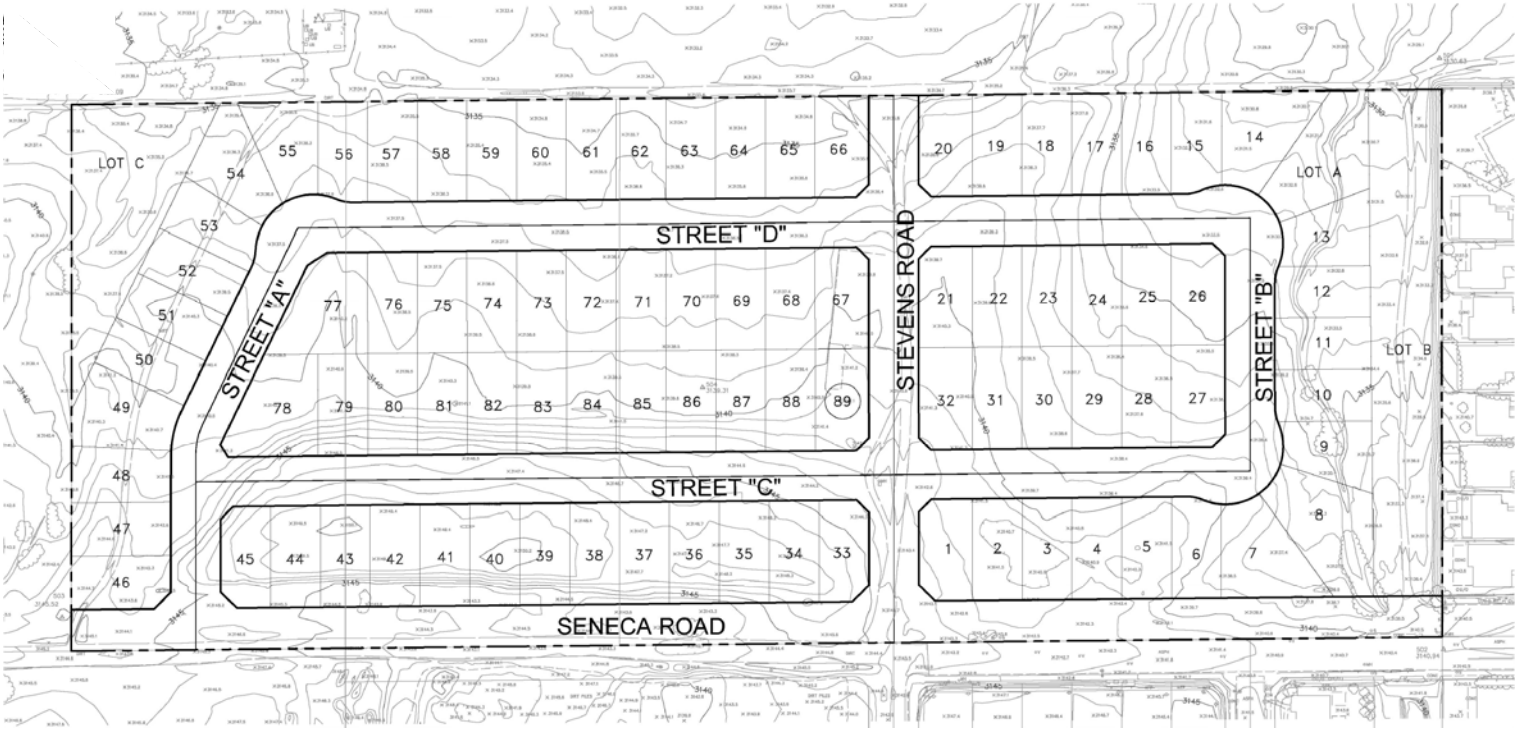
TTM 20398 SINGLE FAMILY RESIDENTIAL PROJECT
TRAFFIC IMPACT STUDY
City of Adelanto, California



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SINGLE FAMILY RESIDENTIAL PROJECT
TRAFFIC IMPACT STUDY
City of Adelanto, California

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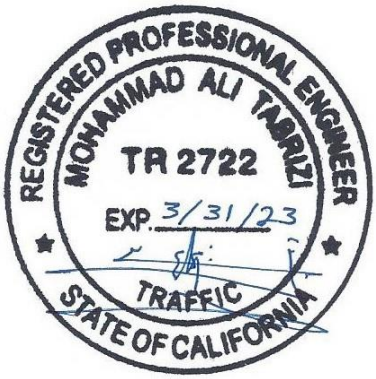

July 7, 2021

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1.0 Introduction

1.1 Purpose of Report and Study Objectives

The purpose of this traffic impact study is to evaluate the proposed TTM 20398 Single Family Residential Project (hereinafter referred to as project) from a traffic and circulation standpoint and to determine whether the proposed project will have a significant impact on the environment. This study has been conducted pursuant to the *San Bernardino County Transportation Impact Study Guidelines, July 2019* (TIA Guidelines) and the California Environmental Quality Act (CEQA) requirements.

This traffic study has been prepared in accordance with the scope of work set forth prior to initiating the analysis.

1.2 Site Location

The proposed project is located along the north side of Seneca Road, west of Aster Road, in the City of Adelanto. The project site is currently vacant. The project is consistent with the general plan land use designation (Single Family – R1).

The project site location map is shown in Exhibit 1-1.

1.3 Project Description

The proposed project is planned to consist of the following land uses:

- 89 single family residential dwelling units.

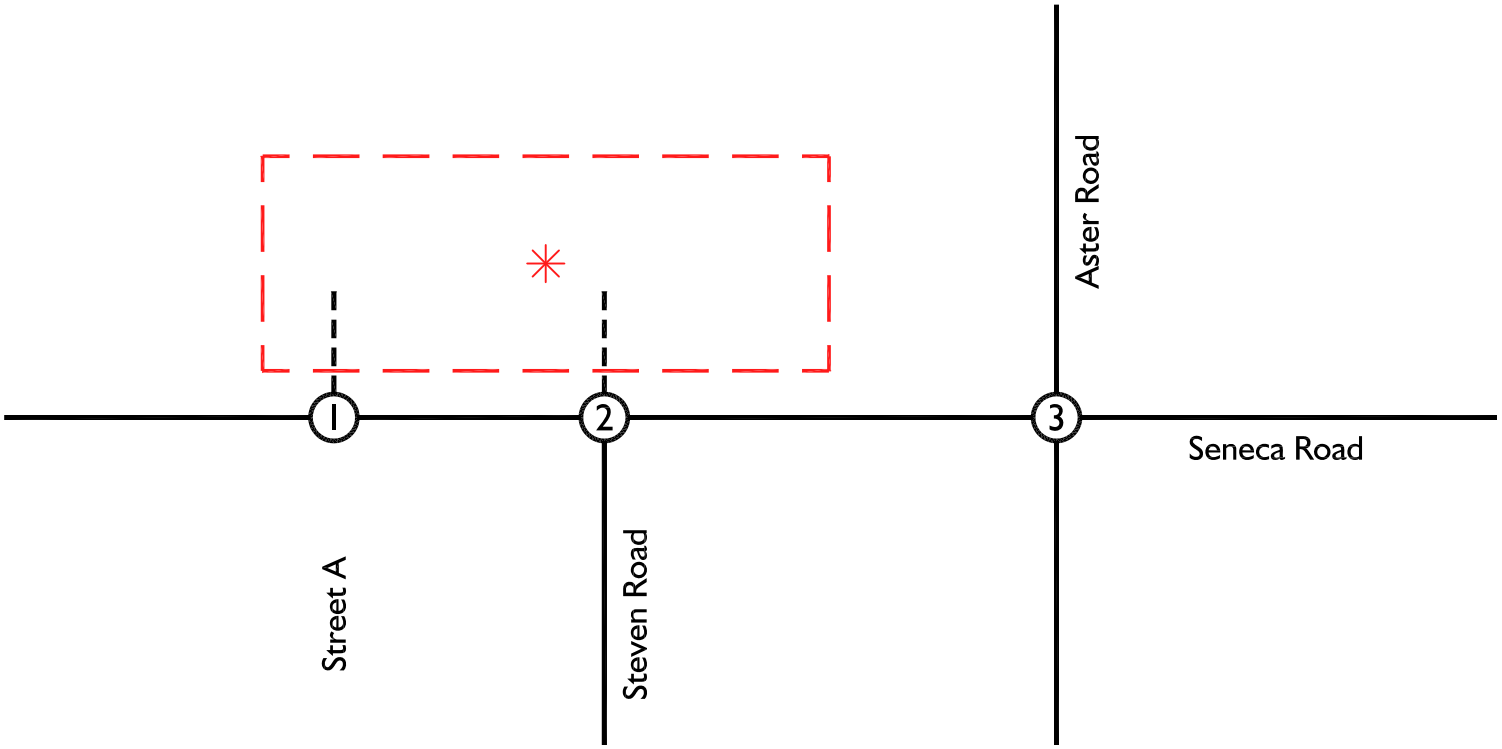
Access for the project is planned to be provided via the following:

- Two (2) unsignalized full access intersections along Seneca Road.

The project is planned to open in 2025 and will be evaluated in one (1) single phase.

The project site plan is shown in Exhibit 1-2.

Exhibit 1-1
Location Map



Legend:

(1) = Study Area Intersection

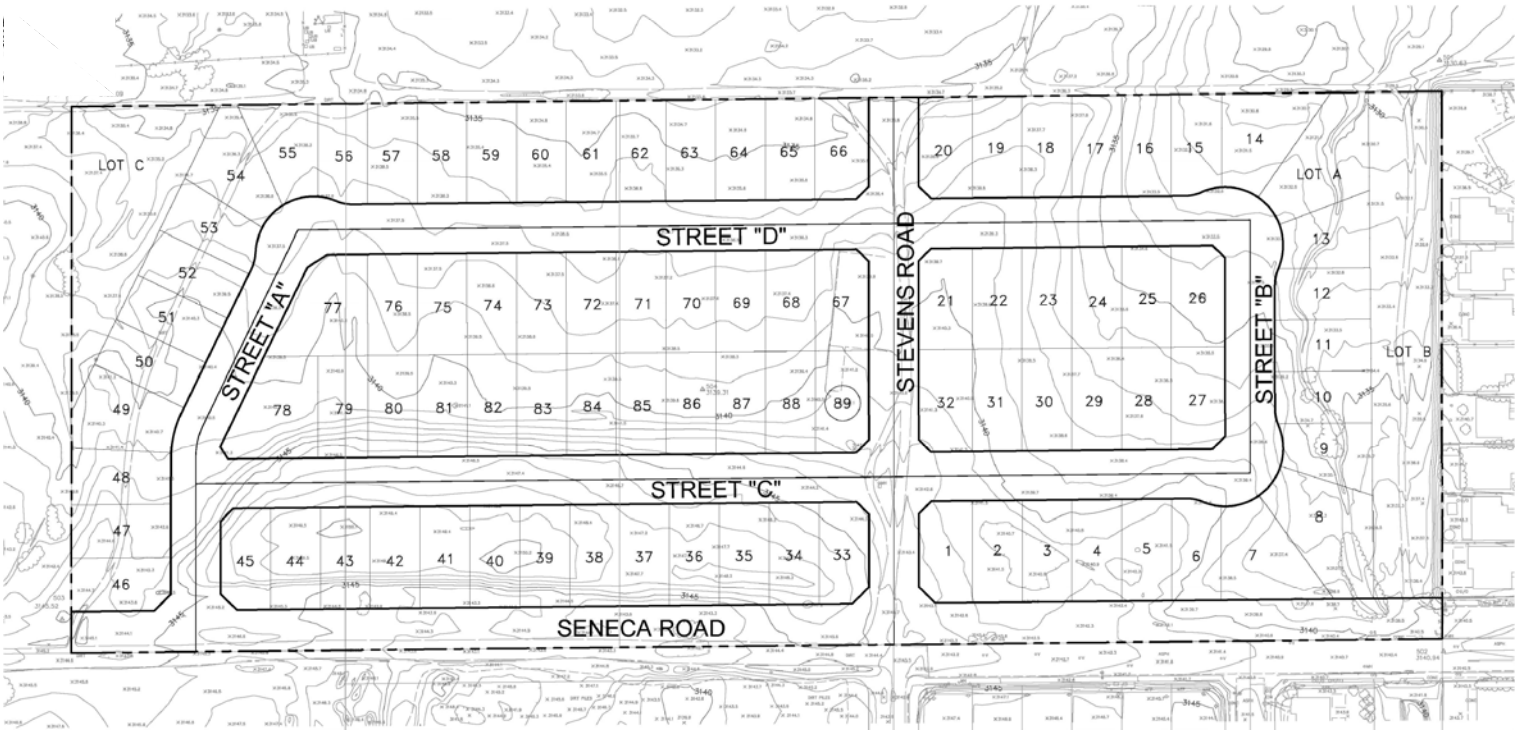
✳ = Project Site

- - - = Project Site Boundary

- - - = Project Access Driveway

N

Exhibit 1-2
Site Plan



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2.0 Study Area & Analysis Methodology

This section of the report presents the analysis study area and the methodologies used to perform the traffic analyses summarized in this report in accordance with the County of San Bernardino requirements.

This section also discusses the agency-established applicable performance criteria and thresholds of significance for the study facilities.

2.1 Study Area Intersections & Analysis Scenarios

The study area included in this analysis has been determined based upon existing and future transportation facilities within the vicinity of the site where the project may contribute a significant amount of traffic. Based on the review of the project's preliminary trip generation, geographical area, and circulation system, the traffic study evaluates the following study intersections utilizing the HCM 6th Edition methodology:

1. Street A / Seneca Road;
2. Steven Road / Seneca Road; and
3. Aster Road / Seneca Road.

The study intersection level of service performance has been evaluated for the following study scenarios for weekday AM (7:00 AM to 9:00 AM) and weekday PM (4:00 PM to 6:00 PM) peak hours:

- Existing Conditions;
- Existing Plus Project Conditions;
- Project Opening Year (2025) Without Related Projects Without Project Conditions;
- Project Opening Year (2025) Without Related Projects With Project Conditions;
- Project Opening Year (2025) With Related Projects Without Project Conditions; and

- Project Opening Year (2025) With Related Projects With Project Conditions.

2.2 Study Intersection Peak Hour Level of Service Analysis Methodology

Level of Service (LOS) is commonly used as a qualitative description of intersection operation and is based on the capacity of the intersection and the volume of traffic using the intersection.

Consistent with the County of San Bernardino requirements, the methodology used to assess the operation of the study area intersections is the Highway Capacity Manual 6th Edition (HCM 6th) methodology. The Synchro analysis software was used to calculate the HCM methodology at the study intersections.

The HCM defines level of service as a qualitative measure which describes operational conditions within a traffic stream, generally in terms of such factors as speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience, and safety. The criteria used to evaluate LOS (Level of Service) conditions vary based on the type of roadway and whether the traffic flow is considered interrupted or uninterrupted.

The definitions of level of service for uninterrupted flow (flow unrestrained by the existence of traffic control devices) are:

- LOS A represents free flow. Individual users are virtually unaffected by the presence of others in the traffic stream.

- LOS B is in the range of stable flow, but the presence of other users in the traffic stream begins to be noticeable. Freedom to select desired speeds is relatively unaffected, but there is a slight decline in the freedom to maneuver.

- LOS C is in the range of stable flow, but marks the beginning of the range of flow in which the operation of individual users becomes significantly affected by interactions with others in the traffic stream.

- LOS D represents high-density but stable flow. Speed and freedom to maneuver are severely restricted, and the driver experiences a generally poor level of comfort and convenience.

- LOS E represents operating conditions at or near the capacity level. All speeds are reduced to a low, but relatively uniform value. Small increases in flow will cause breakdowns in traffic movement.

- LOS F is used to define forced or breakdown flow. This condition exists wherever the amount of traffic approaching a point exceeds the amount which can traverse the point. Queues form behind such locations.

For signalized intersections, average control delay per vehicle is used to determine the level of service. For all way stop controlled intersections, the level of service is also determined based on the average control delay per vehicle. For intersections with stop control on the minor street only, the calculation of level of service is dependent on the occurrence of gaps occurring in the traffic flow of the main street, and the level of service is determined based on the worst individual movements or movements sharing a single lane. The intersection level of service analysis utilizes the following analysis parameters consistent with the County of San Bernardino requirements for evaluation of potential traffic impacts:

- Optimized signal timing; and

- Saturation flow rates consistent with the San Bernardino County Transit Authority Congestion Management Program (SBCTA CMP):

    - 1,700 vehicles per hour green per lane (vphgpl) for exclusive left-turn lanes; and

    - 1,800 vphgpl for exclusive through and exclusive right-turn lanes.

The HCM 6th Edition analysis methodology describes the operation of an intersection using a range of LOS from LOS A (free-flow conditions) to LOS F (severely congested conditions), based on the corresponding ranges of stopped delay experienced per vehicle for signalized and unsignalized intersections as shown in the table below.

Table 2-1
HCM Level of Service - Vehicle Delay

LOS	Average Control Delay Per Vehicle (Seconds)	
	Signalized	Unsignalized
A	0.00 - 10.00	0.00 - 10.00
B	10.01 - 20.00	10.01 - 15.00
C	20.01 - 35.00	15.01 - 25.00
D	35.01 - 55.00	25.01 - 35.00
E	55.01 - 80.00	35.01 - 50.00
F	>80.00	>50.00

2.3 Study Intersection Level of Service Performance Criteria

The County of San Bernardino standard for acceptable level of service operation is LOS D or better.

2.4 Thresholds of Significance & Significant Impact Criteria

The County of San Bernardino TIA Guidelines state that the following criteria shall be used in determining whether the addition of project traffic should be considered to have significant traffic impacts. Furthermore, feasible measures must be identified to mitigate such traffic impacts. It must be noted that the following performance criteria may vary upon the region (Desert, Valley, or Mountain) a project is within, as described in the San Bernardino County General Plan. The proposed project is located within the Mountain region of San Bernardino County.

Signalized Intersections:

- Any signalized study intersection in the Valley or Mountain regions that is operating at an acceptable LOS D or better without project traffic in which the addition of project traffic causes the intersection to degrade to an LOS E or F shall identify improvements to improve operations to LOS D or better.

- Any signalized study intersection in the Valley or Mountain regions that is operating at LOS E of F without project traffic where the project increases delay by 5.0 or more seconds shall identify improvements to offset the increase in delay.

Unsignalized Intersections:

An operational improvement would be required if the study determines that either section a) or section b) occurs, and also section c) occurs:

a) The addition of project related traffic causes the intersection to degrade from an LOS D or better to an LOS E or worse in the Valley or Mountain regions.

OR

b) The project adds 5.0 seconds or more of delay to an intersection that is already projected to operate without project traffic at an LOS E or F in the Valley and Mountain regions.

AND

c) One or both of the following conditions are met:

1) The project adds ten (10) or more trips to any minor street approach.

2) The intersection meets the peak hour traffic signal warrant after the addition of the project traffic.

If the conditions above are satisfied, improvements should be identified that achieve the following:

- In the Valley and Mountain regions, improvements should be identified that would achieve LOS D or better for case a) above or pre-project LOS and delay for case b) above.

2.5 CEQA Evaluation & Vehicle Miles Traveled (VMT) Analysis

In response to Senate Bill (SB) 743, the California Natural Resource Agency certified and adopted new CEQA Guidelines in December 2018 which now identify Vehicle Miles

Traveled (VMT) as the most appropriate metric to evaluate a project's transportation impact under CEQA (§ 15064.3).

The City of Adelanto adheres to the guidelines set forth by the County of San Bernardino (*San Bernardino County Transportation Impact Study Guidelines, July 2019*) to provide recommendations in the form of thresholds of significance and methodology for identifying VMT related impacts. The proposed project is subject to a VMT analysis and will adhere to the recommendations and practices described in the County of San Bernardino TIA Guidelines.

The proposed project is located within a low VMT generating area, and is therefore expected to screen out of requiring a project-level VMT analysis.

3.0 Existing Traffic Volumes & Circulation System

This section provides a discussion of existing study area conditions and traffic volumes.

3.1 Existing Traffic Controls and Intersection Geometrics

Exhibit 3-1 identifies the existing roadway conditions within the study area. The number of through traffic lanes for existing roadways and the existing intersection controls are identified. The type of traffic control and number of lanes at an intersection are key inputs for the calculation of level of service.

3.2 Existing Traffic Volumes

Existing vehicular traffic volumes for the study area intersections are shown in Exhibit 3-2. These volumes are based upon manual peak hour turning movement counts compiled for RK in June 2021.

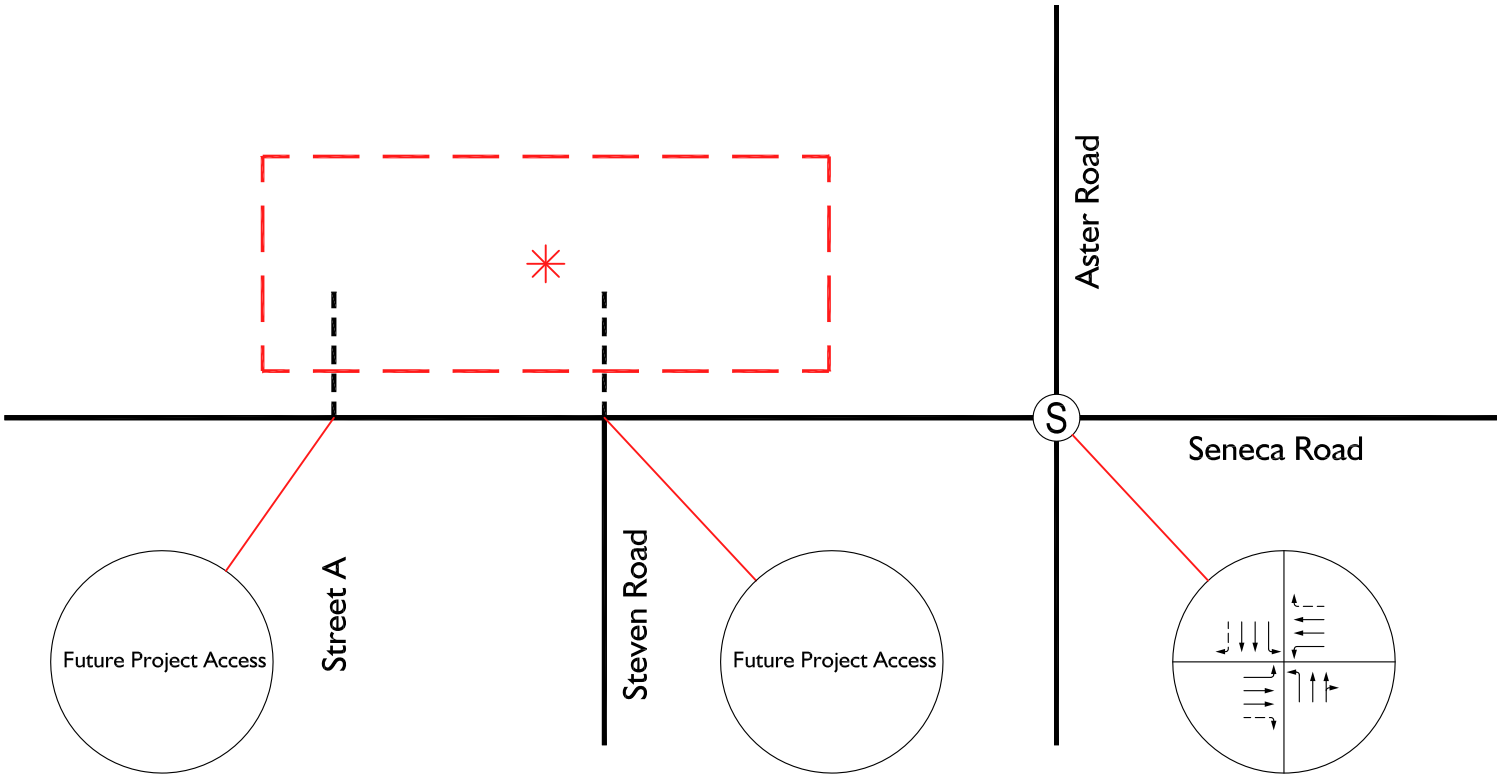
AM peak period counts were collected from 7:00 AM to 9:00 AM and PM peak period counts were collected from 4:00 PM to 6:00 PM.

The counts used in this analysis were taken from the highest hour within the peak period counted.

Traffic count worksheets are included in Appendix A.

Exhibit 3-1

Existing Lane Geometry and Traffic Controls



Legend:

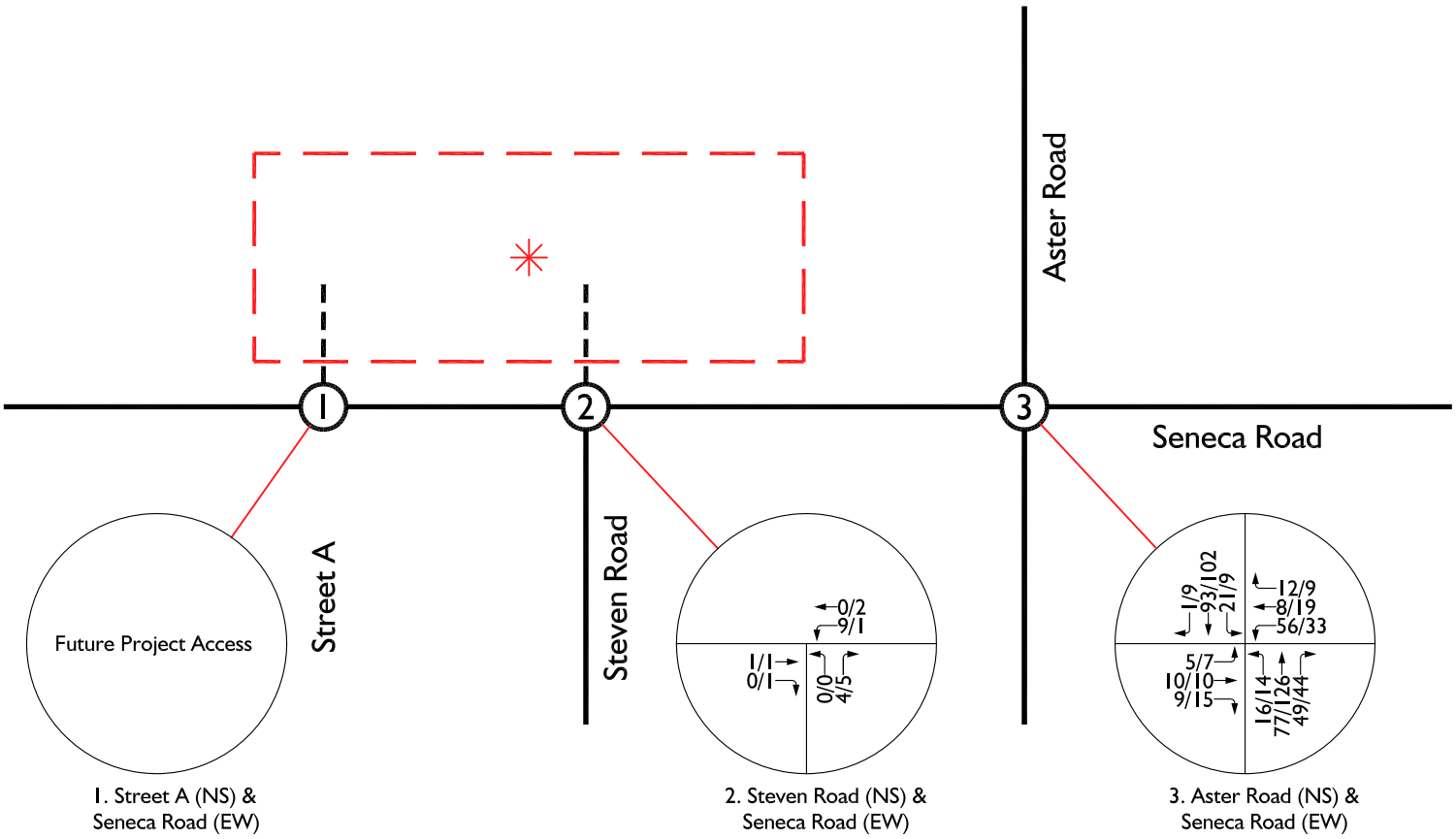
S = All Way Stop

= Defacto Right Turn

N

Exhibit 3-2

Existing Conditions Traffic Volumes



1. Street A (NS) & Seneca Road (EW)

2. Steven Road (NS) & Seneca Road (EW)

3. Aster Road (NS) & Seneca Road (EW)

Legend:

(1) = Study Area Intersection

✳ = Project Site

10/10 = AM/PM Peak Hour Volumes

▬ ▬ = Project Access Driveway

N

4.0 Projected & Future Traffic Volumes

This section of the report provides a discussion on methodologies utilized to derive future traffic volumes for the study area.

4.1 Project Traffic Conditions

4.1.1 Trip Generation

Trip generation represents the amount of traffic that is attracted and produced by a development. The trip generation for the project is based upon the specific land uses that have been planned for this development.

Trip generation is typically estimated based on the trip generation rates from the latest *Institute of Transportation Engineers (ITE) Trip Generation Manual (10th Edition, 2017)*. This publication provides a comprehensive evaluation of trip generation rates for a variety of land uses.

Table 4-1 shows the ITE trip generation rates utilized for the trip generation analysis of the proposed project land uses.

Utilizing the ITE trip generation rates from Table 4-1, Table 4-2 summarizes the daily and peak hour trip generation for the proposed project.

As shown in Table 4-2, based on the ITE trip generation rates, the proposed project is forecast to generate approximately 840 daily trips, including approximately 65 AM peak hour trips and approximately 89 PM peak hour trips.

4.1.2 Trip Distribution

Trip distribution represents the directional orientation of traffic to and from the project site. Trip distribution is heavily influenced by the geographical location of the site, the location of retail, employment, and recreational opportunities, and the proximity to the regional freeway system. The directional orientation of traffic was determined by evaluating existing and proposed land uses and highways within the study area.

The project trip distribution is shown in Exhibit 4-1.

4.1.3 Modal Split

Modal split denotes the proportion of traffic generated by a project that would use any of the transportation modes, namely buses, cars, bicycles, motorcycles, trains, carpools, etc. The traffic-reducing potential of public transit and other modes is significant. However, the traffic projections in this study are conservative in that public transit and alternative transportation may be able to reduce the traffic volumes, but, no modal split reduction is applied to the projections. With the implementation of transit service and provision of alternative transportation ideas and incentives, the automobile traffic demand can be reduced significantly.

4.1.4 Project Traffic Volumes/Assignment

The assignment of project traffic to the adjoining roadway system is based upon the project's trip generation, trip distribution, and proposed arterial highway and local street systems that would be in place by the time of initial occupancy of the site.

Project traffic volumes are shown in Exhibit 4-2.

4.2 Existing Plus Project Conditions Traffic Volumes

Existing Plus Project Conditions traffic volumes consist of the summation of the existing traffic volumes shown in Exhibit 3-2 and the project traffic volumes shown in Exhibit 4-2.

Existing Plus Project Conditions traffic volumes are shown in Exhibit 4-3.

4.3 Background Traffic

4.3.1 Method of Projection

To assess future conditions, project traffic is combined with existing traffic and area-wide growth. As directed by City staff, to account for area-wide/ambient growth in the study area, an annual growth rate of 2% per year has been applied to existing traffic volumes over a 4-year period to derive opening year (2025) traffic volumes.

4.3.2 Cumulative Projects Traffic

Information on future projects in the vicinity of the study area has been provided by City of Adelanto staff for inclusion in this analysis and is shown in Table 4-3.

"Probable future projects" include projects that have been filed with the City but are not yet approved or projects that the City reasonably anticipates will be submitted in the foreseeable future.

Table 4-3 shows the proposed land uses as well as the daily and peak hour trip generation for the nearby cumulative projects provided by the public agencies.

A location map of the cumulative projects is shown in Exhibit 4-4. Cumulative projects traffic volumes are shown in Exhibit 4-5.

In reality, some of the cumulative projects may be downsized or may not be developed by the project opening year (2025). In addition, many of the related projects have been or will be subject to a variety of mitigation measures that will reduce the potential environmental impacts associated with those projects. However, those mitigation measures have not been taken into account in projecting the environmental impact of the related projects.

Therefore, the cumulative analyses set forth below are conservative and could result in greater impacts than actually anticipated. Additionally, the analysis utilizes an annual growth rate of 2% per year for project opening year (2025) conditions, which would already capture and account for most projects in the area. The growth rate methodology is considered conservative since it is applied to all movements in the study intersections.

4.4 Project Opening Year (2025) Without Related Projects Without Project Conditions Traffic Volumes

Project Opening Year (2025) Without Related Projects Without Project Conditions traffic volumes consist of four (4) years of annual growth on top of existing traffic volumes at 2% per year.

Project Opening Year (2025) Without Related Projects Without Project Conditions traffic volumes are shown in Exhibit 4-6.

4.5 Project Opening Year (2025) Without Related Projects With Project Conditions Traffic Volumes

Project Opening Year (2025) Without Related Projects With Project Conditions traffic volumes consist of four (4) years of annual growth on top of existing traffic volumes at 2% per year, plus the traffic generated by the proposed project.

Project Opening Year (2025) Without Related Projects With Project Conditions traffic volumes are shown in Exhibit 4-7.

4.6 Project Opening Year (2025) With Related Projects Without Project Conditions Traffic Volumes

Project Opening Year (2025) With Related Projects Without Project Conditions traffic volumes consist of four (4) years of annual growth on top of existing traffic volumes at 2% per year, plus the traffic generated by the cumulative projects.

Project Opening Year (2025) With Related Projects Without Project Conditions traffic volumes are shown in Exhibit 4-8.

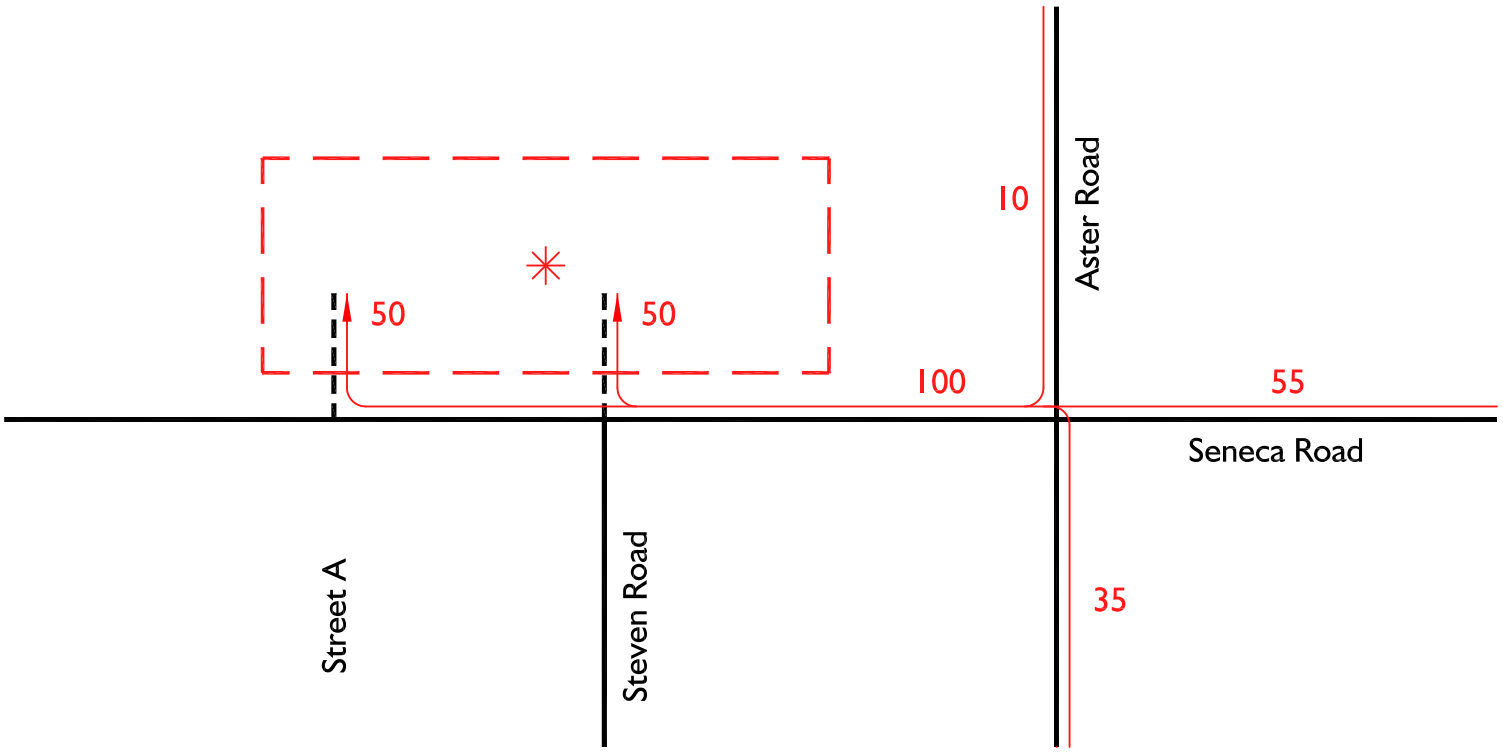
4.7 Project Opening Year (2025) With Related Projects With Project Conditions Traffic Volumes

Project Opening Year (2025) With Related Projects With Project Conditions traffic volumes consist of four (4) years of annual growth on top of existing traffic volumes at 2% per year, plus the traffic generated by the cumulative projects and the traffic generated by the proposed project.

Project Opening Year (2025) With Related Projects With Project Conditions traffic volumes are shown in Exhibit 4-9.

Exhibit 4-1

Project Trip Distribution



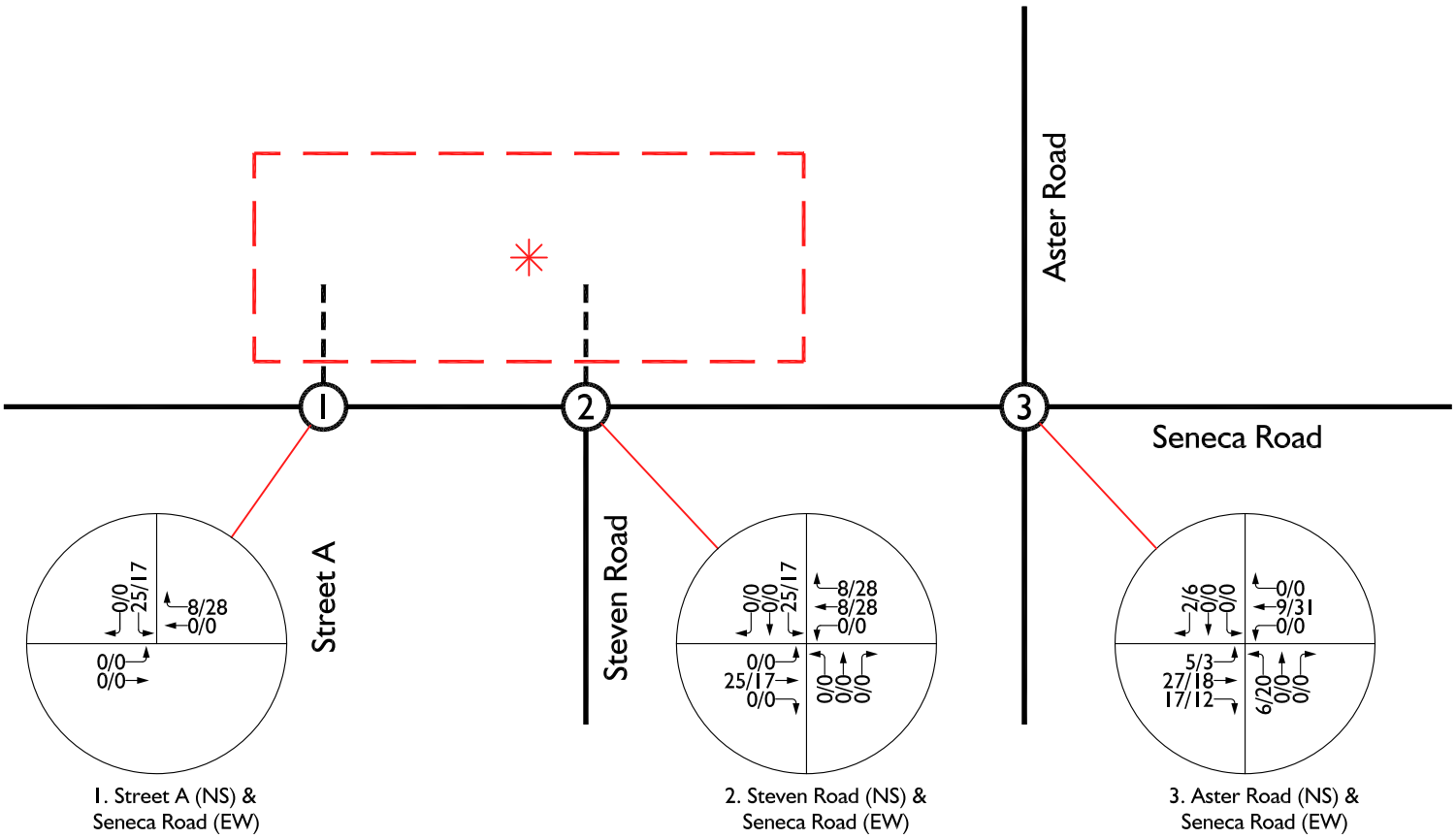
Legend:

10 = Percent to/from Project

N

Exhibit 4-2

Project Traffic Volumes



1. Street A (NS) & Seneca Road (EW)

2. Steven Road (NS) & Seneca Road (EW)

3. Aster Road (NS) & Seneca Road (EW)

Legend:

(1) = Study Area Intersection

✳ = Project Site

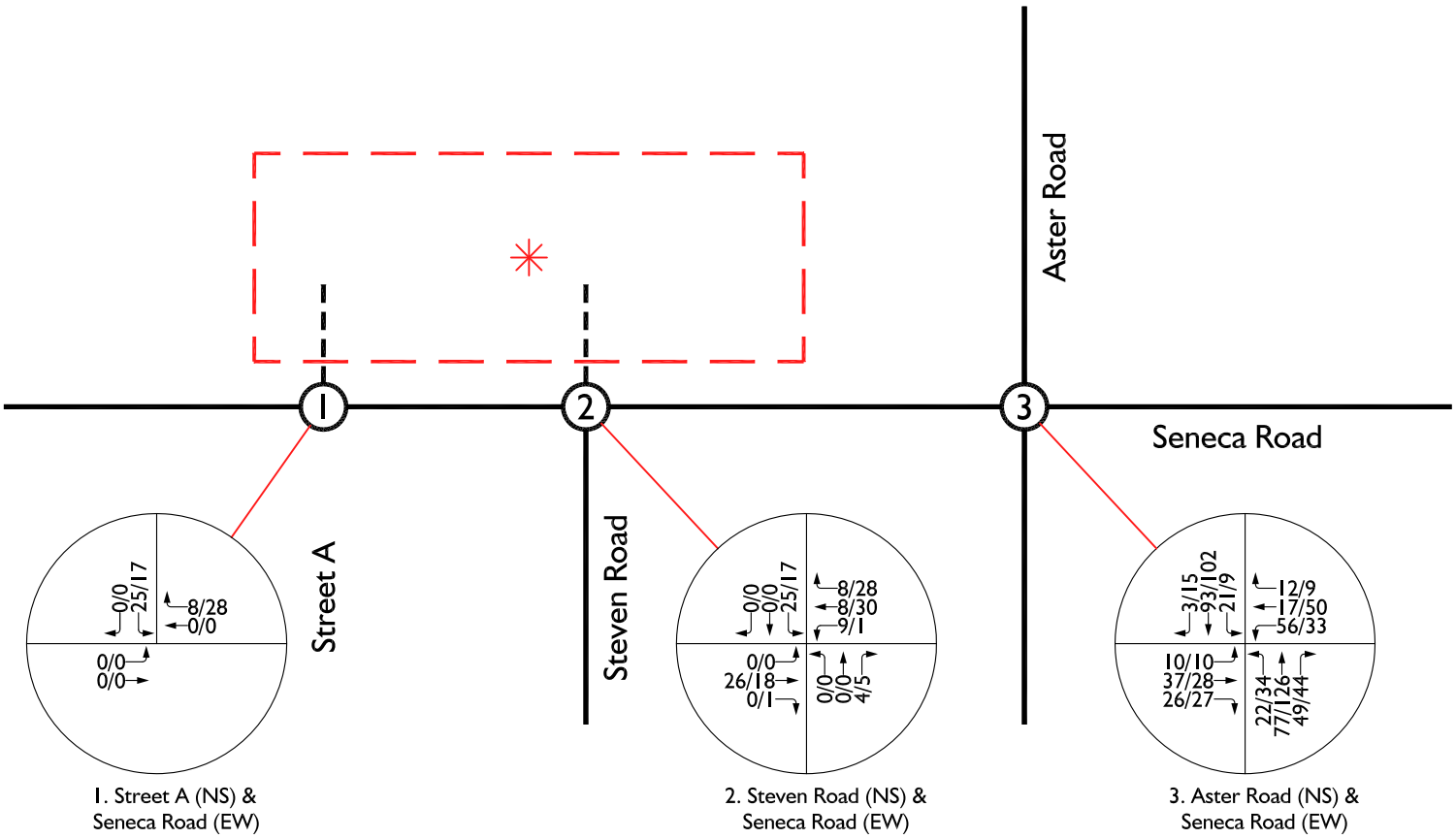
10/10 = AM/PM Peak Hour Volumes

--- = Project Access Driveway

N

Exhibit 4-3

Existing Plus Project Conditions Traffic Volumes



1. Street A (NS) & Seneca Road (EW)

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3. Aster Road (NS) & Seneca Road (EW)

Legend:

(1) = Study Area Intersection

✳ = Project Site

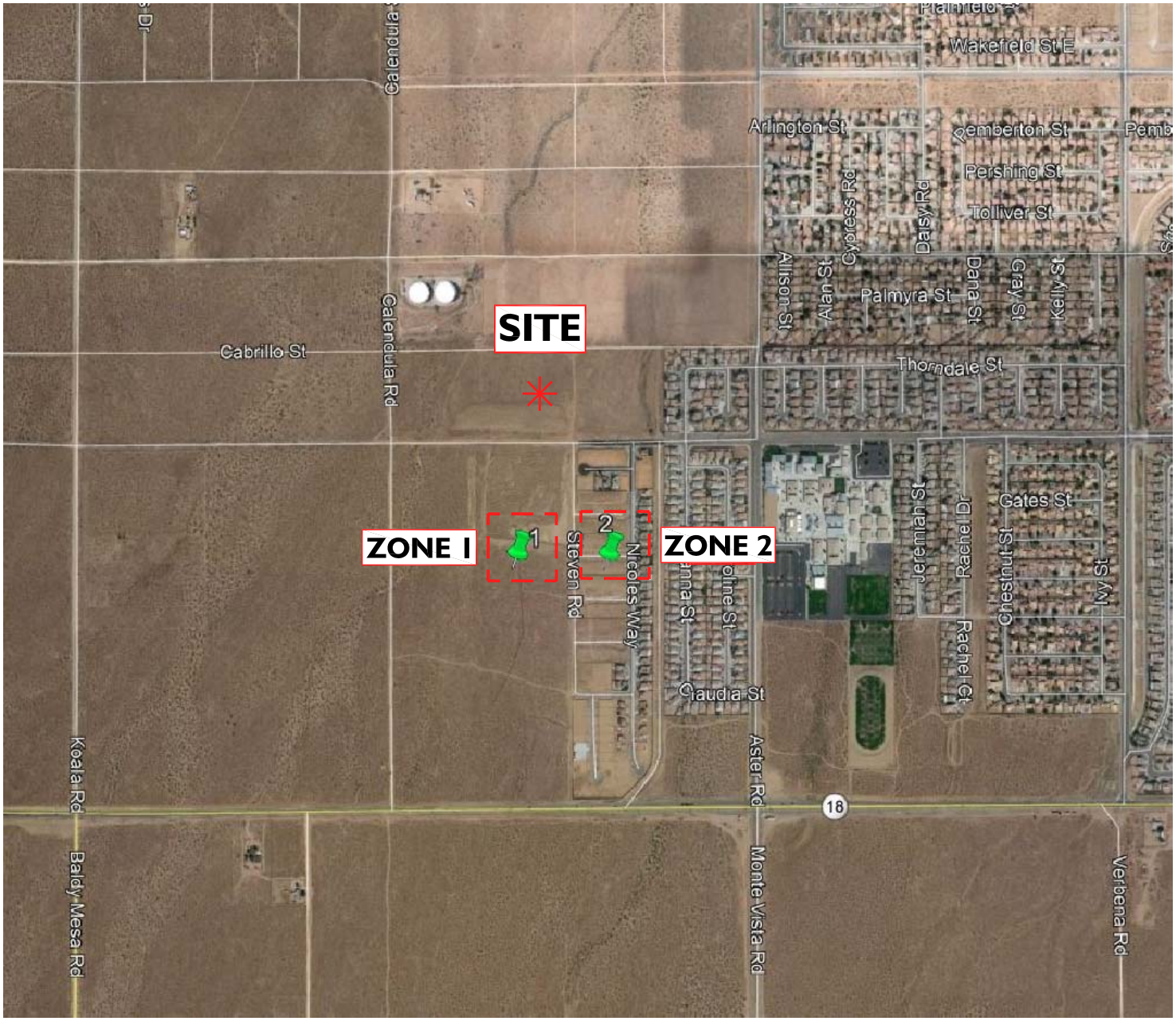
10/10 = AM/PM Peak Hour Volumes

▬ ▬ = Project Access Driveway

N

Exhibit 4-4

Cumulative Projects Location Map



NOTE: See report for full list of cumulative projects and traffic analysis zones (TAZ).

Legend:

= City of Adelanto Cumulative Project

Zone 1:

(1) = TTM 20401

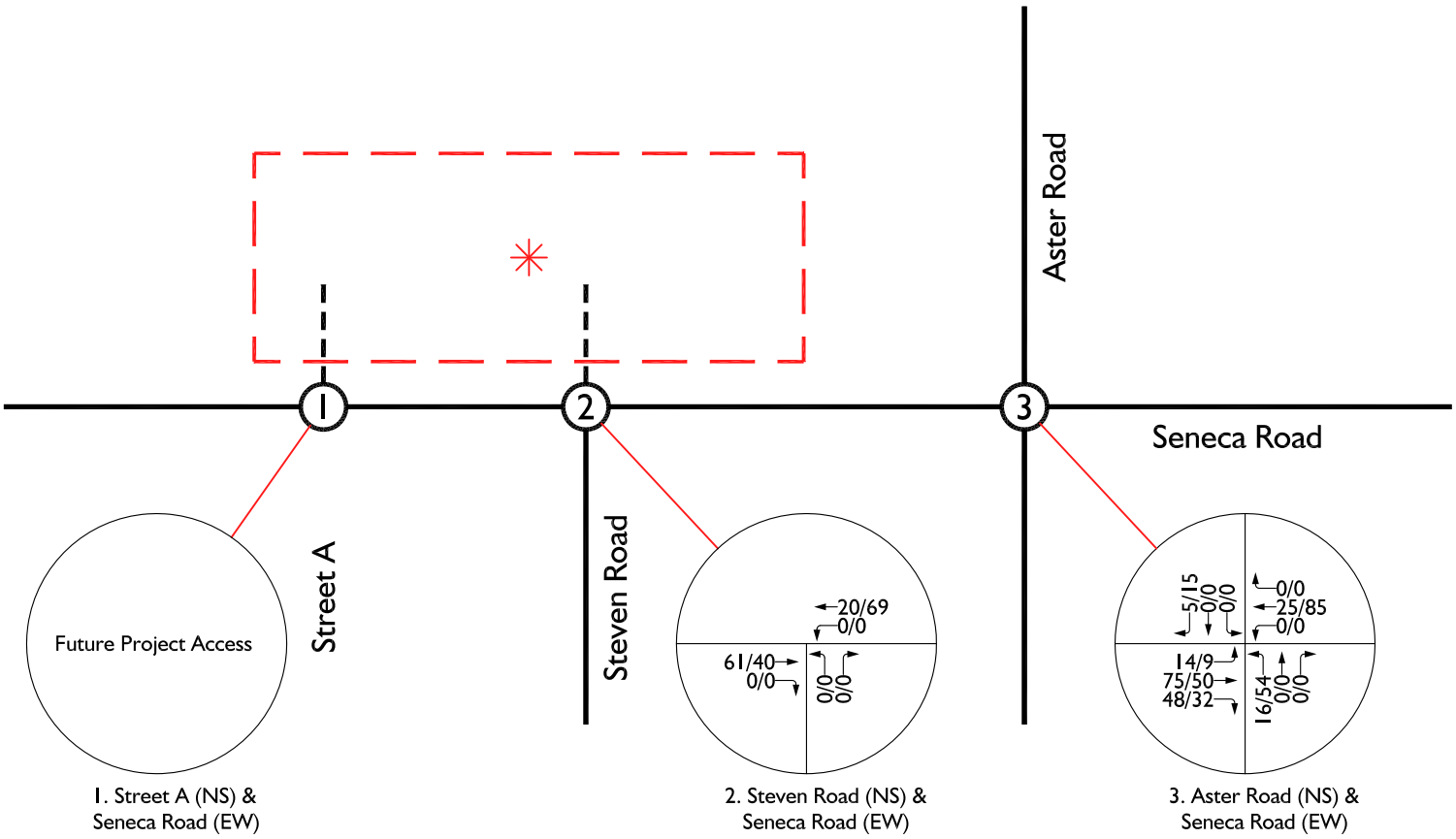
Zone 2:

(2) = TTM 17250

N

Exhibit 4-5

Cumulative Projects Traffic Volumes



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Legend:

(1) = Study Area Intersection

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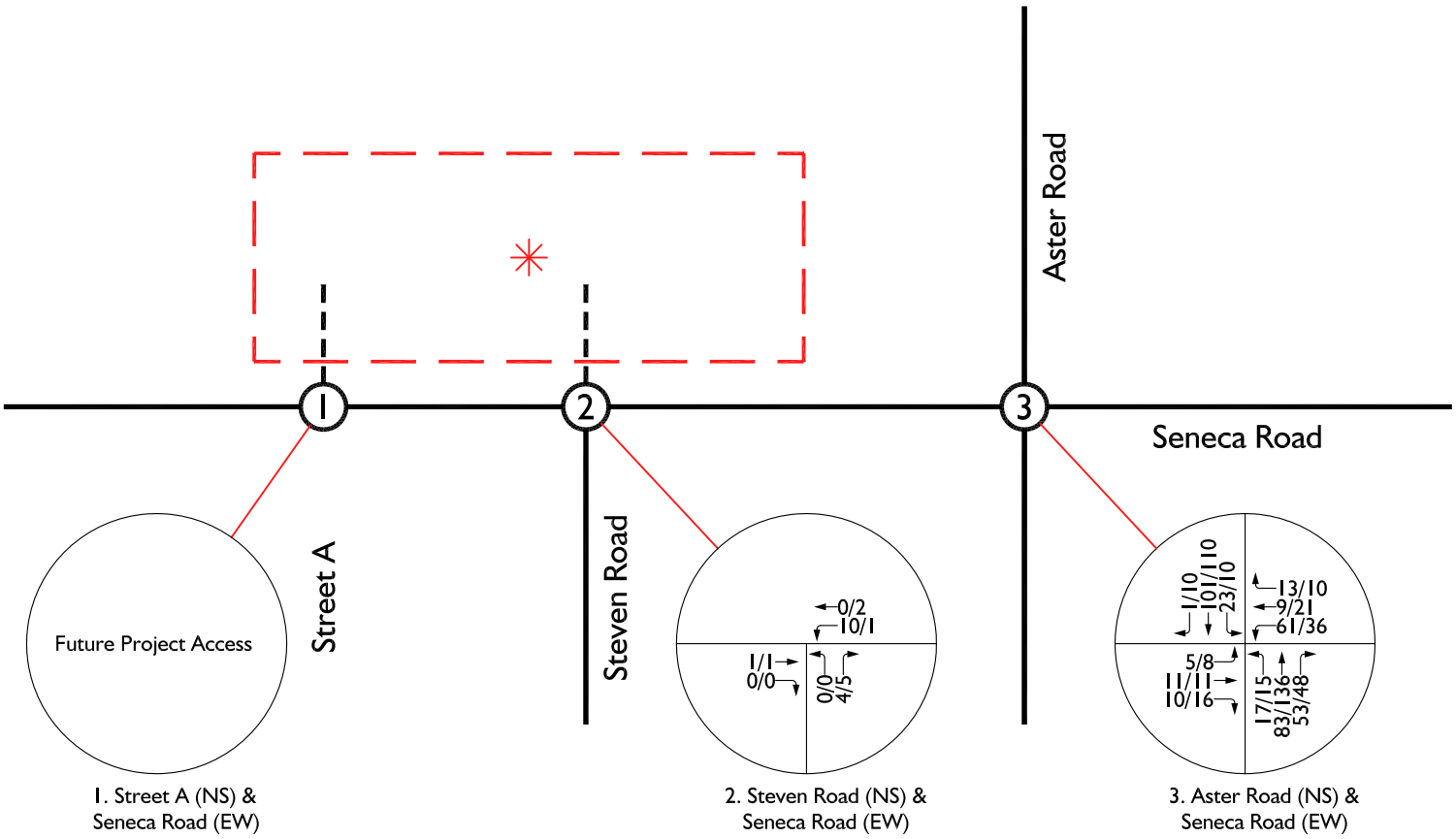
▬ ▬ = Project Access Driveway

N

Exhibit 4-6

Project Opening Year (2025) Without Related Projects Without Project Conditions Traffic Volumes



1. Street A (NS) & Seneca Road (EW)

2. Steven Road (NS) & Seneca Road (EW)

3. Aster Road (NS) & Seneca Road (EW)

Legend:

(1) = Study Area Intersection

✳ = Project Site

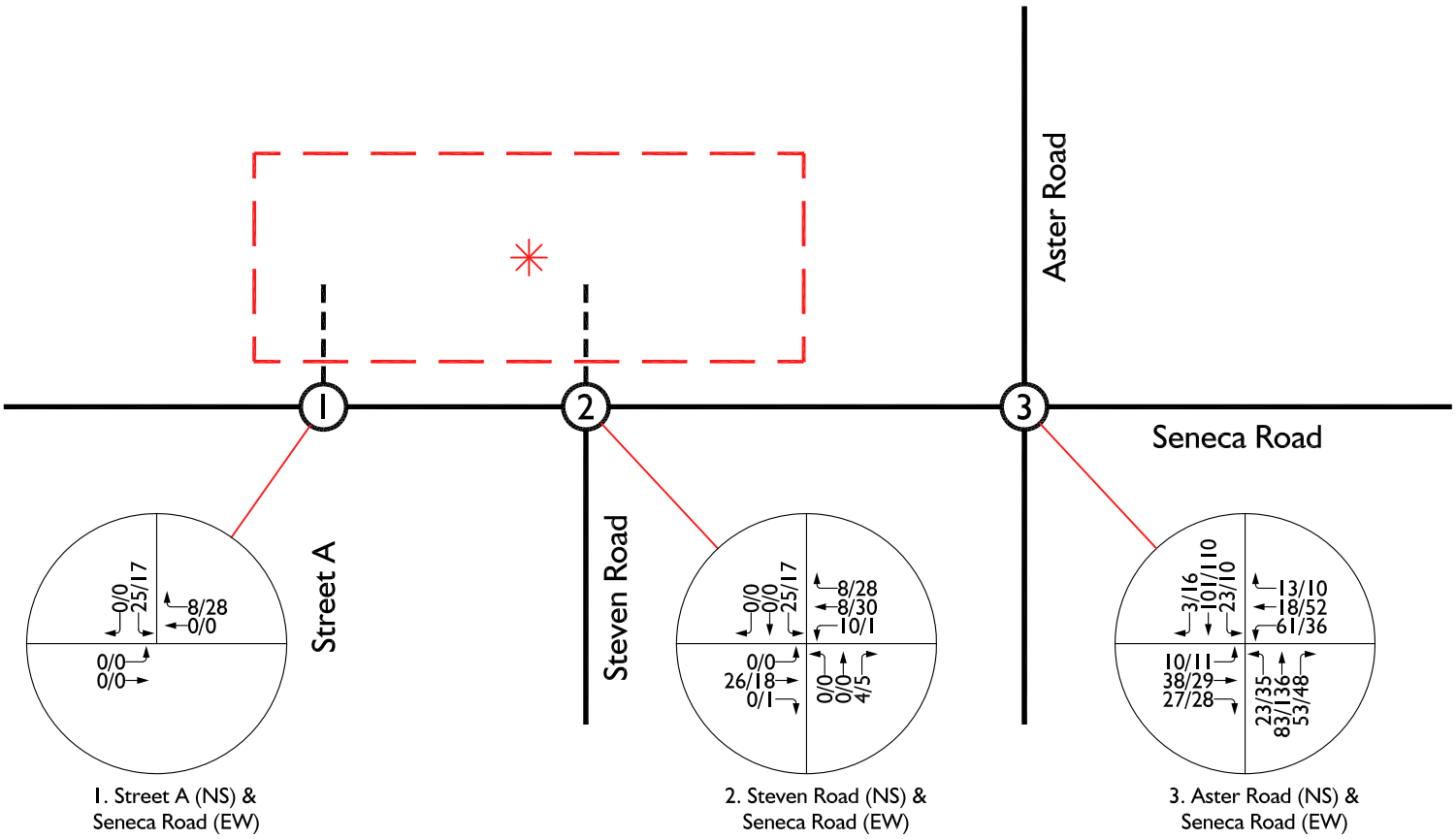
10/10 = AM/PM Peak Hour Volumes

▬ ▬ = Project Access Driveway

N

Exhibit 4-7

Project Opening Year (2025) Without Related Projects With Project Conditions Traffic Volumes



1. Street A (NS) & Seneca Road (EW)

2. Steven Road (NS) & Seneca Road (EW)

3. Aster Road (NS) & Seneca Road (EW)

Legend:

(1) = Study Area Intersection

✳ = Project Site

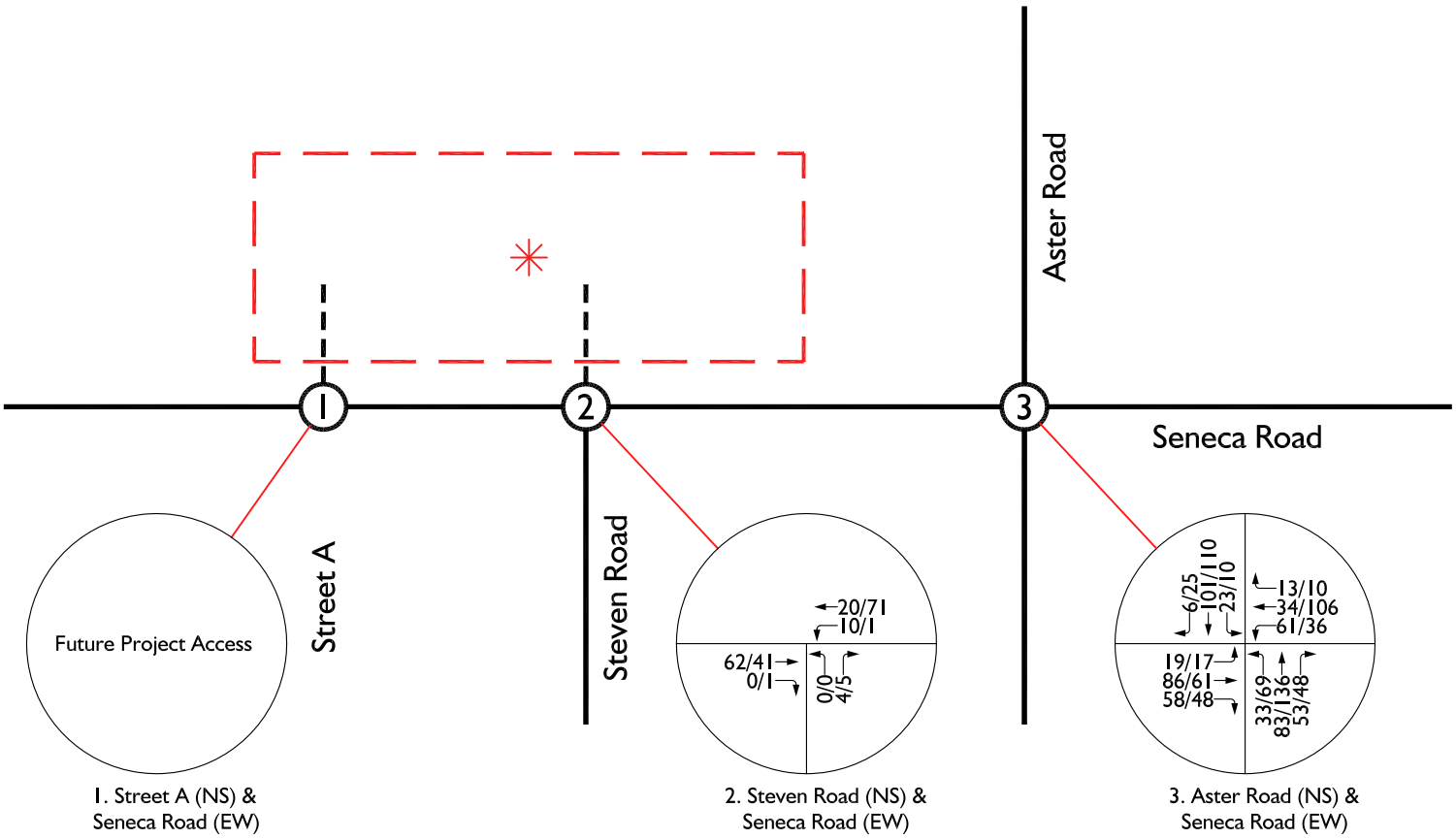
10/10 = AM/PM Peak Hour Volumes

▬ ▬ = Project Access Driveway

N

Exhibit 4-8

Project Opening Year (2025) With Related Projects Without Project Conditions Traffic Volumes



1. Street A (NS) & Seneca Road (EW)

2. Steven Road (NS) & Seneca Road (EW)

3. Aster Road (NS) & Seneca Road (EW)

Legend:

(1) = Study Area Intersection

✳ = Project Site

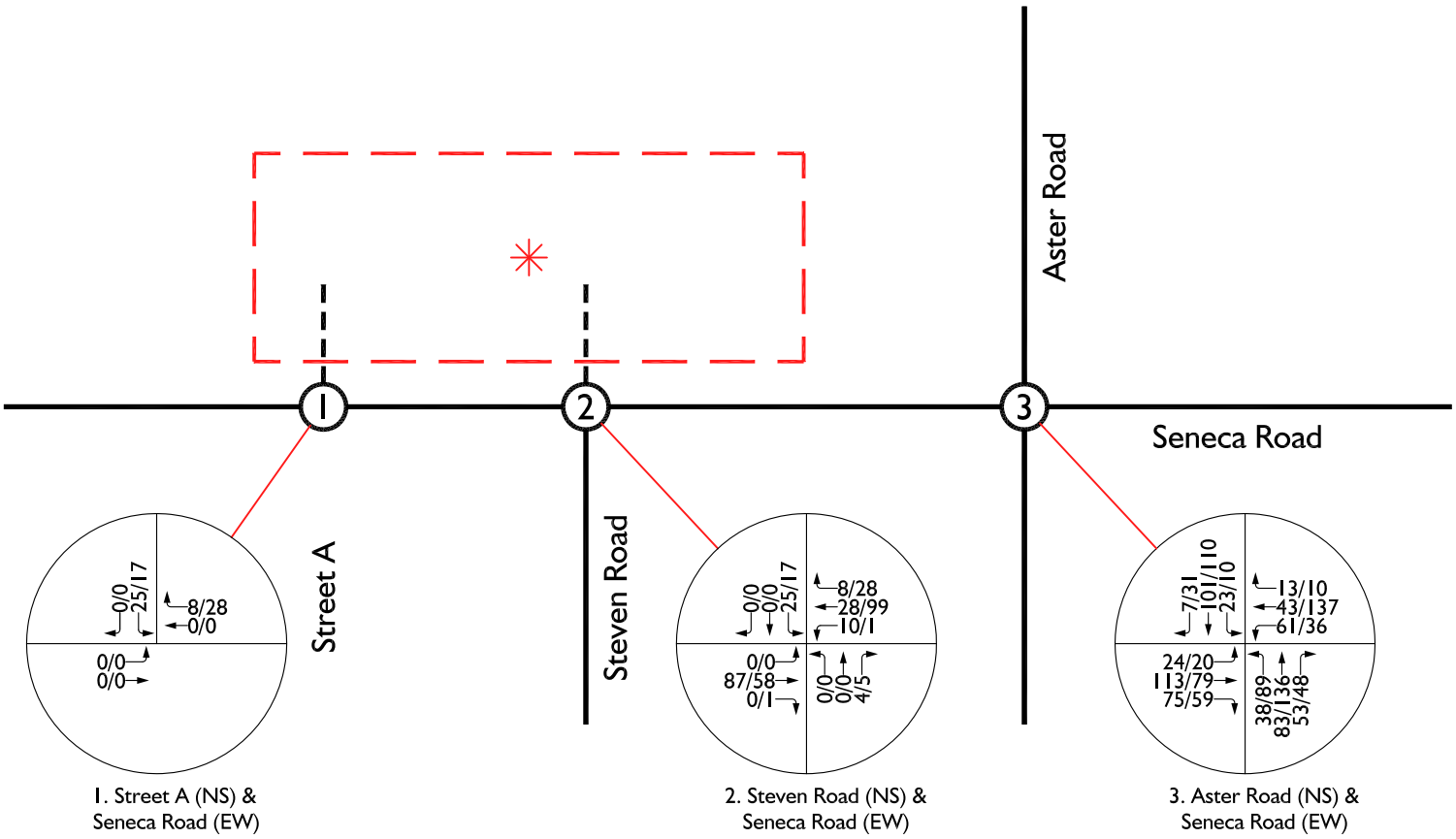
10/10 = AM/PM Peak Hour Volumes

▬ ▬ = Project Access Driveway

N

Exhibit 4-9

Project Opening Year (2025) With Related Projects With Project Conditions Traffic Volumes



1. Street A (NS) & Seneca Road (EW)

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3. Aster Road (NS) & Seneca Road (EW)

Legend:

(1) = Study Area Intersection

✳ = Project Site

10/10 = AM/PM Peak Hour Volumes

▬ ▬ = Project Access Driveway

N

Table 4-1
ITE Trip Generation Rates[1]

Land Use	ITE Code	Units[2]	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Single Family Homes	210	DU	0.19	0.56	0.74	0.62	0.37	0.99	9.44

[1] Source: *2017 ITE Trip Generation Manual (10th Edition)*

Table 4-2
Project Trip Generation[1]

Land Use (ITE Code)	Quantity	Units[2]	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Single Family Homes (210)	89	DU	16	49	65	56	33	89	840

[1] Source: *2017 ITE Trip Generation Manual (10th Edition)*
[2] DU = Dwelling Units

Table 4-3
Cumulative Projects Trip Generation[1]

ID No.	Jurisdiction	Project Name / Case Number	Land Use	ITE Trip Code	Quantity	Units	Peak Hour						Daily
							AM			PM			
							In	Out	Total	In	Out	Total	
TAZ 1													
1	**City of Adelanto**	TTM 20401	Single Family Homes	210	110	DU	20	61	81	69	40	109	1,038
TAZ 2													
2	**City of Adelanto**	TTM 17250	Single Family Homes	210	137	DU	25	76	101	85	50	135	1,293
Total Cumulative Projects Trip Generation							***45***	***137***	***182***	***154***	***90***	***244***	***2,331***

[1] Cumulative projects information provided by City of Adelanto staff.

5.0 Study Intersection Peak Hour LOS Analysis

This section of the report provides a discussion on the study intersection peak hour level of service analysis and findings.

5.1 Existing Conditions Level of Service

Existing Conditions level of service (LOS) calculations for the study intersections are shown in Table 5-1 and are based upon the existing traffic volumes shown in Exhibit 3-2, and the existing geometry shown in Exhibit 3-1.

As shown in Table 5-1, all study intersections are currently operating at an acceptable level of service (LOS D or better) for Existing Conditions.

Detailed LOS analysis worksheets for Existing Conditions are included in Appendix B.

5.2 Existing Plus Project Conditions Level of Service

Existing Plus Project Conditions level of service (LOS) calculations for the study intersections are shown in Table 5-2 and are based upon the Existing Plus Project Conditions traffic volumes shown in Exhibit 4-3, and the existing geometry shown in Exhibit 3-1.

As shown in Table 5-2, all study intersections are forecast to continue to operate at an acceptable level of service (LOS D or better) for Existing Plus Project Conditions.

Hence, the proposed project is not required to contribute to improvements at the study intersections for Existing Plus Project Conditions.

Detailed LOS analysis worksheets for Existing Plus Project Conditions are included in Appendix C.

5.3 Project Opening Year (2025) Without Related Projects Without Project Conditions Level of Service

Project Opening Year (2025) Without Related Projects Without Project Conditions level of service (LOS) calculations for the study intersections are shown in Table 5-3 and are based

upon the Project Opening Year (2025) Without Related Projects Without Project Conditions traffic volumes shown in Exhibit 4-6, and the existing geometry shown in Exhibit 3-1.

As shown in Table 5-3, all study intersections are forecast to continue to operate at an acceptable level of service (LOS D or better) for Project Opening Year (2025) Without Related Projects Without Project Conditions.

Detailed LOS analysis worksheets for Project Opening Year (2025) Without Related Projects Without Project Conditions are included in Appendix D.

5.4 Project Opening Year (2025) Without Related Projects With Project Conditions Level of Service

Project Opening Year (2025) Without Related Projects With Project Conditions level of service (LOS) calculations for the study intersections are shown in Table 5-4 and are based upon the Project Opening Year (2025) Without Related Projects With Project Conditions traffic volumes shown in Exhibit 4-7, and the existing geometry shown in Exhibit 3-1.

As shown in Table 5-4, all study intersections are forecast to continue to operate at an acceptable level of service (LOS D or better) for Project Opening Year (2025) Without Related Projects With Project Conditions.

Hence, the proposed project is not required to contribute to improvements at the study intersections for Project Opening Year (2025) Without Related Projects With Project Conditions.

Detailed LOS analysis worksheets for Project Opening Year (2025) Without Related Projects With Project Conditions are included in Appendix E.

5.5 Project Opening Year (2025) With Related Projects Without Project Conditions Level of Service

Project Opening Year (2025) With Related Projects Without Project Conditions level of service (LOS) calculations for the study intersections are shown in Table 5-5 and are based upon the Project Opening Year (2025) With Related Projects Without Project Conditions traffic volumes shown in Exhibit 4-8, and the existing geometry shown in Exhibit 3-1.

As shown in Table 5-5, all study intersections are forecast to continue to operate at an acceptable level of service (LOS D or better) for Project Opening Year (2025) With Related Projects Without Project Conditions.

Detailed LOS analysis worksheets for Project Opening Year (2025) With Related Projects Without Project Conditions are included in Appendix F.

5.6 Project Opening Year (2025) With Related Projects With Project Conditions Level of Service

Project Opening Year (2025) With Related Projects With Project Conditions level of service (LOS) calculations for the study intersections are shown in Table 5-6 and are based upon the Project Opening Year (2025) With Related Projects With Project Conditions traffic volumes shown in Exhibit 4-9, and the existing geometry shown in Exhibit 3-1.

As shown in Table 5-6, all study intersections are forecast to continue to operate at an acceptable level of service (LOS D or better) for Project Opening Year (2025) With Related Projects With Project Conditions.

Hence, the proposed project is not required to contribute to improvements at the study intersections for Project Opening Year (2025) With Related Projects With Project Conditions.

Detailed LOS analysis worksheets for Project Opening Year (2025) With Related Projects With Project Conditions are included in Appendix G.

Table 5-1
Study Intersection LOS Analysis Summary
Existing Conditions

Intersection	Traffic Control[3]	Delay (Secs)[1,2]		Level of Service	
		AM	PM	AM	PM
1. Street A (NS) / Seneca Road (EW)	CSS	--	--	--	--
2. Steven Road (NS) / Seneca Road (EW)	CSS	8.3	8.4	A	A
3. Aster Road (NS) / Seneca Road (EW)	AWS	8.8	8.4	A	A

[1] Deficient operation shown in **Bold**.

[2] HCM Analysis Software: Synchro, Version 10.0. Per the Highway Capacity Manual 6th Edition, overall average intersection delay and level of service are shown for intersections with traffic signal or all-way stop control. For intersections with cross-street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

[3] CSS = Cross-Street Stop; AWS = All Way Stop

Table 5-2
Study Intersection LOS Analysis Summary
Existing Plus Project Conditions

Intersection	Traffic Control[3]	Existing Conditions				Existing Plus Project Conditions							
		Delay (Secs)[1,2]		Level of Service		Delay (Secs)[1,2]		Level of Service		Increase in Delay (Secs)		Requires Improvement?	
		AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1. Street A (NS) / Seneca Road (EW)	CSS	--	--	--	--	8.6	8.7	A	A	--	--	No	No
2. Steven Road (NS) / Seneca Road (EW)	CSS	8.3	8.4	A	A	9.2	10.0	A	B	0.9	1.6	No	No
3. Aster Road (NS) / Seneca Road (EW)	AWS	8.8	8.4	A	A	9.1	8.7	A	A	0.3	0.3	No	No

[1] Deficient operation shown in **Bold**.

[2] HCM Analysis Software: Synchro, Version 10.0. Per the Highway Capacity Manual 6th Edition, overall average intersection delay and level of service are shown for intersections with traffic signal or all-way stop control. For intersections with cross-street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

[3] CSS = Cross-Street Stop; AWS = All Way Stop

Table 5-3
Study Intersection LOS Analysis Summary
Project Opening Year (2025) Without Related Projects Without Project Conditions

Intersection	Traffic Control[3]	Delay (Secs)[1,2]		Level of Service	
		AM	PM	AM	PM
1. Street A (NS) / Seneca Road (EW)	CSS	--	--	--	--
2. Steven Road (NS) / Seneca Road (EW)	CSS	8.3	8.4	A	A
3. Aster Road (NS) / Seneca Road (EW)	AWS	8.9	8.5	A	A

[1] Deficient operation shown in **Bold**.

[2] HCM Analysis Software: Synchro, Version 10.0. Per the Highway Capacity Manual 6th Edition, overall average intersection delay and level of service are shown for intersections with traffic signal or all-way stop control. For intersections with cross-street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

[3] CSS = Cross-Street Stop; AWS = All Way Stop

Table 5-4
Study Intersection LOS Analysis Summary
Project Opening Year (2025) Without Related Projects With Project Conditions

Intersection	Traffic Control[3]	Project Opening Year (2025) Without Related Projects Without Project Conditions				Project Opening Year (2025) Without Related Projects With Project Conditions							
		Delay (Secs)[1,2]		Level of Service		Delay (Secs)[1,2]		Level of Service		Increase in Delay (Secs)		Requires Improvement?	
		AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1. Street A (NS) / Seneca Road (EW)	CSS	--	--	--	--	8.6	8.7	A	A	--	--	No	No
2. Steven Road (NS) / Seneca Road (EW)	CSS	8.3	8.4	A	A	9.2	10.0	A	B	0.9	1.6	No	No
3. Aster Road (NS) / Seneca Road (EW)	AWS	8.9	8.5	A	A	9.3	8.8	A	A	0.4	0.3	No	No

[1] Deficient operation shown in **Bold**.

[2] HCM Analysis Software: Synchro, Version 10.0. Per the Highway Capacity Manual 6th Edition, overall average intersection delay and level of service are shown for intersections with traffic signal or all-way stop control. For intersections with cross-street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

[3] CSS = Cross-Street Stop; AWS = All Way Stop

Table 5-5
Study Intersection LOS Analysis Summary
Project Opening Year (2025) With Related Projects Without Project Conditions

Intersection	Traffic Control[3]	Delay (Secs)[1,2]		Level of Service	
		AM	PM	AM	PM
1. Street A (NS) / Seneca Road (EW)	CSS	--	--	--	--
2. Steven Road (NS) / Seneca Road (EW)	CSS	8.6	8.7	A	A
3. Aster Road (NS) / Seneca Road (EW)	AWS	10.0	9.5	A	A

[1] Deficient operation shown in **Bold**.

[2] HCM Analysis Software: Synchro, Version 10.0. Per the Highway Capacity Manual 6th Edition, overall average intersection delay and level of service are shown for intersections with traffic signal or all-way stop control. For intersections with cross-street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

[3] CSS = Cross-Street Stop; AWS = All Way Stop

Table 5-6
Study Intersection LOS Analysis Summary
Project Opening Year (2025) With Related Projects With Project Conditions

Intersection	Traffic Control[3]	Project Opening Year (2025) With Related Projects Without Project Conditions				Project Opening Year (2025) With Related Projects With Project Conditions							
		Delay (Secs)[1,2]		Level of Service		Delay (Secs)[1,2]		Level of Service		Increase in Delay (Secs)		Requires Improvement?	
		AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1. Street A (NS) / Seneca Road (EW)	CSS	--	--	--	--	8.6	8.7	A	A	--	--	No	No
2. Steven Road (NS) / Seneca Road (EW)	CSS	8.6	8.7	A	A	10.1	13.3	B	B	1.5	4.6	No	No
3. Aster Road (NS) / Seneca Road (EW)	AWS	10.0	9.5	A	A	10.5	10.0	B	A	0.5	0.5	No	No

[1] Deficient operation shown in **Bold**.

[2] HCM Analysis Software: Synchro, Version 10.0. Per the Highway Capacity Manual 6th Edition, overall average intersection delay and level of service are shown for intersections with traffic signal or all-way stop control. For intersections with cross-street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

[3] CSS = Cross-Street Stop; AWS = All Way Stop

6.0 CEQA Vehicle Miles Traveled (VMT) Analysis

In response to Senate Bill (SB) 743, the California Natural Resource Agency certified and adopted new CEQA Guidelines in December 2018 which now identify Vehicle Miles Traveled (VMT) as the most appropriate metric to evaluate a project's transportation impact under CEQA (§ 15064.3).

A key element of SB 743, signed in 2013, is the elimination of automobile delay and LOS as the sole basis for determining CEQA impacts. Pursuant to CEQA guidelines, Section 15064.3, VMT is the most appropriate measure of transportation impacts. However, SB 743 does not prevent a city of county from continuing to analyze delay or LOS as part of other plans (i.e. the general plan), studies, or ongoing network monitoring.

The City of Adelanto adheres to the guidelines set forth by the County of San Bernardino (*San Bernardino County Transportation Impact Study Guidelines, July 2019*) to provide recommendations in the form of thresholds of significance and methodology for identifying VMT related impacts under CEQA. The proposed project is subject to a VMT analysis and will adhere to the recommendations and practices described in the County of San Bernardino TIA Guidelines.

There are four (4) types of screening that lead agencies can apply to effectively screen projects from requiring a project-level VMT assessment. These are summarized below:

- *Transit Priority Area (TPA) Screening*
- *Low VMT Area Screening*
- *Project Type Screening based on Local-Serving Uses*
- *Small Project Screening (less than 110 ADT)*

Low VMT Area Screening

Based on the analysis methodology described in the San Bernardino County TIA Guidelines regarding VMT, project screening procedures have been implemented to identify projects that may be presumed to have a less than significant impact absent substantial evidence to the contrary and will be exempted from further project-level VMT assessment.

According to the County's TIA Guidelines, land use projects located within a low VMT generating area are presumed to have a less than significant impact absent substantial evidence to the contrary.

Utilizing the San Bernardino County Transportation Authority (SBCTA) VMT Screening Tool, the proposed project is located within a low VMT generating area.

As a result, the proposed project is screened out based on Low VMT Area Screening, and may be presumed to have a less than significant impact on VMT under CEQA. Therefore, no further VMT analysis is required.

The SBCTA VMT Screening Tool output for the proposed project is included in Appendix H.

7.0 Findings, Conclusions & Recommendations

The purpose of this traffic impact study is to evaluate the proposed TTM 20398 Single Family Residential Project (herein referred to as project) from a traffic and circulation standpoint and to determine whether the proposed project will have a significant impact on the environment. This study has been conducted pursuant to the *San Bernardino County Transportation Impact Study Guidelines, July 2019* (TIA Guidelines) and the California Environmental Quality Act (CEQA) requirements.

This traffic study has been prepared in accordance with the scope of work set forth prior to initiating the analysis.

7.1 Proposed Project

The proposed project is located along the north side of Seneca Road, west of Aster Road, in the City of Adelanto. The project site is currently vacant. The project is consistent with the general plan land use designation (Single Family – R1).

The proposed project is planned to consist of the following land uses:

- 89 single family residential dwelling units.

Access for the project is planned to be provided via the following:

- Two (2) unsignalized full access intersections along Seneca Road.

The project is planned to open in 2025 and will be evaluated in one (1) single phase.

7.2 Project Trip Generation

Based on the ITE trip generation rates, the proposed project is forecast to generate approximately 840 daily trips, including approximately 65 AM peak hour trips and approximately 89 PM peak hour trips.

7.3 Study Intersection Level of Service Analysis Summary

Existing Conditions:

All study intersections are currently operating at an acceptable level of service for Existing Conditions.

Existing Plus Project Conditions:

All study intersections are forecast to continue to operate at an acceptable level of service for Existing Plus Project Conditions.

Hence, the proposed project is not required to contribute to improvements at the study intersections for Existing Plus Project Conditions.

Project Opening Year (2025) Without Related Project Without Project Conditions:

All study intersections are forecast to continue to operate at an acceptable level of service for Project Opening Year (2025) Without Related Projects Without Project Conditions.

Project Opening Year (2025) Without Related Project With Project Conditions:

All study intersections are forecast to continue to operate at an acceptable level of service for Project Opening Year (2025) Without Related Projects With Project Conditions.

Hence, the proposed project is not required to contribute to improvements at the study intersections for Project Opening Year (2025) Without Related Projects With Project Conditions.

Project Opening Year (2025) With Related Project Without Project Conditions:

All study intersections are forecast to continue to operate at an acceptable level of service for Project Opening Year (2025) With Related Projects Without Project Conditions.

Project Opening Year (2025) With Related Project With Project Conditions:

All study intersections are forecast to continue to operate at an acceptable level of service for Project Opening Year (2025) With Related Projects With Project Conditions.

Hence, the proposed project is not required to contribute to improvements at the study intersections for Project Opening Year (2025) With Related Projects With Project Conditions.

7.4 CEQA Vehicle Miles Traveled (VMT) Analysis Summary

Based on the SBCTA VMT Screening Tool, the proposed project is screened out from a project-level VMT analysis based on Low VMT Area Screening, and may be presumed to have a less than significant impact on VMT under CEQA. Therefore, no further VMT analysis is required.

7.5 Project Access and Circulation Recommendations

I. Install stop sign, stop bar and stop legend for outbound traffic at each project driveway.

II. Sight distance at each project access should be reviewed at the time of construction per County of San Bernardino standards.

   i. A limited use area shall be maintained where a clear line of sight can be established.

   ii. The limited use area shall be used for the purpose of prohibiting or clearing obstructions to maintain adequate sight distance at intersections.

   iii. Limited use area to be kept clear of all obstructions over 30 inches high, including vegetation.

   iv. No trees, walls, or any obstructions shall be allowed in the limited use area.

   v. The toe of the slope shall not encroach into the limited use area.

As is the case for any roadway design, the County of San Bernardino should periodically review traffic operations in the vicinity of the project once the project is constructed to assure that the traffic operations are satisfactory.

Appendices

Appendix A

Traffic Count Worksheets

Counts Unlimited, Inc.
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Corona, CA 92878
(951) 268-6268
counts@countsunlimited.com

City of Adelanto
N/S: Steven Road
E/W: Seneca Road
Weather: Clear

File Name : 02_ADL_Steven_Seneca_AM
Site Code : 10521282
Start Date : 6/15/2021
Page No : 1

Groups Printed- Total Volume

	Steven Road Southbound				Seneca Road Westbound				Steven Road Northbound				Seneca Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
07:15 AM	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	2
07:30 AM	0	0	0	0	2	0	0	2	0	0	2	2	0	0	0	0	4
07:45 AM	0	0	0	0	2	0	0	2	0	0	1	1	0	0	0	0	3
Total	0	0	0	0	7	0	0	7	0	0	3	3	0	0	0	0	10
08:00 AM	0	0	0	0	3	0	0	3	0	0	1	1	0	1	0	1	5
08:15 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
08:30 AM	0	0	0	0	1	0	0	1	0	0	1	1	0	0	0	0	2
08:45 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
Total	0	0	0	0	4	0	0	4	0	0	4	4	0	1	0	1	9
Grand Total	0	0	0	0	11	0	0	11	0	0	7	7	0	1	0	1	19
Apprch %	0	0	0		100	0	0		0	0	100		0	100	0		
Total %	0	0	0	0	57.9	0	0	57.9	0	0	36.8	36.8	0	5.3	0	5.3	

	Steven Road Southbound				Seneca Road Westbound				Steven Road Northbound				Seneca Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	2
07:30 AM	0	0	0	0	2	0	0	2	0	0	**2**	**2**	0	0	0	0	4
07:45 AM	0	0	0	0	2	0	0	2	0	0	1	1	0	0	0	0	3
08:00 AM	0	0	0	0	**3**	0	0	**3**	0	0	1	1	0	**1**	0	**1**	**5**
Total Volume	0	0	0	0	9	0	0	9	0	0	4	4	0	1	0	1	14
% App. Total	0	0	0		100	0	0		0	0	100		0	100	0		
PHF	.000	.000	.000	.000	.750	.000	.000	.750	.000	.000	.500	.500	.000	.250	.000	.250	.700

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N/S: Steven Road
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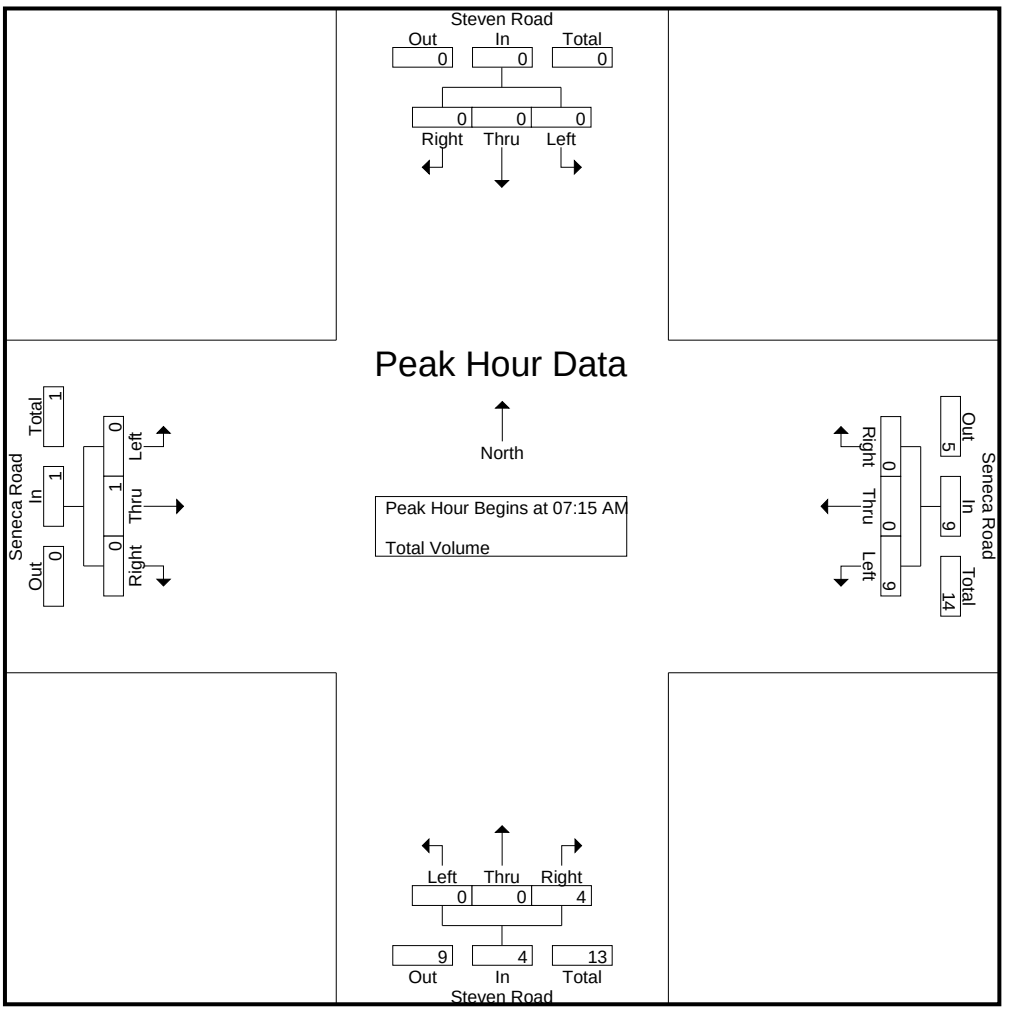
Weather: Clear

File Name : 02_ADL_Steven_Seneca_AM
Site Code : 10521282
Start Date : 6/15/2021
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:15 AM				07:30 AM				07:15 AM			
+0 mins.	0	0	0	0	2	0	0	2	0	0	**2**	**2**	0	0	0	0
+15 mins.	0	0	0	0	2	0	0	2	0	0	1	1	0	0	0	0
+30 mins.	0	0	0	0	2	0	0	2	0	0	1	1	0	0	0	0
+45 mins.	0	0	0	0	**3**	0	0	**3**	0	0	1	1	0	**1**	0	**1**
Total Volume	0	0	0	0	9	0	0	9	0	0	5	5	0	1	0	1
% App. Total	0	0	0		100	0	0		0	0	100		0	100	0	
PHF	.000	.000	.000	.000	.750	.000	.000	.750	.000	.000	.625	.625	.000	.250	.000	.250

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City of Adelanto
N/S: Steven Road
E/W: Seneca Road
Weather: Clear

File Name : 02_ADL_Steven_Seneca_PM
Site Code : 10521282
Start Date : 6/15/2021
Page No : 1

Groups Printed- Total Volume

	Steven Road Southbound				Seneca Road Westbound				Steven Road Northbound				Seneca Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
04:15 PM	0	0	0	0	0	1	0	1	0	0	4	4	0	1	1	2	7
04:30 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
Total	0	0	0	0	1	2	0	3	0	0	5	5	0	1	1	2	10
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
05:45 PM	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0	2
Total	0	0	0	0	1	1	0	2	0	0	0	0	0	1	0	1	3
Grand Total	0	0	0	0	2	3	0	5	0	0	5	5	0	2	1	3	13
Apprch %	0	0	0		40	60	0		0	0	100		0	66.7	33.3		
Total %	0	0	0	0	15.4	23.1	0	38.5	0	0	38.5	38.5	0	15.4	7.7	23.1	

	Steven Road Southbound				Seneca Road Westbound				Steven Road Northbound				Seneca Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	**1**	0	**1**	0	0	0	0	0	0	0	0	1
04:15 PM	0	0	0	0	0	1	0	1	0	0	**4**	**4**	0	**1**	**1**	**2**	**7**
04:30 PM	0	0	0	0	**1**	0	0	1	0	0	0	0	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
Total Volume	0	0	0	0	1	2	0	3	0	0	5	5	0	1	1	2	10
% App. Total	0	0	0		33.3	66.7	0		0	0	100		0	50	50		
PHF	.000	.000	.000	.000	.250	.500	.000	.750	.000	.000	.313	.313	.000	.250	.250	.250	.357

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Weather: Clear

File Name : 02_ADL_Steven_Seneca_PM
Site Code : 10521282
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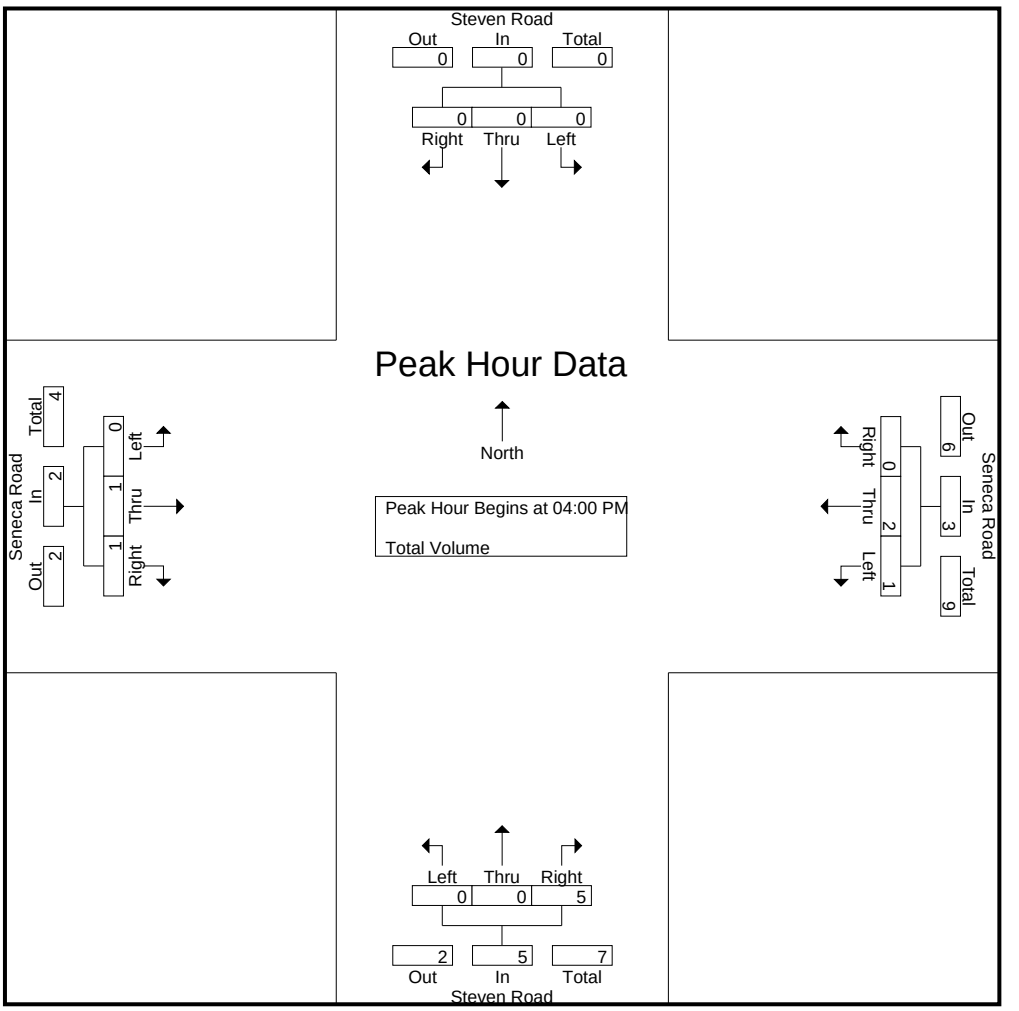
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	0	0	0	0	**1**	0	**1**	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	1	0	1	0	0	**4**	**4**	0	**1**	**1**	**2**
+30 mins.	0	0	0	0	**1**	0	0	1	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0
Total Volume	0	0	0	0	1	2	0	3	0	0	5	5	0	1	1	2
% App. Total	0	0	0		33.3	66.7	0		0	0	100		0	50	50	
PHF	.000	.000	.000	.000	.250	.500	.000	.750	.000	.000	.313	.313	.000	.250	.250	.250

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City of Adelanto
N/S: Aster Road
E/W: Seneca Road
Weather: Clear

File Name : 01_ADL_Aster_Seneca_AM
Site Code : 10521282
Start Date : 6/15/2021
Page No : 1

Groups Printed- Total Volume

	Aster Road Southbound				Seneca Road Westbound				Aster Road Northbound				Seneca Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	1	25	2	28	4	1	0	5	5	11	3	19	0	4	1	5	57
07:15 AM	3	23	1	27	13	2	0	15	4	15	11	30	1	3	2	6	78
07:30 AM	2	23	0	25	5	1	0	6	4	18	5	27	0	3	4	7	65
07:45 AM	11	24	0	35	23	4	3	30	3	29	27	59	3	2	1	6	130
Total	17	95	3	115	45	8	3	56	16	73	46	135	4	12	8	24	330
08:00 AM	5	23	0	28	15	1	9	25	5	15	6	26	1	2	2	5	84
08:15 AM	1	17	1	19	9	5	0	14	3	19	4	26	0	6	3	9	68
08:30 AM	0	28	1	29	8	3	2	13	4	8	5	17	0	4	4	8	67
08:45 AM	0	24	0	24	5	0	1	6	2	14	6	22	1	6	4	11	63
Total	6	92	2	100	37	9	12	58	14	56	21	91	2	18	13	33	282
Grand Total	23	187	5	215	82	17	15	114	30	129	67	226	6	30	21	57	612
Apprch %	10.7	87	2.3		71.9	14.9	13.2		13.3	57.1	29.6		10.5	52.6	36.8		
Total %	3.8	30.6	0.8	35.1	13.4	2.8	2.5	18.6	4.9	21.1	10.9	36.9	1	4.9	3.4	9.3	

	Aster Road Southbound				Seneca Road Westbound				Aster Road Northbound				Seneca Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	3	23	**1**	27	13	2	0	15	4	15	11	30	1	**3**	2	6	78
07:30 AM	2	23	0	25	5	1	0	6	4	18	5	27	0	3	**4**	**7**	65
07:45 AM	**11**	**24**	0	**35**	**23**	**4**	3	**30**	3	**29**	**27**	**59**	**3**	2	1	6	**130**
08:00 AM	5	23	0	28	15	1	**9**	25	**5**	15	6	26	1	2	2	5	84
Total Volume	21	93	1	115	56	8	12	76	16	77	49	142	5	10	9	24	357
% App. Total	18.3	80.9	0.9		73.7	10.5	15.8		11.3	54.2	34.5		20.8	41.7	37.5		
PHF	.477	.969	.250	.821	.609	.500	.333	.633	.800	.664	.454	.602	.417	.833	.563	.857	.687

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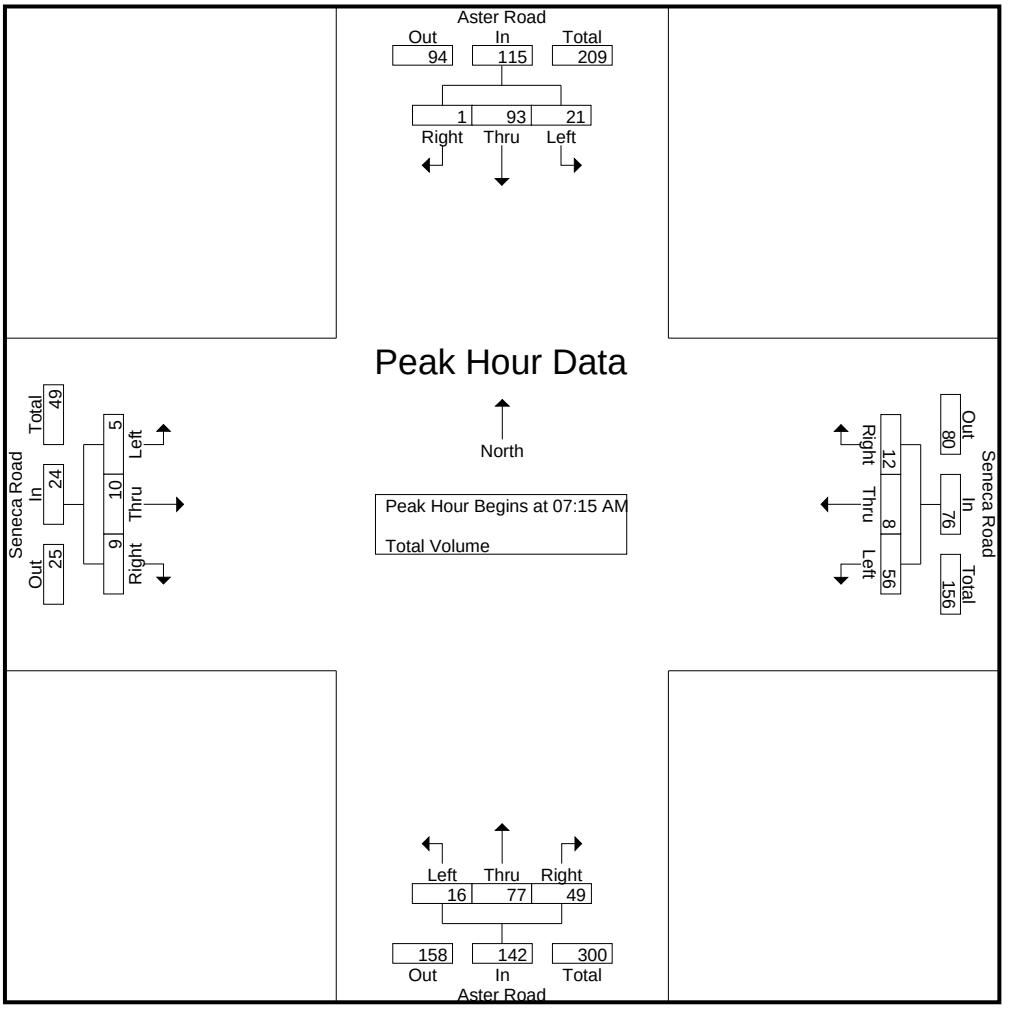
City of Adelanto
N/S: Aster Road
E/W: Seneca Road
Weather: Clear

File Name : 01_ADL_Aster_Seneca_AM
Site Code : 10521282
Start Date : 6/15/2021
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:45 AM				07:15 AM				08:00 AM			
+0 mins.	1	**25**	**2**	28	**23**	4	3	**30**	4	15	11	30	**1**	2	2	5
+15 mins.	3	23	1	27	15	1	**9**	25	4	18	5	27	0	**6**	3	9
+30 mins.	2	23	0	25	9	**5**	0	14	3	**29**	**27**	**59**	0	4	**4**	8
+45 mins.	**11**	24	0	**35**	8	3	2	13	**5**	15	6	26	1	6	4	**11**
Total Volume	17	95	3	115	55	13	14	82	16	77	49	142	2	18	13	33
% App. Total	14.8	82.6	2.6		67.1	15.9	17.1		11.3	54.2	34.5		6.1	54.5	39.4	
PHF	.386	.950	.375	.821	.598	.650	.389	.683	.800	.664	.454	.602	.500	.750	.813	.750

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City of Adelanto
N/S: Aster Road
E/W: Seneca Road
Weather: Clear

File Name : 01_ADL_Aster_Seneca_PM
Site Code : 10521282
Start Date : 6/15/2021
Page No : 1

Groups Printed- Total Volume

	Aster Road Southbound				Seneca Road Westbound				Aster Road Northbound				Seneca Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	3	23	3	29	13	3	2	18	6	26	8	40	2	2	2	6	93
04:15 PM	2	32	2	36	9	3	6	18	4	42	10	56	2	4	5	11	121
04:30 PM	3	27	5	35	7	1	2	10	5	35	11	51	1	4	1	6	102
04:45 PM	1	19	1	21	3	3	3	9	2	22	4	28	0	3	2	5	63
Total	9	101	11	121	32	10	13	55	17	125	33	175	5	13	10	28	379
05:00 PM	1	28	1	30	10	5	3	18	3	28	14	45	2	3	1	6	99
05:15 PM	0	25	2	27	8	2	2	12	4	42	12	58	2	1	8	11	108
05:30 PM	4	26	2	32	4	6	3	13	3	20	8	31	2	2	1	5	81
05:45 PM	4	23	4	31	11	6	1	18	4	36	10	50	1	4	5	10	109
Total	9	102	9	120	33	19	9	61	14	126	44	184	7	10	15	32	397
Grand Total	18	203	20	241	65	29	22	116	31	251	77	359	12	23	25	60	776
Apprch %	7.5	84.2	8.3		56	25	19		8.6	69.9	21.4		20	38.3	41.7		
Total %	2.3	26.2	2.6	31.1	8.4	3.7	2.8	14.9	4	32.3	9.9	46.3	1.5	3	3.2	7.7	

	Aster Road Southbound				Seneca Road Westbound				Aster Road Northbound				Seneca Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	1	**28**	1	30	10	5	**3**	**18**	3	28	**14**	45	**2**	3	1	6	99
05:15 PM	0	25	2	27	8	2	2	12	**4**	**42**	12	**58**	2	1	**8**	**11**	108
05:30 PM	**4**	26	2	**32**	4	**6**	3	13	3	20	8	31	2	2	1	5	81
05:45 PM	4	23	**4**	31	**11**	6	1	18	4	36	10	50	1	**4**	5	10	**109**
Total Volume	9	102	9	120	33	19	9	61	14	126	44	184	7	10	15	32	397
% App. Total	7.5	85	7.5		54.1	31.1	14.8		7.6	68.5	23.9		21.9	31.2	46.9		
PHF	.563	.911	.563	.938	.750	.792	.750	.847	.875	.750	.786	.793	.875	.625	.469	.727	.911

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City of Adelanto
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File Name : 01_ADL_Aster_Seneca_PM
Site Code : 10521282
Start Date : 6/15/2021
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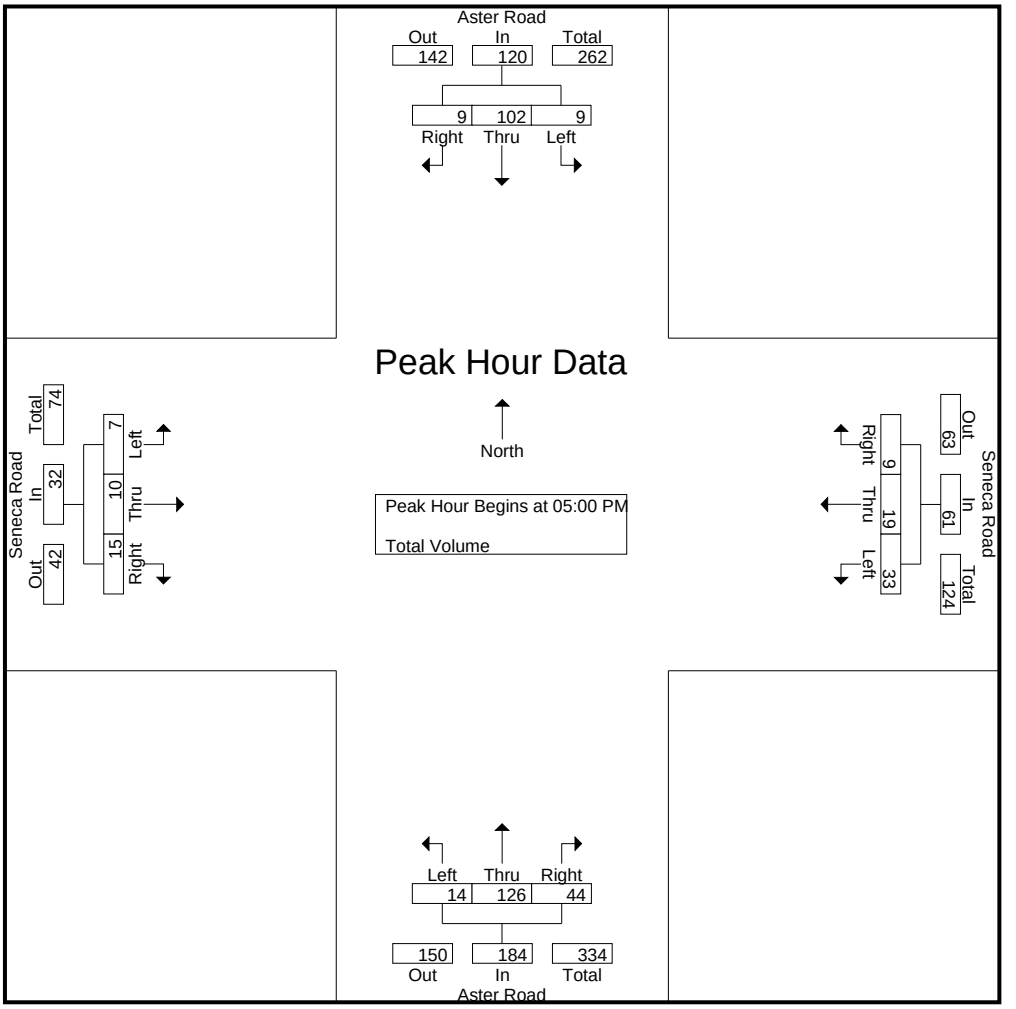


Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	2	**32**	2	**36**	10	5	**3**	**18**	3	28	**14**	45	**2**	3	1	6
+15 mins.	**3**	27	**5**	35	8	2	2	12	**4**	**42**	12	**58**	2	1	**8**	**11**
+30 mins.	1	19	1	21	4	**6**	3	13	3	20	8	31	2	2	1	5
+45 mins.	1	28	1	30	**11**	6	1	18	4	36	10	50	1	**4**	5	10
Total Volume	7	106	9	122	33	19	9	61	14	126	44	184	7	10	15	32
% App. Total	5.7	86.9	7.4		54.1	31.1	14.8		7.6	68.5	23.9		21.9	31.2	46.9	
PHF	.583	.828	.450	.847	.750	.792	.750	.847	.875	.750	.786	.793	.875	.625	.469	.727

Appendix B

Existing Conditions
LOS Analysis Worksheets

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1700	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt					0.865	
Flt Protected			0.950			
Satd. Flow (prot)	3539	0	1583	1863	1611	0
Flt Permitted			0.950			
Satd. Flow (perm)	3539	0	1583	1863	1611	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	435			905	819	
Travel Time (s)	9.9			20.6	18.6	

Intersection Summary	
Area Type:	Other

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Volume (vph)	1	0	9	0	0	4
Future Volume (vph)	1	0	9	0	0	4
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	1	0	13	0	0	6
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1	0	13	0	6	0

Intersection Summary

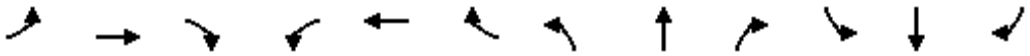
Intersection	
Int Delay, s/veh	7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1	0	9	0	0	4
Future Vol, veh/h	1	0	9	0	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	70	70	70	70	70	70
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	0	13	0	0	6

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1	0	27	1
Stage 1	-	-	-	-	1	-
Stage 2	-	-	-	-	26	-
Critical Hdwy	-	-	4.13	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.219	-	3.519	3.319
Pot Cap-1 Maneuver	-	-	1621	-	986	1083
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	996	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1621	-	978	1083
Mov Cap-2 Maneuver	-	-	-	-	978	-
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	988	-

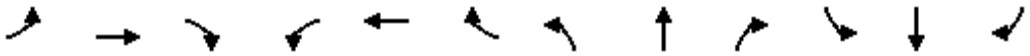
Approach	EB	WB	NB
HCM Control Delay, s	0	7.2	8.3
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1083	-	-	1621	-
HCM Lane V/C Ratio	0.005	-	-	0.008	-
HCM Control Delay (s)	8.3	-	-	7.2	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1900	1900	1700	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	75		50	60		50	85		0	50		50
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor												
Frt		0.928			0.912			0.942			0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1583	3112	0	1583	3058	0	1583	3334	0	1583	3350	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1583	3112	0	1583	3058	0	1583	3334	0	1583	3350	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		905			2472			1099			1306	
Travel Time (s)		20.6			56.2			25.0			29.7	

Intersection Summary	
Area Type:	Other



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	5	10	9	56	8	12	16	77	49	21	93	1
Future Volume (vph)	5	10	9	56	8	12	16	77	49	21	93	1
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	7	14	13	81	12	17	23	112	71	30	135	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	7	27	0	81	29	0	23	183	0	30	136	0

Intersection Summary

Intersection	
Intersection Delay, s/veh	8.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	10	9	56	8	12	16	77	49	21	93	1
Future Vol, veh/h	5	10	9	56	8	12	16	77	49	21	93	1
Peak Hour Factor	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	14	13	81	12	17	23	112	71	30	135	1
Number of Lanes	1	2	0	1	2	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	8.4	9.3	8.6	8.8
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	34%	0%	100%	27%	0%	100%	18%	0%	100%
Vol Right, %	0%	0%	66%	0%	0%	73%	0%	0%	82%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	16	51	75	5	7	12	56	5	15	21	62
LT Vol	16	0	0	5	0	0	56	0	0	21	0
Through Vol	0	51	26	0	7	3	0	5	3	0	62
RT Vol	0	0	49	0	0	9	0	0	12	0	0
Lane Flow Rate	23	74	108	7	10	18	81	8	21	30	90
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.037	0.109	0.145	0.013	0.015	0.026	0.137	0.012	0.029	0.049	0.133
Departure Headway (Hd)	5.797	5.297	4.838	6.225	5.725	5.214	6.06	5.56	4.988	5.847	5.347
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	617	675	739	573	622	682	590	641	714	611	669
Service Time	3.543	3.043	2.584	3.989	3.489	2.978	3.815	3.315	2.742	3.597	3.097
HCM Lane V/C Ratio	0.037	0.11	0.146	0.012	0.016	0.026	0.137	0.012	0.029	0.049	0.135
HCM Control Delay	8.8	8.7	8.4	9.1	8.6	8.1	9.8	8.4	7.9	8.9	8.9
HCM Lane LOS	A	A	A	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.1	0.4	0.5	0	0	0.1	0.5	0	0.1	0.2	0.5

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1700	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.925				0.865	
Flt Protected			0.950			
Satd. Flow (prot)	3274	0	1583	1863	1611	0
Flt Permitted			0.950			
Satd. Flow (perm)	3274	0	1583	1863	1611	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	435			905	819	
Travel Time (s)	9.9			20.6	18.6	

Intersection Summary	
Area Type:	Other

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Volume (vph)	1	1	1	2	0	5
Future Volume (vph)	1	1	1	2	0	5
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.36	0.36	0.36	0.36	0.36	0.36
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	3	3	3	6	0	14
Shared Lane Traffic (%)						
Lane Group Flow (vph)	6	0	3	6	14	0

Intersection Summary

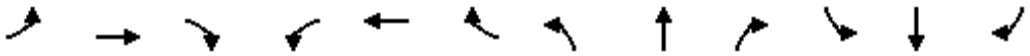
Intersection	
Int Delay, s/veh	4.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1	1	1	2	0	5
Future Vol, veh/h	1	1	1	2	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	36	36	36	36	36	36
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	3	3	6	0	14

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	6	0	17	3
Stage 1	-	-	-	-	5	-
Stage 2	-	-	-	-	12	-
Critical Hdwy	-	-	4.13	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.219	-	3.519	3.319
Pot Cap-1 Maneuver	-	-	1614	-	1000	1080
Stage 1	-	-	-	-	1017	-
Stage 2	-	-	-	-	1011	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1614	-	998	1080
Mov Cap-2 Maneuver	-	-	-	-	998	-
Stage 1	-	-	-	-	1017	-
Stage 2	-	-	-	-	1009	-

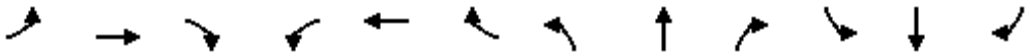
Approach	EB	WB	NB
HCM Control Delay, s	0	2.4	8.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1080	-	-	1614	-
HCM Lane V/C Ratio	0.013	-	-	0.002	-
HCM Control Delay (s)	8.4	-	-	7.2	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1900	1900	1700	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	75		50	60		50	85		0	50		50
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor												
Frt		0.911			0.952			0.961			0.988	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1583	3055	0	1583	3192	0	1583	3401	0	1583	3313	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1583	3055	0	1583	3192	0	1583	3401	0	1583	3313	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		905			2472			1099			1306	
Travel Time (s)		20.6			56.2			25.0			29.7	

Intersection Summary	
Area Type:	Other



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	7	10	15	33	19	9	14	126	44	9	102	9
Future Volume (vph)	7	10	15	33	19	9	14	126	44	9	102	9
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	8	11	16	36	21	10	15	138	48	10	112	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	8	27	0	36	31	0	15	186	0	10	122	0

Intersection Summary

Intersection	
Intersection Delay, s/veh	8.4
Intersection LOS	A

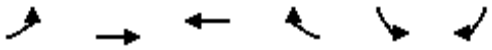
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	10	15	33	19	9	14	126	44	9	102	9
Future Vol, veh/h	7	10	15	33	19	9	14	126	44	9	102	9
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	11	16	36	21	10	15	138	48	10	112	10
Number of Lanes	1	2	0	1	2	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	8.1	8.6	8.4	8.4
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	49%	0%	100%	18%	0%	100%	41%	0%	100%
Vol Right, %	0%	0%	51%	0%	0%	82%	0%	0%	59%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	14	84	86	7	7	18	33	13	15	9	68
LT Vol	14	0	0	7	0	0	33	0	0	9	0
Through Vol	0	84	42	0	7	3	0	13	6	0	68
RT Vol	0	0	44	0	0	15	0	0	9	0	0
Lane Flow Rate	15	92	95	8	7	20	36	14	17	10	75
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.024	0.13	0.124	0.013	0.011	0.028	0.06	0.021	0.024	0.016	0.108
Departure Headway (Hd)	5.586	5.086	4.728	6.02	5.52	4.947	5.949	5.449	5.038	5.704	5.204
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	641	705	758	594	647	722	602	656	709	628	689
Service Time	3.316	2.816	2.458	3.762	3.262	2.69	3.688	3.188	2.777	3.436	2.936
HCM Lane V/C Ratio	0.023	0.13	0.125	0.013	0.011	0.028	0.06	0.021	0.024	0.016	0.109
HCM Control Delay	8.5	8.6	8.1	8.8	8.3	7.8	9.1	8.3	7.9	8.5	8.6
HCM Lane LOS	A	A	A	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.1	0.4	0.4	0	0	0.1	0.2	0.1	0.1	0	0.4

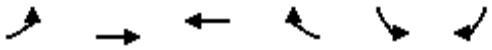
Appendix C

Existing Plus Project Conditions
LOS Analysis Worksheets



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1700	1800	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.850			
Flt Protected					0.950	
Satd. Flow (prot)	1667	1765	3008	0	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	1667	1765	3008	0	1770	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		553	435		861	
Travel Time (s)		12.6	9.9		19.6	

Intersection Summary	
Area Type:	Other



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Volume (vph)	0	0	0	8	25	0
Future Volume (vph)	0	0	0	8	25	0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	0	0	0	9	27	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	9	0	27	0

Intersection Summary

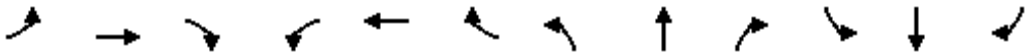
Intersection	
Int Delay, s/veh	6.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	8	25	0
Future Vol, veh/h	0	0	0	8	25	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	9	27	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	9	0	-	0	5	5
Stage 1	-	-	-	-	5	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	4.13	-	-	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.219	-	-	-	3.519	3.319
Pot Cap-1 Maneuver	1610	-	-	-	1016	1077
Stage 1	-	-	-	-	1017	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1610	-	-	-	1016	1077
Mov Cap-2 Maneuver	-	-	-	-	1016	-
Stage 1	-	-	-	-	1017	-
Stage 2	-	-	-	-	-	-

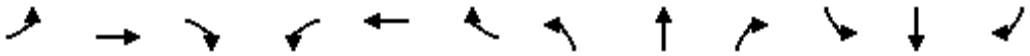
Approach	EB	WB	SB
HCM Control Delay, s	0	0	8.6
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1610	-	-	-	1016
HCM Lane V/C Ratio	-	-	-	-	0.027
HCM Control Delay (s)	0	-	-	-	8.6
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1900	1900	1700	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.925			0.865				
Flt Protected				0.950							0.950	
Satd. Flow (prot)	1667	1863	0	1583	1723	0	0	1611	0	0	1770	0
Flt Permitted				0.950							0.950	
Satd. Flow (perm)	1667	1863	0	1583	1723	0	0	1611	0	0	1770	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		435			905			819			626	
Travel Time (s)		9.9			20.6			18.6			14.2	

Intersection Summary	
Area Type:	Other



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	0	26	0	9	8	8	0	0	4	25	0	0
Future Volume (vph)	0	26	0	9	8	8	0	0	4	25	0	0
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	37	0	13	11	11	0	0	6	36	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	37	0	13	22	0	0	6	0	0	36	0

Intersection Summary

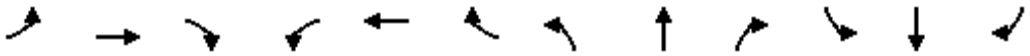
Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	26	0	9	8	8	0	0	4	25	0	0
Future Vol, veh/h	0	26	0	9	8	8	0	0	4	25	0	0
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	0	-	-	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	70	70	70	70	70	70	70	70	70	70	70	70
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	37	0	13	11	11	0	0	6	36	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	22	0	0	37	0	0	80	85	37	83	80	17
Stage 1	-	-	-	-	-	-	37	37	-	43	43	-
Stage 2	-	-	-	-	-	-	43	48	-	40	37	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1593	-	-	1574	-	-	908	805	1035	904	810	1062
Stage 1	-	-	-	-	-	-	978	864	-	971	859	-
Stage 2	-	-	-	-	-	-	971	855	-	975	864	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1593	-	-	1574	-	-	903	799	1035	893	804	1062
Mov Cap-2 Maneuver	-	-	-	-	-	-	903	799	-	893	804	-
Stage 1	-	-	-	-	-	-	978	864	-	971	852	-
Stage 2	-	-	-	-	-	-	963	848	-	970	864	-

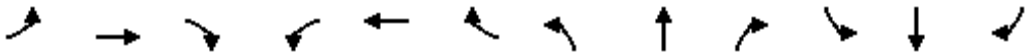
Approach	EB	WB	NB	SB
HCM Control Delay, s	0	2.6	8.5	9.2
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1035	1593	-	-	1574	-	-	893
HCM Lane V/C Ratio	0.006	-	-	-	0.008	-	-	0.04
HCM Control Delay (s)	8.5	0	-	-	7.3	-	-	9.2
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1900	1900	1700	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	75		50	60		50	85		0	50		50
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor												
Frt		0.938			0.939			0.942			0.996	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1583	3145	0	1583	3148	0	1583	3334	0	1583	3340	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1583	3145	0	1583	3148	0	1583	3334	0	1583	3340	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		905			2472			1099			1306	
Travel Time (s)		20.6			56.2			25.0			29.7	

Intersection Summary	
Area Type:	Other



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	10	37	26	56	17	12	22	77	49	21	93	3
Future Volume (vph)	10	37	26	56	17	12	22	77	49	21	93	3
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	14	54	38	81	25	17	32	112	71	30	135	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	14	92	0	81	42	0	32	183	0	30	139	0

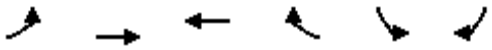
Intersection Summary

Intersection	
Intersection Delay, s/veh	9.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	37	26	56	17	12	22	77	49	21	93	3
Future Vol, veh/h	10	37	26	56	17	12	22	77	49	21	93	3
Peak Hour Factor	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	54	38	81	25	17	32	112	71	30	135	4
Number of Lanes	1	2	0	1	2	0	1	2	0	1	2	0

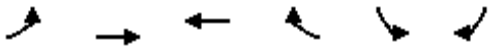
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	8.8	9.5	8.9	9.1
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	34%	0%	100%	32%	0%	100%	32%	0%	100%
Vol Right, %	0%	0%	66%	0%	0%	68%	0%	0%	68%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	22	51	75	10	25	38	56	11	18	21	62
LT Vol	22	0	0	10	0	0	56	0	0	21	0
Through Vol	0	51	26	0	25	12	0	11	6	0	62
RT Vol	0	0	49	0	0	26	0	0	12	0	0
Lane Flow Rate	32	74	108	14	36	56	81	16	26	30	90
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.053	0.114	0.153	0.025	0.058	0.082	0.141	0.026	0.038	0.052	0.14
Departure Headway (Hd)	6.036	5.536	5.077	6.307	5.807	5.332	6.255	5.755	5.279	6.101	5.601
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	589	642	700	563	611	664	569	616	671	583	634
Service Time	3.815	3.315	2.855	4.1	3.6	3.125	4.044	3.544	3.068	3.883	3.383
HCM Lane V/C Ratio	0.054	0.115	0.154	0.025	0.059	0.084	0.142	0.026	0.039	0.051	0.142
HCM Control Delay	9.2	9	8.8	9.3	9	8.6	10.1	8.7	8.3	9.2	9.3
HCM Lane LOS	A	A	A	A	A	A	B	A	A	A	A
HCM 95th-tile Q	0.2	0.4	0.5	0.1	0.2	0.3	0.5	0.1	0.1	0.2	0.5



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1700	1800	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.850			
Flt Protected					0.950	
Satd. Flow (prot)	1667	1765	3008	0	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	1667	1765	3008	0	1770	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		553	435		861	
Travel Time (s)		12.6	9.9		19.6	

Intersection Summary	
Area Type:	Other



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Volume (vph)	0	0	0	28	17	0
Future Volume (vph)	0	0	0	28	17	0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	0	0	0	30	18	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	30	0	18	0

Intersection Summary

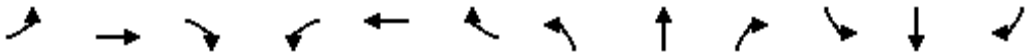
Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	28	17	0
Future Vol, veh/h	0	0	0	28	17	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	30	18	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	30	0	-	0	15	15
Stage 1	-	-	-	-	15	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	4.13	-	-	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.219	-	-	-	3.519	3.319
Pot Cap-1 Maneuver	1582	-	-	-	1002	1061
Stage 1	-	-	-	-	1006	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1582	-	-	-	1002	1061
Mov Cap-2 Maneuver	-	-	-	-	1002	-
Stage 1	-	-	-	-	1006	-
Stage 2	-	-	-	-	-	-

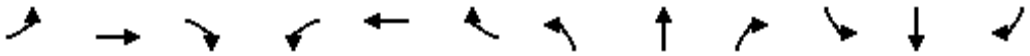
Approach	EB	WB	SB
HCM Control Delay, s	0	0	8.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1582	-	-	-	1002
HCM Lane V/C Ratio	-	-	-	-	0.018
HCM Control Delay (s)	0	-	-	-	8.7
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1900	1900	1700	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.992			0.927			0.865				
Flt Protected				0.950							0.950	
Satd. Flow (prot)	1667	1848	0	1583	1727	0	0	1611	0	0	1770	0
Flt Permitted				0.950							0.950	
Satd. Flow (perm)	1667	1848	0	1583	1727	0	0	1611	0	0	1770	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		435			905			819			626	
Travel Time (s)		9.9			20.6			18.6			14.2	

Intersection Summary	
Area Type:	Other



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	0	18	1	1	30	28	0	0	5	17	0	0
Future Volume (vph)	0	18	1	1	30	28	0	0	5	17	0	0
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	50	3	3	83	78	0	0	14	47	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	53	0	3	161	0	0	14	0	0	47	0

Intersection Summary

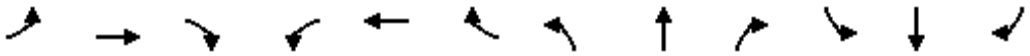
Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	18	1	1	30	28	0	0	5	17	0	0
Future Vol, veh/h	0	18	1	1	30	28	0	0	5	17	0	0
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	0	-	-	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	36	36	36	36	36	36	36	36	36	36	36	36
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	50	3	3	83	78	0	0	14	47	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	161	0	0	53	0	0	180	219	52	187	181	122
Stage 1	-	-	-	-	-	-	52	52	-	128	128	-
Stage 2	-	-	-	-	-	-	128	167	-	59	53	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1418	-	-	1553	-	-	782	679	1016	774	713	929
Stage 1	-	-	-	-	-	-	961	852	-	876	790	-
Stage 2	-	-	-	-	-	-	876	760	-	953	851	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1418	-	-	1553	-	-	781	678	1016	762	712	929
Mov Cap-2 Maneuver	-	-	-	-	-	-	781	678	-	762	712	-
Stage 1	-	-	-	-	-	-	961	852	-	876	788	-
Stage 2	-	-	-	-	-	-	874	758	-	940	851	-

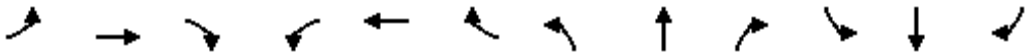
Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.1	8.6	10
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1016	1418	-	-	1553	-	-	762
HCM Lane V/C Ratio	0.014	-	-	-	0.002	-	-	0.062
HCM Control Delay (s)	8.6	0	-	-	7.3	-	-	10
HCM Lane LOS	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.2



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1900	1900	1700	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	75		50	60		50	85		0	50		50
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor												
Frt		0.926			0.977			0.961			0.981	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1583	3105	0	1583	3276	0	1583	3401	0	1583	3289	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1583	3105	0	1583	3276	0	1583	3401	0	1583	3289	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		905			2472			1099			1306	
Travel Time (s)		20.6			56.2			25.0			29.7	

Intersection Summary	
Area Type:	Other



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	10	28	27	33	50	9	34	126	44	9	102	15
Future Volume (vph)	10	28	27	33	50	9	34	126	44	9	102	15
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	11	31	30	36	55	10	37	138	48	10	112	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	61	0	36	65	0	37	186	0	10	128	0

Intersection Summary

Intersection	
Intersection Delay, s/veh	8.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	28	27	33	50	9	34	126	44	9	102	15
Future Vol, veh/h	10	28	27	33	50	9	34	126	44	9	102	15
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	31	30	36	55	10	37	138	48	10	112	16
Number of Lanes	1	2	0	1	2	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	8.5	8.8	8.7	8.7
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	49%	0%	100%	26%	0%	100%	65%	0%	100%
Vol Right, %	0%	0%	51%	0%	0%	74%	0%	0%	35%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	34	84	86	10	19	36	33	33	26	9	68
LT Vol	34	0	0	10	0	0	33	0	0	9	0
Through Vol	0	84	42	0	19	9	0	33	17	0	68
RT Vol	0	0	44	0	0	27	0	0	9	0	0
Lane Flow Rate	37	92	95	11	21	40	36	37	28	10	75
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.06	0.136	0.13	0.019	0.032	0.057	0.062	0.057	0.042	0.016	0.113
Departure Headway (Hd)	5.797	5.297	4.939	6.179	5.679	5.159	6.112	5.612	5.366	5.949	5.449
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	616	675	723	576	627	690	583	635	664	600	655
Service Time	3.548	3.048	2.689	3.946	3.446	2.926	3.874	3.374	3.128	3.705	3.205
HCM Lane V/C Ratio	0.06	0.136	0.131	0.019	0.033	0.058	0.062	0.058	0.042	0.017	0.115
HCM Control Delay	8.9	8.9	8.4	9.1	8.6	8.2	9.3	8.7	8.4	8.8	8.9
HCM Lane LOS	A	A	A	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.2	0.5	0.4	0.1	0.1	0.2	0.2	0.2	0.1	0	0.4

Appendix D

Project Opening Year (2025) Without Related Projects
Without Project Conditions
LOS Analysis Worksheets

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1700	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt					0.865	
Flt Protected			0.950			
Satd. Flow (prot)	3539	0	1583	1863	1611	0
Flt Permitted			0.950			
Satd. Flow (perm)	3539	0	1583	1863	1611	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	435			905	819	
Travel Time (s)	9.9			20.6	18.6	

Intersection Summary	
Area Type:	Other

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Volume (vph)	1	0	10	0	0	4
Future Volume (vph)	1	0	10	0	0	4
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	1	0	14	0	0	6
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1	0	14	0	6	0

Intersection Summary

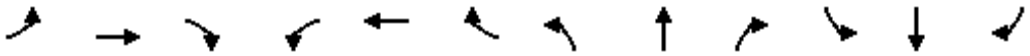
Intersection	
Int Delay, s/veh	7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1	0	10	0	0	4
Future Vol, veh/h	1	0	10	0	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	70	70	70	70	70	70
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	0	14	0	0	6

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1	0	29	1
Stage 1	-	-	-	-	1	-
Stage 2	-	-	-	-	28	-
Critical Hdwy	-	-	4.13	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.219	-	3.519	3.319
Pot Cap-1 Maneuver	-	-	1621	-	984	1083
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	994	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1621	-	975	1083
Mov Cap-2 Maneuver	-	-	-	-	975	-
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	985	-

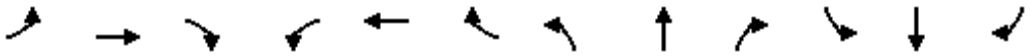
Approach	EB	WB	NB
HCM Control Delay, s	0	7.2	8.3
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1083	-	-	1621	-
HCM Lane V/C Ratio	0.005	-	-	0.009	-
HCM Control Delay (s)	8.3	-	-	7.2	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1900	1900	1700	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	75		50	60		50	85		0	50		50
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor												
Frt		0.930			0.911			0.941			0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1583	3118	0	1583	3055	0	1583	3330	0	1583	3350	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1583	3118	0	1583	3055	0	1583	3330	0	1583	3350	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		905			2472			1099			1306	
Travel Time (s)		20.6			56.2			25.0			29.7	

Intersection Summary	
Area Type:	Other



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	5	11	10	61	9	13	17	83	53	23	101	1
Future Volume (vph)	5	11	10	61	9	13	17	83	53	23	101	1
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	7	16	14	88	13	19	25	120	77	33	146	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	7	30	0	88	32	0	25	197	0	33	147	0

Intersection Summary

Intersection	
Intersection Delay, s/veh	8.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	11	10	61	9	13	17	83	53	23	101	1
Future Vol, veh/h	5	11	10	61	9	13	17	83	53	23	101	1
Peak Hour Factor	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	16	14	88	13	19	25	120	77	33	146	1
Number of Lanes	1	2	0	1	2	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	8.6	9.5	8.7	8.9
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	34%	0%	100%	27%	0%	100%	19%	0%	100%
Vol Right, %	0%	0%	66%	0%	0%	73%	0%	0%	81%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	17	55	81	5	7	14	61	6	16	23	67
LT Vol	17	0	0	5	0	0	61	0	0	23	0
Through Vol	0	55	28	0	7	4	0	6	3	0	67
RT Vol	0	0	53	0	0	10	0	0	13	0	0
Lane Flow Rate	25	80	117	7	11	20	88	9	23	33	98
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.04	0.12	0.16	0.013	0.017	0.029	0.151	0.014	0.033	0.055	0.147
Departure Headway (Hd)	5.872	5.372	4.912	6.328	5.828	5.316	6.146	5.646	5.078	5.923	5.423
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	608	665	727	562	610	667	581	630	700	602	658
Service Time	3.625	3.125	2.665	4.107	3.607	3.095	3.913	3.413	2.845	3.682	3.182
HCM Lane V/C Ratio	0.041	0.12	0.161	0.012	0.018	0.03	0.151	0.014	0.033	0.055	0.149
HCM Control Delay	8.9	8.9	8.6	9.2	8.7	8.3	10	8.5	8	9	9.1
HCM Lane LOS	A	A	A	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.1	0.4	0.6	0	0.1	0.1	0.5	0	0.1	0.2	0.5

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1700	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.925				0.865	
Flt Protected			0.950			
Satd. Flow (prot)	3274	0	1583	1863	1611	0
Flt Permitted			0.950			
Satd. Flow (perm)	3274	0	1583	1863	1611	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	435			905	819	
Travel Time (s)	9.9			20.6	18.6	

Intersection Summary	
Area Type:	Other

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Volume (vph)	1	1	1	2	0	5
Future Volume (vph)	1	1	1	2	0	5
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.36	0.36	0.36	0.36	0.36	0.36
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	3	3	3	6	0	14
Shared Lane Traffic (%)						
Lane Group Flow (vph)	6	0	3	6	14	0

Intersection Summary

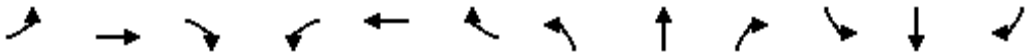
Intersection	
Int Delay, s/veh	4.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1	1	1	2	0	5
Future Vol, veh/h	1	1	1	2	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	36	36	36	36	36	36
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	3	3	6	0	14

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	6	0	17	3
Stage 1	-	-	-	-	5	-
Stage 2	-	-	-	-	12	-
Critical Hdwy	-	-	4.13	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.219	-	3.519	3.319
Pot Cap-1 Maneuver	-	-	1614	-	1000	1080
Stage 1	-	-	-	-	1017	-
Stage 2	-	-	-	-	1011	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1614	-	998	1080
Mov Cap-2 Maneuver	-	-	-	-	998	-
Stage 1	-	-	-	-	1017	-
Stage 2	-	-	-	-	1009	-

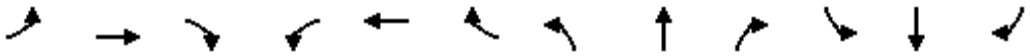
Approach	EB	WB	NB
HCM Control Delay, s	0	2.4	8.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1080	-	-	1614	-
HCM Lane V/C Ratio	0.013	-	-	0.002	-
HCM Control Delay (s)	8.4	-	-	7.2	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1900	1900	1700	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	75		50	60		50	85		0	50		50
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor												
Frt		0.910			0.951			0.961			0.987	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1583	3051	0	1583	3189	0	1583	3401	0	1583	3309	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1583	3051	0	1583	3189	0	1583	3401	0	1583	3309	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		905			2472			1099			1306	
Travel Time (s)		20.6			56.2			25.0			29.7	

Intersection Summary	
Area Type:	Other



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	8	11	16	36	21	10	15	136	48	10	110	10
Future Volume (vph)	8	11	16	36	21	10	15	136	48	10	110	10
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	9	12	18	40	23	11	16	149	53	11	121	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	9	30	0	40	34	0	16	202	0	11	132	0

Intersection Summary

Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

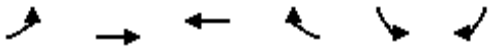
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	11	16	36	21	10	15	136	48	10	110	10
Future Vol, veh/h	8	11	16	36	21	10	15	136	48	10	110	10
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	12	18	40	23	11	16	149	53	11	121	11
Number of Lanes	1	2	0	1	2	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	8.2	8.7	8.5	8.5
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	49%	0%	100%	19%	0%	100%	41%	0%	100%
Vol Right, %	0%	0%	51%	0%	0%	81%	0%	0%	59%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	15	91	93	8	7	20	36	14	17	10	73
LT Vol	15	0	0	8	0	0	36	0	0	10	0
Through Vol	0	91	45	0	7	4	0	14	7	0	73
RT Vol	0	0	48	0	0	16	0	0	10	0	0
Lane Flow Rate	16	100	103	9	8	22	40	15	19	11	81
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.026	0.142	0.136	0.015	0.013	0.03	0.066	0.024	0.027	0.018	0.118
Departure Headway (Hd)	5.64	5.14	4.78	6.105	5.605	5.036	6.027	5.527	5.115	5.767	5.267
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	634	697	749	585	637	708	593	646	698	620	680
Service Time	3.376	2.876	2.516	3.856	3.356	2.786	3.774	3.274	2.862	3.505	3.005
HCM Lane V/C Ratio	0.025	0.143	0.138	0.015	0.013	0.031	0.067	0.023	0.027	0.018	0.119
HCM Control Delay	8.5	8.7	8.3	8.9	8.4	7.9	9.2	8.4	8	8.6	8.7
HCM Lane LOS	A	A	A	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.1	0.5	0.5	0	0	0.1	0.2	0.1	0.1	0.1	0.4

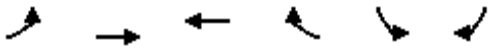
Appendix E

Project Opening Year (2025) Without Related Projects
With Project Conditions
LOS Analysis Worksheets



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1700	1800	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.850			
Flt Protected					0.950	
Satd. Flow (prot)	1667	1765	3008	0	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	1667	1765	3008	0	1770	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		553	435		861	
Travel Time (s)		12.6	9.9		19.6	

Intersection Summary	
Area Type:	Other



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Volume (vph)	0	0	0	8	25	0
Future Volume (vph)	0	0	0	8	25	0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	0	0	0	9	27	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	9	0	27	0

Intersection Summary

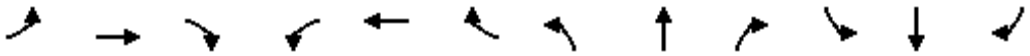
Intersection	
Int Delay, s/veh	6.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	8	25	0
Future Vol, veh/h	0	0	0	8	25	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	9	27	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	9	0	-	0	5	5
Stage 1	-	-	-	-	5	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	4.13	-	-	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.219	-	-	-	3.519	3.319
Pot Cap-1 Maneuver	1610	-	-	-	1016	1077
Stage 1	-	-	-	-	1017	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1610	-	-	-	1016	1077
Mov Cap-2 Maneuver	-	-	-	-	1016	-
Stage 1	-	-	-	-	1017	-
Stage 2	-	-	-	-	-	-

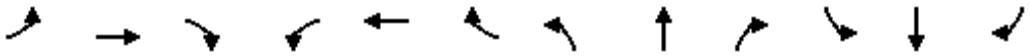
Approach	EB	WB	SB
HCM Control Delay, s	0	0	8.6
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1610	-	-	-	1016
HCM Lane V/C Ratio	-	-	-	-	0.027
HCM Control Delay (s)	0	-	-	-	8.6
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1900	1900	1700	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.925			0.865				
Flt Protected				0.950							0.950	
Satd. Flow (prot)	1667	1863	0	1583	1723	0	0	1611	0	0	1770	0
Flt Permitted				0.950							0.950	
Satd. Flow (perm)	1667	1863	0	1583	1723	0	0	1611	0	0	1770	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		435			905			819			626	
Travel Time (s)		9.9			20.6			18.6			14.2	

Intersection Summary	
Area Type:	Other



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	0	26	0	10	8	8	0	0	4	25	0	0
Future Volume (vph)	0	26	0	10	8	8	0	0	4	25	0	0
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	37	0	14	11	11	0	0	6	36	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	37	0	14	22	0	0	6	0	0	36	0

Intersection Summary

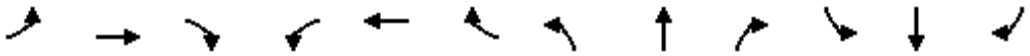
Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	26	0	10	8	8	0	0	4	25	0	0
Future Vol, veh/h	0	26	0	10	8	8	0	0	4	25	0	0
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	0	-	-	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	70	70	70	70	70	70	70	70	70	70	70	70
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	37	0	14	11	11	0	0	6	36	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	22	0	0	37	0	0	82	87	37	85	82	17
Stage 1	-	-	-	-	-	-	37	37	-	45	45	-
Stage 2	-	-	-	-	-	-	45	50	-	40	37	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1593	-	-	1574	-	-	905	803	1035	901	808	1062
Stage 1	-	-	-	-	-	-	978	864	-	969	857	-
Stage 2	-	-	-	-	-	-	969	853	-	975	864	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1593	-	-	1574	-	-	899	796	1035	890	801	1062
Mov Cap-2 Maneuver	-	-	-	-	-	-	899	796	-	890	801	-
Stage 1	-	-	-	-	-	-	978	864	-	969	849	-
Stage 2	-	-	-	-	-	-	960	845	-	970	864	-

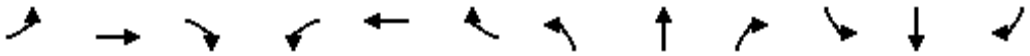
Approach	EB	WB	NB	SB
HCM Control Delay, s	0	2.8	8.5	9.2
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1035	1593	-	-	1574	-	-	890
HCM Lane V/C Ratio	0.006	-	-	-	0.009	-	-	0.04
HCM Control Delay (s)	8.5	0	-	-	7.3	-	-	9.2
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1900	1900	1700	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	75		50	60		50	85		0	50		50
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor												
Frt		0.938			0.937			0.941			0.996	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1583	3145	0	1583	3142	0	1583	3330	0	1583	3340	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1583	3145	0	1583	3142	0	1583	3330	0	1583	3340	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		905			2472			1099			1306	
Travel Time (s)		20.6			56.2			25.0			29.7	

Intersection Summary	
Area Type:	Other



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	10	38	27	61	18	13	23	83	53	23	101	3
Future Volume (vph)	10	38	27	61	18	13	23	83	53	23	101	3
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	14	55	39	88	26	19	33	120	77	33	146	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	14	94	0	88	45	0	33	197	0	33	150	0

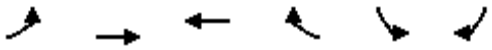
Intersection Summary

Intersection	
Intersection Delay, s/veh	9.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	38	27	61	18	13	23	83	53	23	101	3
Future Vol, veh/h	10	38	27	61	18	13	23	83	53	23	101	3
Peak Hour Factor	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	55	39	88	26	19	33	120	77	33	146	4
Number of Lanes	1	2	0	1	2	0	1	2	0	1	2	0

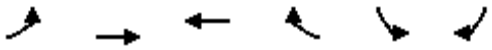
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	9	9.8	9.1	9.3
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	34%	0%	100%	32%	0%	100%	32%	0%	100%
Vol Right, %	0%	0%	66%	0%	0%	68%	0%	0%	68%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	23	55	81	10	25	40	61	12	19	23	67
LT Vol	23	0	0	10	0	0	61	0	0	23	0
Through Vol	0	55	28	0	25	13	0	12	6	0	67
RT Vol	0	0	53	0	0	27	0	0	13	0	0
Lane Flow Rate	33	80	117	14	37	57	88	17	28	33	98
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.057	0.125	0.167	0.026	0.061	0.088	0.158	0.029	0.042	0.057	0.154
Departure Headway (Hd)	6.111	5.611	5.151	6.516	6.016	5.54	6.447	5.947	5.468	6.281	5.781
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	580	632	687	552	598	650	560	606	659	574	625
Service Time	3.909	3.409	2.949	4.222	3.722	3.245	4.147	3.647	3.168	3.981	3.481
HCM Lane V/C Ratio	0.057	0.127	0.17	0.025	0.062	0.088	0.157	0.028	0.042	0.057	0.157
HCM Control Delay	9.3	9.2	9	9.4	9.1	8.8	10.4	8.8	8.4	9.4	9.5
HCM Lane LOS	A	A	A	A	A	A	B	A	A	A	A
HCM 95th-tile Q	0.2	0.4	0.6	0.1	0.2	0.3	0.6	0.1	0.1	0.2	0.5



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1700	1800	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.850			
Flt Protected					0.950	
Satd. Flow (prot)	1667	1765	3008	0	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	1667	1765	3008	0	1770	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		553	435		861	
Travel Time (s)		12.6	9.9		19.6	

Intersection Summary	
Area Type:	Other



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Volume (vph)	0	0	0	28	17	0
Future Volume (vph)	0	0	0	28	17	0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	0	0	0	30	18	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	30	0	18	0

Intersection Summary

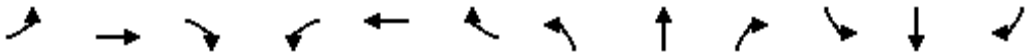
Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	28	17	0
Future Vol, veh/h	0	0	0	28	17	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	30	18	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	30	0	-	0	15	15
Stage 1	-	-	-	-	15	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	4.13	-	-	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.219	-	-	-	3.519	3.319
Pot Cap-1 Maneuver	1582	-	-	-	1002	1061
Stage 1	-	-	-	-	1006	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1582	-	-	-	1002	1061
Mov Cap-2 Maneuver	-	-	-	-	1002	-
Stage 1	-	-	-	-	1006	-
Stage 2	-	-	-	-	-	-

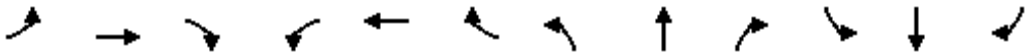
Approach	EB	WB	SB
HCM Control Delay, s	0	0	8.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1582	-	-	-	1002
HCM Lane V/C Ratio	-	-	-	-	0.018
HCM Control Delay (s)	0	-	-	-	8.7
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1900	1900	1700	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.992			0.927			0.865				
Flt Protected				0.950							0.950	
Satd. Flow (prot)	1667	1848	0	1583	1727	0	0	1611	0	0	1770	0
Flt Permitted				0.950							0.950	
Satd. Flow (perm)	1667	1848	0	1583	1727	0	0	1611	0	0	1770	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		435			905			819			626	
Travel Time (s)		9.9			20.6			18.6			14.2	

Intersection Summary	
Area Type:	Other



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	0	18	1	1	30	28	0	0	5	17	0	0
Future Volume (vph)	0	18	1	1	30	28	0	0	5	17	0	0
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	50	3	3	83	78	0	0	14	47	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	53	0	3	161	0	0	14	0	0	47	0

Intersection Summary

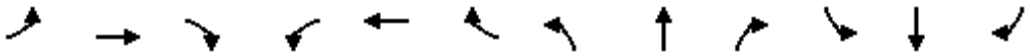
Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	18	1	1	30	28	0	0	5	17	0	0
Future Vol, veh/h	0	18	1	1	30	28	0	0	5	17	0	0
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	0	-	-	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	36	36	36	36	36	36	36	36	36	36	36	36
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	50	3	3	83	78	0	0	14	47	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	161	0	0	53	0	0	180	219	52	187	181	122
Stage 1	-	-	-	-	-	-	52	52	-	128	128	-
Stage 2	-	-	-	-	-	-	128	167	-	59	53	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1418	-	-	1553	-	-	782	679	1016	774	713	929
Stage 1	-	-	-	-	-	-	961	852	-	876	790	-
Stage 2	-	-	-	-	-	-	876	760	-	953	851	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1418	-	-	1553	-	-	781	678	1016	762	712	929
Mov Cap-2 Maneuver	-	-	-	-	-	-	781	678	-	762	712	-
Stage 1	-	-	-	-	-	-	961	852	-	876	788	-
Stage 2	-	-	-	-	-	-	874	758	-	940	851	-

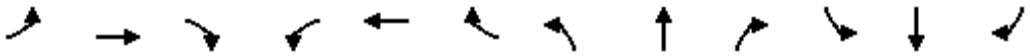
Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.1	8.6	10
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1016	1418	-	-	1553	-	-	762
HCM Lane V/C Ratio	0.014	-	-	-	0.002	-	-	0.062
HCM Control Delay (s)	8.6	0	-	-	7.3	-	-	10
HCM Lane LOS	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.2



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1900	1900	1700	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	75		50	60		50	85		0	50		50
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor												
Frt		0.926			0.976			0.961			0.981	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1583	3105	0	1583	3272	0	1583	3401	0	1583	3289	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1583	3105	0	1583	3272	0	1583	3401	0	1583	3289	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		905			2472			1099			1306	
Travel Time (s)		20.6			56.2			25.0			29.7	

Intersection Summary	
Area Type:	Other



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	11	29	28	36	52	10	35	136	48	10	110	16
Future Volume (vph)	11	29	28	36	52	10	35	136	48	10	110	16
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	12	32	31	40	57	11	38	149	53	11	121	18
Shared Lane Traffic (%)												
Lane Group Flow (vph)	12	63	0	40	68	0	38	202	0	11	139	0

Intersection Summary

Intersection	
Intersection Delay, s/veh	8.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	29	28	36	52	10	35	136	48	10	110	16
Future Vol, veh/h	11	29	28	36	52	10	35	136	48	10	110	16
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	32	31	40	57	11	38	149	53	11	121	18
Number of Lanes	1	2	0	1	2	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	8.6	8.9	8.8	8.9
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	49%	0%	100%	26%	0%	100%	63%	0%	100%
Vol Right, %	0%	0%	51%	0%	0%	74%	0%	0%	37%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	35	91	93	11	19	38	36	35	27	10	73
LT Vol	35	0	0	11	0	0	36	0	0	10	0
Through Vol	0	91	45	0	19	10	0	35	17	0	73
RT Vol	0	0	48	0	0	28	0	0	10	0	0
Lane Flow Rate	38	100	103	12	21	41	40	38	30	11	81
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.063	0.148	0.142	0.021	0.034	0.06	0.068	0.06	0.045	0.018	0.123
Departure Headway (Hd)	5.853	5.353	4.993	6.268	5.768	5.247	6.191	5.691	5.435	6.013	5.513
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	610	668	715	568	617	678	576	626	654	593	647
Service Time	3.608	3.108	2.748	4.039	3.539	3.018	3.96	3.46	3.204	3.775	3.275
HCM Lane V/C Ratio	0.062	0.15	0.144	0.021	0.034	0.06	0.069	0.061	0.046	0.019	0.125
HCM Control Delay	9	9	8.6	9.2	8.7	8.4	9.4	8.8	8.5	8.9	9.1
HCM Lane LOS	A	A	A	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.2	0.5	0.5	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.4

Appendix F

Project Opening Year (2025) With Related Projects
Without Project Conditions
LOS Analysis Worksheets

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1700	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt					0.865	
Flt Protected			0.950			
Satd. Flow (prot)	3539	0	1583	1863	1611	0
Flt Permitted			0.950			
Satd. Flow (perm)	3539	0	1583	1863	1611	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	435			905	819	
Travel Time (s)	9.9			20.6	18.6	

Intersection Summary	
Area Type:	Other

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Volume (vph)	62	0	10	20	0	4
Future Volume (vph)	62	0	10	20	0	4
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	89	0	14	29	0	6
Shared Lane Traffic (%)						
Lane Group Flow (vph)	89	0	14	29	6	0

Intersection Summary

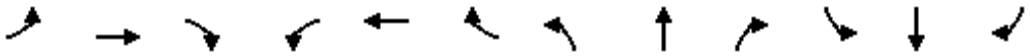
Intersection	
Int Delay, s/veh	1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	62	0	10	20	0	4
Future Vol, veh/h	62	0	10	20	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	70	70	70	70	70	70
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	89	0	14	29	0	6

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	89	0	146	45
Stage 1	-	-	-	-	89	-
Stage 2	-	-	-	-	57	-
Critical Hdwy	-	-	4.13	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.219	-	3.519	3.319
Pot Cap-1 Maneuver	-	-	1505	-	839	1015
Stage 1	-	-	-	-	925	-
Stage 2	-	-	-	-	965	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1505	-	831	1015
Mov Cap-2 Maneuver	-	-	-	-	831	-
Stage 1	-	-	-	-	925	-
Stage 2	-	-	-	-	956	-

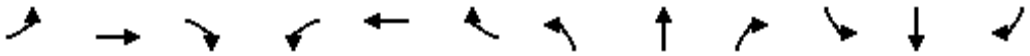
Approach	EB	WB	NB
HCM Control Delay, s	0	2.5	8.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1015	-	-	1505	-
HCM Lane V/C Ratio	0.006	-	-	0.009	-
HCM Control Delay (s)	8.6	-	-	7.4	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1900	1900	1700	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	75		50	60		50	85		0	50		50
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor												
Frt		0.940			0.958			0.941			0.991	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1583	3152	0	1583	3212	0	1583	3330	0	1583	3323	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1583	3152	0	1583	3212	0	1583	3330	0	1583	3323	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		905			2472			1099			1306	
Travel Time (s)		20.6			56.2			25.0			29.7	

Intersection Summary	
Area Type:	Other



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	19	86	58	61	34	13	33	83	53	23	101	6
Future Volume (vph)	19	86	58	61	34	13	33	83	53	23	101	6
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	28	125	84	88	49	19	48	120	77	33	146	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	28	209	0	88	68	0	48	197	0	33	155	0

Intersection Summary

Intersection	
Intersection Delay, s/veh	10
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	19	86	58	61	34	13	33	83	53	23	101	6
Future Vol, veh/h	19	86	58	61	34	13	33	83	53	23	101	6
Peak Hour Factor	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	125	84	88	49	19	48	120	77	33	146	9
Number of Lanes	1	2	0	1	2	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	9.9	10.3	9.9	10
HCM LOS	A	B	A	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	34%	0%	100%	33%	0%	100%	47%	0%	100%
Vol Right, %	0%	0%	66%	0%	0%	67%	0%	0%	53%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	33	55	81	19	57	87	61	23	24	23	67
LT Vol	33	0	0	19	0	0	61	0	0	23	0
Through Vol	0	55	28	0	57	29	0	23	11	0	67
RT Vol	0	0	53	0	0	58	0	0	13	0	0
Lane Flow Rate	48	80	117	28	83	126	88	33	35	33	98
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.089	0.138	0.186	0.051	0.143	0.2	0.168	0.058	0.059	0.063	0.17
Departure Headway (Hd)	6.676	6.176	5.717	6.713	6.213	5.744	6.852	6.352	5.978	6.776	6.276
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	537	581	628	533	577	624	523	563	598	529	571
Service Time	4.415	3.915	3.455	4.454	3.954	3.486	4.595	4.095	3.721	4.518	4.018
HCM Lane V/C Ratio	0.089	0.138	0.186	0.053	0.144	0.202	0.168	0.059	0.059	0.062	0.172
HCM Control Delay	10.1	9.9	9.8	9.8	10	9.9	11	9.5	9.1	10	10.3
HCM Lane LOS	B	A	A	A	A	A	B	A	A	A	B
HCM 95th-tile Q	0.3	0.5	0.7	0.2	0.5	0.7	0.6	0.2	0.2	0.2	0.6

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1700	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.996				0.865	
Flt Protected			0.950			
Satd. Flow (prot)	3525	0	1583	1863	1611	0
Flt Permitted			0.950			
Satd. Flow (perm)	3525	0	1583	1863	1611	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	435			905	819	
Travel Time (s)	9.9			20.6	18.6	

Intersection Summary	
Area Type:	Other

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Volume (vph)	41	1	1	71	0	5
Future Volume (vph)	41	1	1	71	0	5
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.36	0.36	0.36	0.36	0.36	0.36
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	114	3	3	197	0	14
Shared Lane Traffic (%)						
Lane Group Flow (vph)	117	0	3	197	14	0

Intersection Summary

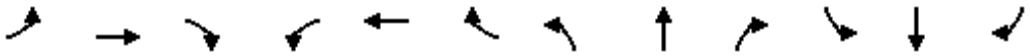
Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	41	1	1	71	0	5
Future Vol, veh/h	41	1	1	71	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	36	36	36	36	36	36
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	114	3	3	197	0	14

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	117	0	319	59
Stage 1	-	-	-	-	116	-
Stage 2	-	-	-	-	203	-
Critical Hdwy	-	-	4.13	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.219	-	3.519	3.319
Pot Cap-1 Maneuver	-	-	1470	-	662	995
Stage 1	-	-	-	-	897	-
Stage 2	-	-	-	-	830	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1470	-	661	995
Mov Cap-2 Maneuver	-	-	-	-	661	-
Stage 1	-	-	-	-	897	-
Stage 2	-	-	-	-	828	-

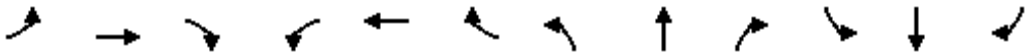
Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	8.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	995	-	-	1470	-
HCM Lane V/C Ratio	0.014	-	-	0.002	-
HCM Control Delay (s)	8.7	-	-	7.5	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1900	1900	1700	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	75		50	60		50	85		0	50		50
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor												
Frt		0.934			0.987			0.961			0.973	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1583	3132	0	1583	3309	0	1583	3401	0	1583	3262	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1583	3132	0	1583	3309	0	1583	3401	0	1583	3262	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		905			2472			1099			1306	
Travel Time (s)		20.6			56.2			25.0			29.7	

Intersection Summary	
Area Type:	Other



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	17	61	48	36	106	10	69	136	48	10	110	25
Future Volume (vph)	17	61	48	36	106	10	69	136	48	10	110	25
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	19	67	53	40	116	11	76	149	53	11	121	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	19	120	0	40	127	0	76	202	0	11	148	0

Intersection Summary

Intersection	
Intersection Delay, s/veh	9.5
Intersection LOS	A

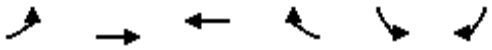
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	17	61	48	36	106	10	69	136	48	10	110	25
Future Vol, veh/h	17	61	48	36	106	10	69	136	48	10	110	25
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	19	67	53	40	116	11	76	149	53	11	121	27
Number of Lanes	1	2	0	1	2	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	9.3	9.6	9.6	9.5
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	49%	0%	100%	30%	0%	100%	78%	0%	100%
Vol Right, %	0%	0%	51%	0%	0%	70%	0%	0%	22%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	69	91	93	17	41	68	36	71	45	10	73
LT Vol	69	0	0	17	0	0	36	0	0	10	0
Through Vol	0	91	45	0	41	20	0	71	35	0	73
RT Vol	0	0	48	0	0	48	0	0	10	0	0
Lane Flow Rate	76	100	103	19	45	75	40	78	50	11	81
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.133	0.161	0.156	0.035	0.077	0.119	0.073	0.132	0.082	0.02	0.136
Departure Headway (Hd)	6.335	5.835	5.475	6.677	6.177	5.685	6.603	6.103	5.949	6.566	6.066
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	567	616	655	537	581	632	544	589	603	546	592
Service Time	4.062	3.562	3.202	4.405	3.905	3.413	4.332	3.832	3.677	4.296	3.796
HCM Lane V/C Ratio	0.134	0.162	0.157	0.035	0.077	0.119	0.074	0.132	0.083	0.02	0.137
HCM Control Delay	10	9.7	9.2	9.6	9.4	9.2	9.9	9.8	9.2	9.4	9.8
HCM Lane LOS	A	A	A	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.5	0.6	0.6	0.1	0.2	0.4	0.2	0.5	0.3	0.1	0.5

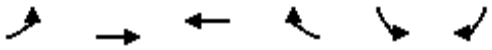
Appendix G

Project Opening Year (2025) With Related Projects
With Project Conditions
LOS Analysis Worksheets



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1700	1800	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.850			
Flt Protected					0.950	
Satd. Flow (prot)	1667	1765	3008	0	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	1667	1765	3008	0	1770	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		553	435		861	
Travel Time (s)		12.6	9.9		19.6	

Intersection Summary	
Area Type:	Other



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Volume (vph)	0	0	0	8	25	0
Future Volume (vph)	0	0	0	8	25	0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	0	0	0	9	27	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	9	0	27	0

Intersection Summary

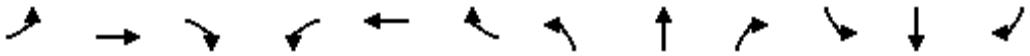
Intersection	
Int Delay, s/veh	6.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	8	25	0
Future Vol, veh/h	0	0	0	8	25	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	9	27	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	9	0	-	0	5	5
Stage 1	-	-	-	-	5	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	4.13	-	-	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.219	-	-	-	3.519	3.319
Pot Cap-1 Maneuver	1610	-	-	-	1016	1077
Stage 1	-	-	-	-	1017	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1610	-	-	-	1016	1077
Mov Cap-2 Maneuver	-	-	-	-	1016	-
Stage 1	-	-	-	-	1017	-
Stage 2	-	-	-	-	-	-

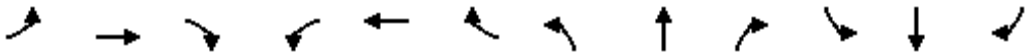
Approach	EB	WB	SB
HCM Control Delay, s	0	0	8.6
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1610	-	-	-	1016
HCM Lane V/C Ratio	-	-	-	-	0.027
HCM Control Delay (s)	0	-	-	-	8.6
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1900	1900	1700	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.968			0.865				
Flt Protected				0.950							0.950	
Satd. Flow (prot)	1667	1863	0	1583	1803	0	0	1611	0	0	1770	0
Flt Permitted				0.950							0.950	
Satd. Flow (perm)	1667	1863	0	1583	1803	0	0	1611	0	0	1770	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		435			905			819			626	
Travel Time (s)		9.9			20.6			18.6			14.2	

Intersection Summary	
Area Type:	Other



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	0	87	0	10	28	8	0	0	4	25	0	0
Future Volume (vph)	0	87	0	10	28	8	0	0	4	25	0	0
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	124	0	14	40	11	0	0	6	36	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	124	0	14	51	0	0	6	0	0	36	0

Intersection Summary

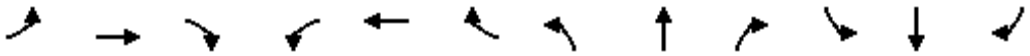
Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	87	0	10	28	8	0	0	4	25	0	0
Future Vol, veh/h	0	87	0	10	28	8	0	0	4	25	0	0
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	0	-	-	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	70	70	70	70	70	70	70	70	70	70	70	70
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	124	0	14	40	11	0	0	6	36	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	51	0	0	124	0	0	198	203	124	201	198	46
Stage 1	-	-	-	-	-	-	124	124	-	74	74	-
Stage 2	-	-	-	-	-	-	74	79	-	127	124	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1555	-	-	1463	-	-	761	693	927	757	698	1023
Stage 1	-	-	-	-	-	-	880	793	-	935	833	-
Stage 2	-	-	-	-	-	-	935	829	-	877	793	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1555	-	-	1463	-	-	756	686	927	747	691	1023
Mov Cap-2 Maneuver	-	-	-	-	-	-	756	686	-	747	691	-
Stage 1	-	-	-	-	-	-	880	793	-	935	825	-
Stage 2	-	-	-	-	-	-	926	821	-	872	793	-

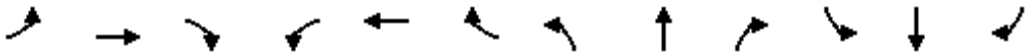
Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.6	8.9	10.1
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	927	1555	-	-	1463	-	-	747
HCM Lane V/C Ratio	0.006	-	-	-	0.01	-	-	0.048
HCM Control Delay (s)	8.9	0	-	-	7.5	-	-	10.1
HCM Lane LOS	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1900	1900	1700	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	75		50	60		50	85		0	50		50
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor												
Frt		0.940			0.965			0.941			0.990	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1583	3152	0	1583	3236	0	1583	3330	0	1583	3319	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1583	3152	0	1583	3236	0	1583	3330	0	1583	3319	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		905			2472			1099			1306	
Travel Time (s)		20.6			56.2			25.0			29.7	

Intersection Summary	
Area Type:	Other



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	24	113	75	61	43	13	38	83	53	23	101	7
Future Volume (vph)	24	113	75	61	43	13	38	83	53	23	101	7
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	35	164	109	88	62	19	55	120	77	33	146	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	35	273	0	88	81	0	55	197	0	33	156	0

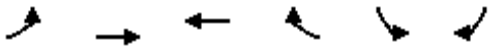
Intersection Summary

Intersection	
Intersection Delay, s/veh	10.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	24	113	75	61	43	13	38	83	53	23	101	7
Future Vol, veh/h	24	113	75	61	43	13	38	83	53	23	101	7
Peak Hour Factor	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	35	164	109	88	62	19	55	120	77	33	146	10
Number of Lanes	1	2	0	1	2	0	1	2	0	1	2	0

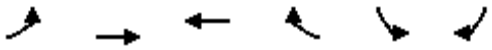
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	10.6	10.5	10.3	10.4
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	34%	0%	100%	33%	0%	100%	52%	0%	100%
Vol Right, %	0%	0%	66%	0%	0%	67%	0%	0%	48%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	38	55	81	24	75	113	61	29	27	23	67
LT Vol	38	0	0	24	0	0	61	0	0	23	0
Through Vol	0	55	28	0	75	38	0	29	14	0	67
RT Vol	0	0	53	0	0	75	0	0	13	0	0
Lane Flow Rate	55	80	117	35	109	163	88	42	40	33	98
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.106	0.143	0.194	0.066	0.192	0.265	0.174	0.076	0.069	0.065	0.178
Departure Headway (Hd)	6.934	6.434	5.974	6.818	6.318	5.852	7.07	6.57	6.237	7.051	6.551
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	516	556	599	525	567	612	507	544	572	507	546
Service Time	4.688	4.188	3.728	4.568	4.068	3.602	4.827	4.327	3.994	4.806	4.306
HCM Lane V/C Ratio	0.107	0.144	0.195	0.067	0.192	0.266	0.174	0.077	0.07	0.065	0.179
HCM Control Delay	10.5	10.3	10.2	10.1	10.6	10.7	11.3	9.9	9.5	10.3	10.7
HCM Lane LOS	B	B	B	B	B	B	B	A	A	B	B
HCM 95th-tile Q	0.4	0.5	0.7	0.2	0.7	1.1	0.6	0.2	0.2	0.2	0.6



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1700	1800	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.850			
Flt Protected					0.950	
Satd. Flow (prot)	1667	1765	3008	0	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	1667	1765	3008	0	1770	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		553	435		861	
Travel Time (s)		12.6	9.9		19.6	

Intersection Summary	
Area Type:	Other



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Volume (vph)	0	0	0	28	17	0
Future Volume (vph)	0	0	0	28	17	0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	0	0	0	30	18	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	30	0	18	0

Intersection Summary

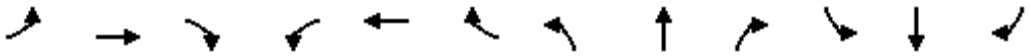
Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	28	17	0
Future Vol, veh/h	0	0	0	28	17	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	30	18	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	30	0	-	0	15	15
Stage 1	-	-	-	-	15	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	4.13	-	-	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.219	-	-	-	3.519	3.319
Pot Cap-1 Maneuver	1582	-	-	-	1002	1061
Stage 1	-	-	-	-	1006	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1582	-	-	-	1002	1061
Mov Cap-2 Maneuver	-	-	-	-	1002	-
Stage 1	-	-	-	-	1006	-
Stage 2	-	-	-	-	-	-

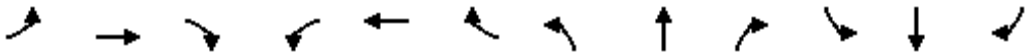
Approach	EB	WB	SB
HCM Control Delay, s	0	0	8.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1582	-	-	-	1002
HCM Lane V/C Ratio	-	-	-	-	0.018
HCM Control Delay (s)	0	-	-	-	8.7
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1900	1900	1700	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.997			0.967			0.865				
Flt Protected				0.950							0.950	
Satd. Flow (prot)	1667	1857	0	1583	1801	0	0	1611	0	0	1770	0
Flt Permitted				0.950							0.950	
Satd. Flow (perm)	1667	1857	0	1583	1801	0	0	1611	0	0	1770	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		435			905			819			626	
Travel Time (s)		9.9			20.6			18.6			14.2	

Intersection Summary	
Area Type:	Other



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	0	58	1	1	99	28	0	0	5	17	0	0
Future Volume (vph)	0	58	1	1	99	28	0	0	5	17	0	0
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	161	3	3	275	78	0	0	14	47	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	164	0	3	353	0	0	14	0	0	47	0

Intersection Summary

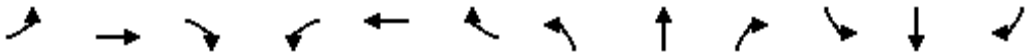
Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	58	1	1	99	28	0	0	5	17	0	0
Future Vol, veh/h	0	58	1	1	99	28	0	0	5	17	0	0
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	0	-	-	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	36	36	36	36	36	36	36	36	36	36	36	36
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	161	3	3	275	78	0	0	14	47	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	353	0	0	164	0	0	483	522	163	490	484	314
Stage 1	-	-	-	-	-	-	163	163	-	320	320	-
Stage 2	-	-	-	-	-	-	320	359	-	170	164	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1206	-	-	1414	-	-	494	459	882	489	483	726
Stage 1	-	-	-	-	-	-	839	763	-	692	652	-
Stage 2	-	-	-	-	-	-	692	627	-	832	762	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1206	-	-	1414	-	-	493	458	882	481	482	726
Mov Cap-2 Maneuver	-	-	-	-	-	-	493	458	-	481	482	-
Stage 1	-	-	-	-	-	-	839	763	-	692	651	-
Stage 2	-	-	-	-	-	-	691	626	-	819	762	-

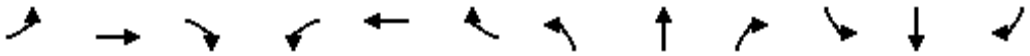
Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.1	9.1	13.3
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	882	1206	-	-	1414	-	-	481
HCM Lane V/C Ratio	0.016	-	-	-	0.002	-	-	0.098
HCM Control Delay (s)	9.1	0	-	-	7.6	-	-	13.3
HCM Lane LOS	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.3



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1900	1900	1700	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	75		50	60		50	85		0	50		50
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor												
Frt		0.936			0.990			0.961			0.967	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1583	3138	0	1583	3319	0	1583	3401	0	1583	3242	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1583	3138	0	1583	3319	0	1583	3401	0	1583	3242	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		905			2472			1099			1306	
Travel Time (s)		20.6			56.2			25.0			29.7	

Intersection Summary	
Area Type:	Other



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	20	79	59	36	137	10	89	136	48	10	110	31
Future Volume (vph)	20	79	59	36	137	10	89	136	48	10	110	31
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	22	87	65	40	151	11	98	149	53	11	121	34
Shared Lane Traffic (%)												
Lane Group Flow (vph)	22	152	0	40	162	0	98	202	0	11	155	0

Intersection Summary

Intersection	
Intersection Delay, s/veh	10
Intersection LOS	A

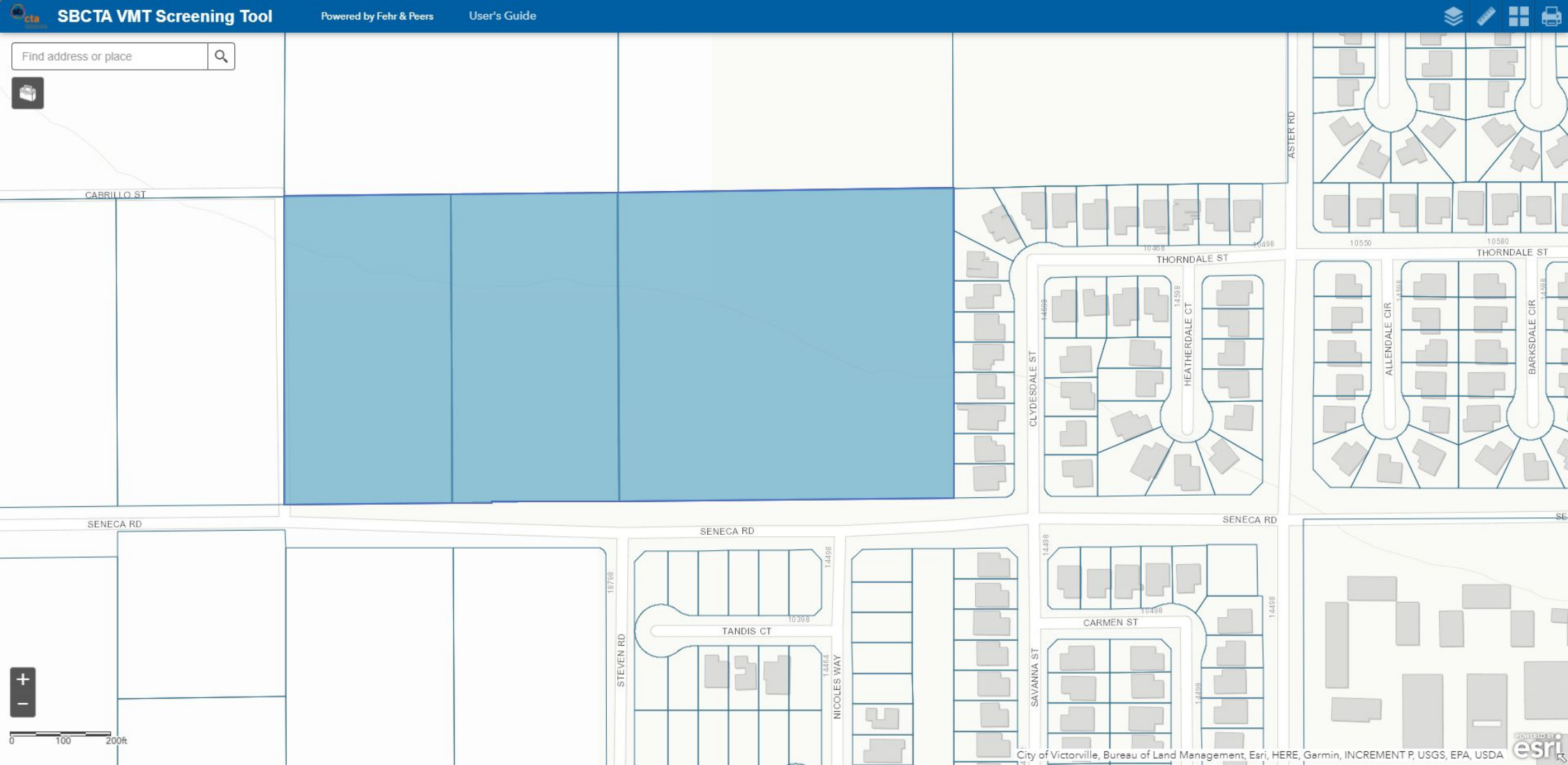
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	79	59	36	137	10	89	136	48	10	110	31
Future Vol, veh/h	20	79	59	36	137	10	89	136	48	10	110	31
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	87	65	40	151	11	98	149	53	11	121	34
Number of Lanes	1	2	0	1	2	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	9.8	10.1	10.1	9.9
HCM LOS	A	B	B	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	49%	0%	100%	31%	0%	100%	82%	0%	100%
Vol Right, %	0%	0%	51%	0%	0%	69%	0%	0%	18%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	89	91	93	20	53	85	36	91	56	10	73
LT Vol	89	0	0	20	0	0	36	0	0	10	0
Through Vol	0	91	45	0	53	26	0	91	46	0	73
RT Vol	0	0	48	0	0	59	0	0	10	0	0
Lane Flow Rate	98	100	103	22	58	94	40	100	61	11	81
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.179	0.168	0.163	0.042	0.103	0.154	0.075	0.176	0.105	0.021	0.142
Departure Headway (Hd)	6.576	6.076	5.716	6.877	6.377	5.893	6.805	6.305	6.179	6.85	6.35
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	546	590	627	520	561	608	526	568	579	522	564
Service Time	4.318	3.818	3.458	4.622	4.122	3.638	4.549	4.049	3.923	4.595	4.095
HCM Lane V/C Ratio	0.179	0.169	0.164	0.042	0.103	0.155	0.076	0.176	0.105	0.021	0.144
HCM Control Delay	10.8	10	9.6	9.9	9.9	9.7	10.1	10.4	9.7	9.7	10.2
HCM Lane LOS	B	A	A	A	A	A	B	B	A	A	B
HCM 95th-tile Q	0.6	0.6	0.6	0.1	0.3	0.5	0.2	0.6	0.4	0.1	0.5

Appendix H

SBCTA VMT Screening Tool Output


SBCTA VMT Screening Tool
Powered by Fehr & Peers
User's Guide
Find address or place
CABRILLO ST
ASTER RD
THORNDALE ST
CLYDESDALE ST
HEATHERDALE CT
ALLENDALE CIR
BARKSDALE CIR
SENECA RD
TANDIS CT
STEVEN RD
NICOLES WAY
CARMEN ST
SAVANNA ST
0
100
200ft
City of Victorville, Bureau of Land Management, Esri, HERE, Garmin, INCREMENT P, USGS, EPA, USDA

Project Area VMT (1 of 2)

Assessor Parcel Number (APN)	313208106
Traffic Analysis Zone (TAZ)	53899701
TAZ VMT	30.4
Jurisdiction VMT	34.6
% Difference	-11.94%
VMT Metric	PA VMT Per Service Population
Threshold	34.6

Zoom to

Screening Results (2 of 2)

Completely within a TPA?	No (Fail)
Within a low VMT generating TAZ?	Yes (Pass)
Note	Screening results are based on location of parcel centroids. If results are desired considering the full parcel, please refer to the associated map layers to visually review parcel and TAZ boundary relationship.

Zoom to