SUBJECT TO THE CITY OF LOUISVILLE COMMERCIAL DEVELOPMENT DESIGN STANDARDS AND GUIDELINES AS AMENDED FROM TIME TO TIME.
2. APPLICANT WILL NEED TO DEMONSTRATE HEIGHT NEEDED FOR MEDICAL OFFICES IN THE HIGH DENSITY ZONE GREATER THAN 67' (INCLUDING ROOFTOP MECHANICAL).
3. FREESTANDING CHURCHES SHALL REQUIRE SPECIAL REVIEW USE APPROVAL.
4. DESIGNATED PLANNING AREAS CAN BE USED FOR FUTURE BUILDS IF AN EXISTING BUILDING IS DEMOLISHED AND THE TOTAL CAMPUS SF DOES NOT EXCEED THE TOTAL SF OF THE EXISTING BUILDINGS IN THE BUILDING SQUARE FOOT SUMMARY TABLE.

PERMITTED USES

USES INTENDED TO SERVE OR SUPPORT THE PRIMARY FUNCTION OF HEALTH CARE OF THE CAMPUS.

USE	COMMENTS/REMARKS
• professional, business, & administrative offices	--
• hospitals & medical clinics	--
• diagnosis, treatment, & care of human ailment	--
• doctor's offices	--
• pharmacies	--
• mental health centers	--
• nursing & resi homes	--
• small & large child care centers	--
• convalescent & retirement homes	--
• guest residences	--
	• overnight accommodations for families/visitors of hospital bound or terminally ill patients
• dining facilities	• restaurants, cafeteries, or cafes for use by patients, visitors, staff, & employees
• physical fitness facilities	• for rehabilitative needs of patients or general fitness of staff
• financial facilities	• banking establishments to serve staff and employees of campus
• specialty sales or distribution offices	• medical equipment sales, libraries, gift shops, or other medically related goods for campus, not general public, consumption
• other medically related facilities	• evolving ses of health care industry
• churches	• places of worship typically found within religiously affiliated health care facilities
• pedestrian plazas & ways	• internal campus open space and trails for private/public use and access
• parking lots & parking buildings	• surface and structured parking

BUILDING SETBACK SUMMARY

20' FROM NORTH PROPERTY BOUNDARY FOR THREE-STORY DEVELOPMENT
75' FROM SOUTH 88TH STREET R.O.W.
50' FROM SOUTH PROPERTY BOUNDARY
200' FROM U.S. 36
75' ALONG GOLF COURSE

PARKING AND DRIVE AISLE SETBACK
5' FROM NORTH PROPERTY BOUNDARY

BUILDING HEIGHT SUMMARY

BUILDING HEIGHT GUIDELINES
14'-0" FLOOR TO FLOOR HEIGHT
14'-0" BASEMENT HEIGHT
4'-0" PARAPET HEIGHT
14'-0" MECHANICAL PENTHOUSE HEIGHT

BUILDING HEIGHT PARAMETERS
- **LOW DENSITY ZONE: 1-2 STORIES**
  - 35'-0" MAXIMUM BUILDING HEIGHT FOR RESIDENTIAL STYLE STRUCTURES WITH PITCHED ROOFS
  - 28'-0" MAXIMUM BUILDING HEIGHT FOR ALL OTHER STRUCTURES
  - 32'-0" PARAPET HEIGHT
  - 42'-0" MECHANICAL PENTHOUSE HEIGHT
- **MID-DENSITY ZONE: 2-3 STORIES**
  - 42'-0" MAXIMUM BUILDING HEIGHT
  - 46'-0" PARAPET HEIGHT
  - 56'-0" MECHANICAL PENTHOUSE HEIGHT
- **HIGH DENSITY ZONE: 4 STORIES MAXIMUM PLUS BASEMENT**
  - 63'-0" MAXIMUM BUILDING HEIGHT
  - 67'-0" PARAPET HEIGHT
  - 77'-0" MECHANICAL PENTHOUSE HEIGHT
- **RESTRICTED DEVELOPMENT PARCEL**
  - THE DEVELOPMENT ON THIS PARCEL IS RESTRICTED TO SURFACE PARKING. NO STRUCTURES OF ANY KIND ARE ACCEPTED ON THIS PARCEL

PARKING SUMMARY

(parking structures are allowed on the campus except forwithin the restricted area)

	Gross Area (SF)	Parking Ratio (Spaces/SF)	Parking Provided
* EXISTING FACILITIES			
Hospital	170,000		
MOB I	40,000		
MOB II/ASC	86,200		
Total	296,200	3.5/1,000	1,059
PROPOSED FACILITIES			
High Density Zone		3.5/1,000	
Mid-Density Zone		5/1,000	
Low Density Zone		6/1,000	

SITE INFORMATION

TOTAL ACREAGE
63.14 acres (2,750,378 SF)

ZONING:
EXISTING FACILITIES: PCZD-C
PROPOSED FACILITIES: PCZD-C

BUILDING AREA SUMMARY

EXISTING FACILITIES:		
Avista Hospital		198,847 SF
MOB I		40,000 SF
MOB II/ASC		86,200 SF
Centennial Peaks facility		64,907 SF
Spicer Residences	east -	4,625 SF
	west-	4,115 SF
subtotal		**398,694 SF**
FUTURE PHASES:		
Planning Areas (Buildable SF)		0 SF
Total Maximum Buildout		**398,694 SF**

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

CITY CLERK

MAYOR

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

OWNERSHIP SIGNATURE BLOCK
BY SIGNING THIS GDP, THE OWNER ACKNOWLEDGES AND ACCEPTS ALL THE REQUIREMENTS AND INTENT SET FORTH BY THIS GDP.

WITNESS OUR HANDS AND SEALS THIS ___ DAY OF _____, 20___.

OWNER
PORTERCARE ADVENTIST HEALTH SYSTEM, A COLORADO NONPROFIT CORPORATION

BY: _____
TREASURER

NOTARY

RECEPTION NUMBER

LOT B SHALL BE DEDICATED TO THE CITY OF LOUISVILLE AS OPEN SPACE IN ACCORDANCE WITH THE [INSERT AGREEMENT NAME AND DATE] RECORDED WITH THE BOULDER COUNTY CLERK AND RECORDER UNDER RECEPTION NUMBER [INSERT RECEPTION NUMBER]. THE OPEN SPACE SHALL BE MANAGED AS OPEN SPACE-PRESERVED LAND AS DEFINED UNDER CITY CHARTER, AND NO TRAILS, TRAIL HEADS, OR OTHER AMENITIES SHALL BE ALLOWED ON THE PARCEL.

1 SITE MASTER PLAN L1-SPL.DWG
1" = 100'-0" 0 50' 100'

SMITHGROUP
1675 LOGAN ST.
SUITE 500
DENVER, COLORADO 80202
303.832.3272
smithgroup.com

Kimley»Horn
1125 17TH ST
SUITE 1400
DENVER, CO 80202
303.228.2300
kimley-horn.com

ISSUE/REVISION	DATE	NO.
GDP CITY RESPONSE #1 R1	8/21/2025	
GDP CITY RESPONSE #1	7/18/2025	
GDP AMENDMENT	5/2/2025	

AVISTA ADVENTIST HOSPITAL

100 HEALTH PARK DR.
LOUISVILLE, CO

CENTURA HEALTH

GENERAL DEVELOPMENT PLAN AMENDMENT NO. 2

DRAWN BY	TEAM
CHK'D BY	TEAM
SHEET FILE	

SHEET NUMBER:
1 OF 1

CONOCOPHILLIPS CAMPUS

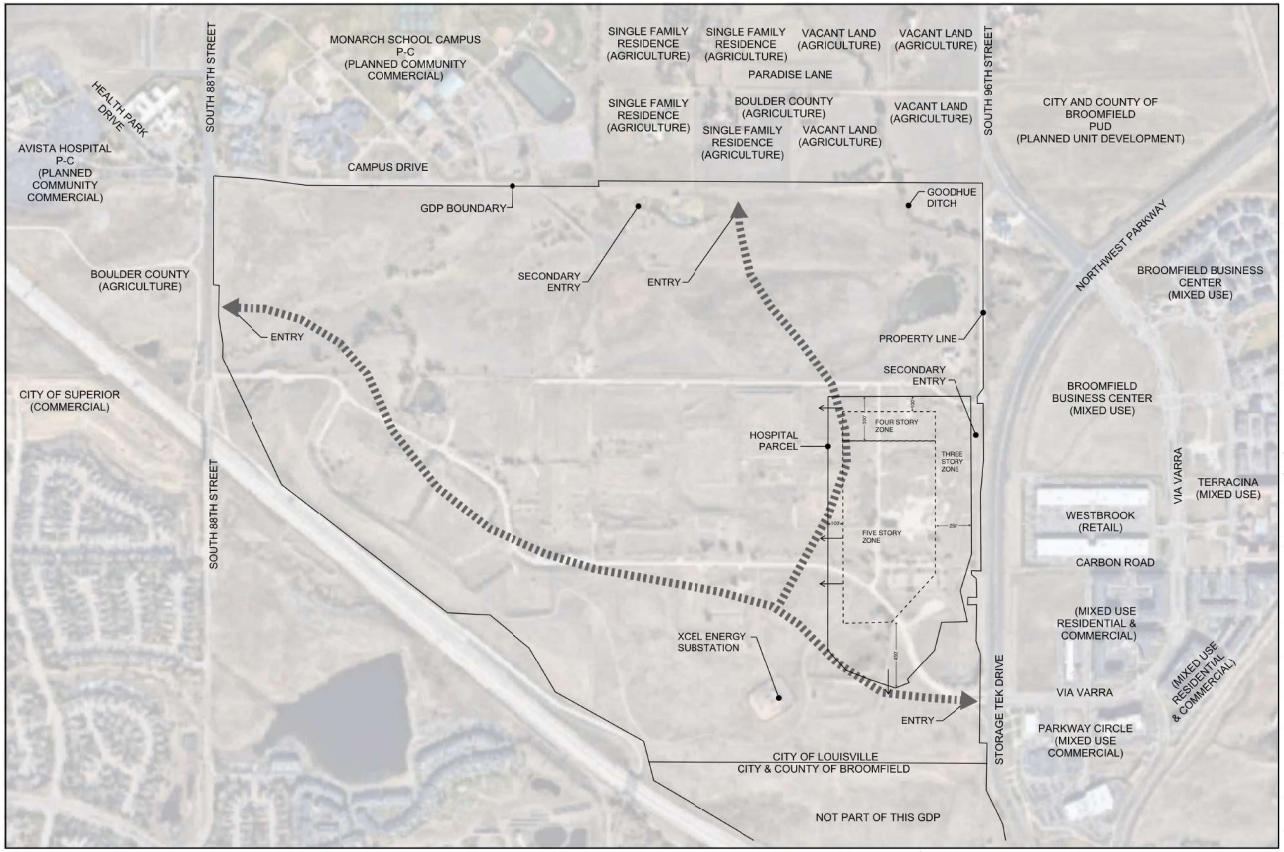
GENERAL DEVELOPMENT PLAN AMENDMENT 1

A PART OF THE SOUTH HALF OF SECTION 20, THE NORTH HALF SECTION 29,
TOWNSHIP 1 SOUTH, RANGE 69 WEST OF THE 6TH P.M.
SHEET 1 OF 1

AMENDMENT CHANGES

THE PURPOSE OF THIS AMENDMENT IS SPECIFICALLY FOR THE HOSPITAL PARCEL AND THE REST OF THE REDTAIL DEVELOPMENT REMAINS UNCHANGED.

1)Additional note for the allowable square footage transfer from the Avista Adventist Hospital 2002 GDP.
2)Addition of hospital and medical office building uses to the "Permitted Uses" for better clarity on specific uses.
3)Updated yard and bulk requirements to include the allowable height for the hospital parcel only.
4)Updated aerial graphic
5)Added Hospital Parcel and density zoning to graphic
6) Added Hospital Parcel building massing design parameters



GENERAL DEVELOPMENT PLAN

400 200 0 400 800

SCALE: 1" = 400'

N

RECEPTION NUMBER

CERTIFICATIONS/SIGNATURE BLCCKS

CITY COUNCIL CERTIFICATION:

APPROVED THIS _____ DAY OF _____, 20___ BY THE CITY COUNCIL OF THE CITY OF LOUISVILLE, COLORADO.

RESOLUTION NO. _____, SERIES _____.

MAYOR SIGNATURE

PLANNING COMMISSION CERTIFICATION:

APPROVED THIS _____ DAY OF _____, 20___ BY THE PLANNING COMMISSION OF THE CITY OF LOUISVILLE, COLORADO.

RESOLUTION NO. _____, SERIES _____.

OWNERSHIP SIGNATURE BLOCK:

BY SIGNING THIS GDP, THE OWNER ACKNOWLEDGES AND ACCEPTS ALL THE REQUIREMENTS AND INTENT SET FORTH IN THIS GDP. WITNESS MY HANDS AND SEALS

THIS ___ DAY OF _____, 20___.

OWNER
PORTERCARE ADVENTIST HEALTH SYSTEM,
A COLORADO NONPROFIT CORPORATION

BY: SIGNATURE _____ TITLE _____

NOTARY NAME AND SIGNATURE

MY COMMISSION EXPIRES _____

GENERAL NOTES:

1. DEVELOPMENT SHALL CONFORM AND BE CONSISTENT WITH THE LOUISVILLE MUNICIPAL CODE AND THE COMMERCIAL DEVELOPMENT DESIGN STANDARDS AND GUIDELINES UNLESS OTHERWISE WAIVED OR MODIFIED BY THE CITY COUNCIL THROUGH THE PUD DEVELOPMENT PLAN PROCESS.
2. THE CAMPUS SECURITY BOUNDARY WILL NOT EXTEND OUTSIDE THE SITE BOUNDARY.
3. TRAFFIC CIRCULATION PATTERNS DEPICTED WITHIN AND ACROSS LOT A REPRESENT INTERNAL PRIVATE DRIVES AND ARE CONCEPTUAL ONLY AND SUBJECT TO MODIFICATION.
4. EXISTING FREE STANDING CMRS FACILITIES WITHIN LOT A SHALL CONSITUTE A PERMISSIBLE NON-CONFORMING USE.
5. PUBLIC LAND DEDICATION OF AT LEAST 12% WILL COMPLY WITH SECTION 16.16.060.B OF THE LOUISVILLE MUNICIPAL CODE.

SITE INFORMATION

GROSS DEVELOPABLE AREA (PID BOUNDARY):	391.719 ACRES (MAXIMUM 0.15 F.A.R.) * FOR LEGAL DESCRIPTION SEE EXHIBIT A OF DRAWING NO. TWH-SHEET-2010
ZONING:	PLANNED COMMUNITY ZONED DISTRICT (PCZD) - COMMERCIAL WITH PUD-COVERLAY
PLANNED ACCESS:	NORTHWEST PARKWAY, CAMPUS DRIVE, SOUTH 88TH STREET

* THE F.A.R APPLIES TO THE GROSS AREA OF THE ENTIRE DEVELOPMENT AND IS NOT PARCEL-SPECIFIC. THIS GDP ACKNOWLEDGES AN ADDITIONAL 364,400 SF ALLOCATED TO THE HOSPITAL PARCEL ON TOP OF THE ALLOCATED DEVELOPMENT SQUARE FOOTAGE.THE 364,400 SF IS IN CONSIDERATION WITH A DENSITY SWAP FROM HEALTH PARK 1.

PERMITTED USES

PERMITTED USE	COMMENTS / REMARKS	PARKING REQUIREMENTS
PROFESSIONAL, BUSINESS, AND ADMINISTRATIVE OFFICES	-	4 / 1,000 S.F.
EDUCATIONAL AND TRAINING FACILITIES	MEETING ROOMS AND SOCIAL SPACE FOR EMPLOYEES AND VISITORS	0.5/ 1,000 S.F.
PRIVATE SHORT TERM LODGING FOR CONOCOPHILLIPS EMPLOYEES AND GUESTS	OVERNIGHT ACCOMMODATIONS FOR EMPLOYEES/VISITORS	0.5 / ROOM
PEDESTRIAN PLAZAS AND PEDESTRIAN WAYS	-	-
PRIVATE, NONCOMMERCIAL, RECREATIONAL AND SOCIAL FACILITIES	-	1 / 1,000 S.F.
PARKING LOTS AND PARKING BUILDINGS	SURFACE AND STRUCTURED PARKING	-
CAMPUS ORIENTED CHILDCARE CENTER	PRIVATE CHILDCARE FOR EMPLOYEES	1.5 SPACES PER TEACHER PLUS ONE SPACE PER ADMINISTRATIVE EMPLOYEE
RESEARCH/OFFICE AND CORPORATE USES AND FACILITIES FOR THE RESEARCH, DEVELOPMENT, MANUFACTURING, FABRICATION PROCESSING, OR ASSEMBLY OF SCIENTIFIC OR TECHNICAL PRODUCTS, OR OTHER PRODUCTS	-	1.25 / 1,000 S.F.
BUILDING MOUNTED CMRS FACILITIES	-	-
CAMPUS ORIENTED FOOD SERVICE	RESTAURANTS, CAFETERIAS, OR CAFES FOR USE BY EMPLOYEES/VISITORS INTEGRATED THROUGHOUT THE CAMPUS	-
COMMERCIAL USES, INCLUDING BUT NOT LIMITED TO BUILDING CONTRACTOR'S EQUIPMENT YARDS, TRANSPORTATION CENTERS AND SERVICES, WAREHOUSES AND STORAGE FACILITIES	STORAGE OF MATERIALS IN SUPPORT OF THE CAMPUS RESEARCH AND DEVELOPMENT FACILITY, HELIPAD (SPECIAL REVIEW USE), HOSPITAL, MEDICAL OFFICE BUILDINGS	1 / 1,000 S.F.
PRIVATE UTILITY USES	TO ALLOW THE EXISTING SANITARY LIFT STATION, POTENTIAL SUBSURFACE GEO EXCHANGE FIELD, SOLAR PANELS, BUILDING MOUNTED WIND POWERED ELECTRICAL GENERATION FACILITIES, AND CENTRAL MECHANICAL, ELECTRICAL, AND PLUMBING FACILITY	-
OTHER USES AS ESTABLISHED BY THE CITY COUNCIL AS FOUND TO BE SPECIFICALLY COMPATIBLE FOR COMMERCIAL AND OFFICE PLANNING AREAS	-	-

YARD AND BULK REQUIREMENTS

1. OTHER THAN FOR THE HOSPITAL PARCEL, MAXIMUM BUILDING HEIGHTS SHALL BE BASED ON THE CONOCOPHLIPS CAMPUS GDP (RECEPTION NO. 0308879). STANDARDS FOR THE HOSPITAL PARCEL ARE NOTED BELOW.

MINIMUM BUILDING SETBACKS
(FOR BUILDING FOOTPRINTS LESS THAN OR EQUAL TO 30,000 GROSS SQUARE FEET)

STREET R.O.W. LINE:
- ARTERIAL STREET 30 FT.
- COLLECTOR STREET 20 FT.
- INTERNAL/PRIVATE DRIVE 10 FT.

(FOR BUILDING FOOTPRINTS GREATER THAN OR EQUAL TO 30,000 GROSS SQUARE FEET)

STREET R.O.W. LINE:
- ARTERIAL STREET 50 FT.
- COLLECTOR STREET 40 FT.
- INTERNAL/PRIVATE DRIVE 10 FT.

MINIMUM PARKING SETBACKS
(FROM ALL PERIMETER PROPERTY LINE OR RIGHTS-OF-WAYS)

- PROPERTY LINES ADJACENT TO U.S. 36 40 FT.
- ARTERIAL STREET R.O.W. 25 FT.
- COLLECTOR STREET R.O.W. 15 FT.
- INTERNAL/COMMON PROPERTY BOUNDARY 10 FT.

HOSPITAL PARCEL
FOR THE HOSPITAL PARCEL (LOT 1, BLOCK 1) BUILDING HEIGHTS ARE EXPECTED TO RANGE FROM THREE TO FIVE OCCUPIABLE STORIES, RANGING IN HEIGHT FROM 50' TO 90'. UNOCCUPIED MECHANICAL SCREENING OF UP TO 20' WOULD BE ABOVE THE 5 STORIES. THE HOSPITAL PARCEL WILL BE ZONED TO SUPPORT LOWER THREE-STORY BUILDING HEIGHTS TOWARDS THE NORTH, EAST, AND WEST PROPERTY BOUNDARIES CONCENTRATING THE 5-STORY STRUCTURES CENTRALLY WITHIN THE SITE. REFER TO THE GRAPHIC FOR PARCEL HEIGHT ZONES.

BUILDING HEIGHT ZONING:
THREE STORY ZONE:
- 45'-0" MAXIMUM BUILDING HEIGHT
- 50'-0" PARAPET HEIGHT
- 65'-0" MECHANICAL PENTHOUSE HEIGHT*

FOUR STORY ZONE:
- 60'-0" MAXIMUM BUILDING HEIGHT
- 65'-0" PARAPET HEIGHT
- 80'-0" MECHANICAL PENTHOUSE HEIGHT*

FIVE STORY ZONE:
- 85'-0" MAXIMUM BUILDING HEIGHT
- 90'-0" PARAPET HEIGHT
- 105'-0" MECHANICAL PENTHOUSE HEIGHT*

*ROOF ACCESS AND ELEVATOR OVERUN IS EXCLUDED FROM THE BUILDING HEIGHT

BUILDING MASSING DESIGN PARAMETERS:
FOR BUILDING FACADES EXCEEDING 100 FEET IN LENGTH AND MORE THAN 45 FT IN HEIGHT, A RELIEF IN THE BUILDING MASSING IS REQUIRED TO REDUCE VISUAL MONOTONY AND ENHANCE ARCHITECTURAL INTEREST
- A MAXIMUM HEIGHT OF 45 FEET IS PERMITTED BEFORE A MINIMUM HORIZONTAL SETBACK OF 15 FEET IS REQUIRED FROM THE PRIMARY BUILDING FACE.
- A PROJECTED RELIEF ELEMENT MAY EXTEND OUTWARD FROM THE MAIN BUILDING MASS BY A MINIMUM OF 2 FEET, PROVIDED IT CONTRIBUTES TO THE OVERALL ARTICULATION AND DESIGN OF THE FACADE.
- THE FOOTPRINT OF EACH FLOOR ABOVE 45 FEET SHALL NOT EXCEED 50% OF THE FOOTPRINT OF THE BUILDING AT OR BELOW 45 FEET.
- ANY ROOFTOP ENCLOSURE (E.G., MECHANICAL PENTHOUSES) MUST BE SET BACK A MINIMUM OF 10 FEET FROM THE EDGE OF THE BUILDING MASS, UNLESS IT IS ARCHITECTURALLY INTEGRATED INTO THE OVERALL DESIGN OF THE BUILDING.
- EXCEPTION: A DEFINING ARCHITECTURAL ELEMENT OR DISTINCT BUILDING FORM WITH A TOTAL WIDTH OF LESS THAN 16 FEET IS EXEMPT FROM THE ABOVE SETBACK AND RELIEF REQUIREMENTS. A MINIMUM 2-FOOT DEPTH VARIATION FROM THE ADJACENT PRIMARY FACADE PLANE MUST STILL BE PROVIDED TO ENSURE VISUAL ARTICULATION.

DEFINING ARCHITECTURAL ELEMENTS MAY INCLUDE, BUT ARE NOT LIMITED TO:
- VERTICAL CIRCULATION TOWERS (E.G., STAIR OR ELEVATOR CORES)
- ENTRY PAVILIONS OR LOBBIES
- ARCHITECTURAL OVERHANGS OR ROOF OVERHANGS
- BRANDED OR SCULPTURAL FACADE FEATURES
- CORNER ELEMENTS OR TURRETS
- ATRIUM VOLUMES OR LIGHT WELLS
- DISTINCTIVE ROOF FORMS

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ISSUE / REVISION	DATE
GDP CITY RESPONSE #1	7/19/2025
GDP AMENDMENT	9/2/2025

CONOCOPHILLIPS CAMPUS
2270 SO 88TH STREET
LOUISVILLE, CO

GENERAL DEVELOPMENT PLAN

DRAWN	TEAM
CHK	TEAM
PRJ #	

SHEET NUMBER:

1 OF 1

TRAFFIC IMPACT STUDY

AdventHealth Louisville

City of Louisville, Colorado

Prepared for:

SmithGroup

Kimley»Horn

T R A F F I C I M P A C T S T U D Y

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City of Louisville, Colorado

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July 2025

This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

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1.0 EXECUTIVE SUMMARY

AdventHealth Louisville is proposed to be located on the northwest corner of the Via Varra & Northwest Parkway intersection in Louisville, Colorado. At full buildout, the project is proposed to include a hospital and additional medical office buildings totaling approximately 800,000 square feet. By approximately the 2030 horizon, Phase 1 of the hospital and medical office buildings is expected to be complete, with approximately 435,600 square feet of hospital use (with 200 beds) and 80,000 square feet of related medical office building uses. For purposes of this study, Phase 2 of development is anticipated to be complete by 2040, which would include an additional 204,000 square feet of hospital use (100 additional beds) and 80,000 additional square feet of medical office space. Based on coordination with the City of Louisville staff, the initial 2030 short-term Phase 1 horizon was analyzed, while the 2040 buildout horizon was also analyzed. At the request of City staff, the major intersections in the study area were also analyzed for the twenty-year 2045 long-term traffic conditions.

The purpose of this traffic study is to identify project traffic generation characteristics to determine potential project traffic related impacts on the local street system and to develop the necessary mitigation measures required for the identified traffic impacts. The following existing and future intersections were incorporated into this traffic study based on the City of Louisville, Colorado requested scope:

- Campus Drive & Sorrel Avenue (#1) – Future Intersection
- Campus Drive & 96th Street (#2)
- 96th Street/Via Varra & Northwest Parkway (#3)
- Rockcress Drive & Sorrel Avenue (#4) – Future Intersection
- Rockcress Drive/Via Varra & Northwest Parkway (#5)

In addition, the proposed full movement access on the north side of Rockcress Drive and the proposed two full movement accesses on the east side of Sorrel Avenue were also evaluated. The access along Rockcress Drive is anticipated to be located approximately 775 feet to the west of the Rockcress Drive/Via Varra & Northwest Parkway (#5) intersection, measured center to center; a future south leg at this location is also proposed when development to the south of Rockcress Drive occurs. The two proposed accesses along Sorrel Avenue are anticipated to align with two future accesses on the west side of Sorrel Avenue, creating two four-leg intersections.

Regional access to the site will be provided by US-36, US-287, and Northwest Parkway, while primary access to the site will be provided by US-36, 96th Street, and Northwest Parkway. Direct access to the site will be provided by one full movement access on the north side of Rockcress Parkway to the west of Northwest Parkway, and two full movement accesses along the east side of Sorrel Avenue. There is also an additional emergency only access proposed along Sorrel Avenue, south of these two full movement accesses.

In the 2030 Phase 1 buildout, AdventHealth Louisville is expected to generate approximately 6,268 weekday daily trips, with 474 of these trips occurring during the morning peak hour and 557 of these trips occurring during the afternoon peak hour. With full buildout of the site by 2040, the project is anticipated to generate 10,632 weekday daily trips, with 772 of these trips occurring during the morning peak hour and 970 of these trips occurring during the afternoon peak hour.

Based on the analysis presented in this report, Kimley-Horn believes AdventHealth Louisville will be successfully incorporated into the existing and future roadway network. There is an existing AdventHealth hospital located at the intersection of Campus Drive and 88th Street approximately 1.25 miles to the west of this proposed site. This existing site includes approximately 400,000 square feet of hospital/medical office building uses and is approved with an expansion of an addition 350,000 square feet to include up to 750,000 square feet at full buildout. The currently proposed AdventHealth site within the Redtail Ridge development area is expected to include up to 799,600 square feet of hospital/medical office building uses. As such, this increase of 49,600 square feet of additional uses with relocation of the existing hospital with approved expansion to the new site is expected to result in approximately 658 additional weekday daily trips, with 47 more trips during the morning peak hour and 61 more trips during the afternoon peak hour compared to the traffic the existing site could generate. This results in approximately one additional vehicle every 75 seconds during the morning peak hour and one additional vehicle every minute (60 seconds) during the afternoon peak hour on the surrounding street network compared to the existing project site. This study assessed the additional improvements that could be needed due to the additional square footage of this proposed site, and any vehicle rerouting that could occur with the site being located further to the east. Analysis of the existing street network, the proposed project development, and expected traffic volumes resulted in the following recommendations:

2030 Recommendations

- The Campus Drive & Sorrel Avenue (#1) intersection is anticipated to be constructed prior to AdventHealth Louisville construction. Based on currently proposed construction plans, it will be a 'T'-roundabout controlled intersection, with eastbound Campus Drive operating with a shared through/right turn lane, westbound Campus Drive providing separate left and through lanes, and the northbound Sorrel Avenue approach providing one lane for shared left/right turning movements. R1-2 "YIELD" signs should be posted on all three approaches to the roundabout.
- The Campus Drive & 96th Street (#2) intersection is anticipated to become a signalized 'T'-intersection with full movements allowed by the 2030 horizon prior to AdventHealth construction. For purposes of this study, the eastbound Campus Drive approach was based on the proposed construction plans, which would have dual continuous eastbound left turn lanes and a separate right turn lane approximately 500 feet in length. The northbound 96th Street approach was conservatively assumed to provide a single 200-foot left turn lane and two through lanes in this horizon. However, at full buildout based on construction plans, it is anticipated to provide dual left turn lanes and three through lanes northbound. The southbound 96th Street approach should provide two through lanes and a 200-foot right turn lane.
- The 96th Street/Via Varra & Northwest Parkway (#3) intersection may require extension of the eastbound right turn lane from 375 feet to approximately 475 feet by this horizon to meet expected vehicle queues. However, if not improved, it is believed any additional vehicles can safely queue in the southernmost eastbound through lane if these queues are experienced.
- The future Rockcress Drive & Sorrel Avenue (#4) is proposed to be constructed as a four-leg single-lane roundabout prior to AdventHealth construction. The eastbound, northbound, and southbound approaches are all expected to provide one approach lane for shared left/through/right turning movements, while the westbound approach would provide a shared left/through lane and a separate right turn lane. Each approach should provide R1-2 "YIELD" signs on approach to the intersection.
- The Rockcress Drive/Via Varra & Northwest Parkway (#5) intersection is expected to be improved on the eastbound approach to the intersection with dual left turn lanes, one of which would provide 400 feet in length while the other would be a continuous turn lane. These improvements are based on the currently proposed improvement plans. Although it is understood that three southbound through lanes are eventually proposed at this intersection,

it was conservatively analyzed with the existing two southbound through lanes during this horizon.

- Two full movement accesses are proposed along the east side of Sorrel Avenue, to align with two proposed accesses on the west side of Sorrel Avenue. R1-1 "STOP" signs are proposed on the eastbound and westbound approaches to Sorrel Avenue at both accesses. These accesses should operate well with one approach lane for shared left/through/right turning movements. The northbound and southbound approaches of Sorrel Avenue to both accesses are recommended to provide 150-foot left turn lanes and shared through/right turn lanes.
- The primary access into the proposed site is anticipated to be along Rockcress Drive, approximately 775 feet to the west of Northwest Parkway, measured center to center. This intersection is anticipated to operate well under minor street stop control through the 2030 horizon with Phase 1 construction of AdventHealth Louisville. The Rockcress Access (#8) is recommended to provide a 150-foot left turn lane, one through lane, and one shared through/right turn lane along both eastbound and westbound Rockcress Drive. The northbound approach to the intersection is anticipated to operate well with one lane for shared left/through/right turning movements while the southbound approach exiting the hospital should provide a 200-foot left turn lane and a separate through/right lane. Of note, dual southbound left turn lanes are recommended at this access at full buildout and as such, it is recommended that pavement width be provided for the future second left turn lane, but that it be striped out with chevron striping to allow only one southbound left turn lane until full buildout of the hospital site. During this horizon, R1-1 "STOP" signs should be posted on the northbound and southbound approaches.

2040 & 2045 Recommendations

- By the 2040 horizon, it was assumed that the Campus Drive & 96th Street (#2) intersection would provide dual northbound left turn lanes 200 feet in length while a third northbound through lane would also be provided. This third northbound through lane would provide the third required receiving lane for the proposed triple northbound left turn lanes at Northwest Parkway just to the southeast.
- The 96th Street/Via Varra & Northwest Parkway (#3) intersection is anticipated to provide triple northbound left turn lanes on Northwest Parkway and triple eastbound left turn lanes on 96th Street based on proposed improvement plans. For purposes of this study, the third northbound left turn lane was assumed to provide 600 feet in length while the third

eastbound left turn was assumed to provide 250 feet in length. It should be noted the third eastbound left turn lane will require three receiving lanes on Northwest Parkway to the north of this intersection.

- The Rockcress Parkway/Via Varra & Northwest Parkway (#5) intersection should provide three southbound through lanes by this horizon. To meet expected vehicle queues, the inner northbound left turn lane may need to be extended from 250 feet to 375 feet to meet expected vehicle queues. It is believed this northbound left turn lane extension can be accomplished with minor median reconstruction.
- With full buildout of the AdventHealth site, the Rockcress Access (#8) is recommended to be signalized and is expected to meet warrants for signalization. When signalized, the southbound approach exiting the hospital is recommended to be improved to provide dual left turn lanes 200 feet in length.
- Each of these improvements is anticipated to operate acceptably through the 2045 horizon.

General Recommendations

- Any onsite or offsite improvements should be incorporated into the Civil Drawings and conform to standards of the City of Louisville and the Manual on Uniform Traffic Control Devices (MUTCD) – 11th Edition, 2023.

2.0 INTRODUCTION

Kimley-Horn has prepared this report to document the results of a Traffic Impact Study for AdventHealth Louisville proposed to be located on the northwest corner of the Via Varra and Northwest Parkway intersection in the City of Louisville, Colorado. A vicinity map illustrating the project development location is shown in **Figure 1**. At full buildout, the project is proposed to include a hospital and additional medical office buildings totaling approximately 800,000 square feet. By approximately the 2030 horizon, Phase 1 of the hospital and medical office buildings is expected to be complete, with approximately 435,600 square feet of hospital use (with 200 beds) and 80,000 square feet of related medical office building uses. For purposes of this study, Phase 2 of development is anticipated to be complete by 2040, which would include an additional 204,000 square feet of hospital use (100 additional beds) and 80,000 additional square feet of medical office space. A conceptual plan for the site is attached in **Appendix A**. Based on coordination with the City of Louisville staff, the initial 2030 short-term Phase 1 horizon was analyzed, while the 2040 buildout horizon was also analyzed. At the request of City staff, the major intersections in the study area were also analyzed for the twenty-year 2045 long-term traffic conditions.

The purpose of this traffic study is to identify project traffic generation characteristics to determine potential project traffic related impacts on the local street system and to develop the necessary mitigation measures required for the identified traffic impacts. The following existing and future intersections were incorporated into this traffic study based on the City of Louisville, Colorado requested scope:

- Campus Drive & Sorrel Avenue (#1) – Future Intersection
- Campus Drive & 96th Street (#2)
- 96th Street/Via Varra & Northwest Parkway (#3)
- Rockcress Drive & Sorrel Avenue (#4) – Future Intersection
- Rockcress Drive/Via Varra & Northwest Parkway (#5)

In addition, the proposed full movement access on the north side of Rockcress Drive and the proposed two full movement accesses on the east side of Sorrel Avenue were also evaluated. The access along Rockcress Drive is anticipated to be located approximately 775 feet to the west of the Rockcress Drive/Via Varra & Northwest Parkway (#5) intersection, measured center to

center; a future south leg at this location is also proposed when development to the south of Rockcress Drive occurs. The two proposed accesses along Sorrel Avenue are anticipated to align with two future accesses on the west side of Sorrel Avenue, creating two four-leg intersections.

Regional access to the site will be provided by US-36, US-287, and Northwest Parkway, while primary access to the site will be provided by US-36, 96th Street, and Northwest Parkway. Direct access to the site will be provided by one full movement access on the north side of Rockcress Parkway to the west of Northwest Parkway, and two full movement accesses along the east side of Sorrel Avenue. There is also an additional emergency only access proposed along Sorrel Avenue, south of these two full movement accesses.

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NORTH
NTS 196454003

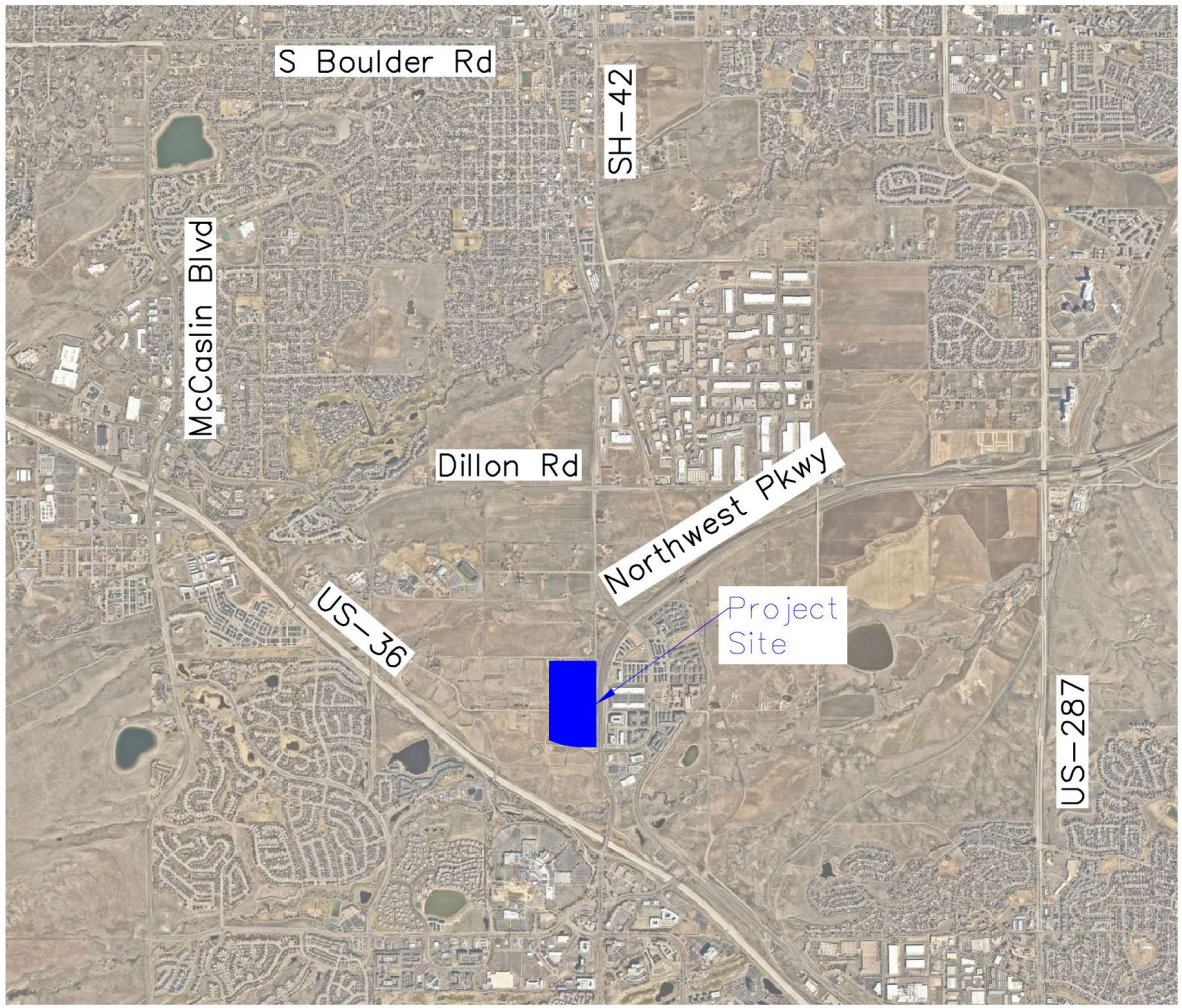


FIGURE 1
AdventHealth Louisville
Louisville, Colorado
Vicinity Map

Kimley»Horn

3.0 EXISTING AND FUTURE CONDITIONS

3.1 Existing Study Area

The existing site is comprised of vacant land. The site is part of a larger future development known as Redtail Ridge, which is expected to include several other uses, including industrial/manufacturing, general office space, research/development buildings, and some local retail uses as well. The North Metro Fire Rescue Station 67 is located just to the north of the project site. The broader vicinity is generally comprised of additional vacant land, with Monarch High School to the northwest, and some additional retail/residential uses to the east and south of the site.

3.2 Existing and Proposed Roadway Network

Northwest Parkway is a divided highway that extends in the north/south direction adjacent to the study area and provides two continuous through lanes in each direction with acceleration and deceleration lanes provided at the intersections with 96th Street/Via Varra to the north and Via Varra to the south. The posted speed limit in this area is 45 miles per hour.

96th Street generally exists in the north/south direction, but it connects to Northwest Parkway with vehicles traveling eastbound/westbound. Two through lanes are provided in each direction nearest to the study area, which soon reduces to one through lane in each direction further to the north. The posted speed limit is 40 miles per hour within the study area. Via Varra loops from the intersection of Northwest Parkway and 96th Street/Via Varra and again connects to Northwest Parkway approximately 0.60 miles further to the south. Two through lanes are provided in each direction and the posted speed limit is 35 miles per hour.

Sorrel Avenue is proposed to be a north/south roadway with one through lane in each direction, approximately 1,150 feet to the west of Northwest Parkway. Rockcress Drive is proposed to be the west leg of the Northwest Parkway & south Via Varra (#5) intersection. Two through lanes in each direction along Rockcress Drive are anticipated to be provided between Sorrel Avenue and Northwest Parkway, and one through lane in each direction to the west of Sorrel Avenue.

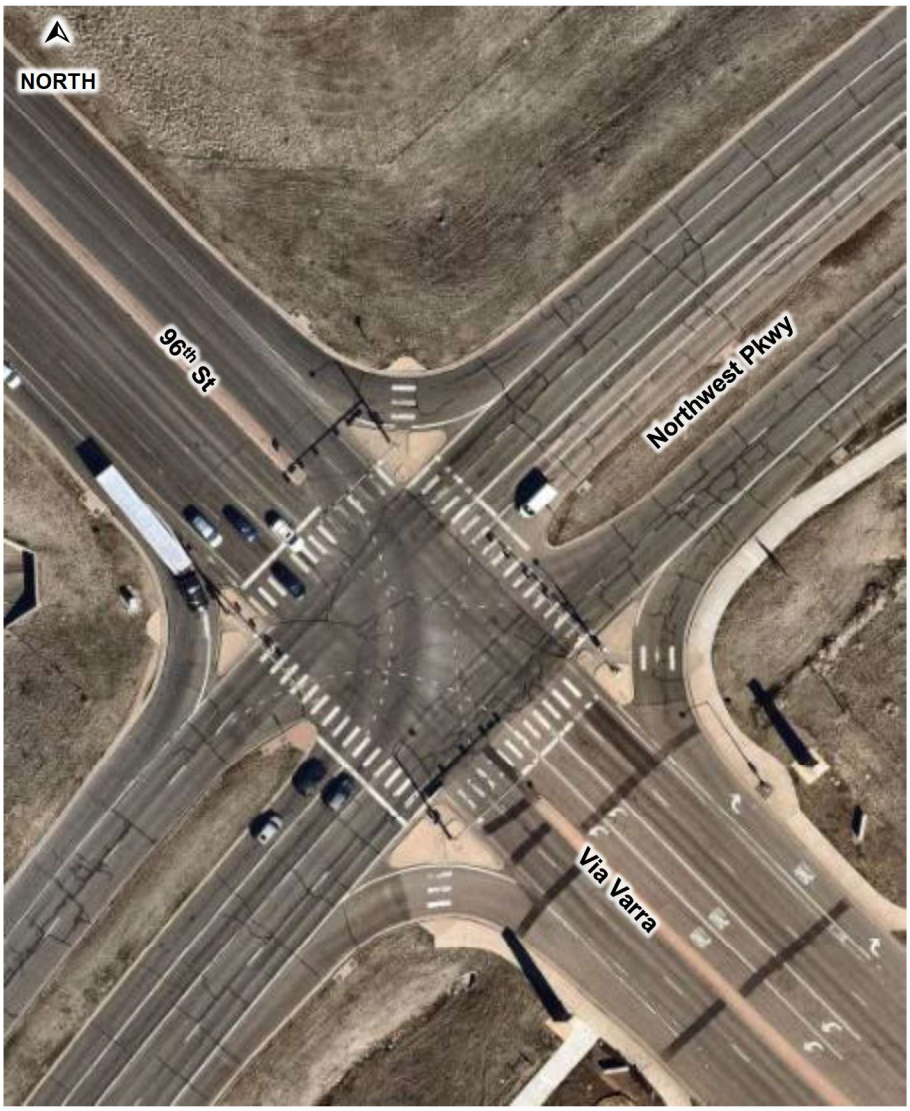
Campus Drive is proposed to exist along the northern side of the project, traveling in the east/west direction. It is anticipated that two through lanes will exist to the east of Sorrel Avenue within the

study area, while just to the west of Sorrel Avenue one lane in each direction will be provided. A roundabout is proposed to be constructed at the future intersections of Campus Drive & Sorrel Avenue (#1) as well as at Rockcress Drive & Sorrel Avenue (#4). Based on current project understanding, the initial phases of other Redtail Ridge development will be constructed prior to Phase 1 of AdventHealth Louisville development. As such, for purposes of this study it is assumed that Campus Drive, Rockcress Drive, and Sorrel Avenue will be constructed prior to the 2030 short-term horizon.

The existing 'T'-intersection just to the north of the North Metro Fire Rescue Station 67 is a ¾-movement intersection. This location is proposed to become the connection point for the Campus Drive extension, which is anticipated to be completed prior to Phase 1 of AdventHealth development. When this extension is complete, it is understood this 'T'-intersection will become a full movement signalized intersection. The existing northbound 96th Street approach provides a left turn lane and one through lane while the southbound 96th Street approach provides a shared through/right turn lane. The existing minor street approach is restricted to right-out only movements. An aerial photo of the existing intersection configuration is provided below.

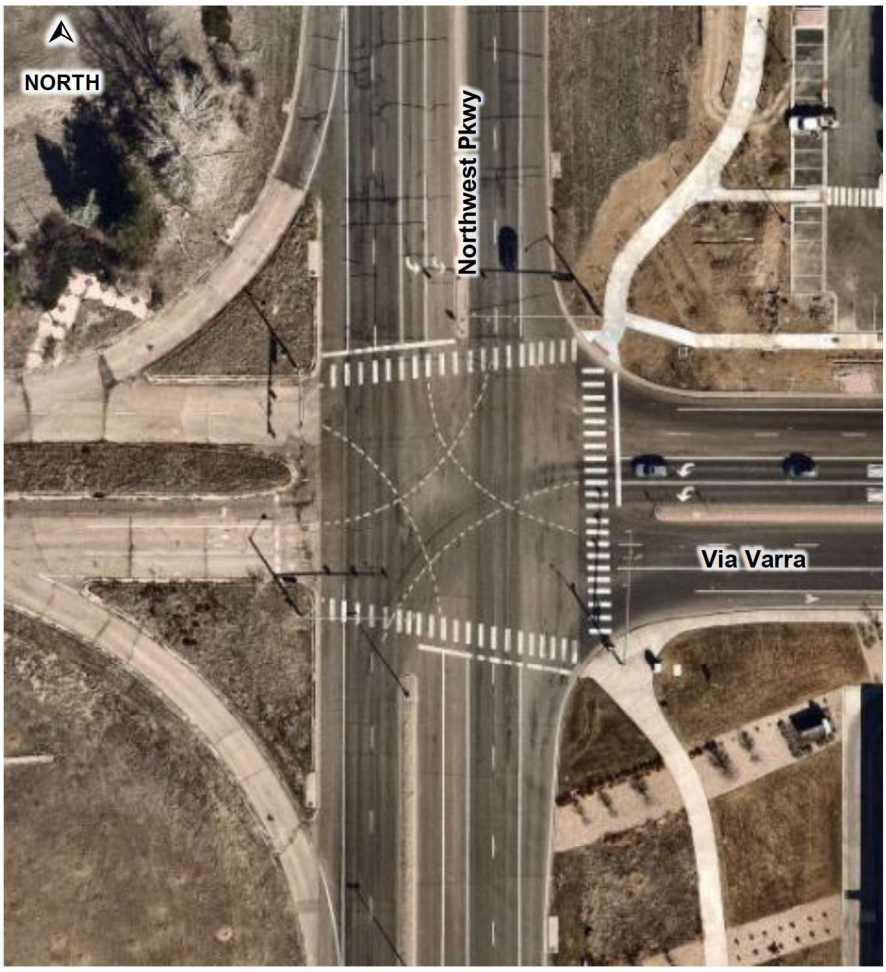
Future Campus Drive & 96th Street (#1)

The existing signalized intersection of 96th Street/Via Varra & Northwest Parkway (#2) operates with protected-only left turn phasing on all four approaches to the intersection. Each of the four approaches provide dual left turn lanes, two through lanes, and a right turn lane, with the right turning movements operating with free turning movement in channelized right turn lanes. For purposes of this study, Northwest Parkway was identified to be the northbound/southbound approach to the intersection while 96th Street is the eastbound approach and Via Varra is the westbound approach. An aerial photo of the existing intersection configuration is provided below.



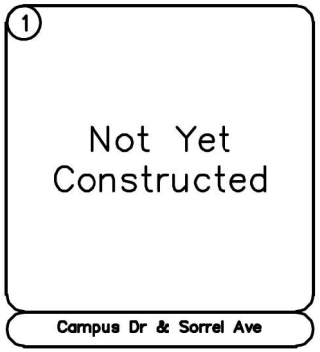
96th Street/Via Varra & Northwest Parkway (#2)

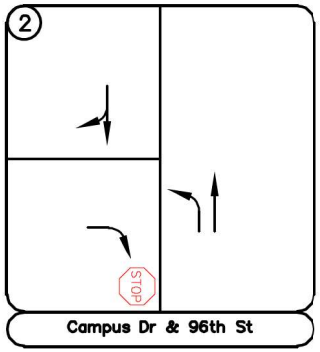
The Via Varra & Northwest Parkway (#5) intersection is signalized and operates with protected-only left turn phasing on all four approaches to the intersection. The northbound and southbound approaches to the intersection provide dual left turn lanes, two through lanes, and a right turn lane. The southbound right turning movement is channelized and operates with yield control. The eastbound approach operates with dual left turn lanes, one through lane, and a channelized right turn lane—that opens from the eastbound through lane just prior to the intersection—operates with free movement. The westbound approach provides dual left turn lanes, one through lane, and a shared through/right turn lane. An aerial photo of the existing intersection configuration is below.

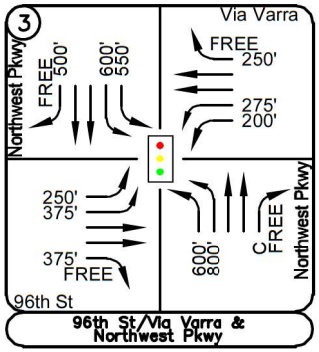


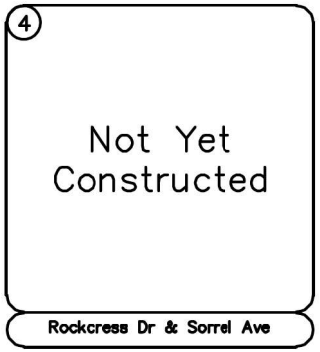
Via Varra & Northwest Parkway (#3)

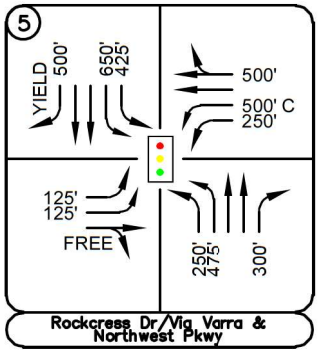
The intersection lane configuration and control for the existing study area intersections are shown in **Figure 2**.

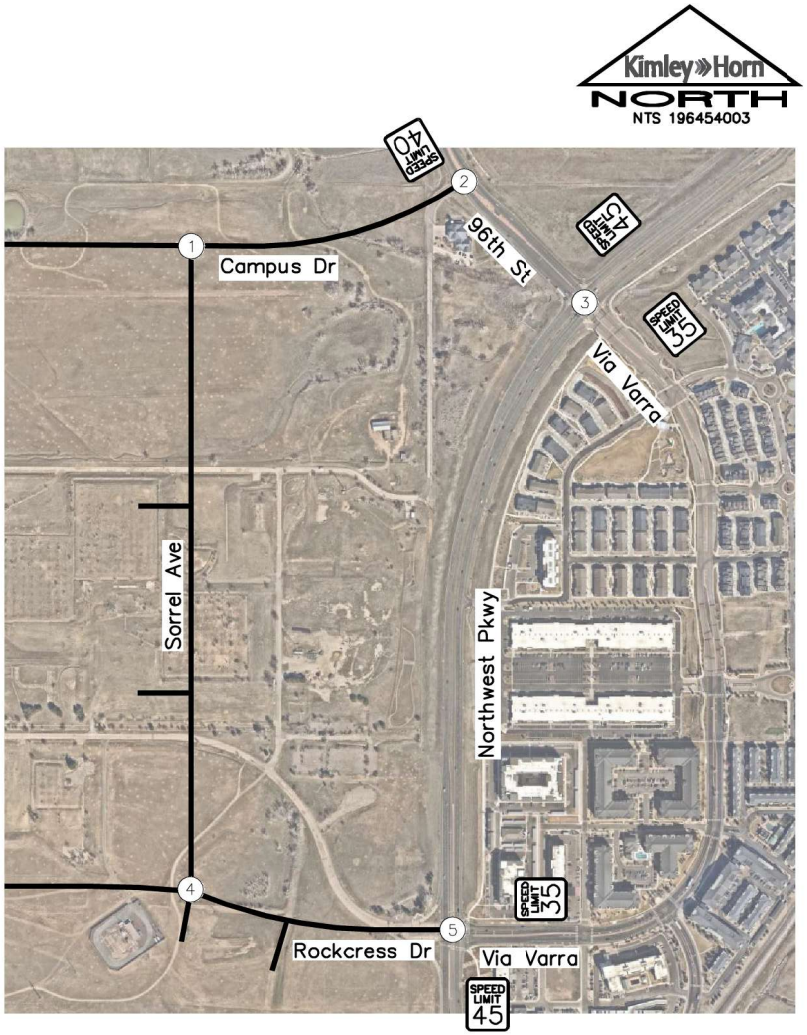


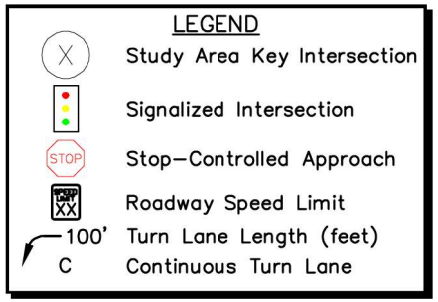












Kimley»Horn

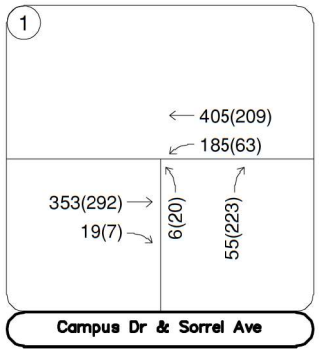
FIGURE 2
AdventHealth Louisville
Louisville, Colorado
Existing Geometry and Control

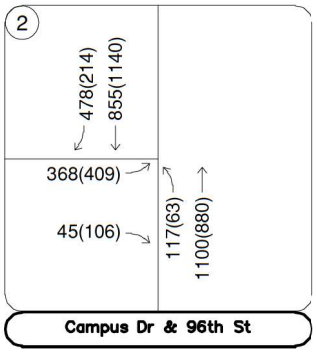
3.3 Future Traffic Volumes and Unspecified Development Traffic Growth

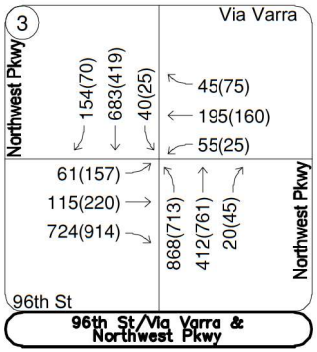
Future projected traffic volumes used in this study were based on the Redtail Ridge Traffic and Mobility Study completed by Fox Tuttle Transportation Group in July 2024. The Redtail Ridge study serves as a master study that analyzed full buildout of the entire Redtail Ridge development area, which includes additional development nearby the hospital, such as additional office uses, industrial/manufacturing buildings, research/development buildings, and some general retail uses. The master study included the entire AdventHealth parcel, which also assumed a hospital land use with adjoining medical office buildings; the hospital was assumed to house 160 beds while the medical office buildings were assumed to comprise approximately 150,000 square feet.

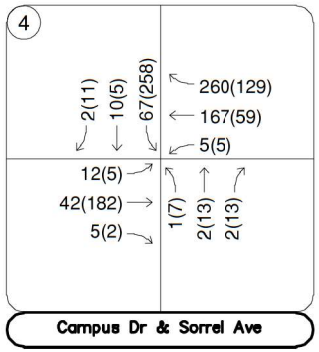
The Redtail Ridge master traffic study analyzed a 2025 short-term buildout year for some developments, with additional land uses constructed by a 2030 mid-year horizon—including full buildout of the hospital and medical office buildings—and a 2040 full buildout horizon. The 2030 and 2040 total traffic volumes from the Redtail Ridge study were used as a basis to generate traffic volumes in this study. However, because the currently proposed land use on the AdventHealth parcel is anticipated to generate more traffic than the originally studied intensities, this AdventHealth traffic study removed the traffic originally projected to be generated by this site to generate 2030 and 2040 background traffic volumes to represent the expected traffic volumes in the area if the hospital/medical office building construction did not occur. Applicable documents from the Fox Tuttle study are included in **Appendix B**.

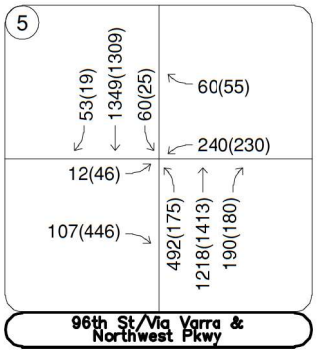
Based on communication with City staff, a twenty-year 2045 long-term horizon was also analyzed for the major external intersections, including Campus Drive & 96th Street (#1), 96th Street/Via Varra & Northwest Parkway (#2), and Rockcress Drive/Via Varra & Northwest Parkway (#3). To develop traffic projections for these intersections, the 2040 existing traffic volumes were grown by an annual growth rate of 0.50 percent per year to account for any additional future development traffic in the area. Of note, traffic volumes entering/exiting the east Via Varra legs of the Northwest Parkway intersections (#2 and #3) were not grown further, as this area is expected to be fully built out by the 2040 horizon. The calculated background traffic volumes for 2030, 2040, and 2045 are shown in **Figure 3**, **Figure 4,** and **Figure 5**, respectively.

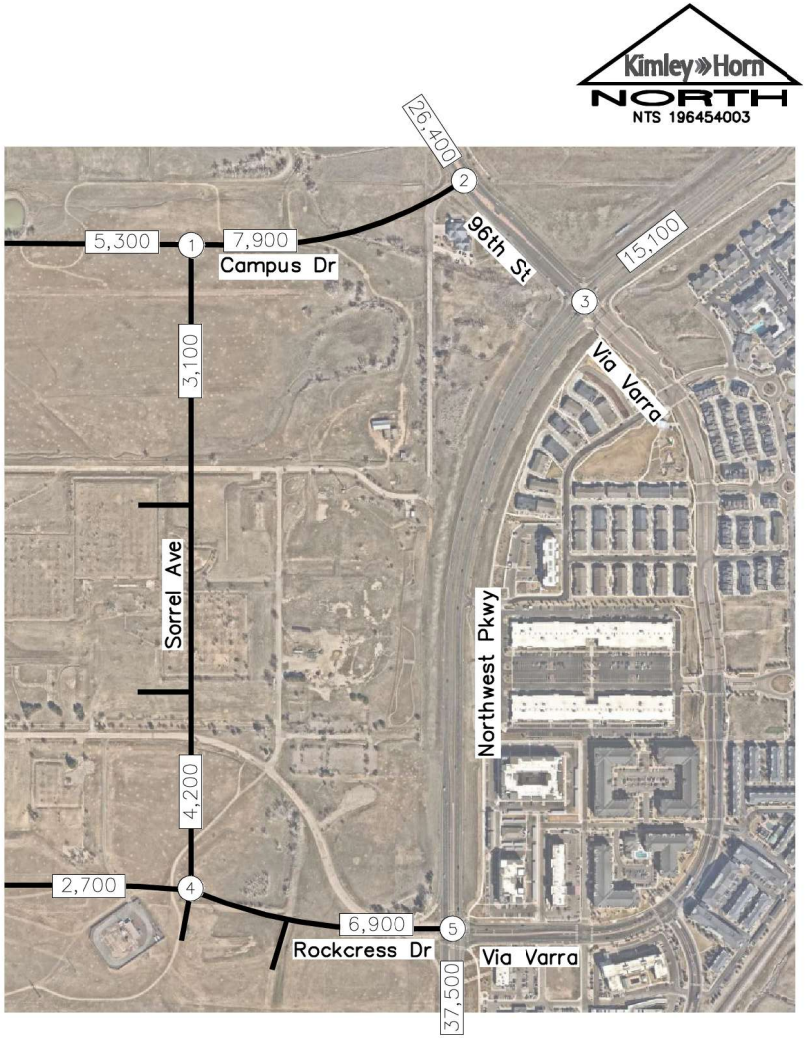












LEGEND

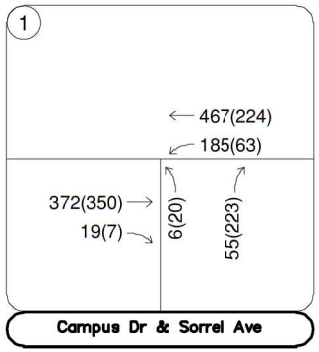
(X) Study Area Key Intersection

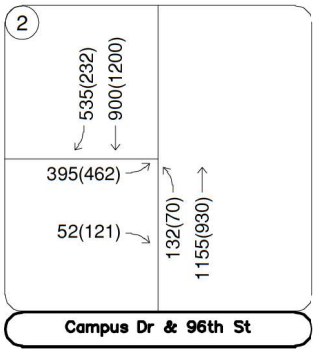
XXX(XXX) Weekday AM(PM) Peak Hour Traffic Volumes

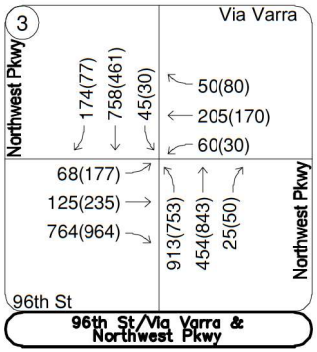
[XX,X00] Estimated Daily Traffic Volume

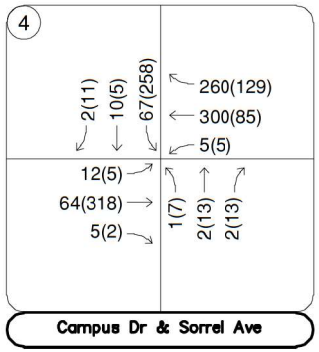
FIGURE 3
AdventHealth Louisville
Louisville, Colorado
2030 Background Traffic Volumes

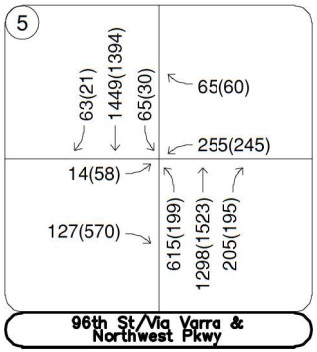
Kimley»Horn

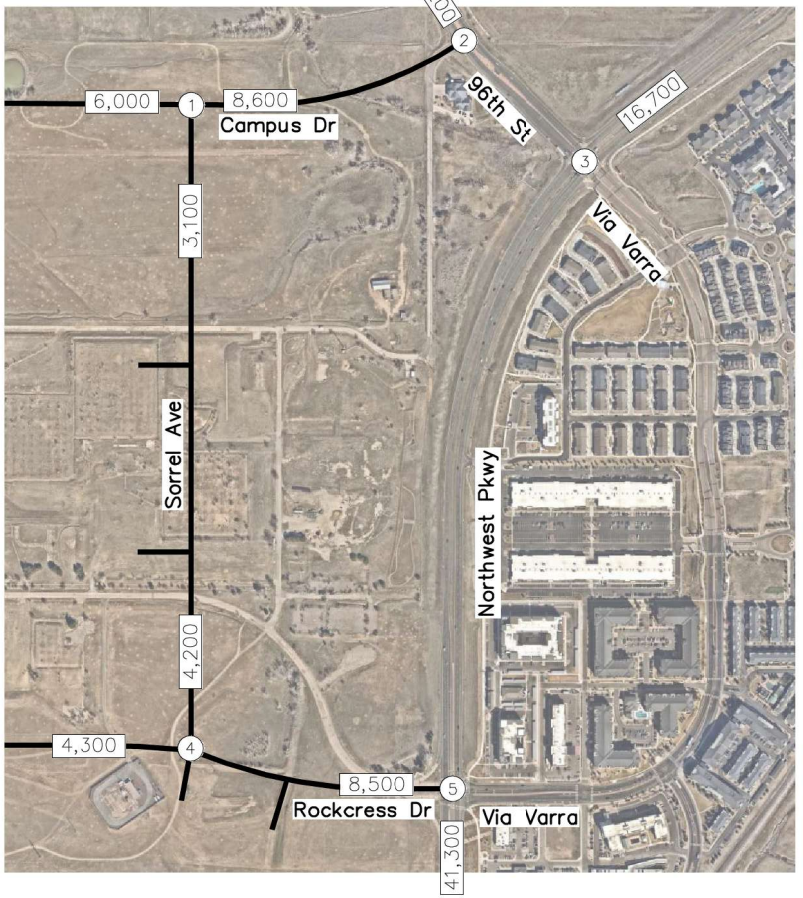








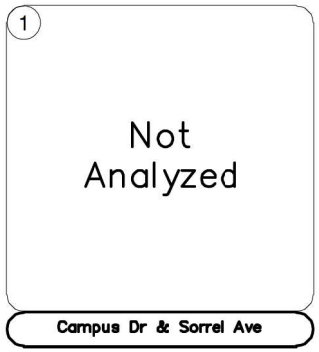


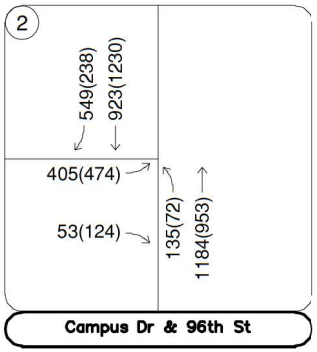


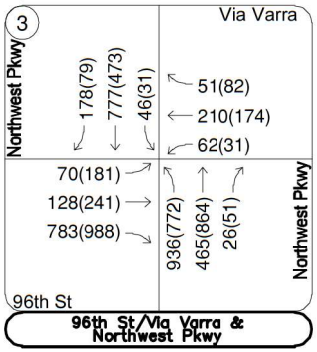
LEGEND

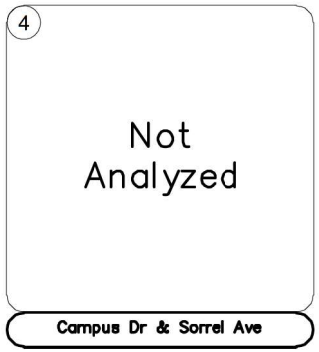
(X)	Study Area Key Intersection
XXX(XXX)	Weekday AM(PM) Peak Hour Traffic Volumes
XX,X00	Estimated Daily Traffic Volume

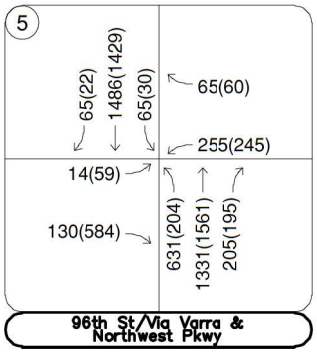
FIGURE 4
AdventHealth Louisville
Louisville, Colorado
2040 Background Traffic Volumes

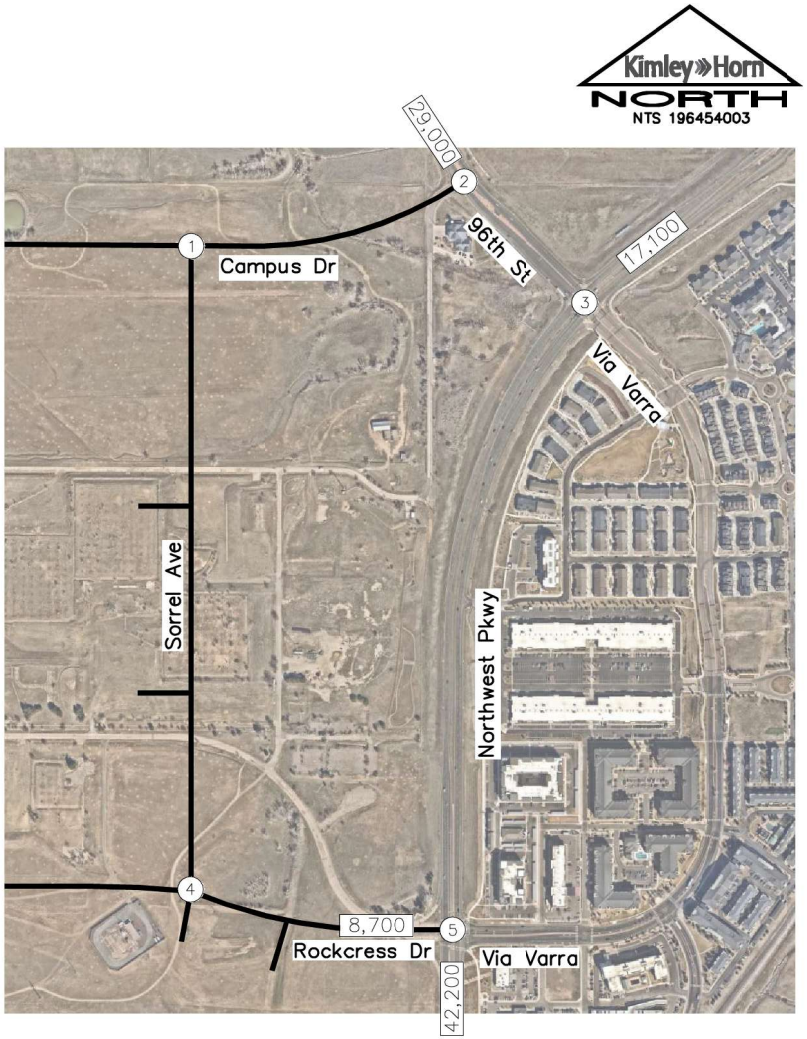












LEGEND

(X) Study Area Key Intersection

XXX(XXX) Weekday AM(PM) Peak Hour Traffic Volumes

XX,X00 Estimated Daily Traffic Volume

FIGURE 5
AdventHealth Louisville
Louisville, Colorado
2045 Background Traffic Volumes

Kimley»Horn

4.0 PROJECT TRAFFIC CHARACTERISTICS

4.1 Trip Generation

Site-generated traffic estimates are determined through a process known as trip generation. Rates and equations are applied to the proposed land use to estimate traffic generated by the development during a specific time interval. The acknowledged source for trip generation rates is the *Trip Generation Manual*[1] published by the Institute of Transportation Engineers (ITE). ITE has established trip rates in nationwide studies of similar land uses. For this study, Kimley-Horn chose to use the ITE Trip Generation Manual average rates and fitted curve equations that apply to Hospital (ITE Land Use Code 610) and Medical-Dental Office Building (ITE Land Use Code 720) and that match what was previously used in the Fox Tuttle study as best as possible for traffic associated with this development.

In the 2030 Phase 1 buildout, AdventHealth Louisville is expected to generate approximately 6,268 weekday daily trips, with 474 of these trips occurring during the morning peak hour and 557 of these trips occurring during the afternoon peak hour. With full buildout of the site by 2040, the project is anticipated to generate 10,632 weekday daily trips, with 772 of these trips occurring during the morning peak hour and 970 of these trips occurring during the afternoon peak hour.

There is an existing AdventHealth hospital in Louisville at the Campus Drive and 88th Street intersection approximately 1.25 miles to the west of the proposed site. This existing site includes approximately 400,000 square feet of hospital/medical office building uses and is approved with an expansion of an additional 350,000 square feet to include up to 750,000 total square feet at full buildout. Thus, a traffic generation comparison is provided to assess the net difference in trips between the proposed site with approximately 799,600 total square feet at full buildout within the Redtail Ridge development area versus the 750,000 total square feet that could be constructed at the existing hospital site. To provide a uniform comparison between these two sites, the traffic generation of the proposed site with the 799,600 square feet of hospital/medical office building uses was prorated to the up to 750,000 total square feet of the existing site, assuming that approximately 93.8 percent (750,000 / 799,600 square feet = 93.8 percent) of the traffic generation of the proposed site within Redtail Ridge would have been generated if the existing

[1] Institute of Transportation Engineers, *Trip Generation Manual*, Eleventh Edition, Washington DC, 2021.

hospital site were to be developed to the full 750,000 square feet that is already approved to be constructed there. As such, the currently proposed hospital site located within the Redtail Ridge development area could generate approximately 658 additional weekday daily trips, with 47 additional trips during the morning peak hour and 61 additional trips during afternoon peak hour. This results in approximately one additional vehicle every 75 seconds during the morning peak hour and one additional vehicle every minute (60 seconds) during the afternoon peak hour on the surrounding street network compared to the existing project site.

Calculations were based on the procedure and information provided in the ITE *Trip Generation Manual, 11th Edition – Volume 1: User's Guide and Handbook*, 2021. **Table 1** summarizes the estimated trip generation and traffic comparison for the site. The trip generation worksheets are included in **Appendix D**.

Table 1 – AdventHealth Louisville Traffic Generation

Land Use and Size	Weekday Vehicle Trips						
	Daily	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
2030 – Phase 1 Development							
Hospital (ITE 610) – 200 Beds	3,810	220	86	306	95	193	289
Medical/Dental Office Building (ITE 720) – 80,000 Square Feet	2,458	133	35	168	81	188	268
Total Phase 1 Trips	**6,268**	**353**	**121**	**474**	**176**	**381**	**557**
2040 – Full Buildout Development							
Hospital (ITE 610) – 300 Beds	5,716	330	128	458	143	290	433
Medical/Dental Office Building (ITE 720) – 160,000 Square Feet	4,916	248	66	314	161	376	537
Full Buildout Total Project Trips	**10,632**	**578**	**194**	**772**	**304**	**666**	**970**
Existing AdventHealth Hospital Site – Estimated Traffic Generation at 750,000 SF Buildout							
Hospital (ITE 610) – 281 Beds	5,362	310	120	430	134	272	406
Medical/Dental Office Building (ITE 720) – 150,100 Square Feet	4,612	233	62	295	151	352	503
Total Trips	**9,974**	**543**	**182**	**725**	**285**	**624**	**909**
Net Difference in Trips	***+658***	***+35***	***+12***	***+47***	***+19***	***+42***	***+61***

4.2 Trip Distribution

Distribution of site traffic on the street system was based on the area street system characteristics, existing traffic patterns, existing and anticipated surrounding demographic information, and the

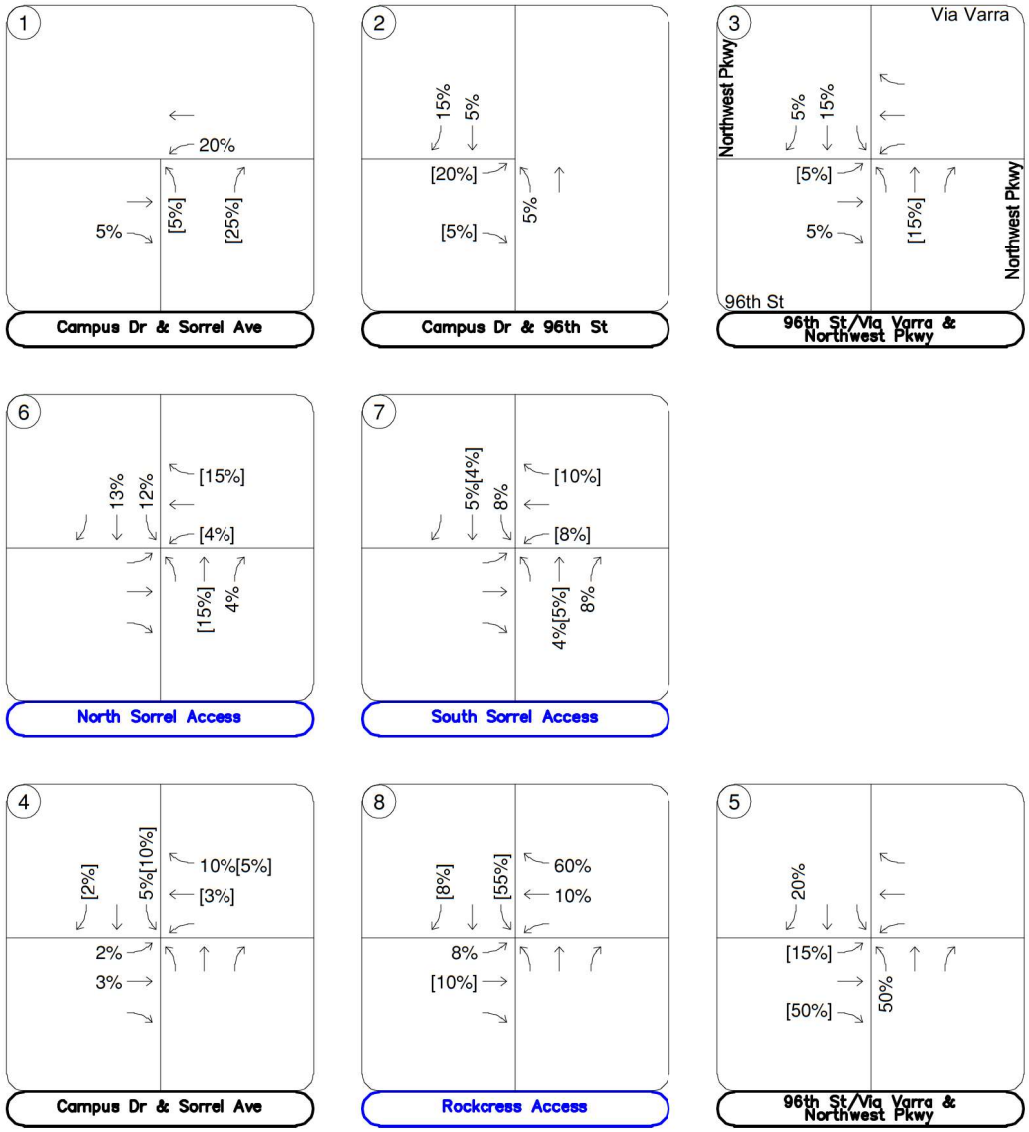
proposed access system for the project. The directional distribution of traffic is a means to quantify the percentage of site-generated traffic that approaches the site from a given direction and departs the site back to the original source. The project trip distribution for the proposed development is illustrated in **Figure 6**.

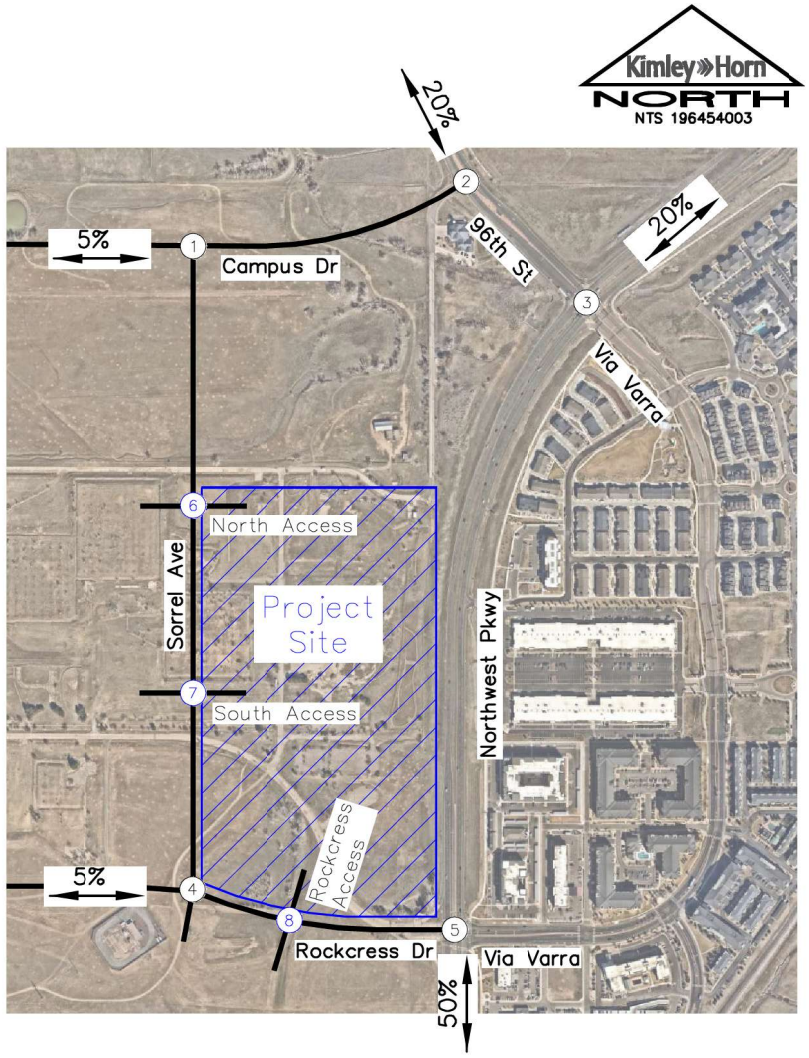
4.3 Traffic Assignment

The project's traffic assignment was obtained by applying the project trip distribution to the estimated traffic generation of the development shown in **Table 1**. Traffic assignment for the 2030 short-term Phase 1 horizon is shown in **Figure 7**, while 2040 full buildout traffic assignment is provided in **Figure 8**.

4.4 Total (Background Plus Project) Traffic

Site traffic volumes were added to the background volumes to represent estimated traffic conditions for the short-term 2030 Phase 1, 2040 buildout, and long-term 2045 twenty-year planning horizon. These total traffic volumes for the study area are illustrated for the 2030, 2040, and 2045 horizon years in **Figure 9**, **Figure 10**, and **Figure 11** respectively.



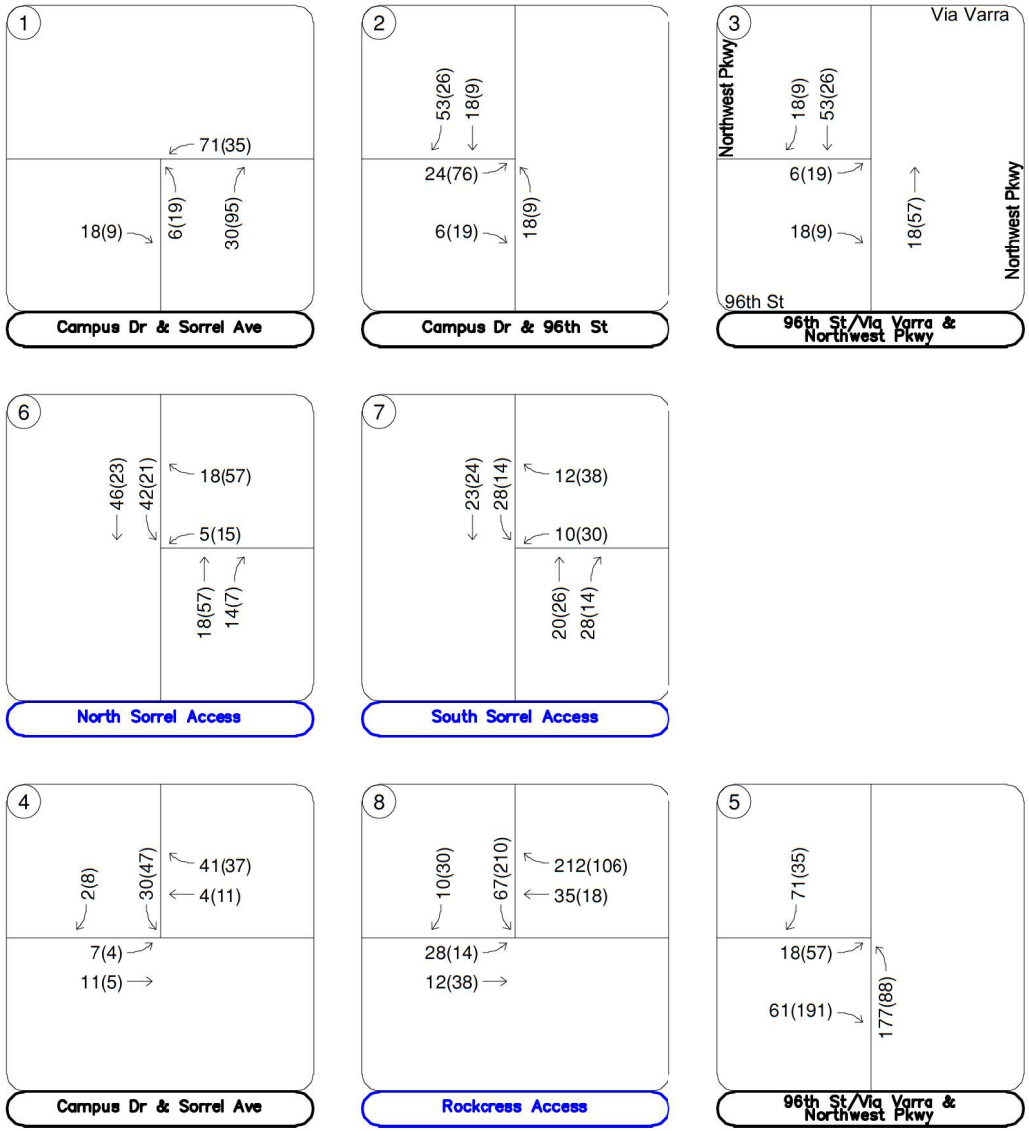


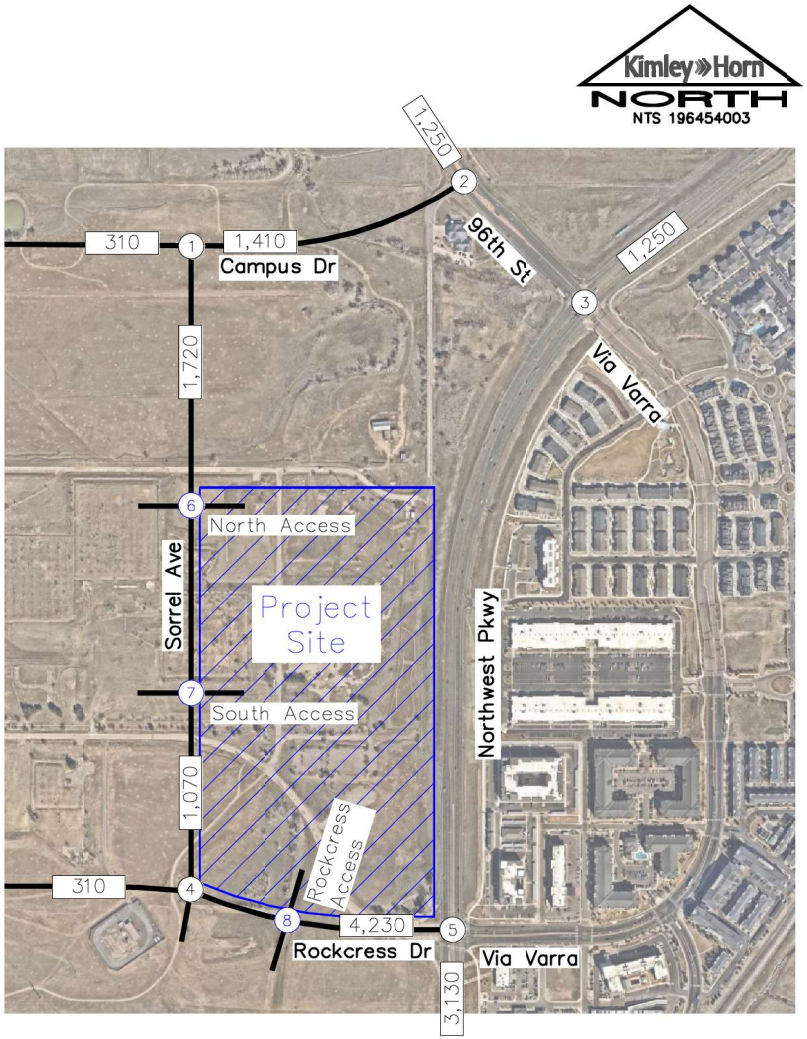
LEGEND

X	Study Area Key Intersection
X	Project Access Intersection
XX%	External Trip Distribution Percentage
XX%[XX%]	Entering[Exiting] Trip Distribution Percentage

FIGURE 6
AdventHealth Louisville
Louisville, Colorado
Project Trip Distribution

Kimley»Horn



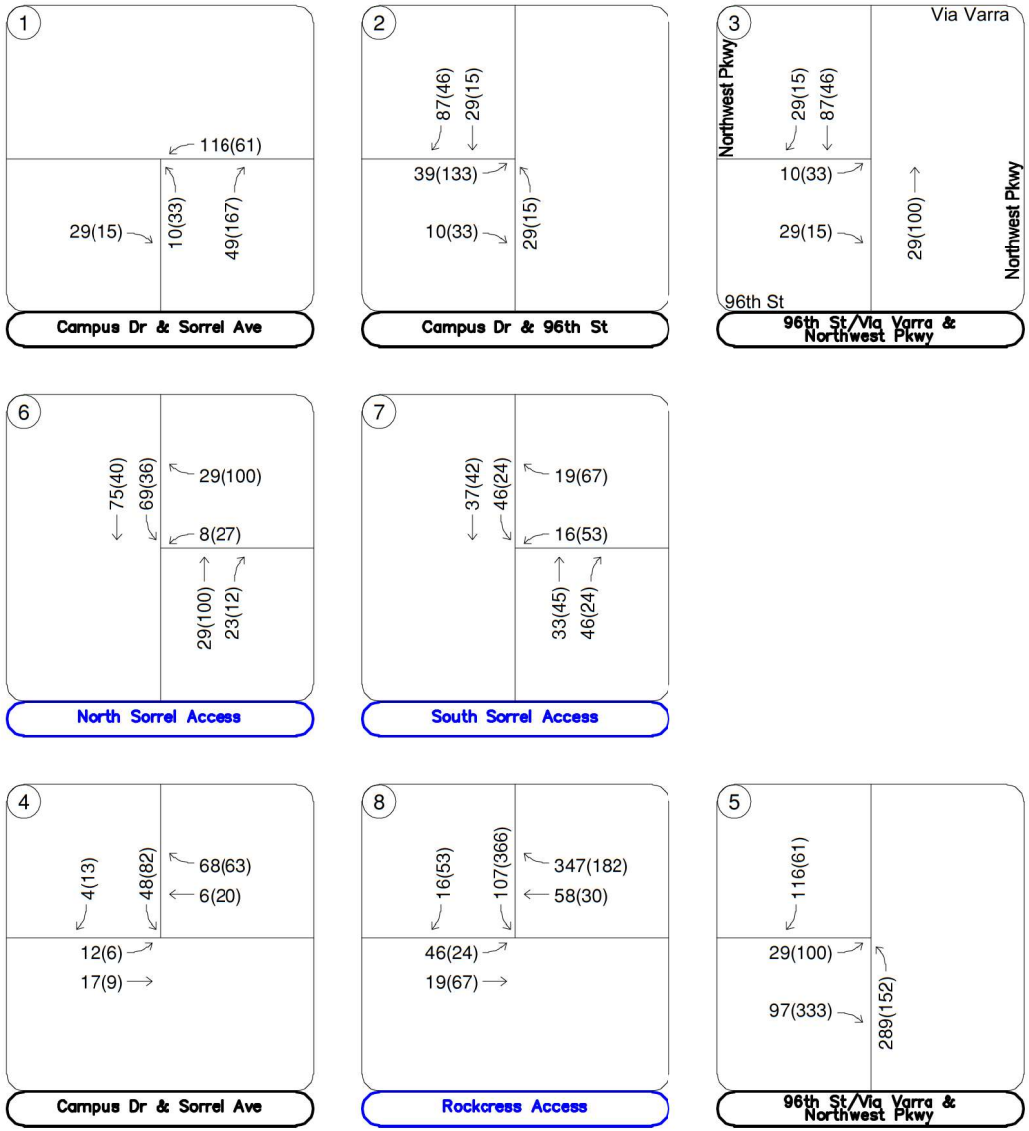


LEGEND

X	Study Area Key Intersection
X	Project Access Intersection
XXX(XXX)	Weekday AM(PM) Peak Hour Traffic Volumes
XX,X00	Estimated Daily Traffic Volume

FIGURE 7
AdventHealth Louisville
Louisville, Colorado
2030 Project Traffic Assignment

Kimley»Horn



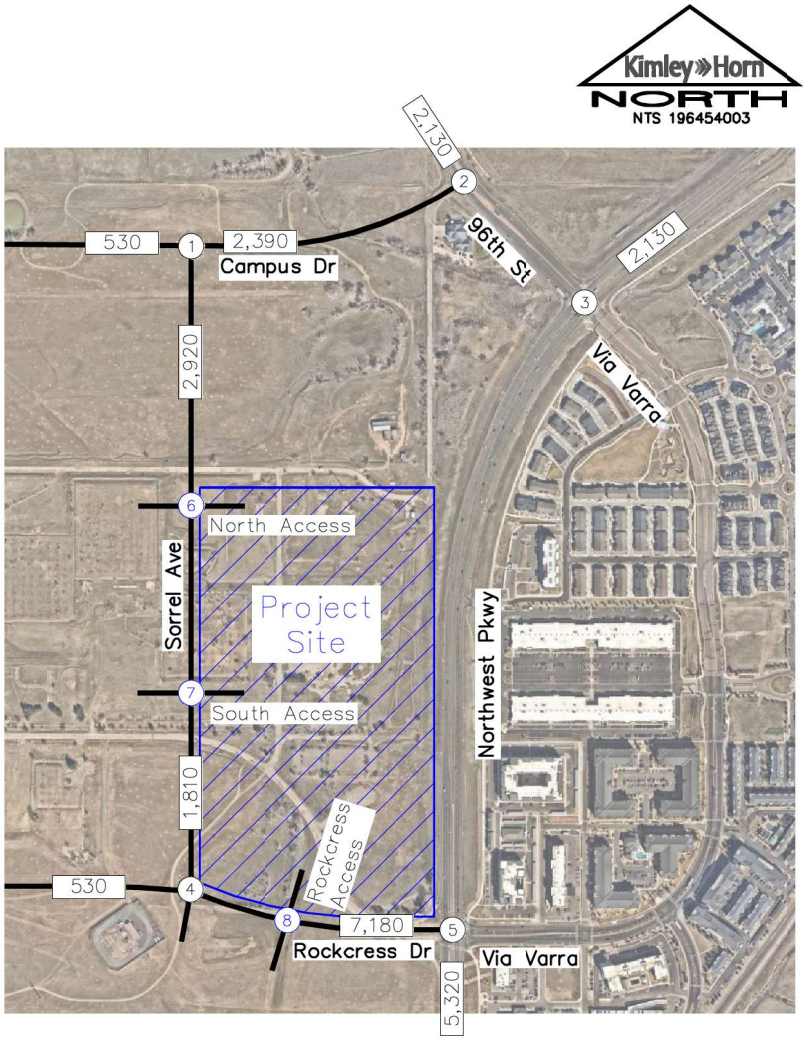
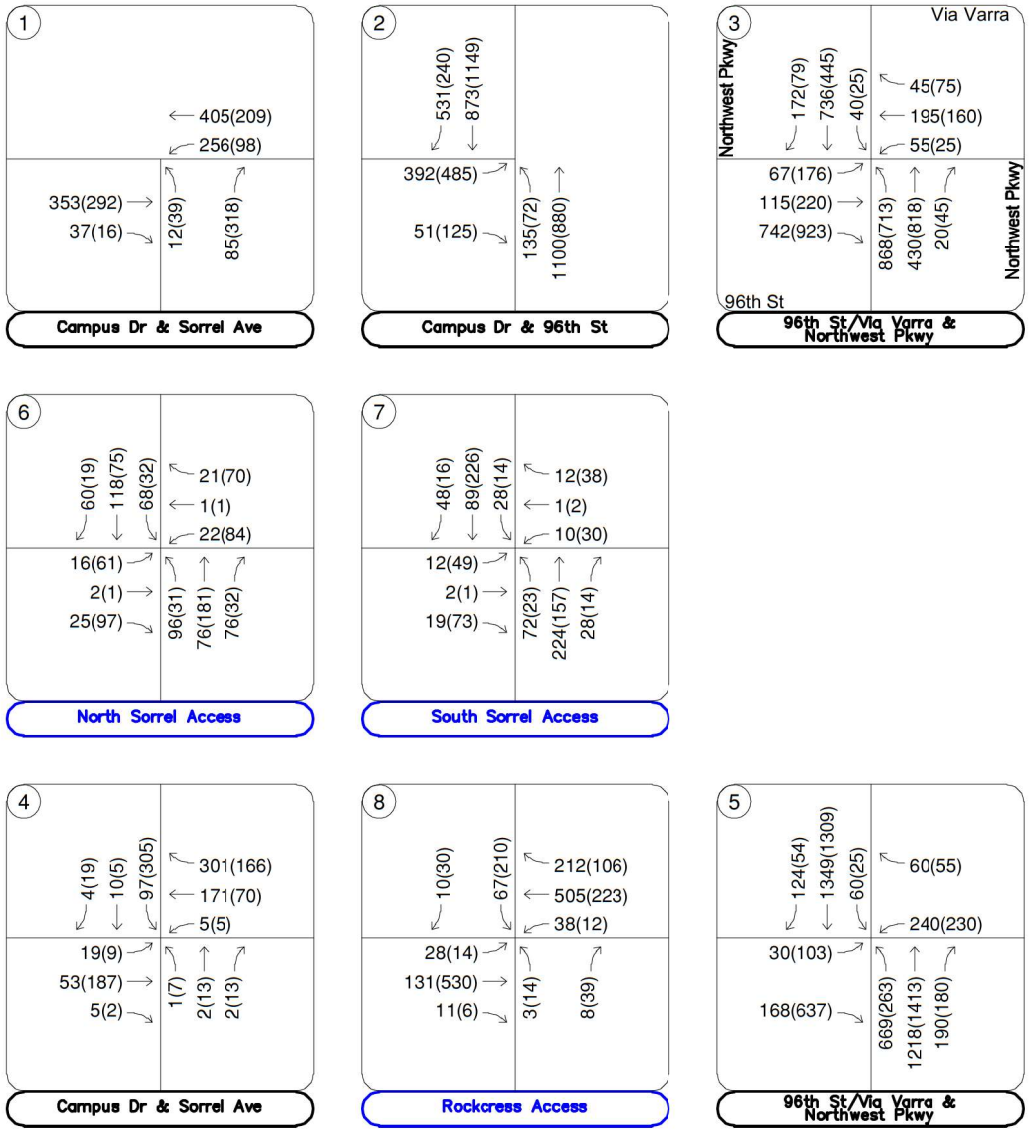
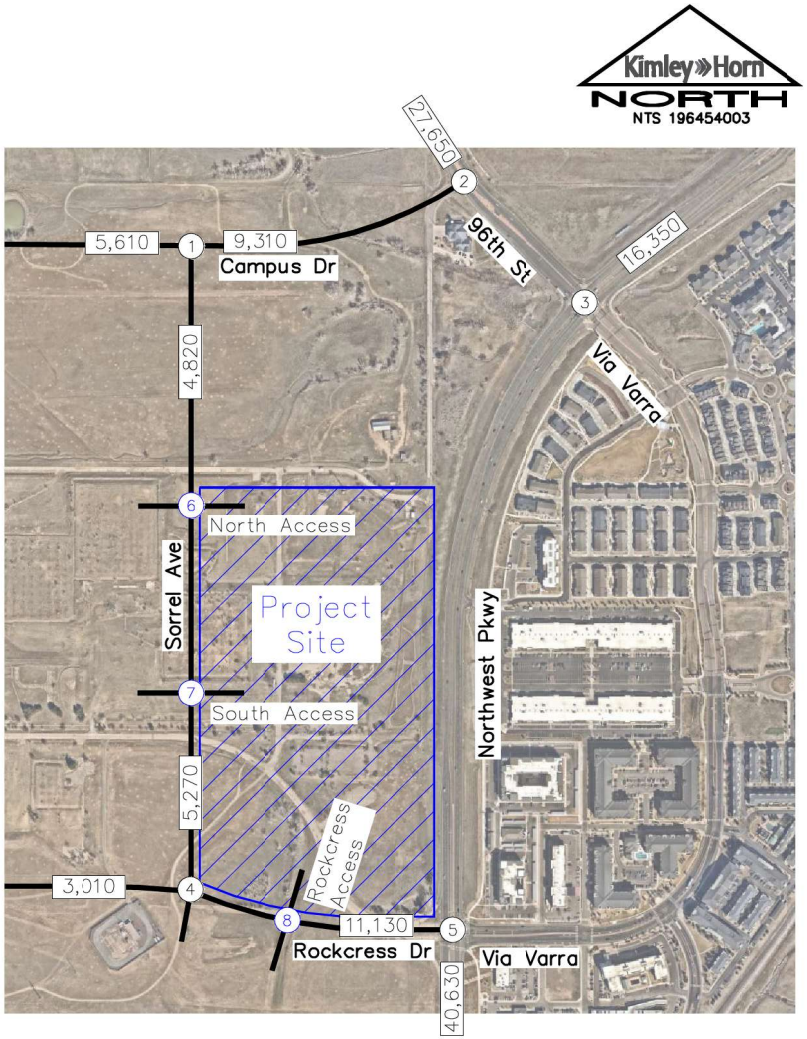


FIGURE 8
AdventHealth Louisville
Louisville, Colorado
2040 Project Traffic Assignment

Kimley»Horn



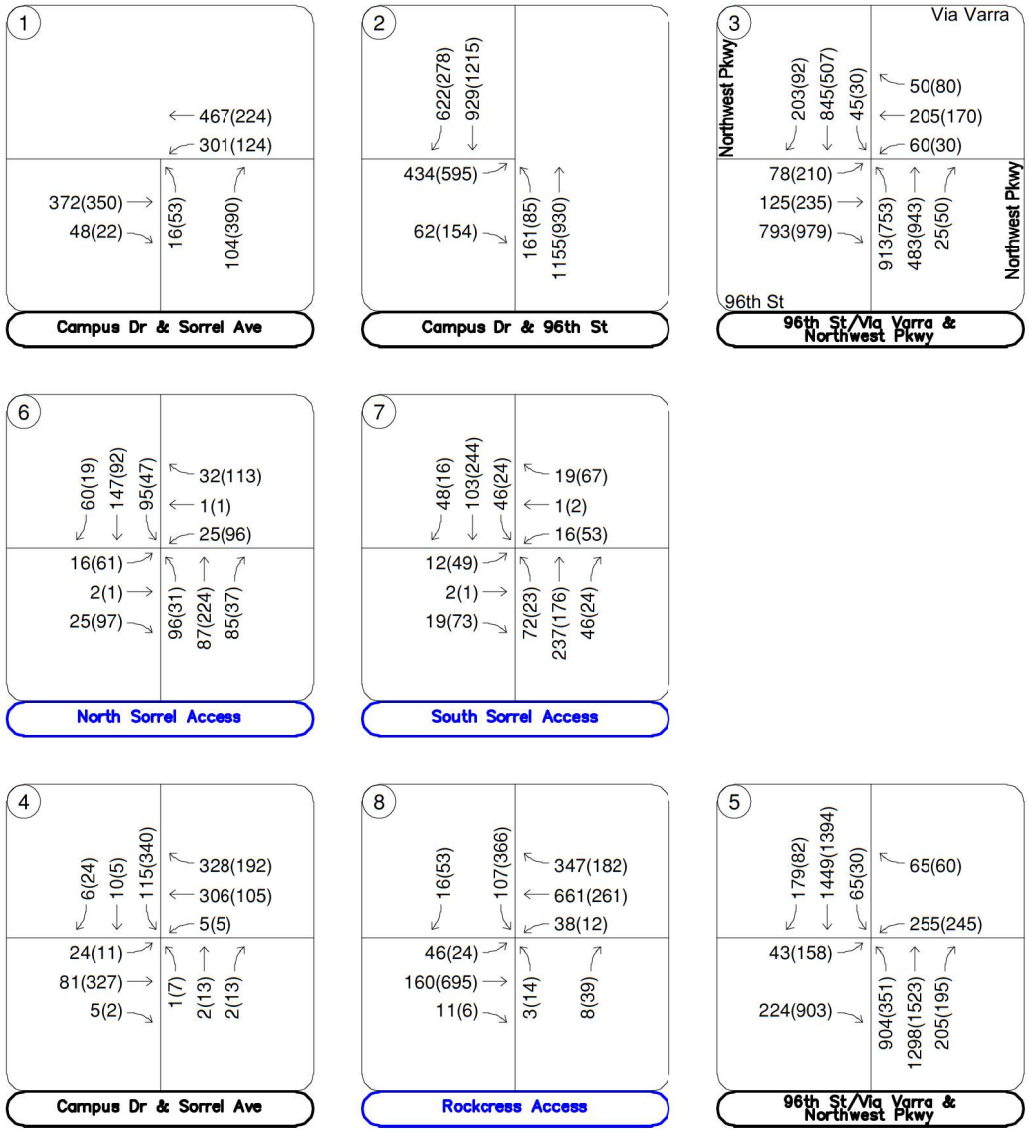


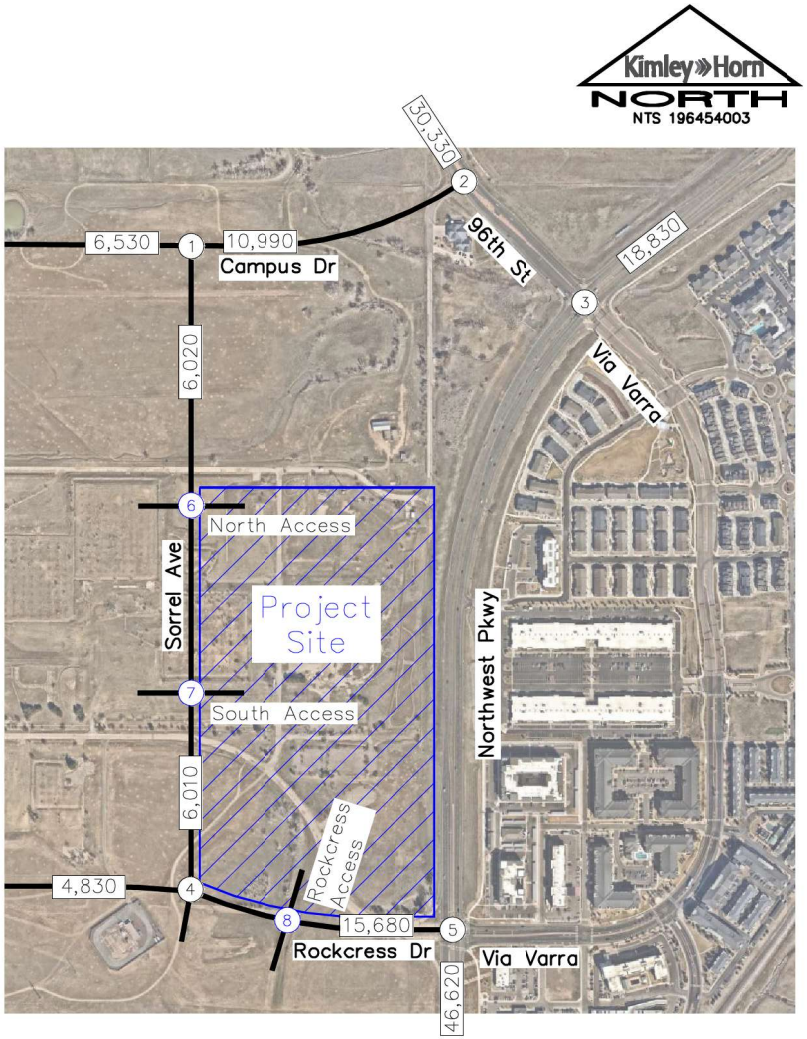
LEGEND

X	Study Area Key Intersection
X	Project Access Intersection
XXX(XXX)	Weekday AM(PM) Peak Hour Traffic Volumes
XX,X00	Estimated Daily Traffic Volume

FIGURE 9
AdventHealth Louisville
Louisville, Colorado
2030 Total Traffic Volumes

Kimley»Horn



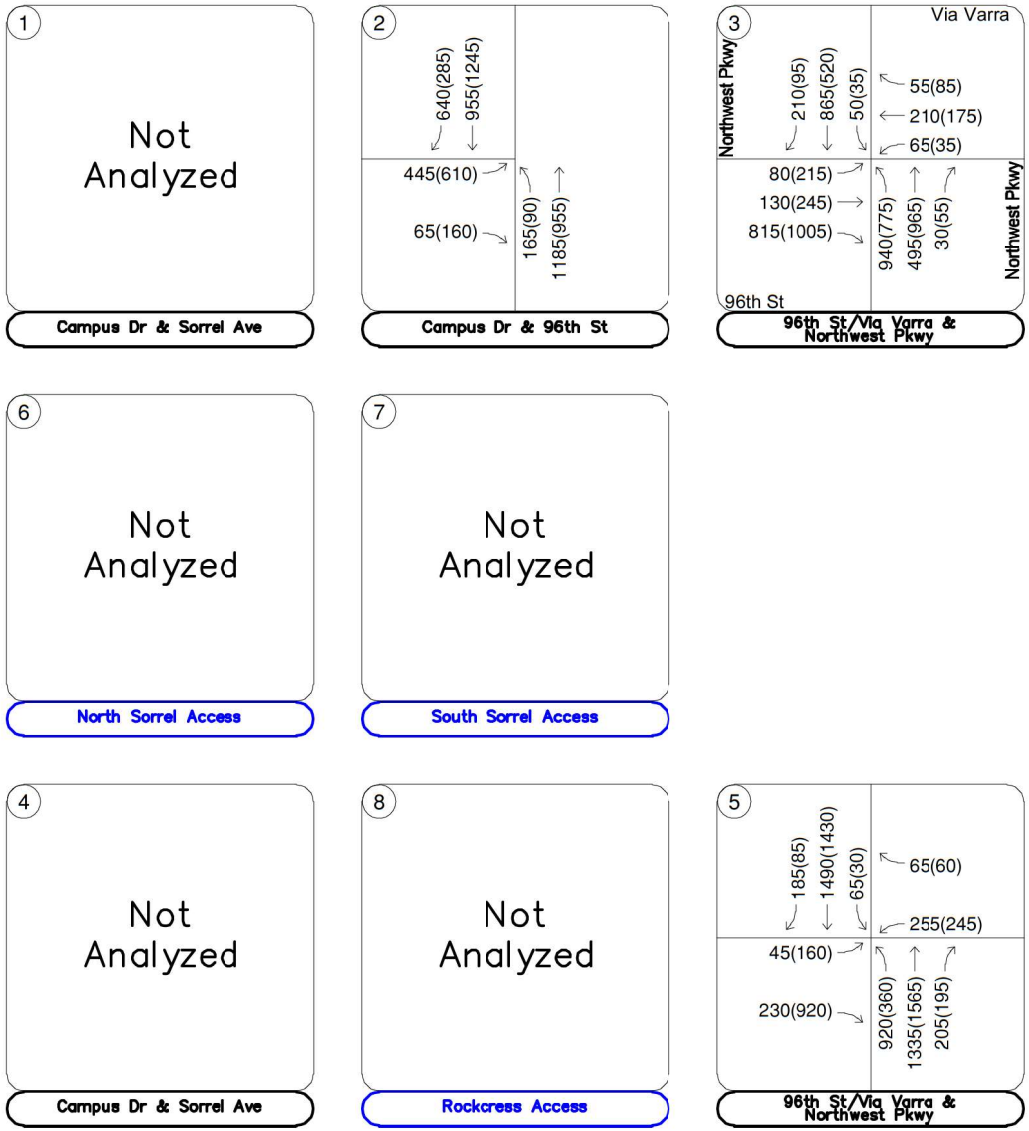


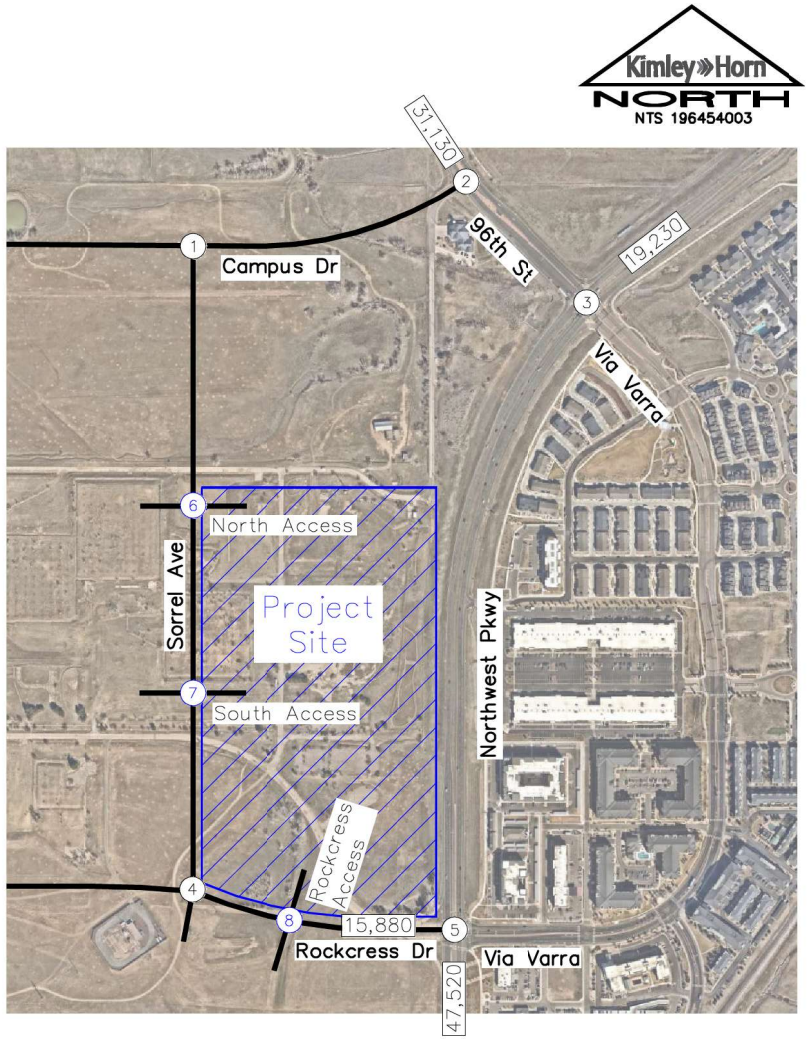
LEGEND

X	Study Area Key Intersection
X	Project Access Intersection
XXX(XXX)	Weekday AM(PM) Peak Hour Traffic Volumes
XX,X00	Estimated Daily Traffic Volume

FIGURE 10
AdventHealth Louisville
Louisville, Colorado
2040 Total Traffic Volumes

Kimley»Horn





LEGEND

X	Study Area Key Intersection
X	Project Access Intersection
XXX(XXX)	Weekday AM(PM) Peak Hour Traffic Volumes
XX,X00	Estimated Daily Traffic Volume

FIGURE 11
AdventHealth Louisville
Louisville, Colorado
2045 Total Traffic Volumes

Kimley»Horn

5.0 TRAFFIC OPERATIONS ANALYSIS

Kimley-Horn's analysis of traffic operations in the site vicinity was conducted to determine potential capacity deficiencies in the 2030, 2040, and 2045 development horizons at the identified key intersections. The acknowledged source for determining overall capacity is the *Highway Capacity Manual (HCM)*[2].

5.1 Analysis Methodology

Capacity analysis results are listed in terms of Level of Service (LOS). LOS is a qualitative term describing operating conditions a driver will experience while traveling on a particular street or highway during a specific time interval. It ranges from A (very little delay) to F (long delays and congestion). For intersections and roadways in this study area, standard traffic engineering practice recommends overall intersection LOS D and movement/approach LOS E as the minimum desirable thresholds for acceptable operations. **Table 2** shows the definition of level of service for signalized and unsignalized intersections.

Table 2 – Level of Service Definitions

Level of Service	Signalized Intersection Average Total Delay (sec/veh)	Unsignalized Intersection Average Total Delay (sec/veh)
A	≤ 10	≤ 10
B	> 10 and ≤ 20	> 10 and ≤ 15
C	> 20 and ≤ 35	> 15 and ≤ 25
D	> 35 and ≤ 55	> 25 and ≤ 35
E	> 55 and ≤ 80	> 35 and ≤ 50
F	> 80	> 50

Definitions provided from the Highway Capacity Manual, Seventh Edition, Transportation Research Board, 2022.

Study area intersections were analyzed based on average total delay analysis for signalized and unsignalized intersections. Under the unsignalized analysis, the LOS for a two-way stop-controlled intersection is determined by the computed or measured control delay and is defined for each minor movement. LOS for a two-way stop-controlled intersection is not defined for the whole intersection. LOS for signalized, roundabout, and all-way stop controlled intersections are defined for each approach and for the overall intersection.

[2] Transportation Research Board, *Highway Capacity Manual*, Seventh Edition, Washington DC, 2022.

5.2 Key Intersection Operational Analysis

Calculations for the operational level of service at the key intersections for the study area are provided in **Appendix E**. The existing year analysis is based on the lane geometry and intersection control shown in **Figure 2**. Synchro traffic analysis software was used to analyze the signalized and unsignalized key intersections for HCM level of service.

Campus Drive & Sorrel Avenue (#1)

The Campus Drive & Sorrel Avenue (#1) intersection is proposed to be a 'T'-intersection operating with roundabout control. Based on current improvement plans, it is understood that eastbound Campus Drive will provide one shared through/right turn lane, northbound Sorrel Avenue will provide a shared left/right turn lane, while westbound Sorrel Avenue will provide one left turn lane and a separate through lane. The intersection is anticipated to operate acceptably at LOS A in this configuration through the 2040 horizon with the addition of project traffic. **Table 3** provides the results of the LOS analysis conducted at this intersection.

Table 3 – Campus Drive & Sorrel Avenue (#1) LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2030 Background – Overall	5.7	A	5.1	A
Eastbound Approach	7.0	A	5.1	A
Westbound Approach	4.9	A	3.8	A
Northbound Approach	4.6	A	6.4	A
2030 Total – Overall	6.1	A	5.9	A
Eastbound Approach	8.2	A	5.5	A
Westbound Approach	5.0	A	3.8	A
Northbound Approach	5.1	A	8.1	A
2040 Background – Overall	6.0	A	5.4	A
Eastbound Approach	7.3	A	5.7	A
Westbound Approach	5.3	A	3.9	A
Northbound Approach	4.7	A	7.0	A
2040 Total – Overall	6.7	A	7.4	A
Eastbound Approach	9.4	A	6.4	A
Westbound Approach	5.5	A	4.0	A
Northbound Approach	5.1	A	10.9	B

Campus Drive & 96th Street (#2)

The future Campus Drive & 96th Street 'T'-intersection is understood to be signalized by the 2030 horizon with development of other land uses in the overall Redtail Ridge area. Based on proposed construction from the improvement plans, it is understood that dual northbound left turn lanes and three through lanes will be provided at full buildout along 96th Street. However, to be conservative in this study, it was assumed that by 2030, the northbound approach would provide one left turn lane and two through lanes. The eastbound Campus Drive approach is proposed to provide dual left turn lanes and a right turn lane, while southbound 96th Street is proposed to provide two through lanes and a right turn lane. By the 2040 horizon, it was assumed that the improvement plans for dual northbound left turn lanes and three northbound through lanes would be provided. **Table 4** provides the results of the LOS analysis conducted at this intersection with these improvements. As shown, the intersection is anticipated to operate acceptably at LOS C or better during the studied peak hours throughout 2045 with the anticipated improvements.

Table 4 – Campus Drive & 96th Street (#2) LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2030 Background	14.3	B	21.2	C
2030 Total	15.2	B	22.9	C
2040 Background[1]	21.5	C	22.1	C
2040 Total[1]	24.3	C	25.8	C
2045 Total[1]	29.0	C	29.3	C

[1]Dual NBL Turn Lanes and Three NBT Lanes

96th Street/Via Varra & Northwest Parkway (#3)

The 96th Street/Via Varra & Northwest Parkway (#3) intersection is signalized and operates with protected-only left turn phasing on all four approaches to the intersection. According to currently proposed improvement plans for this intersection, it is understood that the northbound dual left turn lanes on Northwest Parkway and dual eastbound left turn lanes on 96th Street will both be improved to provide triple left turn lanes. As such, this would require three receiving lanes on both westbound 96th Street to the west of Northwest Parkway as well as northbound Northwest Parkway to the north of 96th Street. However, to be conservative, it was assumed that this improvement would not be completed until the 2040 full buildout horizon to assess the intersection operation under 2030 Phase 1 conditions if no improvements are completed by 2030. As such, the intersection operates well at LOS C with the existing configuration in 2030 and continues to operate acceptably at LOS C in 2040 and 2045 with the proposed improvements. **Table 5** provides the results of the LOS analysis conducted at this intersection.

Table 5 – 96th Street/Via Varra & Northwest Parkway (#3) LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2030 Background	29.0	C	29.3	C
2030 Total	29.9	C	29.6	C
2040 Background[1]	28.5	C	22.3	C
2040 Total[1]	29.3	C	22.4	C
2045 Total[1]	29.7	C	22.7	C

[1]Dual NBL Turn Lanes and Three NBT Lanes

Rockcress Drive & Sorrel Avenue (#4)

The Rockress Drive & Sorrel Avenue (#4) intersection is proposed to be constructed a four-leg single-lane roundabout. The northbound, southbound, and eastbound approaches would all provide one lane for shared turning movements while the westbound approach would provide one left/through lane and a right turn only lane. The south leg of the roundabout is anticipated to serve as an access into a future development to the south of Rockcress Drive. In this proposed configuration, the intersection is anticipated to operate at an acceptable level of service A through the 2040 horizon with the addition of project traffic. **Table 6** provides the results of the LOS analysis at this intersection.

Table 6 – Rockcress & Sorrel Avenue (#4) LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2030 Background – Overall	4.0	A	4.7	A
Eastbound Approach	3.3	A	5.5	A
Westbound Approach	4.1	A	3.3	A
Northbound Approach	3.0	A	4.8	A
Southbound Approach	3.9	A	5.0	A
2030 Total – Overall	4.2	A	5.1	A
Eastbound Approach	3.6	A	6.0	A
Westbound Approach	4.3	A	3.6	A
Northbound Approach	3.2	A	5.1	A
Southbound Approach	4.2	A	5.6	A
2040 Background – Overall	4.4	A	5.5	A
Eastbound Approach	3.5	A	7.3	A
Westbound Approach	4.5	A	3.4	A
Northbound Approach	3.1	A	5.6	A
Southbound Approach	4.5	A	5.2	A
2040 Total – Overall	4.8	A	6.3	A
Eastbound Approach	4.0	A	8.6	A
Westbound Approach	4.9	A	3.7	A
Northbound Approach	3.4	A	6.3	A
Southbound Approach	5.2	A	6.3	A

Rockcress Drive/Via Varra & Northwest Parkway (#5)

The Rockcress Drive/Via Varra & Northwest Parkway (#5) intersection is signalized and operates with protected-only left turn phasing on all four approaches to the intersection. Based on currently proposed improvement plans and the results of the Fox Tuttle study, it is understood that the southbound Northwest Parkway approach to this intersection will provide three through lanes in the future. The results of this analysis further confirm that this improvement is anticipated to be needed in the future. However, to be conservative, it was assumed that the intersection would remain in its current configuration through the 2030 horizon and that the third southbound through lane would not be implemented until the 2040 horizon. In 2030, the intersection is anticipated to operate acceptably at LOS B during the peak hours with the existing configuration and control. Based on these proposed improvements, the intersection is anticipated to operate at an acceptable level of service through the 2045 horizon with the addition of project traffic. **Table 7** provides the results of the LOS analysis conducted at this intersection.

Table 7 – Rockcress Drive/Via Varra & Northwest Parkway (#5) LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2030 Background	19.9	B	16.2	B
2030 Total	28.8	C	18.2	B
2040 Background[1]	29.0	C	16.6	B
2040 Total[1]	31.8	C	29.8	C
2045 Total[1]	32.9	C	31.1	C

[1]Three SBT lanes

Project Accesses

With completion of the project, a full movement access is proposed along the north side of Rockcress Drive, approximately 775 feet west of the Rockcress Drive/Via Varra & Northwest Parkway (#5) intersection, measured center to center. Two full movement accesses are also proposed along Sorrel Avenue, both of which are anticipated to align with future accesses to other developments to the west of Sorrel Avenue. A third access along Sorrel Avenue may be desired for access into the hospital—located between Rockcress Drive and the South Sorrel Access (#7). However, if constructed, this access would be designated for emergency vehicle access only.

Sorrel Avenue Accesses (#6 and #7)

Two additional full movement accesses are proposed along the east side of Sorrel Avenue. These accesses are anticipated to align with two accesses to the west of Sorrel Avenue that will serve other developments. At both access intersection locations, the northbound and southbound approaches are recommended to provide a left turn lane and a shared through/right turn lane, while the eastbound/westbound minor street access approaches would operate with stop control and one lane for shared left/through/right turning movements. R1-1 “STOP” signs should be posted on the minor street eastbound/westbound approaches to Sorrel Avenue at both access locations.

Rockcress Drive Access (#8)

The Rockcress Drive Access (#8) is anticipated to align with a future south leg for a development south of Rockcress Drive. This access is anticipated to serve as a primary entrance to the development. In the 2030 Phase 1 horizon, the intersection movements are anticipated to operate acceptably under stop control; only with full buildout traffic volumes by the 2040 horizon is a signal anticipated to be needed at this intersection. A signal warrant analysis was completed for this intersection, which is included in **Appendix E**. As such, this access is proposed to operate under stop control with R1-1 “STOP” signs on the exiting access approaches to the intersection. During this horizon, the eastbound and westbound Rockcress Drive approaches to this access intersection are recommended to provide a left turn lane, one through lane, and a shared through/right turn lane. The northbound approach is anticipated to require only one lane for shared left/through/right turning movements. The southbound approach exiting the hospital would be recommended to provide a left turn lane and a shared through/right turn lane during this horizon.

By the 2040 horizon and full buildout of the AdventHealth site, signalization is recommended at this access location. When full buildout is complete and signalization occurs, the southbound approach would be recommended to provide dual left turn lanes, while maintaining a shared through/right turn lane. Because this improvement is anticipated to be needed at full buildout, it would be recommended that the pavement width be allocated during Phase 1 development to allow for eventual dual southbound left turn lanes. To be conservative, this intersection was analyzed with split phase operations on the northbound/southbound approaches to the intersection because of the difference in approach lane configurations.

Table 8 provides the results of the level of service for these accesses. As shown in the table, the project access intersections are anticipated to operate at an acceptable level of service through the 2040 horizon.

Table 8 – Project Access Level of Service Results

Intersection	2030 Total				2040 Total			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	Delay (sec/ veh)	LOS	Delay (sec/ veh)	LOS	Delay (sec/ veh)	LOS	Delay (sec/ veh)	LOS
Sorrel N. Access (#6)								
Northbound Left	7.8	A	7.5	A	7.9	A	7.5	A
Eastbound Approach	12.3	B	12.1	B	13.6	B	13.7	B
Westbound Approach	13.1	B	14.0	B	14.2	B	17.1	C
Southbound Left	7.7	A	7.8	A	7.8	A	7.9	A
Sorrel S. Access (#7)								
Northbound Left	7.7	A	7.8	A	7.7	A	7.9	A
Eastbound Approach	11.6	B	12.8	B	12.4	B	13.8	B
Westbound Approach	12.2	B	12.1	B	13.3	B	13.9	B
Southbound Left	7.9	A	7.6	A	8.0	A	7.7	A
Rockcress Access (#8) – Unsignalized								
Northbound Approach	9.5	A	12.5	B				
Eastbound Left	8.9	A	7.8	A				
Westbound Left	7.6	A	8.7	A	-	-	-	-
Southbound Left	19.5	C	26.8	D				
Southbound Through/Right	9.0	A	8.7	A				
Rockcress Access (#8) – Signalized	-	-	-	-	11.4	B	32.2	C

5.3 Vehicle Queuing Analysis

A vehicle queuing analysis was conducted for the study area intersections. The queuing analysis was performed using Synchro presenting the results of the 95th percentile queue lengths. Results are shown in the following **Table 9** with calculations provided within the level of service operational sheets of **Appendix E** for unsignalized intersections and Error! Reference source not found. for s ignalized intersections. Of note, vehicle queues were assumed to be a minimum of 25 feet (approximately one vehicle).

Table 9 – Turn Lane Queuing Analysis Results

Intersection Turn Lane	Existing Turn Lane Length	2030 Calculated Queue (AM/PM)	2030 Recommended Length	2040/2045* Calculated Queue (AM/PM)	2040/2045* Recommended Length
Campus & 96th (#2)					
Eastbound Left	DNE	209'/247' DL	**C DL**	230'/305'	C DL
Eastbound Right	C	35'/50'	**500'**	38'/77'	500'
Northbound Left	75'	25'/25'	**200'**	101'/65'	200' **DL**
Southbound Right	DNE	50'/38'	**200'**	59'/49'	200'
96th/Via Varra & Northwest Pkwy (#3)					
Eastbound Left	250'/375' DL	44'/94' DL	250'/375' DL	35'/78' TL	**250'**/250'/375' TL
Eastbound Right	375' Free	440'/459'	**475'** Free	467'/423'	475' Free
Westbound Left	200'/275' DL	47'/26' DL	200'/275' DL	53'/34' DL	200'/275' DL
Westbound Right	250' Free	25'/25'	250' Free	25'/25'	250' Free
Northbound Left	600'/800' DL	446'/349' DL	600'/800' DL	347'/240' TL	**600'**/600'/800' TL
Northbound Right	C Free	25'/25'	C Free	25'/25'	C Free
Southbound Left	550'/600' DL	25'/25' DL	550'/600' DL	28'/25' DL	550'/600' DL
Southbound Right	500' Free	25'/25'	500' Free	25'/25'	500' Free
Rockcress/Via Varra & Northwest Pkwy (#5)					
Eastbound Left	125' DL	29'/72'	**400'/C** DL	42'/82'	400'/C DL
Eastbound Right	Free	25'/25'	Free	25'/297'	Free
Westbound Left	250'/500'C DL	138'/127'	250'/500'C DL	147'/131'	250'/500'C DL
Northbound Left	250'/475' DL	327'/208'	250'/475' DL	414'/202'	**375'**/475' DL
Northbound Right	300'	26'/30'	300'	26'/38'	300'
Southbound Left	425'/650' DL	42'/25'	425'/650' DL	42'/25'	425'/650' DL
Southbound Right	500' Yield	25'/25'	500' Yield	25'/25'	500' Yield
Sorrel North Access (#6)					
Northbound Left	DNE	25'/25'	**150'**	25'/25'	150'
Southbound Left	DNE	25'/25'	**150'**	25'/25'	150'
Sorrel South Access (#7)					
Northbound Left	DNE	25'/25'	**150'**	25'/25'	150'
Southbound Left	DNE	25'/25'	**150'**	25'/25'	150'
Rockcress Access (#8)					
Eastbound Left	DNE	25'/25'	**150'**	36'/25'	150'
Westbound Left	DNE	25'/25'	**150'**	25'/25'	150'
Southbound Left	DNE	25'/100'	**200'**	70'/193'	200' **DL**

DNE = Does Not Exist; C = Continuous Turn Lane; DL = Dual Left Turn Lanes; TL = Triple Left Turn Lanes; **Blue** Text = Recommendation; * = 2040 horizon year used for internal intersections (#6, 7, 8) while 2045 horizon year is used for major external intersections (#2, 3, 5)

All queues are anticipated to remain within the existing or recommended turn lane lengths through 2045. The recommended turn lane lengths provided in this table are generally based on the currently proposed construction improvement plans at the major external intersections of Campus Drive & 96th Street (#2), 96th Street/Via Varra & Northwest Parkway (#3), and Rockcress Parkway/Via Varra & Northwest Parkway (#5), where available, while the internal intersection turn lane recommendations at the project accesses are based on a minimum assumed turn lane length of 150 feet, with additional storage provided to meet expected vehicle queues.

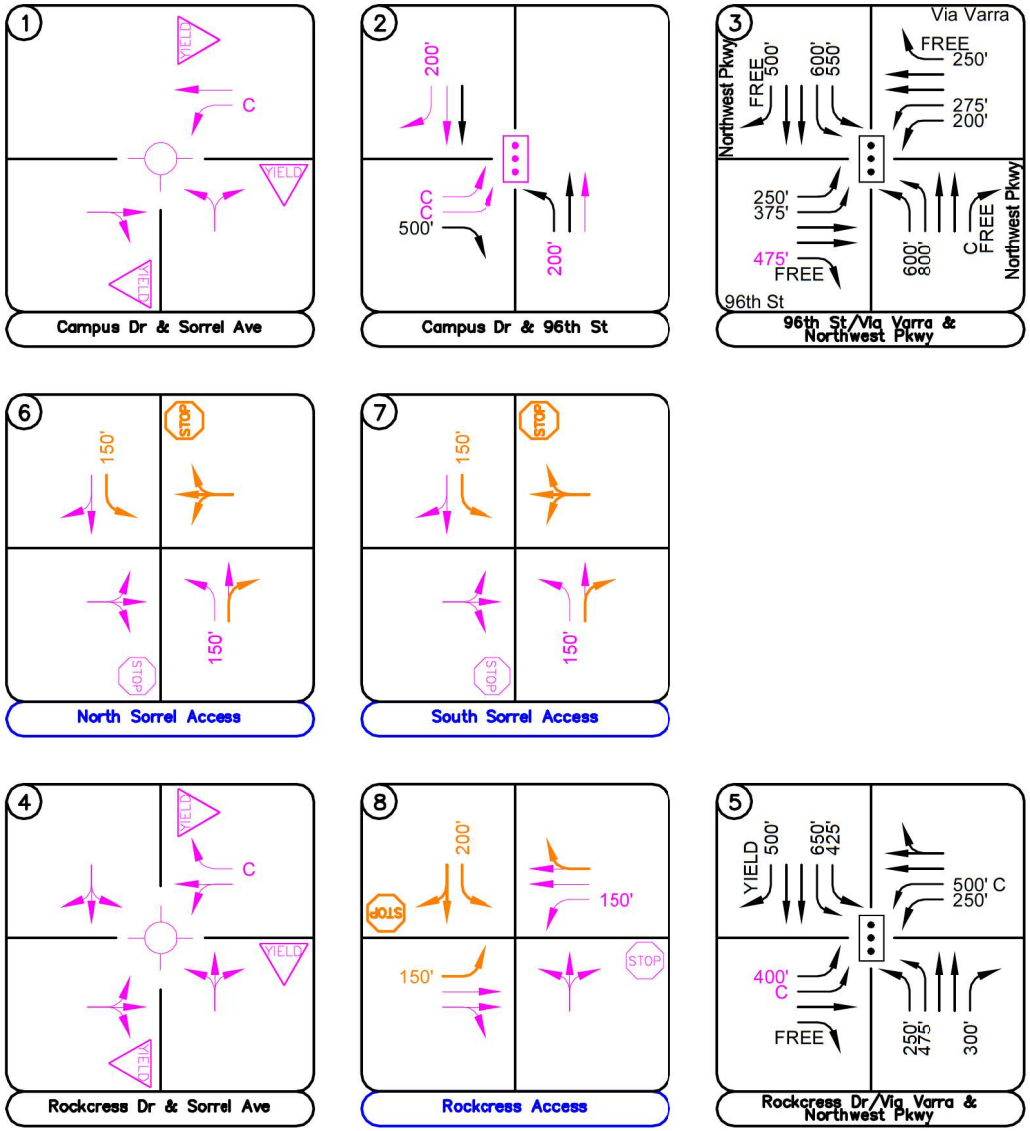
As noted previously, to be conservative it was assumed that the northbound left turning movement at Campus Drive & 96th Street (#2) would operate from a single lane in the 2030 horizon and would not be improved to dual left turn lanes until the 2040 horizon. It was also assumed that the triple northbound left turn lanes on Northwest Parkway and triple eastbound left turn lanes on 96th Street at the 96th Street/Via Varra & Northwest Parkway (#3) would not be implemented until the 2040 horizon. There is approximately 725 feet of spacing between the Campus Drive extension and Northwest Parkway along 96th Street available for left turn lane storage. Based on the proposed dual northbound left turn lanes at Campus Drive & 96th Street (#2) intersection providing 200 feet of storage and the triple southbound left turn lanes at 96th Street/Via Varra & Northwest Parkway (#3) providing 250 to 375 feet of storage, there is space for a shared taper length of approximately 150 feet for these back-to-back left turn lanes. Vehicle queues are easily accommodated the left turn lanes at both of these locations, with the northbound dual left turn lanes at Campus Drive & 96th Street (#2) expected to have 95th percentile queues approximately 100 feet or less through the 2045 horizon, while the southbound triple left turn lanes at 96th Street/Via Varra & Northwest Parkway (#3) are expected to experience 95th percentile queues under 80 feet through the 2045 horizon.

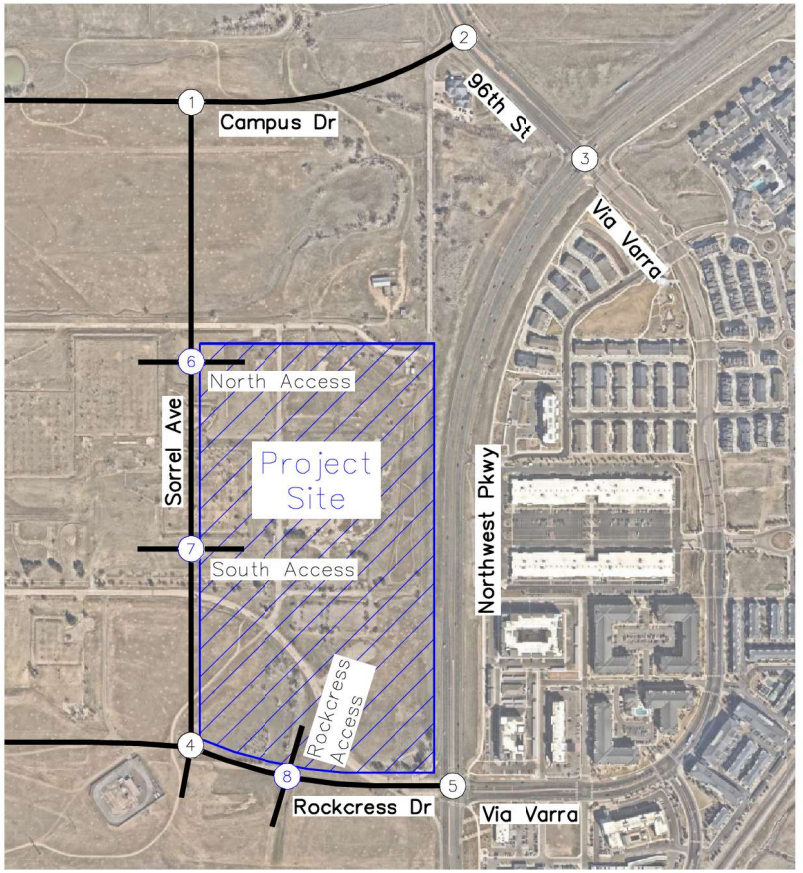
Additionally, because the Rockcress Access (#8) is proposed to operate with two-way stop control exiting the hospital in the 2030 horizon, the southbound approach is proposed to operate with only one southbound left turn lane in this horizon. By the 2040 horizon at full buildout and with signalization of this access, the dual left turn lanes, each proposed as 200 feet in length, should be provided. Because dual southbound left turn lanes are anticipated to be needed at full buildout at the Rockcress Access (#8), it would be recommended that pavement width be provided to allow for these dual left turn lanes, and that in the 2030 short-term horizon the second left turn lane be striped out with chevron striping to restrict its use until the intersection is signalized.

Rockcress Drive is proposed to provide two through lanes eastbound and westbound between Sorrel Avenue and Northwest Parkway. The second eastbound through lane is anticipated to become a forced left turn only lane at the Rockcress Drive/Via Varra & Northwest Parkway (#5) intersection, while a second left turn lane 400 feet in length will also be provided. There is anticipated to be approximately 700 feet of spacing available for left turn lane storage. The westbound left turn lane at the Rockcress Access (#8) is proposed to provide 150 feet in length. This leaves 150 feet of additional length available between the Rockcress Access (#8) and Northwest Parkway available for a shared taper length for these back-to-back left turn lanes. The 95th percentile queue in the eastbound dual left turn lanes at Rockcress Drive/Via Varra & Northwest Parkway (#5) is expected to be approximately 82 feet or less through the 2045 horizon, while the westbound left turn queue at the Rockcress Access (#8) is anticipated to be 25 feet or less. As such, the provided left turn storage and taper length for these turn lanes are expected to easily accommodate projected traffic volumes through the 2045 horizon.

5.4 Improvement Summary

Based on the results of the intersection operational and vehicle queuing analysis, the key intersection recommended improvements and control are shown in **Figure 12** and **Figure 13** for the 2030 and 2040 horizons, respectively. Of note, the recommendations provided in **Figure 13** are anticipated to be needed by the 2040 horizon but are expected to provide acceptable operations through the 2045 horizon. These recommendations are distinguished by improvements expected to be needed due to the hospital site versus improvements that would be expected to be constructed by others as part of the master Redtail Ridge development.

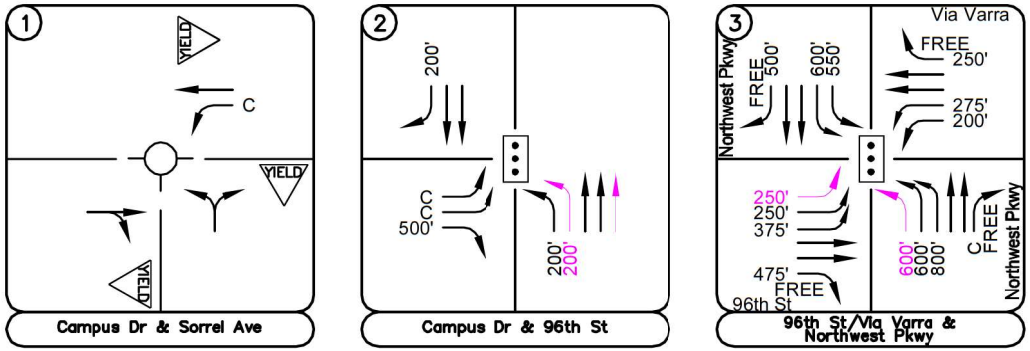


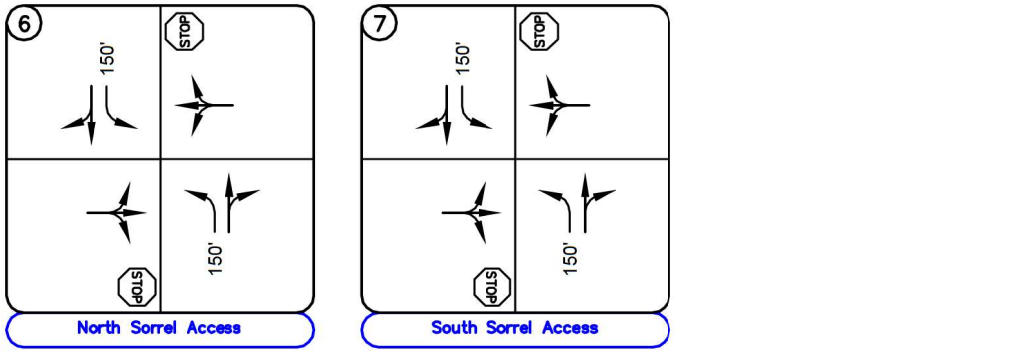


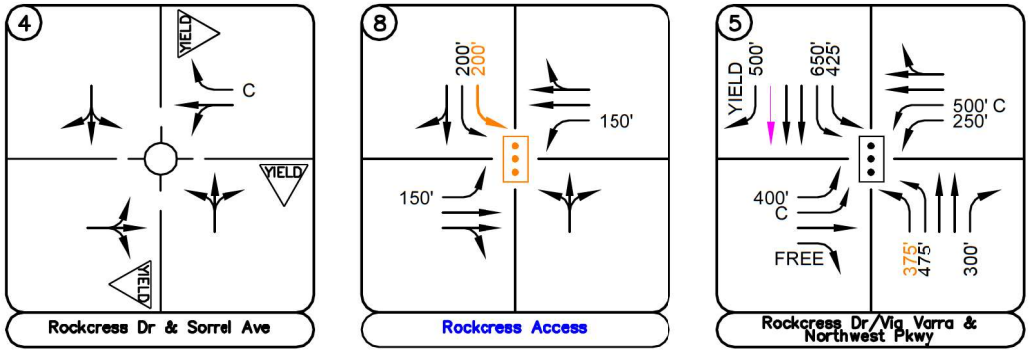
LEGEND

- Study Area Key Intersection
- Roundabout
- Yield-Controlled Approach
- Signalized Intersection
- Stop-Controlled Approach
- Hospital-Specific Improvement
- Improvement by Others
- 100' Turn Lane Length (feet)
- C Continuous Turn Lane

FIGURE 12
AdventHealth Louisville
Louisville, Colorado
2030 Recommended Geometry and Control







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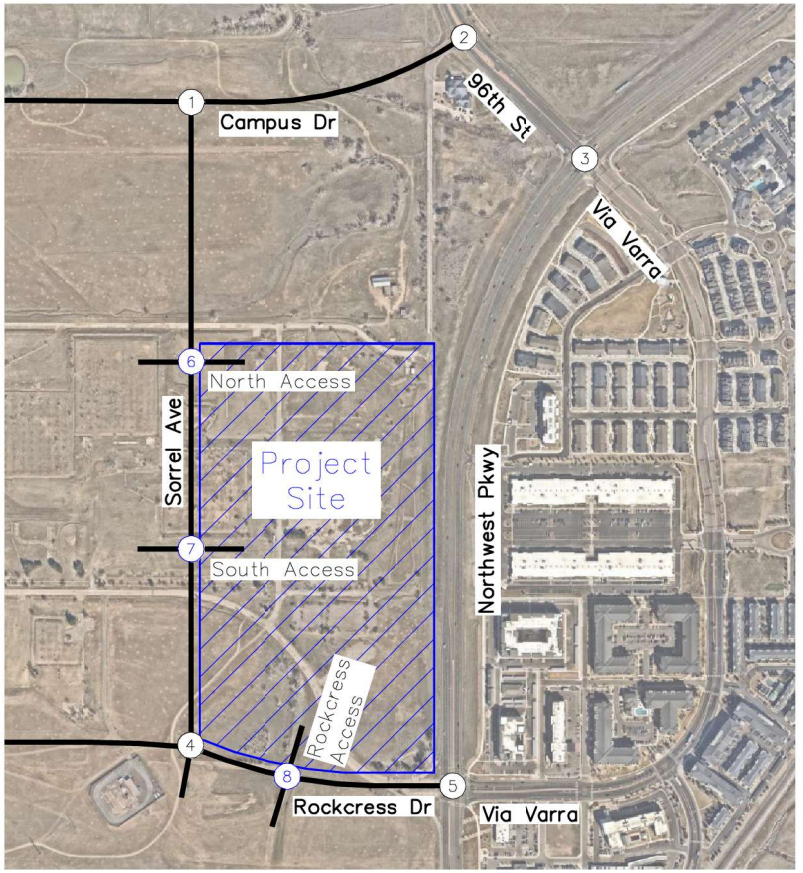


LEGEND

X — Study Area Key Intersection	STOP — Stop-Controlled Approach
Roundabout	Hospital-Specific Improvement
YIELD — Yield-Controlled Approach	Improvement by Others
Signalized Intersection	100' Turn Lane Length (feet)
	C — Continuous Turn Lane

FIGURE 13
AdventHealth Louisville
Louisville, Colorado
2040 Recommended Geometry and Control

Kimley»Horn

6.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the analysis presented in this report, Kimley-Horn believes AdventHealth Louisville will be successfully incorporated into the existing and future roadway network. There is an existing AdventHealth hospital located at the intersection of Campus Drive and 88th Street approximately 1.25 miles to the west of this proposed site. This existing site includes approximately 400,000 square feet of hospital/medical office building uses and is approved with an expansion of an addition 350,000 square feet to include up to 750,000 square feet at full buildout. The currently proposed AdventHealth site within the Redtail Ridge development area is expected to include up to 799,600 square feet of hospital/medical office building uses. As such, this increase of 49,600 square feet of additional uses with relocation of the existing hospital with approved expansion to the new site is expected to result in approximately 658 additional weekday daily trips, with 47 more trips during the morning peak hour and 61 more trips during the afternoon peak hour compared to the traffic the existing site could generate. This results in approximately one additional vehicle every 75 seconds during the morning peak hour and one additional vehicle every minute (60 seconds) during the afternoon peak hour on the surrounding street network compared to the existing project site. This study assessed the additional improvements that could be needed due to the additional square footage of this proposed site, and any vehicle rerouting that could occur with the site being located further to the east. Analysis of the existing street network, the proposed project development, and expected traffic volumes resulted in the following recommendations:

2030 Recommendations

- The Campus Drive & Sorrel Avenue (#1) intersection is anticipated to be constructed prior to AdventHealth Louisville construction. Based on currently proposed construction plans, it will be a 'T'-roundabout controlled intersection, with eastbound Campus Drive operating with a shared through/right turn lane, westbound Campus Drive providing separate left and through lanes, and the northbound Sorrel Avenue approach providing one lane for shared left/right turning movements. R1-2 "YIELD" signs should be posted on all three approaches to the roundabout.
- The Campus Drive & 96th Street (#2) intersection is anticipated to become a signalized 'T'-intersection with full movements allowed by the 2030 horizon prior to AdventHealth construction. For purposes of this study, the eastbound Campus Drive approach was based

on the proposed construction plans, which would have dual continuous eastbound left turn lanes and a separate right turn lane approximately 500 feet in length. The northbound 96th Street approach was conservatively assumed to provide a single 200-foot left turn lane and two through lanes in this horizon. However, at full buildout based on construction plans, it is anticipated to provide dual left turn lanes and three through lanes northbound. The southbound 96th Street approach should provide two through lanes and a 200-foot right turn lane.

- The 96th Street/Via Varra & Northwest Parkway (#3) intersection may require extension of the eastbound right turn lane from 375 feet to approximately 475 feet by this horizon to meet expected vehicle queues. However, if not improved, it is believed any additional vehicles can safely queue in the southernmost eastbound through lane if these queues are experienced.
- The future Rockcress Drive & Sorrel Avenue (#4) is proposed to be constructed as a four-leg single-lane roundabout prior to AdventHealth construction. The eastbound, northbound, and southbound approaches are all expected to provide one approach lane for shared left/through/right turning movements, while the westbound approach would provide a shared left/through lane and a separate right turn lane. Each approach should provide R1-2 "YIELD" signs on approach to the intersection.
- The Rockcress Drive/Via Varra & Northwest Parkway (#5) intersection is expected to be improved on the eastbound approach to the intersection with dual left turn lanes, one of which would provide 400 feet in length while the other would be a continuous turn lane. These improvements are based on the currently proposed improvement plans. Although it is understood that three southbound through lanes are eventually proposed at this intersection, it was conservatively analyzed with the existing two southbound through lanes during this horizon.
- Two full movement accesses are proposed along the east side of Sorrel Avenue, to align with two proposed accesses on the west side of Sorrel Avenue. R1-1 "STOP" signs are proposed on the eastbound and westbound approaches to Sorrel Avenue at both accesses. These accesses should operate well with one approach lane for shared left/through/right turning movements. The northbound and southbound approaches of Sorrel Avenue to both accesses are recommended to provide 150-foot left turn lanes and shared through/right turn lanes.
- The primary access into the proposed site is anticipated to be along Rockcress Drive, approximately 775 feet to the west of Northwest Parkway, measured center to center. This intersection is anticipated to operate well under minor street stop control through the 2030

horizon with Phase 1 construction of AdventHealth Louisville. The Rockcress Access (#8) is recommended to provide a 150-foot left turn lane, one through lane, and one shared through/right turn lane along both eastbound and westbound Rockcress Drive. The northbound approach to the intersection is anticipated to operate well with one lane for shared left/through/right turning movements while the southbound approach exiting the hospital should provide a 200-foot left turn lane and a separate through/right lane. Of note, dual southbound left turn lanes are recommended at this access at full buildout and as such, it is recommended that pavement width be provided for the future second left turn lane, but that it be striped out with chevron striping to allow only one southbound left turn lane until full buildout of the hospital site. During this horizon, R1-1 "STOP" signs should be posted on the northbound and southbound approaches.

2040 & 2045 Recommendations

- By the 2040 horizon, it was assumed that the Campus Drive & 96th Street (#2) intersection would provide dual northbound left turn lanes 200 feet in length while a third northbound through lane would also be provided. This third northbound through lane would provide the third required receiving lane for the proposed triple northbound left turn lanes at Northwest Parkway just to the southeast.
- The 96th Street/Via Varra & Northwest Parkway (#3) intersection is anticipated to provide triple northbound left turn lanes on Northwest Parkway and triple eastbound left turn lanes on 96th Street based on proposed improvement plans. For purposes of this study, the third northbound left turn lane was assumed to provide 600 feet in length while the third eastbound left turn was assumed to provide 250 feet in length. It should be noted the third eastbound left turn lane will require three receiving lanes on Northwest Parkway to the north of this intersection.
- The Rockcress Parkway/Via Varra & Northwest Parkway (#5) intersection should provide three southbound through lanes by this horizon. To meet expected vehicle queues, the inner northbound left turn lane may need to be extended from 250 feet to 375 feet to meet expected vehicle queues. It is believed this northbound left turn lane extension can be accomplished with minor median reconstruction.
- With full buildout of the AdventHealth site, the Rockcress Access (#8) is recommended to be signalized and is expected to meet warrants for signalization. When signalized, the

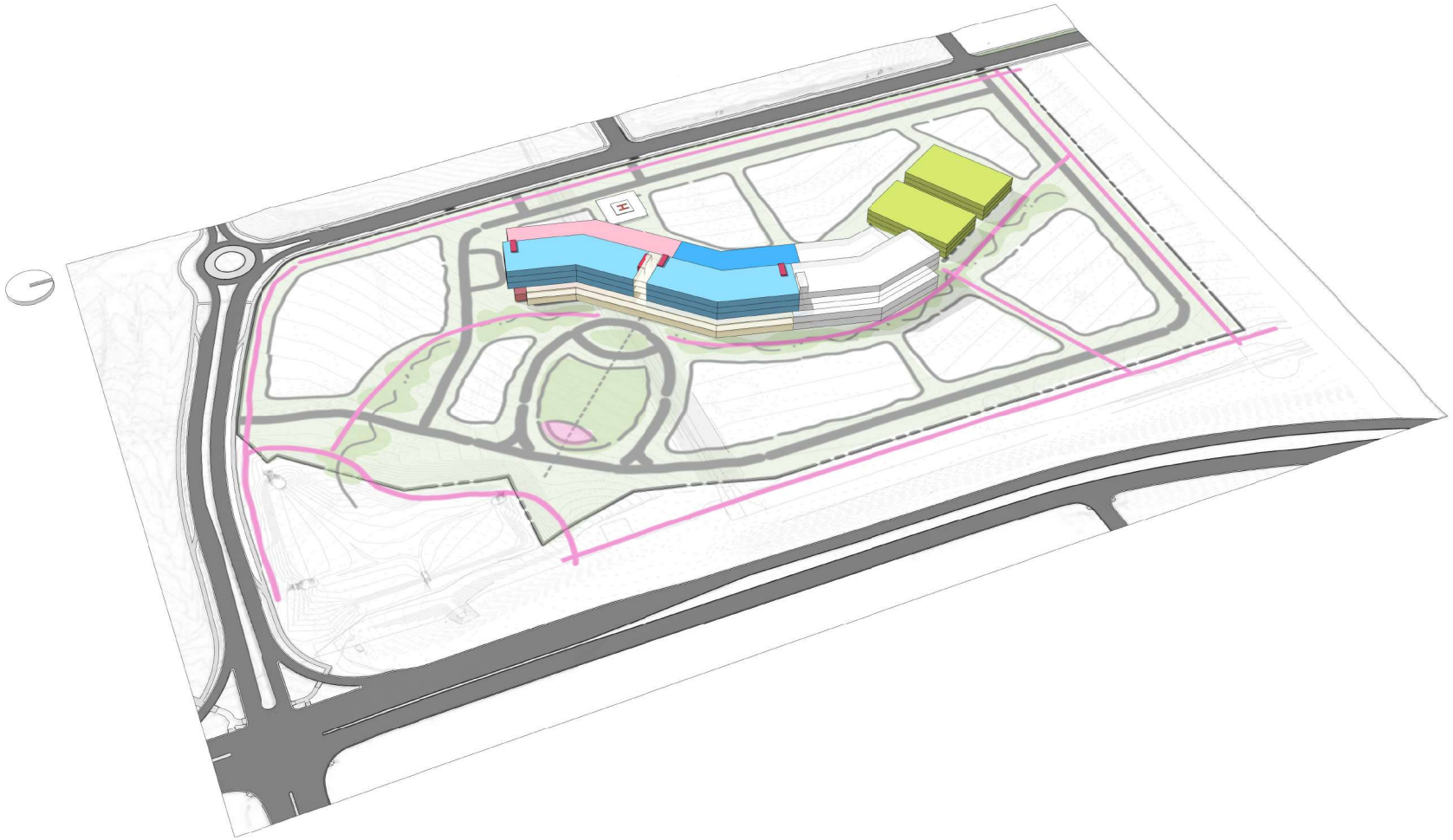
southbound approach exiting the hospital is recommended to be improved to provide dual left turn lanes 200 feet in length.

- Each of these improvements is anticipated to operate acceptably through the 2045 horizon.

General Recommendations

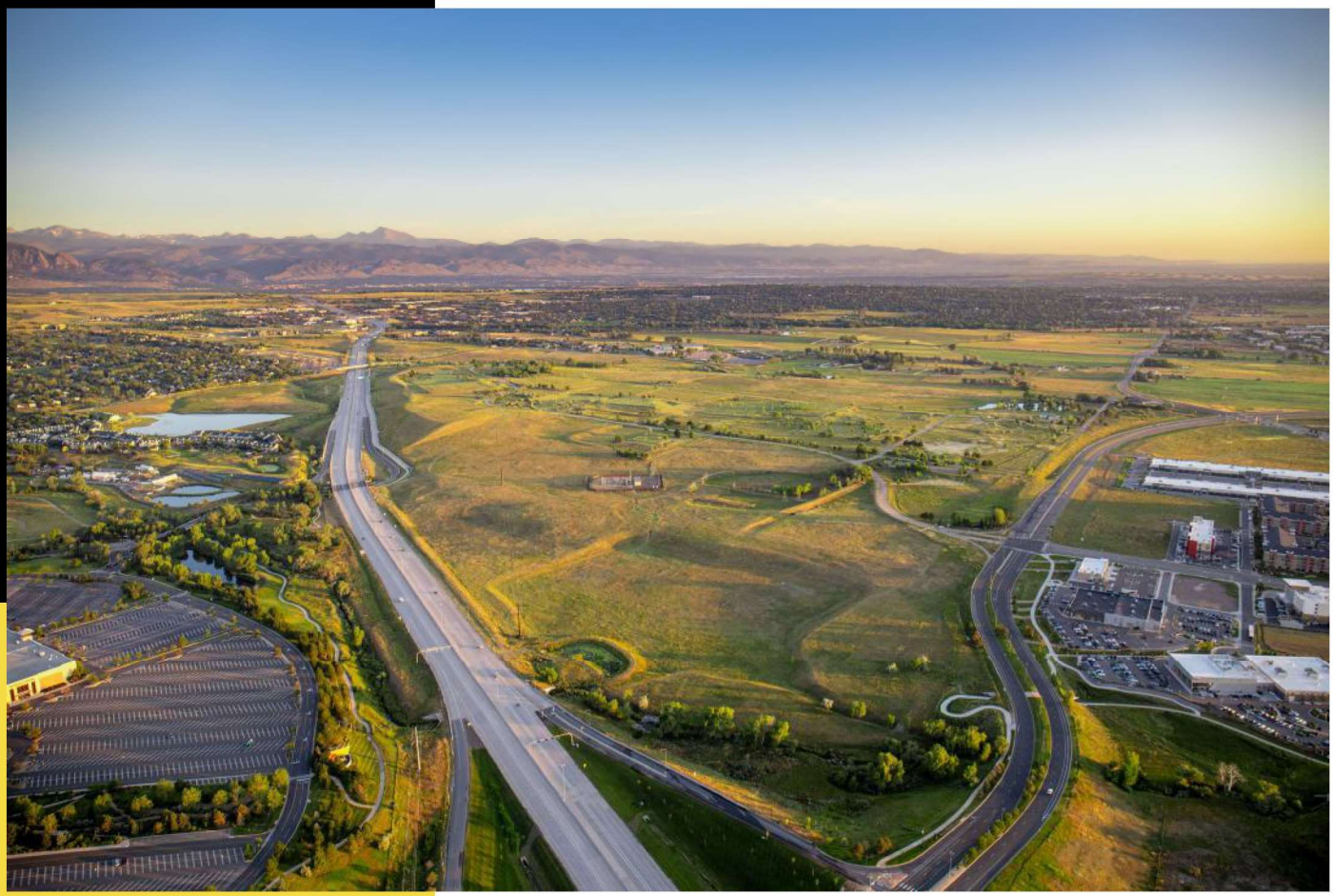
- Any onsite or offsite improvements should be incorporated into the Civil Drawings and conform to standards of the City of Louisville and the Manual on Uniform Traffic Control Devices (MUTCD) – 11th Edition, 2023.

Appendix A: Conceptual Site Plan



Appendix B: Fox Tuttle Study Documents

Redtail Ridge
Traffic and Mobility Study



Updated Date: July 30, 2024

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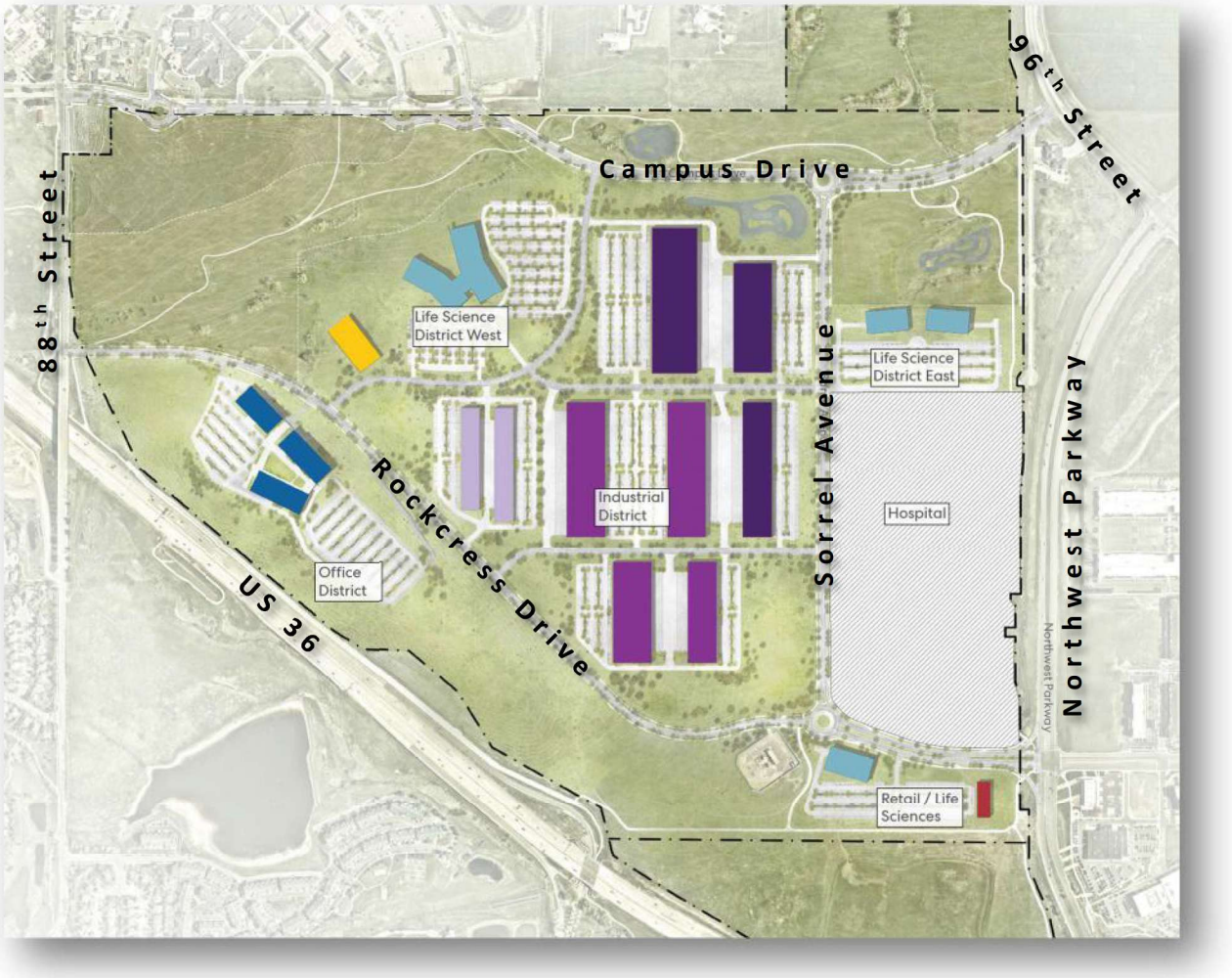
2.0 Project Description

A concept showing the preliminary proposed internal roadway network, proposed access to the external network, and the development areas is provided in **Figure 2.**

Figure 2. Proposed Land Use and Internal Roadways



While subject to change, the proposed land use type/size and estimated timeframe for when each phase will be completed and fully occupied is summarized below in **Table 1**:

Table 1. Summary of Land Uses and Sizes by Phase

Land Use Type	Phase 1 By Year 2025	Phase 2 By Year 2030	Phase 3 By Year 2035	Total
Industrial	509,260 sq. ft.	118,800 sq. ft.	-	*628,060 sq. ft.*
Life Science & Amenity Bldg.	300,000 sq. ft.	-	-	*300,000 sq. ft.*
Good Manufacturing Practice (GMP)	598,940 sq. ft.	-	-	*598,940 sq. ft.*
General Office	-	90,000 sq. ft.	270,000 sq. ft.	*360,000 sq. ft.*
Research and Development Center	-	264,000 sq. ft.	-	*264,000 sq. ft.*
Retail Services	-	14,000 sq. ft.	-	*14,000 sq. ft.*
Hospital	-	285,000 sq. ft.	-	*285,000 sq. ft.*
Medical/Dental Office	-	150,000 sq. ft.	-	*150,000 sq. ft.*
Total	**1,408,200 sq. ft.**	**921,800 sq. ft.**	**270,000 sq. ft.**	***2,600,000 sq. ft.***

The Redtail Ridge project will include two (2) new east-west roadway connections between 88th Street and 96th Street/Northwest Parkway. The first phase, prior to Year 2025, will include the extension of Campus Drive from the current dead end near Monarch High School (approximately 2,200 feet east of S. 88th Street) to 96th Street. This new connection will serve traffic generated by the proposed development, as well as existing traffic currently traveling along 88th Street and Dillon Road. The existing intersection of 88th Street/Campus Drive is full-movement and signalized. With the Campus Drive extension, a new full-movement signalized intersection is proposed on S. 96th Street at the northeast corner of the site, which will be near where Old 96th Street/Disc Drive currently intersects as a 3/4 movement access.

The first phase will also include construction of Rockcress Drive from Northwest Parkway to midway in the project site, which will be extended to S. 88th Street within the second phase (prior to Year 2030). This will be an additional east-west connection through the area. The existing intersection on Northwest

As shown in **Table 11**, with the assumptions listed above, the project site is expected to generate approximately 6,663 daily, 758 AM peak hour, and 803 PM peak hour external trips by Year 2025. At full build out the project site is expected to generate approximately 21,285 daily, 1,908 AM peak hour, and 2,149 PM peak hour external trips.

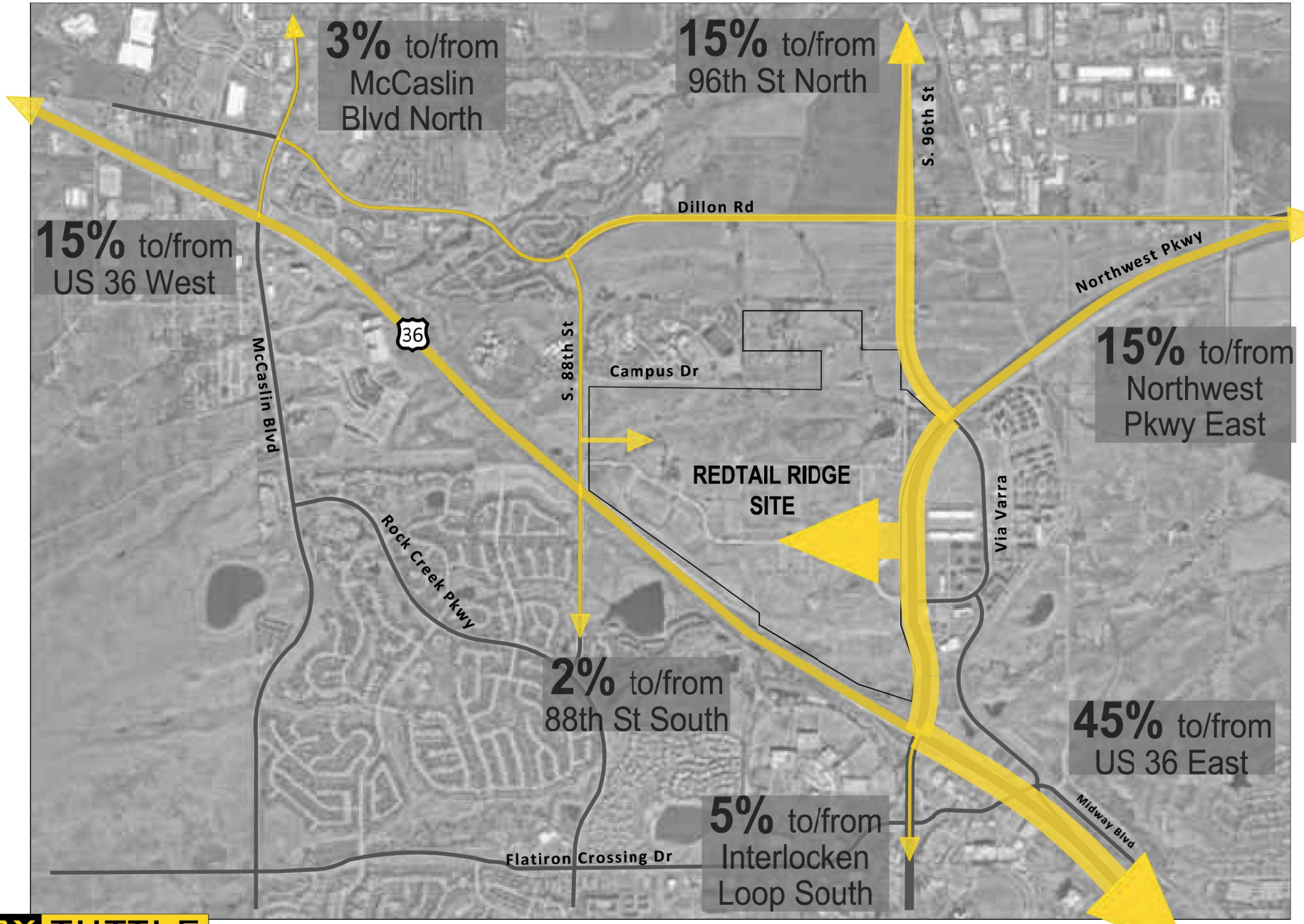
Table 11. Trip Generation Summary

	Land Use	Size	Unit	Non-SOV	Internal Capture	Net Reduction Factor	Average Weekday Trips Rate	Average Weekday Trips Total	Weekday AM Peak Hour Trips Rate	Weekday AM Peak Hour Trips Total	Weekday AM Peak Hour Trips In	Weekday AM Peak Hour Trips Out	Weekday PM Peak Hour Trips Rate	Weekday PM Peak Hour Trips Total	Weekday PM Peak Hour Trips In	Weekday PM Peak Hour Trips Out
Phase 1 (2025)	#130 Industrial Park	509.26	KSF	**12%**	**3%**	85%	*	1,868	0.4	174	141	33	0.4	174	37	137
	#760 Research and Development Center (Life Science + Amenity)	300.0	KSF	**12%**	**3%**	85%	**	2,695	1.03	264	216	48	0.98	251	40	211
	#140 Manufacturing (GMP)	598.94	KSF	**12%**	**3%**	85%	*****	2,100	******	320	243	77	0.74	378	117	261
		######	**KSF**			**Subtotal**		**6,663**		**758**	**600**	**158**		**803**	**194**	**609**
Phase 2 (2030)	#820 Shopping Center	14.0	KSF	**12%**	**75%**	22%	37.75	116	0.94	3	2	1	3.81	12	6	6
	#130 Industrial Park	118.8	KSF	**12%**	**3%**	85%	*	877	0.4	41	33	8	0.40	41	9	32
	#710 General Office Building	90	KSF	**12%**	**3%**	85%	**	818	***	95	82	13	****	88	14	74
	#760 Research and Development Center	264.00	KSF	**12%**	**3%**	85%	**	2,397	1.03	232	190	42	0.98	221	35	186
	#610 Hospital	160.0	BEDS	**12%**	**3%**	85%	22.32	3,048	1.79	244	176	68	1.69	231	76	155
	#720 Medical-Dental Office Bldg	150.0	KSF	**12%**	**3%**	85%	36.00	4,609	***	296	234	62	3.93	503	151	352
		921.80	**KSF**			**Subtotal**		**12,037**		**911**	**717**	**194**		**1,096**	**291**	**805**
Ph 3 (2040)	#710 General Office Building	270.0	KSF	**12%**	**3%**	85%	**	2,374	***	239	206	33	****	250	40	210
		270.00	**KSF**			**Subtotal**		**2,585**		**239**	**206**	**33**		**250**	**40**	**210**
						Full Buildout Total		**21,285**		**1,908**	**1,523**	**385**		**2,149**	**525**	**1,624**

* ITE Equation: EXP(0.52*LN(X) *** ITE Equation: (0.94*X+ 26.49) ***** ITE Equation 3.77*X+201.98
** ITE Equation: EXP(0.97*LN() **** ITE Equation EXP(0.95*LN(X) ****** ITE Equation 0.61*X+9.54

7.6 Trip Distribution and Assignment

To develop the trip distribution for the proposed development, available traffic count and travel pattern data was reviewed. The proposed land uses for the project site were also taken into consideration which suggests that traffic generated to/from the project site is expected to utilize the regional transportation system, with a smaller percent of the trips generated by the local system. Therefore, most vehicles are expected to use the regional routes (such as US 36, Northwest Parkway, and S. 96th Street to the north) and few vehicles are expected to use local roads. Travel routes/patterns were reviewed to determine how vehicles are expected to access the site and what route is likely to be fastest for vehicles to use to



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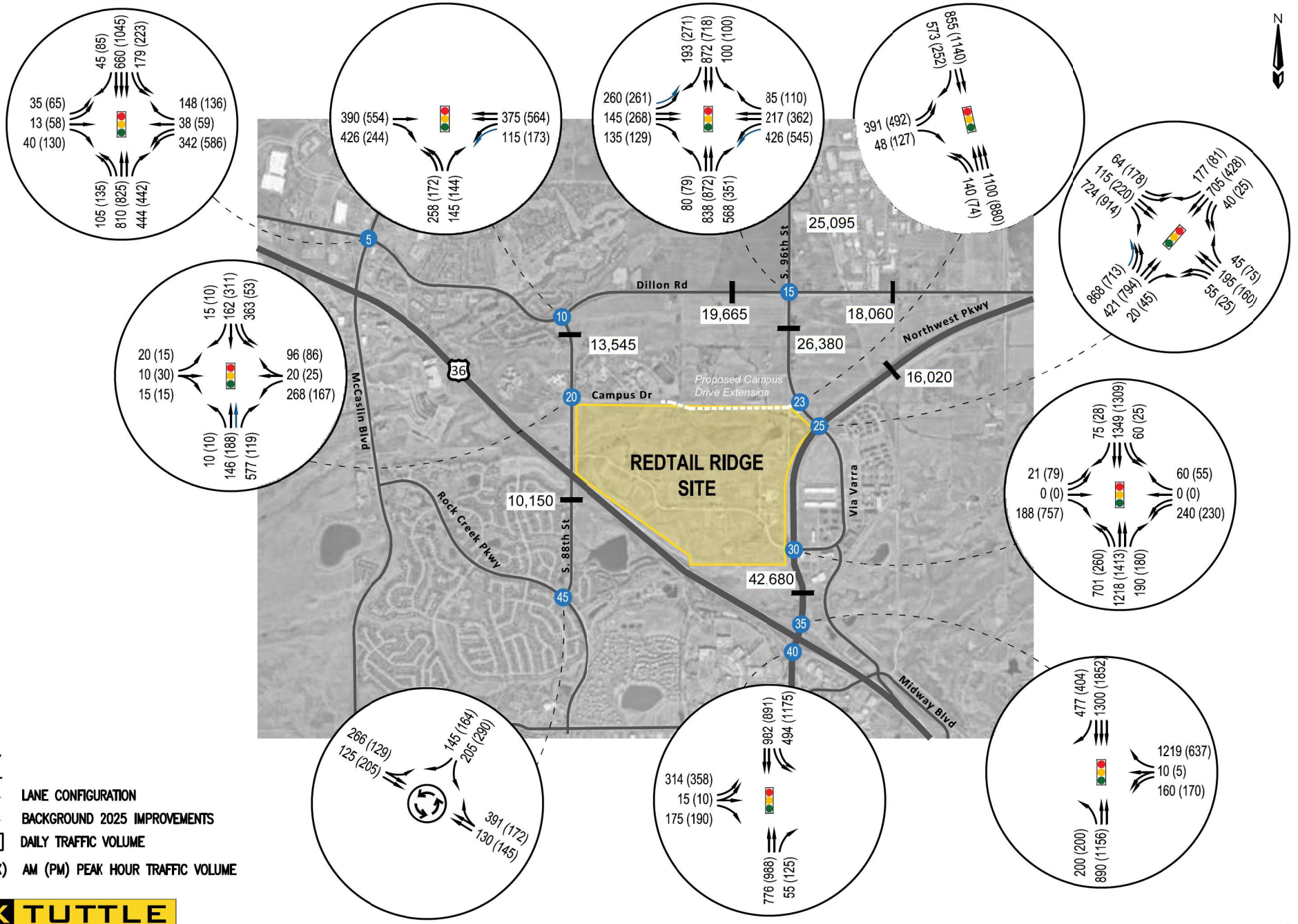
REDTAIL RIDGE TRAFFIC AND MOBILITY STUDY
TRIP DISTRIBUTION

FT Project #	19055	Original Scale	NTS	Date	02/15/2023	Drawn by	MAR	Figure #	18



KEY

- LANE CONFIGURATION
- BACKGROUND 2025 IMPROVEMENTS
- X,XXX DAILY TRAFFIC VOLUME
- XX (XX) AM (PM) PEAK HOUR TRAFFIC VOLUME

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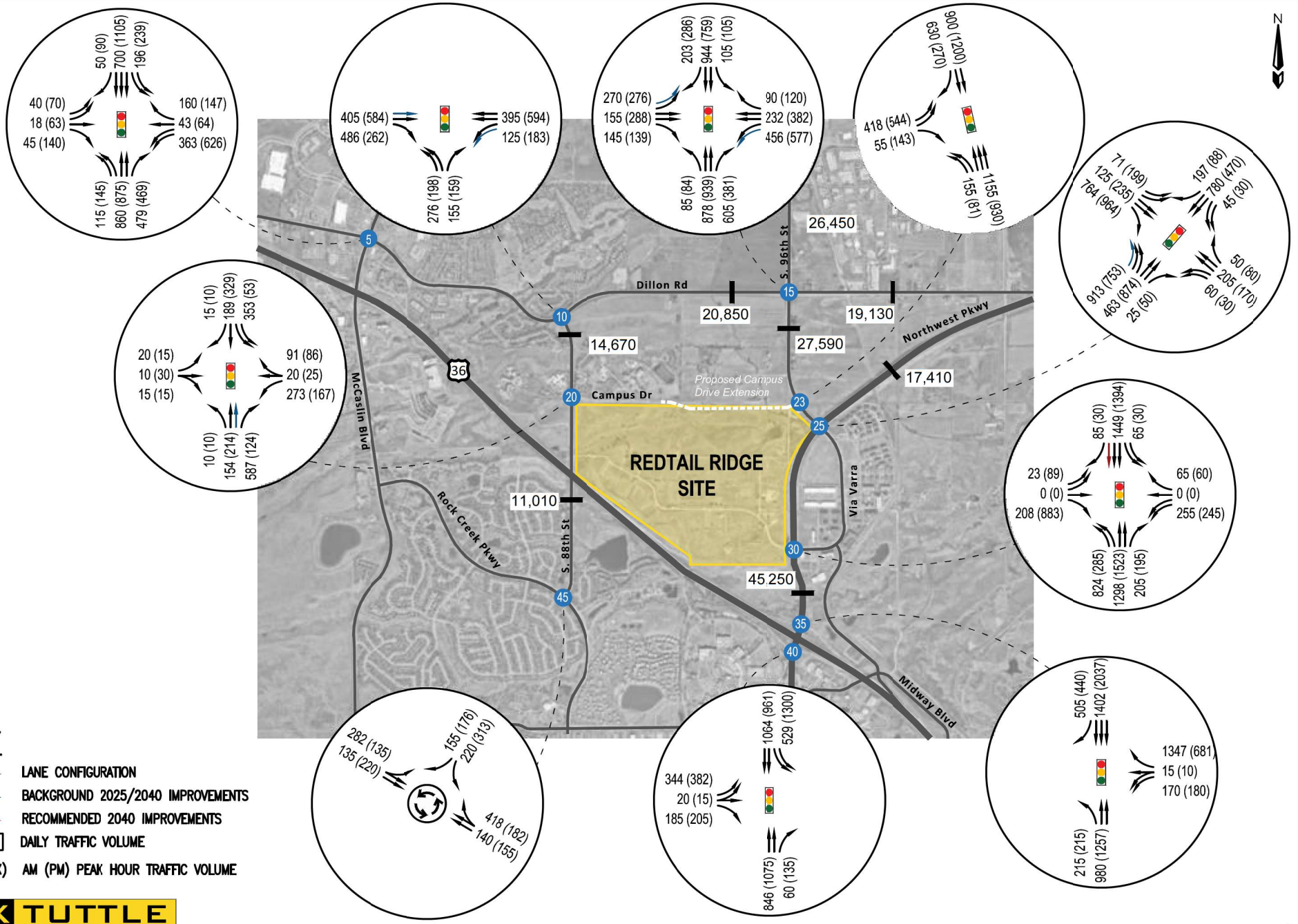
REDTAIL RIDGE TRAFFIC AND MOBILITY STUDY

YEAR 2030 BACKGROUND + REDTAIL RIDGE (PHASE 1 & 2) TRAFFIC VOLUMES

FT Project #	19055	Original Scale	NTS	Date	10/04/2023	Drawn by	SKK	Figure #	23



KEY

- LANE CONFIGURATION
- BACKGROUND 2025/2040 IMPROVEMENTS
- RECOMMENDED 2040 IMPROVEMENTS
- X,XXX DAILY TRAFFIC VOLUME
- XX (XX) AM (PM) PEAK HOUR TRAFFIC VOLUME

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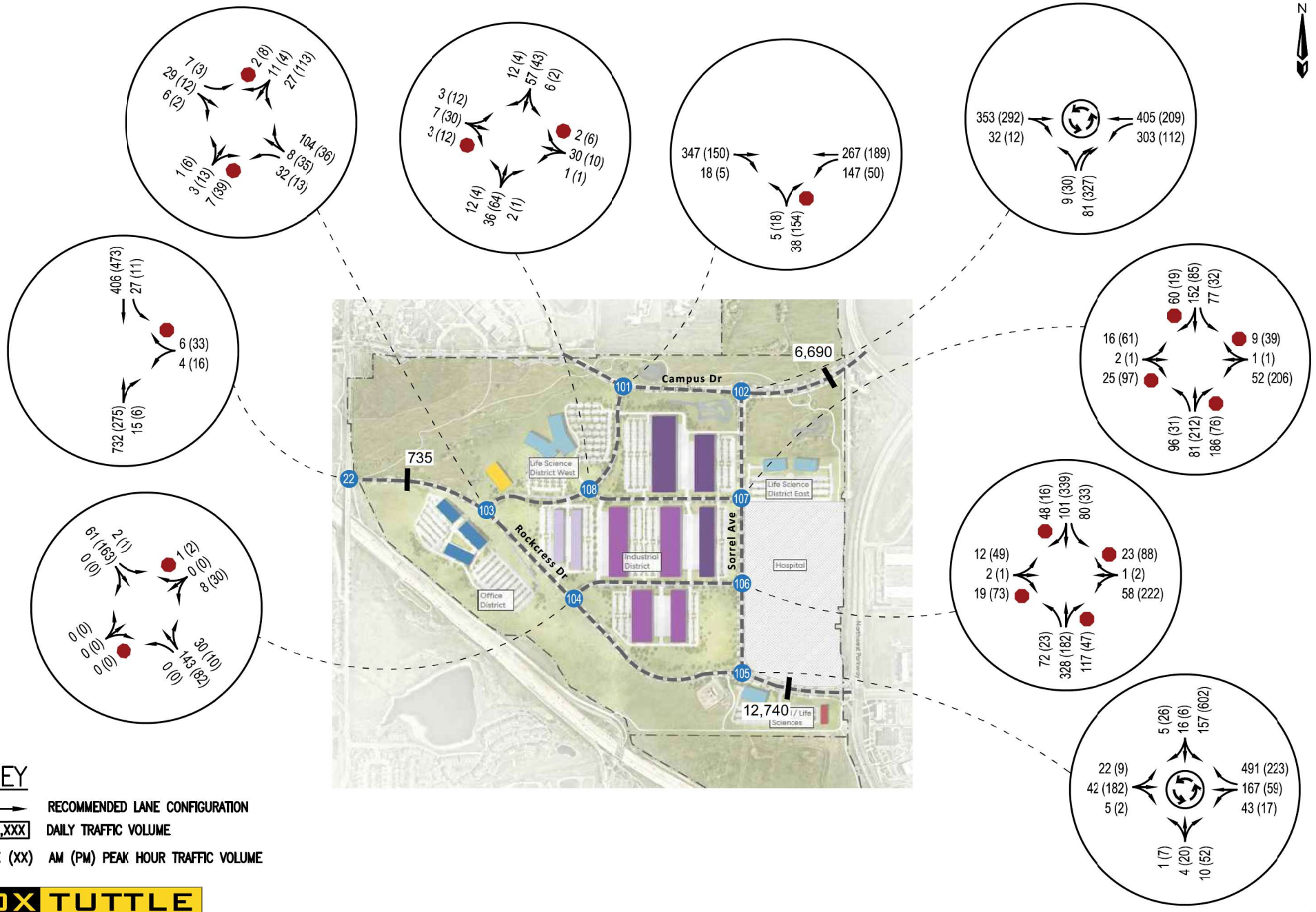
REDTAIL RIDGE TRAFFIC AND MOBILITY STUDY

YEAR 2040 BACKGROUND + REDTAIL RIDGE (FULL BUILDOUT) TRAFFIC VOLUMES

FT Project #	19055	Original Scale	NTS	Date	10/04/2023	Drawn by	SKK	Figure #	24



KEY

- → RECOMMENDED LANE CONFIGURATION
- X,XXX DAILY TRAFFIC VOLUME
- XX (XX) AM (PM) PEAK HOUR TRAFFIC VOLUME

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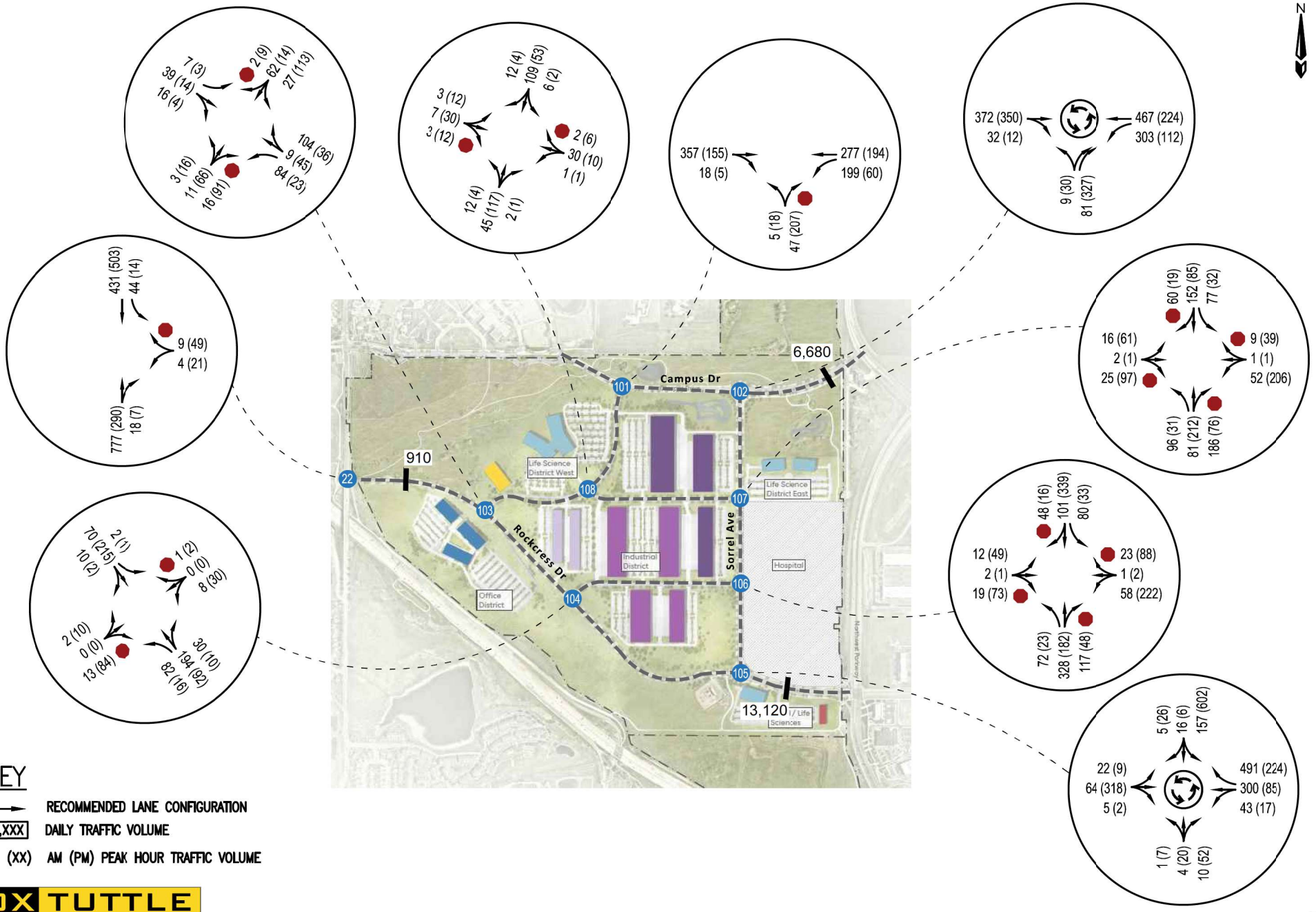
REDTAIL RIDGE TRAFFIC AND MOBILITY STUDY

YEAR 2030 BACKGROUND + REDTAIL RIDGE (PHASE 1 & 2) TRAFFIC VOLUMES [INTERNAL INTERSECTIONS]

FT Project #	19055	Original Scale	NTS	Date	07/17/2024	Drawn by	SKK	Figure #	26



KEY

- → RECOMMENDED LANE CONFIGURATION
- X,XXX DAILY TRAFFIC VOLUME
- XX (XX) AM (PM) PEAK HOUR TRAFFIC VOLUME

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REDTAIL RIDGE TRAFFIC AND MOBILITY STUDY

YEAR 2040 BACKGROUND + REDTAIL RIDGE (FULL BUILDOUT) TRAFFIC VOLUMES [INTERNAL INTERSECTIONS]

FT Project #	19055	Original Scale	NTS	Date	07/17/2024	Drawn by	SKK	Figure #	27

Appendix C: Trip Generation Worksheets

AdventHealth Louisville Trip Generation - 2030 Horizon

Land Use	Size	Unit	Non-SOV	Internal Capture	Net Reduction Factor	Average Weekday Trips		Weekday AM Peak Hour Trips				Weekday PM Peak Hour Trips			
						Rate	Total	Rate	Total	In	Out	Rate	Total	In	Out
Hospital (ITE 610)	200	Beds	12%	3%	85%	22.32	3,810	1.79	306	220	86	1.69	289	95	193
Medical-Dental Office Bldg (ITE 720)	80	KSF	12%	3%	85%	36.00	2,458	*	168	133	35	3.93	268	81	188
					TOTAL		**6,269**		**474**	**353**	**121**		**557**	**176**	**381**

* ITE Equation Ln(T) = (0.90 Ln(X) + 1.34)

AdventHealth Louisville Trip Generation - Full Buildout (2040 Horizon)

Land Use	Size	Unit	Non-SOV	Internal Capture	Net Reduction Factor	Average Weekday Trips		Weekday AM Peak Hour Trips				Weekday PM Peak Hour Trips			
						Rate	Total	Rate	Total	In	Out	Rate	Total	In	Out
Hospital (ITE 610)	300	Beds	12%	3%	85%	22.32	5,716	1.79	458	330	128	1.69	433	143	290
Medical-Dental Office Bldg (ITE 720)	160	KSF	12%	3%	85%	36.00	4,917	*	314	248	66	3.93	537	161	376
					TOTAL		**10,632**		**772**	**578**	**194**		**970**	**304**	**666**

* ITE Equation Ln(T) = (0.90 Ln(X) + 1.34)

These methods of trip generation calculations are consistent with the methods used in the Redtail Ridge Master Traffic Study. To be consistent with that study, as the hospital site is within the master study area, the rates/equations and trip generation adjustments used in the master study are used in this analysis.

Appendix D: Intersection Analysis Worksheets

Intersection	
Intersection Delay, s/veh	5.7
Intersection LOS	A

Approach	EB	WB	NB
Entry Lanes	1	2	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	405	641	67
Demand Flow Rate, veh/h	413	654	68
Vehicles Circulating, veh/h	205	7	392
Vehicles Exiting, veh/h	456	453	226
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	7.0	4.9	4.6
Approach LOS	A	A	A

Lane	Left	Left	Right	Left
Designated Moves	TR	L	TR	LR
Assumed Moves	TR	L	TR	LR
RT Channelized				
Lane Util	1.000	0.313	0.687	1.000
Follow-Up Headway, s	2.609	2.535	2.535	2.609
Critical Headway, s	4.976	4.544	4.544	4.976
A (Intercept)	1380	1420	1420	1380
B (Slope)	1.02e-3	9.101e-4	9.101e-4	1.02e-3
Entry Flow, veh/h	413	205	449	68
Cap Entry Lane, veh/h	1120	1411	1411	925
Entry HV Adj Factor	0.981	0.980	0.980	0.985
Flow Entry, veh/h	405	201	440	67
Cap Entry, veh/h	1099	1384	1383	912
V/C Ratio	0.369	0.145	0.318	0.074
Control Delay, s/veh	7.0	3.8	5.4	4.6
LOS	A	A	A	A
95th %tile Queue, veh	2	1	1	0

Intersection	
Intersection Delay, s/veh	5.1
Intersection LOS	A

Approach	EB	WB	NB
Entry Lanes	1	2	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	325	295	264
Demand Flow Rate, veh/h	331	301	269
Vehicles Circulating, veh/h	69	22	323
Vehicles Exiting, veh/h	254	570	77
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	5.1	3.8	6.4
Approach LOS	A	A	A

Lane	Left	Left	Right	Left
Designated Moves	TR	L	TR	LR
Assumed Moves	TR	L	TR	LR
RT Channelized				
Lane Util	1.000	0.229	0.771	1.000
Follow-Up Headway, s	2.609	2.535	2.535	2.609
Critical Headway, s	4.976	4.544	4.544	4.976
A (Intercept)	1380	1420	1420	1380
B (Slope)	1.02e-3	9.101e-4	9.101e-4	1.02e-3
Entry Flow, veh/h	331	69	232	269
Cap Entry Lane, veh/h	1286	1392	1392	993
Entry HV Adj Factor	0.981	0.986	0.980	0.981
Flow Entry, veh/h	325	68	227	264
Cap Entry, veh/h	1261	1372	1365	974
V/C Ratio	0.257	0.050	0.167	0.271
Control Delay, s/veh	5.1	3.0	4.0	6.4
LOS	A	A	A	A
95th %tile Queue, veh	1	0	1	1

Intersection	
Intersection Delay, s/veh	6.1
Intersection LOS	A

Approach	EB	WB	NB
Entry Lanes	1	2	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	424	718	105
Demand Flow Rate, veh/h	433	733	107
Vehicles Circulating, veh/h	284	13	392
Vehicles Exiting, veh/h	462	486	325
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	8.2	5.0	5.1
Approach LOS	A	A	A

Lane	Left	Left	Right	Left
Designated Moves	TR	L	TR	LR
Assumed Moves	TR	L	TR	LR
RT Channelized				
Lane Util	1.000	0.387	0.613	1.000
Follow-Up Headway, s	2.609	2.535	2.535	2.609
Critical Headway, s	4.976	4.544	4.544	4.976
A (Intercept)	1380	1420	1420	1380
B (Slope)	1.02e-3	9.101e-4	9.101e-4	1.02e-3
Entry Flow, veh/h	433	284	449	107
Cap Entry Lane, veh/h	1033	1403	1403	925
Entry HV Adj Factor	0.980	0.979	0.980	0.981
Flow Entry, veh/h	424	278	440	105
Cap Entry, veh/h	1012	1374	1376	908
V/C Ratio	0.419	0.202	0.320	0.116
Control Delay, s/veh	8.2	4.3	5.4	5.1
LOS	A	A	A	A
95th %tile Queue, veh	2	1	1	0

Intersection	
Intersection Delay, s/veh	5.9
Intersection LOS	A

Approach	EB	WB	NB
Entry Lanes	1	2	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	334	334	388
Demand Flow Rate, veh/h	340	341	396
Vehicles Circulating, veh/h	109	43	323
Vehicles Exiting, veh/h	275	676	126
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	5.5	3.8	8.1
Approach LOS	A	A	A

Lane	Left	Left	Right	Left
Designated Moves	TR	L	TR	LR
Assumed Moves	TR	L	TR	LR
RT Channelized				
Lane Util	1.000	0.320	0.680	1.000
Follow-Up Headway, s	2.609	2.535	2.535	2.609
Critical Headway, s	4.976	4.544	4.544	4.976
A (Intercept)	1380	1420	1420	1380
B (Slope)	1.02e-3	9.101e-4	9.101e-4	1.02e-3
Entry Flow, veh/h	340	109	232	396
Cap Entry Lane, veh/h	1235	1366	1366	993
Entry HV Adj Factor	0.981	0.982	0.980	0.980
Flow Entry, veh/h	334	107	227	388
Cap Entry, veh/h	1212	1341	1339	973
V/C Ratio	0.275	0.080	0.170	0.399
Control Delay, s/veh	5.5	3.3	4.1	8.1
LOS	A	A	A	A
95th %tile Queue, veh	1	0	1	2

Intersection	
Intersection Delay, s/veh	6.0
Intersection LOS	A

Approach	EB	WB	NB
Entry Lanes	1	2	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	425	709	67
Demand Flow Rate, veh/h	433	723	68
Vehicles Circulating, veh/h	205	7	412
Vehicles Exiting, veh/h	525	473	226
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	7.3	5.3	4.7
Approach LOS	A	A	A

Lane	Left	Left	Right	Left
Designated Moves	TR	L	TR	LR
Assumed Moves	TR	L	TR	LR
RT Channelized				
Lane Util	1.000	0.284	0.716	1.000
Follow-Up Headway, s	2.609	2.535	2.535	2.609
Critical Headway, s	4.976	4.544	4.544	4.976
A (Intercept)	1380	1420	1420	1380
B (Slope)	1.02e-3	9.101e-4	9.101e-4	1.02e-3
Entry Flow, veh/h	433	205	518	68
Cap Entry Lane, veh/h	1120	1411	1411	906
Entry HV Adj Factor	0.981	0.980	0.980	0.985
Flow Entry, veh/h	425	201	508	67
Cap Entry, veh/h	1099	1384	1383	893
V/C Ratio	0.387	0.145	0.367	0.075
Control Delay, s/veh	7.3	3.8	5.9	4.7
LOS	A	A	A	A
95th %tile Queue, veh	2	1	2	0

Intersection	
Intersection Delay, s/veh	5.4
Intersection LOS	A

Approach	EB	WB	NB
Entry Lanes	1	2	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	388	311	264
Demand Flow Rate, veh/h	396	317	269
Vehicles Circulating, veh/h	69	22	388
Vehicles Exiting, veh/h	270	635	77
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	5.7	3.9	7.0
Approach LOS	A	A	A

Lane	Left	Left	Right	Left
Designated Moves	TR	L	TR	LR
Assumed Moves	TR	L	TR	LR
RT Channelized				
Lane Util	1.000	0.218	0.782	1.000
Follow-Up Headway, s	2.609	2.535	2.535	2.609
Critical Headway, s	4.976	4.544	4.544	4.976
A (Intercept)	1380	1420	1420	1380
B (Slope)	1.02e-3	9.101e-4	9.101e-4	1.02e-3
Entry Flow, veh/h	396	69	248	269
Cap Entry Lane, veh/h	1286	1392	1392	929
Entry HV Adj Factor	0.981	0.986	0.980	0.981
Flow Entry, veh/h	388	68	243	264
Cap Entry, veh/h	1261	1372	1365	912
V/C Ratio	0.308	0.050	0.178	0.290
Control Delay, s/veh	5.7	3.0	4.1	7.0
LOS	A	A	A	A
95th %tile Queue, veh	1	0	1	1

Intersection	
Intersection Delay, s/veh	6.7
Intersection LOS	A

Approach	EB	WB	NB
Entry Lanes	1	2	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	456	835	130
Demand Flow Rate, veh/h	465	852	132
Vehicles Circulating, veh/h	334	17	412
Vehicles Exiting, veh/h	535	527	387
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	9.4	5.5	5.4
Approach LOS	A	A	A

Lane	Left	Left	Right	Left
Designated Moves	TR	L	TR	LR
Assumed Moves	TR	L	TR	LR
RT Channelized				
Lane Util	1.000	0.392	0.608	1.000
Follow-Up Headway, s	2.609	2.535	2.535	2.609
Critical Headway, s	4.976	4.544	4.544	4.976
A (Intercept)	1380	1420	1420	1380
B (Slope)	1.02e-3	9.101e-4	9.101e-4	1.02e-3
Entry Flow, veh/h	465	334	518	132
Cap Entry Lane, veh/h	982	1398	1398	906
Entry HV Adj Factor	0.980	0.979	0.980	0.985
Flow Entry, veh/h	456	327	508	130
Cap Entry, veh/h	962	1369	1371	893
V/C Ratio	0.474	0.239	0.370	0.146
Control Delay, s/veh	9.4	4.6	6.0	5.4
LOS	A	A	A	A
95th %tile Queue, veh	3	1	2	1

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

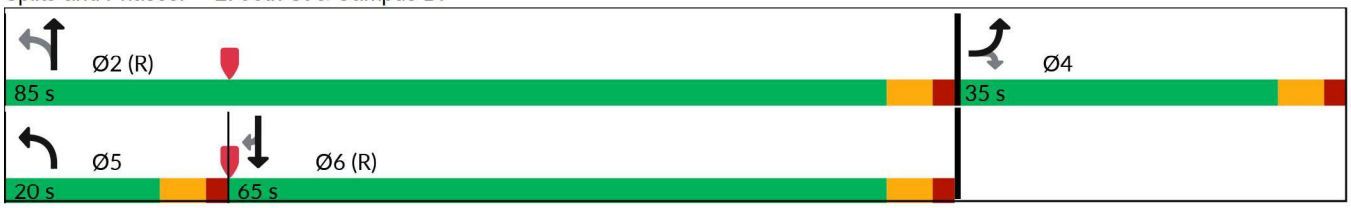
Approach	EB	WB	NB
Entry Lanes	1	2	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	404	378	482
Demand Flow Rate, veh/h	412	386	491
Vehicles Circulating, veh/h	138	59	388
Vehicles Exiting, veh/h	307	820	162
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	6.4	4.0	10.9
Approach LOS	A	A	B

Lane	Left	Left	Right	Left
Designated Moves	TR	L	TR	LR
Assumed Moves	TR	L	TR	LR
RT Channelized				
Lane Util	1.000	0.358	0.642	1.000
Follow-Up Headway, s	2.609	2.535	2.535	2.609
Critical Headway, s	4.976	4.544	4.544	4.976
A (Intercept)	1380	1420	1420	1380
B (Slope)	1.02e-3	9.101e-4	9.101e-4	1.02e-3
Entry Flow, veh/h	412	138	248	491
Cap Entry Lane, veh/h	1199	1346	1346	929
Entry HV Adj Factor	0.982	0.978	0.980	0.982
Flow Entry, veh/h	404	135	243	482
Cap Entry, veh/h	1177	1317	1319	912
V/C Ratio	0.344	0.103	0.184	0.529
Control Delay, s/veh	6.4	3.6	4.3	10.9
LOS	A	A	A	B
95th %tile Queue, veh	2	0	1	3

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	368	45	117	1100	855	478
Future Volume (vph)	368	45	117	1100	855	478
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	11.0	24.0	24.0	24.0
Total Split (s)	35.0	35.0	20.0	85.0	65.0	65.0
Total Split (%)	29.2%	29.2%	16.7%	70.8%	54.2%	54.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	C-Max	C-Max

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 69 (58%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 2: 96th St & Campus Dr



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	368	45	117	1100	855	478
Future Volume (veh/h)	368	45	117	1100	855	478
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	400	49	127	1196	929	520
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	486	223	336	2699	2375	1059
Arrive On Green	0.14	0.14	0.04	0.76	0.67	0.67
Sat Flow, veh/h	3456	1585	1781	3647	3647	1585
Grp Volume(v), veh/h	400	49	127	1196	929	520
Grp Sat Flow(s),veh/h/ln	1728	1585	1781	1777	1777	1585
Q Serve(g_s), s	13.5	3.3	2.5	14.6	14.1	19.4
Cycle Q Clear(g_c), s	13.5	3.3	2.5	14.6	14.1	19.4
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	486	223	336	2699	2375	1059
V/C Ratio(X)	0.82	0.22	0.38	0.44	0.39	0.49
Avail Cap(c_a), veh/h	835	383	470	2699	2375	1059
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.62	0.62	1.00	1.00
Uniform Delay (d), s/veh	50.1	45.7	6.5	5.2	8.9	9.8
Incr Delay (d2), s/veh	3.6	0.5	0.4	0.3	0.5	1.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.1	3.1	0.9	4.7	5.3	6.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	53.7	46.2	6.9	5.6	9.4	11.4
LnGrp LOS	D	D	A	A	A	B
Approach Vol, veh/h	449			1323	1449	
Approach Delay, s/veh	52.9			5.7	10.1	
Approach LOS	D			A	B	

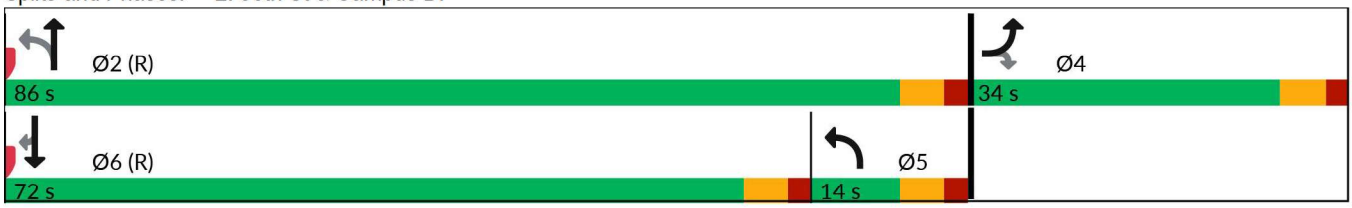
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		97.1		22.9	10.9	86.2
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		79.0		29.0	14.0	59.0
Max Q Clear Time (g_c+I1), s		16.6		15.5	4.5	21.4
Green Ext Time (p_c), s		12.7		1.4	0.2	11.3

Intersection Summary		
HCM 7th Control Delay, s/veh		14.3
HCM 7th LOS		B

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	409	106	63	880	1140	214
Future Volume (vph)	409	106	63	880	1140	214
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	11.0	24.0	24.0	24.0
Total Split (s)	34.0	34.0	14.0	86.0	72.0	72.0
Total Split (%)	28.3%	28.3%	11.7%	71.7%	60.0%	60.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag			Lag		Lead	Lead
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	C-Max	C-Max

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 53 (44%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated

Splits and Phases: 2: 96th St & Campus Dr



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	409	106	63	880	1140	214
Future Volume (veh/h)	409	106	63	880	1140	214
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	445	115	68	957	1239	233
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	536	246	423	2648	1955	872
Arrive On Green	0.15	0.15	0.15	0.75	0.55	0.55
Sat Flow, veh/h	3456	1585	1781	3647	3647	1585
Grp Volume(v), veh/h	445	115	68	957	1239	233
Grp Sat Flow(s),veh/h/ln	1728	1585	1781	1777	1777	1585
Q Serve(g_s), s	15.0	7.9	0.0	11.3	28.9	9.3
Cycle Q Clear(g_c), s	15.0	7.9	0.0	11.3	28.9	9.3
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	536	246	423	2648	1955	872
V/C Ratio(X)	0.83	0.47	0.16	0.36	0.63	0.27
Avail Cap(c_a), veh/h	806	370	423	2648	1955	872
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.68	0.68	1.00	1.00
Uniform Delay (d), s/veh	49.2	46.2	23.4	5.3	18.7	14.2
Incr Delay (d2), s/veh	4.6	1.4	0.1	0.3	1.6	0.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.8	7.2	1.3	3.8	11.9	3.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	53.8	47.6	23.5	5.6	20.2	15.0
LnGrp LOS	D	D	C	A	C	B
Approach Vol, veh/h	560			1025	1472	
Approach Delay, s/veh	52.5			6.8	19.4	
Approach LOS	D			A	B	

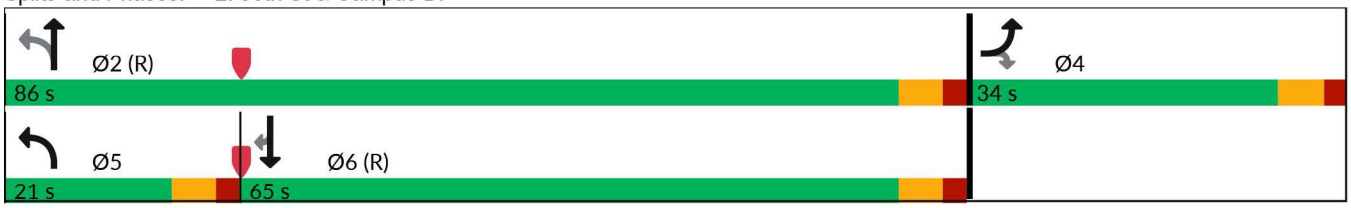
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		95.4		24.6	23.4	72.0
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		80.0		28.0	8.0	66.0
Max Q Clear Time (g_c+I1), s		13.3		17.0	2.0	30.9
Green Ext Time (p_c), s		9.0		1.6	0.1	13.3

Intersection Summary	
HCM 7th Control Delay, s/veh	21.2
HCM 7th LOS	C

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	392	51	135	1100	873	531
Future Volume (vph)	392	51	135	1100	873	531
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	11.0	24.0	24.0	24.0
Total Split (s)	34.0	34.0	21.0	86.0	65.0	65.0
Total Split (%)	28.3%	28.3%	17.5%	71.7%	54.2%	54.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	C-Max	C-Max

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 73 (61%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 2: 96th St & Campus Dr



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	392	51	135	1100	873	531
Future Volume (veh/h)	392	51	135	1100	873	531
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	426	55	147	1196	949	577
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	512	235	320	2672	2339	1043
Arrive On Green	0.15	0.15	0.04	0.75	0.66	0.66
Sat Flow, veh/h	3456	1585	1781	3647	3647	1585
Grp Volume(v), veh/h	426	55	147	1196	949	577
Grp Sat Flow(s),veh/h/ln	1728	1585	1781	1777	1777	1585
Q Serve(g_s), s	14.4	3.7	3.0	15.1	14.9	23.5
Cycle Q Clear(g_c), s	14.4	3.7	3.0	15.1	14.9	23.5
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	512	235	320	2672	2339	1043
V/C Ratio(X)	0.83	0.23	0.46	0.45	0.41	0.55
Avail Cap(c_a), veh/h	806	370	465	2672	2339	1043
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.62	0.62	1.00	1.00
Uniform Delay (d), s/veh	49.7	45.1	7.3	5.6	9.6	11.0
Incr Delay (d2), s/veh	4.3	0.5	0.6	0.3	0.5	2.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.5	3.4	1.1	5.0	5.7	8.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	54.0	45.6	7.9	5.9	10.1	13.1
LnGrp LOS	D	D	A	A	B	B
Approach Vol, veh/h	481			1343	1526	
Approach Delay, s/veh	53.0			6.1	11.2	
Approach LOS	D			A	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		96.2		23.8	11.2	85.0
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		80.0		28.0	15.0	59.0
Max Q Clear Time (g_c+I1), s		17.1		16.4	5.0	25.5
Green Ext Time (p_c), s		12.7		1.4	0.2	11.7

Intersection Summary		
HCM 7th Control Delay, s/veh	15.2	
HCM 7th LOS	B	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	485	125	72	880	1149	240
Future Volume (vph)	485	125	72	880	1149	240
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	11.0	24.0	24.0	24.0
Total Split (s)	36.0	36.0	13.0	84.0	71.0	71.0
Total Split (%)	30.0%	30.0%	10.8%	70.0%	59.2%	59.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag			Lag		Lead	Lead
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	C-Max	C-Max

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 56 (47%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated

Splits and Phases: 2: 96th St & Campus Dr

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	485	125	72	880	1149	240
Future Volume (veh/h)	485	125	72	880	1149	240
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	527	136	78	957	1249	261
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	622	285	384	2559	1925	859
Arrive On Green	0.18	0.18	0.13	0.72	0.54	0.54
Sat Flow, veh/h	3456	1585	1781	3647	3647	1585
Grp Volume(v), veh/h	527	136	78	957	1249	261
Grp Sat Flow(s),veh/h/ln	1728	1585	1781	1777	1777	1585
Q Serve(g_s), s	17.7	9.2	0.0	12.4	29.8	10.8
Cycle Q Clear(g_c), s	17.7	9.2	0.0	12.4	29.8	10.8
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	622	285	384	2559	1925	859
V/C Ratio(X)	0.85	0.48	0.20	0.37	0.65	0.30
Avail Cap(c_a), veh/h	864	396	384	2559	1925	859
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.67	0.67	1.00	1.00
Uniform Delay (d), s/veh	47.6	44.1	27.4	6.4	19.4	15.1
Incr Delay (d2), s/veh	5.8	1.2	0.2	0.3	1.7	0.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.1	8.3	1.7	4.3	12.4	4.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	53.4	45.4	27.6	6.7	21.1	16.0
LnGrp LOS	D	D	C	A	C	B
Approach Vol, veh/h	663			1035	1510	
Approach Delay, s/veh	51.7			8.3	20.3	
Approach LOS	D			A	C	

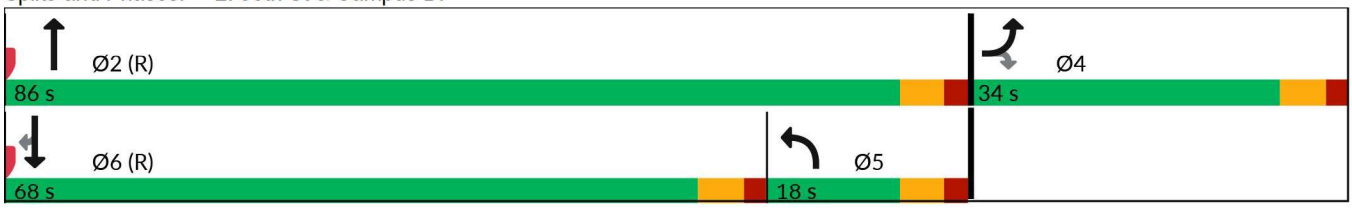
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		92.4		27.6	21.4	71.0
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		78.0		30.0	7.0	65.0
Max Q Clear Time (g_c+I1), s		14.4		19.7	2.0	31.8
Green Ext Time (p_c), s		9.0		1.9	0.1	13.4

Intersection Summary		
HCM 7th Control Delay, s/veh	22.9	
HCM 7th LOS	C	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	395	52	132	1155	900	535
Future Volume (vph)	395	52	132	1155	900	535
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	11.0	24.0	24.0	24.0
Total Split (s)	34.0	34.0	18.0	86.0	68.0	68.0
Total Split (%)	28.3%	28.3%	15.0%	71.7%	56.7%	56.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag			Lag		Lead	Lead
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	C-Max	C-Max

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 66 (55%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 2: 96th St & Campus Dr



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	395	52	132	1155	900	535
Future Volume (veh/h)	395	52	132	1155	900	535
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	429	57	143	1255	978	582
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	515	236	637	3835	1836	819
Arrive On Green	0.15	0.15	0.18	0.75	0.52	0.52
Sat Flow, veh/h	3456	1585	3456	5274	3647	1585
Grp Volume(v), veh/h	429	57	143	1255	978	582
Grp Sat Flow(s),veh/h/ln	1728	1585	1728	1702	1777	1585
Q Serve(g_s), s	14.5	3.8	4.2	9.7	22.0	33.7
Cycle Q Clear(g_c), s	14.5	3.8	4.2	9.7	22.0	33.7
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	515	236	637	3835	1836	819
V/C Ratio(X)	0.83	0.24	0.22	0.33	0.53	0.71
Avail Cap(c_a), veh/h	806	370	637	3835	1836	819
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.70	0.70	1.00	1.00
Uniform Delay (d), s/veh	49.6	45.1	41.6	4.9	19.3	22.1
Incr Delay (d2), s/veh	4.4	0.5	0.1	0.2	1.1	5.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.6	3.5	1.8	3.1	9.2	13.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	54.0	45.6	41.8	5.1	20.5	27.3
LnGrp LOS	D	D	D	A	C	C
Approach Vol, veh/h	486			1398	1560	
Approach Delay, s/veh	53.0			8.8	23.0	
Approach LOS	D			A	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		96.1		23.9	28.1	68.0
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		80.0		28.0	12.0	62.0
Max Q Clear Time (g_c+I1), s		11.7		16.5	6.2	35.7
Green Ext Time (p_c), s		13.2		1.4	0.2	11.0

Intersection Summary	
HCM 7th Control Delay, s/veh	21.5
HCM 7th LOS	C

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	462	121	70	930	1200	232
Future Volume (vph)	462	121	70	930	1200	232
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	11.0	24.0	24.0	24.0
Total Split (s)	35.0	35.0	12.0	85.0	73.0	73.0
Total Split (%)	29.2%	29.2%	10.0%	70.8%	60.8%	60.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag			Lag		Lead	Lead
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	C-Max	C-Max

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 36 (30%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated

Splits and Phases: 2: 96th St & Campus Dr

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	462	121	70	930	1200	232
Future Volume (veh/h)	462	121	70	930	1200	232
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	502	132	76	1011	1304	252
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	595	273	413	3716	1984	885
Arrive On Green	0.17	0.17	0.12	0.73	0.56	0.56
Sat Flow, veh/h	3456	1585	3456	5274	3647	1585
Grp Volume(v), veh/h	502	132	76	1011	1304	252
Grp Sat Flow(s),veh/h/ln	1728	1585	1728	1702	1777	1585
Q Serve(g_s), s	16.9	9.0	2.4	8.1	30.7	10.0
Cycle Q Clear(g_c), s	16.9	9.0	2.4	8.1	30.7	10.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	595	273	413	3716	1984	885
V/C Ratio(X)	0.84	0.48	0.18	0.27	0.66	0.28
Avail Cap(c_a), veh/h	835	383	413	3716	1984	885
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.81	0.81	1.00	1.00
Uniform Delay (d), s/veh	48.1	44.8	47.6	5.5	18.5	13.9
Incr Delay (d2), s/veh	5.7	1.3	0.2	0.1	1.7	0.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.7	8.1	1.0	2.7	12.6	3.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	53.8	46.2	47.7	5.7	20.2	14.7
LnGrp LOS	D	D	D	A	C	B
Approach Vol, veh/h	634			1087	1556	
Approach Delay, s/veh	52.2			8.6	19.3	
Approach LOS	D			A	B	

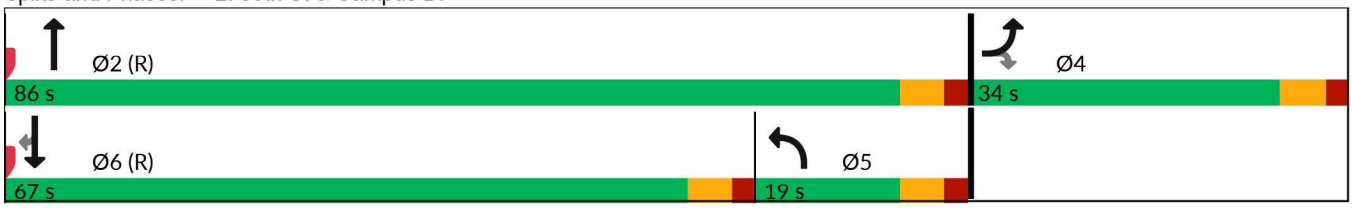
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		93.3		26.7	20.3	73.0
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		79.0		29.0	6.0	67.0
Max Q Clear Time (g_c+I1), s		10.1		18.9	4.4	32.7
Green Ext Time (p_c), s		9.5		1.8	0.0	14.3

Intersection Summary	
HCM 7th Control Delay, s/veh	22.1
HCM 7th LOS	C

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	434	62	161	1155	929	622
Future Volume (vph)	434	62	161	1155	929	622
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	11.0	24.0	24.0	24.0
Total Split (s)	34.0	34.0	19.0	86.0	67.0	67.0
Total Split (%)	28.3%	28.3%	15.8%	71.7%	55.8%	55.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag			Lag		Lead	Lead
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	C-Max	C-Max

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 60 (50%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 2: 96th St & Campus Dr



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	434	62	161	1155	929	622
Future Volume (veh/h)	434	62	161	1155	929	622
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	472	67	175	1255	1010	676
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	559	256	622	3770	1806	806
Arrive On Green	0.16	0.16	0.18	0.74	0.51	0.51
Sat Flow, veh/h	3456	1585	3456	5274	3647	1585
Grp Volume(v), veh/h	472	67	175	1255	1010	676
Grp Sat Flow(s),veh/h/ln	1728	1585	1728	1702	1777	1585
Q Serve(g_s), s	15.9	4.4	5.2	10.2	23.4	43.9
Cycle Q Clear(g_c), s	15.9	4.4	5.2	10.2	23.4	43.9
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	559	256	622	3770	1806	806
V/C Ratio(X)	0.84	0.26	0.28	0.33	0.56	0.84
Avail Cap(c_a), veh/h	806	370	622	3770	1806	806
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.72	0.72	1.00	1.00
Uniform Delay (d), s/veh	48.8	44.0	42.5	5.4	20.3	25.3
Incr Delay (d2), s/veh	5.7	0.5	0.2	0.2	1.3	10.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.3	4.1	2.3	3.3	9.8	18.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	54.5	44.6	42.7	5.6	21.5	35.5
LnGrp LOS	D	D	D	A	C	D
Approach Vol, veh/h	539			1430	1686	
Approach Delay, s/veh	53.3			10.2	27.1	
Approach LOS	D			B	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		94.6		25.4	27.6	67.0
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		80.0		28.0	13.0	61.0
Max Q Clear Time (g_c+I1), s		12.2		17.9	7.2	45.9
Green Ext Time (p_c), s		13.2		1.5	0.3	8.8

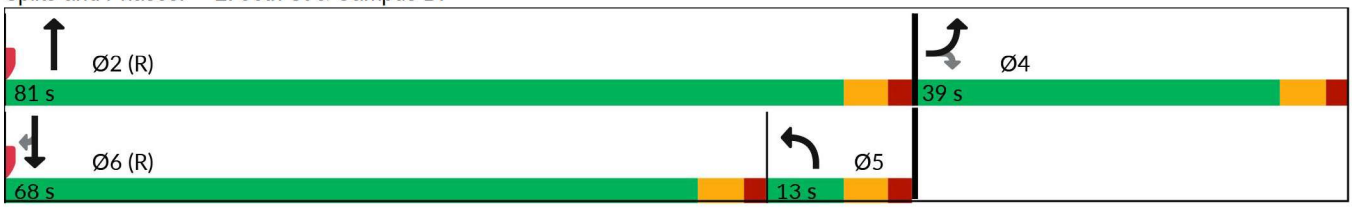
Intersection Summary		
HCM 7th Control Delay, s/veh	24.3	
HCM 7th LOS	C	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	595	154	85	930	1215	278
Future Volume (vph)	595	154	85	930	1215	278
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	11.0	24.0	24.0	24.0
Total Split (s)	39.0	39.0	13.0	81.0	68.0	68.0
Total Split (%)	32.5%	32.5%	10.8%	67.5%	56.7%	56.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag			Lag		Lead	Lead
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	C-Max	C-Max

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 47 (39%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated

Splits and Phases: 2: 96th St & Campus Dr



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	595	154	85	930	1215	278
Future Volume (veh/h)	595	154	85	930	1215	278
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	647	167	92	1011	1321	302
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	747	343	405	3492	1836	819
Arrive On Green	0.22	0.22	0.12	0.68	0.52	0.52
Sat Flow, veh/h	3456	1585	3456	5274	3647	1585
Grp Volume(v), veh/h	647	167	92	1011	1321	302
Grp Sat Flow(s),veh/h/ln	1728	1585	1728	1702	1777	1585
Q Serve(g_s), s	21.7	11.1	2.9	9.4	34.3	13.7
Cycle Q Clear(g_c), s	21.7	11.1	2.9	9.4	34.3	13.7
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	747	343	405	3492	1836	819
V/C Ratio(X)	0.87	0.49	0.23	0.29	0.72	0.37
Avail Cap(c_a), veh/h	950	436	405	3492	1836	819
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.74	0.74	1.00	1.00
Uniform Delay (d), s/veh	45.4	41.2	48.0	7.5	22.3	17.3
Incr Delay (d2), s/veh	7.0	1.1	0.2	0.2	2.5	1.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.0	10.0	1.3	3.3	14.5	5.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	52.3	42.3	48.3	7.6	24.8	18.6
LnGrp LOS	D	D	D	A	C	B
Approach Vol, veh/h	814			1103	1623	
Approach Delay, s/veh	50.3			11.0	23.6	
Approach LOS	D			B	C	

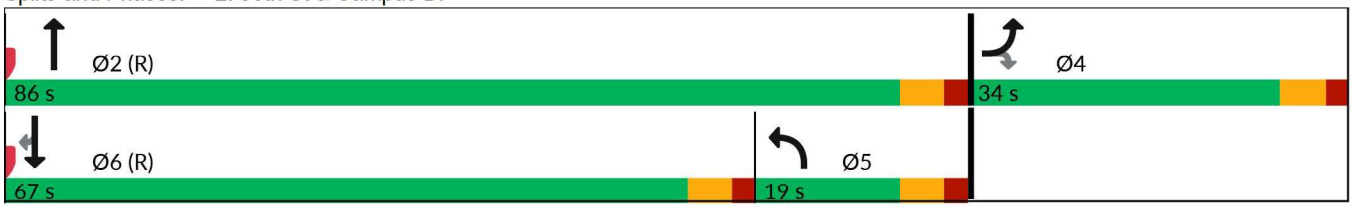
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		88.1		31.9	20.1	68.0
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		75.0		33.0	7.0	62.0
Max Q Clear Time (g_c+I1), s		11.4		23.7	4.9	36.3
Green Ext Time (p_c), s		9.5		2.3	0.0	13.0

Intersection Summary	
HCM 7th Control Delay, s/veh	25.8
HCM 7th LOS	C

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	445	65	165	1185	955	640
Future Volume (vph)	445	65	165	1185	955	640
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	11.0	24.0	24.0	24.0
Total Split (s)	34.0	34.0	19.0	86.0	67.0	67.0
Total Split (%)	28.3%	28.3%	15.8%	71.7%	55.8%	55.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag			Lag		Lead	Lead
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	C-Max	C-Max

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 60 (50%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 2: 96th St & Campus Dr



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	445	65	165	1185	955	640
Future Volume (veh/h)	445	65	165	1185	955	640
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	484	71	179	1288	1038	696
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	571	262	610	3752	1806	806
Arrive On Green	0.17	0.17	0.18	0.73	0.51	0.51
Sat Flow, veh/h	3456	1585	3456	5274	3647	1585
Grp Volume(v), veh/h	484	71	179	1288	1038	696
Grp Sat Flow(s),veh/h/ln	1728	1585	1728	1702	1777	1585
Q Serve(g_s), s	16.3	4.7	5.4	10.7	24.3	46.2
Cycle Q Clear(g_c), s	16.3	4.7	5.4	10.7	24.3	46.2
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	571	262	610	3752	1806	806
V/C Ratio(X)	0.85	0.27	0.29	0.34	0.57	0.86
Avail Cap(c_a), veh/h	806	370	610	3752	1806	806
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.70	0.70	1.00	1.00
Uniform Delay (d), s/veh	48.6	43.8	42.9	5.6	20.5	25.9
Incr Delay (d2), s/veh	6.0	0.6	0.2	0.2	1.3	11.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.5	4.4	2.3	3.5	10.2	19.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	54.6	44.3	43.1	5.8	21.8	37.7
LnGrp LOS	D	D	D	A	C	D
Approach Vol, veh/h	555			1467	1734	
Approach Delay, s/veh	53.3			10.4	28.2	
Approach LOS	D			B	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		94.2		25.8	27.2	67.0
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		80.0		28.0	13.0	61.0
Max Q Clear Time (g_c+I1), s		12.7		18.3	7.4	48.2
Green Ext Time (p_c), s		13.8		1.5	0.3	8.1

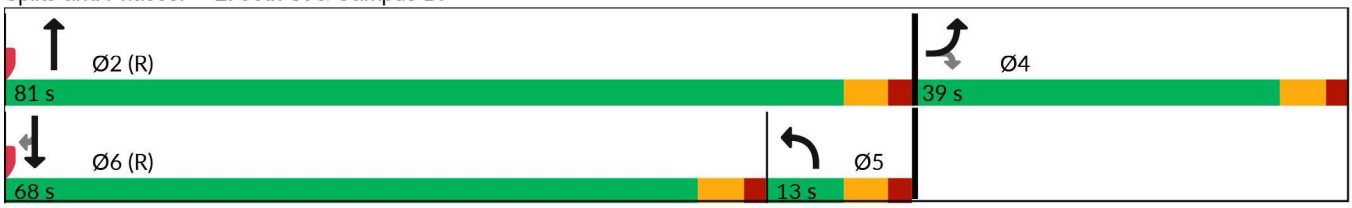
Intersection Summary	
HCM 7th Control Delay, s/veh	25.0
HCM 7th LOS	C

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	610	160	90	955	1245	285
Future Volume (vph)	610	160	90	955	1245	285
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	11.0	24.0	24.0	24.0
Total Split (s)	39.0	39.0	13.0	81.0	68.0	68.0
Total Split (%)	32.5%	32.5%	10.8%	67.5%	56.7%	56.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag			Lag		Lead	Lead
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	C-Max	C-Max

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 47 (39%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 2: 96th St & Campus Dr



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	610	160	90	955	1245	285
Future Volume (veh/h)	610	160	90	955	1245	285
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	663	174	98	1038	1353	310
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	763	350	389	3469	1836	819
Arrive On Green	0.22	0.22	0.11	0.68	0.52	0.52
Sat Flow, veh/h	3456	1585	3456	5274	3647	1585
Grp Volume(v), veh/h	663	174	98	1038	1353	310
Grp Sat Flow(s),veh/h/ln	1728	1585	1728	1702	1777	1585
Q Serve(g_s), s	22.2	11.5	3.1	9.8	35.7	14.1
Cycle Q Clear(g_c), s	22.2	11.5	3.1	9.8	35.7	14.1
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	763	350	389	3469	1836	819
V/C Ratio(X)	0.87	0.50	0.25	0.30	0.74	0.38
Avail Cap(c_a), veh/h	950	436	389	3469	1836	819
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.72	0.72	1.00	1.00
Uniform Delay (d), s/veh	45.1	40.9	48.6	7.7	22.6	17.4
Incr Delay (d2), s/veh	7.4	1.1	0.2	0.2	2.7	1.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.3	10.4	1.4	3.4	15.1	5.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	52.4	42.0	48.9	7.9	25.3	18.8
LnGrp LOS	D	D	D	A	C	B
Approach Vol, veh/h	837			1136	1663	
Approach Delay, s/veh	50.3			11.4	24.1	
Approach LOS	D			B	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		87.5		32.5	19.5	68.0
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		75.0		33.0	7.0	62.0
Max Q Clear Time (g_c+I1), s		11.8		24.2	5.1	37.7
Green Ext Time (p_c), s		9.8		2.3	0.0	13.0

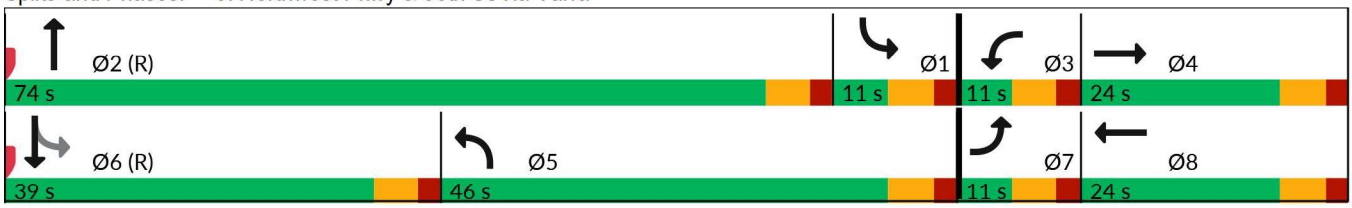
Intersection Summary	
HCM 7th Control Delay, s/veh	26.2
HCM 7th LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	115	724	55	195	45	868	412	20	40	683	154
Future Volume (vph)	61	115	724	55	195	45	868	412	20	40	683	154
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free	pm+pt	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			Free			Free	6		Free
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	11.0	24.0		11.0	24.0		11.0	24.0		11.0	24.0	
Total Split (s)	11.0	24.0		11.0	24.0		46.0	74.0		11.0	39.0	
Total Split (%)	9.2%	20.0%		9.2%	20.0%		38.3%	61.7%		9.2%	32.5%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lead		Lag	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green, Master Intersection
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 3: Northwest Pkwy & 96th St/Via Varra



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	61	115	724	55	195	45	868	412	20	40	683	154
Future Volume (veh/h)	61	115	724	55	195	45	868	412	20	40	683	154
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	66	125	0	60	212	0	943	448	0	43	742	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	128	293		125	289		1405	2014		1004	977	
Arrive On Green	0.04	0.08	0.00	0.04	0.08	0.00	0.68	0.95	0.00	0.11	0.28	0.00
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	66	125	0	60	212	0	943	448	0	43	742	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	2.2	4.0	0.0	2.0	7.0	0.0	19.3	1.0	0.0	0.0	23.0	0.0
Cycle Q Clear(g_c), s	2.2	4.0	0.0	2.0	7.0	0.0	19.3	1.0	0.0	0.0	23.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	128	293		125	289		1405	2014		1004	977	
V/C Ratio(X)	0.52	0.43		0.48	0.73		0.67	0.22		0.04	0.76	
Avail Cap(c_a), veh/h	144	533		144	533		1405	2014		1004	977	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00
Upstream Filter(I)	0.92	0.92	0.00	1.00	1.00	0.00	0.83	0.83	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	56.7	52.4	0.0	56.7	53.8	0.0	14.5	1.4	0.0	23.5	39.9	0.0
Incr Delay (d2), s/veh	2.9	0.9	0.0	2.9	3.6	0.0	1.0	0.2	0.0	0.0	5.5	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	1.8	0.0	0.9	3.3	0.0	5.3	0.4	0.0	0.4	10.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	59.7	53.3	0.0	59.6	57.4	0.0	15.6	1.6	0.0	23.5	45.4	0.0
LnGrp LOS	E	D		E	E		B	A		C	D	
Approach Vol, veh/h		191			272			1391			785	
Approach Delay, s/veh		55.5			57.9			11.1			44.2	
Approach LOS		E			E			B			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.8	74.0	10.3	15.9	54.8	39.0	10.4	15.8
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	68.0	5.0	18.0	40.0	33.0	5.0	18.0
Max Q Clear Time (g_c+I1), s	2.0	3.0	4.0	6.0	21.3	25.0	4.2	9.0
Green Ext Time (p_c), s	0.0	3.4	0.0	0.5	3.7	3.1	0.0	0.8

Intersection Summary	
HCM 7th Control Delay, s/veh	29.0
HCM 7th LOS	C

Notes

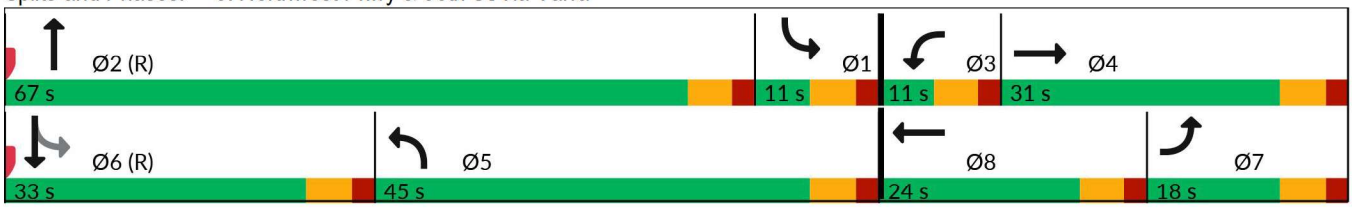
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	157	220	914	25	160	75	713	761	45	25	419	70
Future Volume (vph)	157	220	914	25	160	75	713	761	45	25	419	70
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free	pm+pt	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			Free			Free	6		Free
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	11.0	24.0		11.0	24.0		11.0	24.0		11.0	24.0	
Total Split (s)	18.0	31.0		11.0	24.0		45.0	67.0		11.0	33.0	
Total Split (%)	15.0%	25.8%		9.2%	20.0%		37.5%	55.8%		9.2%	27.5%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lag	Lag		Lead	Lead		Lag	Lead		Lag	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green, Master Intersection
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 3: Northwest Pkwy & 96th St/Via Varra



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	157	220	914	25	160	75	713	761	45	25	419	70
Future Volume (veh/h)	157	220	914	25	160	75	713	761	45	25	419	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	171	239	0	27	174	0	775	827	0	27	455	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	230	398		85	249		1515	1806		805	800	
Arrive On Green	0.07	0.11	0.00	0.02	0.07	0.00	0.58	0.68	0.00	0.16	0.22	0.00
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	171	239	0	27	174	0	775	827	0	27	455	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	5.8	7.7	0.0	0.9	5.7	0.0	16.0	13.1	0.0	0.0	13.7	0.0
Cycle Q Clear(g_c), s	5.8	7.7	0.0	0.9	5.7	0.0	16.0	13.1	0.0	0.0	13.7	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	230	398		85	249		1515	1806		805	800	
V/C Ratio(X)	0.74	0.60		0.32	0.70		0.51	0.46		0.03	0.57	
Avail Cap(c_a), veh/h	346	740		144	533		1515	1806		805	800	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	0.83	0.83	0.00	1.00	1.00	0.00	0.76	0.76	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	55.0	50.7	0.0	57.5	54.6	0.0	17.4	11.7	0.0	32.6	41.3	0.0
Incr Delay (d2), s/veh	3.9	1.2	0.0	2.1	3.5	0.0	0.2	0.6	0.0	0.0	2.9	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	3.5	0.0	0.4	2.7	0.0	5.6	4.5	0.0	0.3	6.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	58.9	51.9	0.0	59.6	58.1	0.0	17.6	12.3	0.0	32.6	44.3	0.0
LnGrp LOS	E	D		E	E		B	B		C	D	
Approach Vol, veh/h		410			201			1602			482	
Approach Delay, s/veh		54.9			58.3			14.9			43.6	
Approach LOS		D			E			B			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	24.6	67.0	9.0	19.4	58.6	33.0	14.0	14.4
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	61.0	5.0	25.0	39.0	27.0	12.0	18.0
Max Q Clear Time (g_c+I1), s	2.0	15.1	2.9	9.7	18.0	15.7	7.8	7.7
Green Ext Time (p_c), s	0.0	7.1	0.0	1.2	3.0	2.3	0.2	0.7

Intersection Summary	
HCM 7th Control Delay, s/veh	29.3
HCM 7th LOS	C

Notes

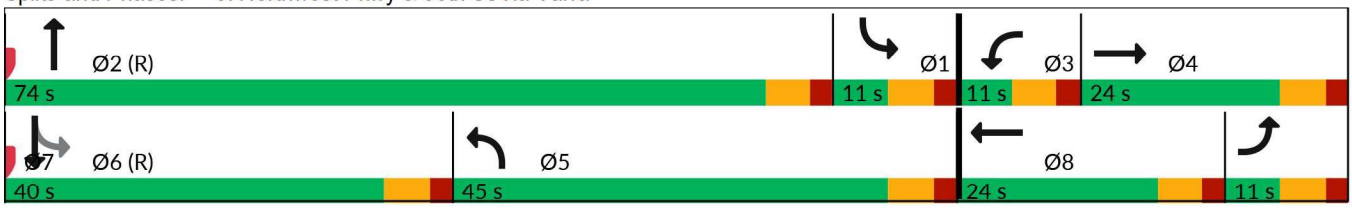
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	115	742	55	195	45	868	430	20	40	736	172
Future Volume (vph)	67	115	742	55	195	45	868	430	20	40	736	172
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free	pm+pt	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			Free			Free	6		Free
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	11.0	24.0		11.0	24.0		11.0	24.0		11.0	24.0	
Total Split (s)	11.0	24.0		11.0	24.0		45.0	74.0		11.0	40.0	
Total Split (%)	9.2%	20.0%		9.2%	20.0%		37.5%	61.7%		9.2%	33.3%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lag	Lag		Lead	Lead		Lag	Lead		Lag	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green, Master Intersection
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 3: Northwest Pkwy & 96th St/Via Varra



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	67	115	742	55	195	45	868	430	20	40	736	172
Future Volume (veh/h)	67	115	742	55	195	45	868	430	20	40	736	172
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	73	125	0	60	212	0	943	467	0	43	800	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	131	296		125	289		1373	2014		1006	1007	
Arrive On Green	0.04	0.08	0.00	0.04	0.08	0.00	0.66	0.95	0.00	0.11	0.28	0.00
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	73	125	0	60	212	0	943	467	0	43	800	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	2.5	4.0	0.0	2.0	7.0	0.0	20.3	1.1	0.0	0.0	25.0	0.0
Cycle Q Clear(g_c), s	2.5	4.0	0.0	2.0	7.0	0.0	20.3	1.1	0.0	0.0	25.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	131	296		125	289		1373	2014		1006	1007	
V/C Ratio(X)	0.56	0.42		0.48	0.73		0.69	0.23		0.04	0.79	
Avail Cap(c_a), veh/h	144	533		144	533		1373	2014		1006	1007	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00
Upstream Filter(I)	0.91	0.91	0.00	1.00	1.00	0.00	0.83	0.83	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	56.7	52.2	0.0	56.7	53.8	0.0	15.6	1.4	0.0	23.0	39.8	0.0
Incr Delay (d2), s/veh	3.5	0.9	0.0	2.9	3.6	0.0	1.2	0.2	0.0	0.0	6.5	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	1.8	0.0	0.9	3.3	0.0	5.8	0.4	0.0	0.4	11.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	60.2	53.1	0.0	59.6	57.4	0.0	16.8	1.6	0.0	23.0	46.2	0.0
LnGrp LOS	E	D		E	E		B	A		C	D	
Approach Vol, veh/h		198			272			1410			843	
Approach Delay, s/veh		55.7			57.9			11.8			45.0	
Approach LOS		E			E			B			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.7	74.0	10.3	16.0	53.7	40.0	10.6	15.8
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	68.0	5.0	18.0	39.0	34.0	5.0	18.0
Max Q Clear Time (g_c+I1), s	2.0	3.1	4.0	6.0	22.3	27.0	4.5	9.0
Green Ext Time (p_c), s	0.0	3.6	0.0	0.5	3.6	3.1	0.0	0.8

Intersection Summary	
HCM 7th Control Delay, s/veh	29.9
HCM 7th LOS	C

Notes

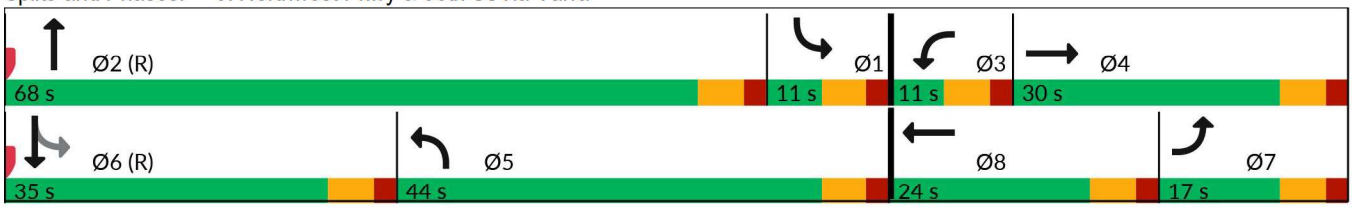
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	176	220	923	25	160	75	713	818	45	25	445	79
Future Volume (vph)	176	220	923	25	160	75	713	818	45	25	445	79
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free	pm+pt	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			Free			Free	6		Free
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	11.0	24.0		11.0	24.0		11.0	24.0		11.0	24.0	
Total Split (s)	17.0	30.0		11.0	24.0		44.0	68.0		11.0	35.0	
Total Split (%)	14.2%	25.0%		9.2%	20.0%		36.7%	56.7%		9.2%	29.2%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lag	Lag		Lead	Lead		Lag	Lead		Lag	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green, Master Intersection
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 3: Northwest Pkwy & 96th St/Via Varra



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	176	220	923	25	160	75	713	818	45	25	445	79
Future Volume (veh/h)	176	220	923	25	160	75	713	818	45	25	445	79
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	191	239	0	27	174	0	775	889	0	27	484	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	249	417		85	249		1439	1836		759	859	
Arrive On Green	0.07	0.12	0.00	0.02	0.07	0.00	0.55	0.69	0.00	0.14	0.24	0.00
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	191	239	0	27	174	0	775	889	0	27	484	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	6.5	7.6	0.0	0.9	5.7	0.0	17.1	14.1	0.0	0.0	14.3	0.0
Cycle Q Clear(g_c), s	6.5	7.6	0.0	0.9	5.7	0.0	17.1	14.1	0.0	0.0	14.3	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	249	417		85	249		1439	1836		759	859	
V/C Ratio(X)	0.77	0.57		0.32	0.70		0.54	0.48		0.04	0.56	
Avail Cap(c_a), veh/h	317	711		144	533		1439	1836		759	859	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	0.82	0.82	0.00	1.00	1.00	0.00	0.74	0.74	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	54.7	50.1	0.0	57.5	54.6	0.0	19.5	11.3	0.0	33.1	39.9	0.0
Incr Delay (d2), s/veh	6.9	1.0	0.0	2.1	3.5	0.0	0.3	0.7	0.0	0.0	2.7	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	3.5	0.0	0.4	2.7	0.0	6.2	4.7	0.0	0.3	6.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	61.6	51.1	0.0	59.6	58.1	0.0	19.8	12.0	0.0	33.1	42.6	0.0
LnGrp LOS	E	D		E	E		B	B		C	D	
Approach Vol, veh/h		430			201			1664			511	
Approach Delay, s/veh		55.8			58.3			15.6			42.1	
Approach LOS		E			E			B			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.0	68.0	9.0	20.1	56.0	35.0	14.6	14.4
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	62.0	5.0	24.0	38.0	29.0	11.0	18.0
Max Q Clear Time (g_c+I1), s	2.0	16.1	2.9	9.6	19.1	16.3	8.5	7.7
Green Ext Time (p_c), s	0.0	7.9	0.0	1.2	2.9	2.6	0.1	0.7

Intersection Summary	
HCM 7th Control Delay, s/veh	29.6
HCM 7th LOS	C

Notes

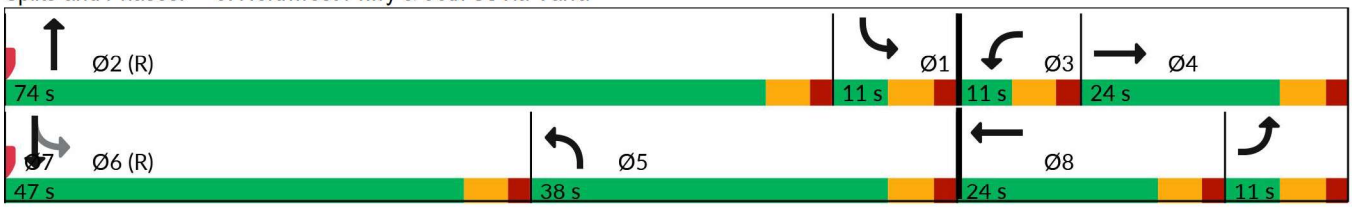
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	125	764	60	205	50	913	454	25	45	758	174
Future Volume (vph)	68	125	764	60	205	50	913	454	25	45	758	174
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free	pm+pt	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			Free			Free	6		Free
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	11.0	24.0		11.0	24.0		11.0	24.0		11.0	24.0	
Total Split (s)	11.0	24.0		11.0	24.0		38.0	74.0		11.0	47.0	
Total Split (%)	9.2%	20.0%		9.2%	20.0%		31.7%	61.7%		9.2%	39.2%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lag	Lag		Lead	Lead		Lag	Lead		Lag	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green, Master Intersection
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 3: Northwest Pkwy & 96th St/Via Varra



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	125	764	60	205	50	913	454	25	45	758	174
Future Volume (veh/h)	68	125	764	60	205	50	913	454	25	45	758	174
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	74	136	0	65	223	0	992	493	0	49	824	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	192	305		127	301		1685	2014		1084	1214	
Arrive On Green	0.04	0.09	0.00	0.04	0.08	0.00	0.56	0.95	0.00	0.11	0.34	0.00
Sat Flow, veh/h	5023	3554	1585	3456	3554	1585	5023	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	74	136	0	65	223	0	992	493	0	49	824	0
Grp Sat Flow(s),veh/h/ln	1674	1777	1585	1728	1777	1585	1674	1777	1585	1728	1777	1585
Q Serve(g_s), s	1.7	4.4	0.0	2.2	7.4	0.0	15.5	1.2	0.0	0.0	23.8	0.0
Cycle Q Clear(g_c), s	1.7	4.4	0.0	2.2	7.4	0.0	15.5	1.2	0.0	0.0	23.8	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	192	305		127	301		1685	2014		1084	1214	
V/C Ratio(X)	0.39	0.45		0.51	0.74		0.59	0.24		0.05	0.68	
Avail Cap(c_a), veh/h	209	533		144	533		1685	2014		1084	1214	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00
Upstream Filter(I)	0.89	0.89	0.00	1.00	1.00	0.00	0.81	0.81	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	56.3	52.1	0.0	56.7	53.6	0.0	20.9	1.4	0.0	19.2	33.9	0.0
Incr Delay (d2), s/veh	1.1	0.9	0.0	3.1	3.6	0.0	0.4	0.2	0.0	0.0	3.1	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	2.0	0.0	1.0	3.4	0.0	4.9	0.4	0.0	0.4	10.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	57.5	53.0	0.0	59.8	57.2	0.0	21.4	1.7	0.0	19.2	36.9	0.0
LnGrp LOS	E	D		E	E		C	A		B	D	
Approach Vol, veh/h		210			288			1485			873	
Approach Delay, s/veh		54.6			57.8			14.8			35.9	
Approach LOS		D			E			B			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.3	74.0	10.4	16.3	46.3	47.0	10.6	16.2
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	68.0	5.0	18.0	32.0	41.0	5.0	18.0
Max Q Clear Time (g_c+I1), s	2.0	3.2	4.2	6.4	17.5	25.8	3.7	9.4
Green Ext Time (p_c), s	0.0	3.8	0.0	0.5	3.6	5.1	0.0	0.8

Intersection Summary	
HCM 7th Control Delay, s/veh	28.5
HCM 7th LOS	C

Notes

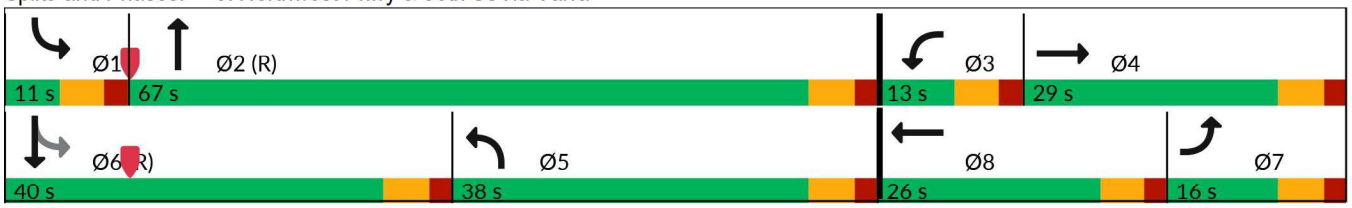
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	177	235	964	30	170	80	753	843	50	30	461	77
Future Volume (vph)	177	235	964	30	170	80	753	843	50	30	461	77
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free	pm+pt	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			Free			Free	6		Free
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	11.0	24.0		11.0	24.0		11.0	24.0		11.0	24.0	
Total Split (s)	16.0	29.0		13.0	26.0		38.0	67.0		11.0	40.0	
Total Split (%)	13.3%	24.2%		10.8%	21.7%		31.7%	55.8%		9.2%	33.3%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lag	Lag		Lead	Lead		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green, Master Intersection
Natural Cycle: 75
Control Type: Actuated-Coordinated

Splits and Phases: 3: Northwest Pkwy & 96th St/Via Varra



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	177	235	964	30	170	80	753	843	50	30	461	77
Future Volume (veh/h)	177	235	964	30	170	80	753	843	50	30	461	77
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	192	255	0	33	185	0	818	916	0	33	501	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	280	363		96	263		1943	2283		459	1007	
Arrive On Green	0.06	0.10	0.00	0.03	0.07	0.00	0.77	1.00	0.00	0.03	0.28	0.00
Sat Flow, veh/h	5023	3554	1585	3456	3554	1585	5023	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	192	255	0	33	185	0	818	916	0	33	501	0
Grp Sat Flow(s),veh/h/ln	1674	1777	1585	1728	1777	1585	1674	1777	1585	1728	1777	1585
Q Serve(g_s), s	4.5	8.3	0.0	1.1	6.1	0.0	6.6	0.0	0.0	0.9	14.1	0.0
Cycle Q Clear(g_c), s	4.5	8.3	0.0	1.1	6.1	0.0	6.6	0.0	0.0	0.9	14.1	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	280	363		96	263		1943	2283		459	1007	
V/C Ratio(X)	0.69	0.70		0.34	0.70		0.42	0.40		0.07	0.50	
Avail Cap(c_a), veh/h	419	681		202	592		1943	2283		507	1007	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	0.81	0.81	0.00	1.00	1.00	0.00	0.71	0.71	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	55.6	52.1	0.0	57.3	54.3	0.0	9.1	0.0	0.0	34.1	35.9	0.0
Incr Delay (d2), s/veh	2.4	2.0	0.0	2.1	3.4	0.0	0.1	0.4	0.0	0.1	1.8	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	3.8	0.0	0.5	2.9	0.0	1.9	0.1	0.0	0.4	6.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	58.0	54.1	0.0	59.4	57.7	0.0	9.2	0.4	0.0	34.2	37.6	0.0
LnGrp LOS	E	D		E	E		A	A		C	D	
Approach Vol, veh/h		447			218			1734			534	
Approach Delay, s/veh		55.8			57.9			4.5			37.4	
Approach LOS		E			E			A			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.3	83.1	9.3	18.2	52.4	40.0	12.7	14.9
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	61.0	7.0	23.0	32.0	34.0	10.0	20.0
Max Q Clear Time (g_c+I1), s	2.9	2.0	3.1	10.3	8.6	16.1	6.5	8.1
Green Ext Time (p_c), s	0.0	8.4	0.0	1.2	3.3	3.1	0.2	0.8

Intersection Summary	
HCM 7th Control Delay, s/veh	22.3
HCM 7th LOS	C

Notes

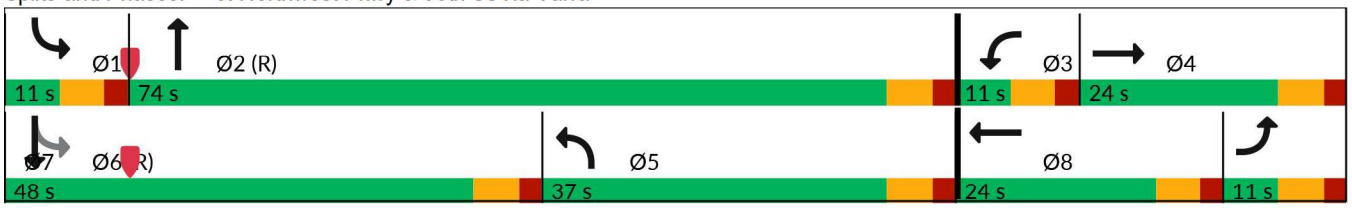
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	78	125	793	60	205	50	913	483	25	45	845	203
Future Volume (vph)	78	125	793	60	205	50	913	483	25	45	845	203
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free	pm+pt	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			Free			Free	6		Free
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	11.0	24.0		11.0	24.0		11.0	24.0		11.0	24.0	
Total Split (s)	11.0	24.0		11.0	24.0		37.0	74.0		11.0	48.0	
Total Split (%)	9.2%	20.0%		9.2%	20.0%		30.8%	61.7%		9.2%	40.0%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lag	Lag		Lead	Lead		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green, Master Intersection
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 3: Northwest Pkwy & 96th St/Via Varra



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	78	125	793	60	205	50	913	483	25	45	845	203
Future Volume (veh/h)	78	125	793	60	205	50	913	483	25	45	845	203
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	85	136	0	65	223	0	992	525	0	49	918	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	197	309		127	301		1638	2283		690	1244	
Arrive On Green	0.04	0.09	0.00	0.04	0.08	0.00	0.54	1.00	0.00	0.03	0.35	0.00
Sat Flow, veh/h	5023	3554	1585	3456	3554	1585	5023	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	85	136	0	65	223	0	992	525	0	49	918	0
Grp Sat Flow(s),veh/h/ln	1674	1777	1585	1728	1777	1585	1674	1777	1585	1728	1777	1585
Q Serve(g_s), s	2.0	4.4	0.0	2.2	7.4	0.0	16.1	0.0	0.0	1.2	27.2	0.0
Cycle Q Clear(g_c), s	2.0	4.4	0.0	2.2	7.4	0.0	16.1	0.0	0.0	1.2	27.2	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	197	309		127	301		1638	2283		690	1244	
V/C Ratio(X)	0.43	0.44		0.51	0.74		0.61	0.23		0.07	0.74	
Avail Cap(c_a), veh/h	209	533		144	533		1638	2283		718	1244	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00
Upstream Filter(I)	0.87	0.87	0.00	1.00	1.00	0.00	0.80	0.80	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	56.3	52.0	0.0	56.7	53.6	0.0	22.1	0.0	0.0	28.4	34.2	0.0
Incr Delay (d2), s/veh	1.3	0.9	0.0	3.1	3.6	0.0	0.5	0.2	0.0	0.0	3.9	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	2.0	0.0	1.0	3.4	0.0	5.2	0.1	0.0	0.5	12.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	57.6	52.9	0.0	59.8	57.2	0.0	22.6	0.2	0.0	28.5	38.1	0.0
LnGrp LOS	E	D		E	E		C	A		C	D	
Approach Vol, veh/h		221			288			1517			967	
Approach Delay, s/veh		54.7			57.8			14.8			37.6	
Approach LOS		D			E			B			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	83.1	10.4	16.4	45.1	48.0	10.7	16.2
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	68.0	5.0	18.0	31.0	42.0	5.0	18.0
Max Q Clear Time (g_c+I1), s	3.2	2.0	4.2	6.4	18.1	29.2	4.0	9.4
Green Ext Time (p_c), s	0.0	4.1	0.0	0.5	3.5	5.3	0.0	0.8

Intersection Summary	
HCM 7th Control Delay, s/veh	29.3
HCM 7th LOS	C

Notes

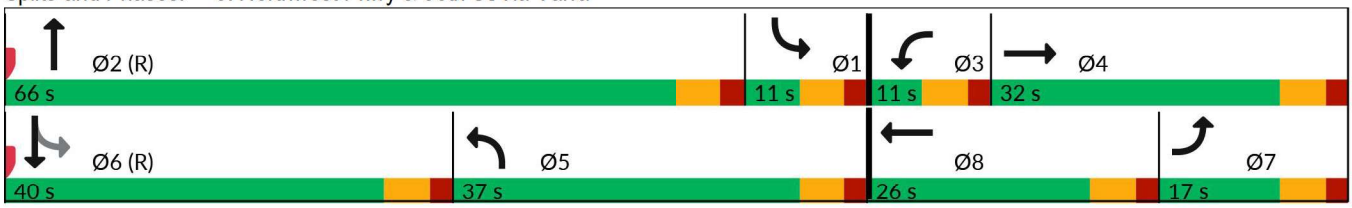
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	210	235	979	30	170	80	753	943	50	30	507	92
Future Volume (vph)	210	235	979	30	170	80	753	943	50	30	507	92
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free	pm+pt	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			Free			Free	6		Free
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	11.0	24.0		11.0	24.0		11.0	24.0		11.0	24.0	
Total Split (s)	17.0	32.0		11.0	26.0		37.0	66.0		11.0	40.0	
Total Split (%)	14.2%	26.7%		9.2%	21.7%		30.8%	55.0%		9.2%	33.3%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lag	Lag		Lead	Lead		Lag	Lead		Lag	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green, Master Intersection
Natural Cycle: 75
Control Type: Actuated-Coordinated

Splits and Phases: 3: Northwest Pkwy & 96th St/Via Varra



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	210	235	979	30	170	80	753	943	50	30	507	92
Future Volume (veh/h)	210	235	979	30	170	80	753	943	50	30	507	92
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	228	255	0	33	185	0	818	1025	0	33	551	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	318	390		96	263		1905	1777		984	1007	
Arrive On Green	0.06	0.11	0.00	0.03	0.07	0.00	0.76	1.00	0.00	0.16	0.28	0.00
Sat Flow, veh/h	5023	3554	1585	3456	3554	1585	5023	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	228	255	0	33	185	0	818	1025	0	33	551	0
Grp Sat Flow(s),veh/h/ln	1674	1777	1585	1728	1777	1585	1674	1777	1585	1728	1777	1585
Q Serve(g_s), s	5.3	8.3	0.0	1.1	6.1	0.0	7.0	0.0	0.0	0.0	15.8	0.0
Cycle Q Clear(g_c), s	5.3	8.3	0.0	1.1	6.1	0.0	7.0	0.0	0.0	0.0	15.8	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	318	390		96	263		1905	1777		984	1007	
V/C Ratio(X)	0.72	0.65		0.34	0.70		0.43	0.58		0.03	0.55	
Avail Cap(c_a), veh/h	460	770		144	592		1905	1777		984	1007	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	0.73	0.73	0.00	1.00	1.00	0.00	0.68	0.68	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	55.1	51.2	0.0	57.3	54.3	0.0	9.8	0.0	0.0	19.0	36.5	0.0
Incr Delay (d2), s/veh	2.2	1.4	0.0	2.1	3.4	0.0	0.1	0.9	0.0	0.0	2.1	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	3.8	0.0	0.5	2.9	0.0	2.0	0.2	0.0	0.3	7.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	57.3	52.6	0.0	59.4	57.7	0.0	9.9	0.9	0.0	19.0	38.6	0.0
LnGrp LOS	E	D		E	E		A	A		B	D	
Approach Vol, veh/h		483			218			1843			584	
Approach Delay, s/veh		54.8			57.9			4.9			37.5	
Approach LOS		D			E			A			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	25.5	66.0	9.3	19.2	51.5	40.0	13.6	14.9
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	60.0	5.0	26.0	31.0	34.0	11.0	20.0
Max Q Clear Time (g_c+I1), s	2.0	2.0	3.1	10.3	9.0	17.8	7.3	8.1
Green Ext Time (p_c), s	0.0	9.9	0.0	1.4	3.3	3.4	0.3	0.8

Intersection Summary	
HCM 7th Control Delay, s/veh	22.4
HCM 7th LOS	C

Notes

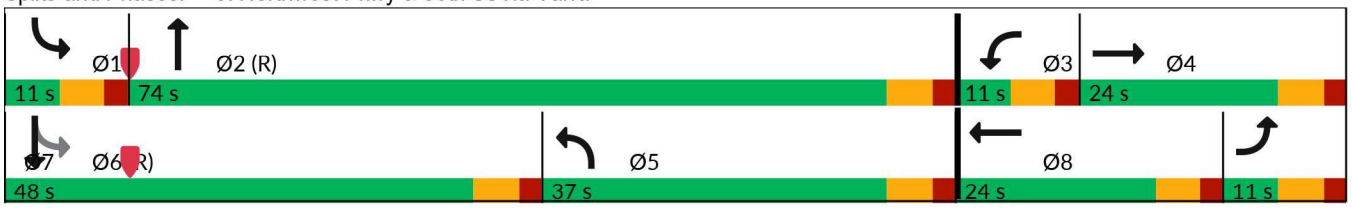
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	130	815	65	210	55	940	495	30	50	865	210
Future Volume (vph)	80	130	815	65	210	55	940	495	30	50	865	210
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free	pm+pt	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			Free			Free	6		Free
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	11.0	24.0		11.0	24.0		11.0	24.0		11.0	24.0	
Total Split (s)	11.0	24.0		11.0	24.0		37.0	74.0		11.0	48.0	
Total Split (%)	9.2%	20.0%		9.2%	20.0%		30.8%	61.7%		9.2%	40.0%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lag	Lag		Lead	Lead		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green, Master Intersection
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 3: Northwest Pkwy & 96th St/Via Varra



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	130	815	65	210	55	940	495	30	50	865	210
Future Volume (veh/h)	80	130	815	65	210	55	940	495	30	50	865	210
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	87	141	0	71	228	0	1022	538	0	54	940	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	198	312		130	306		1630	2273		686	1244	
Arrive On Green	0.04	0.09	0.00	0.04	0.09	0.00	0.54	1.00	0.00	0.03	0.35	0.00
Sat Flow, veh/h	5023	3554	1585	3456	3554	1585	5023	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	87	141	0	71	228	0	1022	538	0	54	940	0
Grp Sat Flow(s),veh/h/ln	1674	1777	1585	1728	1777	1585	1674	1777	1585	1728	1777	1585
Q Serve(g_s), s	2.0	4.5	0.0	2.4	7.5	0.0	16.9	0.0	0.0	1.3	28.1	0.0
Cycle Q Clear(g_c), s	2.0	4.5	0.0	2.4	7.5	0.0	16.9	0.0	0.0	1.3	28.1	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	198	312		130	306		1630	2273		686	1244	
V/C Ratio(X)	0.44	0.45		0.54	0.74		0.63	0.24		0.08	0.76	
Avail Cap(c_a), veh/h	209	533		144	533		1630	2273		710	1244	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00
Upstream Filter(I)	0.85	0.85	0.00	1.00	1.00	0.00	0.78	0.78	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	56.3	52.0	0.0	56.7	53.5	0.0	22.5	0.0	0.0	28.5	34.5	0.0
Incr Delay (d2), s/veh	1.3	0.9	0.0	3.5	3.6	0.0	0.6	0.2	0.0	0.0	4.3	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	2.1	0.0	1.1	3.5	0.0	5.5	0.1	0.0	0.5	12.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	57.6	52.9	0.0	60.2	57.1	0.0	23.0	0.2	0.0	28.5	38.8	0.0
LnGrp LOS	E	D		E	E		C	A		C	D	
Approach Vol, veh/h		228			299			1560			994	
Approach Delay, s/veh		54.7			57.9			15.2			38.2	
Approach LOS		D			E			B			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.2	82.8	10.5	16.5	44.9	48.0	10.7	16.3
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	68.0	5.0	18.0	31.0	42.0	5.0	18.0
Max Q Clear Time (g_c+I1), s	3.3	2.0	4.4	6.5	18.9	30.1	4.0	9.5
Green Ext Time (p_c), s	0.0	4.2	0.0	0.5	3.5	5.2	0.0	0.8

Intersection Summary	
HCM 7th Control Delay, s/veh	29.7
HCM 7th LOS	C

Notes

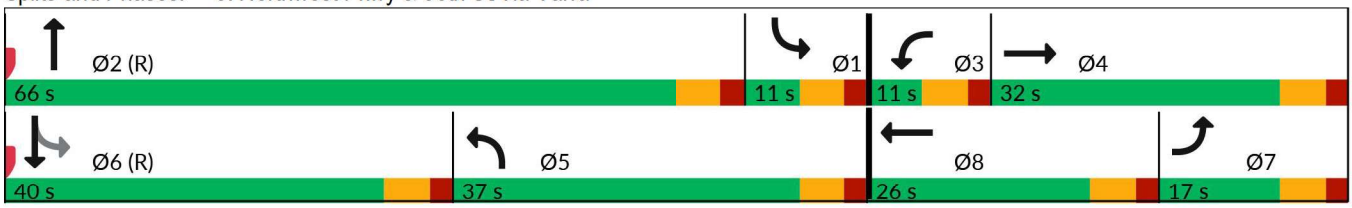
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	215	245	1005	35	175	85	775	965	55	35	520	95
Future Volume (vph)	215	245	1005	35	175	85	775	965	55	35	520	95
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free	pm+pt	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			Free			Free	6		Free
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	11.0	24.0		11.0	24.0		11.0	24.0		11.0	24.0	
Total Split (s)	17.0	32.0		11.0	26.0		37.0	66.0		11.0	40.0	
Total Split (%)	14.2%	26.7%		9.2%	21.7%		30.8%	55.0%		9.2%	33.3%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lag	Lag		Lead	Lead		Lag	Lead		Lag	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green, Master Intersection
Natural Cycle: 75
Control Type: Actuated-Coordinated

Splits and Phases: 3: Northwest Pkwy & 96th St/Via Varra



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	215	245	1005	35	175	85	775	965	55	35	520	95
Future Volume (veh/h)	215	245	1005	35	175	85	775	965	55	35	520	95
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	234	266	0	38	190	0	842	1049	0	38	565	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	324	392		103	269		1891	1777		968	1007	
Arrive On Green	0.06	0.11	0.00	0.03	0.08	0.00	0.75	1.00	0.00	0.16	0.28	0.00
Sat Flow, veh/h	5023	3554	1585	3456	3554	1585	5023	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	234	266	0	38	190	0	842	1049	0	38	565	0
Grp Sat Flow(s),veh/h/ln	1674	1777	1585	1728	1777	1585	1674	1777	1585	1728	1777	1585
Q Serve(g_s), s	5.5	8.6	0.0	1.3	6.3	0.0	7.5	0.0	0.0	0.0	16.3	0.0
Cycle Q Clear(g_c), s	5.5	8.6	0.0	1.3	6.3	0.0	7.5	0.0	0.0	0.0	16.3	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	324	392		103	269		1891	1777		968	1007	
V/C Ratio(X)	0.72	0.68		0.37	0.71		0.45	0.59		0.04	0.56	
Avail Cap(c_a), veh/h	460	770		144	592		1891	1777		968	1007	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	0.71	0.71	0.00	1.00	1.00	0.00	0.65	0.65	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	55.1	51.3	0.0	57.1	54.2	0.0	10.2	0.0	0.0	19.3	36.6	0.0
Incr Delay (d2), s/veh	2.3	1.5	0.0	2.2	3.4	0.0	0.1	0.9	0.0	0.0	2.3	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	3.9	0.0	0.6	2.9	0.0	2.1	0.2	0.0	0.3	7.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	57.4	52.8	0.0	59.3	57.6	0.0	10.3	0.9	0.0	19.3	38.9	0.0
LnGrp LOS	E	D		E	E		B	A		B	D	
Approach Vol, veh/h		500			228			1891			603	
Approach Delay, s/veh		54.9			57.9			5.1			37.7	
Approach LOS		D			E			A			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	25.2	66.0	9.6	19.2	51.2	40.0	13.8	15.1
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	60.0	5.0	26.0	31.0	34.0	11.0	20.0
Max Q Clear Time (g_c+I1), s	2.0	2.0	3.3	10.6	9.5	18.3	7.5	8.3
Green Ext Time (p_c), s	0.0	10.2	0.0	1.4	3.4	3.4	0.3	0.8

Intersection Summary	
HCM 7th Control Delay, s/veh	22.7
HCM 7th LOS	C

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Intersection Delay, s/veh	4.0
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	2	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	64	470	5	86
Demand Flow Rate, veh/h	65	480	5	87
Vehicles Circulating, veh/h	90	16	134	192
Vehicles Exiting, veh/h	189	123	21	304
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	3.3	4.1	3.0	3.9
Approach LOS	A	A	A	A

Lane	Left	Left	Right	Left	Left
Designated Moves	LTR	LT	R	LTR	LTR
Assumed Moves	LTR	LT	R	LTR	LTR
RT Channelized					
Lane Util	1.000	0.398	0.602	1.000	1.000
Follow-Up Headway, s	2.609	2.535	2.535	2.609	2.609
Critical Headway, s	4.976	4.544	4.544	4.976	4.976
A (Intercept)	1380	1420	1420	1380	1380
B (Slope)	1.02e-3	9.101e-4	9.101e-4	1.02e-3	1.02e-3
Entry Flow, veh/h	65	191	289	5	87
Cap Entry Lane, veh/h	1259	1400	1400	1204	1134
Entry HV Adj Factor	0.986	0.981	0.979	0.992	0.986
Flow Entry, veh/h	64	187	283	5	86
Cap Entry, veh/h	1241	1373	1371	1194	1119
V/C Ratio	0.052	0.136	0.206	0.004	0.077
Control Delay, s/veh	3.3	3.7	4.3	3.0	3.9
LOS	A	A	A	A	A
95th %tile Queue, veh	0	0	1	0	0

Intersection	
Intersection Delay, s/veh	4.7
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	2	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	205	209	36	297
Demand Flow Rate, veh/h	209	213	36	303
Vehicles Circulating, veh/h	296	27	493	78
Vehicles Exiting, veh/h	85	502	12	162
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.5	3.3	4.8	5.0
Approach LOS	A	A	A	A

Lane	Left	Left	Right	Left	Left
Designated Moves	LTR	LT	R	LTR	LTR
Assumed Moves	LTR	LT	R	LTR	LTR
RT Channelized					
Lane Util	1.000	0.329	0.671	1.000	1.000
Follow-Up Headway, s	2.609	2.535	2.535	2.609	2.609
Critical Headway, s	4.976	4.544	4.544	4.976	4.976
A (Intercept)	1380	1420	1420	1380	1380
B (Slope)	1.02e-3	9.101e-4	9.101e-4	1.02e-3	1.02e-3
Entry Flow, veh/h	209	70	143	36	303
Cap Entry Lane, veh/h	1020	1386	1386	835	1274
Entry HV Adj Factor	0.981	0.982	0.979	0.992	0.980
Flow Entry, veh/h	205	69	140	36	297
Cap Entry, veh/h	1001	1360	1357	828	1249
V/C Ratio	0.205	0.051	0.103	0.043	0.238
Control Delay, s/veh	5.5	3.0	3.5	4.8	5.0
LOS	A	A	A	A	A
95th %tile Queue, veh	1	0	0	0	1

Intersection	
Intersection Delay, s/veh	4.2
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	2	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	84	518	5	120
Demand Flow Rate, veh/h	85	529	5	122
Vehicles Circulating, veh/h	123	24	187	196
Vehicles Exiting, veh/h	195	168	21	357
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	3.6	4.3	3.2	4.2
Approach LOS	A	A	A	A

Lane	Left	Left	Right	Left	Left
Designated Moves	LTR	LT	R	LTR	LTR
Assumed Moves	LTR	LT	R	LTR	LTR
RT Channelized					
Lane Util	1.000	0.369	0.631	1.000	1.000
Follow-Up Headway, s	2.609	2.535	2.535	2.609	2.609
Critical Headway, s	4.976	4.544	4.544	4.976	4.976
A (Intercept)	1380	1420	1420	1380	1380
B (Slope)	1.02e-3	9.101e-4	9.101e-4	1.02e-3	1.02e-3
Entry Flow, veh/h	85	195	334	5	122
Cap Entry Lane, veh/h	1217	1389	1389	1140	1130
Entry HV Adj Factor	0.986	0.981	0.979	0.992	0.982
Flow Entry, veh/h	84	191	327	5	120
Cap Entry, veh/h	1201	1363	1360	1131	1109
V/C Ratio	0.070	0.140	0.240	0.004	0.108
Control Delay, s/veh	3.6	3.8	4.7	3.2	4.2
LOS	A	A	A	A	A
95th %tile Queue, veh	0	0	1	0	0

Intersection	
Intersection Delay, s/veh	5.1
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	2	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	215	261	36	358
Demand Flow Rate, veh/h	219	267	36	365
Vehicles Circulating, veh/h	349	32	556	91
Vehicles Exiting, veh/h	107	560	12	208
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.0	3.6	5.1	5.6
Approach LOS	A	A	A	A

Lane	Left	Left	Right	Left	Left
Designated Moves	LTR	LT	R	LTR	LTR
Assumed Moves	LTR	LT	R	LTR	LTR
RT Channelized					
Lane Util	1.000	0.311	0.689	1.000	1.000
Follow-Up Headway, s	2.609	2.535	2.535	2.609	2.609
Critical Headway, s	4.976	4.544	4.544	4.976	4.976
A (Intercept)	1380	1420	1420	1380	1380
B (Slope)	1.02e-3	9.101e-4	9.101e-4	1.02e-3	1.02e-3
Entry Flow, veh/h	219	83	184	36	365
Cap Entry Lane, veh/h	967	1379	1379	783	1258
Entry HV Adj Factor	0.981	0.982	0.978	0.992	0.981
Flow Entry, veh/h	215	81	180	36	358
Cap Entry, veh/h	949	1354	1349	777	1233
V/C Ratio	0.227	0.060	0.133	0.046	0.290
Control Delay, s/veh	6.0	3.1	3.7	5.1	5.6
LOS	A	A	A	A	A
95th %tile Queue, veh	1	0	0	0	1

Intersection	
Intersection Delay, s/veh	4.4
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	2	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	88	614	5	86
Demand Flow Rate, veh/h	89	627	5	87
Vehicles Circulating, veh/h	90	16	158	339
Vehicles Exiting, veh/h	336	147	21	304
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	3.5	4.5	3.1	4.5
Approach LOS	A	A	A	A

Lane	Left	Left	Right	Left	Left
Designated Moves	LTR	LT	R	LTR	LTR
Assumed Moves	LTR	LT	R	LTR	LTR
RT Channelized					
Lane Util	1.000	0.539	0.461	1.000	1.000
Follow-Up Headway, s	2.609	2.535	2.535	2.609	2.609
Critical Headway, s	4.976	4.544	4.544	4.976	4.976
A (Intercept)	1380	1420	1420	1380	1380
B (Slope)	1.02e-3	9.101e-4	9.101e-4	1.02e-3	1.02e-3
Entry Flow, veh/h	89	338	289	5	87
Cap Entry Lane, veh/h	1259	1400	1400	1174	977
Entry HV Adj Factor	0.984	0.981	0.979	0.992	0.986
Flow Entry, veh/h	88	331	283	5	86
Cap Entry, veh/h	1239	1373	1371	1165	963
V/C Ratio	0.071	0.241	0.206	0.004	0.089
Control Delay, s/veh	3.5	4.7	4.3	3.1	4.5
LOS	A	A	A	A	A
95th %tile Queue, veh	0	1	1	0	0

Intersection	
Intersection Delay, s/veh	5.5
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	2	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	353	237	36	297
Demand Flow Rate, veh/h	360	242	36	303
Vehicles Circulating, veh/h	296	27	644	107
Vehicles Exiting, veh/h	114	653	12	162
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	7.3	3.4	5.6	5.2
Approach LOS	A	A	A	A

Lane	Left	Left	Right	Left	Left
Designated Moves	LTR	LT	R	LTR	LTR
Assumed Moves	LTR	LT	R	LTR	LTR
RT Channelized					
Lane Util	1.000	0.409	0.591	1.000	1.000
Follow-Up Headway, s	2.609	2.535	2.535	2.609	2.609
Critical Headway, s	4.976	4.544	4.544	4.976	4.976
A (Intercept)	1380	1420	1420	1380	1380
B (Slope)	1.02e-3	9.101e-4	9.101e-4	1.02e-3	1.02e-3
Entry Flow, veh/h	360	99	143	36	303
Cap Entry Lane, veh/h	1020	1386	1386	715	1237
Entry HV Adj Factor	0.981	0.981	0.979	0.992	0.980
Flow Entry, veh/h	353	97	140	36	297
Cap Entry, veh/h	1001	1360	1357	710	1212
V/C Ratio	0.353	0.071	0.103	0.050	0.245
Control Delay, s/veh	7.3	3.2	3.5	5.6	5.2
LOS	A	A	A	A	A
95th %tile Queue, veh	2	0	0	0	1

Intersection	
Intersection Delay, s/veh	4.8
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	2	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	119	695	5	143
Demand Flow Rate, veh/h	122	709	5	146
Vehicles Circulating, veh/h	144	30	245	346
Vehicles Exiting, veh/h	348	220	21	393
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	4.0	4.9	3.4	5.2
Approach LOS	A	A	A	A

Lane	Left	Left	Right	Left	Left
Designated Moves	LTR	LT	R	LTR	LTR
Assumed Moves	LTR	LT	R	LTR	LTR
RT Channelized					
Lane Util	1.000	0.487	0.513	1.000	1.000
Follow-Up Headway, s	2.609	2.535	2.535	2.609	2.609
Critical Headway, s	4.976	4.544	4.544	4.976	4.976
A (Intercept)	1380	1420	1420	1380	1380
B (Slope)	1.02e-3	9.101e-4	9.101e-4	1.02e-3	1.02e-3
Entry Flow, veh/h	122	345	364	5	146
Cap Entry Lane, veh/h	1191	1382	1382	1075	970
Entry HV Adj Factor	0.977	0.981	0.981	0.992	0.978
Flow Entry, veh/h	119	338	357	5	143
Cap Entry, veh/h	1164	1355	1355	1066	948
V/C Ratio	0.102	0.250	0.263	0.005	0.151
Control Delay, s/veh	4.0	4.8	4.9	3.4	5.2
LOS	A	A	A	A	A
95th %tile Queue, veh	0	1	1	0	1

Intersection	
Intersection Delay, s/veh	6.3
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	2	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	369	328	36	401
Demand Flow Rate, veh/h	376	334	36	409
Vehicles Circulating, veh/h	387	34	751	129
Vehicles Exiting, veh/h	151	753	12	239
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	8.6	3.7	6.3	6.3
Approach LOS	A	A	A	A

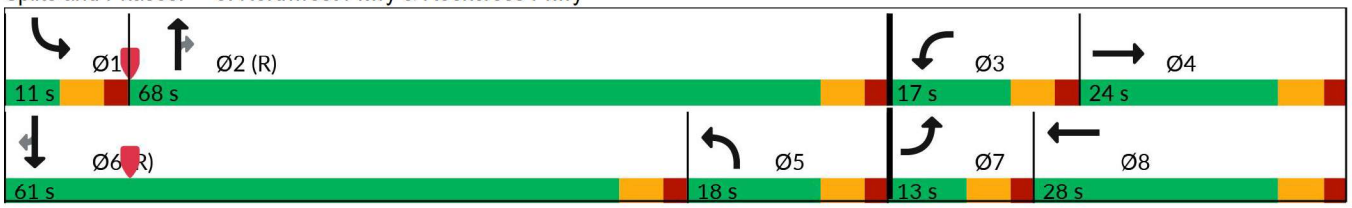
Lane	Left	Left	Right	Left	Left
Designated Moves	LTR	LT	R	LTR	LTR
Assumed Moves	LTR	LT	R	LTR	LTR
RT Channelized					
Lane Util	1.000	0.362	0.638	1.000	1.000
Follow-Up Headway, s	2.609	2.535	2.535	2.609	2.609
Critical Headway, s	4.976	4.544	4.544	4.976	4.976
A (Intercept)	1380	1420	1420	1380	1380
B (Slope)	1.02e-3	9.101e-4	9.101e-4	1.02e-3	1.02e-3
Entry Flow, veh/h	376	121	213	36	409
Cap Entry Lane, veh/h	930	1377	1377	641	1210
Entry HV Adj Factor	0.981	0.981	0.981	0.992	0.980
Flow Entry, veh/h	369	119	209	36	401
Cap Entry, veh/h	912	1351	1351	637	1186
V/C Ratio	0.404	0.088	0.155	0.056	0.338
Control Delay, s/veh	8.6	3.4	3.9	6.3	6.3
LOS	A	A	A	A	A
95th %tile Queue, veh	2	0	1	0	2

Lane Group	EBL	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	Ø4
Lane Configurations											
Traffic Volume (vph)	12	107	240	0	492	1218	190	60	1349	53	
Future Volume (vph)	12	107	240	0	492	1218	190	60	1349	53	
Turn Type	Prot	Free	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	
Protected Phases	7		3	8	5	2		1	6		4
Permitted Phases		Free					2			6	
Detector Phase	7		3	8	5	2	2	1	6	6	
Switch Phase											
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0		11.0	24.0	11.0	24.0	24.0	11.0	24.0	24.0	24.0
Total Split (s)	13.0		17.0	28.0	18.0	68.0	68.0	11.0	61.0	61.0	24.0
Total Split (%)	10.8%		14.2%	23.3%	15.0%	56.7%	56.7%	9.2%	50.8%	50.8%	20%
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead		Lead	Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None		None	None	None	C-Max	C-Max	None	C-Max	C-Max	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 70 (58%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated

Splits and Phases: 5: Northwest Pkwy & Rockcress Pkwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	0	107	240	0	60	492	1218	190	60	1349	53
Future Volume (veh/h)	12	0	107	240	0	60	492	1218	190	60	1349	53
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	13	0	0	261	0	65	535	1324	207	65	1466	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	51	2		314	104	93	927	2451	1093	127	1629	
Arrive On Green	0.01	0.00	0.00	0.09	0.00	0.06	0.27	0.69	0.69	0.07	0.92	0.00
Sat Flow, veh/h	3456	1870	1585	3456	1777	1585	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	13	0	0	261	0	65	535	1324	207	65	1466	0
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1728	1777	1585	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	0.4	0.0	0.0	8.9	0.0	4.8	16.1	22.1	5.6	2.2	23.6	0.0
Cycle Q Clear(g_c), s	0.4	0.0	0.0	8.9	0.0	4.8	16.1	22.1	5.6	2.2	23.6	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	51	2		314	104	93	927	2451	1093	127	1629	
V/C Ratio(X)	0.26	0.00		0.83	0.00	0.70	0.58	0.54	0.19	0.51	0.90	
Avail Cap(c_a), veh/h	202	281		317	326	291	927	2451	1093	144	1629	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.83	0.83	0.00
Uniform Delay (d), s/veh	58.5	0.0	0.0	53.6	0.0	55.4	38.0	9.2	6.6	54.5	3.7	0.0
Incr Delay (d2), s/veh	2.6	0.0	0.0	16.6	0.0	9.0	0.9	0.9	0.4	2.6	7.1	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.0	4.6	0.0	2.2	6.9	8.2	1.9	1.0	3.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	61.1	0.0	0.0	70.3	0.0	64.5	38.9	10.1	7.0	57.1	10.8	0.0
LnGrp LOS	E			E		E	D	B	A	E	B	
Approach Vol, veh/h		13			326			2066			1531	
Approach Delay, s/veh		61.1			69.1			17.2			12.8	
Approach LOS		E			E			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.4	88.8	16.9	3.9	38.2	61.0	7.8	13.1
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	62.0	11.0	18.0	12.0	55.0	7.0	22.0
Max Q Clear Time (g_c+I1), s	4.2	24.1	10.9	0.0	18.1	25.6	2.4	6.8
Green Ext Time (p_c), s	0.0	14.8	0.0	0.0	0.0	14.1	0.0	0.2

Intersection Summary	
HCM 7th Control Delay, s/veh	19.9
HCM 7th LOS	B

Notes

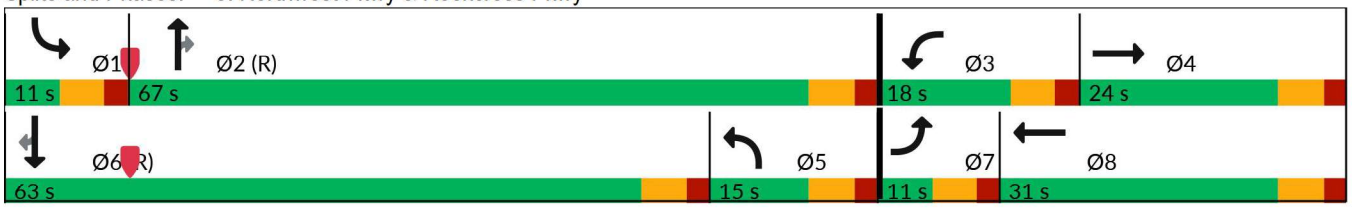
Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	Ø4
Lane Configurations											
Traffic Volume (vph)	46	446	230	0	175	1413	180	25	1309	19	
Future Volume (vph)	46	446	230	0	175	1413	180	25	1309	19	
Turn Type	Prot	Free	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	
Protected Phases	7		3	8	5	2		1	6		4
Permitted Phases		Free					2			6	
Detector Phase	7		3	8	5	2	2	1	6	6	
Switch Phase											
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0		11.0	24.0	11.0	24.0	24.0	11.0	24.0	24.0	24.0
Total Split (s)	11.0		18.0	31.0	15.0	67.0	67.0	11.0	63.0	63.0	24.0
Total Split (%)	9.2%		15.0%	25.8%	12.5%	55.8%	55.8%	9.2%	52.5%	52.5%	20%
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead		Lead	Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None		None	None	None	C-Max	C-Max	None	C-Max	C-Max	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 61 (51%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 5: Northwest Pkwy & Rockcress Pkwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	0	446	230	0	55	175	1413	180	25	1309	19
Future Volume (veh/h)	46	0	446	230	0	55	175	1413	180	25	1309	19
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	50	0	0	250	0	60	190	1536	196	27	1423	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	117	2		307	99	88	814	2437	1087	85	1688	
Arrive On Green	0.03	0.00	0.00	0.09	0.00	0.06	0.24	0.69	0.69	0.05	0.95	0.00
Sat Flow, veh/h	3456	1870	1585	3456	1777	1585	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	50	0	0	250	0	60	190	1536	196	27	1423	0
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1728	1777	1585	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	1.7	0.0	0.0	8.5	0.0	4.5	5.3	28.7	5.3	0.9	12.1	0.0
Cycle Q Clear(g_c), s	1.7	0.0	0.0	8.5	0.0	4.5	5.3	28.7	5.3	0.9	12.1	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	117	2		307	99	88	814	2437	1087	85	1688	
V/C Ratio(X)	0.43	0.00		0.81	0.00	0.68	0.23	0.63	0.18	0.32	0.84	
Avail Cap(c_a), veh/h	144	281		346	370	330	814	2437	1087	144	1688	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.82	0.82	0.00
Uniform Delay (d), s/veh	56.8	0.0	0.0	53.7	0.0	55.6	37.1	10.4	6.8	56.1	1.9	0.0
Incr Delay (d2), s/veh	2.5	0.0	0.0	12.7	0.0	8.8	0.1	1.2	0.4	1.7	4.4	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.0	4.2	0.0	2.0	2.3	10.7	1.8	0.4	2.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	59.3	0.0	0.0	66.4	0.0	64.4	37.3	11.7	7.1	57.8	6.3	0.0
LnGrp LOS	E			E		E	D	B	A	E	A	
Approach Vol, veh/h		50			310			1922			1450	
Approach Delay, s/veh		59.3			66.0			13.7			7.3	
Approach LOS		E			E			B			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.0	88.3	16.7	6.1	34.3	63.0	10.1	12.7
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	61.0	12.0	18.0	9.0	57.0	5.0	25.0
Max Q Clear Time (g_c+I1), s	2.9	30.7	10.5	0.0	7.3	14.1	3.7	6.5
Green Ext Time (p_c), s	0.0	16.3	0.1	0.0	0.1	15.8	0.0	0.2

Intersection Summary	
HCM 7th Control Delay, s/veh	16.2
HCM 7th LOS	B

Notes

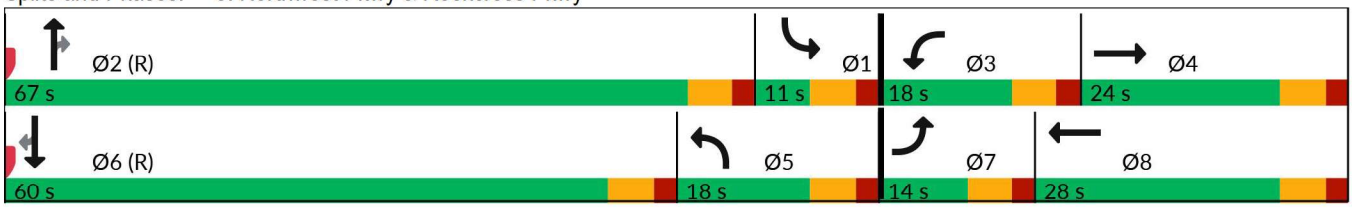
Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	Ø4
Lane Configurations											
Traffic Volume (vph)	30	168	240	0	669	1218	190	60	1349	124	
Future Volume (vph)	30	168	240	0	669	1218	190	60	1349	124	
Turn Type	Prot	Free	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	
Protected Phases	7		3	8	5	2		1	6		4
Permitted Phases		Free					2			6	
Detector Phase	7		3	8	5	2	2	1	6	6	
Switch Phase											
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0		11.0	24.0	11.0	24.0	24.0	11.0	24.0	24.0	24.0
Total Split (s)	14.0		18.0	28.0	18.0	67.0	67.0	11.0	60.0	60.0	24.0
Total Split (%)	11.7%		15.0%	23.3%	15.0%	55.8%	55.8%	9.2%	50.0%	50.0%	20%
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead		Lead	Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None		None	None	None	C-Max	C-Max	None	C-Max	C-Max	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 66 (55%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated

Splits and Phases: 5: Northwest Pkwy & Rockcress Pkwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	0	168	240	0	60	669	1218	190	60	1349	124
Future Volume (veh/h)	30	0	168	240	0	60	669	1218	190	60	1349	124
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	33	0	0	261	0	65	727	1324	207	65	1466	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	96	2		317	104	93	910	1806	806	709	1599	
Arrive On Green	0.03	0.00	0.00	0.09	0.00	0.06	0.26	0.51	0.51	0.41	0.90	0.00
Sat Flow, veh/h	3456	1870	1585	3456	1777	1585	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	33	0	0	261	0	65	727	1324	207	65	1466	0
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1728	1777	1585	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	1.1	0.0	0.0	8.9	0.0	4.8	23.5	35.0	5.4	1.4	28.3	0.0
Cycle Q Clear(g_c), s	1.1	0.0	0.0	8.9	0.0	4.8	23.5	35.0	5.4	1.4	28.3	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	96	2		317	104	93	910	1806	806	709	1599	
V/C Ratio(X)	0.34	0.00		0.82	0.00	0.70	0.80	0.73	0.26	0.09	0.92	
Avail Cap(c_a), veh/h	230	281		346	326	291	910	1806	806	709	1599	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.79	0.79	0.00
Uniform Delay (d), s/veh	57.3	0.0	0.0	53.5	0.0	55.4	41.2	23.1	6.2	28.5	4.7	0.0
Incr Delay (d2), s/veh	2.1	0.0	0.0	13.9	0.0	9.0	5.1	2.7	0.8	0.0	8.1	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.0	4.5	0.0	2.2	10.6	14.9	3.2	0.6	4.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	59.4	0.0	0.0	67.4	0.0	64.5	46.3	25.8	7.0	28.6	12.8	0.0
LnGrp LOS	E			E		E	D	C	A	C	B	
Approach Vol, veh/h		33			326			2258			1531	
Approach Delay, s/veh		59.4			66.8			30.7			13.4	
Approach LOS		E			E			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	30.6	67.0	17.0	5.4	37.6	60.0	9.3	13.1
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	61.0	12.0	18.0	12.0	54.0	8.0	22.0
Max Q Clear Time (g_c+I1), s	3.4	37.0	10.9	0.0	25.5	30.3	3.1	6.8
Green Ext Time (p_c), s	0.0	12.1	0.1	0.0	0.0	12.6	0.0	0.2

Intersection Summary	
HCM 7th Control Delay, s/veh	27.4
HCM 7th LOS	C

Notes

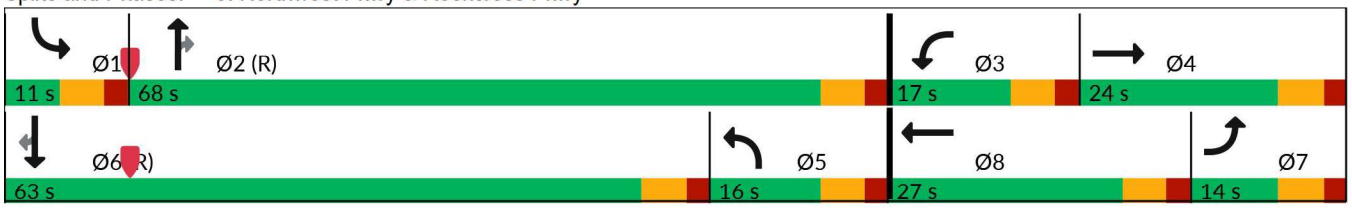
Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	Ø4
Lane Configurations											
Traffic Volume (vph)	103	637	230	0	263	1413	180	25	1309	54	
Future Volume (vph)	103	637	230	0	263	1413	180	25	1309	54	
Turn Type	Prot	Free	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	
Protected Phases	7		3	8	5	2		1	6		4
Permitted Phases		Free					2			6	
Detector Phase	7		3	8	5	2	2	1	6	6	
Switch Phase											
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0		11.0	24.0	11.0	24.0	24.0	11.0	24.0	24.0	24.0
Total Split (s)	14.0		17.0	27.0	16.0	68.0	68.0	11.0	63.0	63.0	24.0
Total Split (%)	11.7%		14.2%	22.5%	13.3%	56.7%	56.7%	9.2%	52.5%	52.5%	20%
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lag		Lead	Lead	Lag	Lag	Lag	Lead	Lead	Lead	Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None		None	None	None	C-Max	C-Max	None	C-Max	C-Max	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 61 (51%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 5: Northwest Pkwy & Rockcress Pkwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	103	0	637	230	0	55	263	1413	180	25	1309	54
Future Volume (veh/h)	103	0	637	230	0	55	263	1413	180	25	1309	54
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	112	0	0	250	0	60	286	1536	196	27	1423	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	165	28		305	98	88	766	2388	1065	85	1688	
Arrive On Green	0.05	0.00	0.00	0.09	0.00	0.06	0.22	0.67	0.67	0.05	0.95	0.00
Sat Flow, veh/h	3456	1870	1585	3456	1777	1585	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	112	0	0	250	0	60	286	1536	196	27	1423	0
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1728	1777	1585	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	3.8	0.0	0.0	8.5	0.0	4.5	8.4	30.0	5.6	0.9	12.1	0.0
Cycle Q Clear(g_c), s	3.8	0.0	0.0	8.5	0.0	4.5	8.4	30.0	5.6	0.9	12.1	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	165	28		305	98	88	766	2388	1065	85	1688	
V/C Ratio(X)	0.68	0.00		0.82	0.00	0.68	0.37	0.64	0.18	0.32	0.84	
Avail Cap(c_a), veh/h	230	281		317	311	277	766	2388	1065	144	1688	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.81	0.81	0.00
Uniform Delay (d), s/veh	56.2	0.0	0.0	53.8	0.0	55.6	39.6	11.4	7.4	56.1	1.9	0.0
Incr Delay (d2), s/veh	4.8	0.0	0.0	15.3	0.0	9.0	0.3	1.3	0.4	1.7	4.4	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	0.0	4.4	0.0	2.0	3.6	11.3	1.9	0.4	2.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	61.0	0.0	0.0	69.0	0.0	64.6	39.9	12.7	7.7	57.7	6.2	0.0
LnGrp LOS	E			E		E	D	B	A	E	A	
Approach Vol, veh/h		112			310			2018			1450	
Approach Delay, s/veh		61.0			68.2			16.1			7.2	
Approach LOS		E			E			B			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.0	86.6	16.6	7.8	32.6	63.0	11.7	12.7
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	62.0	11.0	18.0	10.0	57.0	8.0	21.0
Max Q Clear Time (g_c+I1), s	2.9	32.0	10.5	0.0	10.4	14.1	5.8	6.5
Green Ext Time (p_c), s	0.0	16.2	0.0	0.0	0.0	15.8	0.1	0.2

Intersection Summary	
HCM 7th Control Delay, s/veh	18.2
HCM 7th LOS	B

Notes

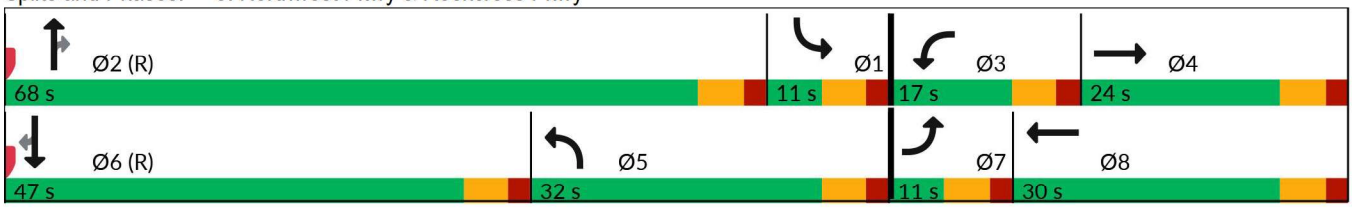
Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	Ø4
Lane Configurations											
Traffic Volume (vph)	14	127	255	0	615	1298	205	65	1449	63	
Future Volume (vph)	14	127	255	0	615	1298	205	65	1449	63	
Turn Type	Prot	Free	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	
Protected Phases	7		3	8	5	2		1	6		4
Permitted Phases		Free					2			6	
Detector Phase	7		3	8	5	2	2	1	6	6	
Switch Phase											
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0		11.0	24.0	11.0	24.0	24.0	11.0	24.0	24.0	24.0
Total Split (s)	11.0		17.0	30.0	32.0	68.0	68.0	11.0	47.0	47.0	24.0
Total Split (%)	9.2%		14.2%	25.0%	26.7%	56.7%	56.7%	9.2%	39.2%	39.2%	20%
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead		Lead	Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None		None	None	None	C-Max	C-Max	None	C-Max	C-Max	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 69 (58%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 5: Northwest Pkwy & Rockcress Pkwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	0	127	255	0	65	615	1298	205	65	1449	63
Future Volume (veh/h)	14	0	127	255	0	65	615	1298	205	65	1449	63
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	15	0	0	277	0	71	668	1411	223	71	1575	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	57	2		317	112	100	1310	1836	819	705	1745	
Arrive On Green	0.02	0.00	0.00	0.09	0.00	0.06	0.38	0.52	0.52	0.41	0.68	0.00
Sat Flow, veh/h	3456	1870	1585	3456	1777	1585	3456	3554	1585	3456	5106	1585
Grp Volume(v), veh/h	15	0	0	277	0	71	668	1411	223	71	1575	0
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1728	1777	1585	1728	1777	1585	1728	1702	1585
Q Serve(g_s), s	0.5	0.0	0.0	9.5	0.0	5.3	17.9	38.2	5.7	1.5	30.6	0.0
Cycle Q Clear(g_c), s	0.5	0.0	0.0	9.5	0.0	5.3	17.9	38.2	5.7	1.5	30.6	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	57	2		317	112	100	1310	1836	819	705	1745	
V/C Ratio(X)	0.26	0.00		0.87	0.00	0.71	0.51	0.77	0.27	0.10	0.90	
Avail Cap(c_a), veh/h	144	281		317	355	317	1310	1836	819	705	1745	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.82	0.82	0.00
Uniform Delay (d), s/veh	58.3	0.0	0.0	53.8	0.0	55.2	28.7	23.2	5.9	28.7	17.4	0.0
Incr Delay (d2), s/veh	2.5	0.0	0.0	22.7	0.0	9.0	0.3	3.2	0.8	0.1	6.8	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.0	5.1	0.0	2.4	7.4	16.3	3.4	0.6	7.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	60.8	0.0	0.0	76.5	0.0	64.2	29.0	26.4	6.8	28.8	24.2	0.0
LnGrp LOS	E			E		E	C	C	A	C	C	
Approach Vol, veh/h		15			348			2302			1646	
Approach Delay, s/veh		60.8			74.0			25.3			24.4	
Approach LOS		E			E			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	30.5	68.0	17.0	4.5	51.5	47.0	8.0	13.5
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	62.0	11.0	18.0	26.0	41.0	5.0	24.0
Max Q Clear Time (g_c+I1), s	3.5	40.2	11.5	0.0	19.9	32.6	2.5	7.3
Green Ext Time (p_c), s	0.0	12.3	0.0	0.0	1.5	6.2	0.0	0.3

Intersection Summary	
HCM 7th Control Delay, s/veh	29.0
HCM 7th LOS	C

Notes

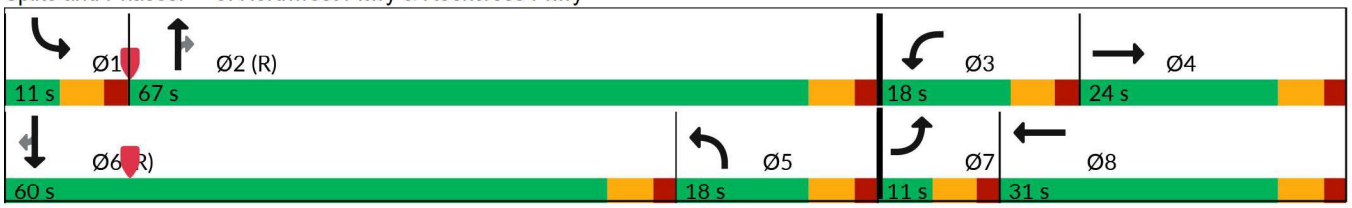
Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	Ø4
Lane Configurations											
Traffic Volume (vph)	58	570	245	0	199	1523	195	30	1394	21	
Future Volume (vph)	58	570	245	0	199	1523	195	30	1394	21	
Turn Type	Prot	Free	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	
Protected Phases	7		3	8	5	2		1	6		4
Permitted Phases		Free					2			6	
Detector Phase	7		3	8	5	2	2	1	6	6	
Switch Phase											
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0		11.0	24.0	11.0	24.0	24.0	11.0	24.0	24.0	24.0
Total Split (s)	11.0		18.0	31.0	18.0	67.0	67.0	11.0	60.0	60.0	24.0
Total Split (%)	9.2%		15.0%	25.8%	15.0%	55.8%	55.8%	9.2%	50.0%	50.0%	20%
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead		Lead	Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None		None	None	None	C-Max	C-Max	None	C-Max	C-Max	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 51 (43%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 5: Northwest Pkwy & Rockcress Pkwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	0	570	245	0	60	199	1523	195	30	1394	21
Future Volume (veh/h)	58	0	570	245	0	60	199	1523	195	30	1394	21
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	63	0	0	266	0	65	216	1655	212	33	1515	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	126	5		322	105	94	879	2405	1073	96	2298	
Arrive On Green	0.04	0.00	0.00	0.09	0.00	0.06	0.25	0.68	0.68	0.06	0.90	0.00
Sat Flow, veh/h	3456	1870	1585	3456	1777	1585	3456	3554	1585	3456	5106	1585
Grp Volume(v), veh/h	63	0	0	266	0	65	216	1655	212	33	1515	0
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1728	1777	1585	1728	1777	1585	1728	1702	1585
Q Serve(g_s), s	2.1	0.0	0.0	9.1	0.0	4.8	6.0	33.8	6.0	1.1	8.8	0.0
Cycle Q Clear(g_c), s	2.1	0.0	0.0	9.1	0.0	4.8	6.0	33.8	6.0	1.1	8.8	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	126	5		322	105	94	879	2405	1073	96	2298	
V/C Ratio(X)	0.50	0.00		0.83	0.00	0.70	0.25	0.69	0.20	0.34	0.66	
Avail Cap(c_a), veh/h	144	281		346	370	330	879	2405	1073	144	2298	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.80	0.80	0.00
Uniform Delay (d), s/veh	56.7	0.0	0.0	53.5	0.0	55.4	35.6	11.7	7.2	55.6	3.7	0.0
Incr Delay (d2), s/veh	3.0	0.0	0.0	14.4	0.0	8.9	0.1	1.6	0.4	1.7	1.2	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	0.0	4.6	0.0	2.2	2.5	12.8	2.0	0.5	1.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	59.7	0.0	0.0	67.9	0.0	64.3	35.7	13.4	7.7	57.3	4.9	0.0
LnGrp LOS	E			E		E	D	B	A	E	A	
Approach Vol, veh/h		63			331			2083			1548	
Approach Delay, s/veh		59.7			67.2			15.1			6.1	
Approach LOS		E			E			B			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.3	87.2	17.2	6.3	36.5	60.0	10.4	13.1
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	61.0	12.0	18.0	12.0	54.0	5.0	25.0
Max Q Clear Time (g_c+I1), s	3.1	35.8	11.1	0.0	8.0	10.8	4.1	6.8
Green Ext Time (p_c), s	0.0	16.0	0.1	0.0	0.3	16.4	0.0	0.3

Intersection Summary	
HCM 7th Control Delay, s/veh	16.6
HCM 7th LOS	B

Notes

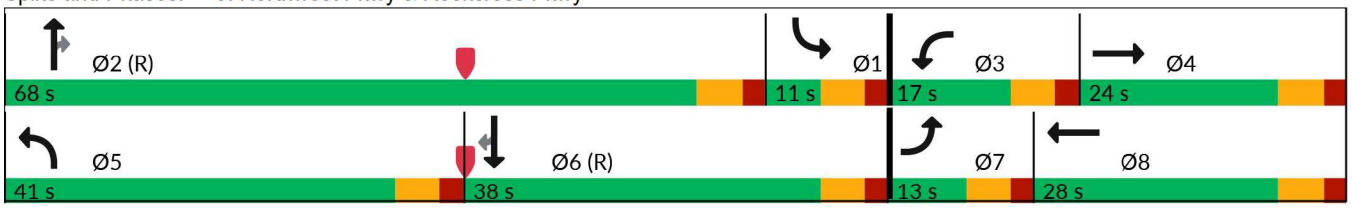
Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	Ø4
Lane Configurations											
Traffic Volume (vph)	43	224	255	0	904	1298	205	65	1449	179	
Future Volume (vph)	43	224	255	0	904	1298	205	65	1449	179	
Turn Type	Prot	Free	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	
Protected Phases	7		3	8	5	2		1	6		4
Permitted Phases		Free					2			6	
Detector Phase	7		3	8	5	2	2	1	6	6	
Switch Phase											
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0		11.0	24.0	11.0	24.0	24.0	11.0	24.0	24.0	24.0
Total Split (s)	13.0		17.0	28.0	41.0	68.0	68.0	11.0	38.0	38.0	24.0
Total Split (%)	10.8%		14.2%	23.3%	34.2%	56.7%	56.7%	9.2%	31.7%	31.7%	20%
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead		Lead	Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None		None	None	None	C-Max	C-Max	None	C-Max	C-Max	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 58 (48%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated

Splits and Phases: 5: Northwest Pkwy & Rockcress Pkwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	0	224	255	0	65	904	1298	205	65	1449	179
Future Volume (veh/h)	43	0	224	255	0	65	904	1298	205	65	1449	179
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	47	0	0	277	0	71	983	1411	223	71	1575	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	114	7		317	111	99	1008	1836	819	649	2107	
Arrive On Green	0.03	0.00	0.00	0.09	0.00	0.06	0.29	0.52	0.52	0.38	0.83	0.00
Sat Flow, veh/h	3456	1870	1585	3456	1777	1585	3456	3554	1585	3456	5106	1585
Grp Volume(v), veh/h	47	0	0	277	0	71	983	1411	223	71	1575	0
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1728	1777	1585	1728	1777	1585	1728	1702	1585
Q Serve(g_s), s	1.6	0.0	0.0	9.5	0.0	5.3	33.8	38.2	5.7	1.6	16.9	0.0
Cycle Q Clear(g_c), s	1.6	0.0	0.0	9.5	0.0	5.3	33.8	38.2	5.7	1.6	16.9	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	114	7		317	111	99	1008	1836	819	649	2107	
V/C Ratio(X)	0.41	0.00		0.87	0.00	0.71	0.98	0.77	0.27	0.11	0.75	
Avail Cap(c_a), veh/h	202	281		317	326	291	1008	1836	819	649	2107	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	0.99	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.77	0.77	0.00
Uniform Delay (d), s/veh	56.9	0.0	0.0	53.8	0.0	55.2	42.1	23.2	5.9	30.9	7.6	0.0
Incr Delay (d2), s/veh	2.4	0.0	0.0	22.7	0.0	9.1	22.4	3.2	0.8	0.1	1.9	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.0	5.1	0.0	2.4	17.4	16.3	3.4	0.7	3.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	59.2	0.0	0.0	76.5	0.0	64.3	64.5	26.4	6.8	31.0	9.5	0.0
LnGrp LOS	E			E		E	E	C	A	C	A	
Approach Vol, veh/h		47			348			2617			1646	
Approach Delay, s/veh		59.2			74.0			39.0			10.5	
Approach LOS		E			E			D			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	28.5	68.0	17.0	6.5	41.0	55.5	10.0	13.5
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	62.0	11.0	18.0	35.0	32.0	7.0	22.0
Max Q Clear Time (g_c+I1), s	3.6	40.2	11.5	0.0	35.8	18.9	3.6	7.3
Green Ext Time (p_c), s	0.0	12.3	0.0	0.0	0.0	8.8	0.0	0.2

Intersection Summary	
HCM 7th Control Delay, s/veh	31.8
HCM 7th LOS	C

Notes

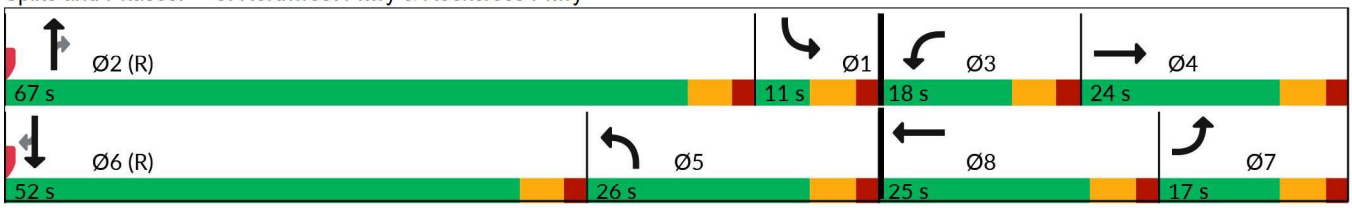
Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	Ø4
Lane Configurations											
Traffic Volume (vph)	158	903	245	0	351	1523	195	30	1394	82	
Future Volume (vph)	158	903	245	0	351	1523	195	30	1394	82	
Turn Type	Prot	Free	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	
Protected Phases	7		3	8	5	2		1	6		4
Permitted Phases		Free					2			6	
Detector Phase	7		3	8	5	2	2	1	6	6	
Switch Phase											
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0		11.0	24.0	11.0	24.0	24.0	11.0	24.0	24.0	24.0
Total Split (s)	17.0		18.0	25.0	26.0	67.0	67.0	11.0	52.0	52.0	24.0
Total Split (%)	14.2%		15.0%	20.8%	21.7%	55.8%	55.8%	9.2%	43.3%	43.3%	20%
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lag		Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None		None	None	None	C-Max	C-Max	None	C-Max	C-Max	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 60 (50%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 5: Northwest Pkwy & Rockcress Pkwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	158	0	903	245	0	60	351	1523	195	30	1394	82
Future Volume (veh/h)	158	0	903	245	0	60	351	1523	195	30	1394	82
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	172	0	0	266	0	65	382	1655	212	33	1515	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	230	60		322	104	93	1008	1806	806	576	1957	
Arrive On Green	0.07	0.00	0.00	0.09	0.00	0.06	0.29	0.51	0.51	0.33	0.77	0.00
Sat Flow, veh/h	3456	1870	1585	3456	1777	1585	3456	3554	1585	3456	5106	1585
Grp Volume(v), veh/h	172	0	0	266	0	65	382	1655	212	33	1515	0
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1728	1777	1585	1728	1777	1585	1728	1702	1585
Q Serve(g_s), s	5.9	0.0	0.0	9.1	0.0	4.8	10.6	51.4	5.5	0.8	20.4	0.0
Cycle Q Clear(g_c), s	5.9	0.0	0.0	9.1	0.0	4.8	10.6	51.4	5.5	0.8	20.4	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	230	60		322	104	93	1008	1806	806	576	1957	
V/C Ratio(X)	0.75	0.00		0.83	0.00	0.70	0.38	0.92	0.26	0.06	0.77	
Avail Cap(c_a), veh/h	317	281		346	281	251	1008	1806	806	576	1957	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	0.88	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.79	0.79	0.00
Uniform Delay (d), s/veh	55.0	0.0	0.0	53.5	0.0	55.5	33.9	27.1	6.2	33.6	11.0	0.0
Incr Delay (d2), s/veh	5.5	0.0	0.0	14.4	0.0	9.2	0.2	8.8	0.8	0.0	2.4	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.0	0.0	4.6	0.0	2.2	4.5	23.1	3.3	0.3	4.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	60.5	0.0	0.0	67.9	0.0	64.7	34.1	36.0	7.0	33.6	13.4	0.0
LnGrp LOS	E			E		E	C	D	A	C	B	
Approach Vol, veh/h		172			331			2249			1548	
Approach Delay, s/veh		60.5			67.3			32.9			13.9	
Approach LOS		E			E			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	26.0	67.0	17.2	9.8	41.0	52.0	14.0	13.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	61.0	12.0	18.0	20.0	46.0	11.0	19.0
Max Q Clear Time (g_c+I1), s	2.8	53.4	11.1	0.0	12.6	22.4	7.9	6.8
Green Ext Time (p_c), s	0.0	6.2	0.1	0.0	0.8	12.5	0.1	0.2

Intersection Summary	
HCM 7th Control Delay, s/veh	29.8
HCM 7th LOS	C

Notes

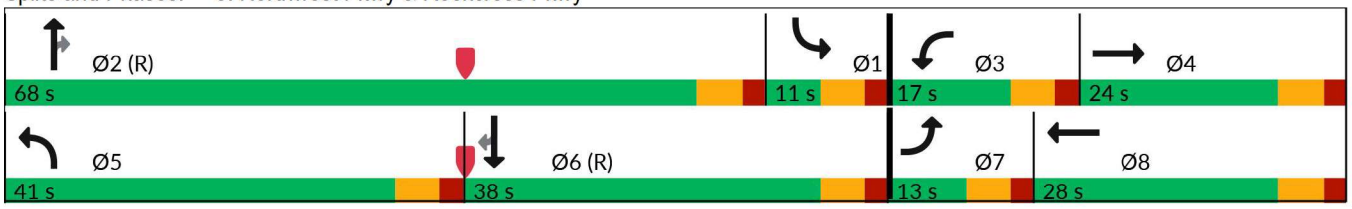
Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	Ø4
Lane Configurations											
Traffic Volume (vph)	45	230	255	0	920	1335	205	65	1490	185	
Future Volume (vph)	45	230	255	0	920	1335	205	65	1490	185	
Turn Type	Prot	Free	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	
Protected Phases	7		3	8	5	2		1	6		4
Permitted Phases		Free					2			6	
Detector Phase	7		3	8	5	2	2	1	6	6	
Switch Phase											
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0		11.0	24.0	11.0	24.0	24.0	11.0	24.0	24.0	24.0
Total Split (s)	13.0		17.0	28.0	41.0	68.0	68.0	11.0	38.0	38.0	24.0
Total Split (%)	10.8%		14.2%	23.3%	34.2%	56.7%	56.7%	9.2%	31.7%	31.7%	20%
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead		Lead	Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None		None	None	None	C-Max	C-Max	None	C-Max	C-Max	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 58 (48%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated

Splits and Phases: 5: Northwest Pkwy & Rockcress Pkwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	0	230	255	0	65	920	1335	205	65	1490	185
Future Volume (veh/h)	45	0	230	255	0	65	920	1335	205	65	1490	185
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	49	0	0	277	0	71	1000	1451	223	71	1620	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	116	9		317	111	99	1008	1836	819	647	2104	
Arrive On Green	0.03	0.00	0.00	0.09	0.00	0.06	0.29	0.52	0.52	0.37	0.82	0.00
Sat Flow, veh/h	3456	1870	1585	3456	1777	1585	3456	3554	1585	3456	5106	1585
Grp Volume(v), veh/h	49	0	0	277	0	71	1000	1451	223	71	1620	0
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1728	1777	1585	1728	1777	1585	1728	1702	1585
Q Serve(g_s), s	1.7	0.0	0.0	9.5	0.0	5.3	34.6	40.0	5.7	1.6	18.3	0.0
Cycle Q Clear(g_c), s	1.7	0.0	0.0	9.5	0.0	5.3	34.6	40.0	5.7	1.6	18.3	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	116	9		317	111	99	1008	1836	819	647	2104	
V/C Ratio(X)	0.42	0.00		0.87	0.00	0.71	0.99	0.79	0.27	0.11	0.77	
Avail Cap(c_a), veh/h	202	281		317	326	291	1008	1836	819	647	2104	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	0.99	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.74	0.74	0.00
Uniform Delay (d), s/veh	56.8	0.0	0.0	53.8	0.0	55.2	42.4	23.7	5.9	31.0	7.8	0.0
Incr Delay (d2), s/veh	2.4	0.0	0.0	22.7	0.0	9.1	26.4	3.6	0.8	0.1	2.1	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.0	5.1	0.0	2.4	18.3	17.1	3.4	0.7	3.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	59.3	0.0	0.0	76.5	0.0	64.3	68.7	27.2	6.8	31.1	9.9	0.0
LnGrp LOS	E			E		E	E	C	A	C	A	
Approach Vol, veh/h		49			348			2674			1691	
Approach Delay, s/veh		59.3			74.0			41.0			10.8	
Approach LOS		E			E			D			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	28.5	68.0	17.0	6.5	41.0	55.5	10.0	13.5
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	62.0	11.0	18.0	35.0	32.0	7.0	22.0
Max Q Clear Time (g_c+I1), s	3.6	42.0	11.5	0.0	36.6	20.3	3.7	7.3
Green Ext Time (p_c), s	0.0	12.0	0.0	0.0	0.0	8.2	0.0	0.2

Intersection Summary	
HCM 7th Control Delay, s/veh	32.9
HCM 7th LOS	C

Notes

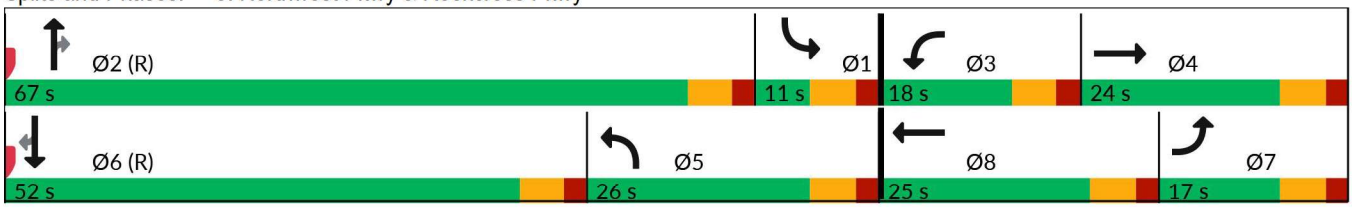
Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	Ø4
Lane Configurations											
Traffic Volume (vph)	160	920	245	0	360	1565	195	30	1430	85	
Future Volume (vph)	160	920	245	0	360	1565	195	30	1430	85	
Turn Type	Prot	Free	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	
Protected Phases	7		3	8	5	2		1	6		4
Permitted Phases		Free					2			6	
Detector Phase	7		3	8	5	2	2	1	6	6	
Switch Phase											
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0		11.0	24.0	11.0	24.0	24.0	11.0	24.0	24.0	24.0
Total Split (s)	17.0		18.0	25.0	26.0	67.0	67.0	11.0	52.0	52.0	24.0
Total Split (%)	14.2%		15.0%	20.8%	21.7%	55.8%	55.8%	9.2%	43.3%	43.3%	20%
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lag		Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None		None	None	None	C-Max	C-Max	None	C-Max	C-Max	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 60 (50%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 5: Northwest Pkwy & Rockcress Pkwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	160	0	920	245	0	60	360	1565	195	30	1430	85
Future Volume (veh/h)	160	0	920	245	0	60	360	1565	195	30	1430	85
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	174	0	0	266	0	65	391	1701	212	33	1554	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	232	61		322	104	93	1006	1806	806	574	1957	
Arrive On Green	0.07	0.00	0.00	0.09	0.00	0.06	0.29	0.51	0.51	0.33	0.77	0.00
Sat Flow, veh/h	3456	1870	1585	3456	1777	1585	3456	3554	1585	3456	5106	1585
Grp Volume(v), veh/h	174	0	0	266	0	65	391	1701	212	33	1554	0
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1728	1777	1585	1728	1777	1585	1728	1702	1585
Q Serve(g_s), s	5.9	0.0	0.0	9.1	0.0	4.8	10.9	54.2	5.5	0.8	21.8	0.0
Cycle Q Clear(g_c), s	5.9	0.0	0.0	9.1	0.0	4.8	10.9	54.2	5.5	0.8	21.8	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	232	61		322	104	93	1006	1806	806	574	1957	
V/C Ratio(X)	0.75	0.00		0.83	0.00	0.70	0.39	0.94	0.26	0.06	0.79	
Avail Cap(c_a), veh/h	317	281		346	281	251	1006	1806	806	574	1957	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	0.87	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.78	0.78	0.00
Uniform Delay (d), s/veh	55.0	0.0	0.0	53.5	0.0	55.5	34.0	27.8	6.2	33.7	11.2	0.0
Incr Delay (d2), s/veh	5.6	0.0	0.0	14.4	0.0	9.2	0.2	11.3	0.8	0.0	2.7	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	0.0	4.6	0.0	2.2	4.6	24.8	3.3	0.3	4.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	60.6	0.0	0.0	67.9	0.0	64.7	34.3	39.1	7.0	33.7	13.9	0.0
LnGrp LOS	E			E		E	C	D	A	C	B	
Approach Vol, veh/h		174			331			2304			1587	
Approach Delay, s/veh		60.6			67.3			35.3			14.3	
Approach LOS		E			E			D			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	25.9	67.0	17.2	9.9	40.9	52.0	14.1	13.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	61.0	12.0	18.0	20.0	46.0	11.0	19.0
Max Q Clear Time (g_c+I1), s	2.8	56.2	11.1	0.0	12.9	23.8	7.9	6.8
Green Ext Time (p_c), s	0.0	4.2	0.1	0.0	0.9	12.4	0.1	0.2

Intersection Summary	
HCM 7th Control Delay, s/veh	31.1
HCM 7th LOS	C

Notes

Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	2	25	22	1	21	96	76	76	68	118	60
Future Vol, veh/h	16	2	25	22	1	21	96	76	76	68	118	60
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	17	2	27	24	1	23	104	83	83	74	128	65

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	601	683	161	610	674	124	193	0	0	165	0	0
Stage 1	309	309	-	333	333	-	-	-	-	-	-	-
Stage 2	292	374	-	277	341	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	412	372	884	407	376	927	1380	-	-	1413	-	-
Stage 1	701	660	-	681	644	-	-	-	-	-	-	-
Stage 2	716	618	-	729	638	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	351	326	884	343	330	927	1380	-	-	1413	-	-
Mov Cap-2 Maneuver	351	326	-	343	330	-	-	-	-	-	-	-
Stage 1	665	625	-	629	595	-	-	-	-	-	-	-
Stage 2	644	571	-	668	605	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	12.33	13.14	3.03	2.13
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1380	-	-	538	490	1413	-	-
HCM Lane V/C Ratio	0.076	-	-	0.087	0.098	0.052	-	-
HCM Control Delay (s/veh)	7.8	-	-	12.3	13.1	7.7	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.3	0.3	0.2	-	-

Intersection	
Int Delay, s/veh	6.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	61	1	97	84	1	70	31	181	32	32	75	19
Future Vol, veh/h	61	1	97	84	1	70	31	181	32	32	75	19
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	66	1	105	91	1	76	34	197	35	35	82	21

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	426	460	92	433	453	214	102	0	0	232	0	0
Stage 1	161	161	-	282	282	-	-	-	-	-	-	-
Stage 2	265	299	-	152	172	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	539	498	966	533	502	826	1490	-	-	1336	-	-
Stage 1	841	764	-	725	678	-	-	-	-	-	-	-
Stage 2	741	666	-	851	757	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	465	474	966	451	478	826	1490	-	-	1336	-	-
Mov Cap-2 Maneuver	465	474	-	451	478	-	-	-	-	-	-	-
Stage 1	819	745	-	709	663	-	-	-	-	-	-	-
Stage 2	656	651	-	737	737	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	12.09	14	0.95	1.97
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1490	-	-	680	567	1336	-	-
HCM Lane V/C Ratio	0.023	-	-	0.254	0.297	0.026	-	-
HCM Control Delay (s/veh)	7.5	-	-	12.1	14	7.8	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	1	1.2	0.1	-	-

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	2	25	25	1	32	96	87	85	95	147	60
Future Vol, veh/h	16	2	25	25	1	32	96	87	85	95	147	60
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	17	2	27	27	1	35	104	95	92	103	160	65

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	703	795	192	717	781	141	225	0	0	187	0	0
Stage 1	399	399	-	349	349	-	-	-	-	-	-	-
Stage 2	304	396	-	367	432	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	352	320	849	345	326	907	1344	-	-	1387	-	-
Stage 1	627	602	-	667	633	-	-	-	-	-	-	-
Stage 2	706	604	-	652	583	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	288	274	849	283	279	907	1344	-	-	1387	-	-
Mov Cap-2 Maneuver	288	274	-	283	279	-	-	-	-	-	-	-
Stage 1	580	557	-	615	584	-	-	-	-	-	-	-
Stage 2	625	557	-	582	539	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	13.58	14.16	2.83	2.45
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1344	-	-	466	456	1387	-	-
HCM Lane V/C Ratio	0.078	-	-	0.1	0.138	0.074	-	-
HCM Control Delay (s/veh)	7.9	-	-	13.6	14.2	7.8	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-	0.3	0.5	0.2	-	-

Intersection	
Int Delay, s/veh	7.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	61	1	97	96	1	113	31	224	37	47	92	19
Future Vol, veh/h	61	1	97	96	1	113	31	224	37	47	92	19
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	66	1	105	104	1	123	34	243	40	51	100	21

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	524	564	110	534	554	264	121	0	0	284	0	0
Stage 1	213	213	-	331	331	-	-	-	-	-	-	-
Stage 2	311	351	-	203	223	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	464	435	943	457	441	775	1467	-	-	1279	-	-
Stage 1	790	727	-	682	645	-	-	-	-	-	-	-
Stage 2	699	632	-	799	719	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	365	408	943	380	413	775	1467	-	-	1279	-	-
Mov Cap-2 Maneuver	365	408	-	380	413	-	-	-	-	-	-	-
Stage 1	758	698	-	667	630	-	-	-	-	-	-	-
Stage 2	574	618	-	680	690	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	13.74	17.08	0.8	2.36
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1467	-	-	584	524	1279	-	-
HCM Lane V/C Ratio	0.023	-	-	0.296	0.436	0.04	-	-
HCM Control Delay (s/veh)	7.5	-	-	13.7	17.1	7.9	-	-
HCM Lane LOS	A	-	-	B	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	1.2	2.2	0.1	-	-

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	2	19	10	1	12	72	224	28	28	89	48
Future Vol, veh/h	12	2	19	10	1	12	72	224	28	28	89	48
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	2	21	11	1	13	78	243	30	30	97	52

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	584	614	123	574	625	259	149	0	0	274	0	0
Stage 1	184	184	-	415	415	-	-	-	-	-	-	-
Stage 2	401	430	-	159	210	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	423	407	928	430	401	780	1433	-	-	1289	-	-
Stage 1	818	748	-	615	592	-	-	-	-	-	-	-
Stage 2	626	583	-	843	729	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	383	376	928	386	370	780	1433	-	-	1289	-	-
Mov Cap-2 Maneuver	383	376	-	386	370	-	-	-	-	-	-	-
Stage 1	799	730	-	581	560	-	-	-	-	-	-	-
Stage 2	581	551	-	803	711	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	11.65	12.23	1.7	1.33
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1433	-	-	578	523	1289	-	-
HCM Lane V/C Ratio	0.055	-	-	0.062	0.048	0.024	-	-
HCM Control Delay (s/veh)	7.7	-	-	11.6	12.2	7.9	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.2	0.2	0.1	-	-

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	49	1	73	30	2	38	23	157	14	14	226	16
Future Vol, veh/h	49	1	73	30	2	38	23	157	14	14	226	16
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	53	1	79	33	2	41	25	171	15	15	246	17

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	507	521	254	505	522	178	263	0	0	186	0	0
Stage 1	285	285	-	228	228	-	-	-	-	-	-	-
Stage 2	222	236	-	277	293	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	476	460	784	478	459	865	1301	-	-	1389	-	-
Stage 1	722	676	-	774	715	-	-	-	-	-	-	-
Stage 2	781	710	-	730	670	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	438	446	784	415	446	865	1301	-	-	1389	-	-
Mov Cap-2 Maneuver	438	446	-	415	446	-	-	-	-	-	-	-
Stage 1	714	668	-	760	701	-	-	-	-	-	-	-
Stage 2	727	696	-	648	663	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	12.82	12.14	0.93	0.42
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1301	-	-	594	580	1389	-	-
HCM Lane V/C Ratio	0.019	-	-	0.225	0.131	0.011	-	-
HCM Control Delay (s/veh)	7.8	-	-	12.8	12.1	7.6	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.9	0.4	0	-	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	2	19	16	1	19	72	237	46	46	103	48
Future Vol, veh/h	12	2	19	16	1	19	72	237	46	46	103	48
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	2	21	17	1	21	78	258	50	50	112	52

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	653	702	138	652	703	283	164	0	0	308	0	0
Stage 1	238	238	-	439	439	-	-	-	-	-	-	-
Stage 2	415	464	-	213	264	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	381	362	910	381	362	756	1414	-	-	1253	-	-
Stage 1	765	708	-	597	578	-	-	-	-	-	-	-
Stage 2	615	563	-	789	690	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	335	329	910	336	328	756	1414	-	-	1253	-	-
Mov Cap-2 Maneuver	335	329	-	336	328	-	-	-	-	-	-	-
Stage 1	735	680	-	564	546	-	-	-	-	-	-	-
Stage 2	564	532	-	738	662	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	12.35	13.26	1.56	1.87
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1414	-	-	525	475	1253	-	-
HCM Lane V/C Ratio	0.055	-	-	0.068	0.082	0.04	-	-
HCM Control Delay (s/veh)	7.7	-	-	12.4	13.3	8	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.2	0.3	0.1	-	-

Intersection	
Int Delay, s/veh	5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	49	1	73	53	2	67	23	176	24	24	244	16
Future Vol, veh/h	49	1	73	53	2	67	23	176	24	24	244	16
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	53	1	79	58	2	73	25	191	26	26	265	17

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	568	593	274	572	589	204	283	0	0	217	0	0
Stage 1	326	326	-	254	254	-	-	-	-	-	-	-
Stage 2	242	267	-	318	335	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	433	418	765	431	421	836	1280	-	-	1352	-	-
Stage 1	686	648	-	750	697	-	-	-	-	-	-	-
Stage 2	761	688	-	693	643	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	378	402	765	370	404	836	1280	-	-	1352	-	-
Mov Cap-2 Maneuver	378	402	-	370	404	-	-	-	-	-	-	-
Stage 1	673	636	-	735	683	-	-	-	-	-	-	-
Stage 2	679	674	-	608	630	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	13.83	13.94	0.81	0.65
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1280	-	-	541	535	1352	-	-
HCM Lane V/C Ratio	0.02	-	-	0.247	0.248	0.019	-	-
HCM Control Delay (s/veh)	7.9	-	-	13.8	13.9	7.7	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	1	1	0.1	-	-

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	28	131	11	38	505	212	3	0	8	67	0	10
Future Vol, veh/h	28	131	11	38	505	212	3	0	8	67	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	30	142	12	41	549	230	3	0	9	73	0	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	779	0	0	154	0	0	566	1071	77	879	962	390
Stage 1	-	-	-	-	-	-	209	209	-	747	747	-
Stage 2	-	-	-	-	-	-	357	862	-	132	215	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	952	-	-	1424	-	-	*615	275	968	344	325	907
Stage 1	-	-	-	-	-	-	*773	728	-	498	507	-
Stage 2	-	-	-	-	-	-	*900	443	-	858	723	-
Platoon blocked, %	0	-	-		-	-	0	0		0	0	0
Mov Cap-1 Maneuver	952	-	-	1424	-	-	*571	259	968	320	305	907
Mov Cap-2 Maneuver	-	-	-	-	-	-	*571	259	-	320	305	-
Stage 1	-	-	-	-	-	-	*749	704	-	483	492	-
Stage 2	-	-	-	-	-	-	*864	430	-	823	700	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	1.47	0.38	9.49	18.15
HCM LOS			A	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	814	952	-	-	1424	-	-	320	907
HCM Lane V/C Ratio	0.015	0.032	-	-	0.029	-	-	0.227	0.012
HCM Control Delay (s/veh)	9.5	8.9	-	-	7.6	-	-	19.5	9
HCM Lane LOS	A	A	-	-	A	-	-	C	A
HCM 95th %tile Q(veh)	0	0.1	-	-	0.1	-	-	0.9	0

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	5.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	530	6	12	223	106	14	0	39	210	0	30
Future Vol, veh/h	14	530	6	12	223	106	14	0	39	210	0	30
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	576	7	13	242	115	15	0	42	228	0	33

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	358	0	0	583	0	0	757	993	291	645	939	179
Stage 1	-	-	-	-	-	-	610	610	-	326	326	-
Stage 2	-	-	-	-	-	-	147	384	-	318	613	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1288	-	-	988	-	-	*347	269	705	422	291	999
Stage 1	-	-	-	-	-	-	*448	483	-	767	713	-
Stage 2	-	-	-	-	-	-	*968	671	-	667	481	-
Platoon blocked, %	0	-	-		-	-	0	0		0	0	0
Mov Cap-1 Maneuver	1288	-	-	988	-	-	*327	263	705	387	284	999
Mov Cap-2 Maneuver	-	-	-	-	-	-	*327	263	-	387	284	-
Stage 1	-	-	-	-	-	-	*443	477	-	757	704	-
Stage 2	-	-	-	-	-	-	*924	662	-	620	476	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.2	0.31	12.46	24.58
HCM LOS			B	C

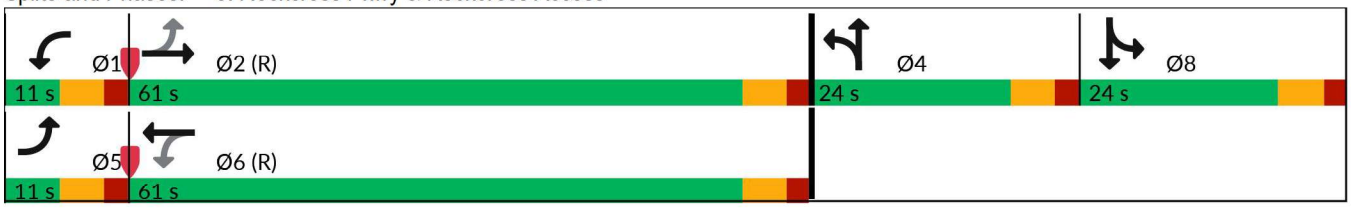
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	540	1288	-	-	988	-	-	387	999
HCM Lane V/C Ratio	0.107	0.012	-	-	0.013	-	-	0.59	0.033
HCM Control Delay (s/veh)	12.5	7.8	-	-	8.7	-	-	26.8	8.7
HCM Lane LOS	B	A	-	-	A	-	-	D	A
HCM 95th %tile Q(veh)	0.4	0	-	-	0	-	-	3.6	0.1

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	46	160	38	661	0	107	0
Future Volume (vph)	46	160	38	661	0	107	0
Turn Type	pm+pt	NA	pm+pt	NA	NA	Split	NA
Protected Phases	5	2	1	6	4	8	8
Permitted Phases	2		6				
Detector Phase	5	2	1	6	4	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	24.0	11.0	24.0	24.0	24.0	24.0
Total Split (s)	11.0	61.0	11.0	61.0	24.0	24.0	24.0
Total Split (%)	9.2%	50.8%	9.2%	50.8%	20.0%	20.0%	20.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			
Recall Mode	None	C-Max	None	C-Max	Max	Max	Max

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 104 (87%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 85
Control Type: Actuated-Coordinated

Splits and Phases: 8: Rockcress Pkwy & Rockcress Access



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	160	11	38	661	347	3	0	8	107	0	16
Future Volume (veh/h)	46	160	11	38	661	347	3	0	8	107	0	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	50	174	12	41	718	377	3	0	9	116	0	17
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	330	1583	108	642	1050	551	61	0	183	518	0	238
Arrive On Green	0.03	0.47	0.47	0.06	0.93	0.93	0.15	0.00	0.15	0.15	0.00	0.15
Sat Flow, veh/h	1781	3375	231	1781	2253	1181	407	0	1222	3456	0	1585
Grp Volume(v), veh/h	50	91	95	41	566	529	12	0	0	116	0	17
Grp Sat Flow(s),veh/h/ln	1781	1777	1829	1781	1777	1658	1630	0	0	1728	0	1585
Q Serve(g_s), s	1.7	3.4	3.5	1.4	7.1	7.2	0.8	0.0	0.0	3.5	0.0	1.1
Cycle Q Clear(g_c), s	1.7	3.4	3.5	1.4	7.1	7.2	0.8	0.0	0.0	3.5	0.0	1.1
Prop In Lane	1.00		0.13	1.00		0.71	0.25		0.75	1.00		1.00
Lane Grp Cap(c), veh/h	330	833	858	642	828	773	244	0	0	518	0	238
V/C Ratio(X)	0.15	0.11	0.11	0.06	0.68	0.68	0.05	0.00	0.00	0.22	0.00	0.07
Avail Cap(c_a), veh/h	344	833	858	661	828	773	244	0	0	518	0	238
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.64	0.64	0.64	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.7	17.8	17.8	15.1	2.4	2.4	43.7	0.0	0.0	44.9	0.0	43.8
Incr Delay (d2), s/veh	0.2	0.3	0.3	0.0	2.9	3.2	0.4	0.0	0.0	1.0	0.0	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	1.5	1.5	0.6	1.8	1.7	0.3	0.0	0.0	1.6	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	15.9	18.1	18.1	15.1	5.3	5.6	44.1	0.0	0.0	45.9	0.0	44.4
LnGrp LOS	B	B	B	B	A	A	D			D		D
Approach Vol, veh/h		236			1136			12			133	
Approach Delay, s/veh		17.6			5.8			44.1			45.7	
Approach LOS		B			A			D			D	

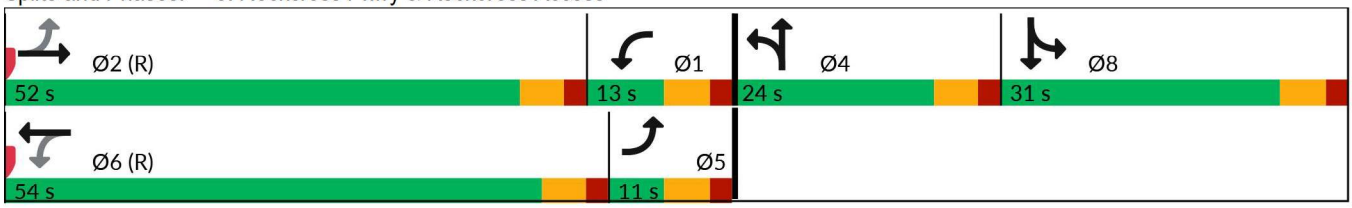
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.7	62.3		24.0	10.1	61.9		24.0				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	5.0	55.0		18.0	5.0	55.0		18.0				
Max Q Clear Time (g_c+I1), s	3.4	5.5		2.8	3.7	9.2		5.5				
Green Ext Time (p_c), s	0.0	1.1		0.0	0.0	9.9		0.3				

Intersection Summary												
HCM 7th Control Delay, s/veh			11.4									
HCM 7th LOS			B									

Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	24	695	12	261	0	366	0
Future Volume (vph)	24	695	12	261	0	366	0
Turn Type	pm+pt	NA	pm+pt	NA	NA	Split	NA
Protected Phases	5	2	1	6	4	8	8
Permitted Phases	2		6				
Detector Phase	5	2	1	6	4	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	24.0	13.0	24.0	24.0	24.0	24.0
Total Split (s)	11.0	52.0	13.0	54.0	24.0	31.0	31.0
Total Split (%)	9.2%	43.3%	10.8%	45.0%	20.0%	25.8%	25.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lead	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			
Recall Mode	None	C-Max	None	C-Max	None	None	None

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 16 (13%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 85
Control Type: Actuated-Coordinated

Splits and Phases: 8: Rockcress Pkwy & Rockcress Access

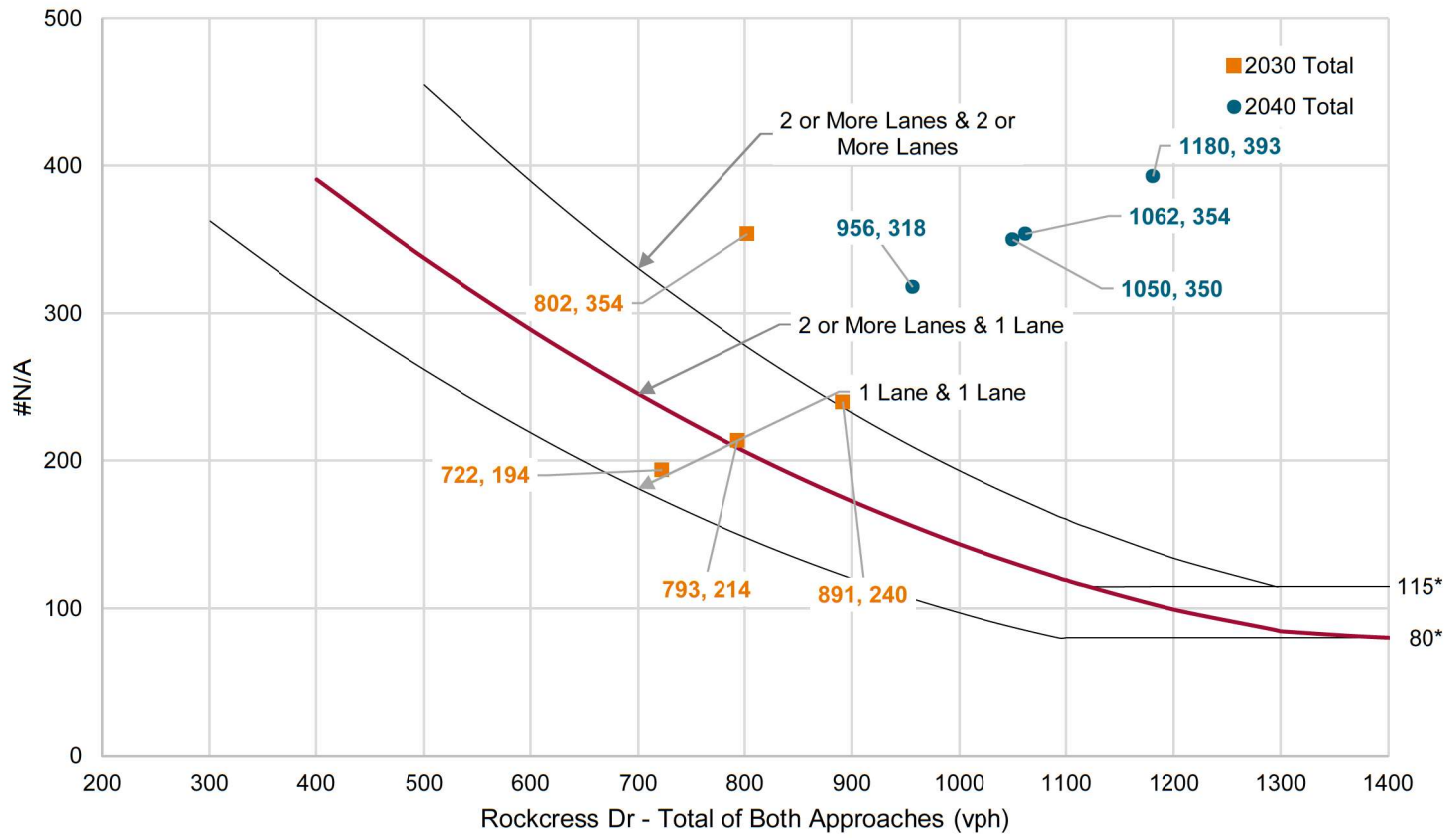


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	695	6	12	261	182	14	0	39	366	0	53
Future Volume (veh/h)	24	695	6	12	261	182	14	0	39	366	0	53
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	26	755	7	13	284	198	15	0	42	398	0	58
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	758	1383	13	629	811	549	19	0	54	482	0	221
Arrive On Green	0.22	0.38	0.38	0.47	0.80	0.80	0.04	0.00	0.04	0.14	0.00	0.14
Sat Flow, veh/h	1781	3608	33	1781	2028	1372	430	0	1203	3456	0	1585
Grp Volume(v), veh/h	26	372	390	13	248	234	57	0	0	398	0	58
Grp Sat Flow(s),veh/h/ln	1781	1777	1864	1781	1777	1623	1632	0	0	1728	0	1585
Q Serve(g_s), s	0.0	19.6	19.6	0.0	4.6	4.9	4.1	0.0	0.0	13.4	0.0	3.9
Cycle Q Clear(g_c), s	0.0	19.6	19.6	0.0	4.6	4.9	4.1	0.0	0.0	13.4	0.0	3.9
Prop In Lane	1.00		0.02	1.00		0.85	0.26		0.74	1.00		1.00
Lane Grp Cap(c), veh/h	758	681	715	629	711	649	73	0	0	482	0	221
V/C Ratio(X)	0.03	0.55	0.55	0.02	0.35	0.36	0.78	0.00	0.00	0.83	0.00	0.26
Avail Cap(c_a), veh/h	758	681	715	629	711	649	245	0	0	720	0	330
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.80	0.80	0.80	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.0	28.9	28.9	12.7	7.7	7.7	56.7	0.0	0.0	50.2	0.0	46.1
Incr Delay (d2), s/veh	0.0	3.1	3.0	0.0	1.1	1.2	16.4	0.0	0.0	5.0	0.0	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	8.9	9.3	0.1	1.7	1.6	2.0	0.0	0.0	6.1	0.0	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	12.0	32.0	31.8	12.7	8.7	8.9	73.2	0.0	0.0	55.2	0.0	46.7
LnGrp LOS	B	C	C	B	A	A	E			E		D
Approach Vol, veh/h		788			495			57			456	
Approach Delay, s/veh		31.3			8.9			73.2			54.1	
Approach LOS		C			A			E			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	33.9	52.0		11.4	31.9	54.0		22.7				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	7.0	46.0		18.0	5.0	48.0		25.0				
Max Q Clear Time (g_c+I1), s	2.0	21.6		6.1	2.0	6.9		15.4				
Green Ext Time (p_c), s	0.0	5.1		0.1	0.0	3.4		1.3				

Intersection Summary												
HCM 7th Control Delay, s/veh			32.2									
HCM 7th LOS			C									

Appendix E: Signal Warrant Analysis Worksheet



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

Rockcress Dr & Hospital Access
Signal Warrant Analysis
Four-Hour Volume Warrant

Source: Manual on Uniform Traffic Control Devices 2023

Intersection #8

Kimley»Horn

Appendix F: Queue Analysis Worksheets

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	426	55	147	1196	949	577
v/c Ratio	0.74	0.17	0.35	0.46	0.43	0.48
Control Delay (s/veh)	55.5	11.6	3.7	1.1	13.8	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	55.5	11.6	3.7	1.1	13.8	2.5
Queue Length 50th (ft)	163	0	4	16	192	0
Queue Length 95th (ft)	209	35	m6	22	281	50
Internal Link Dist (ft)	1226			875	483	
Turn Bay Length (ft)	150	150	250			250
Base Capacity (vph)	801	411	486	2592	2164	1192
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.13	0.30	0.46	0.44	0.48

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	527	136	78	957	1249	261
v/c Ratio	0.77	0.32	0.26	0.38	0.57	0.24
Control Delay (s/veh)	53.2	8.2	3.8	0.8	16.4	2.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	53.2	8.2	3.8	0.8	16.4	2.1
Queue Length 50th (ft)	201	0	1	8	301	0
Queue Length 95th (ft)	247	50	m4	12	417	38
Internal Link Dist (ft)	1226			875	483	
Turn Bay Length (ft)	150	150	250			250
Base Capacity (vph)	858	497	298	2480	2174	1073
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.61	0.27	0.26	0.39	0.57	0.24

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	472	67	175	1255	1010	676
v/c Ratio	0.75	0.19	0.47	0.34	0.51	0.57
Control Delay (s/veh)	54.4	10.3	56.8	1.1	17.9	3.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	54.4	10.3	56.8	1.1	17.9	3.2
Queue Length 50th (ft)	180	0	73	14	241	0
Queue Length 95th (ft)	225	37	m101	19	334	57
Internal Link Dist (ft)	1226			875	483	
Turn Bay Length (ft)	150	500	400			250
Base Capacity (vph)	801	420	371	3650	1980	1183
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.16	0.47	0.34	0.51	0.57

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	647	167	92	1011	1321	302
v/c Ratio	0.81	0.35	0.46	0.29	0.66	0.29
Control Delay (s/veh)	51.9	10.4	47.1	0.8	21.4	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	51.9	10.4	47.1	0.8	21.4	2.5
Queue Length 50th (ft)	243	15	39	8	366	2
Queue Length 95th (ft)	296	69	m63	10	485	45
Internal Link Dist (ft)	1226			875	483	
Turn Bay Length (ft)	150	500	400			250
Base Capacity (vph)	944	538	200	3394	1978	1015
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.31	0.46	0.30	0.67	0.30

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	484	71	179	1288	1038	696
v/c Ratio	0.76	0.20	0.48	0.35	0.52	0.58
Control Delay (s/veh)	54.3	10.0	56.7	1.2	18.5	3.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	54.3	10.0	56.7	1.2	18.5	3.3
Queue Length 50th (ft)	185	0	75	14	252	0
Queue Length 95th (ft)	230	38	m101	20	349	59
Internal Link Dist (ft)	1226			875	483	
Turn Bay Length (ft)	150	500	400			250
Base Capacity (vph)	801	423	371	3635	1969	1189
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.17	0.48	0.35	0.53	0.59

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	663	174	98	1038	1353	310
v/c Ratio	0.81	0.36	0.49	0.30	0.68	0.30
Control Delay (s/veh)	51.6	11.4	47.7	0.8	22.2	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	51.6	11.4	47.7	0.8	22.2	2.8
Queue Length 50th (ft)	250	21	41	8	385	4
Queue Length 95th (ft)	305	77	m65	10	504	49
Internal Link Dist (ft)	1226			875	483	
Turn Bay Length (ft)	150	500	400			250
Base Capacity (vph)	944	536	200	3369	1961	1010
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.70	0.32	0.49	0.31	0.69	0.31

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	73	125	807	60	212	49	943	467	22	43	800	187
v/c Ratio	0.34	0.28	0.50	0.40	0.57	0.03	0.87	0.20	0.01	0.05	0.66	0.11
Control Delay (s/veh)	44.8	35.9	7.6	64.6	57.2	0.0	41.4	4.3	0.0	13.8	38.8	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	44.8	35.9	7.6	64.6	57.2	0.0	41.4	4.3	0.0	13.8	38.8	0.1
Queue Length 50th (ft)	28	42	247	23	83	0	361	22	0	5	292	0
Queue Length 95th (ft)	44	44	440	47	121	0	446	28	m0	11	379	0
Internal Link Dist (ft)		875			991			2985			849	
Turn Bay Length (ft)	325		375	250		250	700			575		500
Base Capacity (vph)	210	530	1583	147	530	1583	1115	2233	1583	718	1206	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.24	0.51	0.41	0.40	0.03	0.85	0.21	0.01	0.06	0.66	0.12

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	191	239	1003	27	174	82	775	889	49	27	484	86
v/c Ratio	0.56	0.36	0.63	0.17	0.52	0.05	0.79	0.41	0.03	0.07	0.42	0.05
Control Delay (s/veh)	44.1	32.1	10.5	58.3	57.3	0.0	35.2	6.2	0.0	15.3	35.2	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	44.1	32.1	10.5	58.3	57.3	0.0	35.2	6.2	0.0	15.3	35.2	0.0
Queue Length 50th (ft)	71	78	402	10	68	0	278	63	0	3	162	0
Queue Length 95th (ft)	94	86	459	26	104	0	349	74	m0	10	231	0
Internal Link Dist (ft)		875			991			2985			849	
Turn Bay Length (ft)	325		375	250		250	700			575		500
Base Capacity (vph)	354	722	1583	151	530	1583	1087	2132	1583	380	1143	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.33	0.63	0.18	0.33	0.05	0.71	0.42	0.03	0.07	0.42	0.05

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	85	136	862	65	223	54	992	525	27	49	918	221
v/c Ratio	0.29	0.31	0.54	0.45	0.58	0.03	0.76	0.23	0.01	0.07	0.65	0.13
Control Delay (s/veh)	45.4	38.5	10.0	66.6	57.2	0.0	66.2	23.3	0.0	25.2	33.5	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	45.4	38.5	10.0	66.6	57.2	0.0	66.2	23.3	0.0	25.2	33.5	0.1
Queue Length 50th (ft)	18	33	337	25	87	0	291	177	0	12	313	0
Queue Length 95th (ft)	34	51	464	50	126	0	337	235	m0	26	404	0
Internal Link Dist (ft)		875			991			2985			849	
Turn Bay Length (ft)	325		375	250		250	700			575		500
Base Capacity (vph)	290	530	1583	143	530	1583	1289	2215	1583	619	1402	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.26	0.54	0.45	0.42	0.03	0.77	0.24	0.02	0.08	0.65	0.14

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	228	255	1064	33	185	87	818	1025	54	33	551	100
v/c Ratio	0.50	0.39	0.67	0.21	0.54	0.05	0.71	0.47	0.03	0.08	0.40	0.06
Control Delay (s/veh)	39.4	30.0	12.5	59.1	57.3	0.0	35.1	6.2	0.0	13.2	29.6	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	39.4	30.0	12.5	59.1	57.3	0.0	35.1	6.2	0.0	13.2	29.6	0.0
Queue Length 50th (ft)	58	86	473	12	73	0	205	83	0	4	170	0
Queue Length 95th (ft)	75	102	425	30	108	0	240	96	m0	11	240	0
Internal Link Dist (ft)		875			991			2985			849	
Turn Bay Length (ft)	325		375	250		250	700			575		500
Base Capacity (vph)	483	767	1583	151	589	1583	1289	2153	1583	379	1363	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.33	0.67	0.22	0.31	0.05	0.63	0.48	0.03	0.09	0.40	0.06

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	87	141	886	71	228	60	1022	538	33	54	940	228
v/c Ratio	0.30	0.27	0.55	0.49	0.59	0.03	0.79	0.25	0.02	0.09	0.70	0.14
Control Delay (s/veh)	46.6	38.1	10.7	68.4	57.2	0.0	66.8	24.0	0.0	25.4	36.0	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	46.6	38.1	10.7	68.4	57.2	0.0	66.8	24.0	0.0	25.4	36.0	0.1
Queue Length 50th (ft)	18	33	365	28	90	0	300	183	0	13	325	0
Queue Length 95th (ft)	35	55	467	53	128	0	347	242	m0	28	416	0
Internal Link Dist (ft)		875			991			2985			849	
Turn Bay Length (ft)	325		375	250		250	700			575		500
Base Capacity (vph)	290	551	1583	143	530	1583	1289	2138	1583	568	1327	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.26	0.56	0.50	0.43	0.04	0.79	0.25	0.02	0.10	0.71	0.14

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	234	266	1092	38	190	92	842	1049	60	38	565	103
v/c Ratio	0.51	0.40	0.68	0.25	0.54	0.05	0.73	0.48	0.03	0.10	0.41	0.06
Control Delay (s/veh)	39.3	30.0	13.2	59.8	57.3	0.0	34.9	6.6	0.0	13.6	30.2	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	39.3	30.0	13.2	59.8	57.3	0.0	34.9	6.6	0.0	13.6	30.2	0.0
Queue Length 50th (ft)	58	87	476	14	75	0	212	84	0	4	176	0
Queue Length 95th (ft)	78	106	423	34	111	0	240	107	m0	12	247	0
Internal Link Dist (ft)		875			991			2985			849	
Turn Bay Length (ft)	325		375	250		250	700			575		500
Base Capacity (vph)	485	768	1583	152	589	1583	1289	2144	1583	362	1349	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.35	0.69	0.25	0.32	0.06	0.65	0.49	0.04	0.10	0.42	0.07

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	33	183	261	65	727	1324	207	65	1466	135
v/c Ratio	0.17	0.11	0.57	0.17	2.11	0.53	0.17	0.45	0.67	0.12
Control Delay (s/veh)	55.7	0.1	53.6	1.0	540.4	10.8	1.4	69.1	6.2	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	55.7	0.1	53.6	1.0	540.4	10.8	1.4	69.1	6.2	0.3
Queue Length 50th (ft)	12	0	96	0	~461	271	0	27	148	0
Queue Length 95th (ft)	29	0	138	0	#582	341	26	m47	88	m0
Internal Link Dist (ft)				548		606			2985	
Turn Bay Length (ft)	400	50	250		375		300	525		500
Base Capacity (vph)	228	1583	458	707	343	2459	1163	143	2188	1051
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.12	0.57	0.09	2.12	0.54	0.18	0.45	0.67	0.13

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	112	692	250	60	286	1536	196	27	1423	59
v/c Ratio	0.39	0.43	0.45	0.18	1.00	0.64	0.17	0.14	0.66	0.05
Control Delay (s/veh)	56.1	0.8	47.5	1.2	108.3	14.6	1.7	69.4	6.1	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	56.1	0.8	47.5	1.2	108.3	14.6	1.7	69.4	6.1	0.0
Queue Length 50th (ft)	43	0	89	0	115	388	0	10	128	0
Queue Length 95th (ft)	72	0	127	0	#208	513	30	m19	167	m0
Internal Link Dist (ft)				548		606			2985	
Turn Bay Length (ft)	400	50	250		375		300	525		500
Base Capacity (vph)	287	1583	552	683	286	2388	1131	184	2145	1034
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.44	0.45	0.09	1.00	0.64	0.17	0.15	0.66	0.06

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	47	243	277	71	983	1411	223	71	1575	195
v/c Ratio	0.25	0.15	0.57	0.20	0.82	0.58	0.19	0.49	0.85	0.27
Control Delay (s/veh)	55.9	1.1	52.8	1.3	42.4	11.9	1.3	44.2	19.6	1.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	55.9	1.1	52.8	1.3	42.4	11.9	1.3	44.2	19.6	1.7
Queue Length 50th (ft)	19	0	103	0	357	304	0	27	147	0
Queue Length 95th (ft)	40	1	147	0	416	368	26	m44	#536	23
Internal Link Dist (ft)				548		606			2985	
Turn Bay Length (ft)	400	50	250		375		300	525		500
Base Capacity (vph)	200	1583	483	707	1190	2427	1155	143	1844	698
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.15	0.57	0.10	0.83	0.58	0.19	0.50	0.85	0.28

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	172	982	266	65	382	1655	212	33	1515	89
v/c Ratio	0.50	0.62	0.44	0.20	0.73	0.69	0.18	0.23	0.56	0.09
Control Delay (s/veh)	42.5	6.7	45.6	1.4	57.7	16.2	2.3	65.6	8.7	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	42.5	6.7	45.6	1.4	57.7	16.2	2.3	65.6	8.7	0.1
Queue Length 50th (ft)	69	462	94	0	144	452	5	13	166	0
Queue Length 95th (ft)	81	283	131	0	197	587	37	m25	178	m0
Internal Link Dist (ft)				548		606			2985	
Turn Bay Length (ft)	400	50	250		375		300	525		500
Base Capacity (vph)	344	1583	608	637	572	2369	1123	143	2664	946
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.62	0.44	0.10	0.67	0.70	0.19	0.23	0.57	0.09

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	49	250	277	71	1000	1451	223	71	1620	201
v/c Ratio	0.26	0.15	0.57	0.20	0.81	0.59	0.19	0.49	0.91	0.29
Control Delay (s/veh)	55.8	1.1	52.8	1.3	40.5	12.2	1.3	44.4	23.9	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	55.8	1.1	52.8	1.3	40.5	12.2	1.3	44.4	23.9	1.8
Queue Length 50th (ft)	20	0	103	0	358	319	0	26	155	0
Queue Length 95th (ft)	42	3	147	0	414	385	26	m42	#587	m19
Internal Link Dist (ft)				548		606			2985	
Turn Bay Length (ft)	400	50	250		375		300	525		500
Base Capacity (vph)	200	1583	483	707	1234	2427	1155	143	1778	684
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.16	0.57	0.10	0.81	0.60	0.19	0.50	0.91	0.29

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	174	1000	266	65	391	1701	212	33	1554	92
v/c Ratio	0.51	0.63	0.44	0.20	0.75	0.71	0.18	0.23	0.58	0.09
Control Delay (s/veh)	42.8	6.9	45.5	1.4	58.2	16.9	2.4	65.2	8.7	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	42.8	6.9	45.5	1.4	58.2	16.9	2.4	65.2	8.7	0.1
Queue Length 50th (ft)	69	477	93	0	148	477	6	13	166	0
Queue Length 95th (ft)	82	297	131	0	202	620	38	m25	190	m0
Internal Link Dist (ft)				548		606			2985	
Turn Bay Length (ft)	400	50	250		375		300	525		500
Base Capacity (vph)	346	1583	610	637	572	2367	1122	143	2656	943
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.63	0.44	0.10	0.68	0.72	0.19	0.23	0.59	0.10

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	50	186	41	1095	12	116	17
v/c Ratio	0.24	0.11	0.06	0.66	0.03	0.22	0.02
Control Delay (s/veh)	15.7	17.5	19.0	23.7	0.1	46.1	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	15.7	17.5	19.0	23.7	0.1	46.1	0.0
Queue Length 50th (ft)	17	40	14	205	0	41	0
Queue Length 95th (ft)	36	63	m23	281	0	70	0
Internal Link Dist (ft)		389		682	344		365
Turn Bay Length (ft)	150		150			200	
Base Capacity (vph)	203	1674	627	1654	363	514	588
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.11	0.07	0.66	0.03	0.23	0.03

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	26	762	13	482	57	398	58
v/c Ratio	0.04	0.34	0.02	0.23	0.27	0.71	0.07
Control Delay (s/veh)	9.5	14.0	3.6	0.9	3.3	54.4	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	9.5	14.0	3.6	0.9	3.3	54.4	0.1
Queue Length 50th (ft)	7	130	1	3	0	153	0
Queue Length 95th (ft)	20	250	m3	6	0	193	0
Internal Link Dist (ft)		389		682	344		365
Turn Bay Length (ft)	150		150			200	
Base Capacity (vph)	593	2181	460	2078	364	718	822
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.35	0.03	0.23	0.16	0.55	0.07

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

CONOCOPHILIPS CAMPUS GDP AMENDMENT – EXHIBIT A

MAY 16, 2025

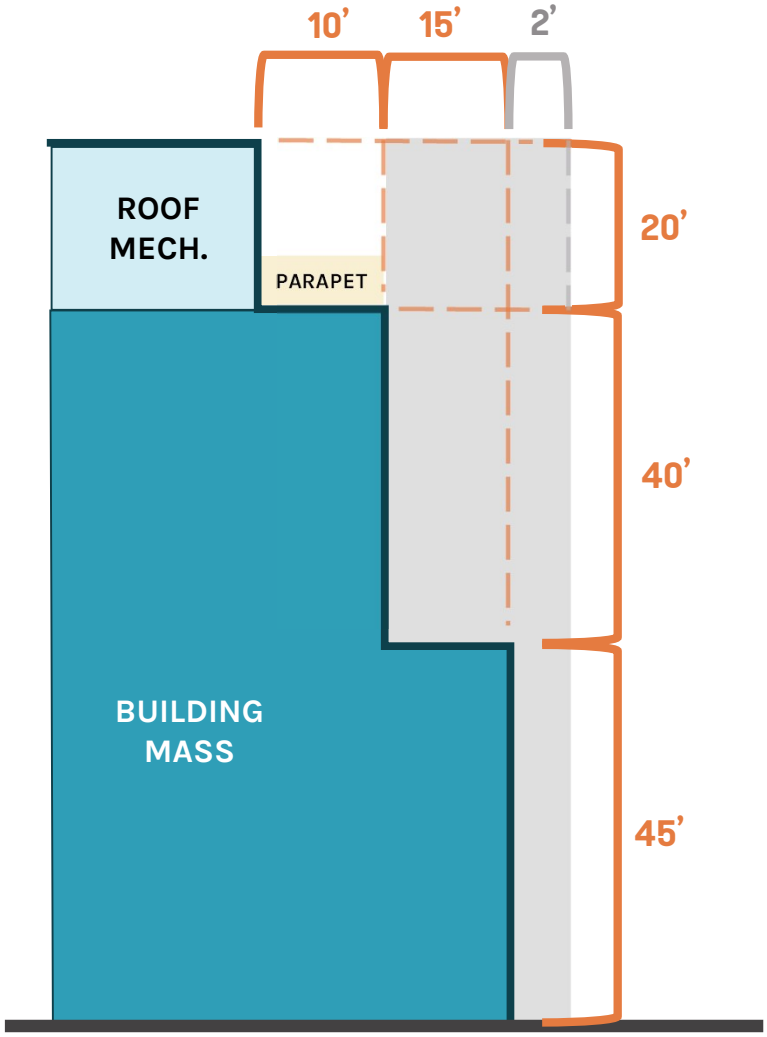
AdventHealth SMITHGROUP

DESIGN PARAMETERS

BUILDING MASSING AND HEIGHT REQUIREMENTS

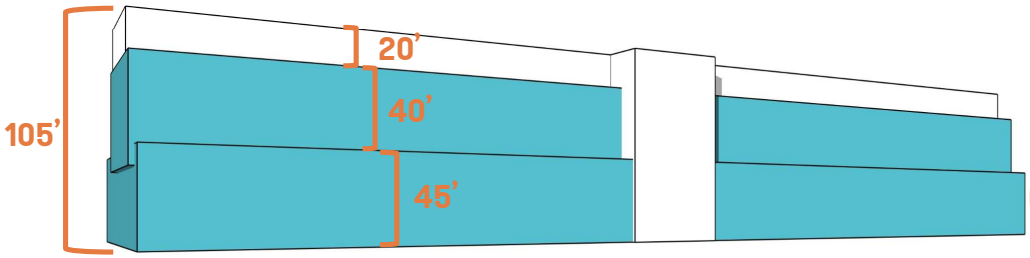
For building facades exceeding 100 feet in length and more than 45 ft in height, a relief in the building massing is required to reduce visual monotony and enhance architectural interest:

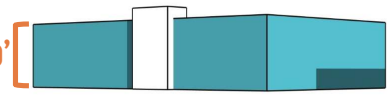
- A maximum height of 45 feet is permitted before a minimum horizontal setback of 15 feet is required from the primary building face.
- The footprint of each floor above 45 feet shall not exceed 50% of the footprint of the building at or below 45 feet.
- Alternatively, a projected relief element may extend outward from the main building mass by a minimum of 2 feet, provided it contributes to the overall articulation and design of the facade.
- Any rooftop enclosure (e.g., mechanical penthouses) must be set back a minimum of 10 feet from the edge of the building mass, unless it is architecturally integrated into the overall design of the building.
- Exception: A defining architectural element or distinct building form with a total width of less than 100 feet is exempt from the above setback and relief requirements. A minimum 2-foot depth variation from the adjacent primary facade plane must still be provided to ensure visual articulation. Defining architectural elements may include, but are not limited to:
    - Vertical circulation towers (e.g., stair or elevator cores)
    - Entry pavilions or lobbies
    - Architectural eyebrows or roof overhangs
    - Branded or sculptural facade features
    - Corner elements or turrets
    - Atrium volumes or light wells
    - Distinctive roof forms

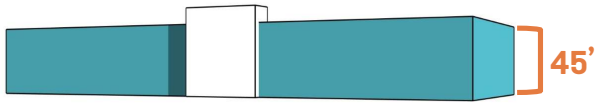


EXAMPLE MASSING

Visual diagram illustrating a possible building mass resulting from the design parameters building massing and height requirements





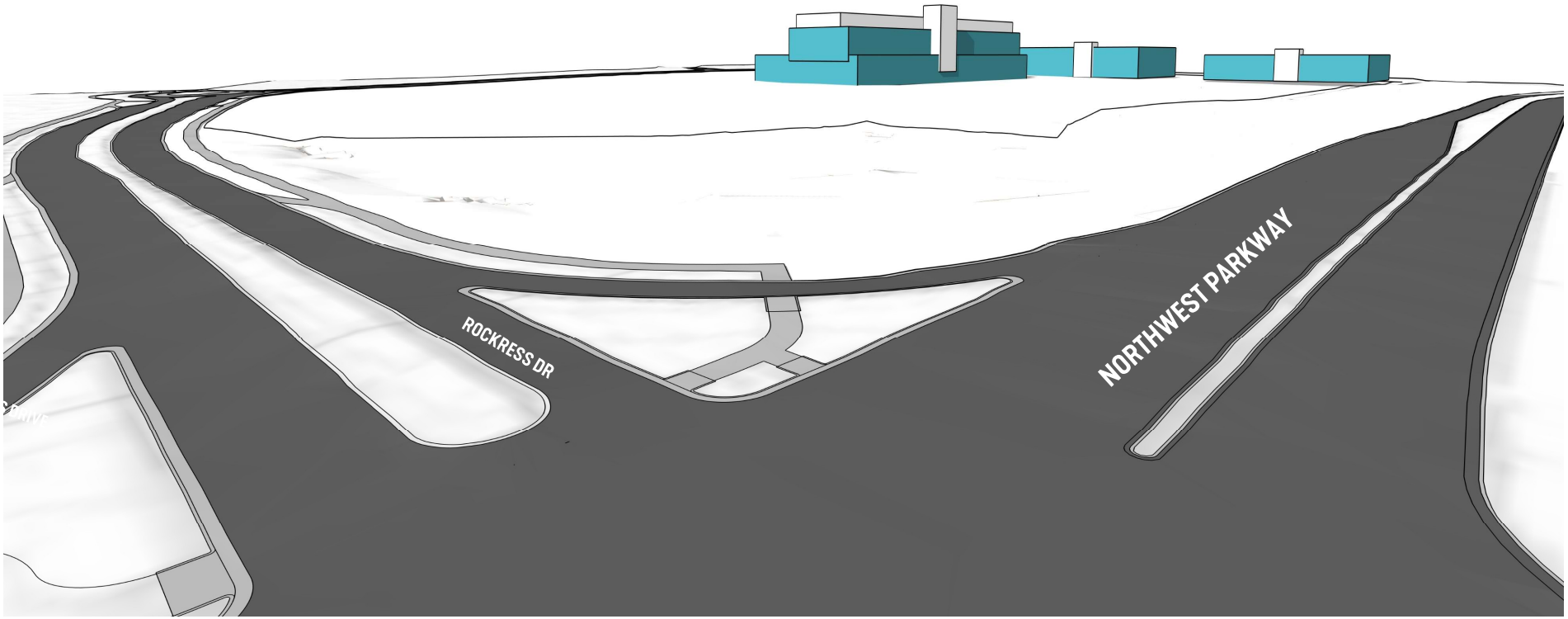


HIGH DENSITY BUILDING TYPE

MID DENSITY BUILDING TYPES

EXAMPLE LAYOUT

Possible building mass resulting from the design parameters on Hospital Parcel



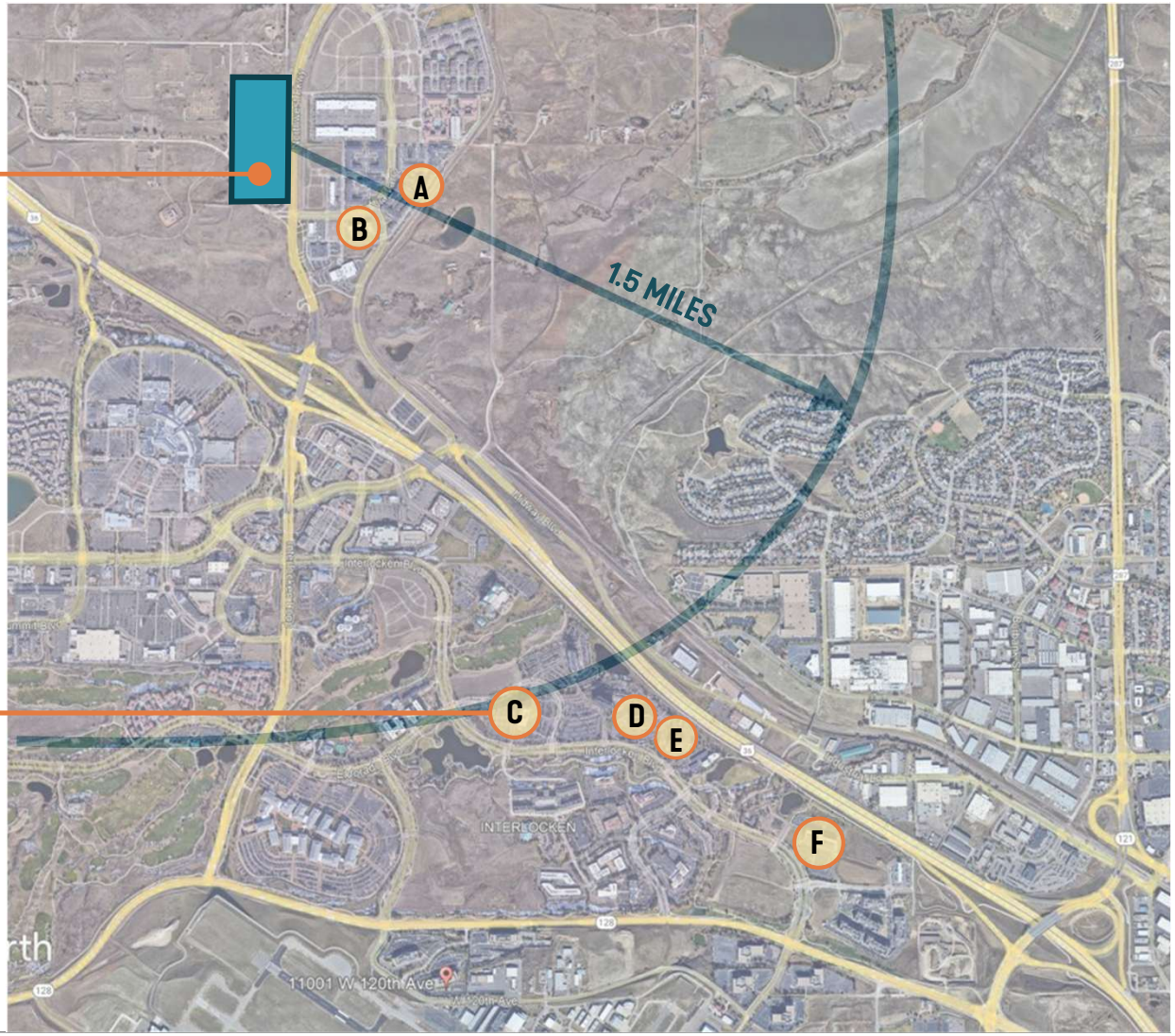
SIMILAR SCALE BUILT PROJECTS

AdventHealth SMITHGROUP

CONTEXTUAL HEIGHT NEAR THE SITE

PROJECT SITE

CONTEXT BUILDING LOCATIONS



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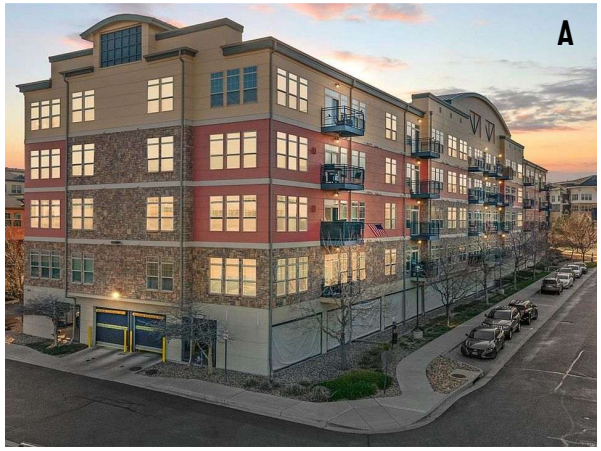
CONTEXTUAL HEIGHT NEAR THE SITE



AdventHealth SMITHGROUP

LAND DEDICATION AGREEMENT
[AdventHealth GDP Amendments]

THIS LAND DEDICATION AGREEMENT ("Agreement") is made and entered into this _____ day of _____, 20____, by and between the **CITY OF LOUISVILLE**, a Colorado home rule municipal corporation ("City"), and **[NEED TITLE COMMITMENT]**, a _____ ("Developer").

WHEREAS, Developer has submitted applications for approval of a second amendment to the Avista Adventist Hospital General Development Plan and the ConocoPhillips Campus General Development Plan (the "GDP Amendments") affecting real property legally described as Lot 1, Health Park Filing No. 5 and Lots 1-7, Health Park Filing No. 6 (the "Avista Property") and Lot 1, Block 2, Redtail Ridge Filing No. 1 (the "Redtail Ridge Property") (collectively, the "Development"), which GDP Amendments have been reviewed and approved by the Planning Commission and the City Council by Resolution No. _____, Series 20___ ("Development Approval"); and

WHEREAS, Developer has identified certain land to be dedicated to the City in connection with the GDP Amendment, the legal description of which is set forth in Exhibit A attached hereto and incorporated herein by this reference; and

WHEREAS, the Developer and City desire to enter into this Agreement relative to such land dedication.

NOW, THEREFORE, in consideration of the foregoing, the parties hereto promise, covenant and agree as follows:

1. Within six (6) months following Development Approval, Developer shall file with the City a final plat application meeting all requirements set forth in Title 16 of the Louisville Municipal Code (the "Subdivision Plat") to replat the Avista Property to plat a separate tract for the proposed land dedication set forth in Exhibit A (the "Dedication Tract"). The Developer acknowledges that no assurance of approval of the Subdivision Plat by the City Council has been made by the City or relied upon by the Developer. Should the City Council not approve the Subdivision Plat, the legal description set forth in Exhibit A shall substitute for the Dedication Tract for all purposes set forth in this Agreement.

2. At the time the Subdivision Plat is presented to the City for recording, the Developer shall deliver an executed deed to the City conveying the Dedication Tract. Said conveyance shall be by Special Warranty Deed in form and substance satisfactory

DRAFT

to the City Attorney. Prior to such conveyance, the Developer shall, at Developer's expense, furnish the City a commitment for title insurance for the Dedication Tract. Such property shall be free and clear of liens, taxes and encumbrances, except for ad valorem real property taxes for the calendar year of conveyance and thereafter, but subject to all easements, right-of-way, reservations, restrictions, or other title burdens of record, or those easements and rights-of-way that would be readily apparent from a physical inspection. The Developer shall, at its expense, cause a title policy in conformance herewith to be delivered to the City following conveyance.

3. The Developer specifically represents that to the best of its knowledge, all portions of the Dedication Tract are in compliance with all environmental protection and anti-pollution laws, rules, regulations, orders, and requirements, including solid waste requirements, as defined by the US Environmental Protection Agency Regulations at 40 C.F.R., Part 261, and that the Dedication Tract in its entirety is in compliance with all such requirements pertaining to the disposal or existence in or on such dedicated property of any hazardous substances, pollutants, or contaminants, as defined by the Comprehensive Environmental Response Compensation and Liability Act of 1980, as amended, and regulations promulgated thereunder. The Developer does hereby indemnify and hold the City harmless from any liability whatsoever that may be imposed upon the City by any governmental authority, pertaining to the disposal of hazardous substances, pollutants or contaminants, and cleanup necessitated by leaking underground storage tanks, excavation and/or backfill of hazardous substances, pollutants or contaminants, or environmental cleanup responsibilities of any nature whatsoever on, of or related to any property dedicated to the City pursuant to this development. The Developer further agrees to indemnify and hold the City harmless from any claims or actions based directly, indirectly or in any manner on any of the aforementioned environmental risks brought against the City by third parties arising as a result of the dedication of the Dedication Tract to the City pursuant to this Agreement. Said indemnification shall not extend to claims, actions or other liability arising as a result of any hazardous substance, pollutants or contaminants generated or deposited by the City, its agents or representatives, upon portions of the property dedicated to the City pursuant to this Agreement.

4. Following dedication of the Dedication Tract by Developer to the City, the City shall commence rezoning of the Dedication Tract to Open Space (OS) District pursuant to Chapter 17.44 of the Louisville Municipal Code and classify the land included in the Dedication Tract as Open Space-Preserve Land as set forth in Section 15-4(b)(1) of the City of Louisville Home Rule Charter. The land contained within the Dedication Tract shall not contains trails, trailheads, or other amenities, and no active or passive recreational activities will be permitted.

5. Breach of Agreement. In the event that the Developer should fail to timely comply with any of the terms, conditions, covenants and undertakings of the Agreement, and if such noncompliance is not cured and brought into compliance within thirty (30) days of written notice of breach of the Developer by the City, unless the City in writing and in its sole discretion designates a longer cure period, then the City has the right to withhold building permits, certificates of occupancy, or provision of new utilities fixtures or services for or to the Development. Nothing herein shall be construed to limit the City from pursuing any other remedy at law or in equity which may be appropriate under city, state or federal law. Any costs incurred by the City, including, but not limited to, reasonable administrative costs and reasonable attorney's fees, in pursuit of any remedies due to the breach by the Developer shall be the responsibility of the Developer.

6. Recording of Agreement. The City shall record this Agreement at Developer's expense in the office of the Clerk and Recorder, County of Boulder, State of Colorado, and the City shall retain the recorded Agreement.

7. Binding Effect of Agreement. This Agreement shall run with the land included within the Development and shall inure to the benefit of and be binding upon the successors and assigns of the parties hereto.

8. Assignment, Delegation and Notice. This Agreement, or any part of this Agreement, may not be assigned by the Developer to any other party without the prior written approval of the City, which approval shall not be unreasonably withheld, conditioned or delayed. Developer shall provide to the City for approval written notice of any proposed assignment of any obligations under this Agreement to any successor, as well as arrangements, if any, for delegation of the obligations hereunder. Developer and any successor shall, until written City approval of the proposed assignment and delegation of obligations, be jointly and severally liable for the obligations of Developer under this Agreement; following such approval, Developer shall be released from such obligations from and after the date of such approval, but such approval shall not release any previously accrued liabilities unless expressly agreed by the City. The City may require as part of any such approval that the successor execute its consent to be bound by specified terms and conditions hereof and/or of applicable provisions of the GDP Amendment and other applicable documents relating to the Development.

9. Modification and Waiver. No modification of the terms of this Agreement shall be valid unless in writing and executed with the same formality as this Agreement, and no waiver of the breach of the provisions of any section of this Agreement shall be construed as a waiver of any subsequent breach of the same section or any other sections which are contained herein.

10. Addresses for Notice. Any notice or communication required or permitted hereunder shall be given in writing and shall be personally delivered, or sent by United States mail, postage prepaid, registered or certified mail, return receipt requested, addressed as follows:

CITY:	DEVELOPER:
City of Louisville	_____
City Manager	_____
749 Main Street	_____
Louisville, CO 80027	_____

With a copy to:

Kelly PC
City Attorney
749 Main Street
Louisville, CO 80027

or to such other address or the attention of such other person(s) as hereafter designated in writing by the applicable parties in conformance with this procedure. Notices shall be effective three days after mailing or upon personal delivery in compliance with this paragraph.

11. Previous Agreements. All previous written and recorded agreements between the parties or their predecessors, including, but not limited to, any Annexation Agreement or Subdivision Agreement, shall remain in full force and effect and shall control this Development. If any prior agreements conflict with this Agreement, then this Agreement controls.

12. Title and Authority. Developer warrants to the City that it is the record owner of the Development property or is acting in accordance with the currently valid and unrevoked power of attorney of the record owner hereto attached. The undersigned further warrant to have full power and authority to enter into this Agreement.

13. Governing Law; Venue; Severability. This Agreement and all matters arising hereunder or in connection herewith shall be governed by and construed and enforced in accordance with the laws of the State of Colorado. Any disputes regarding or arising out of this Agreement shall be brought in the courts of Boulder County, Colorado, and in no other court. In the event that any provision of the Agreement is held to be violative of the city, state, or federal laws and hereby rendered unenforceable, the City, in its sole discretion, may determine whether the remaining provisions will or will not remain in force.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first set forth above.

CITY OF LOUISVILLE

By:_____
Christopher M. Leh, Mayor

ATTEST:

_____
Genny Kline, Interim City Clerk

DEVELOPER:

_____

By:_____

Name: _____

Title: _____

ACKNOWLEDGMENT

STATE OF _____)
) ss.
COUNTY OF _____)

The foregoing signature of _____, as _____ of _____, was subscribed and sworn to before me this ____day of _____, 20___.

Witness my hand and official seal.

_____
Notary Public

My commission expires:_____

EXHIBIT A

(insert metes and bounds legal description of land to be dedicated)

Growth over Avista Calculation

Existing Avista — Bed Count: 108; MOB SF: 41000 SF

Utility Bills

	Hospital	MOB	KGALS	GALS	
May-21	677	-	677	677,000	
Jun-21	1,807	-	1,807	1,807,000	
Jul-21	1,632	-	1,632	1,632,000	
Aug-21	2,092	-	2,092	2,092,000	
Sep-21	1,980	-	1,980	1,980,000	
Oct-21	1,645	-	1,645	1,645,000	
Nov-21	1,645	-	1,645	1,645,000	
Dec-21	704	-	704	704,000	
Jan-22	466	-	466	466,000	
Feb-22	480	-	480	480,000	
Mar-22	445	-	445	445,000	
Apr-22	598	-	598	598,000	
May-22	1,080	-	1,080	1,080,000	
Jun-22	1,698	-	1,698	1,698,000	
			14,465	14,465,000	*does not include May and June 2021
					**includes irrigation

Average Day	1,205,417	per month
	40,181	per day
	27.90	per minute
Peak Day	4,821,667	per month
4.00 FS	160,722	per day
	111.61	per minute
	1.03	gal/min/bed

	Hospital	MOB	KGALS	GALS	
May-21	-	106	106	106,000	
Jun-21	-	66	66	66,000	
Jul-21	-	45	45	45,000	
Aug-21	-	51	51	51,000	
Sep-21	-	49	49	49,000	
Oct-21	-	46	46	46,000	
Nov-21	-	46	46	46,000	
Dec-21	-	117	117	117,000	
Jan-22	-	150	150	150,000	
Feb-22	-	171	171	171,000	
Mar-22	-	144	144	144,000	
Apr-22	-	150	150	150,000	
May-22	-	125	125	125,000	
Jun-22	-	65	65	65,000	
			1,159	1,159,000	*does not include May and June 2021
					**includes irrigation

Average Day	96,583	per month
	3,219	per day
	2.24	per minute
Peak Day	386,333	per month
4.00 FS	12,878	per day
	8.94	per minute
	0.00022	

AH Louisville

Hospital

Bed Count	264	
Growth over Ex. Avista	2.44	
Average Day	2,946,574	per month
	98,219	per day
	68.21	per minute

MOB

MOB	145000	SF
Growth over Ex. Avista	3.54	
Average Day	341,575	per month
	11,386	per day
	7.91	per minute

Water Assumptions

Average Day	3,288,149	per month
	109,605	per day
	76.11	per minute

Sewer Assumptions (~85% of Water Usage)

Average Day	2,794,927	per month
	93,164	per day
	64.70	per minute

ADD (GPM)	64.70
Peak Based on 4.5*	291.14

*4.5 is from HKS Calculation

Table 1: Full Build-Out Sanitary Demand by PUD

PUD	Use	Area	Annual Average Daily Demand (GPD)	Average Daily Demand (GPM)	Average Daily Demand (CFS)	Peak Factor	Peak Flow (GPM)	Peak Flow (CFS)
PUD - 1	Industrial	654,500 sq. ft	90,521	62.9	0.140	3.56	223.8	0.499
PUD - 2	Industrial	453,700 sq. ft	62,749	43.6	0.097	3.78	164.5	0.367
PUD - 3	Medical	300,000 sq. ft	41,492	28.8	0.064	4.03	116.2	0.259
PUD - 4	Medical	118,800 sq. ft	16,431	11.4	0.025	4.68	53.4	0.119
PUD - 5	Office/Retail	113,000 sq. ft	19,012	13.2	0.029	4.57	60.3	0.134
PUD - 6	Hospital	435,000 sq. ft	94,800	65.8	0.147	4.50	296.3	0.660
PUD - 7	Medical	165,000 sq. ft	22,820	15.8	0.035	4.44	70.4	0.157
PUD - 8	Office	360,000 sq. ft	28,800	20.0	0.045	4.28	85.5	0.191
SUM		**2,600,000 sq. ft**	376,626	261.5	0.583		1070.5	2.385
TOTAL			376,626	261.5	0.583	2.83	741.4	1.652

Note: GPM = Gallons Per Minute, CFS = Cubic Feet per Second, GPD = gallons per day

ADD (GPM)	76
Peak Based on 2.68	203.99

*2.68 is from HKS Calculation

Table 4: Full Build-out Water Demands by PUD

	Use	Average Daily Demand (GPD)	Average Daily Demand (GPM)	Peak Day Demand (ADD*2.68) (GPD)	Peak Day Demand (ADD*2.68) (GPM)
PUD - 1	Industrial	108625	75.4	291116	202.2
PUD - 2	Industrial	75299	52.3	201802	140.1
PUD - 3	Medical	49790	34.6	133437	92.7
PUD - 4	Medical	19717	13.7	52841	36.7
PUD - 5	Office/Retail	22871	15.9	61294	42.6
PUD - 6	Hospital	111200	77.2	298016	207.0
PUD - 7	Medical	27385	19.0	73391	51.0
PUD - 8	Office	34560	24.0	92621	64.3
	Total:	449447	312.1	1204517	836.5

Note: Max day demand is 1.204 MGD

ADD (GPD)	93,164
ADD (MGD)	0.0932

	Wastewater Flow and Load	
	AAD Flow, MGD	AAD BOD_5, PPD
	Designed Flow Capacity	Designed Load Capacity
Hospital Allocated Capacity (435,600 SF)	0.09	*
Remaining Project Allocated Capacity (2,106,787 SF)	0.29	*
Total Redtail Ridge Capacity (2,542,387 SF)	0.38	*

Hospital Parcel

	Wastewater Flow and Load	
	MM Flow, MGD	MM BOD_5, PPD
	Designed Flow Capacity	Designed Load Capacity
Hospital Allocated Capacity (435,600 SF)	0.11	*
Remaining Project Allocated Capacity (2,106,787 SF)	0.34	*
Total Redtail Ridge Capacity (2,542,387 SF)	0.45	*

Hospital Parcel

Definitions:
AAD = Annual Average Daily
MM = Maximum Average Daily flow over a 30-day Period
BOD_5 = Biochemical Option Demand
MGD = Million Gallons per Day
PPD = Pounds Per Day

* The Load Capacity calculations are to be reasoanbly agreed upon between Seller and Buyer on or before 11/15/24

0.1 GPD / GSF Calculation

Hospital

GSF	655000	SF
Average Day	1,965,000	per month
	65,500	per day
	45.49	per minute

MOB

GSF	145000	SF
Average Day	435,000	per month
	14,500	per day
	10.07	per minute

Water Assumptions		
Average Day	2,400,000	per month
	80,000	per day
	55.56	per minute

Sewer Assumptions (~85% of Water Usage)		
Average Day	2,040,000	per month
	68,000	per day
	47.22	per minute

HKS Engineering Calculations

ADD (GPM)	47.22
Peak Based on 4.5*	212.50

*4.5 is from HKS Calculation

Table 1: Full Build-Out Sanitary Demand by PUD

PUD	Use	Area	Annual Average Daily Demand (GPD)	Average Daily Demand (GPM)	Average Daily Demand (CFS)	Peak Factor	Peak Flow (GPM)	Peak Flow (CFS)
PUD - 1	Industrial	654,500 sq. ft	90,521	62.9	0.140	3.56	223.8	0.499
PUD - 2	Industrial	453,700 sq. ft	62,749	43.6	0.097	3.78	164.5	0.367
PUD - 3	Medical	300,000 sq. ft	41,492	28.8	0.064	4.03	116.2	0.259
PUD - 4	Medical	118,800 sq. ft	16,431	11.4	0.025	4.68	53.4	0.119
PUD - 5	Office/Retail	113,000 sq. ft	19,012	13.2	0.029	4.57	60.3	0.134
PUD - 6	Hospital	435,000 sq. ft	94,800	65.8	0.147	4.50	296.3	0.660
PUD - 7	Medical	165,000 sq. ft	22,820	15.8	0.035	4.44	70.4	0.157
PUD - 8	Office	360,000 sq. ft	28,800	20.0	0.045	4.28	85.5	0.191
SUM		2,600,000 sq. ft	376,626	261.5	0.583		1070.5	2.385
TOTAL			376,626	261.5	0.583	2.83	741.4	1.652

Note: GPM = Gallons Per Minute, CFS = Cubic Feet per Second, GPD = gallons per day

ADD (GPM)	56
Peak Based on 2.68	148.89

*2.68 is from HKS Calculation

Table 4: Full Build-out Water Demands by PUD

	Use	Average Daily Demand (GPD)	Average Daily Demand (GPM)	Peak Day Demand (ADD*2.68) (GPD)	Peak Day Demand (ADD*2.68) (GPM)
PUD - 1	Industrial	108625	75.4	291116	202.2
PUD - 2	Industrial	75299	52.3	201802	140.1
PUD - 3	Medical	49790	34.6	133437	92.7
PUD - 4	Medical	19717	13.7	52841	36.7
PUD - 5	Office/Retail	22871	15.9	61294	42.6
PUD - 6	Hospital	111200	77.2	298016	207.0
PUD - 7	Medical	27385	19.0	73391	51.0
PUD - 8	Office	34560	24.0	92621	64.3
	Total:	449447	312.1	1204517	836.5

Note: Max day demand is 1.204 MGD

ADD (GPD)	68,000
ADD (MGD)	0.068

	Wastewater Flow and Load	
	AAD Flow, MGD	AAD BOD5, PPD
	Designed Flow Capacity	Designed Load Capacity
Hospital Allocated Capacity (435,600 SF)	0.09	*
Remaining Project Allocated Capacity (2,106,787 SF)	0.29	*
Total Redtail Ridge Capacity (2,542,387 SF)	0.38	*

Hospital Parcel

	Wastewater Flow and Load	
	MM Flow, MGD	MM BOD5, PPD
	Designed Flow Capacity	Designed Load Capacity
Hospital Allocated Capacity (435,600 SF)	0.11	*
Remaining Project Allocated Capacity (2,106,787 SF)	0.34	*
Total Redtail Ridge Capacity (2,542,387 SF)	0.45	*

Hospital Parcel

Definitions:
AAD = Annual Average Daily
MM = Maximum Average Daily flow over a 30-day Period
BOD5 = Biochemical Option Demand
MGD = Million Gallons per Day
PPD = Pounds Per Day

* The Load Capacity calculations are to be reasoanbly agreed upon between Seller and Buyer on or before 11/15/24

Bed Count Calculation (Wastewater Flows Assumed as 300 GPD / Bed + 0.085 GPD / GSF for MOB)

Bed Count

Bed Count		264 beds
	Average Day	2,732,400 per month
		91,080 per day
		63.25 per minute

MOB

GSF		145000 SF
	Average Day	435,000 per month
		14,500 per day
		10.07 per minute

*300 GPD/bed for wastewater flows (or 402.5 GPD/bed for water, 115%of wastewater) is based on ASPE Plumbing Engineering Design Handbook, Volume 2. Chapter 8 references 132-251 GPD/bed (172 GPD/bed average) plus 5.3-15.9 GPD/employee (10.6 GPD/employee) for typical wastewater flows. This chapter also references 250 GPD/bed for quantities of hospital sewage flows. 300 gal/bed was assumed based on the above.

Water Assumptions		
Average Day	3,167,400	per month
	105,580	per day
	73.32	per minute

Sewer Assumptions (~85% of Water Usage)		
Average Day	2,692,290	per month
	89,743	per day
	62.32	per minute

HKS Engineering Calculations

ADD (GPM)	62.32
Peak Based on 4.5*	280.45

*4.5 is from HKS Calculation

Table 1: Full Build-Out Sanitary Demand by PUD

PUD	Use	Area	Annual Average Daily Demand (GPD)	Average Daily Demand (GPM)	Average Daily Demand (CFS)	Peak Factor	Peak Flow (GPM)	Peak Flow (CFS)
PUD - 1	Industrial	654,500 sq. ft	90,521	62.9	0.140	3.56	223.8	0.499
PUD - 2	Industrial	453,700 sq. ft	62,749	43.6	0.097	3.78	164.5	0.367
PUD - 3	Medical	300,000 sq. ft	41,492	28.8	0.064	4.03	116.2	0.259
PUD - 4	Medical	118,800 sq. ft	16,431	11.4	0.025	4.68	53.4	0.119
PUD - 5	Office/Retail	113,000 sq. ft	19,012	13.2	0.029	4.57	60.3	0.134
PUD - 6	Hospital	435,000 sq. ft	94,800	65.8	0.147	4.50	296.3	0.660
PUD - 7	Medical	165,000 sq. ft	22,820	15.8	0.035	4.44	70.4	0.157
PUD - 8	Office	360,000 sq. ft	28,800	20.0	0.045	4.28	85.5	0.191
SUM		2,600,000 sq. ft	376,626	261.5	0.583		1070.5	2.385
TOTAL			376,626	261.5	0.583	2.83	741.4	1.652

Note: GPM = Gallons Per Minute, CFS = Cubic Feet per Second, GPD = gallons per day

ADD (GPM)	73
Peak Based on 2.68	196.50

*2.68 is from HKS Calculation

Table 4: Full Build-out Water Demands by PUD

	Use	Average Daily Demand (GPD)	Average Daily Demand (GPM)	Peak Day Demand (ADD*2.68) (GPD)	Peak Day Demand (ADD*2.68) (GPM)
PUD - 1	Industrial	108625	75.4	291116	202.2
PUD - 2	Industrial	75299	52.3	201802	140.1
PUD - 3	Medical	49790	34.6	133437	92.7
PUD - 4	Medical	19717	13.7	52841	36.7
PUD - 5	Office/Retail	22871	15.9	61294	42.6
PUD - 6	Hospital	111200	77.2	298016	207.0
PUD - 7	Medical	27385	19.0	73391	51.0
PUD - 8	Office	34560	24.0	92621	64.3
	Total:	449447	312.1	1204517	836.5

Note: Max day demand is 1.204 MGD

ASPE Plumbing Engineering Design Handbook, Volume 2, Chapter 8 Tables

Table 8-8 Typical Wastewater Flows from Institutional Sources

Source	Unit	Wastewater Flow, gal (L)/unit/day Range	Typical
Hospital, medical	Bed	132.0–251.0 (500–950)	172.0 (650)
	Employee	5.3–15.9 (20–60)	10.6 (40)
Hospital, mental	Bed	79.3–172.0 (300–650)	106.0 (400)
	Employee	5.3–15.9 (20–60)	10.6 (40)
Prison	Inmate	79.3–159.0 (300–600)	119.0 (450)
	Employee	5.3–15.9 (20–60)	10.6 (40)
Rest home	Resident	52.8–119.0 (200–450)	92.5 (350)
	Employee	5.3–15.9 (20–60)	10.6 (40)
School, day			
With cafeteria, gym, showers	Student	15.9–30.4 (60–115)	21.1 (80)
With cafeteria only	Student	10.6–21.1 (40–80)	15.9 (60)
Without cafeteria, gym, showers	Student	5.3–17.2 (20–65)	10.6 (40)
School, boarding	Student	52.8–106.0 (200–400)	74.0 (280)

Table 8-10 Quantities of Sewage Flows

Type of Establishment	gpd/Person (L/D/Person)[a]
Airports (per passenger)	5 (20)
Apartments—multifamily (per resident)	60 (225)
Bathhouses and swimming pools	10 (40)
Camps	
Campground with central comfort stations	35 (130)
With flush toilets, no showers	25 (95)
Construction camps (semipermanent)	50 (190)
Day camps (no meals served)	15 (60)
Resort camps (night and day) with limited plumbing	50 (190)
Luxury camps	100 (380)
Cottages and small dwellings with seasonal occupancy	50 (190)
Country clubs (per resident member)	100 (380)
Country clubs (per nonresident member present)	25 (95)
Dwellings	
Boarding houses	50 (190)
additional for nonresident boarders	10 (40)
Luxury residences and estates	150 (570)
Multifamily dwellings (apartments)	60 (225)
Rooming houses	40 (150)
Single-family dwellings	75 (285)
Factories (gal [L] per person, per shift, exclusive of industrial wastes)	35 (130)
Hospitals (per bed space)	250 (945)[b]
Hotels with private baths (2 persons per room)	60 (225)
Hotels without private baths	50 (190)
Institutions other than hospitals (per bed space)	125 (475)
Laundries, self-service (gal [L] per wash, i.e., per customer)	50 (190)
Mobile home parks (per space)	250 (945)
Motels with bath, toilet, and kitchen wastes (per bed space)	50 (190)
Motels (per bed space)	40 (150)
Picnic parks (toilet wastes only) (per picnicker)	5 (20)
Picnic parks with bathhouses, showers, and flush toilets	10 (40)
Restaurants (toilet and kitchen wastes per patron)	10 (40)
Restaurants (kitchen wastes per meal served)	3 (10)
Restaurants, additional for bars and cocktail lounges	2 (8)
Schools	
Boarding	100 (380)
Day, without gyms, cafeterias, or showers	15 (60)
Day, with gyms, cafeteria, and showers	25 (95)
Day, with cafeteria, but without gyms or showers	20 (80)
Service stations (per vehicle served)	10 (40)
Swimming pools and bathhouses	10 (40)
Theaters	
Movie (per auditorium seat)	5 (20)
Drive-in (per car space)	5 (20)
Travel trailer parks without individual water and sewer hookups (per space)	50 (190)
Travel trailer parks with individual water and sewer hookups (per space)	100 (380)
Workers	
Construction (at semipermanent camps)	50 (190)
Day, at schools and offices (per shift)	15 (60)

[a] Unless otherwise noted.
[b] Includes cafeteria.

ADD (GPD)	89,743
ADD (MGD)	0.090

	Wastewater Flow and Load	
	AAD Flow, MGD	AAD BOD5, PPD
	Designed Flow Capacity	Designed Load Capacity
Hospital Allocated Capacity (435,600 SF)	0.09	*
Remaining Project Allocated Capacity (2,106,787 SF)	0.29	*
Total Redtail Ridge Capacity (2,542,387 SF)	0.38	*

Hospital Parcel

	Wastewater Flow and Load	
	MM Flow, MGD	MM BOD5, PPD
	Designed Flow Capacity	Designed Load Capacity
Hospital Allocated Capacity (435,600 SF)	0.11	*
Remaining Project Allocated Capacity (2,106,787 SF)	0.34	*
Total Redtail Ridge Capacity (2,542,387 SF)	0.45	*

Hospital Parcel

Definitions:
AAD = Annual Average Daily
MM = Maximum Average Daily flow over a 30-day Period
BOD5 = Biochemical Option Demand
MGD = Million Gallons per Day
PPD = Pounds Per Day

* The Load Capacity calculations are to be reasoanbly agreed upon between Seller and Buyer on or before 11/15/24

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Page 1 of 7
11/06/2002 08 12A
Boulder County Clerk, CO ANNEXATION R 36 00 D 0 00

ANNEXATION AGREEMENT

(1)

THIS AGREEMENT is made and entered into this 11th day of April, 2002, by and between PorterCare Adventist Health System, a Colorado non-profit corporation, hereinafter referred to as the "Owner," and the CITY OF LOUISVILLE, a municipal corporation of the State of Colorado, hereinafter referred to as "Louisville" or "City".

WITNESSETH:

WHEREAS, the Owner desires to annex to Louisville the property more particularly described on Exhibit "A," which is attached hereto, incorporated herein, and made a part hereof (such property is hereinafter referred to as "the property"); and

WHEREAS, Owner has executed a petition to annex the property, a copy of which petition is on file with the City Clerk; and

WHEREAS, it is to the mutual benefit of the parties hereto to enter into the following Agreement; and

WHEREAS, Owner acknowledges that upon annexation, the property will be subject to all ordinances, resolutions, and other regulations of the City of Louisville, as they may be amended from time to time.

WHEREAS, Owner acknowledges that the need for conveyances and dedication of certain property, including but not limited to property for ways and easements to Louisville as contemplated in this Agreement, are directly related to and generated by development intended to occur within the property and that no taking thereby will occur requiring any compensation.

NOW, THEREFORE, IN CONSIDERATION OF THE ABOVE PREMISES AND THE COVENANTS AS HEREINAFTER SET FORTH, IT IS AGREED BY AND BETWEEN THE PARTIES AS FOLLOWS:

1. Owner agrees to execute, promptly upon request of Louisville, any and all surveys and other documents necessary to effect the annexation of the property and the other provisions of this Agreement. Owner agrees to not sign any other petition for annexation of the property or any petition for an annexation election relating to the property, except upon request of Louisville.

2. Owner agrees to provide legal documents, surveys, engineering work, newspaper publication, maps, and reports determined by Louisville to be necessary to accomplish the annexation, and agrees to pay Louisville an annexation fee in the amount of Three Hundred Dollars ($300.00) plus Sixty Dollars ($60.00) per acre annexed.

3. Louisville shall act upon the petition for annexation within six months of the date of

Rob

filing thereof with the City Clerk, unless Owner consents to later action.

4. The parties recognize that it is the intent and desire of Owner to develop the property in a manner generally consistent with the zoning requested and that the granting of such zoning by the City of **Planned Community Zoned District-Commercial ("PCZD")** and the approval of the Adventist Hospital General Development Plan is a condition to annexation of the property. Owner shall take all action necessary to permit zoning by Louisville of the annexed property within the time prescribed by state statutes. Notwithstanding any other provision of this Agreement to the contrary, the Owner agrees that the uses permitted for the Property shall be as limited and set forth in the revised Adventist Hospital General Development Plan ("GDP") affecting the Property, as the same may be approved by the City.

5. Owner agrees to dedicate by General Warranty Deed or appropriate instrument of conveyance acceptable to the City easements and rights-of-way for streets and other public ways and for other public purposes, including but not limited to South 88th Street, as required by City ordinances and resolutions. Such dedications shall occur immediately upon request of the City except that internal rights-of-way shall be dedicated at the time of subdivision platting, unless the City specifies another time.

6. Owner agrees to design, improve, and provide signage, lighting, and signalization for, all public streets and other public ways within or adjacent to the property in accordance with City ordinances and resolutions and other applicable standards, subject to any reimbursement which may be provided for in such ordinances, resolutions, and standards, and to make such other improvements as required by City ordinances and resolutions, to guarantee construction of all required improvements, and, if requested by Louisville, to dedicate to Louisville any or all other required improvements. Owner agrees to enter into an agreement pertaining to such improvements and other matters prior to any development of the property.

7. If requested by Louisville, Owner agrees to include the property in one or more special improvement districts or other mechanisms established by Louisville for making improvements to streets and other public ways, or for making other public improvements authorized by law, and Owner hereby appoints the City Manager of Louisville as Owner's attorney-in-fact for the purpose of executing all documents determined by Louisville to be necessary for such inclusion. If requested by Owner, Louisville agrees to consider the establishment of one or more special improvement districts for making such improvements.

8. Owner agrees that the design, improvement, construction, development, and use of the property shall be in conformance with, and that Owner shall comply with, all City ordinances and resolutions including, without limitation, ordinances and resolutions pertaining to subdivision, zoning, storm drainage, utilities, and flood control.

9. Nothing contained in this Agreement shall constitute or be interpreted as a repeal of the City's ordinances or resolutions, or as a waiver of the City's legislative, governmental, or police

powers to promote and protect the health, safety, and welfare of the City and its inhabitants; nor shall this Agreement prohibit the enactment or increase by the City of any tax or fee.

10. No right or remedy of disconnection of the property from the City shall accrue from this Agreement, other than that provided by applicable state laws. In the event the property or any portion thereof is disconnected at Owner's request, Louisville shall have no obligation to serve the disconnected property or portion thereof and this Agreement shall be void and of no further force and effect as to such property or portion thereof.

11. The parties agree that if any part, term, portion, or provision of this Agreement is held by a court of competent jurisdiction to be illegal or in conflict with any law of the State of Colorado, the validity of the remaining parts, terms, portions, or provisions shall not be affected, and the rights and obligations of the parties shall be construed and enforced as if the Agreement did not contain the particular part, term, portion, or provision held to be invalid.

12. Louisville agrees to make available to the property all of the usual municipal services in accordance with the ordinances and policies of the City which services include, but are not limited to, police protection and water and sewer services. Owner acknowledges that City services do not include, as of the date of the execution of this Agreement, fire protection or emergency medical services, but the property is presently included within the boundaries of and is entitled to receive such services from the Louisville or Cherryvale Fire Protection District.

13. The City, by approving this Agreement, acknowledges that it has declined to purchase any of such appurtenant water rights at this time. Owner hereby grants to the City, for a period of twenty (20) years from the date of this Agreement, a right of first refusal to purchase all or any portion of the Exhibit "C" water rights. Such right of first refusal shall be exercised by the City, if at all, by written notice to Owner or their successors within sixty (60) days following receipt of written notice from Owner or their successors of the terms of an acceptable, bona fide offer to purchase all or any portion of the Exhibit "C" water rights. The City reserves the right to require dedication of water and/or cash in lieu of or to supplement such dedication. Such dedication shall be in accordance with the City's then current water rights dedication policy. The City further reserves the right to require, at the time of subdivision and/or P.U.D. approval, the payment of a Water Resource Fee or other consideration for raw water acquisition if, in the judgment of the City, the development planned for the property will generate a higher water demand than the average water demand. The City acknowledges that such actions by Owner satisfy the requirements of the City Code and policy regarding the dedication of water rights.

14. The subject Property shall be included into the Northern Colorado Water Conservancy District (NCWCD), and the Municipal Sub-district, prior to receiving water service from the City of Louisville. Further, the Owner shall petition to include the subject Property into the NCWCD at its expense

15. The Owner, in accordance with the revised Avista Adventist Hospital General

Development Plan ("GDP"), will convey to the City the 10-acre donation parcel shown on such Plan, a copy of which is attached hereto as Exhibit "B". Owner acknowledges that the conveyance of the 10-acre parcel is required by the provisions of the US 36 Corridor Comprehensive Development Plan Intergovernmental Agreement, as amended, and is a condition of annexation of the Property to Louisville. The Owner shall convey the 10-acre parcel to the City at or prior to the recording of the annexation ordinance for the Property, and in no event later than December 31, 2002. Such conveyance shall be free and clear of liens, taxes and encumbrances (except for reservations, restrictions and rights-of-way of record which are acceptable to the City) and shall be by Special Warranty Deed in form and substance acceptable to the City. The Owner shall also furnish at its expense an ALTA title policy for the property conveyed, in form and substance acceptable to the City.

16. The parties agree that they will cooperate with one another in accomplishing the terms, conditions, and provisions of the Agreement, and will execute such additional documents as necessary to effectuate the same.

17. This Agreement may be amended by the City and any Owner without the consent of any other Owner as long as such amendment affects only that Owner's portion of the property. Such amendments shall be in writing, shall be recorded with the County Clerk of Boulder County, Colorado, shall be covenants running with the land, and shall be binding upon all persons or entities having an interest in the property subject to the amendment unless otherwise specified in the amendment. Except as otherwise provided herein, this Agreement shall not be amended unless approved in writing by all parties hereto.

18. This Agreement embodies the entire agreement of the parties. There are no promises, terms, conditions, or obligations other than those contained herein; and this Agreement supersedes all previous communications, representations, or agreements, either verbal or written, between the parties.

19. Owner agrees to indemnify and hold harmless the City and the City's officers, employees, agents, and contractors, from and against all liability, claims, and demands, including attorney's fees and court costs, which arise out of or are in any manner connected with the annexation of the property, or with any other annexation or other action determined necessary or desirable by the City in order to effectuate the annexation of the property, or which are in any manner connected with Louisville's enforcement of this Agreement. Owner further agrees to investigate, handle, respond to, and to provide defense for and defend against or at the City's option to pay the attorney's fees for defense counsel of the City's choice for, any such liability, claims, or demands.

20. As used in this Agreement, the term "Owner" shall include any of the heirs, transferees, successors, or assigns of Owner, and all such parties shall have the right to enforce this Agreement, and shall be subject to the terms of this Agreement, as if they were the original parties thereto.

21. As used in this Agreement, unless otherwise specifically provided herein, any reference to any provision of any City ordinance, resolution, or policy is intended to refer to any subsequent amendments or revisions to such ordinance, resolution, or policy, and the parties agree that such amendments or revisions shall be binding upon Owner.

22. This Agreement shall be binding upon and inure to the benefit of the heirs, transferees, successors, and assigns hereof, and shall constitute covenants running with the land. This Agreement shall be recorded with the County Clerk of Boulder County, Colorado, at Owner's expense. Subject to the conditions precedent herein, this Agreement may be enforced in any court of competent jurisdiction.

23. This Agreement shall be null and void if the City fails to approve the annexation of the property.

24. The Owner acknowledges that the annexation and zoning of the property are subject to the legislative discretion of the City Council of the City of Louisville. No assurances of annexation or zoning have been made or relied upon by Owner. In the event that, in the exercise of its legislative discretion, any action with respect to the property herein contemplated is not taken, then the sole and exclusive remedy for the breach hereof accompanied by the exercise of such discretion shall be the withdrawal of the petition for annexation by the Owner, or disconnection from the City in accordance with state law, as may be appropriate.

25. Owner agrees that it is voluntarily entering into this Agreement. Owner represents and submits that, to the extent an election would be required pursuant to C.R.S. §31-12-112, as amended, to approve the annexation or to impose terms and conditions upon the Property to be annexed, Owners owns 100 percent of the Property, excluding public streets and alleys, and would vote to approve the annexation and all terms and conditions as set forth herein. Thus, any election would necessarily result in a majority of the electors' approval to the annexation and the terms and conditions.

26. This Agreement is made solely for the benefit of the parties hereto, and is not intended to nor shall it be deemed to confer rights to any persons or entities not named as parties hereto.

27. The laws of the State of Colorado shall govern the validity, performance, and enforcement of this Agreement. Should either party institute legal suit or action for enforcement of any obligation contained herein, it is agreed that the venue of such suit or action shall be in the district courts for Boulder County, Colorado.

28. The paragraph headings in this Agreement shall not be used in the construction or interpretation hereof as they have no substantive effect and are for convenience only.

29. Each person executing this document on behalf of Owner represents that he or she has been duly authorized by the person he or she represents to execute this Agreement, and has full authority to bind said party to the terms and conditions hereof. This Agreement may be executed in counterparts, each of which shall be deemed an original but all of which shall constitute one and the same document.

OWNER: PORTERCARE ADVENTIST HEALTH SYSTEM, a Colorado non-profit corporation

By: John Sackett
Title: Trustee

CITY OF LOUISVILLE

By: Tom Davidson
Tom Davidson, Mayor

ATTEST:

Nancy Varra
Nancy Varra, City Clerk

OWNER'S ACKNOWLEDGEMENT

STATE OF COLORADO)
)ss
COUNTY OF Boulder)

The above and foregoing signature of John Sackett was subscribed and sworn to before me this 11th day of April, 2002.

Witness my hand and official seal.

My commission expires on: March 19, 2005.

(SEAL)

Lisa Rec

EXHIBIT A
LEGAL DESCRIPTION-AVISTA ADVENTIST HOSPITAL ANNEXATION

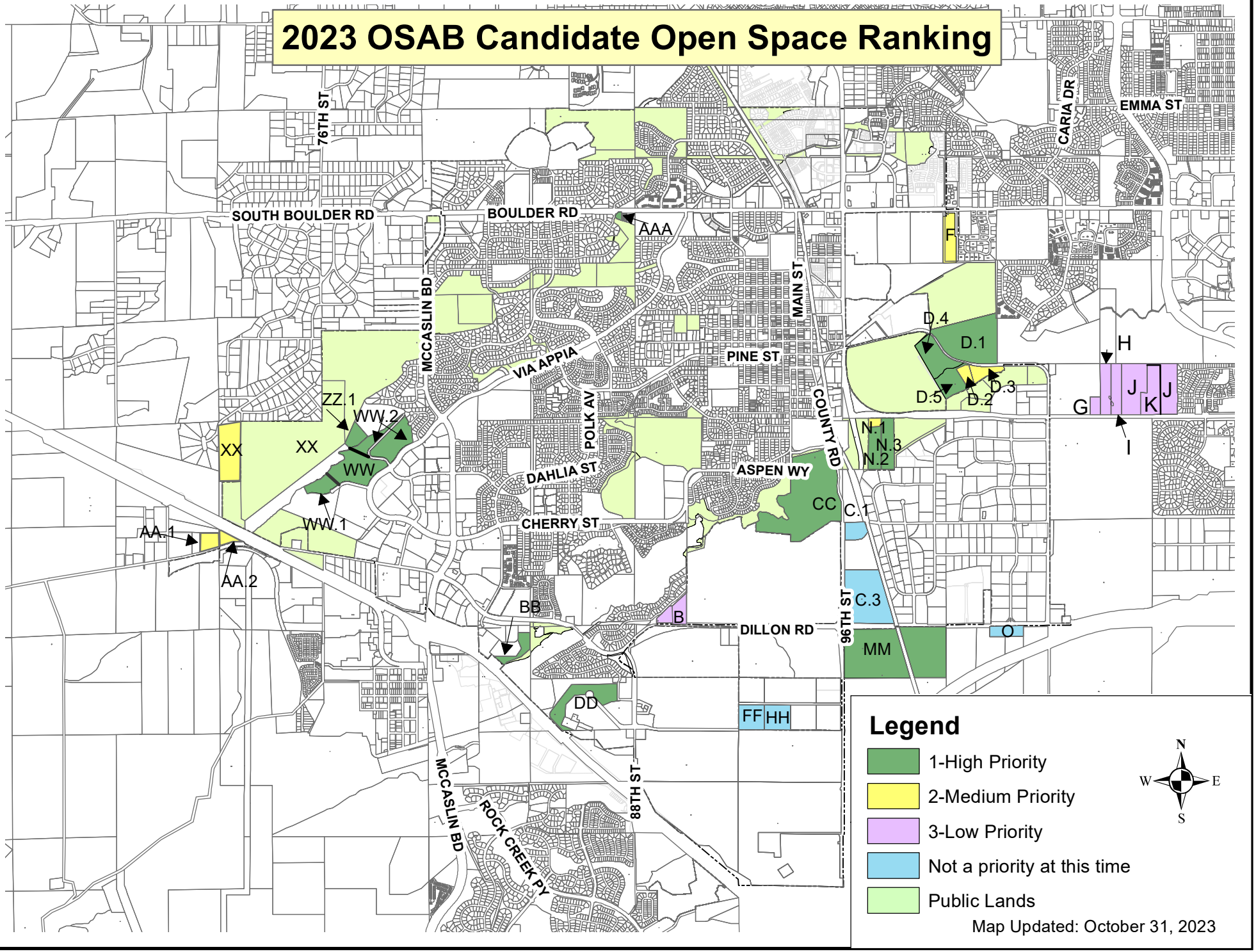
A PARCEL OF LAND SITUATED IN THE SE ¼ OF SECTION 19, TOWNSHIP 1 SOUTH, RANGE 69 WEST OF THE 6TH P.M., COUNTY OF BOULDER, STATE OF COLORADO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE NE CORNER OF SAID SE ¼;
THENCE SOUTH 00 DEGREES 03 MINUTES 46 SECONDS WEST A DISTANCE OF 422.75 FEET;
THENCE SOUTH 83 DEGREES 59 MINUTES 11 SECONDS WEST A DISTANCE OF 778.02 FEET;
THENCE NORTH 38 DEGREES 59 MINUTES 03 SECONDS WEST A DISTANCE OF 316.16 FEET;
THENCE NORTH 90 DEGREES 00 MINUTES 00 SECONDS WEST A DISTANCE OF 392.03 FEET;
THENCE NORTH 63 DEGREES 24 MINUTES 47 SECONDS WEST A DISTANCE OF 515.11 FEET;
THENCE NORTH 89 DEGREES 07 MINUTES 21 SECONDS EAST A DISTANCE OF 1825.98 FEET TO THE POINT OF BEGINNING.

THE ABOVE DESCRIBED PARCEL CONTAINS 576,375 SQ. FT. OR 13.23 ACRES, MORE OR LESS.

3/20/02 8 50 AM[sjl]F \Office\Lousville\Annexation\Avista Annexation Agrmt (final)

2023 OSAB Candidate Open Space Ranking



RESOLUTION NO. 01
SERIES 2025

A RESOLUTION RECOMMENDING TO THE CITY COUNCIL APPROVAL OF A PUBLIC USE DEDICATION OF APPROXIMATELY 7.5 ACRES TO BE DESIGNATED OPEN SPACE AS PART OF THE AVISTA ADVENTISTS HOSPITAL GENERAL DEVELOPMENT PLAN, AMENDMENT NO. 2

WHEREAS, Portercare Adventist Health Systems has applied for an amendment to the Avista Adventist Hospital General Development Plan, which includes the dedication of an approximate 7.5-acre parcel for open space, revising the maximum allowed development area, and revising setback standards and other associated development notes; and

WHEREAS, Section 4.02.050 of the Louisville Municipal Code outlines the process and standards for the Open Space Advisory Board to review development applications at a public hearing and make a recommendation to the City Council on the relevant aspects of those applications; and

WHEREAS, the Open Space Advisory Board has considered the application at a duly noticed public hearing on September 24, 2025, where evidence and testimony were entered into the record.

NOW THEREFORE, BE IT RESOLVED that the Open Space Advisory Board of the City of Louisville, Colorado does hereby recommend to the City Council approval of a public use dedication of approximately 7.5 acres to be designated Open Space as part of the Avista Adventists Hospital General Development Plan, Amendment No. 2.

The Board further recommends that prior to the City Council hearing that the applicant meets with City staff to explore if additional areas of Parcel DD, designated as a High Priority by OSAB as shown on the 2023 Priority Acquisition Map, may be considered for dedication, that the applicant consider allowing designation of the property as Open Space – Protected Land, and consider if a trail alignment could be allowed through the designated parcel at a future date.

PASSED AND ADOPTED this 24th day of September, 2025.

By: _____
Susan McEachern, Chair
Open Space Advisory Board

Attest: _____
Brad Pugh, Secretary
Open Space Advisory Board

RESOLUTION NO. 12
SERIES 2025

A RESOLUTION RECOMMENDING TO THE CITY COUNCIL APPROVAL OF THE AVISTA ADVENTISTS HOSPITAL GENERAL DEVELOPMENT PLAN, AMENDMENT NO. 2

WHEREAS, Portercare Adventist Health Systems has applied for an amendment to the Avista Adventist Hospital General Development Plan, which includes revising the maximum allowed development area, revising setback standards and other associated development notes, and the dedication of an approximately 7.5-acre parcel for open space; and

WHEREAS, the Planning Commission finds that the proposed amendment is consistent with the purpose of the Planned Community Zone District and meets all standards for General Development Plans outlined and Chapter 17.72 of the Louisville Municipal Code; and

WHEREAS, the Planning Commission has considered the application at a duly noticed public hearing on September 25, 2025, where evidence and testimony were entered into the record, including the findings in the Louisville Planning Commission Staff Report dated September 25, 2025.

NOW THEREFORE, BE IT RESOLVED that the Planning Commission of the City of Louisville, Colorado does hereby recommend to the City Council approval of the Avista Adventists Hospital General Development Plan, Amendment No. 2.

PASSED AND ADOPTED this 25th day of September, 2025.

By: _____
Steve Brauneis, Chair
Planning Commission

Attest: _____
Cullen Choi, Secretary
Planning Commission

RESOLUTION NO. 13
SERIES 2025

A RESOLUTION RECOMMENDING TO THE CITY COUNCIL APPROVAL OF THE CONOCOPHILLIPS CAMPUS GENERAL DEVELOPMENT PLAN, AMENDMENT NO. 1

WHEREAS, Portercare Adventist Health Systems has applied for an amendment to the ConocoPhillips General Development Plan, which includes revising the allowed building area and establishing allowed building heights and massing standards within Lot 1, Block 2 of Redtail Ridge Filing No. 1; and

WHEREAS, the Planning Commission finds that the proposed amendment is consistent with the purpose of the Planned Community Zone District and meets all standards for General Development Plans outlined and Chapter 17.72 of the Louisville Municipal Code; and

WHEREAS, the Planning Commission has considered the application at a duly noticed public hearing on September 25, 2025, where evidence and testimony were entered into the record, including the findings in the Louisville Planning Commission Staff Report dated September 25, 2025.

NOW THEREFORE, BE IT RESOLVED that the Planning Commission of the City of Louisville, Colorado does hereby recommend to the City Council approval of the ConocoPhillips Campus General Development Plan, Amendment No. 1 with the following condition:

1. Future Planned Unit Development applications for Lot 1, Block 2 of Redtail Ridge Filing No. 1 shall include a traffic study and a development agreement requiring the construction by the applicant of any transportation infrastructure needed to accommodate the development.

PASSED AND ADOPTED this 25th day of September, 2025.

By: _____
Steve Brauneis, Chair
Planning Commission

Attest: _____
Cullen Choi, Secretary
Planning Commission

Rob Zuccaro

Subject: FW: Resolution 12, Series 2025 and Resolution 13, Series 2025

From: Clif Harald <clif.harald@firstflatironconsulting.com>
Sent: Tuesday, September 23, 2025 12:24 PM
To: Planning <planning@Louisvilleco.gov>
Subject: Resolution 12, Series 2025 and Resolution 13, Series 2025

[EXTERNAL EMAIL] From outside of City of Louisville DO NOT CLICK links or attachments unless you validate the sender and know the content is safe.

Planning Commission Members,

I'm writing to advocate for the staff recommendations to approve Resolution 12, Series 2025 and Resolution 13, Series 2025. The resolutions recommend that City Council approve the Avista Adventist Hospital General Development Plan Amendment No. 2, and the ConocoPhillips Campus GDP, Amendment No. 1.

I know you're well-informed about the details of the proposed amendments and how they comply with the city comp plan and municipal code, as summarized below. I hope their compliance with city regulations compels you to support the amendments. And, perhaps equally important, that Planning Commission's support demonstrates to City Council your resolve to see the advancement of the GDPs. foundation for its ongoing support of Redtail Ridge and AdventHealth Avista.

Summary compliance of the proposed amendments with city regulations:

1. The Louisville Comp Plan anticipated development of a research campus such as Redtail Ridge within the Phillips66 Rural Special District. The Comp Plan states that structures within the District that are clustered, located outside of the public view shed, and buffered by surrounding topography and open space may exceed three stories. The staff finds that the proposed building heights exceeding three stories for the Hospital Parcel would be consistent with these policies.

2. The proposed ConocoPhillips Campus GDP amendments are consistent with the purpose of the Planned Community Zone District. Staff has determined that the amendments proposed in the GDP for the Hospital Parcel establish minimum standards to address building massing, ensuring quality architectural design of the taller building elements. Staff also asserts that the Hospital Parcel is also located at the lowest elevation point of the Redtail Ridge development, helping mitigate overall height in relation to surrounding development.

3. For the Avista Adventist Hospital GDP, the proposed public land dedication is being offered by the applicant at the city's request. It is not required by the LMC.The land dedication represents about half of a 15-acre parcel ranked as a high priority on the OSAB's 2023 Candidate Open Space Ranking map. It is

contiguous to the original 10-acre open space parcel, expanding the overall open space parcel to more than 17 acres. Staff finds that the land dedications on the north side of the project and revised setbacks will provide required buffering for the development north of the project.

Thank you for taking my comments into consideration. I hope you'll support the findings of your staff.

Best,
Clif Harald
Ward 2 Resident

Rob Zuccaro

Subject: FW: public comment case #ZON-000555-2025

From: Nancy Jones <ningalls3@gmail.com>
Sent: Monday, September 8, 2025 9:02 AM
To: Planning <planning@Louisvilleco.gov>
Cc: kevinjones1308@gmail.com
Subject: public comment case #ZON-000555-2025

[EXTERNAL EMAIL] From outside of City of Louisville DO NOT CLICK links or attachments unless you validate the sender and know the content is safe.

RE: Avista Adventist Hospital GDP

Thank you for taking my public comment on this proposal. My home in Superior has a direct view of the Avista campus and surrounding open area. The space labeled "lot B" in the GDP amendment is our view, and a primary reason we purchased our home in Superior with a majority of our life savings.

If I am reading the information posted on the Louisville government website correctly, it looks like the proposal includes designating "lot B" as open space and therefore prohibiting any building to the west of the hospital complex (in between the hospital complex and the golf course). It is very important to us that nothing is built on that area that is currently open. Please keep that space undeveloped.

Thank you,

Nancy Jones
785 Josephine Way
Superior, CO 80027

Rob Zuccaro

Subject: FW: Sept 25 agenda - are there studies for non-car trips to Redtail Ridge?

Dear Planning Commission,

I was reviewing the agenda doc for the Sept 25th meeting of the Planning Commission, which contains a good 200+ pages of Redtail Ridge planning documents, and I'm struck by how car-centric it is. The "Traffic and Mobility Study" only seems to study the mobility of cars.

Are there other studies that have been done, or future studies planned, to lay out the trail network for bikes, and analyze the expected trips per day and needs of bike commuters? How about bus stops and bus trips? I'm really interested to see how we're planning for a city where people don't have to commute by car. I read through these packets fairly often but I don't think I've seen anything yet. I'm not sure if I've missed it.

Thank you,
David

Rob Zuccaro

Subject: FW: Advocate for a fair deal for Louisville

From: tamar krantz <tamarkrantz@gmail.com>
Sent: Thursday, September 25, 2025 2:39 PM
To: Planning <planning@Louisvilleco.gov>; Planning Commission <PlanningCommission@louisvilleco.gov>
Cc: Steve Brauneis <stevebrauneis@hotmail.com>
Subject: Advocate for a fair deal for Louisville

[EXTERNAL EMAIL] From outside of City of Louisville DO NOT CLICK links or attachments unless you validate the sender and know the content is safe.

Dear Planning Commissioners,

I sent the email below to OSAB for their meeting last night. I hope you will consider this in your meeting. I also hope that you will advocate for adding an ordinance to our development code to set standards for this type of transfer. This has never been done in Louisville before. If you allow it, please create a framework for the future.

Thanks,

Tamar

Dear OSAB members,

Thankyou for the work you do to advocate for our Open Space and ensure that our city uses our financial resources wisely.

Providing an additional 364,400 square feet of development rights to a private entity has monetary value. **The additional density offered at RTR could be worth many millions of dollars,** especially since the comp plan can lead to residential zoning. (The draft comp plan shows "Regional Center" allowing up 30 to 40 dwelling units per acre along with the hospital in the Avista parcel at RTR.) As stewards of our city's financial resources as well as Open Space resources, **please advocate for a fair deal**.

This is not really a "swap." The removal of the development allotment on the Avista GDP is not permanent. Your meeting packet for Wednesday mentions that the primary purpose of the Avista GDP amendment is to “swap development rights”. Staff confirmed to me that the "removal" of the 351,306 sq. ft development allotment can be reversed with a new GDP amendment. (It is likely to be reversed and even increased in the next few years to accommodate the densities proposed in our comprehensive plan.) It is more realistic to call this a "density gift."

This deal has costs for our city in the form of traffic and water impacts. It costs our public trust since voters elected to limit the RTR development to 2.56 million square feet in 2022. There are opportunity costs-- the city cannot provide "density gifts" to all property owners. It is not a sustainable practice.

Our city code does not regulate this type of "density gift"-- or as the proposal calls it a "density swap". This is a very unusual and unprecedented request from the applicant. The earlier versions of this application requested a "transfer of development rights." Please ask staff to explain the larger framework for "transfer of development rights" or "density swaps." Will this be a new mechanism to acquire open space? If so, there should be a **monetary analysis comparing the values of the 7.5 acre donation and the "density gift."** This type of analysis would be typical and expected for a transfer of development rights. Changing the words to "density swap" should not change your expectations for a fair deal.

Please advocate for a real "swap". Ask for a development agreement that permanently cancels development rights on the undeveloped parcels on the Avista GDP.

Thanks,

Tamar Krantz

Rob Zuccaro

Subject: FW: Please recommend a fair deal for Louisville

From: tamar krantz <tamarkrantz@gmail.com>
Sent: Monday, September 22, 2025 8:37 PM
To: Ember Brignull <Ebrignull@louisvilleco.gov>
Subject: Please recommend a fair deal for Louisville

[EXTERNAL EMAIL] From outside of City of Louisville DO NOT CLICK links or attachments unless you validate the sender and know the content is safe.

Hi Ember,

Can you please share this with OSAB and add it to the meeting packet?

Dear OSAB members,

Thankyou for the work you do to advocate for our Open Space and ensure that our city uses our financial resources wisely.

Providing an additional 364,400 square feet of development rights to a private entity has monetary value. **The additional density offered at RTR could be worth many millions of dollars,** especially since the comp plan can lead to residential zoning. (The draft comp plan shows "Regional Center" allowing up 30 to 40 dwelling units per acre along with the hospital in the Avista parcel at RTR.) As stewards of our city's financial resources as well as Open Space resources, **please advocate for a fair deal**.

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Please advocate for a real "swap". Ask for a development agreement that permanently cancels development rights on the undeveloped parcels on the Avista GDP.

Thanks,

Tamar Krantz

LOSA LETTER TO OSAB 9/16/25

Dear Members of the Open Space Advisory Board,

I am writing to you on behalf of Louisville Open Space Advocates (LOSA), a group of residents who worked on the successful Open Space and Parks Sales Tax 2C ballot initiative and continue to advocate for our Open Spaces. We thank you for your steadfast commitment to protecting Louisville's natural spaces and advising on land use decisions that reflect our community's priorities.

The RTR, DD, and Avista parcels—and their development rights—must be considered together. Land ownership and development entitlements are interconnected decisions that shape one another. They are intrinsically linked. Any decision about one shapes the others. This context has direct consequences. The transfer may appear procedural, but it has long-term implications for land use, density, and the environment.

This land transfer/open space dedication— roughly half of the DD property—is part of a broader negotiation to transfer 364,400 sq. ft. of development rights from the current Avista site to the new hospital location at Redtail Ridge. Because Louisville lacks a formal development rights transfer process, it's unclear whether this move permanently extinguishes those rights at the current Avista site or simply pauses them until the GDP is amended again. To ensure the development rights transfer is permanent, full dedication of the DD property as open space would provide greater clarity and protection.

While you are being asked to consider whether to recommend acceptance of just half of DD—the proposed 7.5-acre land transfer adjacent to the existing 10-acre Open Space parcel—we urge you to advocate for three more impactful actions:

- **Support the full transfer of the entire 15.42-acre DD property**, rather than a disruptive partial dedication that fragments the landscape and weakens long-term planning.
- **Request that the negotiation include dedication of Lot 7 and the undeveloped portion of Lot 5**, (https://www.louisvilleco.gov/home/showpublisheddocument/46100/638926829259000000) creating a more diverse and ecologically valuable open space area and establishing a genuine development boundary that reflects community priorities and long-term stewardship.
- **Recommend an Open Space – Protected classification**, which allows passive recreation and trail connections—such as the link to the US 36 bikeway already identified in your OSAB acquisition recommendation. The owner-proposed Open Space – Preserved classification would prohibit trails and limit public access, undermining both connectivity and community benefit.

This is a one-time opportunity to secure a uniquely valuable piece of land—one that offers far greater ecological benefit and long-term protection than a partial acquisition. OSAB has already rated the DD parcel as a **high-priority acquisition**, (https://laserfiche.louisvilleco.gov/WebLink/DocView.aspx?dbid=1&id=636819&page=1&cr=1) citing its:

- Good connectivity to other Open Space
- Importance for conservation if Avista leaves the location
- Potential to prevent future development
- Valuable ground vegetation, grasses, and habitat
- Hilltop buffer
- Excellent potential for a trail connection to the US-36 bikeway

Acquiring the full parcel and classifying it as Open Space- Protected would:

- Preserve more habitat and strengthen the ecological integrity of the site
- Enhance viability and biodiversity by connecting directly to existing Open Space
- Restrict future development at the current Avista site by removing land from eligibility for “return” of development rights under future zoning or Comp Plan changes
- Allow for trail connections and community access benefits

In accord with Louisville’s City Charter the classification of open space is not determined by the property owner—it is a formal decision made by the City, by ordinance. OSAB’s role is to advise Council on the most appropriate classification based on ecological value, public benefit, and long-term stewardship. In this case, we urge OSAB to recommend the Open Space-Protected classification that establishes both the property's connectivity potential and the community’s vision for accessible, protected open space.

While OSAB is not reviewing the development rights transfer itself, your voice is essential in shaping the City’s priorities and response. Your tenacious advocacy on behalf of the environment and our community is not only your charge—it’s your strength. You have our full support to stand strong and urge the City to negotiate for the full DD parcel as a fair and forward-looking exchange and to classify the land as Open Space - Protected under the City Charter.

Thank you for your thoughtful stewardship and your commitment to protecting what makes Louisville special.

Warm regards,
Helen Moshak on behalf of LOSA

City Council First Reading

October 7, 2025

ORDINANCE 1905, SERIES 2025:
APPROVING THE AVISTA ADVENTIST HOSPITAL GDP, AMENDMENT NO. 2

ORDINANCE 1904, SERIES 2025:
APPROVING THE CONOCOPHILLIPS CAMPUS GDP, AMENDMENT NO. 1

Presented by: Rob Zuccaro, Community Development Director

City of Louisville

Proposal

- Applicant – Portercare Adventist Health Systems
- Intent to Build New Hospital Campus in Redtail Ridge
- Amend GDPs to Adjust Maximum Allowed Building Area on Each GDP
  - ✓ Decrease Cap for Avista Adventist Hospital GDP
  - ✓ Increase Cap for ConocoPhillips Campus GDP (Limited to Hospital Campus Parcel)
- Establish Building Height and Massing Standards for Hospital Campus Parcel
- Dedicate ~7.5-Acre Parcel for Open Space on North Side of Avista Adventist Hospital GDP

City of Louisville

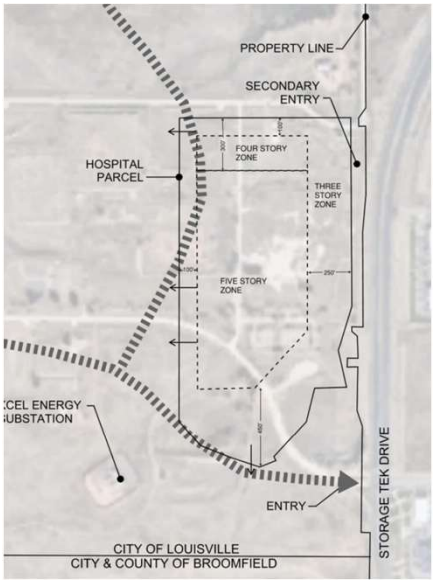
Proposal

- Adjustments to Maximum Building Areas
  - ✓ Avista Adventist Hospital GDP
    - Remove 351,306 sq. ft. of Allowed Future Development from 750,000 sq. ft. Maximum, Resulting in New Maximum of 398,694 sq. ft., matching existing development
  - ✓ ConocoPhillips Campus GDP
    - Add 364,400 sq. ft. of Allowed Future Development Specific to Hospital Parcel
    - Increases Total Allowed Development from 2,542,380 sq. ft. to 2,906,780 sq. ft.
  - ✓ Net Increase Between Two GDPs is Then Limited to 13,094 sq. ft.
  - ✓ Purpose of "Swap" is to Ensure Adequate City Water and Sewer Infrastructure and Limit Any Potential New Traffic Impacts

City of Louisville

Proposal

- Building Height and Massing Standards
  - ✓ Create Three Building Height Zones
    - 3 Stories – 45' Building; 50' Parapet; 65' Mechanical Screen
    - 4 Stories – 60' Building; 65' Parapet; 80' Mechanical Screen
    - 5 Stories – 85' Building; 90' Parapet; 105' Mechanical Penthouse
  - ✓ Massing Standards To Ensure Architectural Interest and Moderate Visual Impacts
    - 15' Building Step Backs for Building Elements Above 45'
    - Limit Building Footprint Above 45' to 50% of Building Footprint
    - Allowance for Architectural Projections Up to 2' and Defining Architectural Elements with 2' Depth Variations
    - 10' Step Backs for Rooftop Enclosures
  - ✓ Hospital Parcl Located at Lowest Elevation of Redtail Ridge



City of Louisville

Proposal

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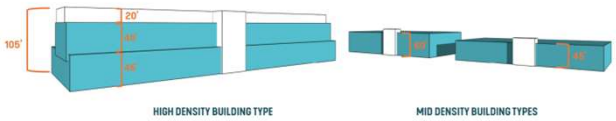
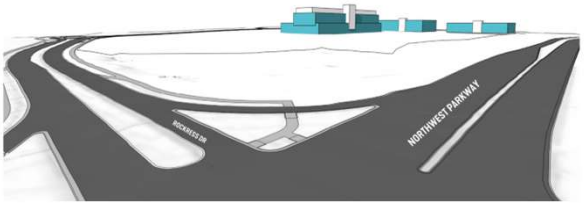


EXAMPLE LAYOUT

Possible building mass resulting from the design parameters on Hospital Parcel



City of Louisville

Proposal

- Dedicate ~7.5 Acre Parcel for Open Space
  - ✓ Part of Parcel Designated by OSAB as High Priority for Acquisition
  - ✓ Adjacent to 10 Acre Parcel Previously Dedicated by Hospital
  - ✓ Applicant Requests Parcel Not Include Trails, Trail Heads and Other Amenities
  - ✓ Not Part of Meeting Code Requirement for Public Land Dedication
    - LMC Sec. 16.16.060, Public Use Dedication When Property Subdivided
    - LMC Sec. 17.28.080, Additional Open Space Dedications Through PUDs

City of Louisville

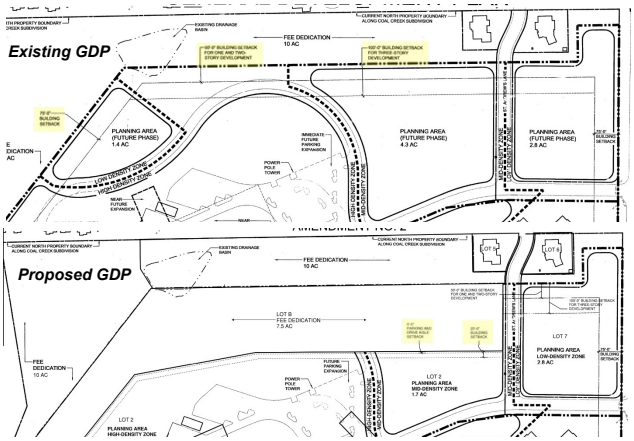
OSAB Recommendation

- Open Space Advisory Board Hearing on 9/24/2025
- Voted Unanimously to Recommend Approval
- Asked for Further Discussions before the City Council Hearing on Total Area of Open Space Dedication, Management Designation, and Potential For a Future Trail Alignment.

City of Louisville

Proposal

- Part of Open Space Dedication Includes Adjusting Building Setbacks
  - ✓ Current Setbacks of 50' for 1 and 2-Story Buildings and 100' for 3-Story Buildings on North; 75' on Northwest
  - ✓ Proposed Setback of 5' to Parking and Drive Aisles and 20' to Building
  - ✓ Overall Building Setbacks from Coal Creek Residential Neighborhood Would Increase



City of Louisville

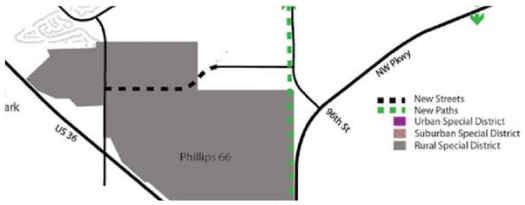
Analysis

- GDP and Planned Community Zone District (PCZD) Standards Outlined in LMC Chapter 17.72
- Proposed GDP Amendments Consistent with Purpose of PCZD to Encourage Use of Contemporary Land Planning Principles and Coordinated Community Design
  - ✓ Establishes Appropriate Design Standards to Address Building Massing and Architectural Design
  - ✓ Consistent With Building Heights to East Across NW Parkway in Broomfield
  - ✓ Consistent with Building Heights Previously Approved for ConocoPhillips
  - ✓ Ensures Adequate City Utility Services and Limits Traffic Impacts
  - ✓ Increased Building Buffers and Setbacks from Adjacent Residential Development

City of Louisville

Analysis

- 2013 Comprehensive Plan Designates Both GDP Areas As Part of Phillips 66 Rural Special District
  - ✓ Policies Allow Taller Building Heights When Development is Clustered and Out of View Sheds
    - Redtail Ridge Public Land Dedications on North and Northwest Sides of Development Result in Clustering of Development to South and East of Redtail Ridge
    - There is a Large Open Space Buffer to the South in Broomfield Between US 36 and Redtail Ridge
  - ✓ ConocoPhillips Approvals Allowed Taller Building Heights Up to 95' in One Subarea and 65' in Other Subareas



City of Louisville

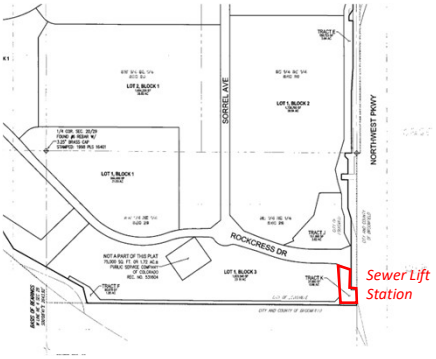
Analysis

- Traffic Study
  - ✓ Majority of Trips from US 36/NW Parkway South, NW Parkway North, and 96th Street
  - ✓ Estimates Additional 658 Weekday Trips, 47 Morning Peak Hour Trips, and 61 Afternoon Peak Hour Trips
  - ✓ Main Access from Rockcress Drive
  - ✓ For Full Buildout, Recommends Transportation Improvements Needed In Addition to Redtail Ridge Improvements Under Construction
  - ✓ Staff Recommends Condition for Updated Traffic Study and Development Agreement at time of PUD Approval

City of Louisville

Analysis

- Waste Water Infrastructure
  - ✓ Analysis Provided to Demonstrate Adequate Water and Wastewater Infrastcture Available, Include Sewer Lift Station in Redtail Ridge



City of Louisville

Planning Commission Recommendation

- Planning Commission Hearing on 9/25/2025
- Voted Unanimously to Recommend Approval
- Asked for Further Discussions before the City Council Hearing on Total Area of Open Space Dedication, Management Designation, and Potential For a Future Trail Alignment.

City of Louisville

Staff Recommendation

- Staff recommends approval of Ordinance No. 1905, Series 2025, Approving the Avista Adventists Hospital General Development Plan, Amendment No. 2.

- Staff recommends approval of Ordinance No. 1904, Series 2025 Approving the ConocoPhillips Campus GDP, Amendment No. 1 with the following condition:
  - Future Planned Unit Development applications for Lot 1, Block 2 of Redtail Ridge Filing No. 1 shall include a traffic study and a development agreement requiring the construction by the applicant of any transportation infrastructure needed to accommodate the development.

City of Louisville