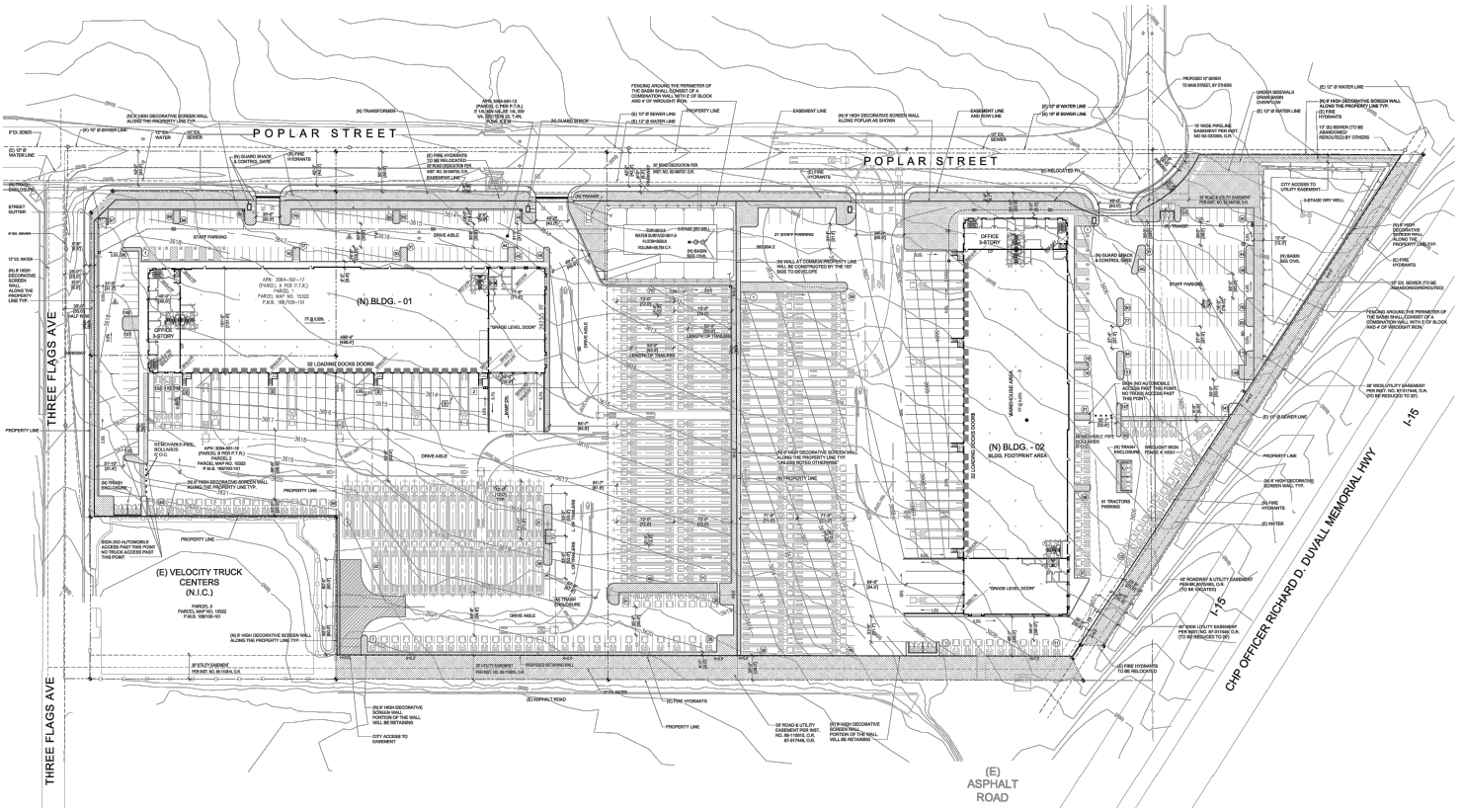
APPENDIX I

TRAFFIC IMPACT ANALYSIS REPORT

CARGO SOLUTION EXPRESS WAREHOUSE PROJECT
REVISED TRAFFIC IMPACT ANALYSIS
City of Hesperia, California



CARGO SOLUTION EXPRESS WAREHOUSE PROJECT
REVISED TRAFFIC IMPACT ANALYSIS
City of Hesperia, California

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(Revision to the January 9, 2025 Report)

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1.0 Introduction

1.1 Purpose of Report & Study Objectives

The purpose of this traffic impact analysis and report is to evaluate and assess the proposed Cargo Solution Express Warehouse Project (hereinafter referred to as "project") from a traffic and circulation perspective. Furthermore, this analysis will determine whether the proposed project will significantly impact the environment.

This study has been conducted pursuant to the *City of Hesperia Traffic Impact Analysis Guidelines for Vehicle Miles Traveled (VMT) and Level of Service (LOS) Assessment*, dated July 2020, and the California Environment Quality Act (CEQA) requirements. This study evaluates the potential traffic and environmental impacts associated with the proposed project in accordance with the respective thresholds of significance.

It is worth noting that this traffic impact analysis utilizes the *I-15 Industrial Park Project Traffic Impact Analysis*, dated October 2022, prepared by Dudek, as a primary source for the data used to evaluate traffic operations. The findings and methodologies from the Dudek analysis serve as a foundation for the analysis presented in this report.

This study has been prepared in accordance with the scope of work approved by the City of Hesperia staff, which is contained in **Appendix A**. It should be noted that this iteration of the traffic study assesses a newly modified project description.

1.2 Project Description

The project site is located at the southeast corner of Three Flags Avenue and Poplar Street in the City of Hesperia, CA. The project site spans approximately 2.303 acres and is currently vacant.

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

- One (1) warehouse building (Building No. 1) totaling 75,894 square feet (SF); and
- One (1) warehouse building (Building No. 2) totaling 75,894 square feet (SF).

The project is expected to open in 2026 and will be evaluated in one (1) single phase.

Access to the project is proposed via four (4) full-access unsignalized driveways located along Poplar Street:

- Driveway 1: Serves Building No. 1 warehouse for passenger vehicle traffic;
- Driveway 2: Serves Building No. 1 warehouse for truck traffic;
- Driveway 3: Serves Building No. 2 warehouse for truck traffic; and
- Driveway 4: Serves Building No. 2 warehouse for passenger vehicle traffic.

The project site location map is shown in **Exhibit 1-1**. **Exhibit 1-2** shows the proposed project's site plan.

1.3 Traffic Study Area & Analysis Scenarios

Exhibit 1-1 illustrates the project site's location map and traffic analysis study area.

The study area included in this analysis has been determined based on existing and future transportation facilities within the vicinity of the site where the project may contribute a significant amount of traffic. The study area consists of the following eleven (11) intersections listed below. The jurisdiction where each key study intersection is also identified.

Int #1. U.S. Route 395 at Main Street - Phelan Road [City of Hesperia, Caltrans];

Int #2. U.S. Route 395 at Poplar Street [City of Hesperia, Caltrans];

Int #3. Three Flags Avenue at Poplar Street [City of Hesperia];

Int #4. U.S. Route 395 at Three Flags Road - Three Flags Court [City of Hesperia, Caltrans];

Int #5. U.S. Route 395 at Joshua Street [City of Hesperia, Caltrans];

Int #6. I-15 Southbound Off-Ramp at Joshua Street [City of Hesperia, Caltrans];

Int #7. I-15 Southbound On-Ramp at Joshua Street [City of Hesperia, Caltrans];

Int #8. Project Access Driveway 1 at Poplar Street [City of Hesperia];

Int #9. Project Access Driveway 2 at Poplar Street [City of Hesperia];

Int #10. Project Access Driveway 3 at Poplar Street [City of Hesperia]; and

Int #11. Project Access Driveway 4 at Poplar Street [City of Hesperia].

Exhibit 1-1

Location Map

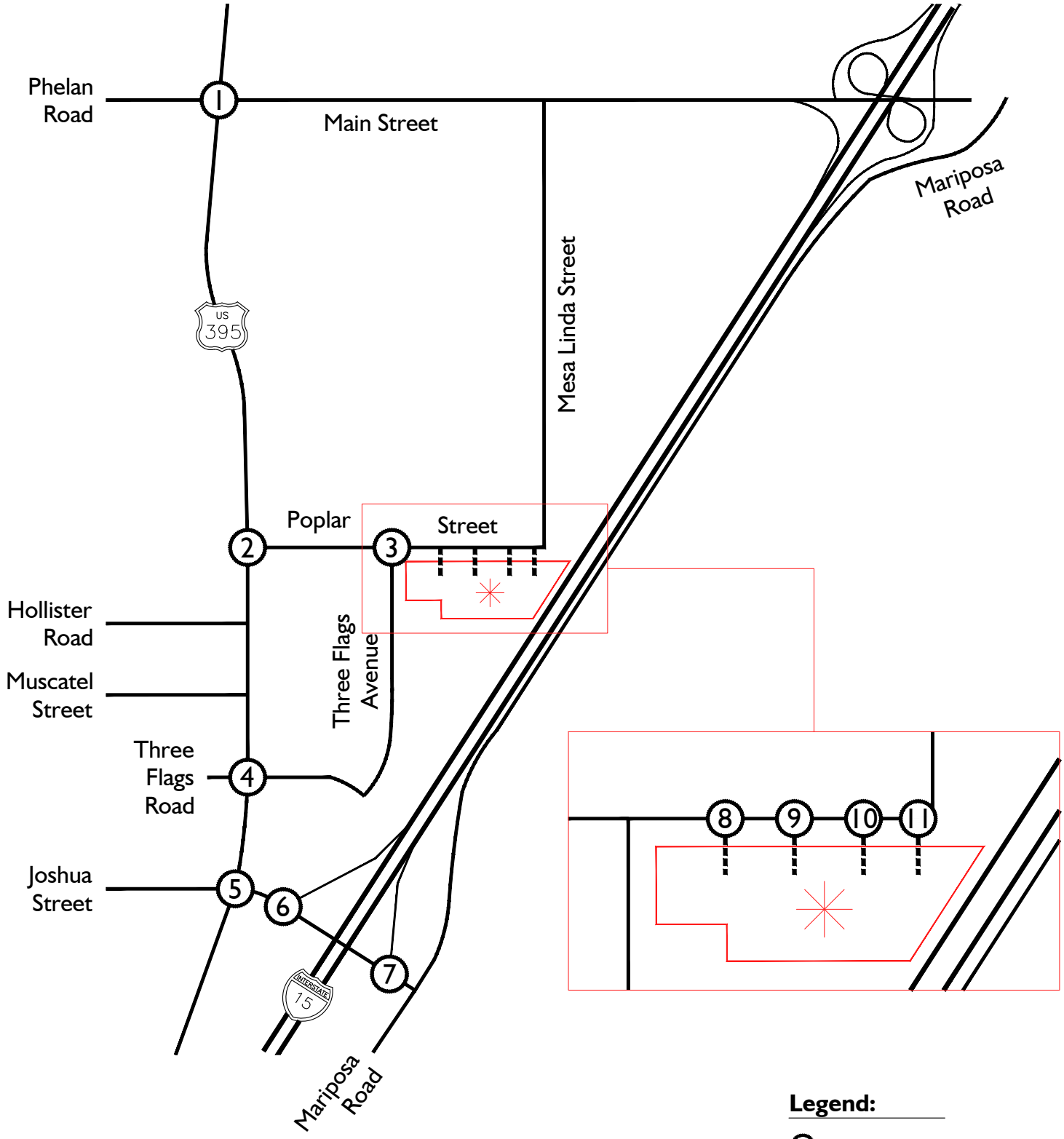
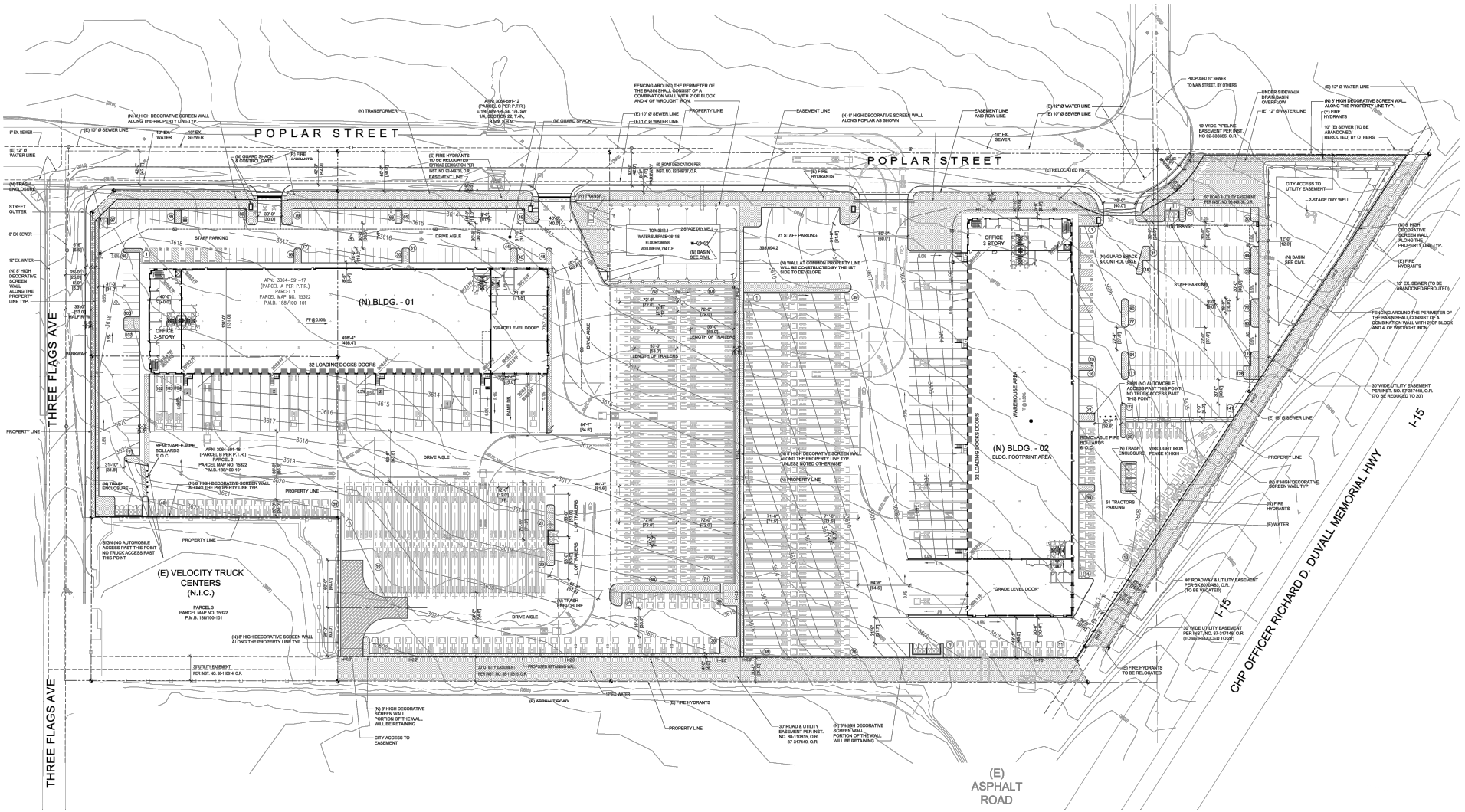


Exhibit 1-2

Site Plan


POPLAR STREET
POPLAR STREET
THREE FLAGS AVE
THREE FLAGS AVE
(N) BLDG. - 01
(N) BLDG. - 02
BLDG. FOOTPRINT AREA
(E) VELOCITY TRUCK CENTERS (N.I.C.)
(E) ASPHALT ROAD
CHP OFFICER RICHARD D. DUVALL MEMORIAL HWY
I-15
I-15
32 LOADING DOCKS DOORS
21 STAFF PARKING
STAFF PARKING
OFFICE 3-STORY
OFFICE 3-STORY
WAREHOUSE AREA
51 TRACTORS PARKING
(N) TRANSF.
(N) GUARD SHACK & CONTROL GATE
(N) BASIN SEE CIVIL
2-STAGE DRY WELL
(E) FIRE HYDRANTS
(N) TRASH ENCLOSURE
(E) WATER
CITY ACCESS TO UTILITY EASEMENT
PROPERTY LINE
DRIVE AISLE
SIGN (NO AUTOMOBILE ACCESS PAST THIS POINT NO TRUCK ACCESS PAST THIS POINT
REMOVABLE PIPE BOLLARDS @ O.C.
(N) 8' HIGH DECORATIVE SCREEN WALL ALONG THE PROPERTY LINE TYP.
(E) 12" Ø WATER LINE
(E) 10" Ø SEWER LINE
(E) 8" SEWER
(E) 12" Ø SEWER LINE
(E) 15" Ø SEWER LINE
(E) 10" Ø WATER LINE
(E) 12" Ø WATER LINE
(E) 10" EX. SEWER
(E) 12" EX. WATER
(E) 8" EX. SEWER
(E) 8" EX. WATER
(E) 10" EX. SEWER
(E) 12" Ø WATER LINE
(E) 10" Ø SEWER LINE
(E) 12" Ø WATER LINE
(E) 10" Ø SEWER LINE
(E) 8" EX. SEWER
(E) 12" EX. WATER
(E) 8" EX. SEWER
(E) 10" EX. SEWER
(E) 12" Ø WATER LINE
(E) 10" Ø SEWER LINE

The analysis evaluates traffic conditions of the study area under the following scenarios during the weekday AM (7:00 AM to 9:00 AM) and weekday PM (4:00 PM to 6:00 PM) peak periods:

- Existing Conditions
- Project Opening Year (2026) Without Project Conditions
- Project Opening Year (2026) With Project Conditions
- Horizon Year (2040) Without Project Conditions
- Horizon Year (2040) With Project Conditions

2.0 Analysis Methodologies, Performance Criteria, & Thresholds of Significance

This section of the report presents the methodologies used to perform the traffic analyses summarized in this report in accordance with the City of Hesperia requirements. This section also discusses the applicable agency-established performance criteria and thresholds for requiring LOS improvements for the study facilities.

2.1 Study Intersection Peak Hour Level of Service Analysis Methodology

In accordance with the *City of Hesperia Traffic Impact Analysis Guidelines for Vehicle Miles Traveled (VMT) and Level of Service (LOS) Assessment*, dated July 2020, the current Highway Capacity Manual must be used in the evaluation of traffic operations for both signalized and unsignalized intersections. During the preparation of this study, the Highway Capacity Manual 7th Edition (HCM 7) was utilized.

The HCM defines level of service as a qualitative measure which describes operational conditions within a traffic stream, generally in terms of factors such 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 interrupted flow (flow regulated by the existence of traffic control devices) are:

- **LOS A** (Free Flow / Insignificant Delays) describes traffic operations in which progression is exceptionally favorable or the cycle length is extremely short. Generally, LOS A operations for signalized intersections tend to result in most vehicles arriving during the green phase and traveling through the intersection without stopping.

- **LOS B** (Stable Operation / Minimal Delays) describes traffic operations in which progression slightly diminishes but is still considered highly favorable and the cycle length is short. Vehicles stop more often causing a marginal increase in average delay.

- **LOS C** (Stable Operation / Acceptable Delays) describes traffic operations in which progression is favorable and the cycle length is moderate. Individual cycle failures (i.e., one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle) may begin to appear. Many vehicles still pass through the intersection but a significant number of vehicles are stopping. Average delay is fair.

- **LOS D** (Approaching Unstable / Tolerable Delays) describes traffic operations in which progression is ineffective and/or cycle length is long. Considerable amount of vehicles stop and individual cycle failures are noticeable. Average delay is adequate.

- **LOS E** (Unstable Operation / Significant Delays) describes traffic operations in which progression is unfavorable and the cycle length is exceedingly long. Individual cycle failures are frequent. Average delay is high.

- **LOS F** (Forced Flow / Excessive Delays) describes traffic operations in which progression is extremely poor and the cycle length is extremely long. Most cycles fail to clear the queue. Average delay is vast.

2.1.1 HCM (7th Edition) Methodology

Level of service is typically dependent on the quality of traffic flow at the intersection along a roadway. The Highway Capacity Manual 7th Edition (HCM 7) expresses the level of service at an intersection in terms of delay time for various intersection approaches. The HCM 7 uses different procedures depending on the type of intersection control. The levels of service determined in this study are calculated using the HCM 7 methodology.

For signalized intersections, average control delay per vehicle is used to determine the LOS.

For all-way stop-controlled intersections, average control delay per vehicle is also used to determine the LOS.

For intersections with stop control on the minor approach only, the calculation of LOS is dependent on the occurrence of gaps in the free-flow traffic movement of the major street, and the LOS is determined based on the worst stop-controlled approach from the minor street or an individual movement from the major street, whichever is worse.

Table 2-1 shows the level of service criteria based on the HCM 7 methodology.

Table 2-1

HCM Intersection LOS & Delay Ranges

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

2.1.2 Analysis Parameters

For this study, HCM level of service conditions have been evaluated utilizing the HCM 7 methodology and PTV Vistro analysis software. All analysis parameters utilized adhere to the LOS analysis procedures and assumptions defined in the *City of Hesperia Traffic Impact Analysis Guidelines for Vehicle Miles Traveled (VMT) and Level of Service (LOS) Assessment*, dated July 2020.

2.2 LOS Performance Criteria & Thresholds for Requiring LOS Improvements

The eleven (11) key study intersections fall under the jurisdiction of one or more of the following governing bodies:

- City of Hesperia
- Caltrans

Hence, this study evaluates the potential traffic impacts associated with the proposed project for each study intersection based on the performance criteria and thresholds of significance set forth by the respective jurisdiction(s).

2.2.1 City of Hesperia

The following goals and implementation policies referenced from the Circulation Element of the 2010 City of Hesperia General Plan has been identified to serve as performance criteria and thresholds of significance in the evaluation of Level of Service.

Goal CI-2: Develop and implement a City-wide Congestion Management Plan

- Implementation Policy CI-2.1
    - Strive to achieve and maintain a LOS D or better on all roadways and intersections: LOS E during peak hours shall be considered acceptable through freeway interchanges and major corridors (Bear Valley Road, Main Street/Phelan Road, Highway 395).
- Implementation Policy CI-2.2
    - Work with regional agencies which have authority over roadways within the City to ensure a minimum Level of Service D for roadways and a minimum Level of Service E for intersections.

As it pertains to identifying LOS deficiencies, the City of Hesperia traffic impact analysis guidelines state:

"Only project opening day and future scenarios with project require that traffic operational problems be mitigated to provide LOS E or better operation within the CMP network; however, the City of Hesperia requires mitigation to maintain the general plan goal of LOS D on all its roadways and will take precedence over the CMP requirements."

2.2.2 Caltrans

Caltrans is responsible for the design, construction, maintenance, and operation of the California State Highway System.

Caltrans has prepared the *Vehicle Miles Traveled-Focused Transportation Impact Study Guide*, dated May 2020, as a response to Senate Bill 743 which eliminates automobile delay and LOS as the sole basis of determining impacts on the environment under the California Environmental Quality Act. The transportation impact study guide states that Caltrans will transition away from requesting LOS or other vehicle operations analyses of land use projects.

However, the *City of Hesperia Traffic Impact Analysis Guidelines for Vehicle Miles Traveled (VMT) and Level of Service (LOS) Assessment*, dated July 2020 state the LOS threshold for State highway facilities will be the same as the jurisdiction where the facility is located but no greater than a 45 second average delay per vehicle in the peak hour (middle of LOS "D"). Caltrans acknowledges that this may not always be feasible. If an existing State highway facility is operating at less than the appropriate target LOS, the existing LOS should be maintained.

2.2.3 Minimum Acceptable LOS Thresholds

Based on the discussed level of service performance criteria and thresholds of significance of the governing jurisdictional bodies, **Table 2-2** below identifies the minimum acceptable level of service for each study intersection.

Table 2-2

Study Intersection LOS Performance Criteria

Study Intersection		Acceptable LOS
1.	U.S. Route 395 (NS) at Main Street - Phelan Road (EW)	E
2.	U.S. Route 395 (NS) at Poplar Street (EW)	E
3.	Three Flags Avenue (NS) at Poplar Street (EW)	D
4.	U.S. Route 395 (NS) at Three Flags Road - Three Flags Court (EW)	E
5.	U.S. Route 395 (NS) at Joshua Street (EW)	E
6.	I-15 Southbound Off-Ramp (NS) at Joshua Street (EW)	E
7.	I-15 Southbound On-Ramp (NS) at Joshua Street (EW)	E
8.	Project Access Driveway 1 (NS) at Poplar Street (EW)	D
9.	Project Access Driveway 2 (NS) at Poplar Street (EW)	D
10.	Project Access Driveway 3 (NS) at Poplar Street (EW)	D
11.	Project Access Driveway 4 (NS) at Poplar Street (EW)	D

3.0 Existing Conditions & Circulation System

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

3.1 Existing Traffic Controls & Intersection Geometrics

The *I-15 Industrial Park Project Traffic Impact Analysis*, dated October 2022, prepared by Dudek, is one of the most recently performed traffic impact analyses in the study area. The I-15 Industrial Park project is located south of Main Street, north of Poplar Street, and adjacent to the proposed Cargo Solution Express Warehouse Project.

To ensure consistency between the traffic impact analysis prepared by Dudek and within this analysis, the lane configurations and traffic controls illustrated in Figure 16 of the Dudek report have been utilized in this analysis and is shown in **Exhibit 3-1**.

One exception, however, is the intersection of Three Flags Avenue at Poplar Street (i.e., Int. #3). This study intersection has been identified in this analysis to be a three-legged intersection with south, east, and west legs. Figure 16 of the Dudek report denotes this intersection as a four-legged intersection. The north leg is proposed to be Lassen Road, a two-lane undivided arterial to be located between Poplar Street and Sultana Street. This roadway is not currently built and therefore the lane configurations have been adjusted accordingly.

Exhibit 3-1 identifies the roadway conditions, number of through traffic lanes, and intersection controls for the study area. 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 conditions traffic volumes are based on the 2021 peak hour traffic volumes displayed on Figure 17 of the Dudek report. A two percent (2%) annual growth rate has been applied for three (3) years (i.e., 6% total growth) to the 2021 peak hour traffic volumes to establish existing (2024) traffic volumes for the study intersection.

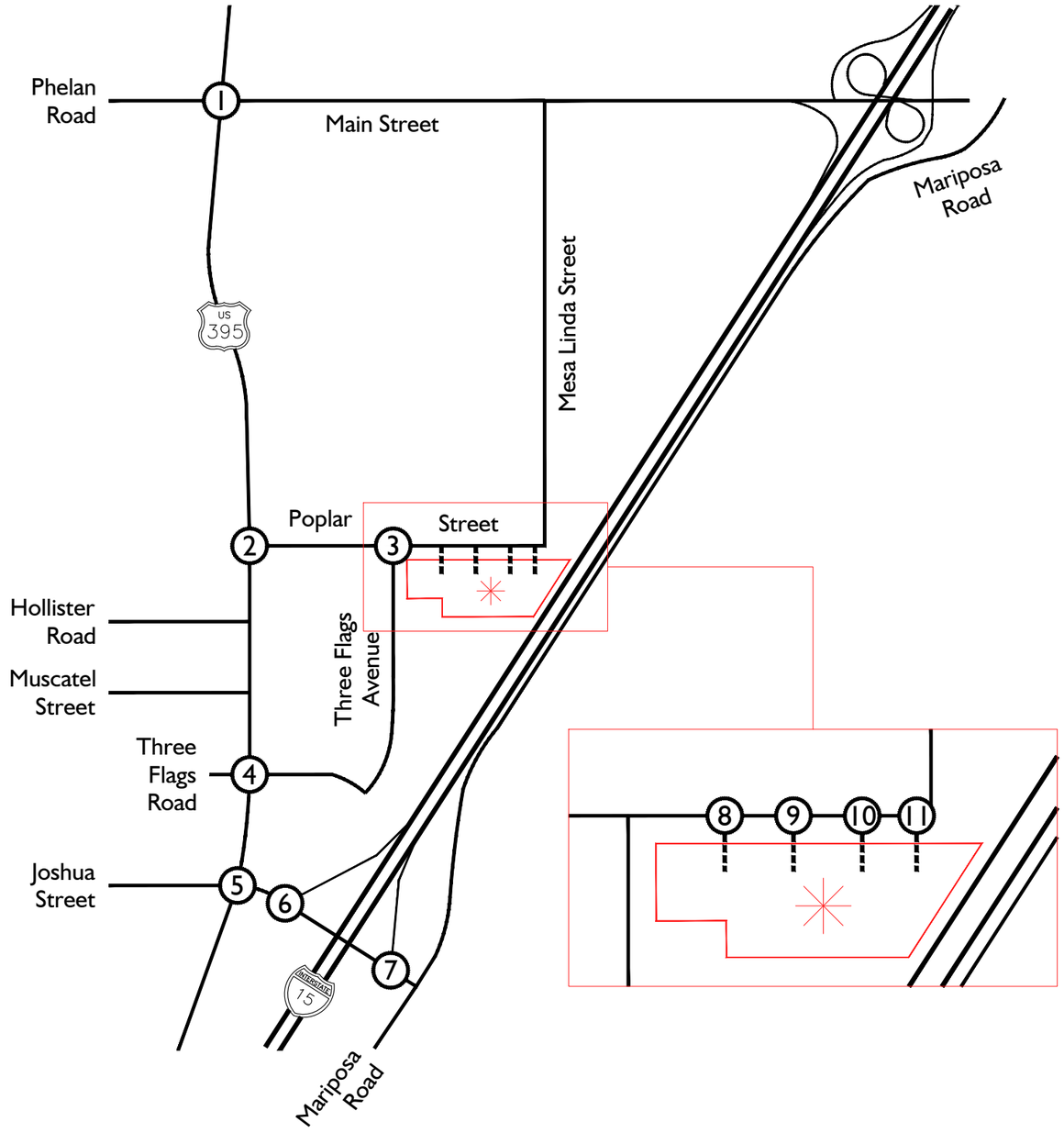
Existing Conditions (2024) weekday AM and PM peak hour volumes for the key study intersections are shown on **Exhibit 3-2**.

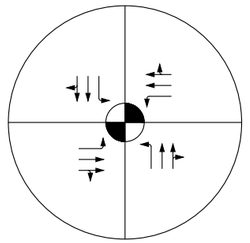
3.3 City of Hesperia General Plan Circulation Element

The City of Hesperia's Traffic Circulation Plan illustrates each roadway's street classification within the City of Hesperia and is shown in **Exhibit 3-3**.

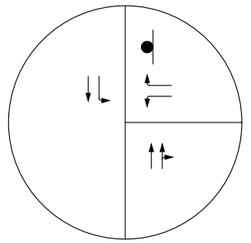
Exhibit 3-1

Existing Traffic Controls & Intersection Geometrics

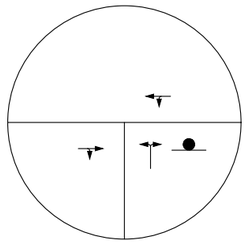




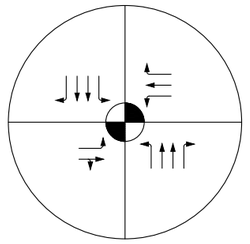
1. U.S. Route 395 (NS) at Main Street - Phelan Road (EW)



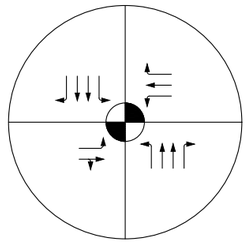
2. U.S. Route 395 (NS) at Poplar Street (EW)



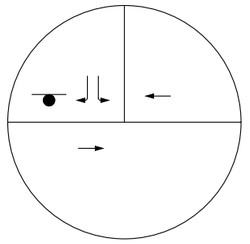
3. Three Flags Avenue (NS) at Poplar Street (EW)



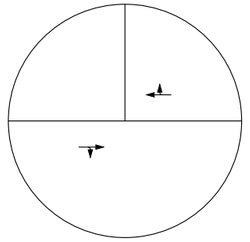
4. U.S. Route 395 (NS) at Three Flags Road - Three Flags Court (EW)



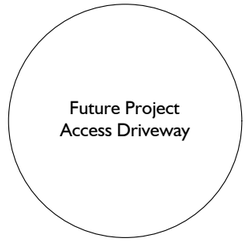
5. U.S. Route 395 (NS) at Joshua Street (EW)



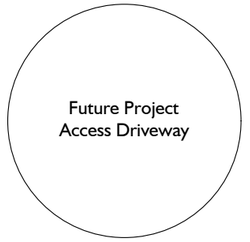
6. I-15 Southbound Off-Ramp (NS) at Joshua Street (EW)



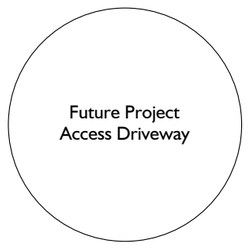
7. I-15 Southbound On-Ramp (NS) at Joshua Street (EW)



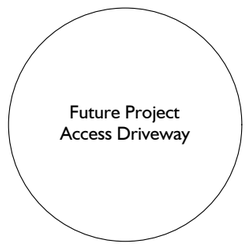
8. Project Access Driveway 1 (NS) at Poplar Street (EW)



9. Project Access Driveway 2 (NS) at Poplar Street (EW)



10. Project Access Driveway 3 (NS) at Poplar Street (EW)



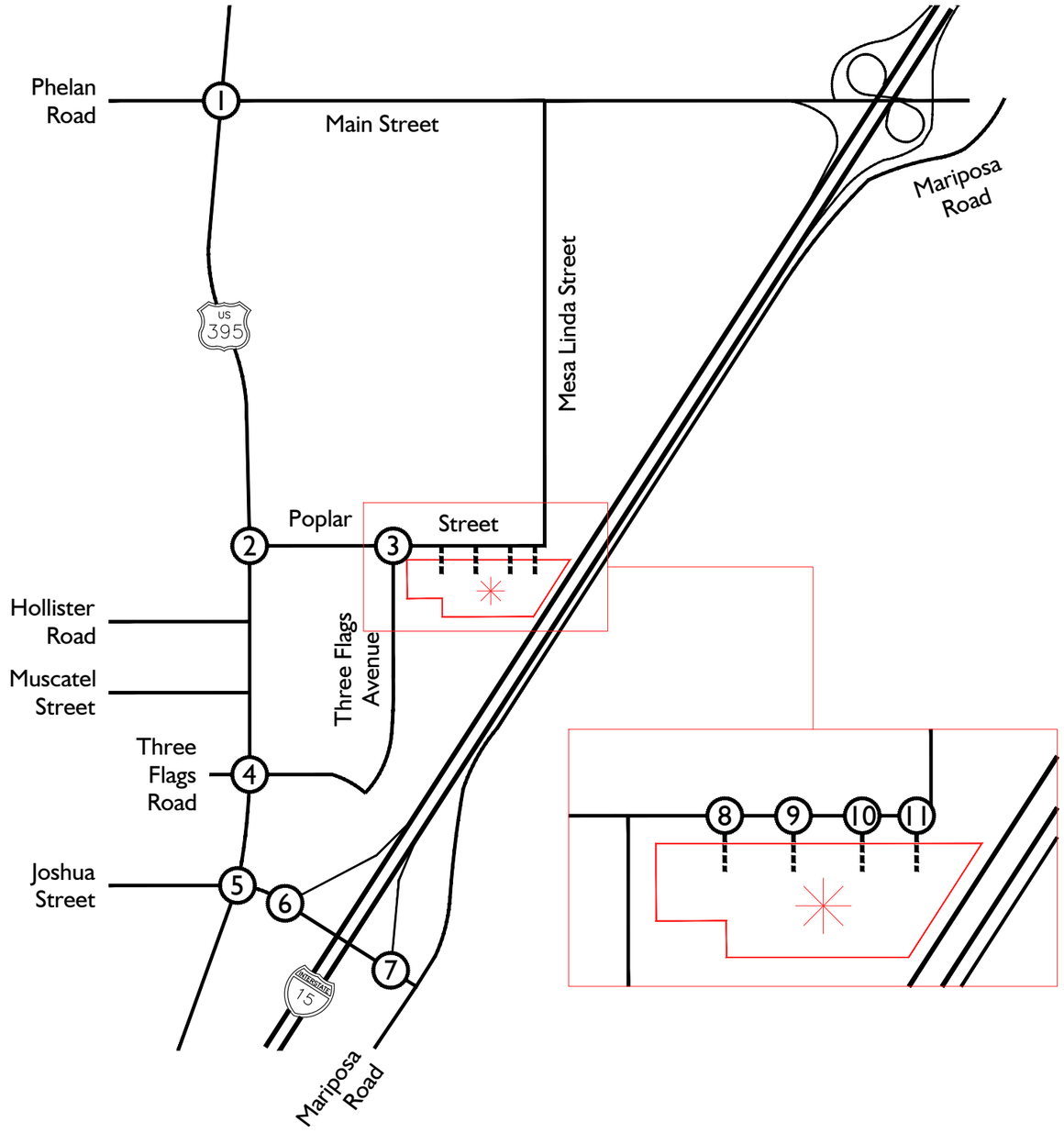
11. Project Access Driveway 4 (NS) at Poplar Street (EW)

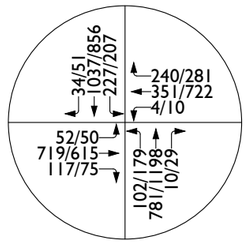
Legend:

- = Traffic Signal
- = Stop Sign
- = Study Area Intersection
- = Project Site
- = Project Access Driveway
- = Project Site Boundary

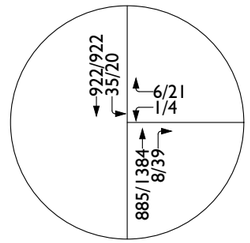
Exhibit 3-2

Existing Conditions (2024) Traffic Volumes

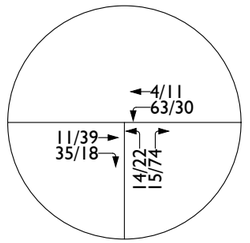




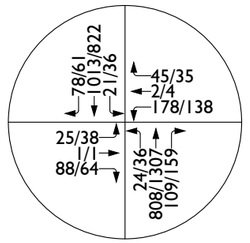
1. U.S. Route 395 (NS) at Main Street - Phelan Road (EW)



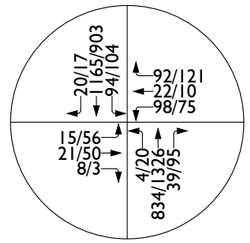
2. U.S. Route 395 (NS) at Poplar Street (EW)



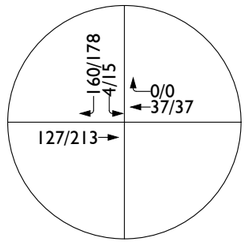
3. Three Flags Avenue (NS) at Poplar Street (EW)



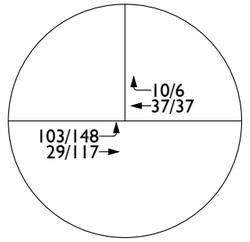
4. U.S. Route 395 (NS) at Three Flags Road - Three Flags Court (EW)



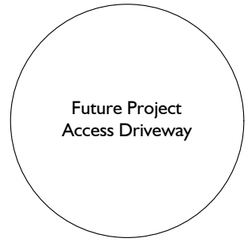
5. U.S. Route 395 (NS) at Joshua Street (EW)



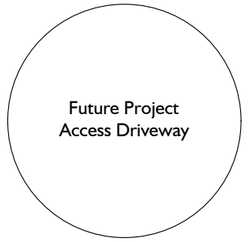
6. I-15 Southbound Off-Ramp (NS) at Joshua Street (EW)



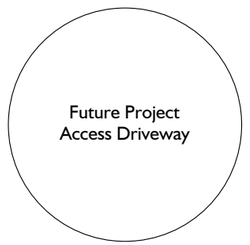
7. I-15 Southbound On-Ramp (NS) at Joshua Street (EW)



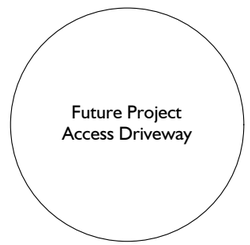
8. Project Access Driveway 1 (NS) at Poplar Street (EW)



9. Project Access Driveway 2 (NS) at Poplar Street (EW)



10. Project Access Driveway 3 (NS) at Poplar Street (EW)



11. Project Access Driveway 4 (NS) at Poplar Street (EW)

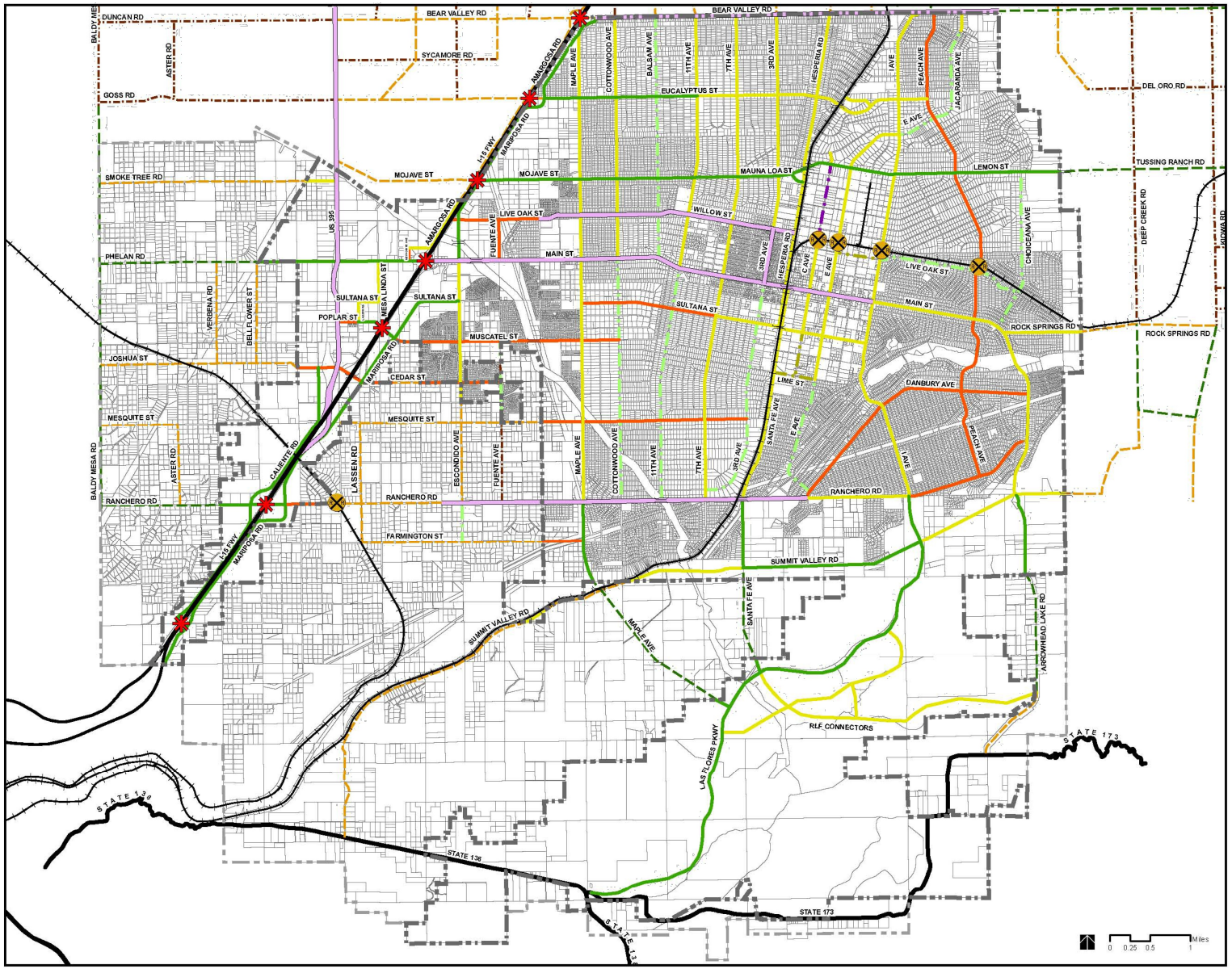
Legend:

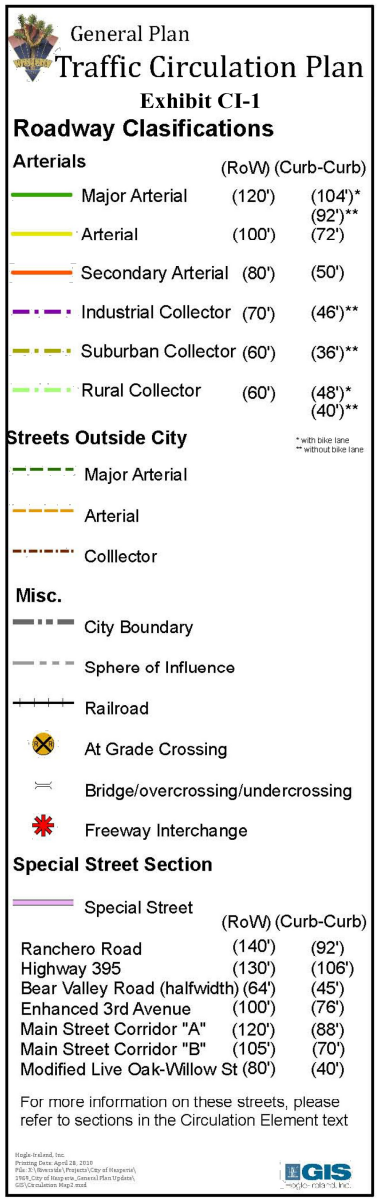
10/20 = AM/PM Peak Hour Volumes
① = Study Area Intersection
✳ = Project Site
▬ = Project Access Driveway
— = Project Site Boundary

N

Exhibit 3-3

City of Hesperia General Plan
Traffic Circulation Plan





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 Project Trip Generation

Trip generation represents the amount of traffic that is attracted and produced by a development. Typically, trip generation rates from the latest Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition, 2021) are used when calculating a proposed project's trip generation forecast. This publication provides a comprehensive evaluation of trip generation rates for a variety of land uses.

The project is proposing to construct two (2) 75,894 SF warehouse buildings. As such, ITE Land Use Code 150: Warehouse trip rates accurately reflect the project's land uses. Furthermore, ITE land use 150: Warehousing trip rates contain the following split percentages of passenger vehicles and trucks:

- AM Peak Hour – (88.2% passenger cars & 11.8 % trucks)
- PM Peak Hour – (83.3% passenger cars & 16.7 trucks)
- Weekday Daily – (64.9% passenger cars & 35.1% trucks)

These truck percentages were further broken down by axle type per the following South Coast Air Quality Management District (SCAQMD) recommended truck mix for "Without Cold Storage" uses: 2-Axle = 16.7%; 3-Axle = 20.7%; 4+-Axle = 62.6%.

Table 4-1 shows the trip generation rates utilized for the trip generation analysis of the proposed project land use as well as the project's forecast peak hour and daily traffic volumes.

As shown in Table 4-1, based on the trip generation rates and truck mix recommendations from SCAQMD, the proposed project is forecast to generate approximately 260 actual vehicle daily trips with 26 actual vehicle trips in the AM peak hour and 28 actual vehicle trips in the PM peak hour (i.e., no adjustments for truck traffic). After the application of appropriate passenger car equivalent (PCE) factors and ITE pass-by adjustments, the proposed project is forecast to generate approximately 402 daily PCE trips with 34 PCE trips in the AM peak hour and 36 PCE trips in the PM peak hour.

Table 4-1
Project Trip Generation
Cargo Solutions Warehouse Project

Land Use	ITE Code[1]	Quanitity	Units[2]	Trip Type	AM Peak Hour			PM Peak Hour			Daily
					In	Out	Total	In	Out	Total	
Trip Generation Rates											
Warehouse	150	- -	TSF	All Vehicles	0.13	0.04	0.17	0.05	0.13	0.18	1.71
				Trucks	0.01	0.01	0.02	0.02	0.01	0.03	0.60
				Passenger Cars	0.12	0.03	0.15	0.03	0.12	0.15	1.11
Vehicle Trip Generation											
Warehouse #1	150	75.894	TSF	All Vehicles	10	3	13	4	10	14	130
Warehouse #2	150	75.894	TSF	All Vehicles	10	3	13	4	10	14	130
Total Project Non PCE-Trip Generation					***20***	***6***	***26***	***8***	***20***	***28***	***260***
Vehicle Mix Trip Generation[3]											
Warehouse # 1											
Passenger Vehicles					9	2	11	3	9	12	84
2-Axle Trucks (16.7% of Total Trucks)					0	0	0	0	0	0	8
3-Axle Trucks (20.7% of Total Trucks)					0	0	0	0	0	0	9
4-Axle Trucks (62.5% of Total Trucks)					1	1	2	1	1	2	29
Total Trucks[4]					***1***	***1***	***2***	***1***	***1***	***2***	***46***
Total Non-PCE Trip Generation					***10***	***3***	***13***	***4***	***10***	***14***	***130***
Warehouse #2											
Passenger Vehicles					9	2	11	3	9	12	84
2-Axle Trucks (16.7% of Total Trucks)					0	0	0	0	0	0	8
3-Axle Trucks (20.7% of Total Trucks)					0	0	0	0	0	0	9
4-Axle Trucks (62.5% of Total Trucks)					1	1	2	1	1	2	29
Total Trucks[4]					***1***	***1***	***2***	***1***	***1***	***2***	***46***
Total Non-PCE Trip Generation					***10***	***3***	***13***	***4***	***10***	***14***	***130***
PCE Trip Generation[5,6]											
Warehouse #1											
Passenger Vehicles (PCE = 1.0)					9	2	11	3	9	12	84
2-Axle Trucks (PCE = 1.5)					0	0	0	0	0	0	12
3-Axle Trucks (PCE = 2.0)					0	0	0	0	0	0	18
4-Axle Trucks (PCE = 3.0)					3	3	6	3	3	6	87
Total PCE Trip Generation (Warehouse #1)					***12***	***5***	***17***	***6***	***12***	***18***	***201***
Warehouse #2											
Passenger Vehicles (PCE = 1.0)					9	2	11	3	9	12	84
2-Axle Trucks (PCE = 1.5)					0	0	0	0	0	0	12
3-Axle Trucks (PCE = 2.0)					0	0	0	0	0	0	18
4-Axle Trucks (PCE = 3.0)					3	3	6	3	3	6	87
Total PCE Trip Generation (Warehouse #1)					***12***	***5***	***17***	***6***	***12***	***18***	***201***
Total Project PCE-Trip Generation					***24***	***10***	***34***	***12***	***24***	***36***	***402***

1 Source: ITE Trip Generation Manual (11th Edition, 2021).

2 TSF = Thousand Square Feet.

3 The truck fleet mix is based on the South Coast Air Quality Manaagement District's (SCAQMD) recommended truck fleet mix normalized percentages, by axle type, utilizing the "Without Cold Storage" building type.

4 The total truck percentages are based on the ITE Trip Generation Manual (11th Edition, 2021) recommended percentages based on land use type for the AM peak, PM peak hour, and

5 Recommended PCE Factors per City of Hesperia Traffic Impact Analysis Guidelines for Vehicles Miles Traveled (VMT) and Level of Service Assessment (LOS), dated July 2020.

6 PCE = Passenger Car Equivalent.

4.1.2 Project Trip Distribution & Assignment

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 and the proximity to the regional freeway system.

The proposed project shares similar land use types with the I-15 Industrial Park Project. As a result, the proposed project trip distribution has been developed to account for both passenger vehicles and trucks generated by the proposed project in a manner consistent with the trip distributions recommended in the Dudek study.

The following trip distribution exhibits are provided:

Exhibit 4-1: Project Inbound Trip Distribution – Passenger Vehicles

Exhibit 4-2: Project Outbound Trip Distribution – Passenger Vehicles

Exhibit 4-3: Project Inbound Trip Distribution – Trucks

Exhibit 4-4: Project Outbound Trip Distribution – Trucks

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 as modal split reductions to the traffic volumes via the use of public transit and alternative transportation are not applied to the projections. With the implementation of transit services and the provision of alternative transportation ideas and incentives, the automobile traffic demand can be reduced significantly.

4.1.4 Project Peak Hour Traffic Volumes

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

The following exhibits illustrate the project traffic volumes during the Weekday AM and PM peak hours:

Exhibit 4-1

Project Inbound Trip Distribution - Passenger Vehicles

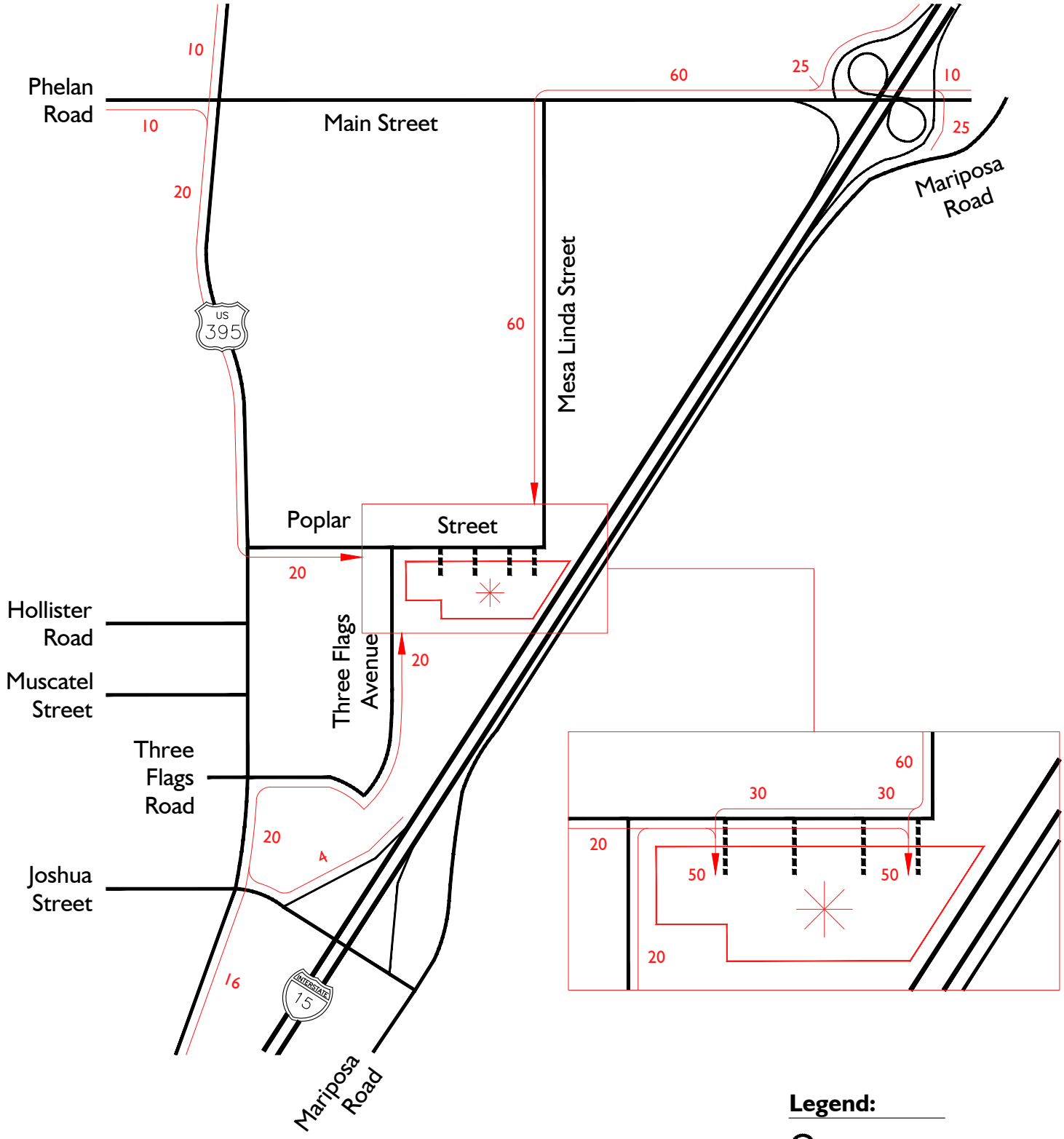
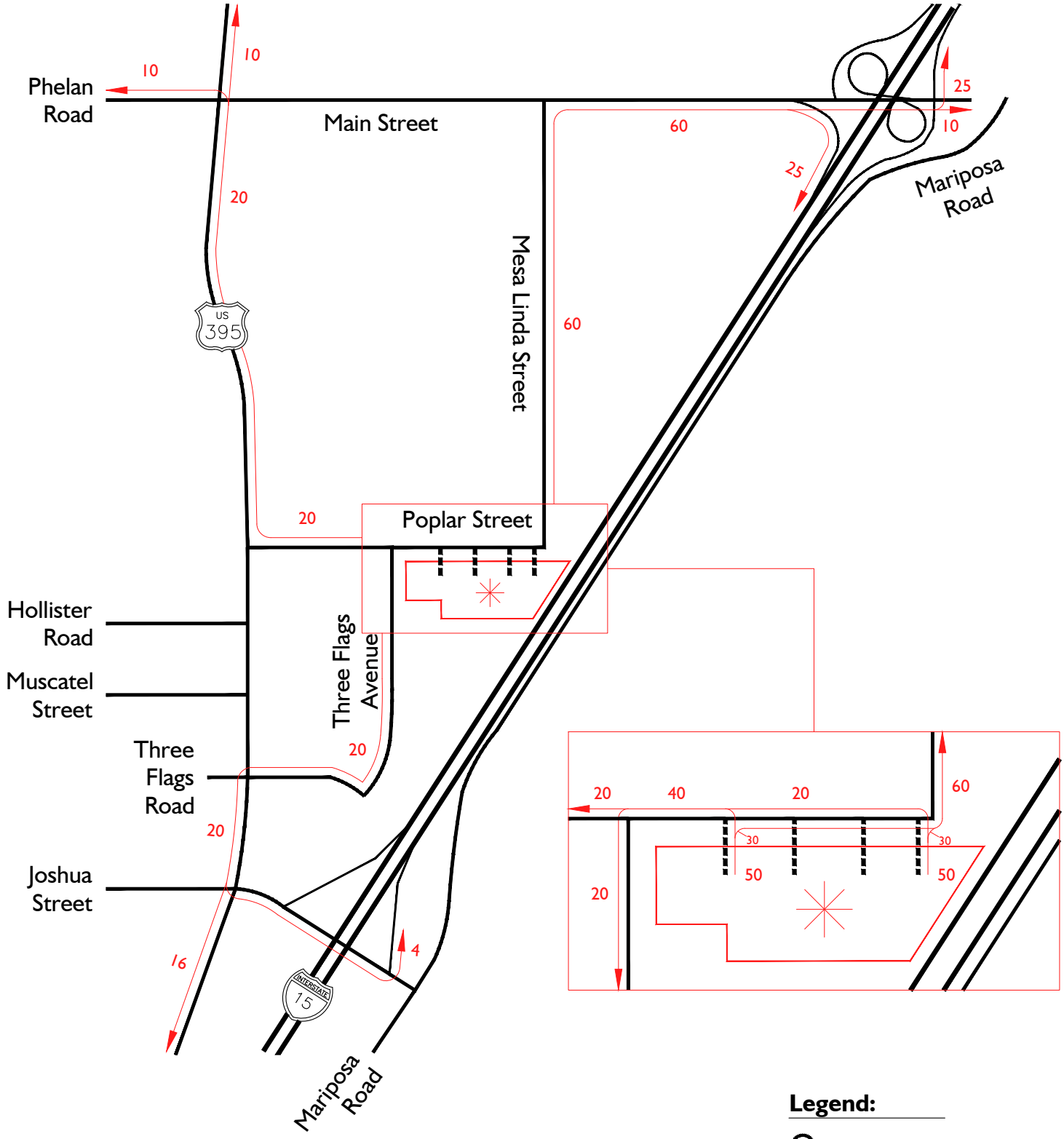


Exhibit 4-2

Project Outbound Trip Distribution - Passenger Vehicles



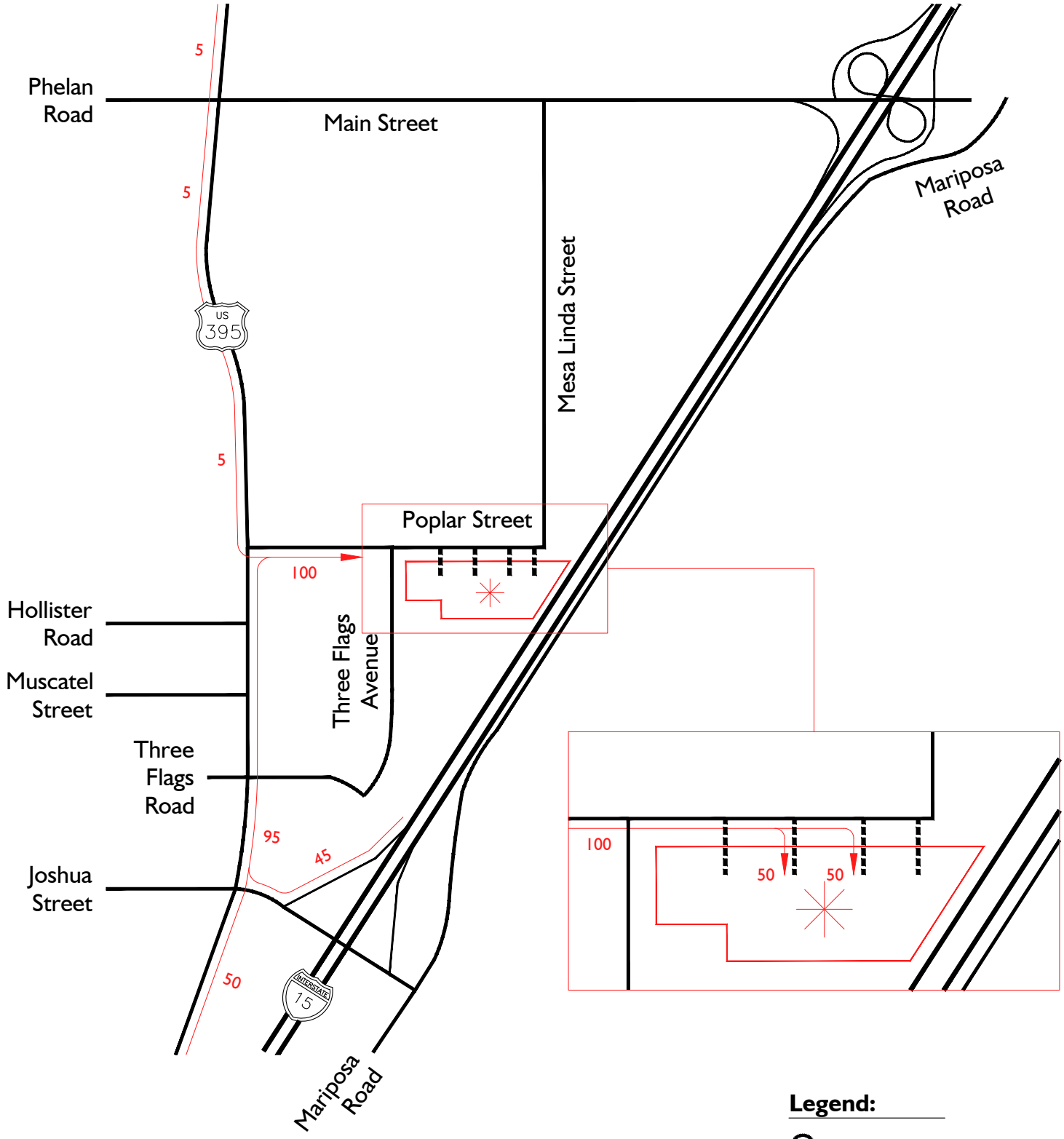
Legend:

- = Study Area Intersection
- = Project Site
- = Project Access Driveway
- = Project Site Boundary

N

Exhibit 4-3

Project Inbound Trip Distribution - Trucks



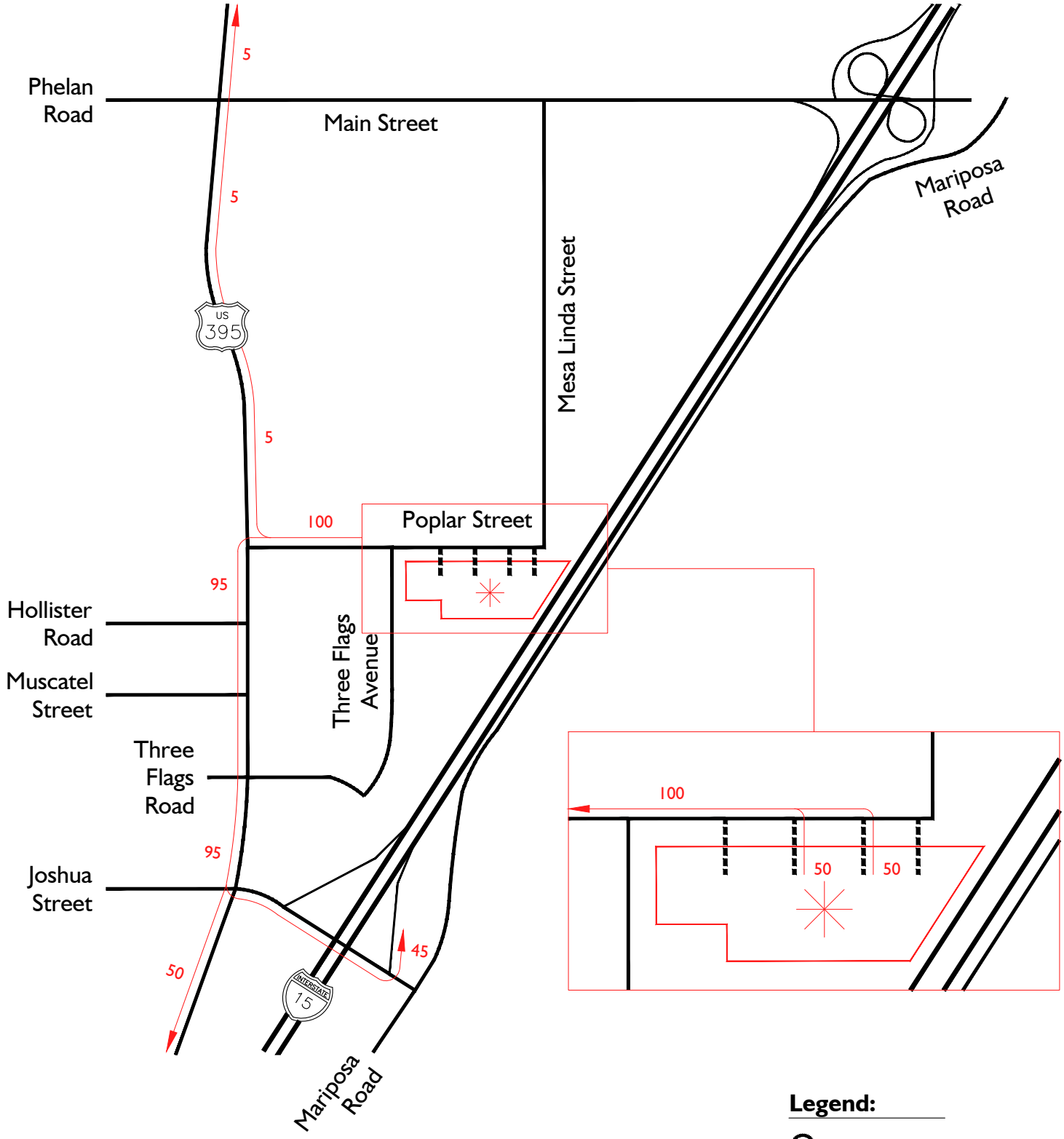
Legend:

- ① = Study Area Intersection
- ✳ = Project Site
- = Project Access Driveway
- = Project Site Boundary

N

Exhibit 4-4

Project Outbound Trip Distribution - Trucks



- **Exhibit 4-5**: Passenger Car Project Traffic Volumes
- **Exhibit 4-6**: Truck Project Traffic Volumes
- **Exhibit 4-7**: Total Project (Passenger Cars + Trucks) Traffic Volumes

4.2 Background Traffic

4.2.1 Method of Projection

To assess future conditions, existing traffic is combined with project traffic and area-wide growth. As directed by City staff, a two percent (2%) annual growth rate has been applied to existing (2024) traffic volumes to account for area-wide/ambient growth in the study area.

This annual growth rate has been applied over a 2-year period, from the existing conditions year of 2024 to project opening year of 2026, resulting in a total growth of 4%, to account for ambient growth.

4.2.2 Cumulative Projects Traffic Volumes

This traffic analysis accounts for traffic generated from future projects in the vicinity of the study area. Cumulative project traffic documented in the *I-15 Industrial Park Project Traffic Impact Analysis*, dated October 2022, prepared by Dudek, has been reviewed and incorporated into this study. Moreover, this analysis includes the net increase in trips resulting from the I-15 Industrial Park Project considering it as a cumulative project (i.e., 799 AM peak hour trips, 774 PM peak hour trips, & 7,280 Daily trips).

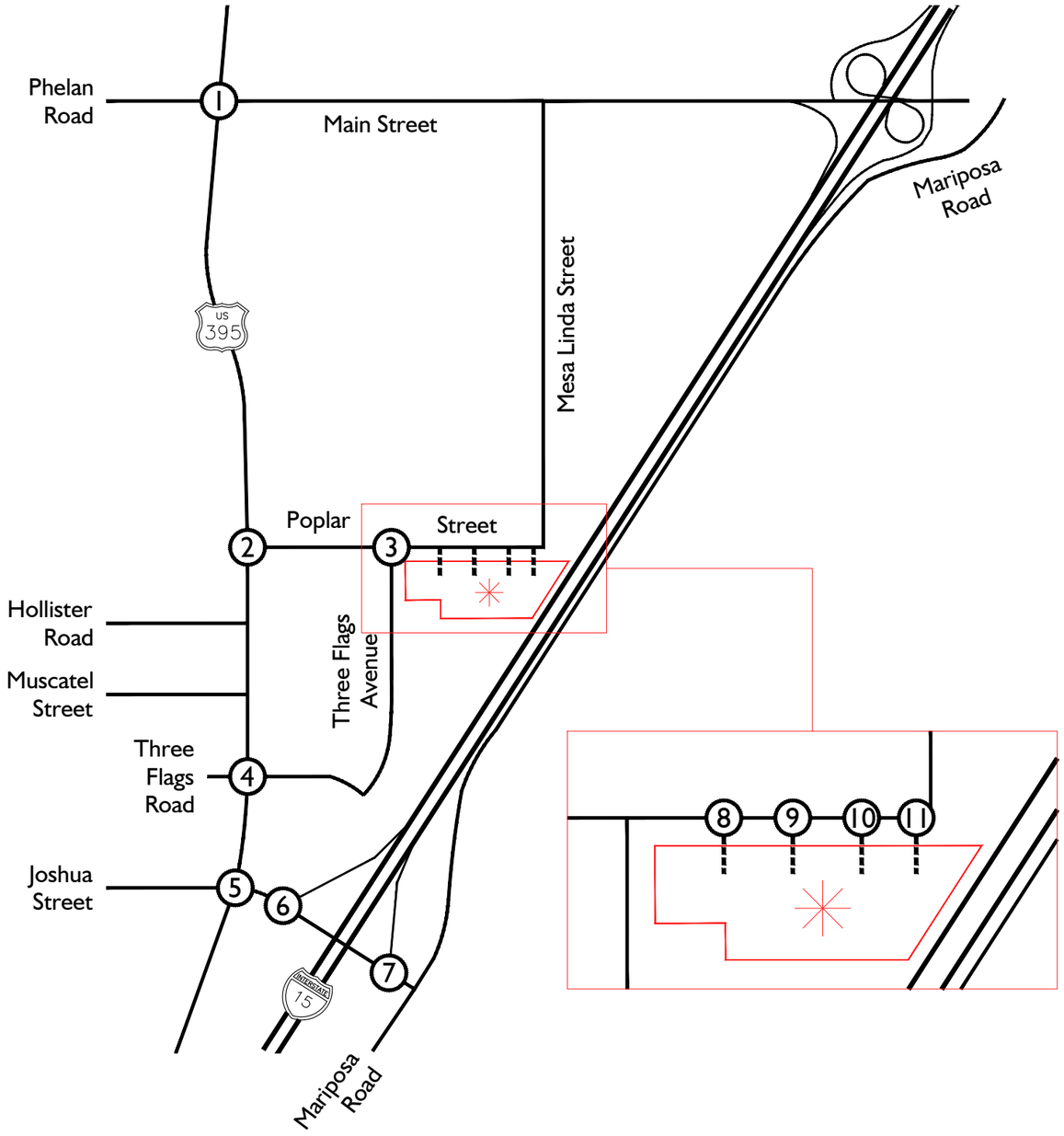
Table 4-2 identifies the cumulative projects referenced from the I-15 Industrial Park Project study. Furthermore, Table 4-2 shows the corresponding weekday daily and peak hour trip generation of the cumulative projects utilized in this analysis.

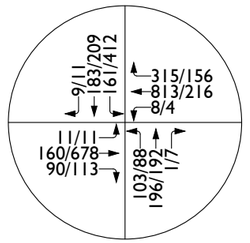
Cumulative projects traffic volumes are shown in **Exhibit 4-8**.

In reality, some of the cumulative projects may be downsized, may have already been partially constructed, or may not be developed by the proposed project's opening year (i.e., 2026). Additionally, 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 considered in projecting the environmental impact of the related projects.

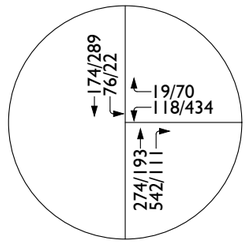
Exhibit 4-8

Cumulative Projects Traffic Volumes

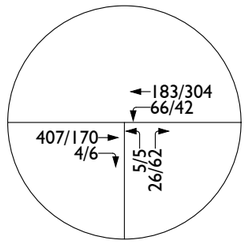




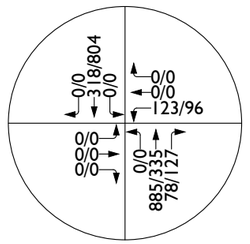
1. U.S. Route 395 (NS) at
Main Street - Phelan Road (EW)



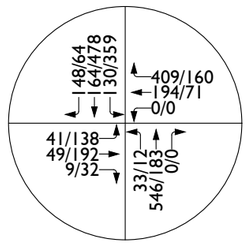
2. U.S. Route 395 (NS) at
Poplar Street (EW)



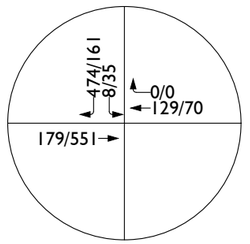
3. Three Flags Avenue (NS) at
Poplar Street (EW)



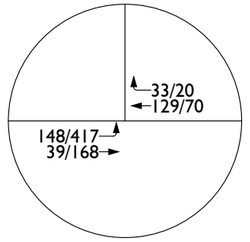
4. U.S. Route 395 (NS) at
Three Flags Road - Three Flags Court (EW)



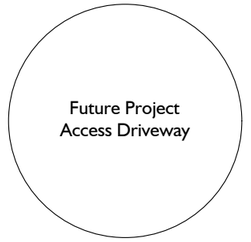
5. U.S. Route 395 (NS) at
Joshua Street (EW)



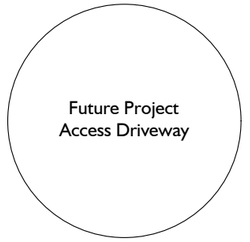
6. I-15 Southbound Off-Ramp (NS) at
Joshua Street (EW)



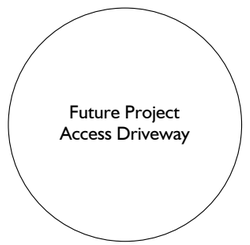
7. I-15 Southbound On-Ramp (NS) at
Joshua Street (EW)



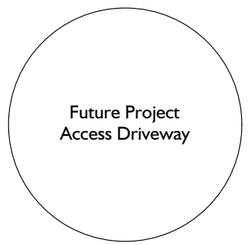
8. Project Access Driveway 1 (NS) at
Poplar Street (EW)



9. Project Access Driveway 2 (NS) at
Poplar Street (EW)



10. Project Access Driveway 3 (NS) at
Poplar Street (EW)



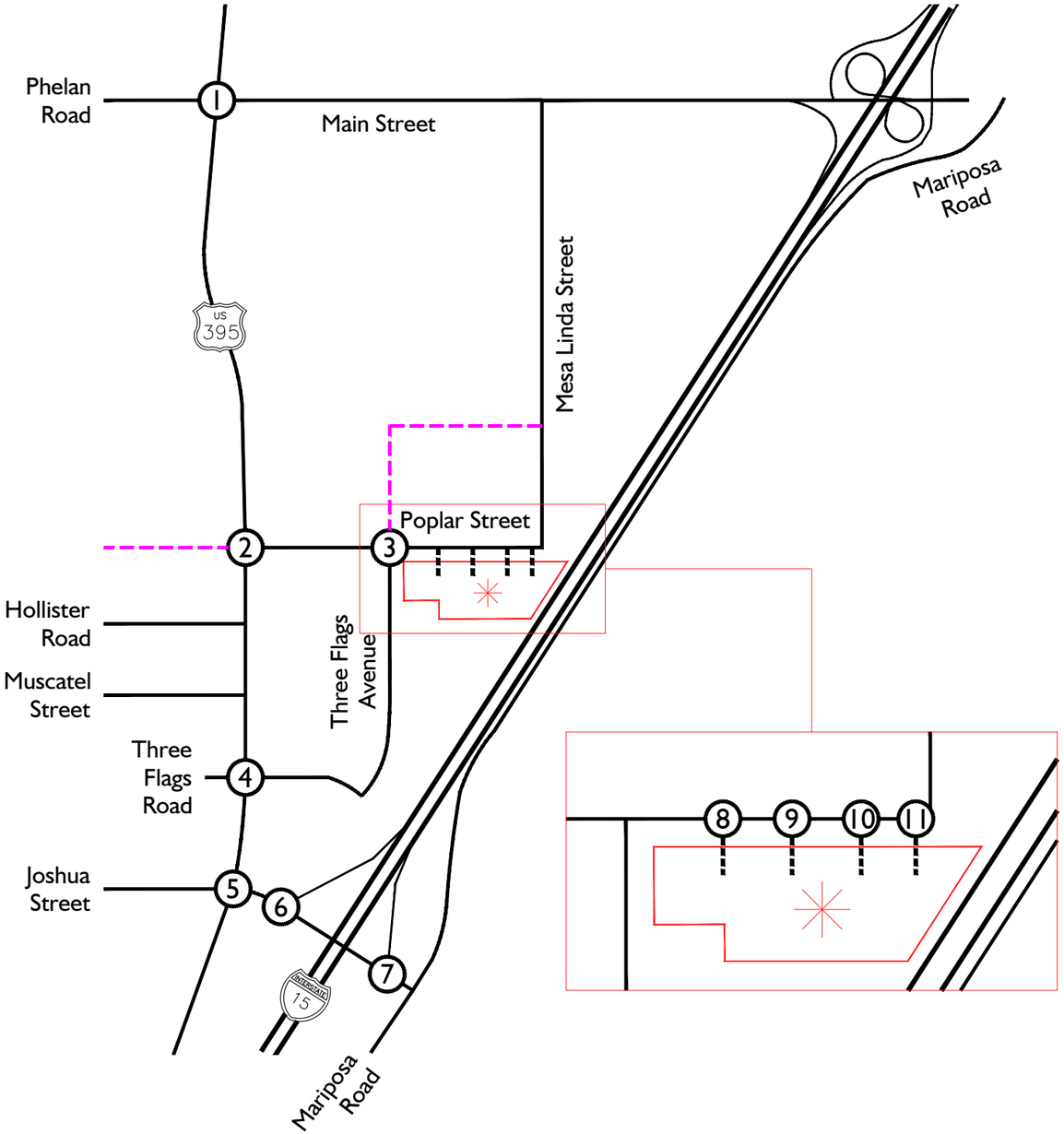
11. Project Access Driveway 4 (NS) at
Poplar Street (EW)

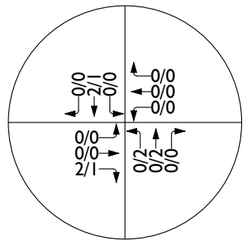
Legend:

10/20 = AM/PM Peak Hour Volumes
① = Study Area Intersection
✳ = Project Site
▬ = Project Access Driveway
— = Project Site Boundary

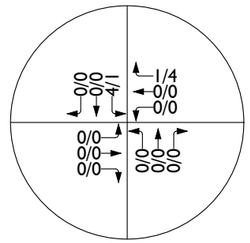
Exhibit 4-5

Passenger Car Project Traffic Volumes

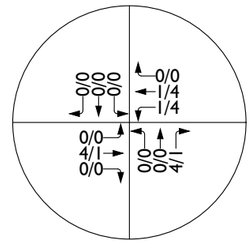




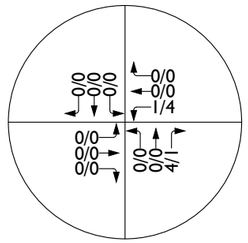
1. U.S. Route 395 (NS) at Main Street - Phelan Road (EW)



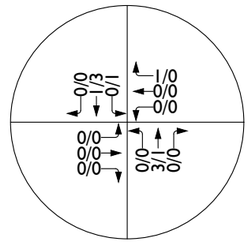
2. U.S. Route 395 (NS) at Poplar Street (EW)



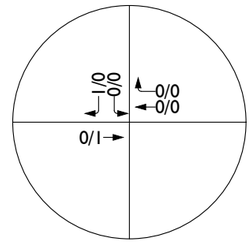
3. Three Flags Avenue (NS) at Poplar Street (EW)



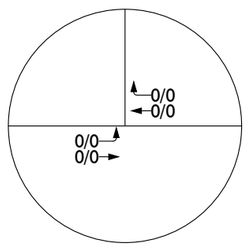
4. U.S. Route 395 (NS) at Three Flags Road - Three Flags Court (EW)



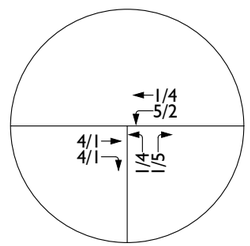
5. U.S. Route 395 (NS) at Joshua Street (EW)



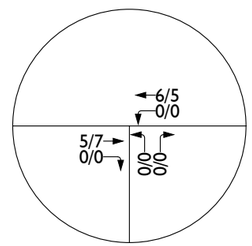
6. I-15 Southbound Off-Ramp (NS) at Joshua Street (EW)



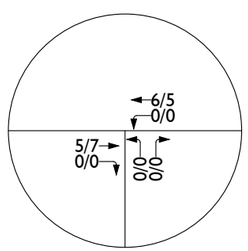
7. I-15 Southbound On-Ramp (NS) at Joshua Street (EW)



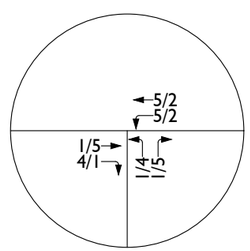
8. Project Access Driveway 1 (NS) at Poplar Street (EW)



9. Project Access Driveway 2 (NS) at Poplar Street (EW)



10. Project Access Driveway 3 (NS) at Poplar Street (EW)



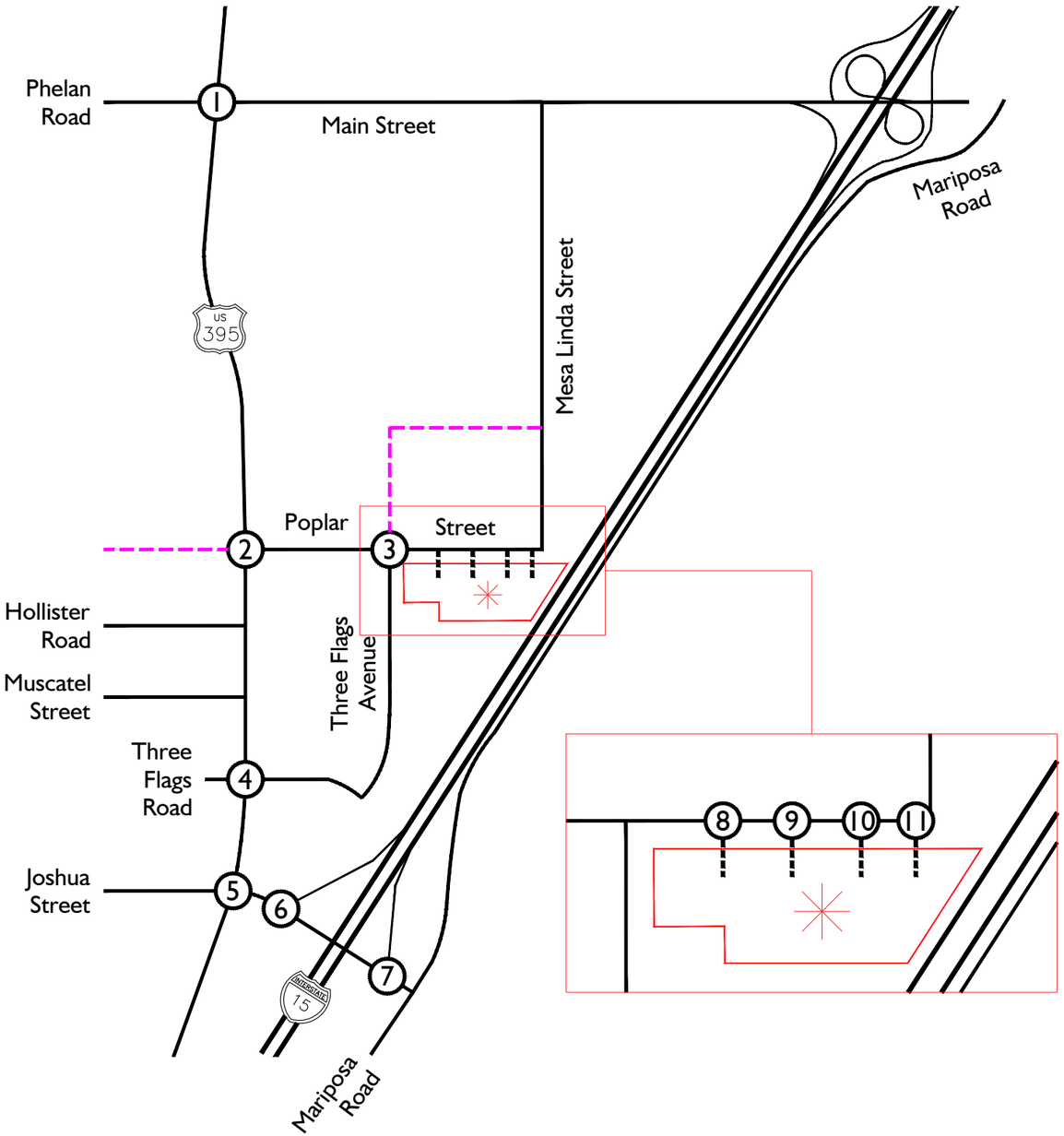
11. Project Access Driveway 4 (NS) at Poplar Street (EW)

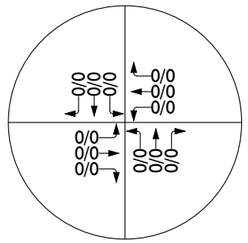
Legend:

10/20 = AM/PM Peak Hour Volumes
① = Study Area Intersection
= Future Roadway
= Project Site
= Project Access Driveway
= Project Site Boundary

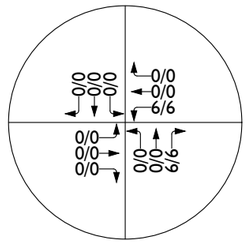
Exhibit 4-6

Truck Project Traffic Volumes

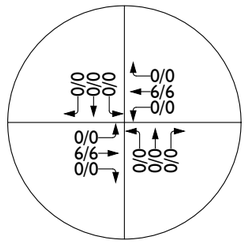




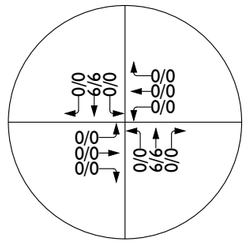
1. U.S. Route 395 (NS) at Main Street - Phelan Road (EW)



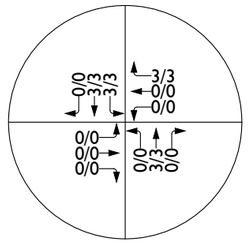
2. U.S. Route 395 (NS) at Poplar Street (EW)



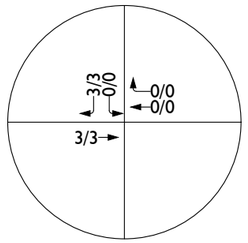
3. Three Flags Avenue (NS) at Poplar Street (EW)



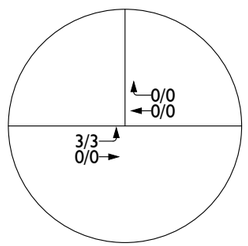
4. U.S. Route 395 (NS) at Three Flags Road - Three Flags Court (EW)



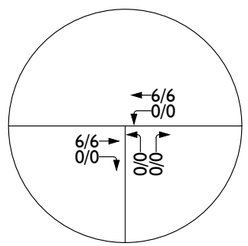
5. U.S. Route 395 (NS) at Joshua Street (EW)



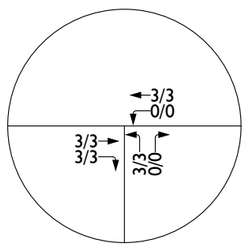
6. I-15 Southbound Off-Ramp (NS) at Joshua Street (EW)



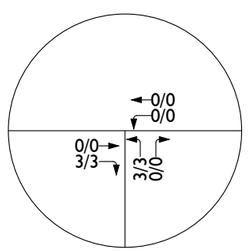
7. I-15 Southbound On-Ramp (NS) at Joshua Street (EW)



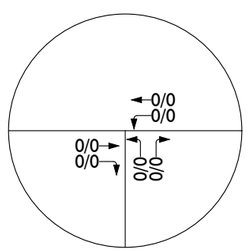
8. Project Access Driveway 1 (NS) at Poplar Street (EW)



9. Project Access Driveway 2 (NS) at Poplar Street (EW)



10. Project Access Driveway 3 (NS) at Poplar Street (EW)



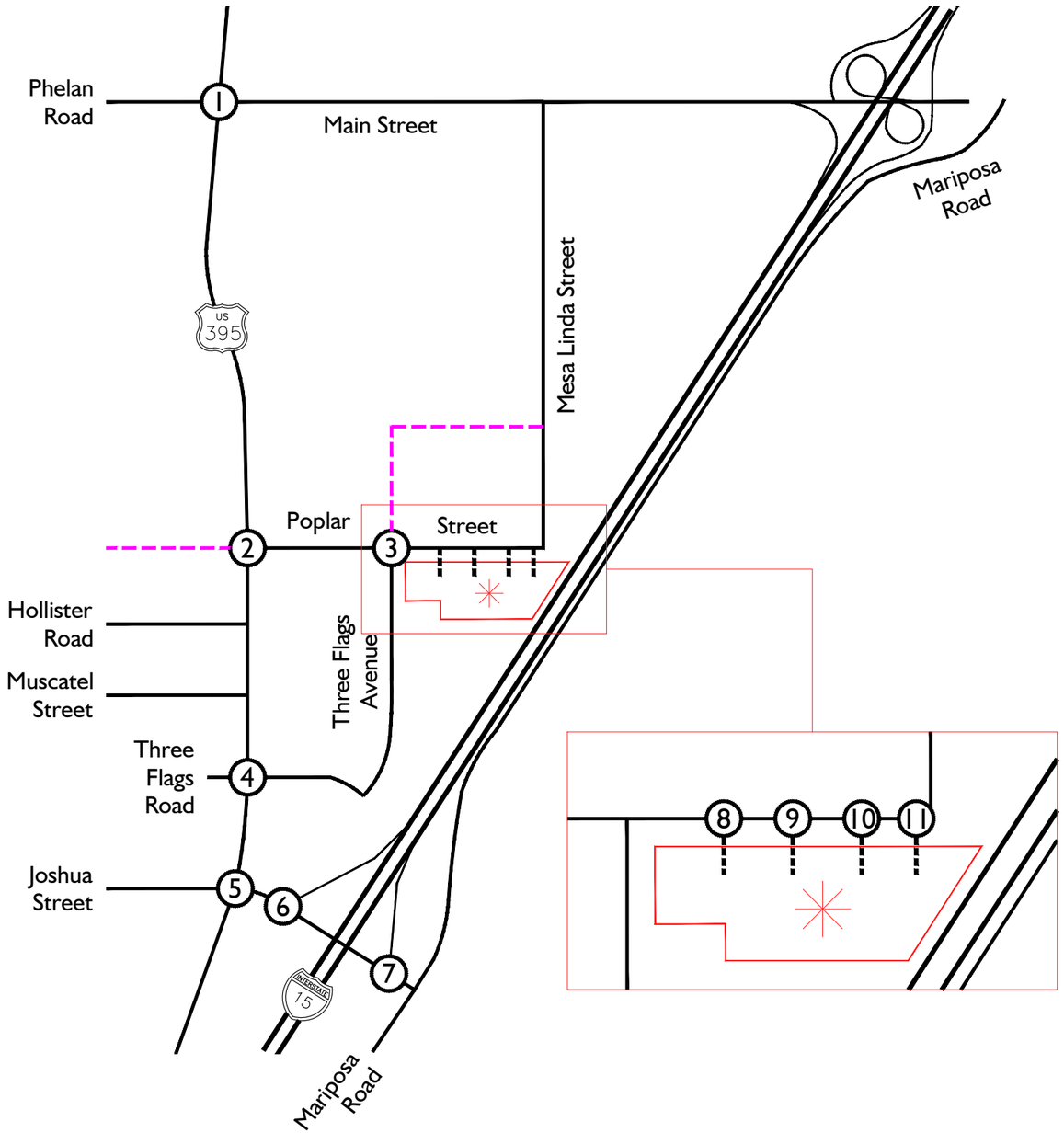
11. Project Access Driveway 4 (NS) at Poplar Street (EW)

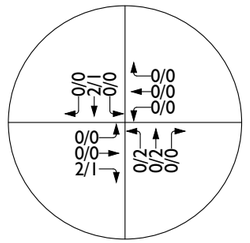
Legend:

10/20 = AM/PM Peak Hour Volumes
1 = Study Area Intersection
= Future Roadway
= Project Site
= Project Access Driveway
= Project Site Boundary

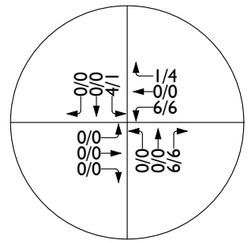
Exhibit 4-7

Total Project Traffic Volumes (Passenger Cars + Trucks)

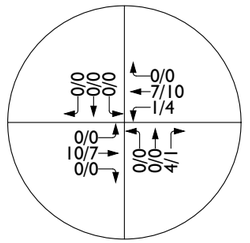




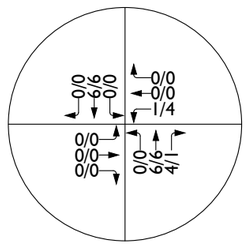
1. U.S. Route 395 (NS) at Main Street - Phelan Road (EW)



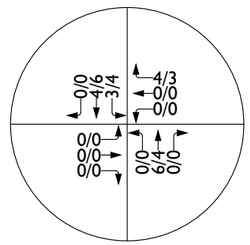
2. U.S. Route 395 (NS) at Poplar Street (EW)



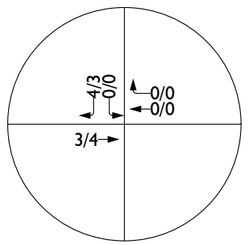
3. Three Flags Avenue (NS) at Poplar Street (EW)



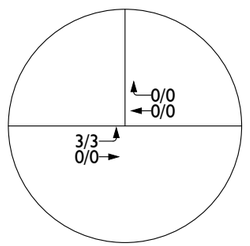
4. U.S. Route 395 (NS) at Three Flags Road - Three Flags Court (EW)



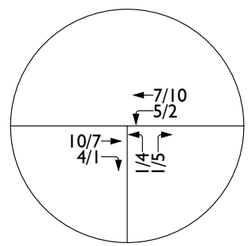
5. U.S. Route 395 (NS) at Joshua Street (EW)



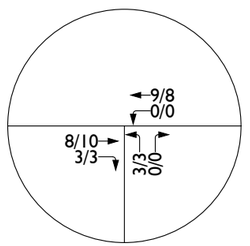
6. I-15 Southbound Off-Ramp (NS) at Joshua Street (EW)



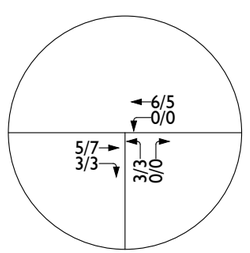
7. I-15 Southbound On-Ramp (NS) at Joshua Street (EW)



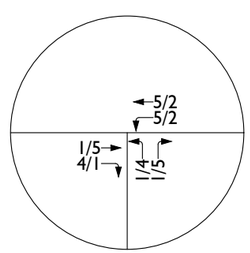
8. Project Access Driveway 1 (NS) at Poplar Street (EW)



9. Project Access Driveway 2 (NS) at Poplar Street (EW)



10. Project Access Driveway 3 (NS) at Poplar Street (EW)



11. Project Access Driveway 4 (NS) at Poplar Street (EW)

Legend:

10/20 = AM/PM Peak Hour Volumes
① = Study Area Intersection
= Future Roadway
= Project Site
= Project Access Driveway
= Project Site Boundary

Table 4-2

Cumulative Projects Trip Generation[1,2]

ID No.	Jurisdiction	Project Name / Case Number	Weekday AM Peak Hour			Weekday PM Peak Hour			Weekday Daily
			In	Out	Total	In	Out	Total	
H1	**City of Hesperia**	CUP21-00006	21	11	32	21	22	43	430
H2	**City of Hesperia**	CUP21-00003	44	44	88	48	48	96	1,678
H3	**City of Hesperia**	CUP21-00001	19	10	29	19	21	40	398
H4	**City of Hesperia**	CUP20-00007	19	10	29	19	21	40	397
H5	**City of Hesperia**	CUP20-00006	145	43	188	24	62	86	1,199
H6	**City of Hesperia**	CUP19-00010	1,357	230	1,587	274	1,296	1,570	15,152
H7	**City of Hesperia**	CUP19-00006	68	71	140	82	72	154	2,240
H8	**City of Hesperia**	CUP18-00003	96	84	180	101	100	201	2,529
H9	**City of Hesperia**	Industrial Park	963	226	1,189	262	927	1,189	11,783
H10	**City of Hesperia**	Poplar 18 Project	151	26	177	32	141	173	1,632
H11	**City of Hesperia**	Buddhist-Town at Holy Heavenly Lake	46	15	61	15	46	61	404
H12	**City of Hesperia**	Tapestry Specific Plan	599	1,339	1,938	1,144	694	1,838	19,359
H13	**City of Hesperia**	Hesperia Industrial Center (CUP22-00003)	100	34	134	51	81	132	1,718
H14	**City of Hesperia**	CUP22-00004	132	39	171	22	56	78	1,199
H15	**City of Hesperia**	CUP22-00006	3	2	5	3	4	7	18
H16	**City of Hesperia**	Kaiser Permanente Hesperia	84	87	171	115	102	216	1,980
H17	**City of Hesperia**	I-15 Industrial Park Project	681	118	799	143	631	774	7,280
Total Cumulative Projects Trip Generation			***4,528***	***2,388***	***6,917***	***2,373***	***4,324***	***6,698***	***69,395***

[1] Cumulative Projects H1 - H16 were originally identified and studied as cumulative projects as shown in Table 17 of the *I-15 Industrial Park Project Traffic Impact Analysis* , dated October 2022, prepared by Dudek

[2] I-15 Industrial Park Project trip generation sourced from Table 5 of the *I-15 Industrial Park Project Traffic Impact Analysis* , dated October 2022, prepared by Dudek

Therefore, the cumulative analyses set forth below are conservative and could result in greater impacts than anticipated. Additionally, the analysis utilizes an ambient growth rate of two percent (2%) per year, 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 all the study intersections.

4.3 Planned Roadway Improvements

As documented in Section 5.1.1 of the *I-15 Industrial Park Project Traffic Impact Analysis*, dated October 2022, prepared by Dudek, several roadway improvements are planned as part of the I-15 Industrial Park development. However, to conservatively assess the level of service impacts associated with the proposed project, only roadway improvements that facilitate vehicular flow stemming from the I-15 Industrial Park project were considered (i.e., new legs to intersections). Consequently, roadway improvements aimed at improving intersection level of service (e.g., capacity improvements, traffic control devices, etc.) were not assumed. Additionally, the future year traffic analysis incorporates provisions for future traffic corridors to accommodate the flow of vehicles originating from adjacent cumulative projects. As a result, the following roadway improvements have been reviewed and incorporated in all future scenarios, (i.e., Project Opening Year (2026) Conditions and Horizon Year (2040) Conditions) as shown in **Table 4-3**:

Table 4-3

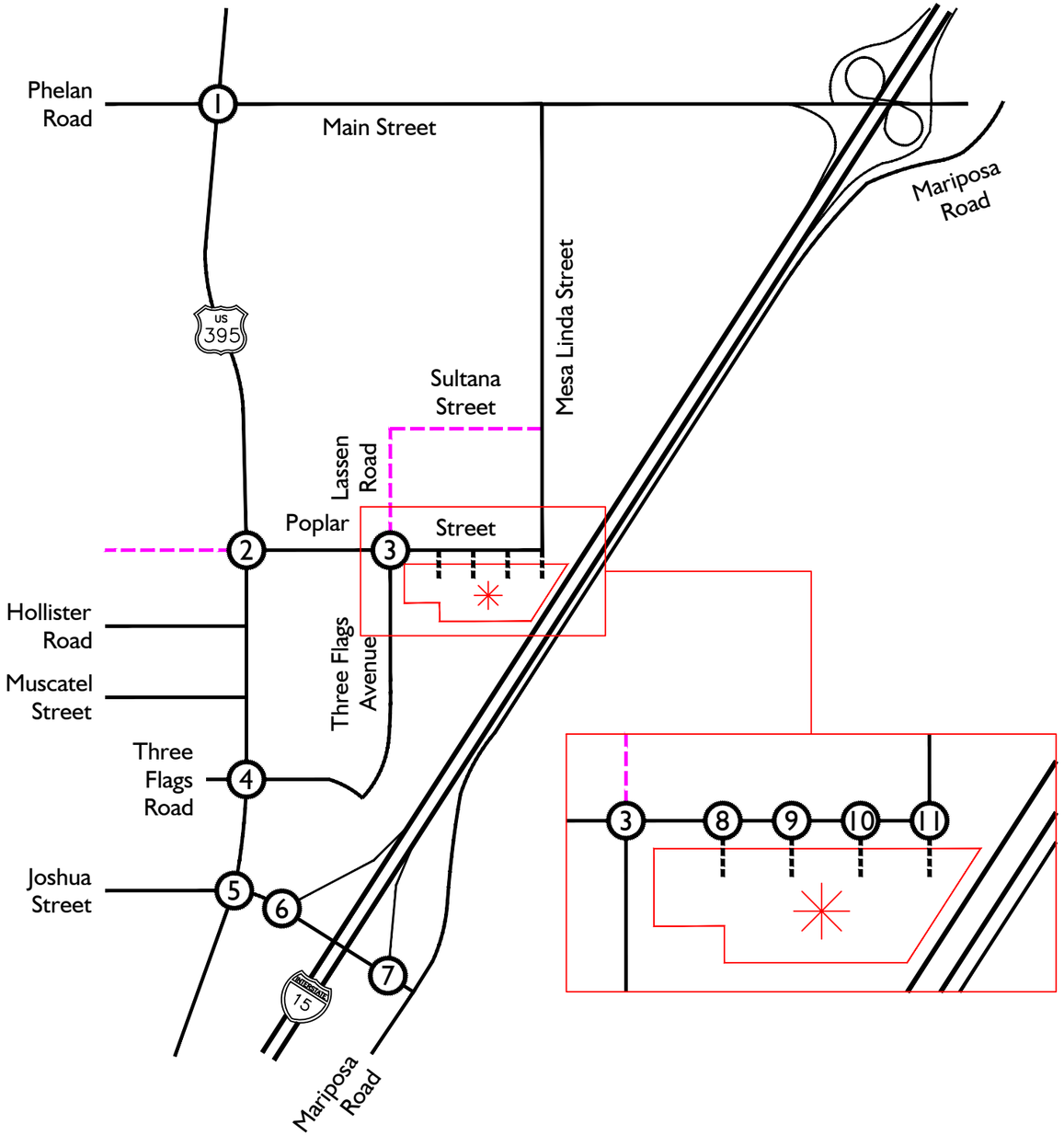
Planned Roadway Improvements

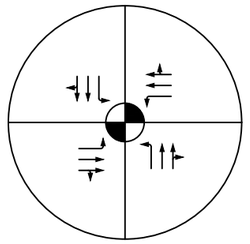
Study Intersection / Roadway	Planned Improvement
Study Intersection #2 U.S. Route 395 (NS) at Poplar Street (EW) (Dudek Intersection #13)	The west leg of U.S. Route 395 at Poplar Street will be built to consist of one left-turn pocket and one shared through/right-turn lane.
Study Intersection #3 Three Flags Avenue (NS) at Poplar Street (EW) (Dudek Intersection #16)	Lassen Road is to be built to a half width, with the ultimate ROW and Curb-to-Curb buildout pending development east of the roadway. Vehicles would be able to travel northbound and southbound along Lassen Road.
Poplar Street	Poplar Street is to be built to a 100-foot ROW, with a 72-foot Curb-to-Curb width. It must be noted that these widths proposed with the development of the Project appear to match the arterial classification.

The planned and project-specific intersection and roadway improvements are shown in **Exhibit 4-9**: Future Year Traffic Controls & Intersection Geometrics.

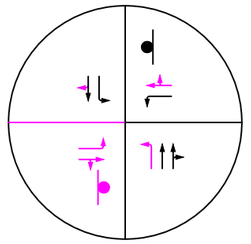
Exhibit 4-9

Planned and Project-Specific Improvements

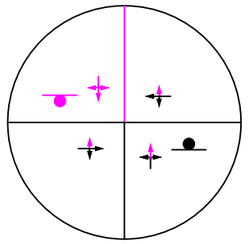




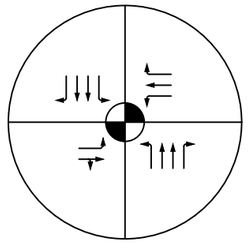
1. U.S. Route 395 (NS) at Main Street - Phelan Road (EW)



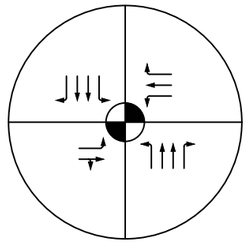
2. U.S. Route 395 (NS) at Poplar Street (EW)



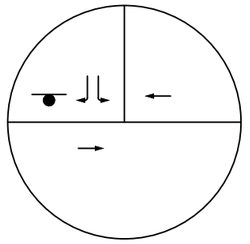
3. Three Flags Avenue (NS) at Poplar Street (EW)



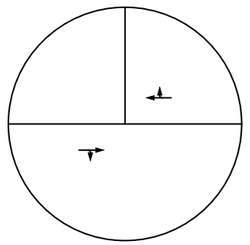
4. U.S. Route 395 (NS) at Three Flags Road - Three Flags Court (EW)



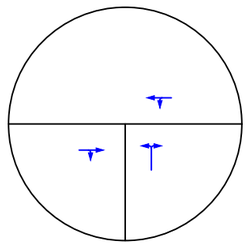
5. U.S. Route 395 (NS) at Joshua Street (EW)



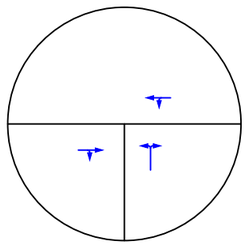
6. I-15 Southbound Off-Ramp (NS) at Joshua Street (EW)



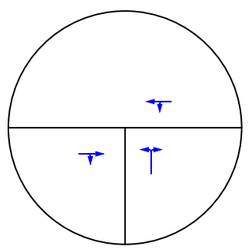
7. I-15 Southbound On-Ramp (NS) at Joshua Street (EW)



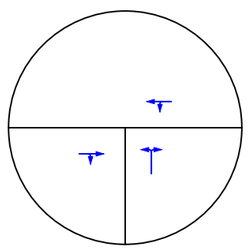
8. Project Access Driveway 1 (NS) at Poplar Street (EW)



9. Project Access Driveway 2 (NS) at Poplar Street (EW)



10. Project Access Driveway 3 (NS) at Poplar Street (EW)



11. Project Access Driveway 4 (NS) at Poplar Street (EW)

Legend:

- = Traffic Signal
- = Stop Sign
- = Planned Improvements
- = Project-Specific Improvements
- = Study Area Intersection
- = Project Site
- = Project Access Driveway
- = Project Site Boundary

N

4.4 Project Opening Year (2026) Without Project Conditions Traffic Volumes

Project Opening Year (2026) Without Project Conditions traffic volumes consist of two (2) years of annual growth on top of baseline existing (2024) traffic at two percent (2%) per year (i.e., 4% total growth), plus traffic generated by cumulative projects. Project Opening Year (2026) Without Project Conditions traffic volumes are depicted in **Exhibit 4-10**.

4.5 Project Opening Year (2026) With Project Conditions Traffic Volumes

Project Opening Year (2026) With Project Conditions traffic volumes consist of two (2) years of annual growth on top of baseline existing (2024) traffic at two percent (2%) per year (i.e., 4% total growth), plus traffic generated by cumulative projects and the proposed project.

Project Opening Year (2026) With Project Conditions traffic volumes are depicted in **Exhibit 4-11**.

4.6 Horizon Year (2040) Without Project Conditions Traffic Volumes

The traffic volumes representing Horizon Year (2040) Without Project Conditions are based upon the traffic volumes shown in Figure 24: Horizon Year (2040) plus Project Peak Hour Traffic Volumes (PCE) of the *I-15 Industrial Park Project Traffic Impact Analysis*, dated October 2022, prepared by Dudek.

The traffic volumes shown in Figure 24 consist of the following volume components stated within the Dudek Report:

- I-15 Industrial Park Project traffic volumes (Figure 12); and
- Horizon Year (2040) traffic volumes (Figure 23).

The following excerpt from the Dudek report describes how the Figure 23 traffic volumes were developed,

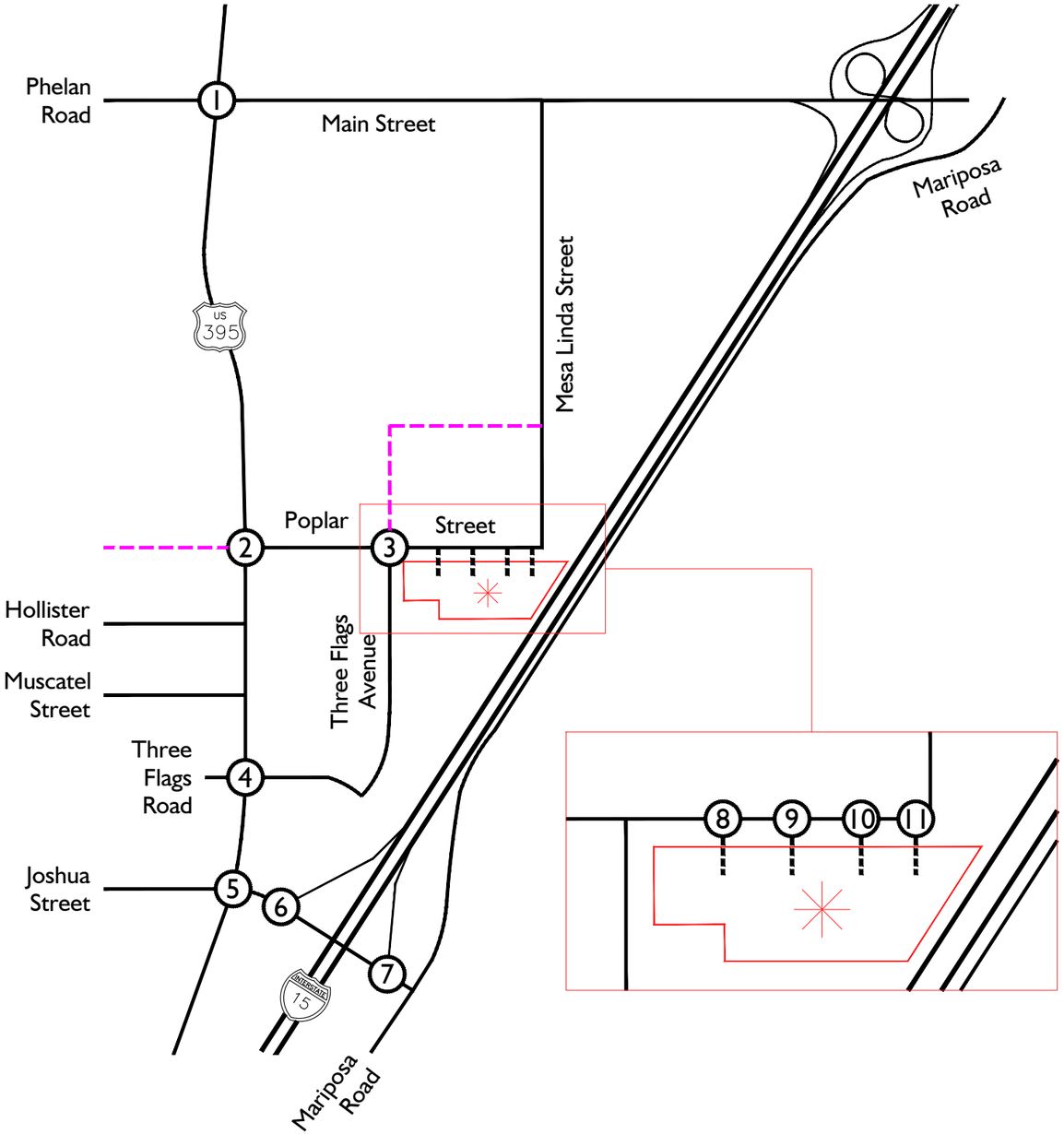
> "General Plan buildout traffic volumes were developed using the current [San Bernadino Transportation Analysis Model] SBTAM for the horizon year 2040. All model output volumes were provided by a County-approved modeler (Translutions), and post-processed and balanced for conservation of flow throughout the network."

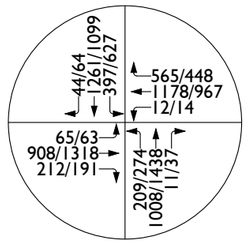
The use of traffic volumes shown in Figure 24 provides a more conservative analysis as traffic generated by the I-15 Industrial Park project is accounted for.

Horizon Year (2040) Without Conditions traffic volumes are depicted in **Exhibit 4-12**.

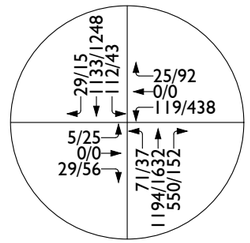
Exhibit 4-10

Project Opening Year (2026) Without Project Conditions Traffic Volumes

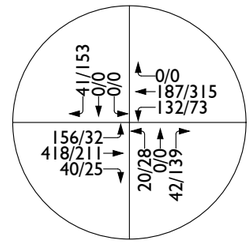




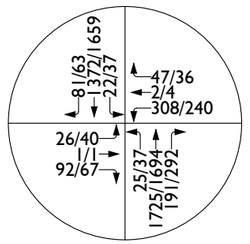
1. U.S. Route 395 (NS) at Main Street - Phelan Road (EW)



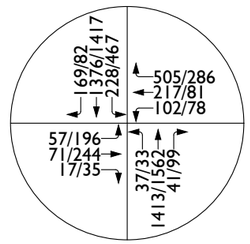
2. U.S. Route 395 (NS) at Poplar Street (EW)



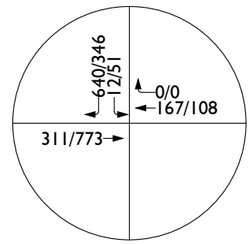
3. Three Flags Avenue (NS) at Poplar Street (EW)



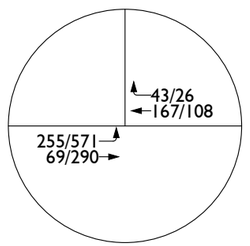
4. U.S. Route 395 (NS) at Three Flags Road - Three Flags Court (EW)



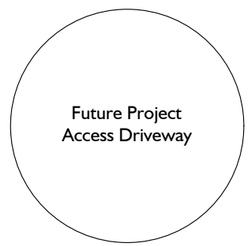
5. U.S. Route 395 (NS) at Joshua Street (EW)



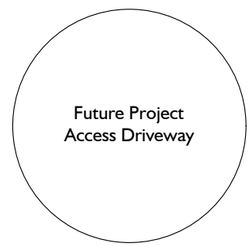
6. I-15 Southbound Off-Ramp (NS) at Joshua Street (EW)



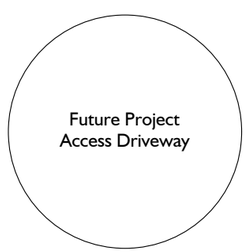
7. I-15 Southbound On-Ramp (NS) at Joshua Street (EW)



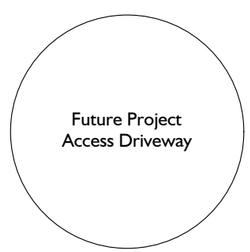
8. Project Access Driveway 1 (NS) at Poplar Street (EW)



9. Project Access Driveway 2 (NS) at Poplar Street (EW)



10. Project Access Driveway 3 (NS) at Poplar Street (EW)



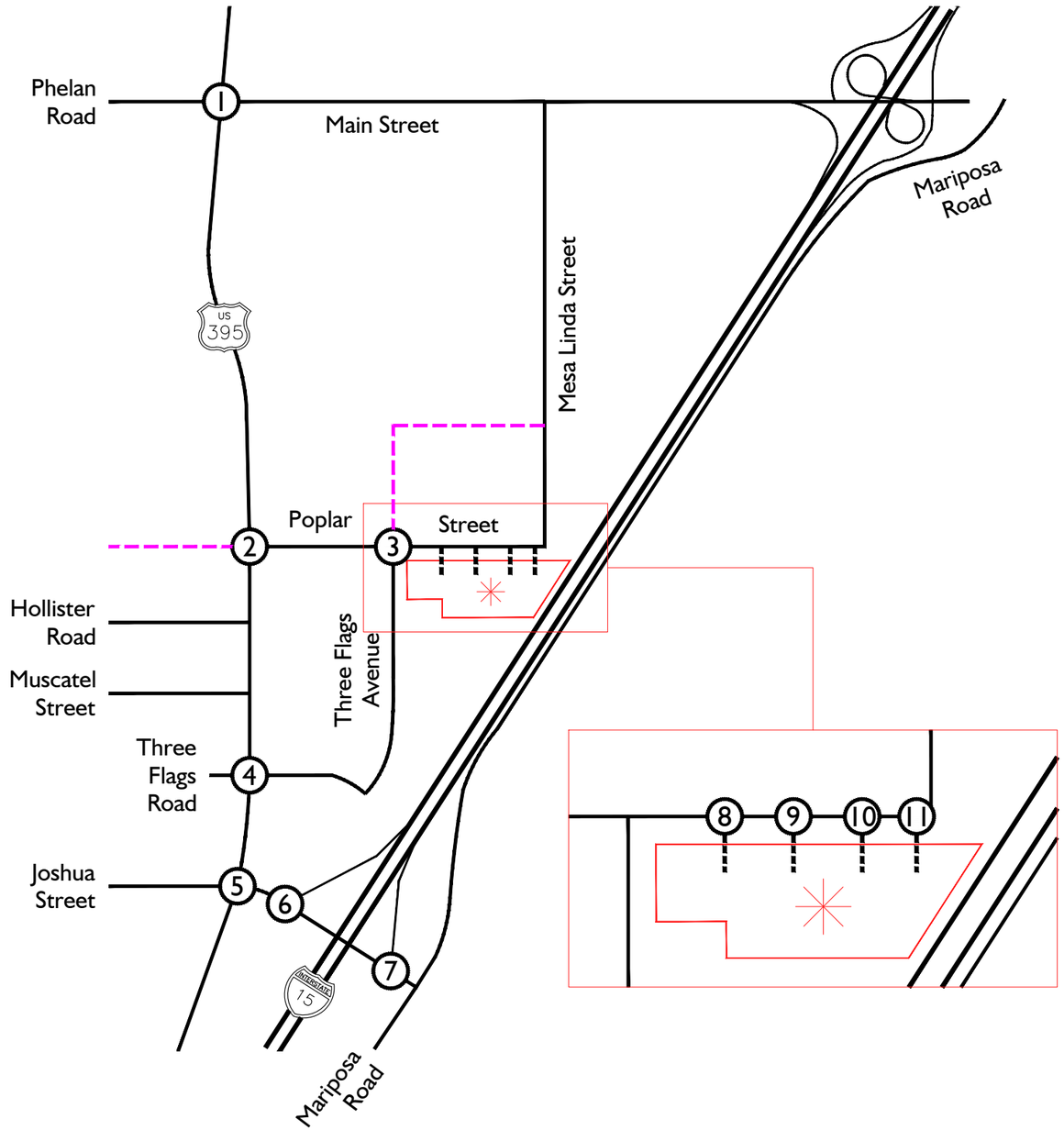
11. Project Access Driveway 4 (NS) at Poplar Street (EW)

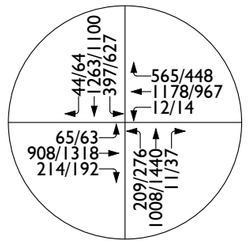
Legend:

10/20 = AM/PM Peak Hour Volumes
(1) = Study Area Intersection
= Future Roadway
= Project Site
= Project Access Driveway
= Project Site Boundary

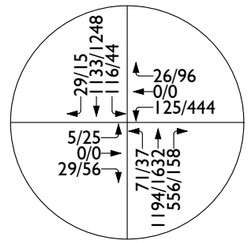
Exhibit 4-11

Project Opening Year (2026) With Project Conditions Traffic Volumes

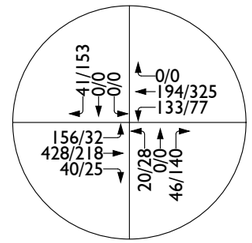




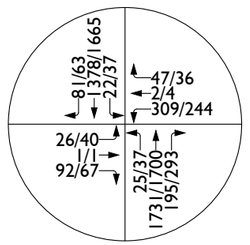
1. U.S. Route 395 (NS) at Main Street - Phelan Road (EW)



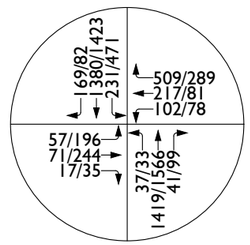
2. U.S. Route 395 (NS) at Poplar Street (EW)



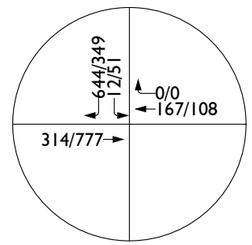
3. Three Flags Avenue (NS) at Poplar Street (EW)



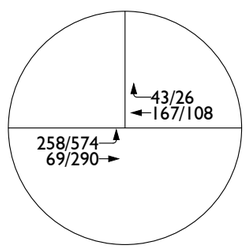
4. U.S. Route 395 (NS) at Three Flags Road - Three Flags Court (EW)



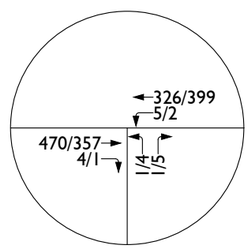
5. U.S. Route 395 (NS) at Joshua Street (EW)



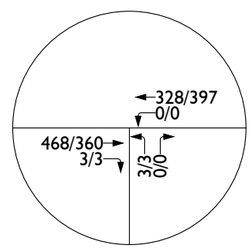
6. I-15 Southbound Off-Ramp (NS) at Joshua Street (EW)



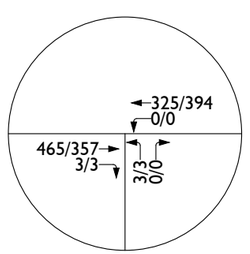
7. I-15 Southbound On-Ramp (NS) at Joshua Street (EW)



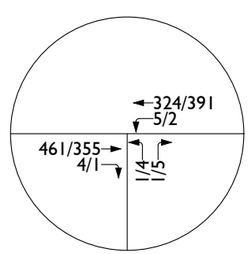
8. Project Access Driveway 1 (NS) at Poplar Street (EW)



9. Project Access Driveway 2 (NS) at Poplar Street (EW)



10. Project Access Driveway 3 (NS) at Poplar Street (EW)



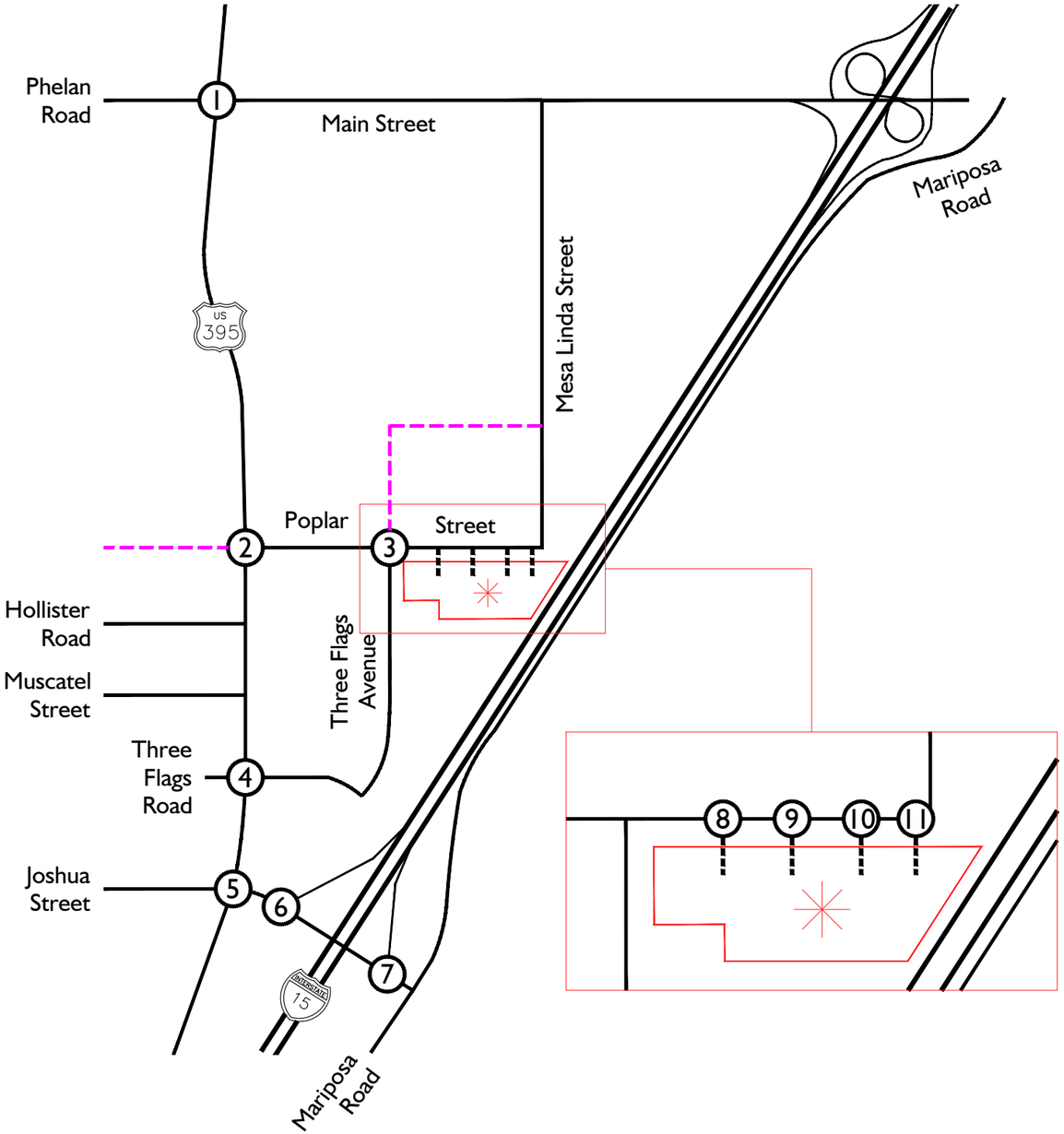
11. Project Access Driveway 4 (NS) at Poplar Street (EW)

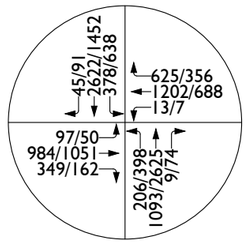
Legend:

10/20 = AM/PM Peak Hour Volumes
(1) = Study Area Intersection
= Future Roadway
= Project Site
= Project Access Driveway
= Project Site Boundary

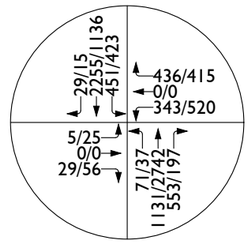
Exhibit 4-12

Horizon Year (2040) Without Project Conditions Traffic Volumes

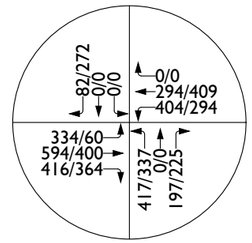




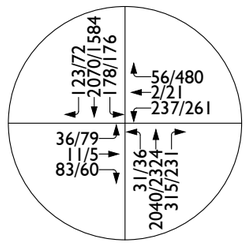
1. U.S. Route 395 (NS) at Main Street - Phelan Road (EW)



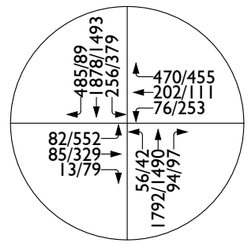
2. U.S. Route 395 (NS) at Poplar Street (EW)



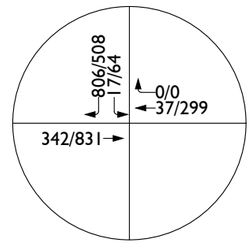
3. Three Flags Avenue (NS) at Poplar Street (EW)



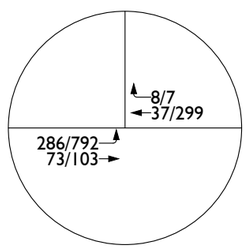
4. U.S. Route 395 (NS) at Three Flags Road - Three Flags Court (EW)



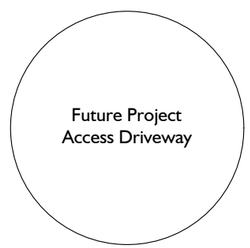
5. U.S. Route 395 (NS) at Joshua Street (EW)



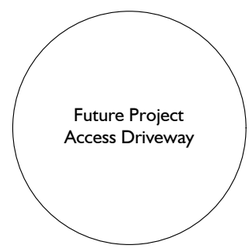
6. I-15 Southbound Off-Ramp (NS) at Joshua Street (EW)



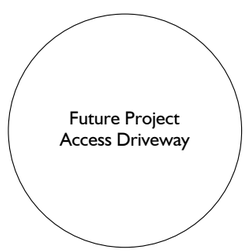
7. I-15 Southbound On-Ramp (NS) at Joshua Street (EW)



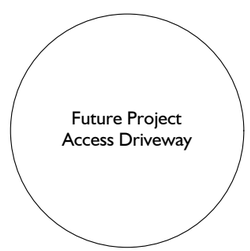
8. Project Access Driveway 1 (NS) at Poplar Street (EW)



9. Project Access Driveway 2 (NS) at Poplar Street (EW)



10. Project Access Driveway 3 (NS) at Poplar Street (EW)



11. Project Access Driveway 4 (NS) at Poplar Street (EW)

Legend:

10/20 = AM/PM Peak Hour Volumes
(1) = Study Area Intersection
= Future Roadway
= Project Site
= Project Access Driveway
= Project Site Boundary

RK engineering group, inc.

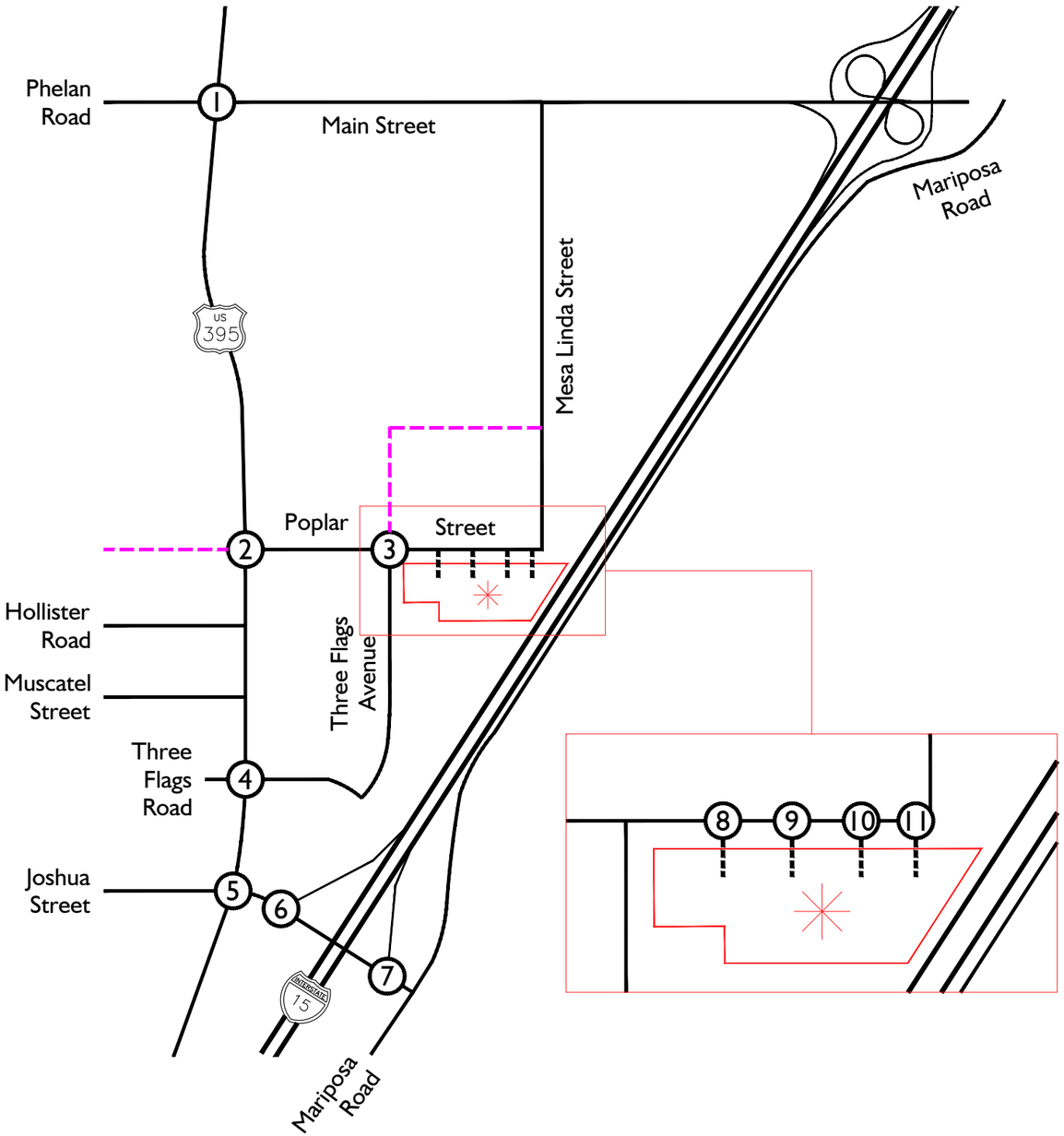
4.7 Horizon Year (2040) With Project Conditions Traffic Volumes

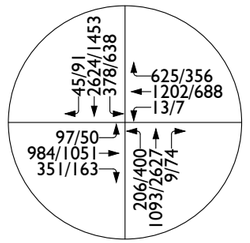
Horizon Year (2040) With Project Conditions traffic volumes consist of Horizon Year (2040) Without Project Conditions traffic volumes plus traffic generated by the proposed project.

Horizon Year (2040) With Project Conditions traffic volumes are shown in **Exhibit 4-13**.

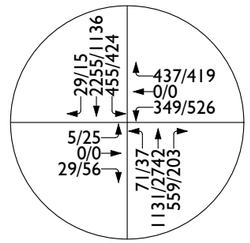
Exhibit 4-13

Horizon Year (2040) With Project Conditions Traffic Volumes

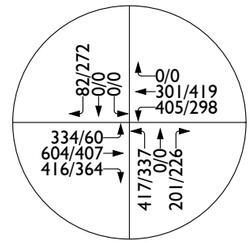




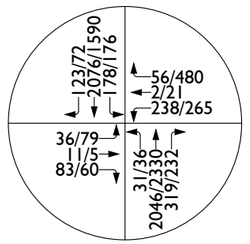
1. U.S. Route 395 (NS) at Main Street - Phelan Road (EW)



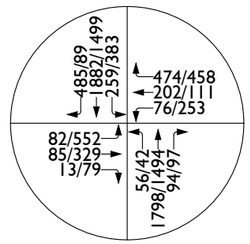
2. U.S. Route 395 (NS) at Poplar Street (EW)



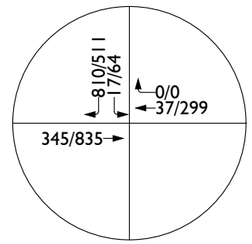
3. Three Flags Avenue (NS) at Poplar Street (EW)



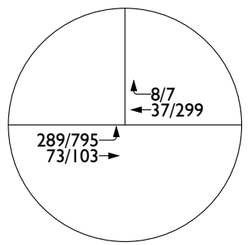
4. U.S. Route 395 (NS) at Three Flags Road - Three Flags Court (EW)



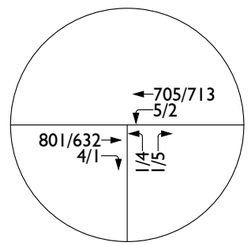
5. U.S. Route 395 (NS) at Joshua Street (EW)



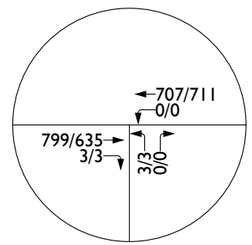
6. I-15 Southbound Off-Ramp (NS) at Joshua Street (EW)



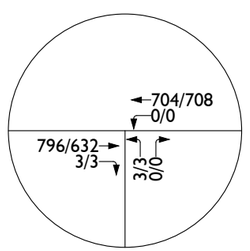
7. I-15 Southbound On-Ramp (NS) at Joshua Street (EW)



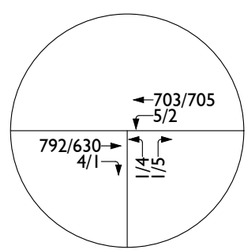
8. Project Access Driveway 1 (NS) at Poplar Street (EW)



9. Project Access Driveway 2 (NS) at Poplar Street (EW)



10. Project Access Driveway 3 (NS) at Poplar Street (EW)



11. Project Access Driveway 4 (NS) at Poplar Street (EW)

Legend:

10/20 = AM/PM Peak Hour Volumes
(1) = Study Area Intersection
= Future Roadway
= Project Site
= Project Access Driveway
= Project Site Boundary

5.0 CA MUTCD Warrant Analysis

The following study intersection has been evaluated for signalization based on the peak hour signal warrants and procedures contained in the California Manual on Uniform Traffic Control Devices (CA MUTCD), 2014 Edition, Revision 9 (April 1, 2025):

Int #2. U.S. Route 395 at Poplar Street

Int #3. Three Flags Avenue at Poplar Street

The purpose of this traffic signal warrant analysis is to determine whether the unsignalized study intersections meet the minimum peak hour traffic volumes requirements to warrant the recommendation of a traffic signal installation.

Table 5-1 summarizes the results of the CA MUTCD peak hour traffic signal warrant analysis at the study intersections listed above for all analysis scenarios evaluated as part of this study.

As shown in Table 5-1, the peak hour traffic signal warrants are satisfied for both unsignalized study intersections under the following analysis scenarios and time periods:

Int #2. U.S. Route 395 at Poplar Street

- Project Opening Year (2026) Without Project Conditions (AM & PM Peak Hours)
- Project Opening Year (2026) With Project Conditions (AM & PM Peak Hours)
- Horizon Year (2040) Without Project Conditions (AM & PM Peak Hours)
- Horizon Year (2040) With Project Conditions (AM & PM Peak Hours)

Int #3. Three Flags Avenue at Poplar Street

- Horizon Year (2040) Without Project Conditions (AM & PM Peak Hours)
- Horizon Year (2040) With Project Conditions (AM & PM Peak Hours)

Detailed CA MUTCD traffic signal warrant analysis worksheets are included in **Appendix B**.

Table 5-1
CA MUTCD Peak Hour Signal Warrant Analysis Summary

Study Intersection		Peak Hour Signal Warrant Met?									
		Existing Conditions		Project Opening Year (2026) Without Project Conditions		Project Opening Year (2026) With Project Conditions		Horizon Year (2040) Without Project Conditions		Horizon Year (2040) With Project Conditions	
		AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
2.	U.S. Route 395 (NS) at Poplar Street (EW)	NO	NO	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**
3.	Three Flags Avenue (NS) at Poplar Street (EW)	NO	NO	NO	NO	NO	NO	**YES**	**YES**	**YES**	**YES**

6.0 Study Intersection Peak Hour LOS Analysis

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

The minimum acceptable LOS thresholds for each study intersection are detailed in Section 2.2.3 of this report. Furthermore, operational improvements shall be identified for the study area intersections in which the LOS performance criteria also discussed in Section 2.2.3 of this report are met.

6.1 Existing Conditions Level of Service

Existing Conditions LOS calculations for the existing seven (7) study intersections are reported in **Table 6-1** and are based on the weekday AM and PM peak hour existing traffic volumes shown in Exhibit 3-2 and the existing traffic controls & intersection geometrics shown in Exhibit 3-1.

As shown in Table 6-1, all existing study intersections are currently operating at an acceptable LOS during the peak hours under Existing Conditions.

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

6.2 Project Opening Year (2026) Without Project Conditions Level of Service

Project Opening Year (2026) Without Project Conditions LOS calculations for the existing seven (7) study intersections are reported in **Table 6-2** and are based on the Project Opening Year (2026) Without Project Conditions traffic volumes shown in Exhibit 4-10 and the future year traffic controls & intersection geometrics shown in Exhibit 4-9.

As shown in Table 6-2, all existing study intersections are forecast to operate at an acceptable LOS during the peak hours under Project Opening Year (2026) Without Project Conditions with the exception of the following study intersections:

Int #1. U.S. Route 395 (NS) at Main Street - Phelan Road (EW)

- AM Peak Hour – LOS F (169.4 seconds per vehicle)
- PM Peak Hour – LOS F (253.6 seconds per vehicle)

Table 6-1
Study Intersection LOS Analysis Summary
Existing Conditions

	Study Intersection	Traffic Control[1,2]	Methodology	Acceptable LOS[3]	Delay (sec/veh)[4,5]		Level of Service	
					AM	PM	AM	PM
1.	U.S. Route 395 (NS) at Main Street - Phelan Road (EW)	TS	HCM	E	42.0	65.7	D	E
2.	U.S. Route 395 (NS) at Poplar Street (EW)	CSS	HCM	E	16.2	25.0	C	C
3.	Three Flags Avenue (NS) at Poplar Street (EW)	CSS	HCM	D	9.4	9.2	A	A
4.	U.S. Route 395 (NS) at Three Flags Road - Three Flags Court (EW)	TS	HCM	E	13.2	12.0	B	B
5.	U.S. Route 395 (NS) at Joshua Street (EW)	TS	HCM	E	13.2	15.0	B	B
6.	I-15 Southbound Off-Ramp (NS) at Joshua Street (EW)	CSS	HCM	E	9.4	9.4	A	A
7.	I-15 Southbound On-Ramp (NS) at Joshua Street (EW)	CSS	HCM	E	5.9	4.2	A	A

[1] TS = Traffic Signal;
CSS = Cross-Street Stop.

[2] For cross-street stop controlled intersections, level of service is based on on the worst stop-controlled approach from the minor street or an individual movement from the major street,

[3] In compliance with Implementation Policy CI-2.2 of the City of Hesperia General Plan, LOS E is the minimum acceptable level of service standard for intersections along major corridors.

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

[5] HCM Analysis Software: PTV Vistro, Version 2024.

Table 6-2
Study Intersection LOS Analysis Summary
Project Opening Year (2026) Conditions

	Study Intersection	Traffic Control[1,2]	Methodology	Acceptable LOS[3]	Without Project				With Project							
					Delay (sec/veh)[3,4]		Level of Service		Delay (sec/veh)[3,4,5]		Increase in Delay (sec)		Level of Service		Requires LOS Improvement?	
					AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1.	U.S. Route 395 (NS) at Main Street - Phelan Road (EW)	TS	HCM	E	**169.4**	**253.6**	**F**	**F**	**169.5**	**254.1**	**0.1**	**0.5**	**F**	**F**	**YES**	**YES**
	With Improvements	*TS*	*HCM*	*E*	- -	- -	- -	- -	*40.7*	*48.0*	**- -**	**- -**	*D*	*D*	- -	- -
2.	U.S. Route 395 (NS) at Poplar Street (EW)	CSS	HCM	E	**#[6]**	**#[6]**	**F**	**F**	**#[6]**	**#[6]**	**- -**	**- -**	**F**	**F**	**YES**	**YES**
	With Improvements	*TS*	*HCM*	*E*	- -	- -	- -	- -	*35.2*	*49.1*	- -	- -	*D*	*D*	- -	- -
3.	Three Flags Avenue (NS) at Poplar Street (EW)	CSS	HCM	D	**80.9**	15.6	**F**	C	**88.1**	16.1	**7.2**	0.5	**F**	C	**YES**	NO
	With Improvements	*AWS*	*HCM*	*D*	- -	- -	- -	- -	*28.4*	*16.1*	- -	- -	*D*	*C*	- -	- -
4.	U.S. Route 395 (NS) at Three Flags Road - Three Flags Court (EW)	TS	HCM	E	23.8	18.2	C	B	24.1	18.5	0.3	0.3	C	B	NO	NO
5.	U.S. Route 395 (NS) at Joshua Street (EW)	TS	HCM	E	53.1	53.7	D	D	54.2	54.9	1.1	1.2	D	D	**YES**	**YES**
6.	I-15 Southbound Off-Ramp (NS) at Joshua Street (EW)	CSS	HCM	E	**55.5**	13.2	**F**	B	**57.0**	13.2	**1.5**	0.0	**F**	B	**YES**	NO
	With Improvements	*CSS*	*HCM*	*E*	- -	- -	- -	- -	*13.3*	*22.7*	- -	- -	*B*	*C*	- -	- -
7.	I-15 Southbound On-Ramp (NS) at Joshua Street (EW)	CSS	HCM	E	6.6	5.6	A	A	6.6	5.7	0.0	0.1	A	A	NO	NO

[1] TS = Traffic Signal;
CSS = Cross-Street Stop.

[2] For cross-street stop controlled intersections, level of service is based on on the worst stop-controlled approach from the minor street or an individual movement from the major street, whichever is worse.

[3] In compliance with Implementation Policy CI-2.2 of the City of Hesperia General Plan, LOS E is the minimum acceptable level of service standard for intersections along major corridors.

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

[5] HCM Analysis Software: PTV Vistro, Version 2024.

[6] A value of # indicates that the calculated control delay for the intersection exceeds 1,000 seconds.

Int #2. U.S. Route 395 (NS) at Poplar Street (EW)

- AM Peak Hour – LOS F (1,000+ seconds per vehicle)
- PM Peak Hour – LOS F (1,000+ seconds per vehicle)

Int #3. Three Flags Avenue (NS) at Poplar Street (EW)

- AM Peak Hour – LOS F (80.9 seconds per vehicle)

Int #6. I-15 Southbound Off-Ramp (NS) at Joshua Street (EW)

- AM Peak Hour – LOS F (55.5 seconds per vehicle)

Detailed LOS analysis worksheets for Project Opening Year (2026) Without Project Conditions are included in **Appendix D**.

6.3 Project Opening Year (2026) With Project Conditions Level of Service

Project Opening Year (2026) With Project Conditions LOS calculations for the existing seven (7) study intersections are also reported in Table 6-2 and are based on the Project Opening Year (2026) With Project Conditions traffic volumes shown in Exhibit 4-11 and the future year traffic controls & intersection geometrics shown in Exhibit 4-9.

As also shown in Table 6-2, all study intersections are forecast to operate at an acceptable LOS during the peak hours under Project Opening Year (2026) With Project Conditions with the exception of the following study intersections:

Int #1. U.S. Route 395 (NS) at Main Street - Phelan Road (EW)

- AM Peak Hour – LOS F (169.5 seconds per vehicle)
- PM Peak Hour – LOS F (254.1 seconds per vehicle)

Int #2. U.S. Route 395 (NS) at Poplar Street (EW)

- AM Peak Hour – LOS F (1,000+ seconds per vehicle)
- PM Peak Hour – LOS F (1,000+ seconds per vehicle)

Int #3. Three Flags Avenue (NS) at Poplar Street (EW)

- AM Peak Hour – LOS F (88.1 seconds per vehicle)

Int #6. I-15 Southbound Off-Ramp (NS) at Joshua Street (EW)

- AM Peak Hour – LOS F (57.0 seconds per vehicle)

Detailed LOS analysis worksheets for Project Opening Year (2026) With Project Conditions are included in **Appendix E**.

6.4 Horizon Year (2040) Without Project Conditions Level of Service

Horizon Year (2040) Without Project Conditions LOS calculations for the existing seven (7) study intersections are reported in **Table 6-3** and are based on the Horizon Year (2040) Without Project Conditions traffic volumes shown in Exhibit 4-12 and the future year traffic controls & intersection geometrics shown in Exhibit 4-9.

As shown in Table 6-3, all study intersections are forecast to operate at an acceptable LOS during the peak hours under Horizon Year (2040) Without Project Conditions with the exception of the following study intersections:

Int #1. U.S. Route 395 (NS) at Main Street - Phelan Road (EW)

- AM Peak Hour – LOS F (293.4 seconds per vehicle)
- PM Peak Hour – LOS F (324.4 seconds per vehicle)

Int #2. U.S. Route 395 (NS) at Poplar Street (EW)

- AM Peak Hour – LOS F (1,000+ seconds per vehicle)
- PM Peak Hour – LOS F (1,000+ seconds per vehicle)

Int #3. Three Flags Avenue (NS) at Poplar Street (EW)

- AM Peak Hour – LOS F (1,000+ seconds per vehicle)
- PM Peak Hour – LOS F (1,000+ seconds per vehicle)

Int #5. U.S. Route 395 (NS) at Joshua Street (EW)

- PM Peak Hour – LOS F (86.2 seconds per vehicle)

Detailed LOS analysis worksheets for Horizon Year (2040) Without Project Conditions are included in **Appendix F**.

Table 6-3
Study Intersection LOS Analysis Summary
Horizon Year (2040) Conditions

	Study Intersection	Traffic Control[1,2]	Methodology	Acceptable LOS[3]	Without Project				With Project							
					Delay (sec/veh)[3,4]		Level of Service		Delay (sec/veh)[3,4,5]		Increase in Delay (sec)		Level of Service		Requires LOS Improvement?	
					AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1.	U.S. Route 395 (NS) at Main Street - Phelan Road (EW)	TS	HCM	E	**293.4**	**324.4**	**F**	**F**	**293.7**	**324.9**	**0.3**	**0.5**	**F**	**F**	**YES**	**YES**
	With Improvements	*TS*	*HCM*	*E*	- -	- -	- -	- -	*46.0*	*57.2*	- -	- -	*D*	*E*	- -	- -
2.	U.S. Route 395 (NS) at Poplar Street (EW)	CSS	HCM	E	**#[6]**	**#[6]**	**F**	**F**	**#[6]**	**#[6]**	**- -**	**- -**	**F**	**F**	**YES**	**YES**
	With Improvements	*TS*	*HCM*	*E*	- -	- -	- -	- -	*40.2*	*40.1*	- -	- -	*D*	*D*	- -	- -
3.	Three Flags Avenue (NS) at Poplar Street (EW)	CSS	HCM	D	**#[6]**	**#[6]**	**F**	**F**	**#[6]**	**#[6]**	**- -**	**- -**	**F**	**F**	**YES**	**YES**
	With Improvements	*TS*	*HCM*	*D*	- -	- -	- -	- -	*29.9*	*24.2*	- -	- -	*C*	*C*	- -	- -
4.	U.S. Route 395 (NS) at Three Flags Road - Three Flags Court (EW)	TS	HCM	E	34.6	78.1	C	E	35.4	78.8	0.8	0.7	D	E	NO	NO
5.	U.S. Route 395 (NS) at Joshua Street (EW)	TS	HCM	E	55.9	**86.2**	E	**F**	57.6	**86.7**	1.7	**0.5**	E	**F**	NO	**YES**
	With Improvements	*TS*	*HCM*	*E*	- -	- -	- -	- -	*56.6*	*78.0*	- -	- -	*E*	*E*	- -	- -
6.	I-15 Southbound Off-Ramp (NS) at Joshua Street (EW)	CSS	HCM	E	21.9	23.4	C	C	22.3	23.7	0.4	0.3	C	C	YES	YES
	With Improvements[7]	*CSS*	*HCM*	*E*	- -	- -	- -	- -	*11.1*	*30.6*	- -	- -	*B*	*D*	- -	- -
7.	I-15 Southbound On-Ramp (NS) at Joshua Street (EW)	CSS	HCM	E	6.1	11.1	A	B	6.2	11.2	0.1	0.1	A	B	NO	NO

[1] TS = Traffic Signal;
CSS = Cross-Street Stop.

[2] For cross-street stop controlled intersections, level of service is based on on the worst stop-controlled approach from the minor street or an individual movement from the major street, whichever is worse.

[3] In compliance with Implementation Policy CI-2.2 of the City of Hesperia General Plan, LOS E is the minimum acceptable level of service standard for intersections along major corridors.

[4] Deficient operation shown in Bold.

[5] HCM Analysis Software: PTV Vistro, Version 2024.

[6] A value of # indicates that the calculated control delay for the intersection exceeds 1,000 seconds.

[7] Although the study intersection's LOS is acceptable under Horizon Year (2040) conditions, intersection improvements were required for the previous Project Opening Year (2026) conditions. Therefore, the recommended improvements for Project Opening Year (2026) conditions are analyzed under Horizon Year (2040) conditions.

6.5 Horizon Year (2040) With Project Conditions Level of Service

Horizon Year (2040) With Project Conditions LOS calculations for the existing seven (7) study intersections are also reported in Table 6-3 and are based on the Horizon Year (2040) With Project Conditions traffic volumes shown in Exhibit 4-13 and the future year traffic controls & intersection geometrics shown in Exhibit 4-9.

As also shown in Table 6-3, all study intersections are forecast to operate at an acceptable LOS during the peak hours under Horizon Year (2040) With Project Conditions with the exception of the following study intersections:

Int #1. U.S. Route 395 (NS) at Main Street - Phelan Road (EW)

- AM Peak Hour – LOS F (293.7 seconds per vehicle)
- PM Peak Hour – LOS F (324.9 seconds per vehicle)

Int #2. U.S. Route 395 (NS) at Poplar Street (EW)

- AM Peak Hour – LOS F (1,000+ seconds per vehicle)
- PM Peak Hour – LOS F (1,000+ seconds per vehicle)

Int #3. Three Flags Avenue (NS) at Poplar Street (EW)

- AM Peak Hour – LOS F (1,000+ seconds per vehicle)
- PM Peak Hour – LOS F (1,000+ seconds per vehicle)

Int #5. U.S. Route 395 (NS) at Joshua Street (EW)

- PM Peak Hour – LOS F (86.7 seconds per vehicle)

Detailed LOS analysis worksheets for Horizon Year (2040) With Project Conditions are included in **Appendix G**.

6.6 Intersection Analysis Findings

The following study intersections have been identified to require operational improvements to restore traffic operations to acceptable levels of service and reduce the project's impact to less than significant levels under Project Opening Year (2026) and/or Horizon Year (2040) conditions.

Int #1. U.S. Route 395 (NS) at Main Street - Phelan Road (EW)

Int #2. U.S. Route 395 (NS) at Poplar Street (EW)

Int #3. Three Flags Avenue (NS) at Poplar Street (EW)

Int #5. U.S. Route 395 (NS) at Joshua Street (EW)

Int #6. I-15 Southbound Off-Ramp (NS) at Joshua Street (EW)

The recommended operational improvements for the deficient study intersections are discussed in detail in Section 8.0 of this report.

7.0 Intersection Queuing Analysis

This section of the report provides a comprehensive queuing analysis conducted for the study area for each analysis scenario. The objective of this analysis is to assess the possibility of any traffic overflow from turn pockets into through lanes or adjacent intersections.

The queue analysis has been performed utilizing the HCM 7 95th percentile queue evaluation methodology. Queue lengths have been reported for the following turning movements per respective study intersection.

Int #1. U.S. Route 395 (NS) at Main Street - Phelan Road (EW)

- Northbound Left-Turn
- Southbound Left-Turn

Int #2. U.S. Route 395 (NS) at Poplar Street (EW)

- Southbound Left-Turn
- Westbound Left-Turn
- Westbound Shared Through/Right-Turn
- *Westbound Shared Left/Through/Right-Turn ("With Improvement" Scenarios*)*
- *Westbound Right-Turn ("With Improvement Scenarios*)*

Int #4. U.S. Route 395 (NS) at Three Flags Road - Three Flags Court (EW)

- Northbound Left-Turn
- Northbound Right-Turn
- Southbound Left-Turn
- Southbound Right-Turn

Int #5. U.S. Route 395 (NS) at Joshua Street (EW)

- Northbound Left-Turn
- Northbound Right-Turn

- Southbound Left-Turn
- Westbound Left-Turn
- Westbound Through
- Westbound Right-Turn

Int #6. I-15 Southbound Off-Ramp (NS) at Joshua Street (EW)

- Southbound Left-Turn
- Southbound Right-Turn

Int #7. I-15 Southbound On-Ramp (NS) at Joshua Street (EW)

- Eastbound Shared Left-Turn/Through

7.1 Existing Conditions Queuing Analysis

The queuing analysis results for the analyzed turning movements under Existing Conditions are summarized in **Table 7-1**.

As shown in Table 7-1, the 95th percentile queues are satisfied for all turning movements.

7.2 Project Opening Year (2026) Without Project Conditions Queuing Analysis

The queuing analysis results for the analyzed turning movements under Project Opening Year (2026) Without Project Conditions are summarized in **Table 7-2**.

As shown in Table 7-2, the 95th percentile queues are satisfied for all turning movements with the exception to the following:

Int #1. U.S. Route 395 (NS) at Main Street - Phelan Road (EW)

- Southbound Left-Turn (AM & PM Peak Hour)

Int #2. U.S. Route 395 (NS) at Poplar Street (EW)

- Westbound Left-Turn (PM Peak Hour)

Table 7-1

Study Intersection HCM 95th Percentile Vehicular Queue Analysis Summary[1]

Existing Conditions

Intersection		Movement	Storage Length (Feet)[2]	HCM 95th Percentile Queue Length (Feet)		Adequate Storage Provided?	
				AM	PM	AM	PM
1	U.S. Route 395 (NS) at Main Street - Phelan Road (EW)	Northbound Left-Turn	280	140	259	YES	YES
		Southbound Left-Turn	240	255	333	YES[4]	YES[4]
2	U.S. Route 395 (NS) at Poplar Street (EW)	Southbound Left-Turn	375	25[3]	25[3]	YES	YES
		Westbound Left-Turn	540	25[3]	25[3]	YES	YES
		Westbound Right-Turn	540	25[3]	25[3]	YES	YES
4	U.S. Route 395 (NS) at Three Flags Road - Three Flags Court (EW)	Northbound Left-Turn	190	25[3]	32	YES	YES
		Northbound Right-Turn	190	27	34	YES	YES
		Southbound Left-Turn	225	25[3]	32	YES	YES
		Southbound Right-Turn	225	25[3]	25[3]	YES	YES
5	U.S. Route 395 (NS) at Joshua Street (EW)	Northbound Left-Turn	190	25[3]	29	YES	YES
		Northbound Right-Turn	330	25[3]	34	YES	YES
		Southbound Left-Turn	220	137	138	YES	YES
		Westbound Left-Turn	100	132	89	YES[4]	YES
		Westbound Through	100	28	25[3]	YES	YES
		Westbound Right-Turn	100	124	150	YES[4]	YES[4]
6	I-15 Southbound Off-Ramp (NS) at Joshua Street (EW)	Southbound Left-Turn	25	25[3]	25[3]	YES	YES
		Southbound Right-Turn	1,500	25[3]	25[3]	YES	YES
7	I-15 Southbound On-Ramp (NS) at Joshua Street (EW)	Eastbound Shared Left-Turn/Through	1,000	25[3]	25[3]	YES	YES

[1] HCM Analysis Software: Vistro, Version 2024.

[2] Storage length for through movements and turning movements without dedicated turn lanes are measured as the distance to the next intersection.

[3] Although the calculated queue is less, a minimum vehicle length of 25 feet is assumed for the purposes of this analysis.

[4] Although the queue exceeds the storage provided, the excess queue can be accommodated within the respective approach's through travel lane.

Table 7-2

Study Intersection HCM 95th Percentile Vehicular Queue Analysis Summary[1]

Project Opening Year (2026) Conditions

Intersection		Movement	Storage Length (Feet)[2]	Without Project				With Project				With Improvements[5]			
				HCM 95th Percentile Queue Length (Feet)		Adequate Storage Provided?		HCM 95th Percentile Queue Length (Feet)		Adequate Storage Provided?		HCM 95th Percentile Queue Length (Feet)		Additional Improvements Required?	
				AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1	U.S. Route 395 (NS) at Main Street - Phelan Road (EW)	Northbound Left-Turn	280	502	498	YES[4]	YES[4]	502	507	YES[4]	YES[4]	162	209	NO	NO
		Southbound Left-Turn	240	**927**	**1,782**	**NO**	**NO**	**927**	**1,782**	**NO**	**NO**	247	389	YES	NO[4,6]
2	U.S. Route 395 (NS) at Poplar Street (EW)	Southbound Left-Turn	375	52	25[3]	YES	YES	55	25[3]	YES	YES	232	73	NO	NO
		Westbound Left-Turn	540	472	**1,449**	YES	**NO**	**495**	**1,468**	**YES**	**NO**	242	632	NO	NO[4,6]
		Westbound Shared Through/Right	540	25[3]	36	YES	YES	25[3]	39	YES	YES	- -	- -	NO	NO
		Westbound Right-Turn	*540*	- -	- -	- -	- -	- -	- -	- -	- -	*33*	*109*	*NO*	*NO*
4	U.S. Route 395 (NS) at Three Flags Road - Three Flags Court (EW)	Northbound Left-Turn	190	29	35	YES	YES	29	35	YES	YES	29	37	NO	NO
		Northbound Right-Turn	190	79	94	YES	YES	81	95	YES	YES	81	94	NO	NO
		Southbound Left-Turn	225	26	35	YES	YES	26	35	YES	YES	26	37	NO	NO
		Southbound Right-Turn	225	31	25[3]	YES	YES	31	25[3]	YES	YES	31	25[3]	NO	NO
5	U.S. Route 395 (NS) at Joshua Street (EW)	Northbound Left-Turn	190	70	59	YES	YES	70	59	YES	YES	70	59	NO	NO
		Northbound Right-Turn	330	40	89	YES	YES	40	89	YES	YES	40	89	NO	NO
		Southbound Left-Turn	220	**442**	**876**	**NO**	**NO**	**454**	**897**	**NO**	**NO**	**454**	**897**	**YES**	**YES**
		Westbound Left-Turn	100	**117**	**120**	**NO**	**NO**	**117**	**116**	**NO**	**NO**	**117**	**116**	**YES**	**YES**
		Westbound Through	100	**249**	**106**	**NO**	**NO**	**249**	**106**	**NO**	**NO**	**249**	**106**	**YES**	**YES**
		Westbound Right-Turn	100	**725**	**375**	**NO**	**NO**	**741**	**378**	**NO**	**NO**	**741**	**378**	**YES**	**YES**
6	I-15 Southbound Off-Ramp (NS) at Joshua Street (EW)	Southbound Left-Turn	25	25[3]	25[3]	YES	YES	25[3]	25[3]	YES	YES	25[3]	25[3]	NO	NO
		Southbound Right-Turn	1,500	454	55	YES	YES	464	56	YES	YES	25[3]	25[3]	NO	NO
7	I-15 Southbound On-Ramp (NS) at Joshua Street (EW)	Eastbound Shared Left-Turn/Through	1,000	25[3]	38	YES	YES	25[3]	38	YES	YES	25[3]	38	NO	NO

[1] HCM Analysis Software: Vistro, Version 2024.

[2] Storage length for through movements and turning movements without dedicated turn lanes are measured as the distance to the next intersection.

[3] Although the calculated queue is less, a minimum vehicle length of 25 feet is assumed for the purposes of this analysis.

[4] Although the queue exceeds the storage provided, the excess queue can be accommodated within the respective approach's through travel lane.

[5] 'With Improvements' includes the recommended intersection operational improvements previously shown in Table 6-4 for Project Opening Year (2026) Conditions.

[6] Although the queue length is forecasted to remain deficient, the intersection operational improvements identified in Table 6-4 offsets the queuing increment from the project. As such, no additional improvements are required to improve queuing for this movement.

Int #5. U.S. Route 395 (NS) at Joshua Street (EW)

- Southbound Left-Turn (AM & PM Peak Hour)
- Westbound Left-Turn (AM & PM Peak Hour)
- Westbound Through (AM & PM Peak Hour)
- Westbound Right-Turn (AM & PM Peak Hour)

The remaining turning movements have queues that are adequately accommodated by the storage space provided under Project Opening Year (2026) Without Project Conditions.

7.3 Project Opening Year (2026) With Project Conditions Queuing Analysis

The queuing analysis results for the analyzed turning movements under Project Opening Year (2026) With Project Conditions are also summarized in Table 7-2.

As shown in Table 7-2, the 95th percentile queues are satisfied for all turning movements with the exception to the following:

Int #1. U.S. Route 395 (NS) at Main Street - Phelan Road (EW)

- Southbound Left-Turn (AM & PM Peak Hour)

Int #2. U.S. Route 395 (NS) at Poplar Street (EW)

- Westbound Left-Turn (AM & PM Peak Hour)

Int #5. U.S. Route 395 (NS) at Joshua Street (EW)

- Southbound Left-Turn (AM & PM Peak Hour)
- Westbound Left-Turn (AM Peak Hour)
- Westbound Through (AM Peak Hour)
- Westbound Right-Turn (AM & PM Peak Hour)

The remaining turning movements have queues that are adequately accommodated by the storage space provided under Project Opening Year (2026) With Project Conditions.

7.4 Horizon Year (2040) Without Project Conditions Queuing Analysis

The queuing analysis results for the analyzed turning movements under Horizon Year (2040) Without Project Conditions are summarized in **Table 7-3**.

As shown in Table 7-3, the 95th percentile queues are satisfied for all turning movements with the exception to the following:

Int #1. U.S. Route 395 (NS) at Main Street - Phelan Road (EW)

- Northbound Left-Turn (AM & PM Peak Hour)
- Southbound Left-Turn (AM & PM Peak Hour)

Int #2. U.S. Route 395 (NS) at Poplar Street (EW)

- Southbound Left-Turn (AM & PM Peak Hour)
- Westbound Left-Turn (AM & PM Peak Hour)
- Westbound Shared Through/Right-Turn (AM & PM Peak Hour)

Int #5. U.S. Route 395 (NS) at Joshua Street (EW)

- Southbound Left-Turn (AM & PM Peak Hour)
- Westbound Left-Turn (PM Peak Hour)
- Westbound Through (AM & PM Peak Hour)
- Westbound Right-Turn (AM & PM Peak Hour)

The remaining turning movements have queues that are adequately accommodated by the storage space provided under Horizon Year (2040) Without Project Conditions.

7.5 Horizon Year (2040) With Project Conditions Queuing Analysis

The queuing analysis results for the analyzed turning movements under Horizon Year (2040) With Project Conditions are also summarized in Table 7-3.

As shown in Table 7-3, the 95th percentile queues are satisfied for all turning movements with the exception to the following:

Table 7-3

Study Intersection HCM 95th Percentile Vehicular Queue Analysis Summary[1]

Horizon Year (2040) Conditions

Intersection		Movement	Storage Length (Feet)[2]	Without Project				With Project				With Improvements[5]			
				HCM 95th Percentile Queue Length (Feet)		Adequate Storage Provided?		HCM 95th Percentile Queue Length (Feet)		Adequate Storage Provided?		HCM 95th Percentile Queue Length (Feet)		Additional Improvements Required?	
				AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1	U.S. Route 395 (NS) at Main Street - Phelan Road (EW)	Northbound Left-Turn	280	**623**	**1,027**	**NO**	**NO**	**623**	**1,037**	**NO**	**NO**	185	263	NO	NO
		Southbound Left-Turn	240	**794**	**2,079**	**NO**	**NO**	**794**	**2,079**	**NO**	**NO**	223	483	NO	NO[4,6]
2	U.S. Route 395 (NS) at Poplar Street (EW)	Southbound Left-Turn	375	**589**	**1,157**	**NO**	**NO**	**604**	**1,162**	**NO**	**NO**	305	302	NO	NO
		Westbound Left-Turn	540	**1,199**	**1,781**	**NO**	**NO**	**1,218**	**1,803**	**NO**	**NO**	335	280	NO	NO
		Westbound Shared Through/Right	540	**1,506**	**1,437**	**NO**	**NO**	**1,509**	**1,449**	**NO**	**NO**	- -	- -	- -	- -
		Westbound Shared Left/Through/Right	*540*	- -	- -	- -	- -	- -	- -	- -	- -	*384*	*448*	*NO*	*NO*
		Westbound Right-Turn	*540*	- -	- -	- -	- -	- -	- -	- -	- -	*490*	*567*	NO	NO[6]
4	U.S. Route 395 (NS) at Three Flags Road - Three Flags Court (EW)	Northbound Left-Turn	190	35	55	YES	YES	35	55	YES	YES	33	55	NO	NO
		Northbound Right-Turn	190	147	150	YES	YES	150	151	YES	YES	141	151	NO	NO
		Southbound Left-Turn	225	212	355	YES	YES[4]	212	355	YES	YES[4]	225	355	NO	NO[4]
		Southbound Right-Turn	225	38	35	YES	YES	38	35	YES	YES	36	35	NO	NO
5	U.S. Route 395 (NS) at Joshua Street (EW)	Northbound Left-Turn	190	100	59	YES	YES	100	59	YES	YES	99	62	NO	NO
		Northbound Right-Turn	330	77	72	YES	YES	77	72	YES	YES	76	72	NO	NO
		Southbound Left-Turn	220	**653**	**982**	**NO**	**NO**	**672**	**1,001**	**NO**	**NO**	**664**	**1,124**	**YES**	**YES**
		Westbound Left-Turn	100	88	**756**	YES	**NO**	88	**749**	YES	**NO**	88	**812**	NO	**YES**
		Westbound Through	100	**238**	**103**	**NO**	**NO**	**237**	**103**	**NO**	**NO**	237	**109**	**YES**	**YES**
		Westbound Right-Turn	100	**654**	**474**	**NO**	**NO**	**648**	**477**	**NO**	**NO**	**677**	**480**	**YES**	**YES**
6	I-15 Southbound Off-Ramp (NS) at Joshua Street (EW)	Southbound Left-Turn	25	25[3]	33	YES	YES[4]	25[3]	34	YES	YES[4]	25[3]	34	NO	NO[4]
		Southbound Right-Turn	1,500	243	165	YES	YES	247	167	YES	YES	25[3]	25[3]	NO	NO
7	I-15 Southbound On-Ramp (NS) at Joshua Street (EW)	Eastbound Shared Left-Turn/Through	1,000	25[3]	121	YES	YES	25[3]	122	YES	YES	25[3]	122	NO	NO

[1] HCM Analysis Software: Vistro, Version 2024.

[2] Storage length for through movements and turning movements without dedicated turn lanes are measured as the distance to the next intersection.

[3] Although the calculated queue is less, a minimum vehicle length of 25 feet is assumed for the purposes of this analysis.

[4] Although the queue exceeds the storage provided, the excess queue can be accommodated within the respective approach's through travel lane.

[5] 'With Improvements' includes the recommended intersection operational improvements previously shown in Table 6-4 for Horizon Year (2040) Conditions.

[6] Although the queue length is forecasted to remain deficient, the intersection operational improvements identified in Table 6-4 offsets the queuing increment from the project. As such, no additional improvements are required to improve queuing for this movement.

Int #1. U.S. Route 395 (NS) at Main Street - Phelan Road (EW)

- Northbound Left-Turn (AM & PM Peak Hour)
- Southbound Left-Turn (AM & PM Peak Hour)

Int #2. U.S. Route 395 (NS) at Poplar Street (EW)

- Southbound Left-Turn (AM & PM Peak Hour)
- Westbound Left-Turn (AM & PM Peak Hour)
- Westbound Shared Through/Right-Turn (AM & PM Peak Hour)

Int #5. U.S. Route 395 (NS) at Joshua Street (EW)

- Southbound Left-Turn (AM & PM Peak Hour)
- Westbound Left-Turn (PM Peak Hour)
- Westbound Through (AM & PM Peak Hour)
- Westbound Right-Turn (AM & PM Peak Hour)

The remaining turning movements have queues that are adequately accommodated by the storage space provided under Horizon Year (2040) With Project Conditions.

7.6 Queue Analysis Findings

The following study intersections have been identified to have forecasted queues that are not accommodated by the storage space provided under Project Opening Year (2026) and Horizon Year (2040) conditions.

Int #1. U.S. Route 395 (NS) at Main Street - Phelan Road (EW)

Int #2. U.S. Route 395 (NS) at Poplar Street (EW)

Int #5. U.S. Route 395 (NS) at Joshua Street (EW)

The recommended operational improvements for the deficient study intersections are discussed in detail in Section 8.0 of this report.

8.0 Recommended Operational Improvements

This section of the report outlines the recommended operational improvements to address the identified level of service and queuing deficiencies.

8.1 Recommended Operational Improvements

Based on the intersection LOS and queuing analysis findings discussed previously in Sections 6.6 and 7.6 of this report, the project is required to contribute to operational improvements that restore level of service and/or queuing operations to acceptable levels and reduce the project's impact at the following study intersections:

Int #1. U.S. Route 395 (NS) at Main Street - Phelan Road (EW)

Int #2. U.S. Route 395 (NS) at Poplar Street (EW)

Int #3. Three Flags Avenue (NS) at Poplar Street (EW)

Int #5. U.S. Route 395 (NS) at Joshua Street (EW)

Int #6. I-15 Southbound Off-Ramp (NS) at Joshua Street (EW)

The recommended operational improvements, identified in **Table 8-1,** are generally consistent with those proposed in Table 26: Proposed Intersection Improvement Measures of the *I-15 Industrial Park Project Traffic Impact Analysis*, dated October 2022, prepared by Dudek.

8.1.1 Level of Service Operational Improvements

As previously shown in Tables 6-2 and 6-3, implementing the recommended intersection operational improvements in Table 8-1 would restore traffic operations at the study intersections to acceptable levels, in accordance with the identified level of service performance criteria and thresholds of significance.

Detailed LOS analysis worksheets for Project Opening Year (2026) With Project Conditions With Intersection Improvements are included in **Appendix H**. Detailed LOS analysis worksheets for Project Opening Year (2026) With Project Conditions With Intersection Improvements are included in **Appendix I**.

Table 8-1
Recommended Operational Improvements[1]

Intersection	Jurisdiction	Recommended Improvements for Opening Year (2026) With Project Conditions	Additional Recommended Improvements for Horizon Year (2040) With Project Conditions
1. U.S. Route 395 (NS) at Main Street - Phelan Road (EW)	City of Hesperia Caltrans	Add a 2nd northbound left-turn lane. Add a 2nd northbound through lane. Add a 2nd southbound left-turn lane. Add a 2nd eastbound through lane. Convert the westbound shared through/right-turn lane to a 2nd westbound through lane, add a 3rd westbound through lane, and add one westbound right-turn lane. Modify signal phase operations to include a westbound right-turn overlap.	Convert the eastbound shared through/right to a 3rd eastbound through lane and add one eastbound right-turn lane. Add a 2nd southbound through lane.
2. U.S. Route 395 (NS) at Poplar Street (EW)	City of Hesperia Caltrans	Install a traffic signal. Convert the westbound approach from one left-turn lane and one shared through/right-turn lane to consist of a left-turn lane, one through lane, and one right-turn lane. Add a 2nd southbound through lane.	Convert the northbound shared through/right-turn lane to a 2nd northbound through lane, add a 3rd northbound through lane, and one northbound right-turn lane. Add a 2nd southbound left-turn lane. Convert the westbound through lane to a shared left/through/right-turn lane.
3. Three Flags Avenue (NS) at Poplar Street (EW)	City of Hesperia	Convert intersection to all-way-stop controlled. Add an eastbound left-turn lane. Convert the eastbound shared left/through/right-turn lane to an eastbound through/right-turn lane.	Install a traffic signal. Convert the northbound approach from a shared left/through/right-turn lane to consist of one left turn and one shared through/right-turn lane. Convert the eastbound shared through/right-turn lane to a through lane and add an eastbound right-turn lane. Add a westbound left-turn lane. Convert the westbound shared left/through/right-turn lane to a westbound through/right-turn lane.
5. U.S. Route 395 (NS) at Joshua Street (EW)[2]	City of Hesperia Caltrans	Add a 2nd southbound left-turn lane. Add a 2nd westbound left-turn lane. Add a 2nd westbound through lane. Modify signal phase operations to include a westbound right-turn overlap.	Same Same Same Same Add a 2nd eastbound left-turn lane.
6. I-15 Southbound Off-Ramp (NS) at Joshua Street (EW)	City of Hesperia Caltrans	- -	Modify the southbound right-turn lane to a channelized right-turn lane.

[1] Recommended intersection improvements are generally consistent with those proposed in Table 26: Proposed Intersection Improvement Measures of the *I-15 Industrial Park Project Traffic Impact Analysis* , dated October 2022, prepared by Dudek.

[2] Recommended queuing improvements are highlighted in green.

8.1.2 Queuing Operational Improvements

The recommended operational improvements aimed at addressing level of service deficiencies for the Project Opening Year (2026) With Project Conditions and Horizon Year (2040) With Project Conditions would significantly improve queuing conditions at all study intersections. However, as previously shown in Tables 7-2 and 7-3, despite these improvements, the following turning movement queues were not restored to pre-project levels after implementing the intersection operational improvements:

Int #5. U.S. Route 395 (NS) at Joshua Street (EW)

- Southbound Left-Turn
- Westbound Left-Turn
- Westbound Through
- Westbound Right-Turn

As a result, additional operational improvements to address the remaining queuing deficiencies are also identified in Table 8-1, highlighted in green.

Table 8-2 summarizes the queuing analysis results for the four (4) identified queues after the implementation of both the recommended intersection and additional queuing operational improvements.

Assuming the implementation of these additional queuing operational improvements, the four (4) identified queues would be reduced to pre-project levels.

Detailed LOS analysis worksheets for Project Opening Year (2026) With Project Conditions With Intersection + Queuing Improvements are included in **Appendix J**. Detailed LOS analysis worksheets for Project Opening Year (2026) With Project Conditions With Intersection + Queuing Improvements are included in **Appendix K**.

8.2 Project Fair-Share Contributions

Fair-share contributions are calculated based on the project's trip contributions relative to the overall growth from existing traffic conditions. The fair-share contribution percentages under Project Opening Year (2026) With Project Conditions and Horizon Year (2040) With Project Conditions are provided in **Table 8-3** and **Table 8-4** respectively.

Table 8-2

Study Intersection HCM 95th Percentile Vehicular Queue Analysis Summary[1]

Project Opening Year (2026) & Horizon Year (2040) Conditions With Recommended Intersection & Queuing Improvements

Intersection		Movement	Storage Length (Feet)[2]	Project Opening Year (2026)								Horizon Year (2040)							
				Without Project				With Project With Recommended Intersection & Queueing Improvements[3]				Without Project				With Project With Recommended Intersection & Queueing Improvements[3]			
				HCM 95th Percentile Queue Length (Feet)		Adequate Storage Provided?		HCM 95th Percentile Queue Length (Feet)		Adequate Storage Provided?		HCM 95th Percentile Queue Length (Feet)		Adequate Storage Provided?		HCM 95th Percentile Queue Length (Feet)		Adequate Storage Provided?	
				AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
5.	U.S. Route 395 (NS) at Joshua Street (EW)	Southbound Left-Turn	220	**442**	**876**	**NO**	**NO**	194	265	YES	YES[4]	**653**	**982**	**NO**	**NO**	208	267	YES	YES[4]
		Westbound Left-Turn	100	**117**	**120**	**NO**	**NO**	60	42	YES	YES	88	**756**	YES	**NO**	45	142	YES	YES[4]
		Westbound Through	100	**249**	**106**	**NO**	**NO**	131	41	YES[4]	YES	**238**	**103**	**NO**	**NO**	123	41	YES[4]	YES
		Westbound Right-Turn	100	**725**	**375**	**NO**	**NO**	555	228	YES[4]	YES[4]	**654**	**474**	**NO**	**NO**	507	394	YES[4]	YES[4]

[1] HCM Analysis Software: Vistro, Version 2024.

[2] Storage length for through movements and turning movements without dedicated turn lanes are measured as the distance to the next intersection.

[3] Improvements includes the recommended intersection and queueing operational improvements shown in Table 6-4 and Table 7-4 for Horizon Year (2040) Conditions respectively.

[4] Although the queue length is forecasted to remain deficient, the intersection and queueing operational improvements identified in Table 6-4 and Table 7-4 offsets the queuing increment from the project. As such, no additional improvements are required to improve queuing for this movement.

Table 8-3
Project Fair-Share Summary
Project Opening Year (2026) With Project Conditions

Intersection	Peak Hour	Existing Traffic	Project Traffic	Project Opening Year (2026) With Project Conditions	Growth in Traffic	Project Fair-Share Percentage (%)
1. U.S. Route 395 (NS) at Main Street - Phelan Road (EW)	AM	3,674	4	5,874	2,200	0.18%
	PM	4,273	6	6,546	2,273	**0.26%**
2. U.S. Route 395 (NS) at Poplar Street (EW)	AM	1,857	17	3,284	1,427	1.19%
	PM	2,390	17	3,755	1,365	**1.25%**
3. Three Flags Avenue (NS) at Poplar Street (EW)	AM	142	22	1,058	916	**2.40%**
	PM	Not Impacted Under This Period				
5. U.S. Route 395 (NS) at Joshua Street (EW)	AM	2,412	17	4,250	1,838	0.92%
	PM	2,780	17	4,597	1,817	**0.94%**
6. I-15 Southbound Off-Ramp (NS) at Joshua Street (EW)	AM	328	7	1,137	809	**0.87%**
	PM	Not Impacted Under This Period				

Table 8-4
Project Fair-Share Summary
Horizon Year (2040) With Project Conditions

Intersection	Peak Hour	Existing Traffic	Project Traffic	Horizon Year (2040) With Project Conditions	Growth in Traffic	Project Fair-Share Percentage (%)
1. U.S. Route 395 (NS) at Main Street - Phelan Road (EW)	AM	3,674	4	7,627	3,953	0.10%
	PM	4,273	6	7,598	3,325	**0.18%**
2. U.S. Route 395 (NS) at Poplar Street (EW)	AM	1,857	17	5,320	3,463	0.49%
	PM	2,390	17	5,583	3,193	**0.53%**
3. Three Flags Avenue (NS) at Poplar Street (EW)	AM	142	22	2,760	2,618	0.84%
	PM	194	22	2,383	2,189	**1.01%**
5. U.S. Route 395 (NS) at Joshua Street (EW)	AM	Not Impacted Under This Period				
	PM	2,780	17	5,386	2,606	**0.65%**
6. I-15 Southbound Off-Ramp (NS) at Joshua Street (EW)	AM	Not Impacted Under This Period				
	PM					

Table 8-5 summarizes the costs associated with the proposed operational improvements. These cost estimates are based on figures from Table 28: Project Fair Share Cost Estimates of the *I-15 Industrial Park Project Traffic Impact Analysis*, dated October 2022, prepared by Dudek. The costs are approximate. Additionally, Table 8-4 includes the fair-share contributions expected from the project for each improvement.

As shown in Table 8-5, the project fair share costs for the study intersections are listed below:

Int #1. U.S. Route 395 (NS) at Main Street - Phelan Road (EW) [$4,434.42]

Int #2. U.S. Route 395 (NS) at Poplar Street (EW) [$7,379.62]

Int #3. Three Flags Avenue (NS) at Poplar Street (EW) [$12,608.10]

Int #5. U.S. Route 395 (NS) at Joshua Street (EW) [$7,711.79]

Int #6. I-15 Southbound Off-Ramp (NS) at Joshua Street (EW) [$2,889.84]

Table 8-5

Project Fair-Share Contribution Summary[1]

Intersection	Jurisdiction	Recommended Improvements for Opening Year (2026) With Project Conditions	Additional Recommended Improvements for Horizon Year (2040) With Project Conditions	Cost of Improvement[2]	Project Fair-Share (%)	Project Fair-Share Costs
1. U.S. Route 395 (NS) at Main Street - Phelan Road (EW)	City of Hesperia Caltrans	Add a 2nd northbound left-turn lane.		$92,268.50	0.26%	$239.90
		Add a 2nd northbound through lane.		$332,166.00	0.26%	$863.63
		Add a 2nd southbound left-turn lane.		$92,268.50	0.26%	$239.90
		Add a 2nd eastbound through lane.		$332,166.00	0.26%	$863.63
		Convert the westbound shared through/right-turn lane to a 2nd westbound through lane, add a 3rd westbound through lane, and add one westbound right-turn lane.		$424,434.50	0.26%	$1,103.53
		Modify signal phase operations to include a westbound right-turn overlap.		$138,403.00	0.26%	$359.85
			Convert the eastbound shared through/right to a 3rd eastbound through lane and add one eastbound right-turn lane.	$92,268.50	0.18%	$166.08
			Add a 2nd southbound through lane.	$332,166.00	0.18%	$597.90
			Intersection #1 Cost Subtotal	***$1,836,141.00***		***$4,434.42***
2. U.S. Route 395 (NS) at Poplar Street (EW)	City of Hesperia Caltrans	Install a traffic signal.		$0[4]	1.25%	$0.00
		Convert the westbound approach from one left-turn lane and one shared through/right-turn lane to consist of a left-turn lane, one through lane, and one right-turn lane.		$0[4]	1.25%	$0.00
		Add a 2nd southbound through lane.		$332,166.00	1.25%	$4,152.08
			Convert the northbound shared through/right-turn lane to a 2nd northbound through lane, add a 3rd northbound through lane, and one northbound right-turn lane.	$424,434.50	0.53%	$2,249.50
			Add a 2nd southbound left-turn lane.	$92,268.50	0.53%	$489.02
			Convert the westbound through lane to a shared left/through/right-turn lane.	$92,268.50	0.53%	$489.02
			Intersection #2 Cost Subtotal	***$941,137.50***		***$7,379.62***
3. Three Flags Avenue (NS) at Poplar Street (EW)	City of Hesperia	Convert intersection to all-way-stop controlled.				
		Add an eastbound left-turn lane. Convert the eastbound shared left/through/right-turn lane to an eastbound through/right-turn lane.		$92,268.50	2.40%	$2,214.44
			Install a traffic signal.	$706,136.00	1.01%	$7,131.97
			Convert the northbound approach from a shared left/through/right-turn lane to consist of one left turn and one shared through/right-turn lane.	$92,268.50	1.01%	$931.91
			Convert the eastbound shared through/right-turn lane to a through lane and add an eastbound right-turn lane.	$138,403.00	1.01%	$1,397.87
			Add a westbound left-turn lane. Convert the westbound shared left/through/right-turn lane to a westbound through/right-turn lane.	$92,268.50	1.01%	$931.91
			Intersection #3 Cost Subtotal	***$1,121,344.50***		***$12,608.10***
5. U.S. Route 395 (NS) at Joshua Street (EW)[3]	City of Hesperia Caltrans	Add a 2nd southbound left-turn lane.		$332,166.00	0.94%	$3,122.36
		Add a 2nd westbound left-turn lane.		$332,166.00	0.94%	$3,122.36
		Add a 2nd westbound through lane.		$92,268.00	0.94%	$867.32
		Modify signal phase operations to include a westbound right-turn overlap.				
			Add a 2nd eastbound left-turn lane.	$92,268.50	0.65%	$599.75
			Intersection #5 Cost Subtotal	***$848,868.50***		***$7,711.79***
6. I-15 Southbound Off-Ramp (NS) at Joshua Street (EW)	City of Hesperia Caltrans	Modify the southbound right-turn lane to a channelized right-turn lane.		$332,166.00	0.87%	$2,889.84
			Intersection #6 Cost Subtotal	***$332,166.00***		***$2,889.84***
			City of Hesperia Intersections (Intersection #3) Subtotal [A]	***$1,121,344.50***		***$12,608.10***
			Caltrans' Intersections (Intersections #1, #2, #5, #6) Subtotal [B]	***$3,958,313.00***		***$22,415.67***
			Total Intersection Costs Subtotal [A] + [B]	***$5,079,657.50***		***$35,023.77***

1 Project fait-share contribution will be required and become a Project Conditions of Approval.

2 Improvement costs are estimated based on the figures referenced in Table 28: Project Fair Share Cost Estimates from the *I-15 Industrial Park Project Traffic Impact Analysis* , dated October 2022, prepared by Dudek. The costs shown are approximate.

3 Recommended queuing improvements are highlighted in green.

4 The *I-15 Industrial Park Project Traffic Impact Analysis* , dated October 2022, prepared by Dudek, specifies that the installation of a traffic signal at the U.S. Route 395 and Poplar Street intersection will be constrcuted and fully funded by the I-15 Industrial Park project. In the event that the proposed project (i.e., Cargo Solutions) is constructed prior to the installation of this proposed traffic signal, Cargo Solutions shall be responsible for the installation/construction of this traffic signal and will be reimbursed by the I-15 Industrial Park Development in the future.

9.0 Site Access and Circulation Review

The following section provides a qualitative review of the proposed project's site access and internal circulation. This review aims to analyze the adequacy of turning capabilities, driveway dimensions, curb radii, and street widths along Poplar Street and Mesa Linda Street, specifically in relation to WB-67 trucks. Additionally, a qualitative examination will be performed to identify potential conflicts that may arise from truck maneuvers within the site.

9.1 Site Access and Circulation

Access to the project site is planned to be served by four (4) full-access unsignalized driveways located along Poplar Street. These driveways will accommodate vehicular and truck traffic in the designated manner outlined below:

Project Access Driveway 1

Project Access Driveway 1, located at the northwest corner of the site, is exclusively designed for passenger vehicle traffic serving the Building No. 1 Warehouse. Upon entering the site through this driveway, vehicles will have direct access to the staff parking lot. The driveway aisles within this area range from 30.5 to 31 feet in width, providing ample space for vehicle maneuverability.

Project Access Driveway 2

Project Access Driveway 2, located east of Driveway 1, spans approximately 40 feet in width. This driveway caters to employee vehicles and trucks associated with the Building No. 1 Warehouse. Trucks entering through this driveway will travel along the eastern side of the warehouse, where WB-67 truck parking spaces, approximately 72 feet in length, are designated on both the eastern and southern sections of the site.

The loading docks for the warehouse are positioned on the southern side of the building. Drive aisles in this area vary in width, ranging from approximately 63.5 to 86.5 feet, allowing trucks to efficiently reverse into the loading docks. Additionally, parking spaces for semi-trucks without attached trailers are provided along the southern boundary of the site.

Project Access Driveway 3

Project Access Driveway 3, located along the northern portion of the site, serves employee vehicles and trucks associated with the Building No. 2 Warehouse. Trucks entering through this driveway will proceed south along a 64.5-foot drive aisle. Trucks will then travel on the western side of the warehouse, where WB-67 truck parking spaces, approximately 72 feet in length, are designated on both the western and eastern sections of the site.

Project Access Driveway 4

Project Access Driveway 4, located east of Driveway 3, serves as the access point for passenger vehicles for the Building No. 2 Warehouse. Upon entering the site through this driveway, vehicles will have direct access to the staff parking lot. The driveway aisles in this area range from 30.0 to 35 feet in width, providing ample space for vehicle maneuverability.

9.2 Level of Service Analysis at Project Access Driveways

9.2.1 Project Opening Year (2026) With Project Conditions Level of Service

Project Opening Year (2026) With Project Conditions LOS calculations for the four (4) project access driveways are reported in **Table 9-1** and are based on the Project Opening Year (2026) With Project Conditions traffic volumes shown in Exhibit 4-11 and the future year traffic controls & intersection geometrics shown in Exhibit 4-9.

As shown in Table 8-1, all project access driveways are forecast to operate at an acceptable LOS during the peak hours under Project Opening Year (2026) With Project Conditions.

Detailed LOS analysis worksheets for the four (4) project access driveways under Project Opening Year (2026) With Project Conditions are also included in **Appendix E**.

9.2.2 Horizon Year (2040) With Project Conditions Level of Service

Horizon Year (2040) With Project Conditions LOS calculations for the four (4) project access driveways are also reported in **Table 9-2** and are based on the Horizon Year (2040) With Project Conditions traffic volumes shown in Exhibit 4-13 and the future year traffic controls & intersection geometrics shown in Exhibit 4-9.

As shown in Table 8-2, all study intersections are forecast to operate at an acceptable LOS during the peak hours under Horizon Year (2040) With Project Conditions.

Detailed LOS analysis worksheets for the four (4) project access driveways under Horizon Year (2040) With Project Conditions are also included in **Appendix G**.

Table 9-1
Project Site Access Driveway LOS Analysis Summary
Project Opening Year (2026) With Project Conditions

	Study Intersection	Traffic Control[1,2]	Methodology	Acceptable LOS[3]	Delay (sec/veh)[3,4,5]		Level of Service		Requires LOS Improvement?	
					AM	PM	AM	PM	AM	PM
8.	Project Access Driveway 1 (NS) at Poplar Street (EW)	CSS	HCM	D	13.7	12.7	B	B	NO	NO
9.	Project Access Driveway 2 (NS) at Poplar Street (EW)	CSS	HCM	D	15.8	15.2	C	C	NO	NO
10.	Project Access Driveway 3 (NS) at Poplar Street (EW)	CSS	HCM	D	15.7	15.2	C	C	NO	NO
11.	Project Access Driveway 4 (NS) at Poplar Street (EW)	CSS	HCM	D	13.5	12.6	B	B	NO	NO

[1] CSS = Cross-Street Stop.

[2] For cross-street stop controlled intersections, level of service is based on on the worst stop-controlled approach from the minor street or an individual movement from the major street, whichever is worse.

[3] In compliance with Implementation Policy CI-2.1 of the City of Hesperia General Plan, LOS D should be maintained and aimed for at all intersections.

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

[5] HCM Analysis Software: PTV Vistro, Version 2024.

Table 9-2
Project Site Access Driveway LOS Analysis Summary
Horizon Year (2040) With Project Conditions

	Study Intersection	Traffic Control[1,2]	Methodology	Acceptable LOS[3]	Delay (sec/veh)[3,4,5]		Level of Service		Requires LOS Improvement?	
					AM	PM	AM	PM	AM	PM
8.	Project Access Driveway 1 (NS) at Poplar Street (EW)	CSS	HCM	D	25.7	20.6	D	C	NO	NO
9.	Project Access Driveway 2 (NS) at Poplar Street (EW)	CSS	HCM	D	34.4	29.3	D	D	NO	NO
10.	Project Access Driveway 3 (NS) at Poplar Street (EW)	CSS	HCM	D	34.2	29.1	D	D	NO	NO
11.	Project Access Driveway 4 (NS) at Poplar Street (EW)	CSS	HCM	D	25.4	20.4	D	C	NO	NO

[1] CSS = Cross-Street Stop.

[2] For cross-street stop controlled intersections, level of service is based on on the worst stop-controlled approach from the minor street or an individual movement from the major street, whichever is worse.

[3] In compliance with Implementation Policy CI-2.1 of the City of Hesperia General Plan, LOS D should be maintained and aimed for at all intersections.

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

[5] HCM Analysis Software: PTV Vistro, Version 2024.

9.3 WB-67 Truck Maneuverability Assessment

After thorough examination of the project site plan, shown in Exhibit 1-2 and designed by the Amor Architectural Corporation, RK has concluded that the WB-67 truck turning templates illustrated on the plan showcase satisfactory truck turning capabilities both within the site and in external areas. This comprehensive review ensures that the design adequately accommodates the maneuverability requirements of WB-67 trucks, promoting efficient truck movements throughout the site.

10.0 Vehicle Miles Traveled (VMT) Analysis

The *City of Hesperia Traffic Impact Analysis Guidelines for Vehicle Miles Traveled (VMT) and Level of Service (LOS) Assessment*, dated July 2020, provides recommendations in the form of thresholds of significance and methodologies 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 City's guidelines.

10.1 VMT Screening Criteria & Assessment

The City of Hesperia has adopted three (3) types of screening criteria that can be applied to effectively screen projects from project-level assessment. The screening steps are summarized below:

- Step 1: Transit Priority Area (TPA) Screening
- Step 2: Low VMT Area Screening
- Step 3: Project Type Screening

10.1.1 Step 1: Transit Priority Area (TPA) Screening

Based on the *City of Hesperia Traffic Impact Analysis Guidelines for Vehicle Miles Traveled (VMT) and Level of Service (LOS) Assessment*, dated July 2020, "Projects located within a TPA may be presumed to have a less than significant impact absent substantial evidence to the contrary." However, this presumption may not be appropriate if the project:

- Has a Floor Area Ratio (FAR) of less than 0.75;
- Includes more parking for use by residents, customers, or employees of the project than required by the jurisdiction (if the jurisdiction requires the project to supply parking);
- Is inconsistent with the applicable Sustainable Communities Strategy (as determined by the lead agency, with input from the Metropolitan Planning Organization); or
- Replaces affordable residential units with a smaller number of moderate or high-income residential units.

A transit priority area is defined as a half mile area around an existing major transit stop or a high-quality transit corridor. A major transit stop refers to a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency service interval of 15 minutes or less during the morning and afternoon

peak commute periods. A high-quality transit corridor refers to a corridor with fixed route bus service intervals no longer than 15 minutes during peak commute hours.

Based on a review of the Victor Valley Transit Authority (VVTA) and the City of Hesperia Bus Route Maps, there are no transit services located within a ½ mile of the project site. As such, the project does not satisfy the screening criteria based on the Transit Priority Area Screening.

10.1.2 Step 2: Low VMT Area Screening

Per the *City of Hesperia Traffic Impact Analysis Guidelines for Vehicle Miles Traveled (VMT) and Level of Service (LOS) Assessment*, dated July 2020:

> "Residential and office projects located within a low VMT-generating area may be presumed to have a less than significant impact absent substantial evidence to the contrary. In addition, other employment-related and mixed-use land use projects may qualify for the use of screening if the project can reasonably be expected to generate VMT per resident, per worker, or per service population that is similar to the existing land uses in the low VMT area."

To identify if the project is in a low VMT-generating area, the San Bernardino County Transportation Authority (SBCTA) VMT screening tool was utilized to compare the project's baseline TAZ VMT to the County's baseline VMT metric. Utilizing the SBCTA VMT screening tool, the following inputs were selected: Since the project is exclusively an industrial use (i.e., warehousing), the "PA VMT Per Worker" metric was utilized for evaluation.

The results of the VMT screening analysis are summarized in **Table 10-1**. The SBCTA VMT Screening Tool Printouts are provided in **Appendix L**.

Table 10-1
Step 2: Low VMT Area Screening Assessment[1,2]

Project TAZ	Baseline Year	PA VMT Per Worker
53901401	2024	16.0
County of San Bernardino VMT Threshold of Significance		16.9
Potentially Significant Impact (Yes/No)		No

[1.] San Bernardino County Transportation Authority (SBCTA) VMT Screening Tool

[2.] Website: https://sbcta-gis.sanbag.ca.gov/gisportal/apps/webappviewer/index.html?id=3cd02c669e3442e79f732be92d26d320 Accessed: September, 2024.

Based on the results of the SBCTA VMT screening tool, the proposed project's TAZ VMT was calculated to be 16.0 PA VMT Per Worker which does not exceed the County VMT threshold of significance of 16.9 VMT Per Worker. Therefore, the proposed project does satisfy the Low VMT-Generating Area Screening and may be presumed to have a less than significant impact on VMT under CEQA.

10.1.3 Step 3: Low Project Type Screening

The *City of Hesperia Traffic Impact Analysis Guidelines for Vehicle Miles Traveled (VMT) and Level of Service (LOS) Assessment*, dated July 2020, identify that projects generating less than 110 daily vehicle trips may be presumed to have a less than significant impact on VMT under CEQA.

Additionally, certain project types are eligible to screen from a project-level VMT assessment because they can be presumed to have a less than significant impact absent substantial evidence to the contrary as their uses are local serving in nature. These types of projects include:

- Local-serving K-12 schools
- Local parks
- Day care centers
- Local-serving gas stations
- Local-serving banks
- Local-serving hotels (e.g. non-destination hotels)
- Local-serving medical
- Student housing projects on or adjacent to college campuses
- Local-serving assembly uses (places of worship, community organizations)
- Community institutions (Public libraries, fire stations, local government)
- Local serving community colleges that are consistent with the assumptions noted in the
- RTP/SCS
- Affordable or supportive housing
- Assisted living facilities

Given the project's land use and size, this screening criterion is not applicable and does not meet the requirements of Step 3: Project Type Screening.

10.2 VMT Screening Assessment Conclusions

The Project meets the Step 2: Low VMT Area screening criteria. As such, the project may be presumed to have a less than significant impact on VMT and no additional VMT analysis is required.

11.0 Findings and Recommendations

11.1 Project Description Summary

The project site is located at the southeast corner of Three Flags Avenue and Poplar Street in the City of Hesperia, CA. The project site spans approximately 2.303 acres and is currently vacant.

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

- One (1) warehouse building (Building No. 1) totaling 75,894 square feet (SF); and
- One (1) warehouse building (Building No. 2) totaling 75,894 square feet (SF); and

The project is expected to open in 2026 and will be evaluated in one (1) single phase.

Access to the project is proposed via four (4) full-access unsignalized driveways located along Poplar Street:

- Driveway 1: Serves Building No. 1 warehouse for passenger vehicle traffic;
- Driveway 2: Serves Building No. 1 warehouse for truck traffic;
- Driveway 3: Serves Building No. 2 warehouse for truck traffic; and
- Driveway 4: Serves Building No. 2 warehouse for passenger vehicle traffic.

11.2 Traffic Study Area & Analysis Scenarios Summary

The study area included in this analysis has been determined based on existing and future transportation facilities within the vicinity of the site where the project may contribute a significant amount of traffic. The study area consists of the following eleven (11) intersections listed below. The jurisdiction where each key study intersection is also identified.

Int #1. U.S. Route 395 at Main Street - Phelan Road [City of Hesperia, Caltrans];

Int #2. U.S. Route 395 at Poplar Street [City of Hesperia, Caltrans];

Int #3. Three Flags Avenue at Poplar Street [City of Hesperia];

Int #4. U.S. Route 395 at Three Flags Road - Three Flags Court [City of Hesperia, Caltrans];

Int #5. U.S. Route 395 at Joshua Street [City of Hesperia, Caltrans];

Int #6. I-15 Southbound Off-Ramp at Joshua Street [City of Hesperia, Caltrans];

Int #7. I-15 Southbound On-Ramp at Joshua Street [City of Hesperia, Caltrans];

Int #8. Project Access Driveway 1 at Poplar Street [City of Hesperia];

Int #9. Project Access Driveway 2 at Poplar Street [City of Hesperia];

Int #10. Project Access Driveway 3 at Poplar Street [City of Hesperia]; and

Int #11. Project Access Driveway 4 at Poplar Street [City of Hesperia].

The analysis evaluates traffic conditions of the study area under the following scenarios during the weekday AM (7:00 AM to 9:00 AM) and weekday PM (4:00 PM to 6:00 PM) peak periods:

- Existing Conditions
- Project Opening Year (2026) Without Project Conditions
- Project Opening Year (2026) With Project Conditions
- Horizon Year (2040) Without Project Conditions
- Horizon Year (2040) With Project Conditions

11.3 Project Trip Generation Summary

The proposed project, based on the trip generation rates and truck mix recommendations from SCAQMD, is forecast to generate approximately 260 actual vehicle daily trips with 26 actual vehicle trips in the AM peak hour and 28 actual vehicle trips in the PM peak hour (i.e., no adjustments for truck traffic). After the application of appropriate passenger car equivalent (PCE) factors and ITE pass-by adjustments, the proposed project is forecast to generate approximately 402 daily PCE trips with 34 PCE trips in the AM peak hour and 36 PCE trips in the PM peak hour.

11.4 CA MUTCD Warrant Analysis Summary

The following study intersection has been evaluated for signalization based on the peak hour signal warrants and procedures contained in the California Manual on Uniform Traffic Control Devices (CA MUTCD), 2014 Edition, Revision 9 (April 1, 2025):

Int #1. U.S. Route 395 at Poplar Street

Int #2. Three Flags Avenue at Poplar Street

The peak hour traffic signal warrants are satisfied for both unsignalized study intersections under the following analysis scenarios and time periods:

Int #1. U.S. Route 395 at Poplar Street

- Project Opening Year (2026) Without Project Conditions (AM & PM Peak Hours)
- Project Opening Year (2026) With Project Conditions (AM & PM Peak Hours)
- Horizon Year (2040) Without Project Conditions (AM & PM Peak Hours)
- Horizon Year (2040) With Project Conditions (AM & PM Peak Hours)

Int #2. Three Flags Avenue at Poplar Street

- Horizon Year (2040) Without Project Conditions (AM & PM Peak Hours)
- Horizon Year (2040) With Project Conditions (AM & PM Peak Hours)

11.5 Study Intersection Peak Hour LOS Analysis Summary

The intersection level of service analysis has been performed at the seven (7) study intersections within the vicinity of the site where the project may contribute a significant amount of traffic. Project deficiencies have been evaluated within the study area based on peak hour level of service performance criteria and thresholds of significance.

Int #1. U.S. Route 395 at Main Street - Phelan Road [City of Hesperia, Caltrans];

Int #2. U.S. Route 395 at Poplar Street [City of Hesperia, Caltrans];

Int #3. Three Flags Avenue at Poplar Street [City of Hesperia];

Int #4. U.S. Route 395 at Three Flags Road - Three Flags Court [City of Hesperia, Caltrans];

Int #5. U.S. Route 395 at Joshua Street [City of Hesperia, Caltrans];

Int #6. I-15 Southbound Off-Ramp at Joshua Street [City of Hesperia, Caltrans];

Int #7. I-15 Southbound On-Ramp at Joshua Street [City of Hesperia, Caltrans];

The following study intersections have been identified to require operational improvements to restore traffic operations to acceptable levels of service and reduce the project's impact to less than significant levels under Project Opening Year (2026) and/or Horizon Year (2040) conditions.

Int #1. U.S. Route 395 (NS) at Main Street - Phelan Road (EW)

Int #2. U.S. Route 395 (NS) at Poplar Street (EW)

Int #3. Three Flags Avenue (NS) at Poplar Street (EW)

Int #5. U.S. Route 395 (NS) at Joshua Street (EW)

Int #6. I-15 Southbound Off-Ramp (NS) at Joshua Street (EW)

11.6 Intersection Queuing Analysis Summary

The following study intersections have been identified to have forecasted queues that are not accommodated by the storage space provided under Project Opening Year (2026) and/or Horizon Year (2040) conditions.

Int #1. U.S. Route 395 (NS) at Main Street - Phelan Road (EW)

Int #2. U.S. Route 395 (NS) at Poplar Street (EW)

Int #5. U.S. Route 395 (NS) at Joshua Street (EW)

11.7 Recommended Operational Improvements Summary

The project is required to contribute to operational improvements that restore level of service and/or queuing operations to acceptable levels and reduce the project's impact at the following study intersections:

Int #1. U.S. Route 395 (NS) at Main Street - Phelan Road (EW)

Int #2. U.S. Route 395 (NS) at Poplar Street (EW)

Int #3. Three Flags Avenue (NS) at Poplar Street (EW)

Int #5. U.S. Route 395 (NS) at Joshua Street (EW)

Int #6. I-15 Southbound Off-Ramp (NS) at Joshua Street (EW)

The recommended operational improvements listed below are generally consistent with those proposed in Table 26: Proposed Intersection Improvement Measures of the *I-15 Industrial Park Project Traffic Impact Analysis*, dated October 2022, prepared by Dudek.

Int #1. U.S. Route 395 (NS) at Main Street - Phelan Road (EW)

- Add a 2nd northbound left-turn lane.
- Add a 2nd northbound through lane.
- Add a 2nd southbound left-turn lane.
- Add a 2nd eastbound through lane.
- Convert the westbound shared through/right-turn lane to a 2nd westbound through lane, add a 3rd westbound through lane, and add one westbound right-turn lane.
- Modify signal phase operations to include a westbound right-turn overlap.
- Convert the eastbound shared through/right to a 3rd eastbound through lane and add one eastbound right-turn lane.
- Add a 2nd southbound through lane.

Int #2. U.S. Route 395 (NS) at Poplar Street (EW)

- Install a traffic signal.
- Convert the westbound approach from one left-turn lane and one shared through/right-turn lane to consist of a left-turn lane, one through lane, and one right-turn lane.
- Add a 2nd southbound through lane.
- Convert the northbound shared through/right-turn lane to a 2nd northbound through lane, add a 3rd northbound through lane, and one northbound right-turn lane.
- Add a 2nd southbound left-turn lane.
- Convert the westbound through lane to a shared left/through/right-turn lane.

Int #3. Three Flags Avenue (NS) at Poplar Street (EW)

- Convert intersection to all-way-stop controlled.
- Add an eastbound left-turn lane.
- Convert the eastbound shared left/through/right-turn lane to an eastbound through/right-turn lane.
- Install a traffic signal.
- Convert the northbound approach from a shared left/through/right-turn lane to consist of one left turn and one shared through/right-turn lane.
- Convert the eastbound shared through/right-turn lane to a through lane and add an eastbound right-turn lane.
- Add a westbound left-turn lane.
- Convert the westbound shared left/through/right-turn lane to a westbound through/right-turn lane.

Int #5. U.S. Route 395 (NS) at Joshua Street (EW)

- Add a 2nd southbound left-turn lane.
- Add a 2nd westbound left-turn lane.
- Add a 2nd westbound through lane.
- Modify signal phase operations to include a westbound right-turn overlap.
- Add a 2nd eastbound left-turn lane.

Int #6. I-15 Southbound Off-Ramp (NS) at Joshua Street (EW)

- Modify the southbound right-turn lane to a channelized right-turn lane.

With the implementation of these operational improvements, the study intersections will be restored to acceptable levels of service, and any queuing deficiencies caused by the project will be reduced to pre-project levels.

11.8 Project Fair-Share Contribution Summary

The project fair share costs for the study intersections are listed below:

Int #1. U.S. Route 395 (NS) at Main Street - Phelan Road (EW) [$4,434.42]

Int #2. U.S. Route 395 (NS) at Poplar Street (EW) [$7,379.62]

Int #3. Three Flags Avenue (NS) at Poplar Street (EW) [$12,608.10]

Int #5. U.S. Route 395 (NS) at Joshua Street (EW) [$7,711.79]

Int #6. I-15 Southbound Off-Ramp (NS) at Joshua Street (EW) [$2,889.84]

These cost estimates are based on figures from Table 28: Project Fair Share Cost Estimates of the *I-15 Industrial Park Project Traffic Impact Analysis*, dated October 2022, prepared by Dudek. The costs are approximate.

11.9 Site Access and Circulation Review Summary

Access to the project site is planned to be served by four (4) full-access unsignalized driveways located along Poplar Street.

These driveways will accommodate vehicular and truck traffic in the designated manner outlined below:

- **Project Access Driveway 1**: Utilized by passenger vehicles serving the Building No. 1 Warehouse.
- **Project Access Driveway 2**: Utilized by employee vehicles and trucks associated with the Building No. 1 Warehouse.
- **Project Access Driveway 3**: Utilized by employee vehicles and trucks associated with the Building No. 2 Warehouse.
- **Project Access Driveway 4**: Utilized by passenger vehicles serving the Building No. 2 Warehouse.

The intersection level of service analysis has been performed at the four (4) project access driveways within the vicinity of the site where the project may contribute a significant amount of traffic. Project deficiencies have been evaluated within the study area based on peak hour level of service performance criteria and thresholds of significance.

All project access driveways are forecast to operate at an acceptable LOS during the peak hours under Project Opening Year (2026) With Project Conditions and Horizon Year (2040) With Project Conditions.

After thorough examination of the project site plan, RK has concluded that the WB-67 truck turning templates illustrated on the plan showcase satisfactory truck turning capabilities both within the site and in external areas. This comprehensive review ensures that the design adequately accommodates the maneuverability requirements of WB-67 trucks, promoting efficient truck movements throughout the site.

11.10 Vehicle Miles Traveled (VMT) Analysis Summary

The Project meets the Step 2: Low VMT Area screening criteria. As such, the project may be presumed to have a less than significant impact on VMT and no additional VMT analysis is required.

Appendices

Appendix A

Approved Scope of Work

Recommended Acceptance: Justin N. Schlaefli 5/15/23

Project Scoping Form

This scoping form shall be submitted to the City of Hesperia to assist in identifying infrastructure improvements that may be required to support traffic from the proposed project.

Project Identification:

Case Number:	
Related Cases:	
SP No.	
EIR No.	
GPA No.	
CZ No.	
Project Name:	Cargo Solution Express Warehouse Project
Project Address:	SEC Corner of Three Flags Avenue and Poplar Street, Hesperia, CA.
Project Opening Year:	2025
Project Description:	One (1) 74,924 S.F. Warehouse Building
	One Truck Stop Facility with Eight (8) Vehicle Fueling Positions.

	Consultant:	**Developer:**
Name:	Justin Tucker, P.E.	Cargo Solution Express Inc.
Address:	1401 Dove Street, Suite 540	14587 & 14589 Valley Boulevard
	Newport Beach, CA 92660	Fontana, CA 92335
Telephone:	(949) 474-0809	(909) 350-1644
Fax/Email:	jt@rkengineer.com	

Trip Generation Information:

Trip Generation Data Source: ITE Trip Generation Manual, 11th Edition, 2017
South Coast Air Quality Management District (SCAMD)

Current General Plan Land Use: CIBP - Com/Ind Business Park

Proposed General Plan Land Use: CIBP - Com/Ind Business Park

Current Zoning: CIBP - Com/Ind Business Park

Proposed Zoning: CIBP - Com/Ind Business Park

	Existing Trip Generation			Proposed Trip Generation		
	In	Out	Total	In	Out	Total
AM Trips	- -	- -	- -	177	176	353
PM Trips	- -	- -	- -	201	184	385

Please See Table 1 in attached scope of work for detailed project trip generation.

Trip Internalization: ☐ Yes ☑ No (_____% Trip Discount)

Pass-By Allowance: ☐ Yes ☑ No (_____% Trip Discount)

Potential Screening Checks

Is your project screened from specific analyses (see Page 11 of the guidelines related to LOS assessment and Pages 24-26).

Is the project screened from LOS assessment? ☐ Yes ☑ No

LOS screening justification (see Page 11 of the guidelines): _____

Is the project screened from VMT assessment? ☐ Yes ☑ No

VMT screening justification (see Pages 24-26 of the guidelines): _____

Level of Service Scoping

- Proposed Trip Distribution (Attach Graphic for Detailed Distribution): Please Exhibits C-1, C-2, D-1, and D-2 for project trip distribution classified by passenger vehicle and Truck vehicle types.

North	South	East	West
- -%	- -%	- -%	- -%

- Attach list of Approved and Pending Projects that need to be considered (provided by the City Traffic Engineer and adjacent agencies)
- Attach list of study intersections/roadway segments
- Attach site plan
- Note other specific items to be addressed:
  - Site access
  - On-site circulation
  - Parking
  - Consistency with Plans supporting Bikes/Peds/Transit
  - Other _____
- Date of Traffic Counts _____
- Attach proposed analysis scenarios (years plus proposed forecasting approach)
- Attach proposed phasing approach (if the project is phased)

VMT Scoping

For projects that are not screened, identify the following:

- Travel Demand Forecasting Model Used _____
- Attach SBCTA Screening VMT Assessment output or describe why it is not appropriate for use
- Attach proposed Model Land Use Inputs and Assumed Conversion Factors (attach)

CARGO SOLUTION EXPRESS WAREHOUSE PROJECT
Traffic Impact Study
Scoping Agreement

April 28, 2023

The following provides information on the proposed project, summarizes the analysis scope, parameters, and assumptions for review and approval, and includes requests for information on items related to the study.

A. Project Description: The proposed Cargo Solution Express Warehouse project is located at the southeast corner of Three Flags Avenue and Poplar Street in the City of Hesperia, CA. The 2.303-acre site is currently vacant.

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

- One (1) warehousing building totaling 74,924 square feet (SF); and
- One truck stop facility providing eight (8) vehicle fueling positions.

Access to the project is proposed via four (4) full-access unsignalized driveways located along Poplar Street.

Exhibit A shows the location map of the proposed project. Exhibit B shows the proposed site plan.

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

B. Project Trip Generation: Trip generation represents the amount of traffic that is attracted and produced by a development. Trip generation is typically estimated based on the trip generation rates from the latest *Institute of Transportation Engineers (ITE) Trip Generation Manual.* The 2021 11th Edition ITE Manual has been utilized for this scoping agreement. This publication provides a comprehensive evaluation of trip generation rates for a variety of land uses.

The project is proposing to construct a 74,927 SF warehouse building and a truck stop facility with eight (8) vehicle fueling positions. As such, ITE land Use 150: Warehousing and ITE land use 950: Truck Stop trips rates are the most appropriate for these land uses.

ITE land use 150: Warehousing trip rates contain the following split percentages of passenger vehicles and trucks:

- AM Peak Hour – (88.2% passenger cars & 11.8 % trucks)
- PM Peak Hour – (83.3% passenger cars & 16.7 trucks)
- Weekday Daily – (64.9% passenger cars & 35.1% trucks)

Moreover, these truck percentages were further broken down by axle type per the following South Coast Air Quality Management District (SCAQMD) recommended truck mix for "Without Cold Storage" uses: 2-Axle = 16.7%; 3-Axle = 20.7%; 4+-Axle = 62.6%.

Table 1 shows the ITE trip generation rates (11th Edition) utilized for the trip generation analysis of the proposed project land use as well as the project's forecast peak hour and daily traffic volumes.

As shown in Table 1, based on the ITE trip generation rates and truck mix recommendations from SCAQMD, the proposed project is forecast to generate approximately 1,920 actual vehicle daily trips with 125 actual vehicle trips in the AM peak hour and 136 actual vehicle trips in the PM peak hour (i.e. no adjustments for truck traffic). After the application of appropriate passenger car equivalent (PCE) factors, the proposed project is forecast to generate approximately 5,376 daily PCE trips with 353 PCE trips in the AM peak hour and 385 PCE trips in the PM peak hour.

C. Project Trip Distribution: RK has identified the *Transportation Impact Analysis I-15 Industrial Park Project City of Hesperia,* dated October 2022, prepared by Dudek, as one of the most recently performed traffic impact analysis studies. The I-15 Industrial Park project is located south of Main Street, north of Poplar Street, and adjacent to the proposed Cargo Solution Express Warehouse Project.

The proposed project shares similar land use types with the I-15 Industrial Park Project. As a result, the proposed project trip distribution has been developed to account for both passenger vehicles and trucks generated by the proposed project in a manner consistent with the trip distribution recommended in the Dudek study. The project trip distributions are presented in Exhibits C-1 and C-2 for passenger vehicles and Exhibits D-1 and D-2 for trucks.

D. Study Intersections: The analysis will evaluate the following seven (7) study intersections.

1. U.S. Route 395 (NS) at Main Street - Phelan Road (EW)
2. U.S. Route 395 (NS) at Poplar Street (EW)
3. Three Flags Avenue (NS) at Poplar Street (EW)

4. U.S. Route 395 (NS) at Three Flags Road - Three Flags Court (EW)
5. U.S. Route 395 (NS) at Joshua Street (EW)
6. I-15 Southbound Off-Ramp (NS) at Joshua Street (EW)
7. I-15 Southbound On-Ramp (NS) at Joshua Street (EW)

E. Analysis Scenarios: The analysis will evaluate traffic conditions for the following scenarios during the weekday AM (7:00 AM to 9:00 AM) and weekday PM (4:00 PM to 6:00 PM) peak hour conditions:

- Existing Conditions;
- Project Opening Year (2025) Without Project Conditions;
- Project Opening Year (2025) With Project Conditions;
- Horizon Year (2040) Without Project Conditions; and
- Horizon Year (2040) With Project Conditions.

F. Traffic Analysis Parameters: The traffic analysis will be conducted utilizing Vistro analysis software and the Highway Capacity Manual 7th Edition (HCM 7) methodology.

All parameters will adhere to values identified in the *LOS Analysis Procedures and Assumptions* section of the *City of Hesperia Traffic Impact Analysis Guidelines for Vehicle Miles Traveled (VMT) and Level of Service Assessment,* dated July 2020.

G. Existing Traffic Counts: As previously mentioned, the *Transportation Impact Analysis I-15 Industrial Park Project City of Hesperia,* dated October 2022, prepared by Dudek, is one of the most recently performed traffic impact analysis studies.

RK proposes to reference the 2021 peak hour traffic volumes displayed on Figure 17 of the Dudek report and apply a two percent (2%) annual growth rate for two (2) years to establish existing (2023) traffic volumes for the study intersections.

Figure 17 of the *Transportation Impact Analysis I-15 Industrial Park Project City of Hesperia,* dated October 2022, prepared by Dudek, has been included in this scope of work in Attachment A for review.

H. Forecast Project Opening Year (2025) Conditions Traffic Volumes: RK proposes to reference the Opening Year (2024) peak hour traffic volumes shown in Figure 21 of the Dudek report and apply a two percent (2%) annual growth rate for one (1) year to establish Project Opening Year (2025) Conditions Traffic Volumes.

The volumes shown in Figure 21 of the Dudek report were estimated by adding traffic volumes generated by approved and pending projects (Figure 20) in the study area to the existing traffic volumes shown in Figure 17.

Figures 20 and 21 of the Dudek report are also included in Attachment A.

I. Forecast Horizon Year (2040) Conditions Traffic Volumes: Figure 23 of the *Transportation Impact Analysis I-15 Industrial Park Project City of Hesperia,* dated October 2022, prepared by Dudek, illustrate Horizon Year (2040) traffic volumes.

Dudek provides the following methodology for developing the Horizon Year (2040) traffic volumes:

> "General Plan buildout traffic volumes were developed using the current SBTAM for the horizon year 2040. All model output volumes were provided by a County-approved modeler (Translutions), and post-processed and balanced for conservation of flow throughout the network…The existing intersection configurations… have been assumed to be preserved under the Horizon Year (2040) conditions. Adjustments to the peak hour factor and turning movement capacities have been made in per the City of Hesperia TIA Guidelines."

RK proposes to reference Figure 23 of the *Transportation Impact Analysis I-15 Industrial Park Project City of Hesperia,* dated October 2022, prepared by Dudek, based on the above methodology and to ensure traffic data consistency.

Figure 23 of the *Transportation Impact Analysis I-15 Industrial Park Project City of Hesperia,* dated October 2022, prepared by Dudek, has also been included in Attachment A for review.

J. VMT Analysis: A vehicle miles traveled (VMT) analysis has been previously prepared by *IBI Group* in the *Cargo Solution Express Truck Warehouse VMT/LOS Analysis Memorandum,* dated September 7, 2022. As such, the traffic analysis report will not include a detailed discussion on VMT but will reference the findings of the memorandum. The *Cargo Solution Express Truck Warehouse VMT/LOS Analysis Memorandum*, prepared by IBI Group, is included in Attachment B.

K. Site Access and Circulation Analysis: WB-67 truck turning templates will be generated at the proposed access driveways used for Truck entry/exit to determine the adequacy of curb radii, driveway throat widths, and street widths along Poplar Street and Mesa Linda Street.

A qualitative review of the on-site circulation will also be performed to determine potential conflicts of truck maneuvers throughout the site.

L. Intersection Queuing Analysis: RK will perform a queueing analysis utilizing the HCM 95th percentile queue evaluation methodology for all study intersections/movements. The study will evaluate any potential spillover from turn pockets into through lanes or into adjacent intersections.

M. Performance Criteria: Implementation Policy CI-2.1 of the City of Hesperia City-wide Congestion Management Plan (CMP) is for the City of Hesperia to strive and achieve and maintain a LOS D or better on all roadways and intersections: LOS E during peak hours shall be considered acceptable through freeway interchanges and major corridors (Bear Valley Road, Main Street/Phelan Road, Highway 395).

N. Mitigation Measures: If an intersection is operating deficiently, improvements shall be identified to improve intersection operations to acceptable levels of service (LOS D or better).

O. Request for Information: Please provide information on the following for use in the traffic study:

- Information on cumulative projects that need to be included in the traffic analysis (location, land use type(s), and land use quantities); and

- Information on future roadway and circulation system modifications/improvements that are planned within the study area and would potentially affect the analysis.

If you have any questions, or would like further review, please call us at (949) 474-0809.

Sincerely,

RK ENGINEERING GROUP, INC.



Justin Tucker, P.E.
Principal Engineer

Attachments

Approved by:

_____

City of Hesperia

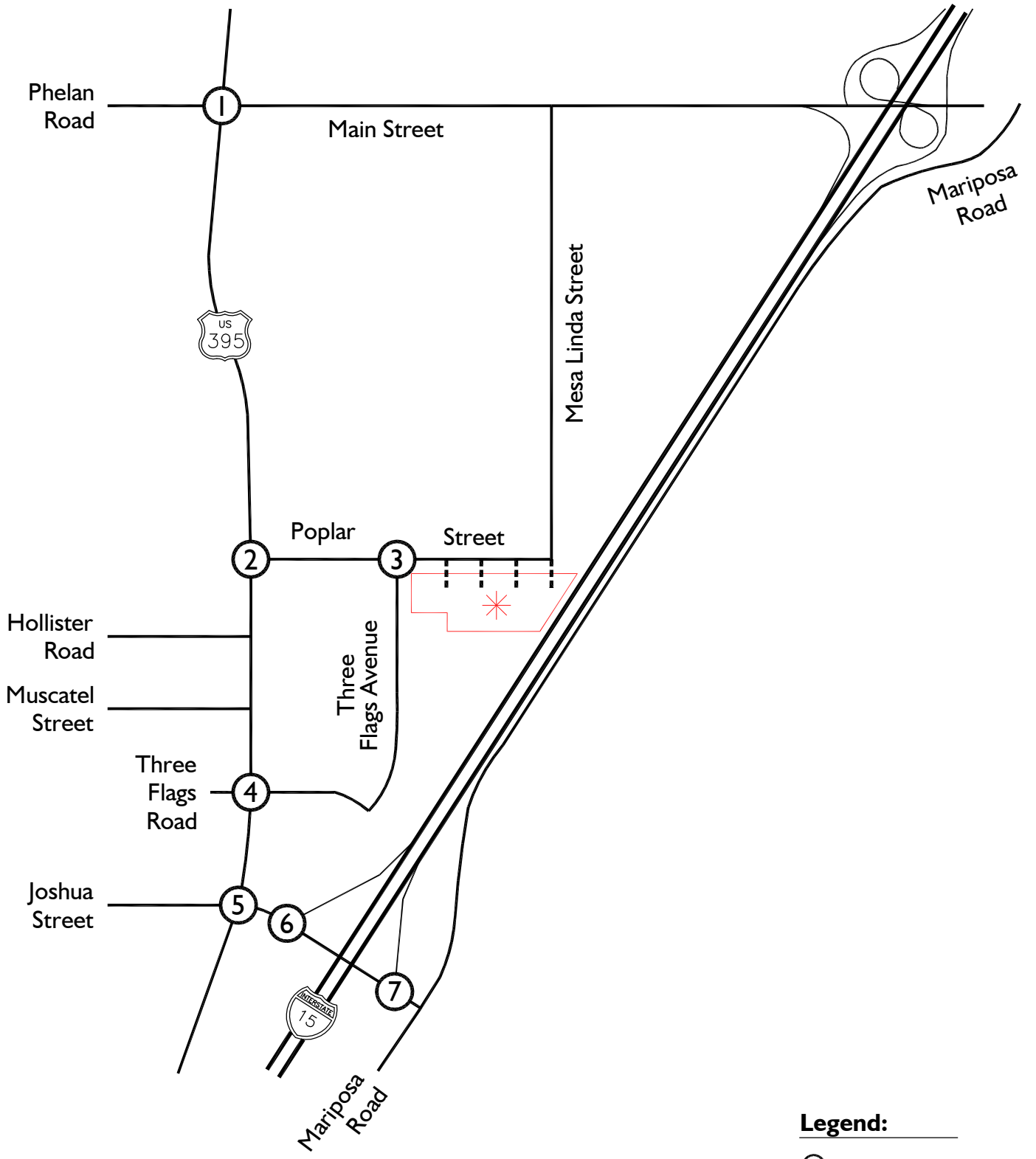
_____

Date

Attachments

Exhibit A

Location Map



Legend:

- 1 = Study Area Intersection
- ✳ = Project Site
- = Project Access Driveway
- = Project Site Boundary

N

Exhibit B

Site Plan

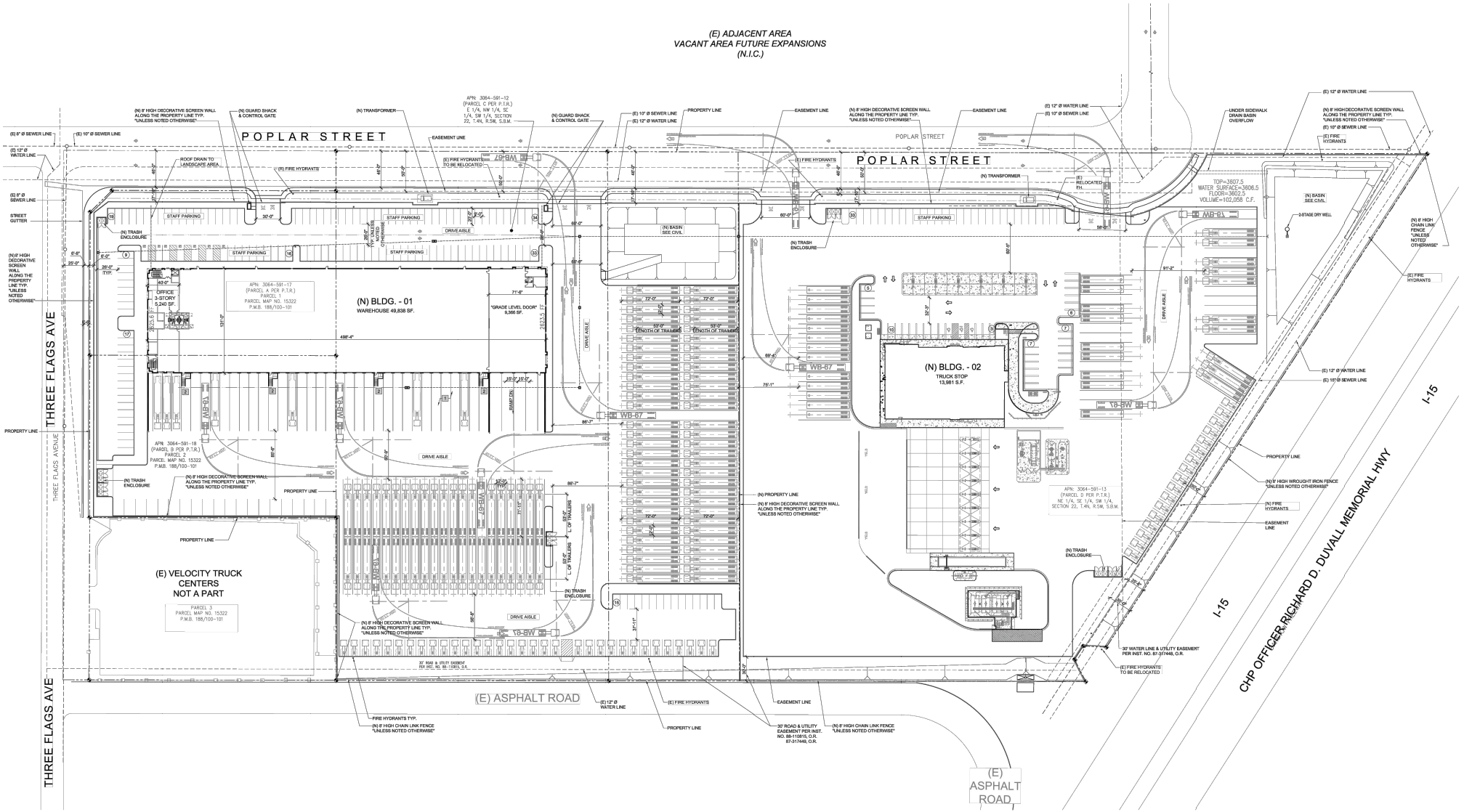
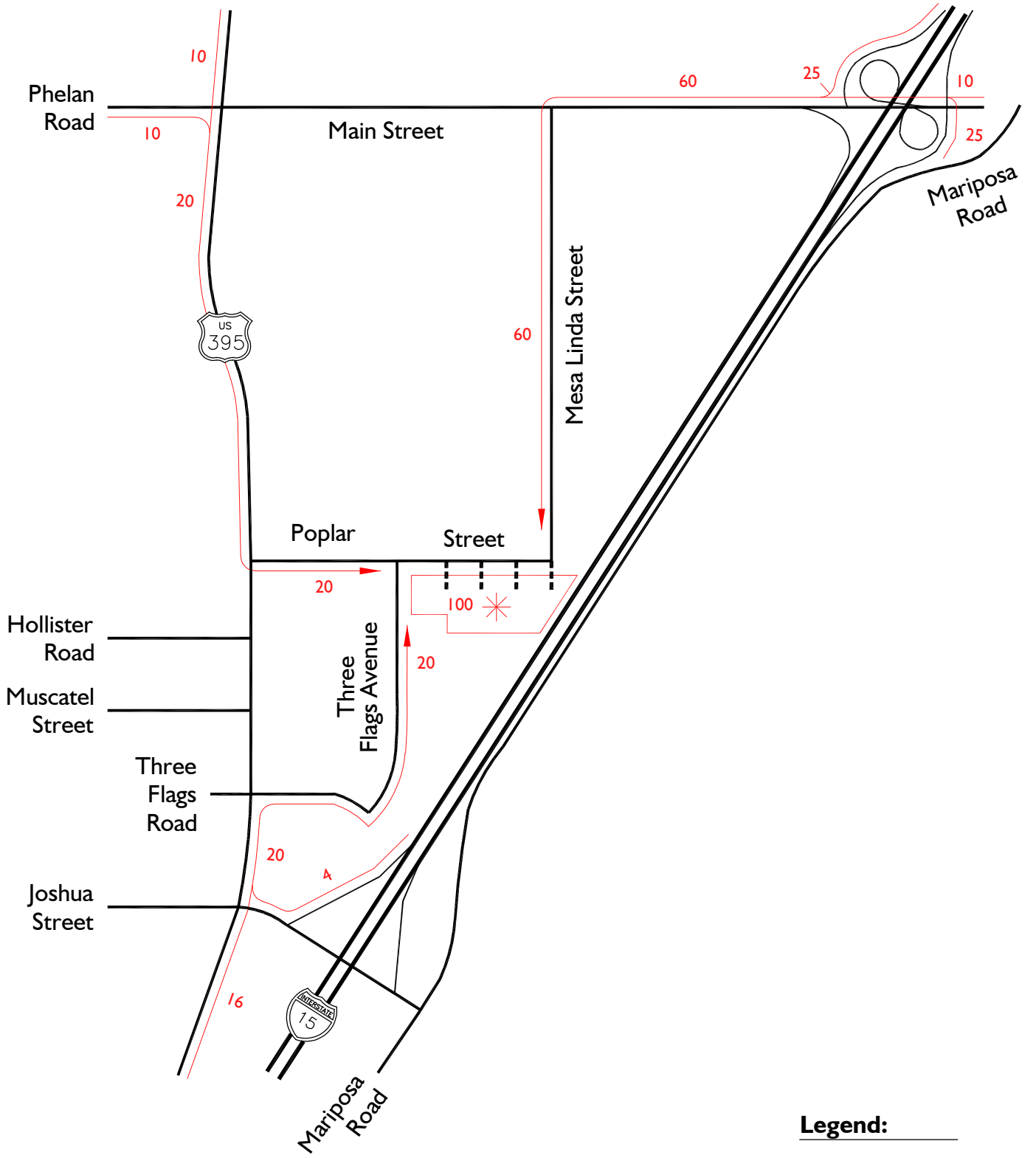


Exhibit C-1

Inbound Project Trip Distribution
Passenger Vehicles



Legend:

10 = Percent to Project

✳ = Project Site

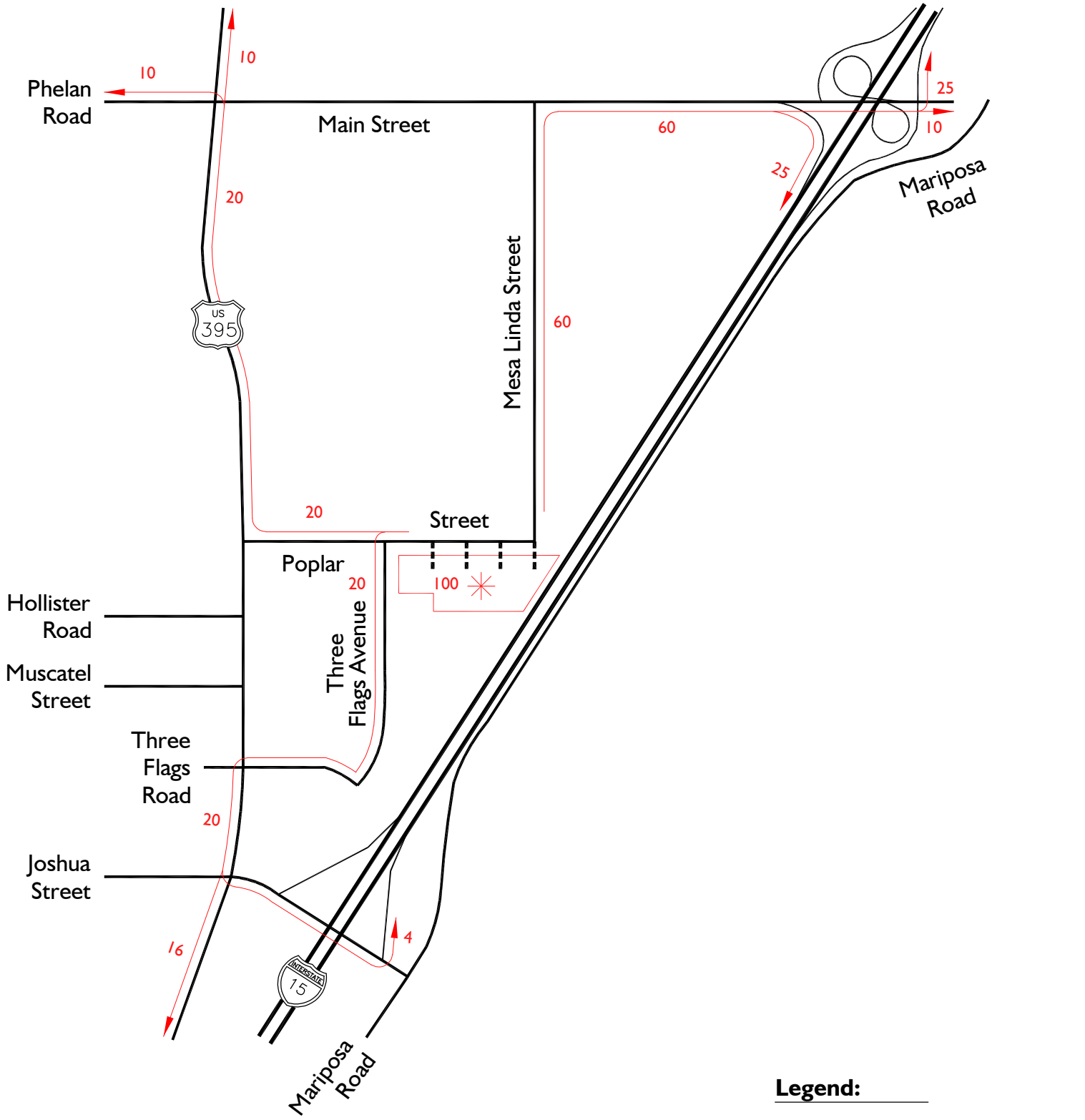
--- = Project Access Driveway

— = Project Site Boundary

N

Exhibit C-2

Outbound Project Trip Distribution
Passenger Vehicles



Legend:

10 = Percent from Project

✳ = Project Site

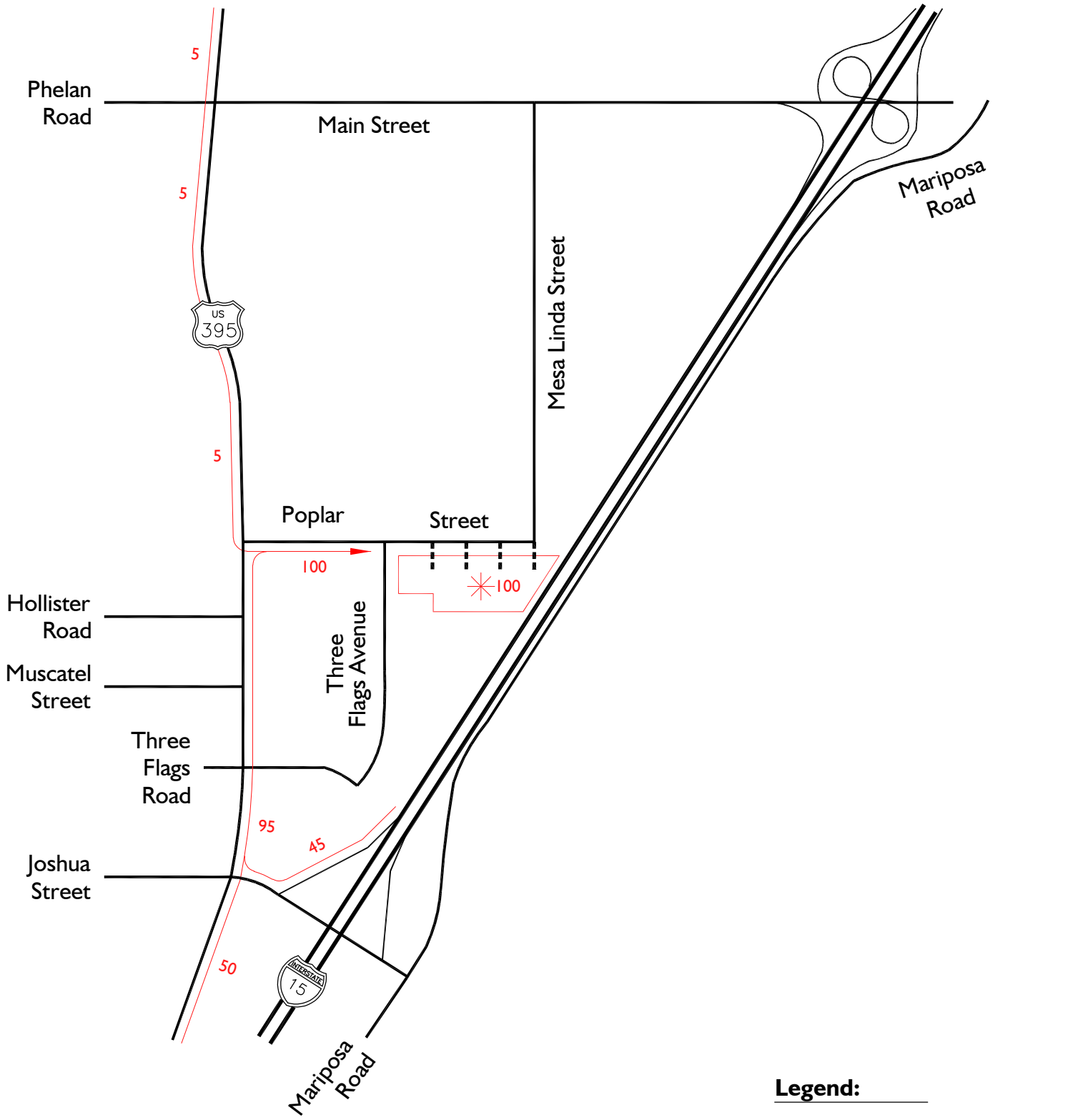
▬ = Project Access Driveway

— = Project Site Boundary

N

Exhibit D-1

Inbound Project Trip Distribution
Trucks



Legend:

10 = Percent to Project

✳ = Project Site

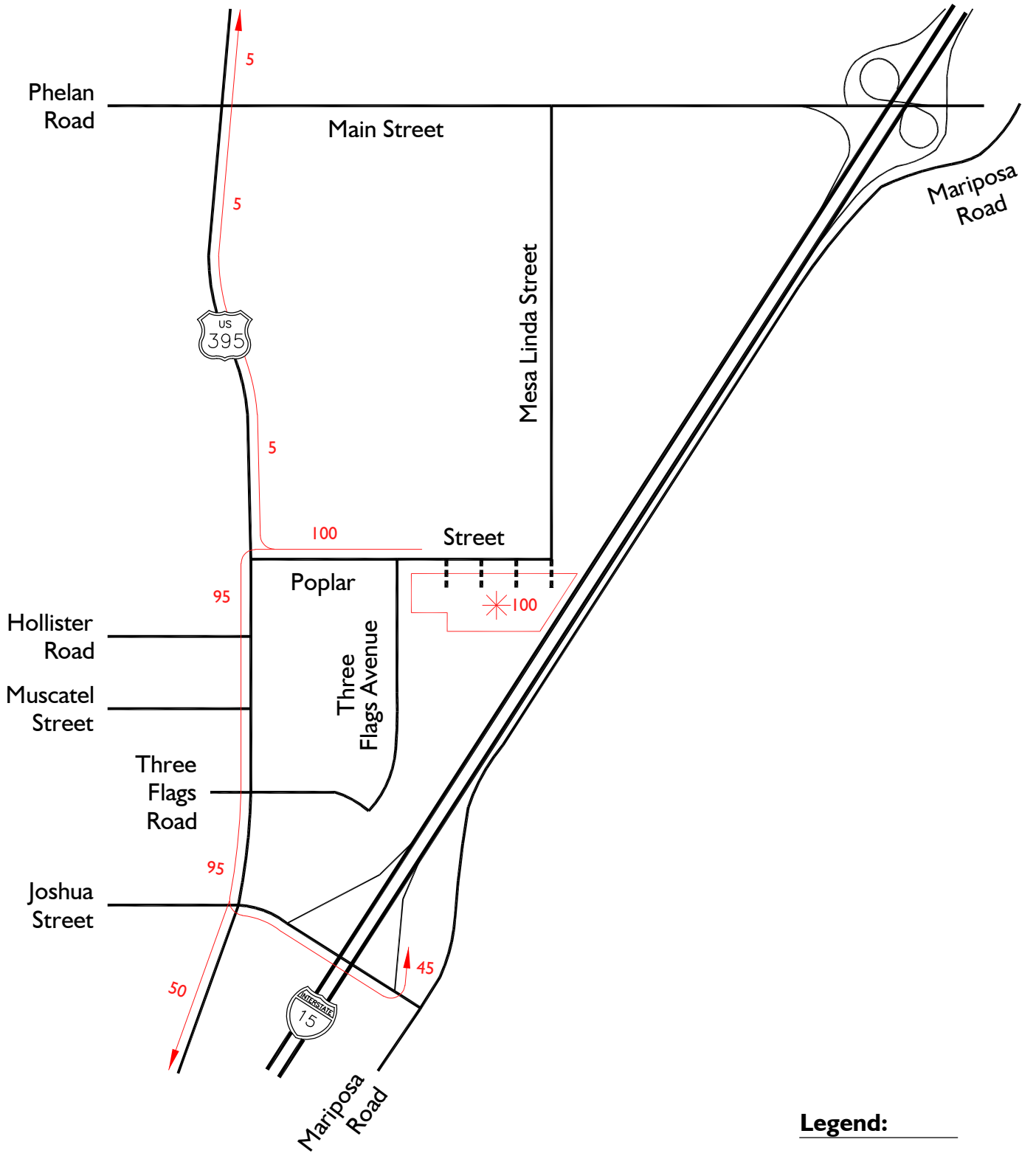
▬ = Project Access Driveway

— = Project Site Boundary

N

Exhibit D-2

Outbound Project Trip Distribution
Trucks



Legend:

10 = Percent from Project

✳ = Project Site

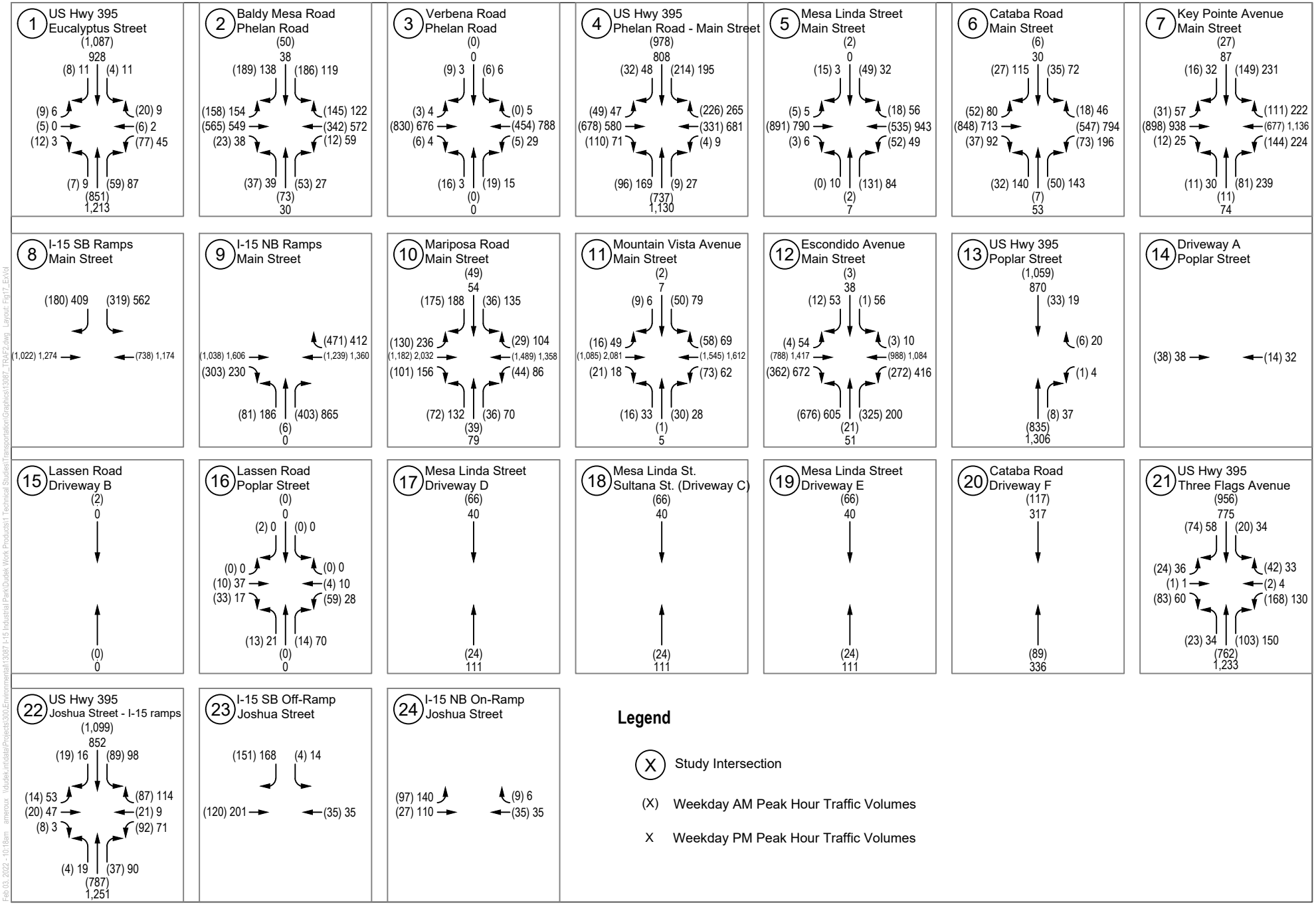
▬ ▬ = Project Access Driveway

— = Project Site Boundary

N

Attachment A

Excerpts from the *Transportation Impact Analysis*
I-15 Industrial Park Project City of Hesperia, Prepared by Dudek, October 2022



SOURCE: AIM 2020; Counts Unlimited 2019/2021

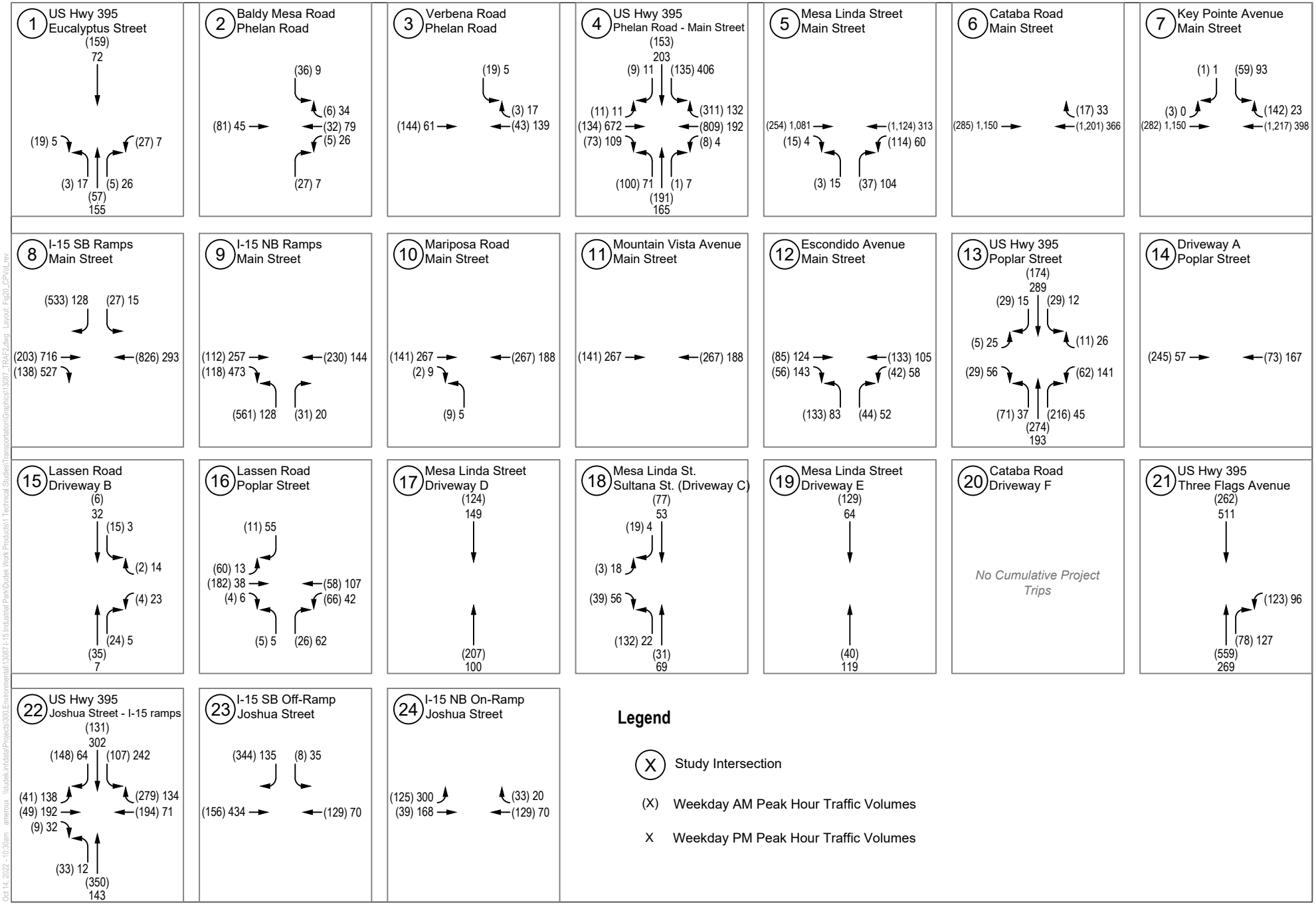
FIGURE 17

DUDEK NOT TO SCALE

Existing Peak Hour Traffic Volumes (PCE)

I-15 Industrial Park

Feb 03, 2022 - 10:18am amercux \\dudek.int\data\Projects\300_Environmental\13087_I-15 Industrial Park\Dudek Work Products\1 Technical Studies\Transportation\Graphics\13087_TRAF2.dwg Layout: Fig17_ExVol



SOURCE: City of Hesperia 2022

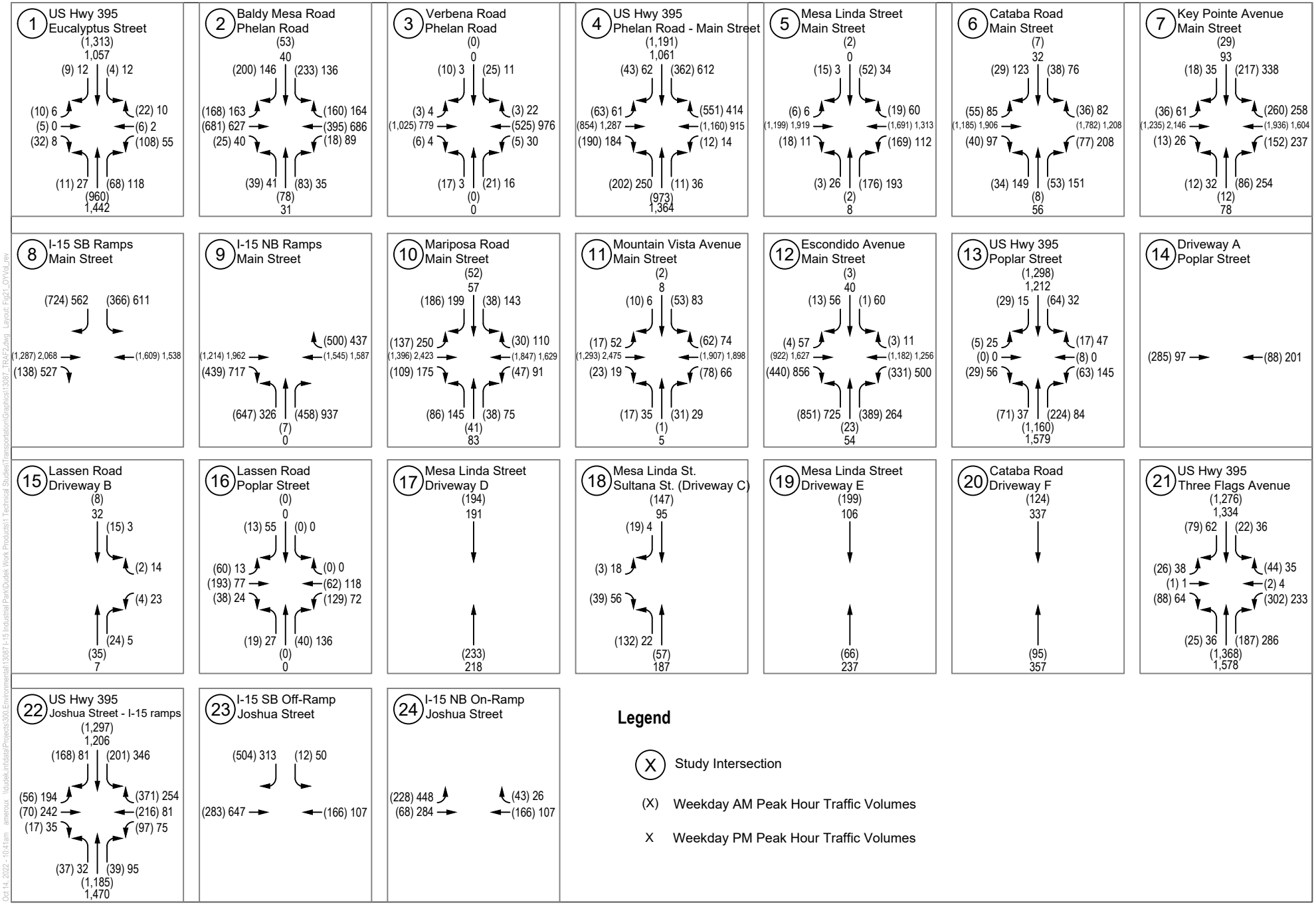
FIGURE 20

DUDEK NOT TO SCALE

Cumulative Projects Peak Hour Traffic Volumes (PCE)

I-15 Industrial Park

Oct 14, 2022 - 10:30am amercoux \\dudek.int\data\Projects\300.Environmental\13087 I-15 Industrial Park\Dudek Work Products\1 Technical Studies\Transportation\Graphics\13087_TRAFF2.dwg Layout: Fig20_CPVol_ex



SOURCE: AIM 2020; Counts Unlimited 2019/2021

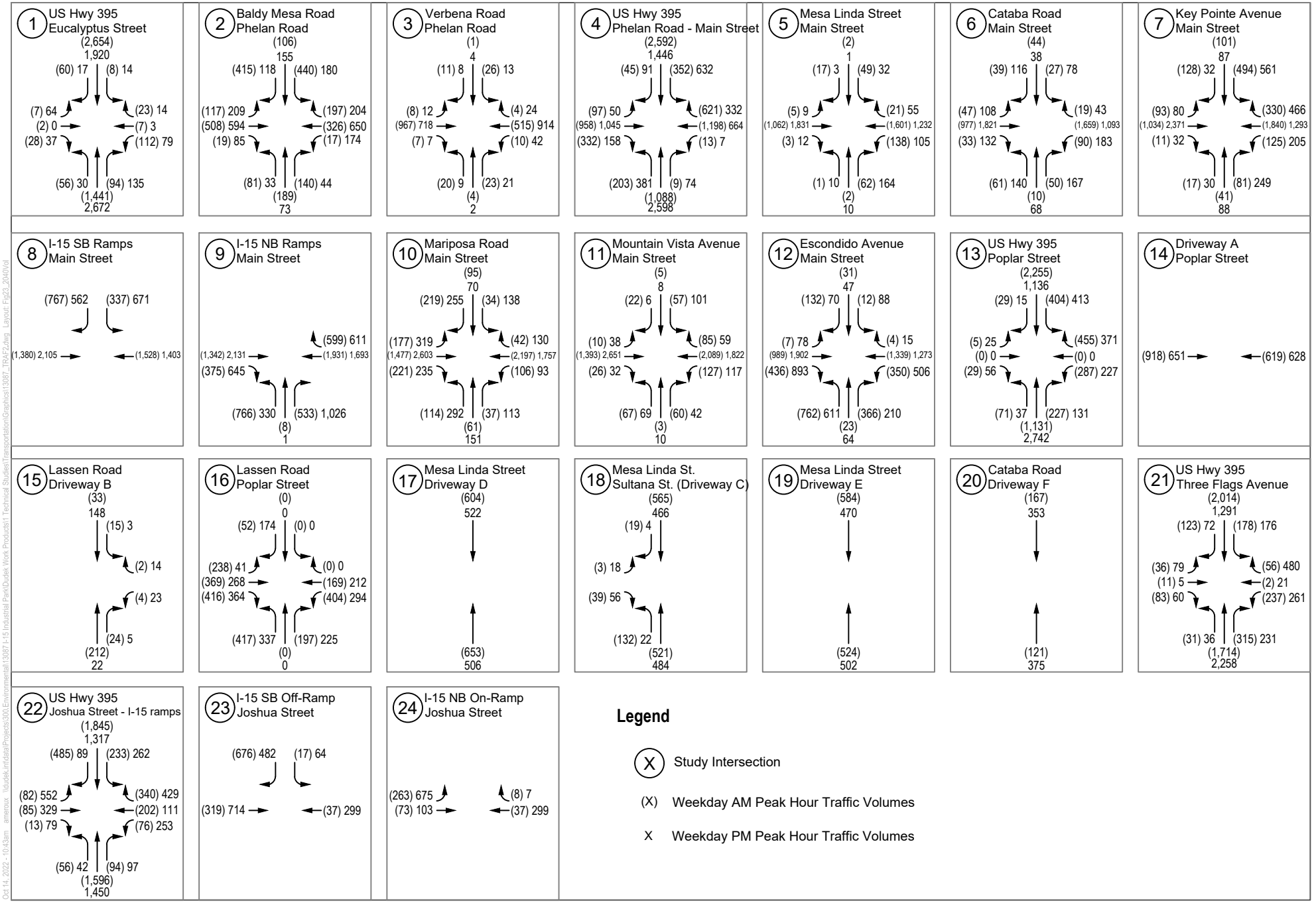
FIGURE 21

DUDEK NOT TO SCALE

Opening Year (2024) Peak Hour Traffic Volumes (PCE)

I-15 Industrial Park

Oct 14, 2022 - 10:41am amercux \\dudek.int\data\Projects\300.Environmental\13087 I-15 Industrial Park\Dudek Work Products\1 Technical Studies\Transportation\Graphics\13087_TRAF2.dwg Layout: Fig21_OYVol_rev



SOURCE: Translutions 2021

FIGURE 23

DUDEK

NOT TO SCALE

Horizon Year (2040) Peak Hour Traffic Volumes (PCE)

I-15 Industrial Park

Oct 14, 2022 - 10:43am ameroux \\dudek.int\data\Projects\300_Environmental\13087 I-15 Industrial Park\Dudek Work Products\1 Technical Studies\Transportation\Graphics\13087_TRAF2.dwg Layout: Fig23_2040(Vol

Attachment B

Cargo Solution Express Truck Warehouse VMT/LOS Analysis Memorandum, Prepared by IBI Group, September 2022

IBI GROUP
18401 Von Karman Avenue – Suite 300
Irvine CA 92612 USA
tel 949 833 5588 fax 949 833 5511
ibigroup.com

Memorandum

To/Attention	Victor Paitimusa, UltraSystems	**Date**	September 7, 2022
From	Mike Arizabal, IBI Group	**Project No**	1450574
cc			
Subject	Cargo Solutions Express Truck Warehouse VMT/LOS Analysis		

IBI Group has been retained to prepare a VMT/LOS Analysis for the proposed Cargo Solutions Express Truck Warehouse in the City of Hesperia, CA. The City of Hesperia defers to the San Bernardino County Transportation Authority's (SBCTA) *Recommended Traffic Impact Guidelines for Vehicle Miles Traveled and Level of Service Assessment* (February 2020). As such, the VMT analysis was prepared to be consistent with SBCTA's approach to VMT and LOS analysis. This technical memorandum includes a description of the project, as well a four-step analytical VMT process: Evaluate Land Use Type, Screen for Non-Significant Transportation Impact, Identify Significance Measure and Threshold, and VMT Analysis for Non-Screened Development. The memorandum also includes a focused traffic impact analysis.

PROJECT DESCRIPTION

The property, owned by Cargo Solutions Express Inc., is encompassed by Poplar Street in the north, Three Flags Avenue in the west, I-15 Freeway in the east, and E Asphalt Road to the south. An existing truck repair shop is located immediately southwest of the proposed site, with other miscellaneous trucking and industrial uses to the west and south. The project is proposing four (4) new driveways, all located along Poplar Street. No access is proposed on Three Flags Avenue.

The City's General Plan Land Use and zoning designation for the project site is General Manufacturing (I2) (City of Hesperia, 2020; City of Hesperia, 2010). The City's General Plan allows I2 designated areas to be developed with the heaviest types of manufacturing and industrial uses with approval of a site plan or conditional use permit. Manufacturing, warehousing, and fabrication uses are all appropriate for this designation (City of Hesperia, 2019, p. LU-49).

The project proposes to construct three (3) buildings for a total gross floor area of 150,623 square feet (sf):

- Building 1 – 60,044 sf warehouse and 15,720 sf office
- Building 2 – 49,915 sf warehouse and 15,720 sf office
- Building 3 – 9,224 sf drive-thru truck wash

BACKGROUND

The updated California Environmental Quality Act (CEQA) Guidelines, which were adopted in December 2018, went into effect on July 1, 2020. These updated guidelines require all lead agencies to adopt VMT as the new measure for identifying transportation impacts for land use projects. VMT has been adopted as the new measure, in place of the previous metric of automobile delay-based level of service (LOS). Further information on the updated guidelines is available in

the *Technical Advisory on Evaluating Transportation Impacts in CEQA* (December 2018), released by the Governor's Office of Planning and Research (OPR). The San Bernardino County Transportation Authority (SBCTA) also developed a *Recommended Traffic Impact Analysis (TIA) Guidelines for Vehicle Miles Traveled (VMT) and Level of Service (LOS) Assessment (SBCTA Guidelines)* in July 2019, which has been used to develop the VMT screening evaluation.

PROJECT SCREENING

For the purposes of SB 743 compliance, a VMT analysis should be conducted for land use projects and would apply to projects that have the potential to increase the average VMT per service population compared to the County's boundary. The SBCTA SB 743 Guidelines provides details on appropriate "screening thresholds" that can be used to identify when a proposed land use project is anticipated to result in a less-than significant impact without conducting a more detailed analysis.

Screening thresholds are broken into the following categories:

- Transit Priority Area (TPA) Screening
- Low VMT Area Screening
- Project Type Screening

A land use project need only meet one of the above screening thresholds to result in a less-than-significant impact.

Transit Priority Area (TPA) Screening

Projects located within a Transit Priority Area (TPA), or a half mile area around an existing "major transit stop"[1] or an existing stop along a "high quality transit corridor"[2], may be presumed to have a less than significant impact absent substantial evidence to the contrary. This presumption may not be appropriate if the project:

1. Has a Floor Area Ratio (FAR) of less than 0.75;
2. Includes more parking for use by residents, customers, or employees of the project than required by the City requirements;
3. Is inconsistent with the applicable Sustainable Communities Strategy (as determined by the lead agency, with input from the Metropolitan Planning Organization); or
4. Replaces affordable residential units with a smaller number of moderate or high-income residential units.

Based on the Screening Tool results presented in Attachment A, the Project site is not located within ½ mile of an existing major transit stop, or along a high-quality transit corridor.

The TPA screening criteria are not met.

---

[1] Pub. Resources Code, § 21064.3 - 'Major transit stop' means a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.

[2] Pub. Resources Code, § 21155 ("For purposes of this section, a high-quality transit corridor means a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours.").

Low VMT Area Screening

As noted in the SBCTA Guidelines, "Residential and office projects located within a low VMT-generating area may be presumed to have a less than significant impact absent substantial evidence to the contrary. In addition, other employment-related and mixed-use land use projects may quality for the use of screening if the project can reasonably be expected to generate VMT per resident, per worker, or per service population that is similar to the existing land uses in the low VMT area"[3]. The Screening Tool uses the sub-regional San Bernardino County Transportation Analysis Model (SBTAM) to measure VMT performance within San Bernardino County for individual traffic analysis zones (TAZ's) within each city.

The Project's physical location was inputted into the SBCTA Screening Tool to determine the VMT generated within the respective TAZ as compared to the jurisdictional average inclusive of a particular threshold (e.g., baseline project-generated VMT per service population below the County's baseline VMT per service population). As the project is strictly an industrial use space, the VMT metric "PA VMT Per Worker" was selected. The results are displayed in Attachment A, which indicate that the Project is located within a low VMT area.

The Low VMT Area screening criterion is met.

Low Project Type Screening

The SBCTA Guidelines identify that local serving retail projects with less than 50,000 square feet may be presumed to have a less than significant impact absent substantial evidence to the contrary. Local serving retail include the following:

- Supermarket
- Restaurant/café/bar
- Coffee/donut shop
- Dry cleaners
- Barbershop
- Hair/nails salon
- Walk-in medical clinic
- Urgent care
- Auto repair/tire shop
- Gyms/health club
- Dance/yoga/fitness/material arts studio

In addition to local serving retail, the following uses can also be presumed to have a less than significant impact absent substantial evidence to the contrary as their uses are local serving in nature[4]:

[3] SBCTA Guidelines, Page 26.
[4] SBCTA Guidelines, Page 27.

- Local-serving K-12 schools
- Local parks
- Day care centers
- Local-serving gas stations
- Local-serving banks
- Local-serving hotels (e.g., non-destination hotels)
- Student housing projects on or adjacent to college campuses
- Local-serving assembly uses (places of worship, community organizations)
- Community institutions (Public libraries, fire stations, local government)
- Local serving community colleges that are consistent with the assumptions noted in the RTP/SCS
- Affordable or supportive housing
- Assisted living facilities
- Senior housing (as defined by HUD)
- Projects generating less than 110 daily vehicle trips[5]
    - This generally corresponds to the following "typical" development potentials:
        - 11 single family housing units
        - 16 multifamily, condominiums, or townhouse housing units
        - 10,000 sf of office
        - 15,000 sf of light industrial[6]
        - 63,000 sf of warehousing
        - 79,000 sf of high cube transload and short-term storage warehouse

The Low Project Type screening criteria are not met.

[5] 2 This threshold ties directly to the OPR technical advisory and notes that CEQA provides a categorical exemption for existing facilities, including additions to existing structures of up to 10,000 square feet, so long as the project is in an area where public infrastructure is available to allow for maximum planned development and the project is not in an environmentally sensitive area. (CEQA Guidelines, § 15301, subd. (e)(2).) Typical project types for which trip generation increases relatively linearly with building footprint (i.e., general office building, single tenant office building, office park, and business park) generate or attract an additional 110-124 trips per 10,000 square feet. Therefore, absent substantial evidence otherwise, it is reasonable to conclude that the addition of 110 or fewer trips could be considered not to lead to a significant impact.

[6] Threshold may be higher depending on the tenant and the use of the site. This number was estimated using rates from ITE's Trip Generation Manual.

VMT Assessment for Non-Screened Development

Since the proposed project was screened through one of the steps above (Low VMT Area Screening), a VMT analysis is not needed, and the project is not assumed to have a significant VMT impact.

Traffic Analysis

Per SBCTA Guidelines, a traffic analysis is required when local criteria and thresholds indicate they are necessary. However, the traffic analysis must be prepared to satisfy CMP requirements, except as noted below, when a proposed change in land use, development project, or at local discretion, a group of projects are forecast to equal or exceed the CMP threshold of 250 two-way peak hour trips generated, based on trip generation rates published for the applicable use or uses in the Institute of Transportation Engineers' Trip Generation or other CMA-approved data source. Pass-by trips shall not be considered in the threshold determination. However, industrial, warehousing and truck projects shall convert trucks to PCE's (or appropriately adjust the capacity assessment to reflect the increase in heavy vehicles) before applying the threshold. The closest CMP facility is Phelan Road-Main Street, located three-quarters of a mile north of the project site.

For State Highways, any project expected to generate 100 to 250 peak hour trips and is anticipated to add at least 50 peak hour trips to a State facility (i.e., I-15) would be required to prepare a traffic analysis for Caltrans review.

Table 1 below summarizes the trip generation for the proposed project, with trip rates referenced from the Institute of Transportation Engineers' *Trip Generation Manual* (11th Edition, 2021), vehicle mix from the industry-approved City of Fontana/County of San Bernardino *Truck Trip Generation Study* (Heavy Industrial), and passenger car-equivalent (PCE) factors obtained from SBCTA Guidelines.

Table1: Project Trip Generation

	Unit	ADT	A.M. Peak Hour			P.M. Peak Hour		
			In	Out	Total	In	Out	Total
Trip Rates[1] (Land Use Code)								
Warehousing (150)	TSF	1.71	0.13	0.04	0.17	0.05	0.13	0.18
Project Trip Generation	**Size**							
Cargo Express Solutions Warehouse	150.623	258	20	6	26	8	20	27
Total Project Trip Generation (PCEs)[2]		***401***	***31***	***9***	***40***	***12***	***31***	***42***

Notes: TSF - thousand square feet; DU - dwelling unit; ADT - average daily traffic

[1]Trip rates referenced from the Institute of Transportation Engineers (ITE) Trip Generation, 11th Edition (2021).

[2]PCEs = passenger car equivalents: vehicle mix obtained from City of Fontana Truck Trip Generation Study for Industrial uses:

Total trip generation = 61.2% passenger vehicles, 6.1% 2-axle trucks, 12.7% 3 axle trucks, and 19.9 4+axle trucks

PCEs: 2-axle = 1.5, 3-axle = 2.0, 4+axle = 3.0

Based on the trip generation in Table 1, the proposed project would not exceed any of the peak hour trip thresholds noted above (250 two-way peak hour trips for CMP facilities or 100 to 250 peak hour trips for State Highways). Therefore, a traffic analysis would not be required for the proposed project.

On-Site Circulation

The site plan, shown in Attachment B, was reviewed to determine the adequacy of all project driveways, to identify any issues related to on-site circulation, and to identify any safety concerns.

Four project access driveways are proposed as part of the project, all located along Poplar Street east of Three Flags Avenue. The two driveways closest to Three Flags Avenue are dedicated for employee and automobile access. The remaining two driveways are dedicated for truck movements. Turning templates are provided for the WB-67 design vehicle (semi-trucks with a 53-foot trailer). Trucks turning into and out of the two eastern project driveways, as well as negiotiating through the site and into/out of parking stalls/bays was determined to be adequate based on all possible movements.

Parking

A parking analysis to determine off-street minimum parking requirements was conducted using rates from the City of Hesperia Municipal Code 16.20.080 Parking Requirements and is shown below.

LAND USE/ REQUIREMENT	PARKING RATE	BLDG. SIZE/ RATE	REQUIRED	PROVIDED
BUILDING - 01 WAREHOUSE (61,223 S.F.)	20 SPACE FOR THE FIRST 10,000 S.F.	10,000 S.F. (20 SPACE)	41	209
	0.4/1000 FOR AREA AFTER 10,000	50,678 S.F. (21 SPACE)		
OFFICE	1 SPACE / 200 S.F.	15,720 S.F.	79	
		TOTAL PARKING REQ'D. FOR BLDG. 01	***120***	
BUILDING - 02 WAREHOUSE (49,915 S.F.)	20 SPACE FOR THE FIRST 10,000 S.F.	10,000 S.F. (20 SPACE)	38	118
	0.4/1000 FOR AREA AFTER 10,000	39,915 S.F. (16 SPACE)		
OFFICE	1 SPACE / 200 S.F.	15,720 S.F.	79	
		TOTAL PARKING REQ'D. FOR BLDG. 02	***115***	
BUILDING - 03 WAREHOUSE (9,224 S.F.)	20 SPACE FOR THE FIRST 10,000 S.F.	10,000 S.F. (20 SPACE)	***20***	27

TOTAL OVERALL PARKING REQUIRED: ***255 SPACES***
TOTAL PARKING PROVIDED: STANDARD PARKING ***354 SPACES***
INCLUDING H/C PARKING 12 SPACES

As shown above, the number of parking spaces proposed is higher than the minimum number of spaces required per City Code.

Conclusion

The SBCTA SB 743 Guidelines provides details on appropriate “screening thresholds” that can be used to identify when a proposed land use project is anticipated to result in a less-than significant impact without conducting a more detailed analysis. The project was screened through the following categories:

- Transit Priority Area (TPA) Screening
- Low VMT Area Screening
- Project Type Screening

A land use project need only meet one of the above screening thresholds to result in a less-than-significant impact. **The project meets the criteria for the Low VMT Area Screening and therefore is considered to have a less-than-significant impact to VMT.**

Per SBCTA Guidelines, a traffic analysis is required when local criteria and thresholds indicate they are necessary. These thresholds include 250 two-way peak hour trips on CMP facilities or 100-200 two-way peak hour trips on State facilities. The project is forecast to generate approximately 40 AM peak hour trips and 42 PM peak hour trips. **As such, the project does not meet the criteria for the preparation of a traffic analysis and is considered to have a less-than-significant impact to LOS.**

The site plan was reviewed to determine the adequacy of the project driveways and internal driveways to accommodate movements from automobiles and trucks. No issues were identified. The proposed parking provision was compared to the minimum parking requirements and has been determined that the project will exceed the minimum parking requirement.

If you have any questions or comments, please do not hesitate to email me at mike.arizabal@ibigroup.com.

Thank you,



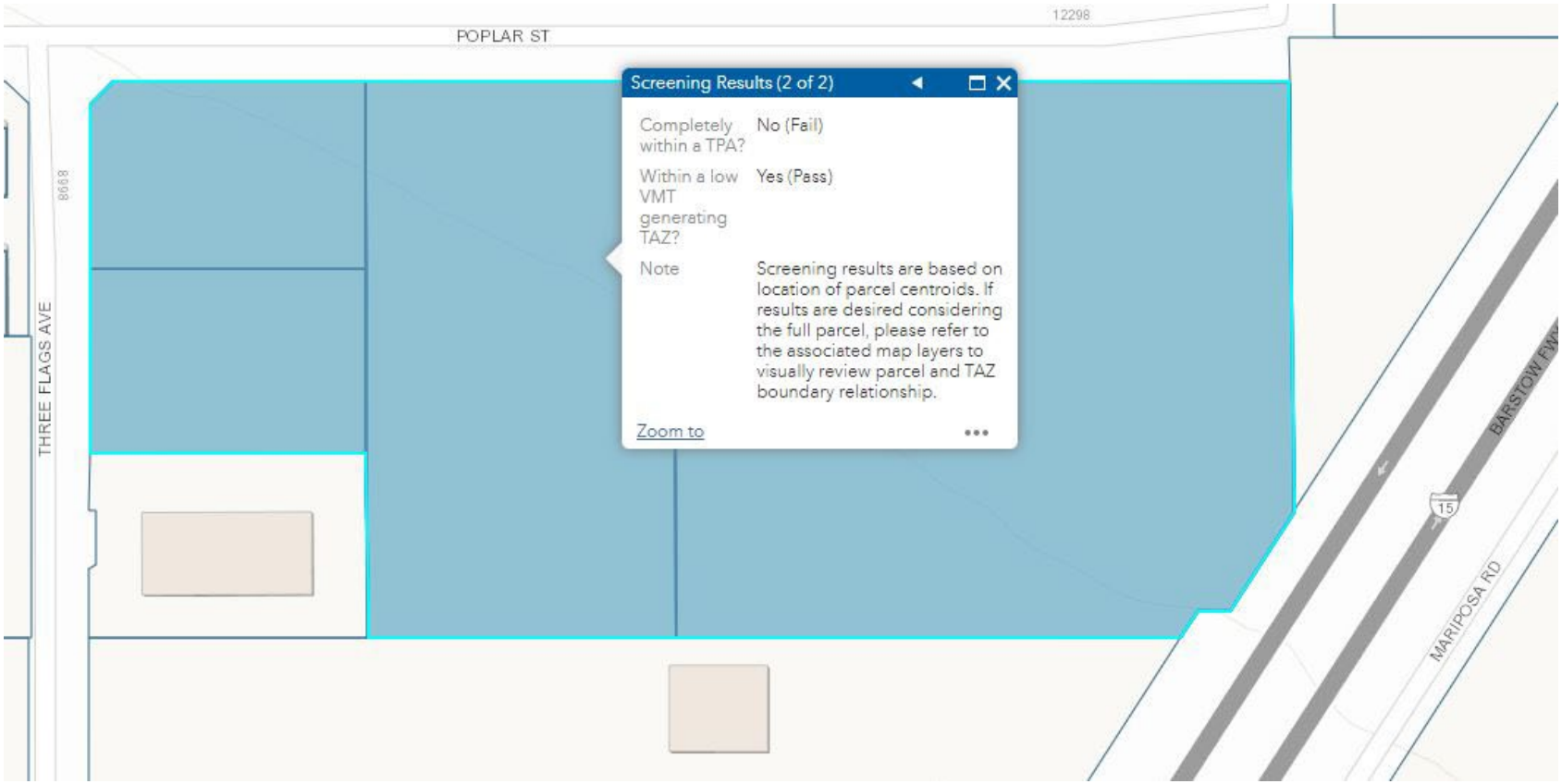
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ATTACHMENT A

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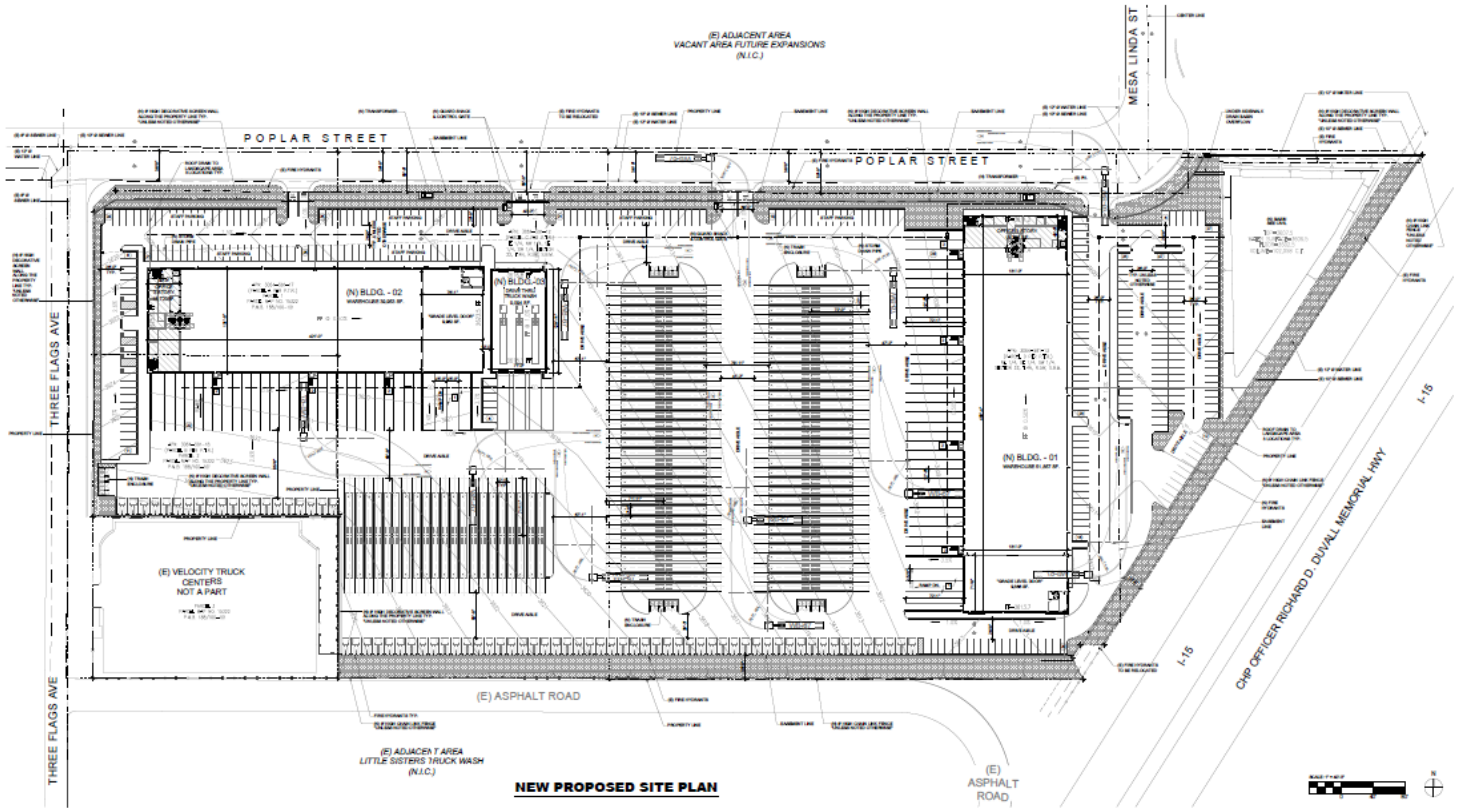
SBCTA VMT Screening Tool



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Attachment B

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LEGAL DESCRIPTION

KEY NOTES

TOPO KEY NOTES

BUILDINGS FLOOR AREA PROPOSED

PARKING SUMMARY

SITE PLAN LEGEND

BUILDING INFORMATION

VICINITY MAP



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AS1

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Appendix B

Detailed CA MUTCD

Traffic Signal Warrant

Analysis Worksheets

RK19177.5
JN:1219-2023-03

Signal Warrants Report For Intersection 2: U.S. Route 395 (NS) at Poplar Street (EW)

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	E
1	893	957	7
2	866	928	7
3	848	909	7
4	795	852	6
5	705	756	6
6	697	746	5
7	688	737	5
8	625	670	5
9	616	660	5
10	607	651	5
11	527	565	4
12	491	526	4
13	482	517	4
14	357	383	3
15	357	383	3
16	250	268	2
17	143	153	1
18	143	153	1
19	80	86	1
20	45	48	0
21	27	29	0
22	9	10	0
23	9	10	0
24	9	10	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	1850	2	7	No	No	No	No	No	No	No	No	No	No
2	2	1794	2	7	No	No	No	No	No	No	No	No	No	No
3	2	1757	2	7	No	No	No	No	No	No	No	No	No	No
4	2	1647	2	6	No	No	No	No	No	No	No	No	No	No
5	2	1461	2	6	No	No	No	No	No	No	No	No	No	No
6	2	1443	2	5	No	No	No	No	No	No	No	No	No	No
7	2	1425	2	5	No	No	No	No	No	No	No	No	No	No
8	2	1295	2	5	No	No	No	No	No	No	No	No	No	No
9	2	1276	2	5	No	No	No	No	No	No	No	No	No	No
10	2	1258	2	5	No	No	No	No	No	No	No	No	No	No
11	2	1092	2	4	No	No	No	No	No	No	No	No	No	No
12	2	1017	2	4	No	No	No	No	No	No	No	No	No	No
13	2	999	2	4	No	No	No	No	No	No	No	No	No	No
14	2	740	2	3	No	No	No	No	No	No	No	No	No	No
15	2	740	2	3	No	No	No	No	No	No	No	No	No	No
16	2	518	2	2	No	No	No	No	No	No	No	No	No	No
17	2	296	2	1	No	No	No	No	No	No	No	No	No	No
18	2	296	2	1	No	No	No	No	No	No	No	No	No	No
19	2	166	2	1	No	No	No	No	No	No	No	No	No	No
20	2	93	2	0	No	No	No	No	No	No	No	No	No	No
21	2	56	2	0	No	No	No	No	No	No	No	No	No	No
22	2	19	2	0	No	No	No	No	No	No	No	No	No	No
23	2	19	2	0	No	No	No	No	No	No	No	No	No	No
24	2	19	2	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	E
Total Stopped Delay Per Vehicle on Minor Approach (s)	16.2
Number of Lanes on Minor Street Approach	2
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:01
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	7
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	1857
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 3: Three Flags Avenue (NS) at Poplar Street (EW)

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	67	46	29
2	65	45	28
3	64	44	28
4	60	41	26
5	53	36	23
6	52	36	23
7	52	35	22
8	47	32	20
9	46	32	20
10	46	31	20
11	40	27	17
12	37	25	16
13	36	25	16
14	27	18	12
15	27	18	12
16	19	13	8
17	11	7	5
18	11	7	5
19	6	4	3
20	3	2	1
21	2	1	1
22	1	0	0
23	1	0	0
24	1	0	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	113	1	29	No	No	No	No	No	No	No	No	No	No
2	1	110	1	28	No	No	No	No	No	No	No	No	No	No
3	1	108	1	28	No	No	No	No	No	No	No	No	No	No
4	1	101	1	26	No	No	No	No	No	No	No	No	No	No
5	1	89	1	23	No	No	No	No	No	No	No	No	No	No
6	1	88	1	23	No	No	No	No	No	No	No	No	No	No
7	1	87	1	22	No	No	No	No	No	No	No	No	No	No
8	1	79	1	20	No	No	No	No	No	No	No	No	No	No
9	1	78	1	20	No	No	No	No	No	No	No	No	No	No
10	1	77	1	20	No	No	No	No	No	No	No	No	No	No
11	1	67	1	17	No	No	No	No	No	No	No	No	No	No
12	1	62	1	16	No	No	No	No	No	No	No	No	No	No
13	1	61	1	16	No	No	No	No	No	No	No	No	No	No
14	1	45	1	12	No	No	No	No	No	No	No	No	No	No
15	1	45	1	12	No	No	No	No	No	No	No	No	No	No
16	1	32	1	8	No	No	No	No	No	No	No	No	No	No
17	1	18	1	5	No	No	No	No	No	No	No	No	No	No
18	1	18	1	5	No	No	No	No	No	No	No	No	No	No
19	1	10	1	3	No	No	No	No	No	No	No	No	No	No
20	1	5	1	1	No	No	No	No	No	No	No	No	No	No
21	1	3	1	1	No	No	No	No	No	No	No	No	No	No
22	1	1	1	0	No	No	No	No	No	No	No	No	No	No
23	1	1	1	0	No	No	No	No	No	No	No	No	No	No
24	1	1	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	9.4
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:04
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	29
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	142
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 2: U.S. Route 395 (NS) at Poplar Street (EW)

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	E
1	1423	942	25
2	1380	914	24
3	1352	895	24
4	1266	838	22
5	1124	744	20
6	1110	735	20
7	1096	725	19
8	996	659	18
9	982	650	17
10	968	641	17
11	840	556	15
12	783	518	14
13	768	509	14
14	569	377	10
15	569	377	10
16	398	264	7
17	228	151	4
18	228	151	4
19	128	85	2
20	71	47	1
21	43	28	1
22	14	9	0
23	14	9	0
24	14	9	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	2365	2	25	No	No	No	No	No	No	No	No	No	No
2	2	2294	2	24	No	No	No	No	No	No	No	No	No	No
3	2	2247	2	24	No	No	No	No	No	No	No	No	No	No
4	2	2104	2	22	No	No	No	No	No	No	No	No	No	No
5	2	1868	2	20	No	No	No	No	No	No	No	No	No	No
6	2	1845	2	20	No	No	No	No	No	No	No	No	No	No
7	2	1821	2	19	No	No	No	No	No	No	No	No	No	No
8	2	1655	2	18	No	No	No	No	No	No	No	No	No	No
9	2	1632	2	17	No	No	No	No	No	No	No	No	No	No
10	2	1609	2	17	No	No	No	No	No	No	No	No	No	No
11	2	1396	2	15	No	No	No	No	No	No	No	No	No	No
12	2	1301	2	14	No	No	No	No	No	No	No	No	No	No
13	2	1277	2	14	No	No	No	No	No	No	No	No	No	No
14	2	946	2	10	No	No	No	No	No	No	No	No	No	No
15	2	946	2	10	No	No	No	No	No	No	No	No	No	No
16	2	662	2	7	No	No	No	No	No	No	No	No	No	No
17	2	379	2	4	No	No	No	No	No	No	No	No	No	No
18	2	379	2	4	No	No	No	No	No	No	No	No	No	No
19	2	213	2	2	No	No	No	No	No	No	No	No	No	No
20	2	118	2	1	No	No	No	No	No	No	No	No	No	No
21	2	71	2	1	No	No	No	No	No	No	No	No	No	No
22	2	23	2	0	No	No	No	No	No	No	No	No	No	No
23	2	23	2	0	No	No	No	No	No	No	No	No	No	No
24	2	23	2	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	E
Total Stopped Delay Per Vehicle on Minor Approach (s)	25
Number of Lanes on Minor Street Approach	2
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:10
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	25
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	2390
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 3: Three Flags Avenue (NS) at Poplar Street (EW)

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	41	57	96
2	40	55	93
3	39	54	91
4	36	51	85
5	32	45	76
6	32	44	75
7	32	44	74
8	29	40	67
9	28	39	66
10	28	39	65
11	24	34	57
12	23	31	53
13	22	31	52
14	16	23	38
15	16	23	38
16	11	16	27
17	7	9	15
18	7	9	15
19	4	5	9
20	2	3	5
21	1	2	3
22	0	1	1
23	0	1	1
24	0	1	1

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	98	1	96	No	No	No	No	No	No	No	No	No	No
2	1	95	1	93	No	No	No	No	No	No	No	No	No	No
3	1	93	1	91	No	No	No	No	No	No	No	No	No	No
4	1	87	1	85	No	No	No	No	No	No	No	No	No	No
5	1	77	1	76	No	No	No	No	No	No	No	No	No	No
6	1	76	1	75	No	No	No	No	No	No	No	No	No	No
7	1	76	1	74	No	No	No	No	No	No	No	No	No	No
8	1	69	1	67	No	No	No	No	No	No	No	No	No	No
9	1	67	1	66	No	No	No	No	No	No	No	No	No	No
10	1	67	1	65	No	No	No	No	No	No	No	No	No	No
11	1	58	1	57	No	No	No	No	No	No	No	No	No	No
12	1	54	1	53	No	No	No	No	No	No	No	No	No	No
13	1	53	1	52	No	No	No	No	No	No	No	No	No	No
14	1	39	1	38	No	No	No	No	No	No	No	No	No	No
15	1	39	1	38	No	No	No	No	No	No	No	No	No	No
16	1	27	1	27	No	No	No	No	No	No	No	No	No	No
17	1	16	1	15	No	No	No	No	No	No	No	No	No	No
18	1	16	1	15	No	No	No	No	No	No	No	No	No	No
19	1	9	1	9	No	No	No	No	No	No	No	No	No	No
20	1	5	1	5	No	No	No	No	No	No	No	No	No	No
21	1	3	1	3	No	No	No	No	No	No	No	No	No	No
22	1	1	1	1	No	No	No	No	No	No	No	No	No	No
23	1	1	1	1	No	No	No	No	No	No	No	No	No	No
24	1	1	1	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	9.2
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:14
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	96
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	194
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 2: U.S. Route 395 (NS) at Poplar Street (EW)

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	1815	1274	144	34
2	1761	1236	140	33
3	1724	1210	137	32
4	1615	1134	128	30
5	1434	1006	114	27
6	1416	994	112	27
7	1398	981	111	26
8	1271	892	101	24
9	1252	879	99	23
10	1234	866	98	23
11	1071	752	85	20
12	998	701	79	19
13	980	688	78	18
14	726	510	58	14
15	726	510	58	14
16	508	357	40	10
17	290	204	23	5
18	290	204	23	5
19	163	115	13	3
20	91	64	7	2
21	54	38	4	1
22	18	13	1	0
23	18	13	1	0
24	18	13	1	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	3089	2	144	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	3	2997	2	140	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	3	2934	2	137	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	3	2749	2	128	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	3	2440	2	114	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	3	2410	2	112	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7	3	2379	2	111	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
8	3	2163	2	101	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
9	3	2131	2	99	No	No	No	No	No	Yes	Yes	Yes	Yes	No
10	3	2100	2	98	No	No	No	No	No	Yes	Yes	Yes	Yes	No
11	3	1823	2	85	No	No	No	No	No	Yes	Yes	Yes	Yes	No
12	3	1699	2	79	No	No	No	No	No	No	Yes	Yes	No	No
13	3	1668	2	78	No	No	No	No	No	No	Yes	Yes	No	No
14	3	1236	2	58	No	No	No	No	No	No	No	Yes	No	No
15	3	1236	2	58	No	No	No	No	No	No	No	Yes	No	No
16	3	865	2	40	No	No	No	No	No	No	No	No	No	No
17	3	494	2	23	No	No	No	No	No	No	No	No	No	No
18	3	494	2	23	No	No	No	No	No	No	No	No	No	No
19	3	278	2	13	No	No	No	No	No	No	No	No	No	No
20	3	155	2	7	No	No	No	No	No	No	No	No	No	No
21	3	92	2	4	No	No	No	No	No	No	No	No	No	No
22	3	31	2	1	No	No	No	No	No	No	No	No	No	No
23	3	31	2	1	No	No	No	No	No	No	No	No	No	No
24	3	31	2	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	2	6	8	11	13	15	11	8

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	8275.3	139
Number of Lanes on Minor Street Approach	2	2
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	331:00	1:18
Delay Condition Met	Yes	No
Volume on Minor Street Approach During Same Hour	144	34
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	3267	3267
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 3: Three Flags Avenue (NS) at Poplar Street (EW)

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	N, S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	E	W	N	S
1	319	614	41	62
2	309	596	40	60
3	303	583	39	59
4	284	546	36	55
5	252	485	32	49
6	249	479	32	48
7	246	473	32	48
8	223	430	29	43
9	220	424	28	43
10	217	418	28	42
11	188	362	24	37
12	175	338	23	34
13	172	332	22	33
14	128	246	16	25
15	128	246	16	25
16	89	172	11	17
17	51	98	7	10
18	51	98	7	10
19	29	55	4	6
20	16	31	2	3
21	10	18	1	2
22	3	6	0	1
23	3	6	0	1
24	3	6	0	1

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	933	1	62	No	No	No	No	No	Yes	Yes	Yes	No	No
2	1	905	1	60	No	No	No	No	No	Yes	Yes	Yes	No	No
3	1	886	1	59	No	No	No	No	No	No	Yes	Yes	No	No
4	1	830	1	55	No	No	No	No	No	No	Yes	Yes	No	No
5	1	737	1	49	No	No	No	No	No	No	No	Yes	No	No
6	1	728	1	48	No	No	No	No	No	No	No	Yes	No	No
7	1	719	1	48	No	No	No	No	No	No	No	Yes	No	No
8	1	653	1	43	No	No	No	No	No	No	No	Yes	No	No
9	1	644	1	43	No	No	No	No	No	No	No	Yes	No	No
10	1	635	1	42	No	No	No	No	No	No	No	Yes	No	No
11	1	550	1	37	No	No	No	No	No	No	No	No	No	No
12	1	513	1	34	No	No	No	No	No	No	No	No	No	No
13	1	504	1	33	No	No	No	No	No	No	No	No	No	No
14	1	374	1	25	No	No	No	No	No	No	No	No	No	No
15	1	374	1	25	No	No	No	No	No	No	No	No	No	No
16	1	261	1	17	No	No	No	No	No	No	No	No	No	No
17	1	149	1	10	No	No	No	No	No	No	No	No	No	No
18	1	149	1	10	No	No	No	No	No	No	No	No	No	No
19	1	84	1	6	No	No	No	No	No	No	No	No	No	No
20	1	47	1	3	No	No	No	No	No	No	No	No	No	No
21	1	28	1	2	No	No	No	No	No	No	No	No	No	No
22	1	9	1	1	No	No	No	No	No	No	No	No	No	No
23	1	9	1	1	No	No	No	No	No	No	No	No	No	No
24	1	9	1	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	2	4	10	0	0

Warrant 3 Condition A

Orientation	N	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	9.9	80.9
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:06	1:23
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	41	62
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	1036	1036
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 2: U.S. Route 395 (NS) at Poplar Street (EW)

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	1821	1306	530	81
2	1766	1267	514	79
3	1730	1241	504	77
4	1621	1162	472	72
5	1439	1032	419	64
6	1420	1019	413	63
7	1402	1006	408	62
8	1275	914	371	57
9	1256	901	366	56
10	1238	888	360	55
11	1074	771	313	48
12	1002	718	292	45
13	983	705	286	44
14	728	522	212	32
15	728	522	212	32
16	510	366	148	23
17	291	209	85	13
18	291	209	85	13
19	164	118	48	7
20	91	65	27	4
21	55	39	16	2
22	18	13	5	1
23	18	13	5	1
24	18	13	5	1

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	3127	2	530	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	3	3033	2	514	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	3	2971	2	504	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	3	2783	2	472	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	3	2471	2	419	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	3	2439	2	413	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7	3	2408	2	408	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8	3	2189	2	371	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9	3	2157	2	366	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10	3	2126	2	360	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11	3	1845	2	313	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12	3	1720	2	292	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
13	3	1688	2	286	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
14	3	1250	2	212	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
15	3	1250	2	212	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
16	3	876	2	148	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	No
17	3	500	2	85	No	No	No	No	No	No	No	No	No	No
18	3	500	2	85	No	No	No	No	No	No	No	No	No	No
19	3	282	2	48	No	No	No	No	No	No	No	No	No	No
20	3	156	2	27	No	No	No	No	No	No	No	No	No	No
21	3	94	2	16	No	No	No	No	No	No	No	No	No	No
22	3	31	2	5	No	No	No	No	No	No	No	No	No	No
23	3	31	2	5	No	No	No	No	No	No	No	No	No	No
24	3	31	2	5	No	No	No	No	No	No	No	No	No	No
Hours Met					15	15	16	16	15	16	16	16	16	15

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	8273.1	405.5
Number of Lanes on Minor Street Approach	2	2
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	1217:59	9:07
Delay Condition Met	Yes	Yes
Volume on Minor Street Approach During Same Hour	530	81
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	3738	3738
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	Yes	No
Warrant Met for Intersection	**Yes**	

Signal Warrants Report For Intersection 3: Three Flags Avenue (NS) at Poplar Street (EW)

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	N, S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	E	W	N	S
1	388	268	153	167
2	376	260	148	162
3	369	255	145	159
4	345	239	136	149
5	307	212	121	132
6	303	209	119	130
7	299	206	118	129
8	272	188	107	117
9	268	185	106	115
10	264	182	104	114
11	229	158	90	99
12	213	147	84	92
13	210	145	83	90
14	155	107	61	67
15	155	107	61	67
16	109	75	43	47
17	62	43	24	27
18	62	43	24	27
19	35	24	14	15
20	19	13	8	8
21	12	8	5	5
22	4	3	2	2
23	4	3	2	2
24	4	3	2	2

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	656	1	167	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
2	1	636	1	162	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
3	1	624	1	159	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
4	1	584	1	149	No	Yes	Yes	Yes	No	No	Yes	Yes	No	No
5	1	519	1	132	No	Yes	Yes	Yes	No	No	No	Yes	No	No
6	1	512	1	130	No	Yes	Yes	Yes	No	No	No	Yes	No	No
7	1	505	1	129	No	Yes	Yes	Yes	No	No	No	Yes	No	No
8	1	460	1	117	No	No	Yes	Yes	No	No	No	Yes	No	No
9	1	453	1	115	No	No	Yes	Yes	No	No	No	Yes	No	No
10	1	446	1	114	No	No	Yes	Yes	No	No	No	Yes	No	No
11	1	387	1	99	No	No	No	Yes	No	No	No	No	No	No
12	1	360	1	92	No	No	No	Yes	No	No	No	No	No	No
13	1	355	1	90	No	No	No	Yes	No	No	No	No	No	No
14	1	262	1	67	No	No	No	No	No	No	No	No	No	No
15	1	262	1	67	No	No	No	No	No	No	No	No	No	No
16	1	184	1	47	No	No	No	No	No	No	No	No	No	No
17	1	105	1	27	No	No	No	No	No	No	No	No	No	No
18	1	105	1	27	No	No	No	No	No	No	No	No	No	No
19	1	59	1	15	No	No	No	No	No	No	No	No	No	No
20	1	32	1	8	No	No	No	No	No	No	No	No	No	No
21	1	20	1	5	No	No	No	No	No	No	No	No	No	No
22	1	7	1	2	No	No	No	No	No	No	No	No	No	No
23	1	7	1	2	No	No	No	No	No	No	No	No	No	No
24	1	7	1	2	No	No	No	No	No	No	No	No	No	No
Hours Met					3	7	10	13	0	3	4	10	0	0

Warrant 3 Condition A

Orientation	N	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	11.8	15.5
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:30	0:43
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	153	167
High Minor Volume Condition Met	Yes	Yes
Total Entering Volume on All Approaches During Same Hour	976	976
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 2: U.S. Route 395 (NS) at Poplar Street (EW)

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	1821	1278	151	34
2	1766	1240	146	33
3	1730	1214	143	32
4	1621	1137	134	30
5	1439	1010	119	27
6	1420	997	118	27
7	1402	984	116	26
8	1275	895	106	24
9	1256	882	104	23
10	1238	869	103	23
11	1074	754	89	20
12	1002	703	83	19
13	983	690	82	18
14	728	511	60	14
15	728	511	60	14
16	510	358	42	10
17	291	204	24	5
18	291	204	24	5
19	164	115	14	3
20	91	64	8	2
21	55	38	5	1
22	18	13	2	0
23	18	13	2	0
24	18	13	2	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	3099	2	151	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	3	3006	2	146	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	3	2944	2	143	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	3	2758	2	134	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	3	2449	2	119	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	3	2417	2	118	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7	3	2386	2	116	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8	3	2170	2	106	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
9	3	2138	2	104	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
10	3	2107	2	103	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
11	3	1828	2	89	No	No	No	No	No	Yes	Yes	Yes	Yes	No
12	3	1705	2	83	No	No	No	No	No	Yes	Yes	Yes	Yes	No
13	3	1673	2	82	No	No	No	No	No	Yes	Yes	Yes	Yes	No
14	3	1239	2	60	No	No	No	No	No	No	No	Yes	No	No
15	3	1239	2	60	No	No	No	No	No	No	No	Yes	No	No
16	3	868	2	42	No	No	No	No	No	No	No	No	No	No
17	3	495	2	24	No	No	No	No	No	No	No	No	No	No
18	3	495	2	24	No	No	No	No	No	No	No	No	No	No
19	3	279	2	14	No	No	No	No	No	No	No	No	No	No
20	3	155	2	8	No	No	No	No	No	No	No	No	No	No
21	3	93	2	5	No	No	No	No	No	No	No	No	No	No
22	3	31	2	2	No	No	No	No	No	No	No	No	No	No
23	3	31	2	2	No	No	No	No	No	No	No	No	No	No
24	3	31	2	2	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	3	7	10	13	13	15	13	10

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	8297.8	148.5
Number of Lanes on Minor Street Approach	2	2
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	348:02	1:24
Delay Condition Met	Yes	No
Volume on Minor Street Approach During Same Hour	151	34
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	3284	3284
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	Yes	No
Warrant Met for Intersection	**Yes**	

Signal Warrants Report For Intersection 3: Three Flags Avenue (NS) at Poplar Street (EW)

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	N, S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	E	W	N	S
1	327	624	41	66
2	317	605	40	64
3	311	593	39	63
4	291	555	36	59
5	258	493	32	52
6	255	487	32	51
7	252	480	32	51
8	229	437	29	46
9	226	431	28	46
10	222	424	28	45
11	193	368	24	39
12	180	343	23	36
13	177	337	22	36
14	131	250	16	26
15	131	250	16	26
16	92	175	11	18
17	52	100	7	11
18	52	100	7	11
19	29	56	4	6
20	16	31	2	3
21	10	19	1	2
22	3	6	0	1
23	3	6	0	1
24	3	6	0	1

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	951	1	66	No	No	No	No	No	Yes	Yes	Yes	No	No
2	1	922	1	64	No	No	No	No	No	Yes	Yes	Yes	No	No
3	1	904	1	63	No	No	No	No	No	Yes	Yes	Yes	No	No
4	1	846	1	59	No	No	No	No	No	No	Yes	Yes	No	No
5	1	751	1	52	No	No	No	No	No	No	Yes	Yes	No	No
6	1	742	1	51	No	No	No	No	No	No	No	Yes	No	No
7	1	732	1	51	No	No	No	No	No	No	No	Yes	No	No
8	1	666	1	46	No	No	No	No	No	No	No	Yes	No	No
9	1	657	1	46	No	No	No	No	No	No	No	Yes	No	No
10	1	646	1	45	No	No	No	No	No	No	No	Yes	No	No
11	1	561	1	39	No	No	No	No	No	No	No	No	No	No
12	1	523	1	36	No	No	No	No	No	No	No	No	No	No
13	1	514	1	36	No	No	No	No	No	No	No	No	No	No
14	1	381	1	26	No	No	No	No	No	No	No	No	No	No
15	1	381	1	26	No	No	No	No	No	No	No	No	No	No
16	1	267	1	18	No	No	No	No	No	No	No	No	No	No
17	1	152	1	11	No	No	No	No	No	No	No	No	No	No
18	1	152	1	11	No	No	No	No	No	No	No	No	No	No
19	1	85	1	6	No	No	No	No	No	No	No	No	No	No
20	1	47	1	3	No	No	No	No	No	No	No	No	No	No
21	1	29	1	2	No	No	No	No	No	No	No	No	No	No
22	1	9	1	1	No	No	No	No	No	No	No	No	No	No
23	1	9	1	1	No	No	No	No	No	No	No	No	No	No
24	1	9	1	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	3	5	10	0	0

Warrant 3 Condition A

Orientation	N	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	10	88.1
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:06	1:36
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	41	66
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	1058	1058
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 2: U.S. Route 395 (NS) at Poplar Street (EW)

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	1827	1307	540	81
2	1772	1268	524	79
3	1736	1242	513	77
4	1626	1163	481	72
5	1443	1033	427	64
6	1425	1019	421	63
7	1407	1006	416	62
8	1279	915	378	57
9	1261	902	373	56
10	1242	889	367	55
11	1078	771	319	48
12	1005	719	297	45
13	987	706	292	44
14	731	523	216	32
15	731	523	216	32
16	512	366	151	23
17	292	209	86	13
18	292	209	86	13
19	164	118	49	7
20	91	65	27	4
21	55	39	16	2
22	18	13	5	1
23	18	13	5	1
24	18	13	5	1

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	3134	2	540	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	3	3040	2	524	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	3	2978	2	513	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	3	2789	2	481	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	3	2476	2	427	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	3	2444	2	421	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7	3	2413	2	416	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8	3	2194	2	378	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9	3	2163	2	373	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10	3	2131	2	367	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11	3	1849	2	319	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12	3	1724	2	297	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
13	3	1693	2	292	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
14	3	1254	2	216	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
15	3	1254	2	216	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
16	3	878	2	151	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	No
17	3	501	2	86	No	No	No	No	No	No	No	No	No	No
18	3	501	2	86	No	No	No	No	No	No	No	No	No	No
19	3	282	2	49	No	No	No	No	No	No	No	No	No	No
20	3	156	2	27	No	No	No	No	No	No	No	No	No	No
21	3	94	2	16	No	No	No	No	No	No	No	No	No	No
22	3	31	2	5	No	No	No	No	No	No	No	No	No	No
23	3	31	2	5	No	No	No	No	No	No	No	No	No	No
24	3	31	2	5	No	No	No	No	No	No	No	No	No	No
Hours Met					15	15	16	16	15	16	16	16	16	15

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	8232.3	422
Number of Lanes on Minor Street Approach	2	2
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	1234:50	9:29
Delay Condition Met	Yes	Yes
Volume on Minor Street Approach During Same Hour	540	81
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	3755	3755
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	Yes	No
Warrant Met for Intersection	**Yes**	

Signal Warrants Report For Intersection 3: Three Flags Avenue (NS) at Poplar Street (EW)

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	N, S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	E	W	N	S
1	402	275	153	168
2	390	267	148	163
3	382	261	145	160
4	358	245	136	150
5	318	217	121	133
6	314	215	119	131
7	310	212	118	129
8	281	193	107	118
9	277	190	106	116
10	273	187	104	114
11	237	162	90	99
12	221	151	84	92
13	217	149	83	91
14	161	110	61	67
15	161	110	61	67
16	113	77	43	47
17	64	44	24	27
18	64	44	24	27
19	36	25	14	15
20	20	14	8	8
21	12	8	5	5
22	4	3	2	2
23	4	3	2	2
24	4	3	2	2

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	677	1	168	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
2	1	657	1	163	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
3	1	643	1	160	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
4	1	603	1	150	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
5	1	535	1	133	No	Yes	Yes	Yes	No	No	Yes	Yes	No	No
6	1	529	1	131	No	Yes	Yes	Yes	No	No	Yes	Yes	No	No
7	1	522	1	129	No	Yes	Yes	Yes	No	No	No	Yes	No	No
8	1	474	1	118	No	No	Yes	Yes	No	No	No	Yes	No	No
9	1	467	1	116	No	No	Yes	Yes	No	No	No	Yes	No	No
10	1	460	1	114	No	No	Yes	Yes	No	No	No	Yes	No	No
11	1	399	1	99	No	No	No	Yes	No	No	No	No	No	No
12	1	372	1	92	No	No	No	Yes	No	No	No	No	No	No
13	1	366	1	91	No	No	No	Yes	No	No	No	No	No	No
14	1	271	1	67	No	No	No	No	No	No	No	No	No	No
15	1	271	1	67	No	No	No	No	No	No	No	No	No	No
16	1	190	1	47	No	No	No	No	No	No	No	No	No	No
17	1	108	1	27	No	No	No	No	No	No	No	No	No	No
18	1	108	1	27	No	No	No	No	No	No	No	No	No	No
19	1	61	1	15	No	No	No	No	No	No	No	No	No	No
20	1	34	1	8	No	No	No	No	No	No	No	No	No	No
21	1	20	1	5	No	No	No	No	No	No	No	No	No	No
22	1	7	1	2	No	No	No	No	No	No	No	No	No	No
23	1	7	1	2	No	No	No	No	No	No	No	No	No	No
24	1	7	1	2	No	No	No	No	No	No	No	No	No	No
Hours Met					4	7	10	13	0	4	6	10	0	0

Warrant 3 Condition A

Orientation	N	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	12	16.1
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:30	0:44
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	153	168
High Minor Volume Condition Met	Yes	Yes
Total Entering Volume on All Approaches During Same Hour	998	998
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 2: U.S. Route 395 (NS) at Poplar Street (EW)

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	1755	2735	779	34
2	1702	2653	756	33
3	1667	2598	740	32
4	1562	2434	693	30
5	1386	2161	615	27
6	1369	2133	608	27
7	1351	2106	600	26
8	1229	1914	545	24
9	1211	1887	538	23
10	1193	1860	530	23
11	1035	1614	460	20
12	965	1504	428	19
13	948	1477	421	18
14	702	1094	312	14
15	702	1094	312	14
16	491	766	218	10
17	281	438	125	5
18	281	438	125	5
19	158	246	70	3
20	88	137	39	2
21	53	82	23	1
22	18	27	8	0
23	18	27	8	0
24	18	27	8	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	4490	2	779	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	3	4355	2	756	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	3	4265	2	740	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	3	3996	2	693	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	3	3547	2	615	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	3	3502	2	608	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7	3	3457	2	600	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8	3	3143	2	545	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9	3	3098	2	538	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10	3	3053	2	530	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11	3	2649	2	460	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12	3	2469	2	428	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
13	3	2425	2	421	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
14	3	1796	2	312	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
15	3	1796	2	312	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
16	3	1257	2	218	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
17	3	719	2	125	No	No	No	Yes	No	No	Yes	Yes	No	No
18	3	719	2	125	No	No	No	Yes	No	No	Yes	Yes	No	No
19	3	404	2	70	No	No	No	No	No	No	No	No	No	No
20	3	225	2	39	No	No	No	No	No	No	No	No	No	No
21	3	135	2	23	No	No	No	No	No	No	No	No	No	No
22	3	45	2	8	No	No	No	No	No	No	No	No	No	No
23	3	45	2	8	No	No	No	No	No	No	No	No	No	No
24	3	45	2	8	No	No	No	No	No	No	No	No	No	No
Hours Met					16	16	16	18	16	16	18	18	16	16

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	10000	10000
Number of Lanes on Minor Street Approach	2	2
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	2163:53	94:26
Delay Condition Met	Yes	Yes
Volume on Minor Street Approach During Same Hour	779	34
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	5303	5303
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	Yes	No
Warrant Met for Intersection	**Yes**	

Signal Warrants Report For Intersection 3: Three Flags Avenue (NS) at Poplar Street (EW)

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	N, S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	E	W	N	S
1	698	1344	82	614
2	677	1304	80	596
3	663	1277	78	583
4	621	1196	73	546
5	551	1062	65	485
6	544	1048	64	479
7	537	1035	63	473
8	489	941	57	430
9	482	927	57	424
10	475	914	56	418
11	412	793	48	362
12	384	739	45	338
13	377	726	44	332
14	279	538	33	246
15	279	538	33	246
16	195	376	23	172
17	112	215	13	98
18	112	215	13	98
19	63	121	7	55
20	35	67	4	31
21	21	40	2	18
22	7	13	1	6
23	7	13	1	6
24	7	13	1	6

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	2042	1	614	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	1	1981	1	596	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	1	1940	1	583	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	1	1817	1	546	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	1	1613	1	485	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	1	1592	1	479	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7	1	1572	1	473	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8	1	1430	1	430	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9	1	1409	1	424	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10	1	1389	1	418	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11	1	1205	1	362	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12	1	1123	1	338	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
13	1	1103	1	332	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
14	1	817	1	246	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
15	1	817	1	246	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
16	1	571	1	172	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	No
17	1	327	1	98	No	No	No	Yes	No	No	No	No	No	No
18	1	327	1	98	No	No	No	Yes	No	No	No	No	No	No
19	1	184	1	55	No	No	No	No	No	No	No	No	No	No
20	1	102	1	31	No	No	No	No	No	No	No	No	No	No
21	1	61	1	18	No	No	No	No	No	No	No	No	No	No
22	1	20	1	6	No	No	No	No	No	No	No	No	No	No
23	1	20	1	6	No	No	No	No	No	No	No	No	No	No
24	1	20	1	6	No	No	No	No	No	No	No	No	No	No
Hours Met					16	16	16	18	15	15	16	16	15	13

Warrant 3 Condition A

Orientation	N	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	10.6	10000
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:14	1705:33
Delay Condition Met	No	Yes
Volume on Minor Street Approach During Same Hour	82	614
High Minor Volume Condition Met	No	Yes
Total Entering Volume on All Approaches During Same Hour	2738	2738
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	Yes
Warrant Met for Intersection	**Yes**	

Signal Warrants Report For Intersection 2: U.S. Route 395 (NS) at Poplar Street (EW)

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	2976	1574	935	81
2	2887	1527	907	79
3	2827	1495	888	77
4	2649	1401	832	72
5	2351	1243	739	64
6	2321	1228	729	63
7	2292	1212	720	62
8	2083	1102	655	57
9	2053	1086	645	56
10	2024	1070	636	55
11	1756	929	552	48
12	1637	866	514	45
13	1607	850	505	44
14	1190	630	374	32
15	1190	630	374	32
16	833	441	262	23
17	476	252	150	13
18	476	252	150	13
19	268	142	84	7
20	149	79	47	4
21	89	47	28	2
22	30	16	9	1
23	30	16	9	1
24	30	16	9	1

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	4550	2	935	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	3	4414	2	907	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	3	4322	2	888	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	3	4050	2	832	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	3	3594	2	739	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	3	3549	2	729	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7	3	3504	2	720	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8	3	3185	2	655	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9	3	3139	2	645	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10	3	3094	2	636	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11	3	2685	2	552	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12	3	2503	2	514	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
13	3	2457	2	505	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
14	3	1820	2	374	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
15	3	1820	2	374	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
16	3	1274	2	262	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
17	3	728	2	150	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	No
18	3	728	2	150	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	No
19	3	410	2	84	No	No	No	No	No	No	No	No	No	No
20	3	228	2	47	No	No	No	No	No	No	No	No	No	No
21	3	136	2	28	No	No	No	No	No	No	No	No	No	No
22	3	46	2	9	No	No	No	No	No	No	No	No	No	No
23	3	46	2	9	No	No	No	No	No	No	No	No	No	No
24	3	46	2	9	No	No	No	No	No	No	No	No	No	No
Hours Met					16	16	18	18	16	18	18	18	18	16

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	10000	10000
Number of Lanes on Minor Street Approach	2	2
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	2597:13	225:00
Delay Condition Met	Yes	Yes
Volume on Minor Street Approach During Same Hour	935	81
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	5566	5566
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	Yes	No
Warrant Met for Intersection	**Yes**	

Signal Warrants Report For Intersection 3: Three Flags Avenue (NS) at Poplar Street (EW)

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	N, S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	E	W	N	S
1	703	824	272	562
2	682	799	264	545
3	668	783	258	534
4	626	733	242	500
5	555	651	215	444
6	548	643	212	438
7	541	634	209	433
8	492	577	190	393
9	485	569	188	388
10	478	560	185	382
11	415	486	160	332
12	387	453	150	309
13	380	445	147	303
14	281	330	109	225
15	281	330	109	225
16	197	231	76	157
17	112	132	44	90
18	112	132	44	90
19	63	74	24	51
20	35	41	14	28
21	21	25	8	17
22	7	8	3	6
23	7	8	3	6
24	7	8	3	6

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1527	1	562	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	1	1481	1	545	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	1	1451	1	534	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	1	1359	1	500	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	1	1206	1	444	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	1	1191	1	438	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7	1	1175	1	433	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8	1	1069	1	393	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9	1	1054	1	388	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10	1	1038	1	382	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11	1	901	1	332	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12	1	840	1	309	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
13	1	825	1	303	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
14	1	611	1	225	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
15	1	611	1	225	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
16	1	428	1	157	No	Yes	Yes	Yes	No	No	No	Yes	No	No
17	1	244	1	90	No	No	No	No	No	No	No	No	No	No
18	1	244	1	90	No	No	No	No	No	No	No	No	No	No
19	1	137	1	51	No	No	No	No	No	No	No	No	No	No
20	1	76	1	28	No	No	No	No	No	No	No	No	No	No
21	1	46	1	17	No	No	No	No	No	No	No	No	No	No
22	1	15	1	6	No	No	No	No	No	No	No	No	No	No
23	1	15	1	6	No	No	No	No	No	No	No	No	No	No
24	1	15	1	6	No	No	No	No	No	No	No	No	No	No
Hours Met					15	16	16	16	13	15	15	16	15	11

Warrant 3 Condition A

Orientation	N	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	15.5	10000
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	1:10	1561:06
Delay Condition Met	No	Yes
Volume on Minor Street Approach During Same Hour	272	562
High Minor Volume Condition Met	Yes	Yes
Total Entering Volume on All Approaches During Same Hour	2361	2361
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	Yes
Warrant Met for Intersection	**Yes**	

Signal Warrants Report For Intersection 2: U.S. Route 395 (NS) at Poplar Street (EW)

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	1761	2739	786	34
2	1708	2657	762	33
3	1673	2602	747	32
4	1567	2438	700	30
5	1391	2164	621	27
6	1374	2136	613	27
7	1356	2109	605	26
8	1233	1917	550	24
9	1215	1890	542	23
10	1197	1863	534	23
11	1039	1616	464	20
12	969	1506	432	19
13	951	1479	424	18
14	704	1096	314	14
15	704	1096	314	14
16	493	767	220	10
17	282	438	126	5
18	282	438	126	5
19	158	247	71	3
20	88	137	39	2
21	53	82	24	1
22	18	27	8	0
23	18	27	8	0
24	18	27	8	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	4500	2	786	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	3	4365	2	762	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	3	4275	2	747	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	3	4005	2	700	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	3	3555	2	621	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	3	3510	2	613	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7	3	3465	2	605	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8	3	3150	2	550	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9	3	3105	2	542	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10	3	3060	2	534	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11	3	2655	2	464	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12	3	2475	2	432	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
13	3	2430	2	424	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
14	3	1800	2	314	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
15	3	1800	2	314	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
16	3	1260	2	220	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
17	3	720	2	126	No	No	No	Yes	No	Yes	Yes	Yes	No	No
18	3	720	2	126	No	No	No	Yes	No	Yes	Yes	Yes	No	No
19	3	405	2	71	No	No	No	No	No	No	No	No	No	No
20	3	225	2	39	No	No	No	No	No	No	No	No	No	No
21	3	135	2	24	No	No	No	No	No	No	No	No	No	No
22	3	45	2	8	No	No	No	No	No	No	No	No	No	No
23	3	45	2	8	No	No	No	No	No	No	No	No	No	No
24	3	45	2	8	No	No	No	No	No	No	No	No	No	No
Hours Met					16	16	16	18	16	18	18	18	16	16

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	10000	10000
Number of Lanes on Minor Street Approach	2	2
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	2183:20	94:26
Delay Condition Met	Yes	Yes
Volume on Minor Street Approach During Same Hour	786	34
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	5320	5320
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	Yes	No
Warrant Met for Intersection	**Yes**	

Signal Warrants Report For Intersection 3: Three Flags Avenue (NS) at Poplar Street (EW)

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	N, S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	E	W	N	S
1	706	1354	82	618
2	685	1313	80	599
3	671	1286	78	587
4	628	1205	73	550
5	558	1070	65	488
6	551	1056	64	482
7	544	1043	63	476
8	494	948	57	433
9	487	934	57	426
10	480	921	56	420
11	417	799	48	365
12	388	745	45	340
13	381	731	44	334
14	282	542	33	247
15	282	542	33	247
16	198	379	23	173
17	113	217	13	99
18	113	217	13	99
19	64	122	7	56
20	35	68	4	31
21	21	41	2	19
22	7	14	1	6
23	7	14	1	6
24	7	14	1	6

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	2060	1	618	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	1	1998	1	599	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	1	1957	1	587	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	1	1833	1	550	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	1	1628	1	488	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	1	1607	1	482	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7	1	1587	1	476	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8	1	1442	1	433	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9	1	1421	1	426	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10	1	1401	1	420	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11	1	1216	1	365	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12	1	1133	1	340	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
13	1	1112	1	334	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
14	1	824	1	247	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
15	1	824	1	247	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
16	1	577	1	173	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	No
17	1	330	1	99	No	No	No	Yes	No	No	No	No	No	No
18	1	330	1	99	No	No	No	Yes	No	No	No	No	No	No
19	1	186	1	56	No	No	No	No	No	No	No	No	No	No
20	1	103	1	31	No	No	No	No	No	No	No	No	No	No
21	1	62	1	19	No	No	No	No	No	No	No	No	No	No
22	1	21	1	6	No	No	No	No	No	No	No	No	No	No
23	1	21	1	6	No	No	No	No	No	No	No	No	No	No
24	1	21	1	6	No	No	No	No	No	No	No	No	No	No
Hours Met					16	16	16	18	15	15	16	16	15	13

Warrant 3 Condition A

Orientation	N	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	10.6	10000
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:14	1716:40
Delay Condition Met	No	Yes
Volume on Minor Street Approach During Same Hour	82	618
High Minor Volume Condition Met	No	Yes
Total Entering Volume on All Approaches During Same Hour	2760	2760
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	Yes
Warrant Met for Intersection	**Yes**	

Signal Warrants Report For Intersection 2: U.S. Route 395 (NS) at Poplar Street (EW)

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	2982	1575	945	81
2	2893	1528	917	79
3	2833	1496	898	77
4	2654	1402	841	72
5	2356	1244	747	64
6	2326	1229	737	63
7	2296	1213	728	62
8	2087	1103	662	57
9	2058	1087	652	56
10	2028	1071	643	55
11	1759	929	558	48
12	1640	866	520	45
13	1610	851	510	44
14	1193	630	378	32
15	1193	630	378	32
16	835	441	265	23
17	477	252	151	13
18	477	252	151	13
19	268	142	85	7
20	149	79	47	4
21	89	47	28	2
22	30	16	9	1
23	30	16	9	1
24	30	16	9	1

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	4557	2	945	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	3	4421	2	917	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	3	4329	2	898	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	3	4056	2	841	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	3	3600	2	747	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	3	3555	2	737	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7	3	3509	2	728	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8	3	3190	2	662	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9	3	3145	2	652	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10	3	3099	2	643	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11	3	2688	2	558	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12	3	2506	2	520	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
13	3	2461	2	510	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
14	3	1823	2	378	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
15	3	1823	2	378	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
16	3	1276	2	265	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
17	3	729	2	151	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	No
18	3	729	2	151	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	No
19	3	410	2	85	No	No	No	No	No	No	No	No	No	No
20	3	228	2	47	No	No	No	No	No	No	No	No	No	No
21	3	136	2	28	No	No	No	No	No	No	No	No	No	No
22	3	46	2	9	No	No	No	No	No	No	No	No	No	No
23	3	46	2	9	No	No	No	No	No	No	No	No	No	No
24	3	46	2	9	No	No	No	No	No	No	No	No	No	No
Hours Met					16	16	18	18	16	18	18	18	18	16

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	10000	10000
Number of Lanes on Minor Street Approach	2	2
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	2625:00	225:00
Delay Condition Met	Yes	Yes
Volume on Minor Street Approach During Same Hour	945	81
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	5583	5583
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	Yes	No
Warrant Met for Intersection	**Yes**	

Signal Warrants Report For Intersection 3: Three Flags Avenue (NS) at Poplar Street (EW)

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	N, S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	E	W	N	S
1	717	831	272	563
2	695	806	264	546
3	681	789	258	535
4	638	740	242	501
5	566	656	215	445
6	559	648	212	439
7	552	640	209	434
8	502	582	190	394
9	495	573	188	388
10	488	565	185	383
11	423	490	160	332
12	394	457	150	310
13	387	449	147	304
14	287	332	109	225
15	287	332	109	225
16	201	233	76	158
17	115	133	44	90
18	115	133	44	90
19	65	75	24	51
20	36	42	14	28
21	22	25	8	17
22	7	8	3	6
23	7	8	3	6
24	7	8	3	6

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1548	1	563	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	1	1501	1	546	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	1	1470	1	535	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	1	1378	1	501	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	1	1222	1	445	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	1	1207	1	439	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7	1	1192	1	434	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8	1	1084	1	394	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9	1	1068	1	388	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10	1	1053	1	383	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11	1	913	1	332	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12	1	851	1	310	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
13	1	836	1	304	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
14	1	619	1	225	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
15	1	619	1	225	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
16	1	434	1	158	No	Yes	Yes	Yes	No	No	No	Yes	No	No
17	1	248	1	90	No	No	No	No	No	No	No	No	No	No
18	1	248	1	90	No	No	No	No	No	No	No	No	No	No
19	1	140	1	51	No	No	No	No	No	No	No	No	No	No
20	1	78	1	28	No	No	No	No	No	No	No	No	No	No
21	1	47	1	17	No	No	No	No	No	No	No	No	No	No
22	1	15	1	6	No	No	No	No	No	No	No	No	No	No
23	1	15	1	6	No	No	No	No	No	No	No	No	No	No
24	1	15	1	6	No	No	No	No	No	No	No	No	No	No
Hours Met					15	16	16	16	13	15	15	16	15	11

Warrant 3 Condition A

Orientation	N	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	15.8	10000
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	1:11	1563:53
Delay Condition Met	No	Yes
Volume on Minor Street Approach During Same Hour	272	563
High Minor Volume Condition Met	Yes	Yes
Total Entering Volume on All Approaches During Same Hour	2383	2383
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	Yes
Warrant Met for Intersection	**Yes**	

Appendix C

Existing Conditions

Level of Service Analysis Worksheets

RK19177.5
JN:1219-2023-03

Intersection Level Of Service Report
Intersection 1: U.S. Route 395 (NS) at Main Street - Phelan Road (EW)

Control Type:	Signalized	Delay (sec / veh):	42.0
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.672

Intersection Setup

Name	U.S. Route 395			U.S. Route 395			Main Street - Phelan Road			Main Street - Phelan Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	278.00	100.00	100.00	240.00	100.00	100.00	337.00	100.00	100.00	247.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	60.00			60.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	No			No			No			No		

Volumes

Name	U.S. Route 395			U.S. Route 395			Main Street - Phelan Road			Main Street - Phelan Road		
Base Volume Input [veh/h]	102	781	10	227	1037	34	52	719	117	4	351	240
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	102	781	10	227	1037	34	52	719	117	4	351	240
Peak Hour Factor	0.9650	0.9650	0.9650	0.9650	0.9650	0.9650	0.9650	0.9650	0.9650	0.9650	0.9650	0.9650
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	202	3	59	269	9	13	186	30	1	91	62
Total Analysis Volume [veh/h]	106	809	10	235	1075	35	54	745	121	4	364	249
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	105
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	45	30	0	30	30	0	20	20	0	20	20	0
Amber [s]	3.7	5.5	0.0	3.7	5.5	0.0	3.7	5.5	0.0	3.7	5.5	0.0
All red [s]	1.0	2.0	0.0	1.0	2.0	0.0	1.0	2.0	0.0	1.0	2.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.7	5.5	0.0	2.7	5.5	0.0	2.7	5.5	0.0	2.7	5.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	12	38	0	21	47	0	10	36	0	10	36	0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	28	0	5	28	0	5	28	0	5	28	0
Vehicle Extension [s]	2.5	3.5	0.0	2.5	3.5	0.0	2.5	3.0	0.0	2.5	3.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Calculated Cycle Length [s]	105	105	105	105	105	105	105	105	105	105	105	105
L, Total Lost Time per Cycle [s]	4.70	7.50	7.50	4.70	7.50	7.50	4.70	7.50	7.50	4.70	7.50	7.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.70	5.50	5.50	2.70	5.50	5.50	2.70	5.50	5.50	2.70	5.50	5.50
g_i, Effective Green Time [s]	7	28	28	16	37	37	4	36	36	1	32	32
g / C, Green / Cycle	0.07	0.27	0.27	0.15	0.35	0.35	0.04	0.34	0.34	0.01	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.06	0.23	0.23	0.14	0.31	0.31	0.03	0.25	0.23	0.00	0.18	0.16
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	118	481	481	263	634	634	68	612	612	10	550	550
d1, Uniform Delay [s]	48.48	36.53	36.49	43.55	31.93	31.80	49.95	30.34	29.87	52.00	30.88	30.11
k, delay calibration	0.08	0.25	0.25	0.08	0.30	0.29	0.08	0.50	0.50	0.08	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	15.83	9.59	9.30	7.98	10.32	9.60	13.84	7.31	6.26	17.53	4.62	3.52
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.90	0.85	0.85	0.89	0.88	0.87	0.79	0.72	0.69	0.40	0.59	0.52
d, Delay for Lane Group [s/veh]	64.31	46.13	45.79	51.52	42.26	41.40	63.79	37.65	36.13	69.53	35.50	33.62
Lane Group LOS	E	D	D	D	D	D	E	D	D	E	D	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.11	10.39	10.30	6.15	13.66	13.37	1.60	10.20	9.46	0.15	7.15	6.09
50th-Percentile Queue Length [ft/ln]	77.69	259.73	257.50	153.70	341.43	334.21	40.00	254.96	236.47	3.74	178.77	152.15
95th-Percentile Queue Length [veh/ln]	5.59	15.68	15.56	10.21	19.72	19.36	2.88	15.44	14.50	0.27	11.54	10.13
95th-Percentile Queue Length [ft/ln]	139.83	391.88	389.08	255.36	492.95	484.11	72.00	385.89	362.56	6.72	288.41	253.30

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	64.31	45.96	45.79	51.52	41.84	41.40	63.79	37.04	36.13	69.53	35.30	33.62
Movement LOS	E	D	D	D	D	D	E	D	D	E	D	C
d_A, Approach Delay [s/veh]	48.06			43.52			38.49			34.85		
Approach LOS	D			D			D			C		
d_I, Intersection Delay [s/veh]	42.00											
Intersection LOS	D											
Intersection V/C	0.672											

Emissions

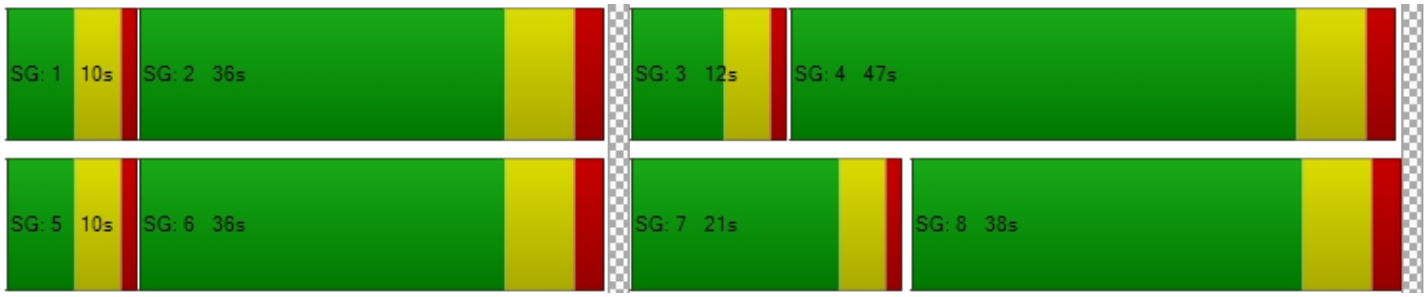
Vehicle Miles Traveled [mph]	6.78	26.27	26.15	13.52	32.09	31.79	5.05	41.47	39.48	0.26	20.75	18.33
Stops [stops/h]	106.54	356.19	353.14	210.78	468.24	458.34	54.85	349.65	324.30	5.12	245.18	208.67
Fuel consumption [US gal/h]	3.97	12.62	12.51	7.59	16.24	15.87	1.89	11.28	10.45	0.16	7.60	6.46
CO [g/h]	277.78	882.37	874.27	530.21	1135.33	1109.39	132.02	788.53	730.44	11.20	531.23	451.26
NOx [g/h]	54.05	171.68	170.10	103.16	220.89	215.85	25.69	153.42	142.12	2.18	103.36	87.80
VOC [g/h]	64.38	204.50	202.62	122.88	263.12	257.11	30.60	182.75	169.29	2.60	123.12	104.58

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	581	752	543	543
d_b, Bicycle Delay [s]	26.43	20.43	27.87	27.87
l_b,int, Bicycle LOS Score for Intersection	2.323	2.669	2.319	2.069
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: U.S. Route 395 (NS) at Poplar Street (EW)

Control Type:	Two-way stop	Delay (sec / veh):	44.8
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.011

Intersection Setup

Name	U.S. Route 395		U.S. Route 395		Poplar Street	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	13.00	12.00	12.00	13.00	20.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	373.00	100.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	200.00
Speed [mph]	60.00		60.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	U.S. Route 395		U.S. Route 395		Poplar Street	
Base Volume Input [veh/h]	885	8	35	922	1	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	885	8	35	922	1	6
Peak Hour Factor	0.8880	0.8880	0.8880	0.8880	0.8880	0.8880
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	249	2	10	260	0	2
Total Analysis Volume [veh/h]	997	9	39	1038	1	7
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.06	0.01	0.01	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	10.58	0.00	44.79	12.10
Movement LOS	A	A	B	A	E	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.18	0.00	0.03	0.04
95th-Percentile Queue Length [ft/ln]	0.00	0.00	4.52	0.00	0.83	1.04
d_A, Approach Delay [s/veh]	0.00		0.38		16.19	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.26					
Intersection LOS	E					

Intersection Level Of Service Report
Intersection 3: Three Flags Avenue (NS) at Poplar Street (EW)

Control Type:	Two-way stop	Delay (sec / veh):	10.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.026

Intersection Setup

Name	Three Flags Avenue		Poplar Street		Poplar Street	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	16.00	16.00	14.00	14.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	300.00	0.00	0.00	0.00
Speed [mph]	40.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Three Flags Avenue		Poplar Street		Poplar Street	
Base Volume Input [veh/h]	14	15	11	35	63	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	15	11	35	63	4
Peak Hour Factor	0.7500	0.7500	0.7500	0.7500	0.7500	0.7500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	5	4	12	21	1
Total Analysis Volume [veh/h]	19	20	15	47	84	5
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.02	0.00	0.00	0.05	0.00
d_M, Delay for Movement [s/veh]	10.10	8.68	0.00	0.00	7.46	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.14	0.14	0.00	0.00	0.16	0.16
95th-Percentile Queue Length [ft/ln]	3.55	3.55	0.00	0.00	4.08	4.08
d_A, Approach Delay [s/veh]	9.37		0.00		7.04	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	5.22					
Intersection LOS	B					

Intersection Level Of Service Report

Intersection 4: U.S. Route 395 (NS) at Three Flags Road - Three Flags Court (EW)

Control Type:	Signalized	Delay (sec / veh):	13.2
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.470

Intersection Setup

Name	U.S. Route 395			U.S. Route 395			Th- T			Th- T		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	1	0	1
Entry Pocket Length [ft]	190.00	100.00	207.00	225.00	100.00	225.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	60.00			60.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	No			No			No			Yes		

Volumes

Name	U.S. Route 395			U.S. Route 395			Th- T			Th- T		
Base Volume Input [veh/h]	24	808	109	21	1013	78	25	1	88	178	2	45
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	24	808	109	21	1013	78	25	1	88	178	2	45
Peak Hour Factor	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	219	30	6	275	21	7	0	24	48	1	12
Total Analysis Volume [veh/h]	26	877	118	23	1100	85	27	1	96	193	2	49
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Maximum Green [s]	20	50	0	20	50	0	0	20	0	0	20	0
Amber [s]	4.0	5.5	0.0	4.0	5.5	0.0	0.0	5.0	0.0	0.0	5.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	7	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	34	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	4.5	0.0	3.0	4.5	0.0	0.0	4.0	0.0	0.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	10	48	0	10	48	0	0	22	0	0	22	0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Vehicle Extension [s]	2.0	3.0	0.0	2.0	3.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	L	C	R
C, Calculated Cycle Length [s]	80	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	5.00	6.50	6.50	5.00	6.50	6.50	6.00	6.00	6.00	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	4.50	4.50	3.00	4.50	4.50	4.00	4.00	4.00	4.00	4.00
g_i, Effective Green Time [s]	2	50	50	2	49	49	11	11	11	11	11
g / C, Green / Cycle	0.03	0.62	0.62	0.03	0.62	0.62	0.14	0.14	0.14	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.02	0.24	0.07	0.01	0.31	0.05	0.02	0.05	0.11	0.00	0.03
s, saturation flow rate [veh/h]	1700	3600	1800	1700	3600	1800	1700	1800	1700	1800	1800
c, Capacity [veh/h]	48	2225	1112	45	2216	1108	286	247	205	247	247
d1, Uniform Delay [s]	38.34	7.72	6.25	38.45	8.51	6.20	30.27	31.48	33.60	29.82	30.62
k, delay calibration	0.04	0.50	0.50	0.04	0.50	0.50	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.39	0.53	0.19	3.42	0.80	0.13	0.05	0.38	8.39	0.00	0.14
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.54	0.39	0.11	0.52	0.50	0.08	0.09	0.39	0.94	0.01	0.20
d, Delay for Lane Group [s/veh]	41.73	8.24	6.44	41.87	9.31	6.34	30.32	31.86	41.99	29.82	30.76
Lane Group LOS	D	A	A	D	A	A	C	C	D	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.50	2.61	0.59	0.45	3.63	0.42	0.44	1.65	3.93	0.03	0.81
50th-Percentile Queue Length [ft/ln]	12.59	65.14	14.79	11.20	90.63	10.56	10.98	41.28	98.23	0.80	20.21
95th-Percentile Queue Length [veh/ln]	0.91	4.69	1.06	0.81	6.53	0.76	0.79	2.97	7.07	0.06	1.46
95th-Percentile Queue Length [ft/ln]	22.67	117.26	26.62	20.16	163.14	19.00	19.76	74.30	176.82	1.44	36.38

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	41.73	8.24	6.44	41.87	9.31	6.34	30.32	31.86	31.86	41.99	29.82	30.76
Movement LOS	D	A	A	D	A	A	C	C	C	D	C	C
d_A, Approach Delay [s/veh]	8.89			9.72			31.52			39.63		
Approach LOS	A			A			C			D		
d_I, Intersection Delay [s/veh]	13.24											
Intersection LOS	B											
Intersection V/C	0.470											

Emissions

Vehicle Miles Traveled [mph]	2.06	69.50	9.35	0.54	25.98	2.01	1.16	4.17	11.96	0.12	3.04
Stops [stops/h]	22.67	234.51	26.62	20.16	326.28	19.00	19.76	74.30	176.82	1.44	36.38
Fuel consumption [US gal/h]	0.79	9.03	1.06	0.66	10.18	0.60	0.40	1.51	3.81	0.03	0.77
CO [g/h]	55.38	631.21	74.27	46.15	711.87	41.82	28.12	105.41	266.62	2.15	54.02
NOx [g/h]	10.78	122.81	14.45	8.98	138.50	8.14	5.47	20.51	51.87	0.42	10.51
VOC [g/h]	12.84	146.29	17.21	10.70	164.98	9.69	6.52	24.43	61.79	0.50	12.52

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	29.76
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	2.250
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1038	1038	400	400
d_b, Bicycle Delay [s]	9.26	9.26	25.60	25.60
l_b,int, Bicycle LOS Score for Intersection	2.402	2.556	1.764	1.962
Bicycle LOS	B	B	A	A

Sequence

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



Intersection Level Of Service Report
Intersection 5: U.S. Route 395 (NS) at Joshua Street (EW)

Control Type:	Signalized	Delay (sec / veh):	13.2
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.440

Intersection Setup

Name	U.S. Route 395			U.S. Route 395			Joshua Street			Joshua Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	1	0	1
Entry Pocket Length [ft]	190.00	100.00	143.00	191.00	100.00	273.00	94.00	100.00	100.00	65.00	100.00	65.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	U.S. Route 395			U.S. Route 395			Joshua Street			Joshua Street		
Base Volume Input [veh/h]	4	834	39	94	1165	20	15	21	8	98	22	92
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	834	39	94	1165	20	15	21	8	98	22	92
Peak Hour Factor	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	226	11	26	316	5	4	6	2	27	6	25
Total Analysis Volume [veh/h]	4	906	42	102	1265	22	16	23	9	106	24	100
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Maximum Green [s]	20	50	0	20	50	0	0	40	0	0	40	0
Amber [s]	3.7	5.5	0.0	3.7	5.5	0.0	0.0	4.0	0.0	0.0	4.0	0.0
All red [s]	1.0	2.0	0.0	1.0	2.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	24	0	0	0	0	0	34	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.7	5.5	0.0	2.7	5.5	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	10	39	0	25	54	0	0	46	0	0	46	0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Vehicle Extension [s]	2.5	5.0	0.0	2.5	5.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	L	C	R
C, Calculated Cycle Length [s]	110	110	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.70	7.50	7.50	4.70	7.50	7.50	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.70	5.50	5.50	2.70	5.50	5.50	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	1	76	76	8	83	83	9	9	9	9	9
g / C, Green / Cycle	0.01	0.69	0.69	0.07	0.76	0.76	0.08	0.08	0.08	0.08	0.08
(v / s)_i Volume / Saturation Flow Rate	0.00	0.25	0.02	0.06	0.35	0.01	0.01	0.02	0.06	0.01	0.06
s, saturation flow rate [veh/h]	1700	3600	1800	1700	3600	1800	1700	1800	1700	1800	1800
c, Capacity [veh/h]	9	2474	1237	127	2724	1362	158	147	151	147	147
d1, Uniform Delay [s]	54.54	7.19	5.51	50.07	5.02	3.30	46.83	47.23	49.48	47.02	49.12
k, delay calibration	0.08	0.50	0.50	0.08	0.50	0.50	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	22.34	0.42	0.05	8.35	0.57	0.02	0.10	0.27	2.24	0.19	2.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.44	0.37	0.03	0.80	0.46	0.02	0.10	0.22	0.70	0.16	0.68
d, Delay for Lane Group [s/veh]	76.88	7.61	5.56	58.42	5.59	3.32	46.94	47.51	51.72	47.21	51.19
Lane Group LOS	E	A	A	E	A	A	D	D	D	D	D
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.17	4.18	0.30	3.05	4.64	0.11	0.41	0.83	2.94	0.62	2.75
50th-Percentile Queue Length [ft/ln]	4.18	104.40	7.60	76.25	116.04	2.73	10.28	20.80	73.53	15.51	68.79
95th-Percentile Queue Length [veh/ln]	0.30	7.52	0.55	5.49	8.17	0.20	0.74	1.50	5.29	1.12	4.95
95th-Percentile Queue Length [ft/ln]	7.53	187.92	13.68	137.25	204.37	4.92	18.51	37.43	132.36	27.92	123.82

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	76.88	7.61	5.56	58.42	5.59	3.32	46.94	47.51	47.51	51.72	47.21	51.19
Movement LOS	E	A	A	E	A	A	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	7.81			9.44			47.32			51.02		
Approach LOS	A			A			D			D		
d_I, Intersection Delay [s/veh]	13.19											
Intersection LOS	B											
Intersection V/C	0.440											

Emissions

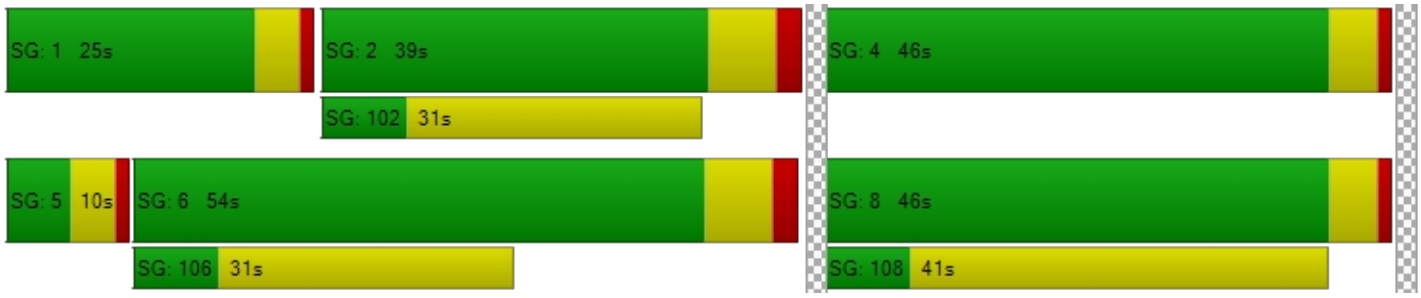
Vehicle Miles Traveled [mph]	0.21	47.33	2.19	6.70	83.14	1.45	0.88	1.77	3.73	0.85	3.52
Stops [stops/h]	5.47	273.33	9.95	99.82	303.81	3.58	13.46	27.22	96.26	20.31	90.05
Fuel consumption [US gal/h]	0.10	4.86	0.19	2.04	6.54	0.09	0.26	0.53	1.80	0.38	1.68
CO [g/h]	7.09	339.88	13.48	142.59	457.23	6.58	18.42	37.22	125.89	26.39	117.72
NOx [g/h]	1.38	66.13	2.62	27.74	88.96	1.28	3.58	7.24	24.49	5.13	22.90
VOC [g/h]	1.64	78.77	3.12	33.05	105.97	1.53	4.27	8.63	29.18	6.12	27.28

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	44.55	44.55	44.55
l_p,int, Pedestrian LOS Score for Intersectio	0.000	2.877	1.982	2.237
Crosswalk LOS	F	C	A	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	573	845	745	745
d_b, Bicycle Delay [s]	28.01	18.33	21.64	21.64
l_b,int, Bicycle LOS Score for Intersection	2.345	2.706	1.639	1.939
Bicycle LOS	B	B	A	A

Sequence

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



Intersection Level Of Service Report
Intersection 6: I-15 Southbound Off-Ramp (NS) at Joshua Street (EW)

Control Type:	Two-way stop	Delay (sec / veh):	9.7
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name	I-15 Southbound Off-Ramp		Joshua Street		Joshua Street	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	I-15 Southbound Off-Ramp		Joshua Street		Joshua Street	
Base Volume Input [veh/h]	4	160	0	127	37	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	160	0	127	37	0
Peak Hour Factor	0.7700	0.7700	0.9500	0.7700	0.7700	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	52	0	41	12	0
Total Analysis Volume [veh/h]	5	208	0	165	48	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.20	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.67	9.43	0.00	0.00	0.00	0.00
Movement LOS	A	A		A	A	
95th-Percentile Queue Length [veh/ln]	0.02	0.76	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.49	19.05	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.43		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.72					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 7: I-15 Southbound On-Ramp (NS) at Joshua Street (EW)

Control Type:	Two-way stop	Delay (sec / veh):	7.5
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.084

Intersection Setup

Name	I-15 Southbound On-Ramp		Joshua Street		Joshua Street	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	200.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	I-15 Southbound On-Ramp		Joshua Street		Joshua Street	
Base Volume Input [veh/h]	0	0	103	29	37	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	103	29	37	10
Peak Hour Factor	0.9500	0.9500	0.7950	0.7950	0.7950	0.7950
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	32	9	12	3
Total Analysis Volume [veh/h]	0	0	130	36	47	13
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop		Free		Free	
Flared Lane						
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance						
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.08	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.49	0.00	0.00	0.00
Movement LOS			A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.23	0.23	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	5.83	5.83	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		5.86		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.31					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 1: U.S. Route 395 (NS) at Main Street - Phelan Road (EW)

Control Type:	Signalized	Delay (sec / veh):	65.7
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.878

Intersection Setup

Name	U.S. Route 395			U.S. Route 395			Main Street - Phelan Road			Main Street - Phelan Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	278.00	100.00	100.00	240.00	100.00	100.00	337.00	100.00	100.00	247.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	60.00			60.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	No			No			No			No		

Volumes

Name	U.S. Route 395			U.S. Route 395			Main Street - Phelan Road			Main Street - Phelan Road		
Base Volume Input [veh/h]	179	1198	29	207	856	51	50	615	75	10	722	281
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	179	1198	29	207	856	51	50	615	75	10	722	281
Peak Hour Factor	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	47	314	8	54	225	13	13	161	20	3	189	74
Total Analysis Volume [veh/h]	188	1257	30	217	898	54	52	645	79	10	758	295
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	45	30	0	30	30	0	20	20	0	20	20	0
Amber [s]	3.7	5.5	0.0	3.7	5.5	0.0	3.7	5.5	0.0	3.7	5.5	0.0
All red [s]	1.0	2.0	0.0	1.0	2.0	0.0	1.0	2.0	0.0	1.0	2.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.7	5.5	0.0	2.7	5.5	0.0	2.7	5.5	0.0	2.7	5.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	33	54	0	21	42	0	10	45	0	10	45	0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	28	0	5	28	0	5	28	0	5	28	0
Vehicle Extension [s]	2.5	3.5	0.0	2.5	3.5	0.0	2.5	3.0	0.0	2.5	3.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Calculated Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.70	7.50	7.50	4.70	7.50	7.50	4.70	7.50	7.50	4.70	7.50	7.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.70	5.50	5.50	2.70	5.50	5.50	2.70	5.50	5.50	2.70	5.50	5.50
g_i, Effective Green Time [s]	16	47	47	16	46	46	5	41	41	2	38	38
g / C, Green / Cycle	0.13	0.36	0.36	0.13	0.36	0.36	0.04	0.32	0.32	0.01	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.11	0.36	0.36	0.13	0.27	0.26	0.03	0.20	0.20	0.01	0.31	0.28
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	215	644	644	213	642	642	66	571	571	21	523	523
d1, Uniform Delay [s]	55.80	41.75	41.67	56.85	36.68	36.42	61.95	38.12	37.77	63.81	46.12	45.33
k, delay calibration	0.08	0.42	0.42	0.09	0.26	0.25	0.08	0.50	0.50	0.08	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.29	33.24	31.64	30.24	4.12	3.70	14.27	5.56	5.05	12.55	55.06	30.14
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.88	1.00	1.00	1.02	0.75	0.73	0.79	0.65	0.62	0.49	1.06	0.96
d, Delay for Lane Group [s/veh]	64.09	74.99	73.31	87.09	40.79	40.12	76.22	43.68	42.82	76.36	101.18	75.47
Lane Group LOS	E	F	E	F	D	D	E	D	D	E	F	E
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	6.27	24.94	24.54	8.45	13.17	12.77	1.91	10.45	9.93	0.39	23.91	19.36
50th-Percentile Queue Length [ft/ln]	156.71	623.41	613.61	211.30	329.15	319.28	47.68	261.17	248.35	9.76	597.87	484.01
95th-Percentile Queue Length [veh/ln]	10.37	33.19	32.67	13.32	19.12	18.63	3.43	15.75	15.10	0.70	33.08	26.58
95th-Percentile Queue Length [ft/ln]	259.36	829.64	816.74	333.04	477.91	465.80	85.83	393.69	377.57	17.56	826.99	664.41

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	64.09	74.17	73.31	87.09	40.48	40.12	76.22	43.31	42.82	76.36	94.20	75.47
Movement LOS	E	E	E	F	D	D	E	D	D	E	F	E
d_A, Approach Delay [s/veh]	72.87			49.12			45.46			88.84		
Approach LOS	E			D			D			F		
d_I, Intersection Delay [s/veh]	65.72											
Intersection LOS	E											
Intersection V/C	0.878											

Emissions

Vehicle Miles Traveled [mph]	12.03	41.31	41.06	12.49	27.65	27.13	4.86	34.46	33.21	0.64	35.21	31.92
Stops [stops/h]	173.59	690.55	679.70	234.05	364.59	353.67	52.82	289.29	275.09	10.81	662.26	536.13
Fuel consumption [US gal/h]	6.70	26.53	26.00	9.45	12.99	12.59	1.95	9.80	9.32	0.38	24.85	18.72
CO [g/h]	468.34	1854.15	1817.25	660.25	908.25	880.33	136.32	685.23	651.21	26.38	1736.97	1308.20
NOx [g/h]	91.12	360.75	353.57	128.46	176.71	171.28	26.52	133.32	126.70	5.13	337.95	254.53
VOC [g/h]	108.54	429.72	421.16	153.02	210.50	204.02	31.59	158.81	150.92	6.11	402.56	303.19

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	715	531	577	577
d_b, Bicycle Delay [s]	26.82	35.08	32.91	32.91
l_b,int, Bicycle LOS Score for Intersection	2.776	2.524	2.200	2.437
Bicycle LOS	C	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: U.S. Route 395 (NS) at Poplar Street (EW)

Control Type:	Two-way stop	Delay (sec / veh):	77.2
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.074

Intersection Setup

Name	U.S. Route 395		U.S. Route 395		Poplar Street	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	13.00	12.00	12.00	13.00	20.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	373.00	100.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	200.00
Speed [mph]	60.00		60.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	U.S. Route 395		U.S. Route 395		Poplar Street	
Base Volume Input [veh/h]	1384	39	20	922	4	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1384	39	20	922	4	21
Peak Hour Factor	0.9760	0.9760	0.9760	0.9760	0.9760	0.9760
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	355	10	5	236	1	5
Total Analysis Volume [veh/h]	1418	40	20	945	4	22
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.04	0.01	0.07	0.06
d_M, Delay for Movement [s/veh]	0.00	0.00	13.19	0.00	77.15	15.49
Movement LOS	A	A	B	A	F	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.14	0.00	0.23	0.19
95th-Percentile Queue Length [ft/ln]	0.00	0.00	3.40	0.00	5.80	4.78
d_A, Approach Delay [s/veh]	0.00		0.27		24.97	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.37					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 3: Three Flags Avenue (NS) at Poplar Street (EW)

Control Type:	Two-way stop	Delay (sec / veh):	9.7
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.028

Intersection Setup

Name	Three Flags Avenue		Poplar Street		Poplar Street	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	16.00	16.00	14.00	14.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	300.00	0.00	0.00	0.00
Speed [mph]	40.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Three Flags Avenue		Poplar Street		Poplar Street	
Base Volume Input [veh/h]	22	74	39	18	30	11
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	22	74	39	18	30	11
Peak Hour Factor	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	20	11	5	8	3
Total Analysis Volume [veh/h]	24	82	43	20	33	12
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.08	0.00	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	9.72	9.00	0.00	0.00	7.38	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.37	0.37	0.00	0.00	0.06	0.06
95th-Percentile Queue Length [ft/ln]	9.17	9.17	0.00	0.00	1.40	1.40
d_A, Approach Delay [s/veh]	9.17		0.00		5.41	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	5.68					
Intersection LOS	A					

Intersection Level Of Service Report

Intersection 4: U.S. Route 395 (NS) at Three Flags Road - Three Flags Court (EW)

Control Type:	Signalized	Delay (sec / veh):	12.0
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.513

Intersection Setup

Name	U.S. Route 395			U.S. Route 395			Th- T			Th- T		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	1	0	1
Entry Pocket Length [ft]	190.00	100.00	207.00	225.00	100.00	225.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	60.00			60.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	No			No			No			Yes		

Volumes

Name	U.S. Route 395			U.S. Route 395			Th- T			Th- T		
Base Volume Input [veh/h]	36	1307	159	36	822	61	38	1	64	138	4	35
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	1307	159	36	822	61	38	1	64	138	4	35
Peak Hour Factor	0.9820	0.9820	0.9820	0.9820	0.9820	0.9820	0.9820	0.9820	0.9820	0.9820	0.9820	0.9820
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	333	40	9	209	16	10	0	16	35	1	9
Total Analysis Volume [veh/h]	37	1331	162	37	837	62	39	1	65	141	4	36
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Maximum Green [s]	20	50	0	20	50	0	0	20	0	0	20	0
Amber [s]	4.0	5.5	0.0	4.0	5.5	0.0	0.0	5.0	0.0	0.0	5.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	7	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	34	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	4.5	0.0	3.0	4.5	0.0	0.0	4.0	0.0	0.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	10	50	0	10	50	0	0	20	0	0	20	0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Vehicle Extension [s]	2.0	3.0	0.0	2.0	3.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	L	C	R
C, Calculated Cycle Length [s]	80	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	5.00	6.50	6.50	5.00	6.50	6.50	6.00	6.00	6.00	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	4.50	4.50	3.00	4.50	4.50	4.00	4.00	4.00	4.00	4.00
g_i, Effective Green Time [s]	3	51	51	3	51	51	8	8	8	8	8
g / C, Green / Cycle	0.04	0.64	0.64	0.04	0.64	0.64	0.11	0.11	0.11	0.11	0.11
(v / s)_i Volume / Saturation Flow Rate	0.02	0.37	0.09	0.02	0.23	0.03	0.02	0.04	0.08	0.00	0.02
s, saturation flow rate [veh/h]	1700	3600	1800	1700	3600	1800	1700	1800	1700	1800	1800
c, Capacity [veh/h]	61	2301	1151	61	2301	1151	233	191	179	191	191
d1, Uniform Delay [s]	38.01	8.26	5.72	38.01	6.78	5.39	32.71	33.18	34.85	32.03	32.61
k, delay calibration	0.04	0.50	0.50	0.04	0.50	0.50	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.57	1.07	0.26	3.57	0.45	0.09	0.12	0.40	2.88	0.02	0.18
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.61	0.58	0.14	0.61	0.36	0.05	0.17	0.35	0.79	0.02	0.19
d, Delay for Lane Group [s/veh]	41.58	9.33	5.98	41.58	7.23	5.48	32.83	33.57	37.73	32.05	32.79
Lane Group LOS	D	A	A	D	A	A	C	C	D	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.71	4.29	0.75	0.71	2.18	0.27	0.67	1.15	2.69	0.07	0.62
50th-Percentile Queue Length [ft/ln]	17.76	107.31	18.70	17.76	54.58	6.72	16.71	28.86	67.17	1.68	15.42
95th-Percentile Queue Length [veh/ln]	1.28	7.69	1.35	1.28	3.93	0.48	1.20	2.08	4.84	0.12	1.11
95th-Percentile Queue Length [ft/ln]	31.98	192.26	33.66	31.98	98.25	12.09	30.08	51.95	120.90	3.02	27.76

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	41.58	9.33	5.98	41.58	7.23	5.48	32.83	33.57	33.57	37.73	32.05	32.79
Movement LOS	D	A	A	D	A	A	C	C	C	D	C	C
d_A, Approach Delay [s/veh]	9.75			8.47			33.30			36.62		
Approach LOS	A			A			C			D		
d_I, Intersection Delay [s/veh]	11.98											
Intersection LOS	B											
Intersection V/C	0.513											

Emissions

Vehicle Miles Traveled [mph]	2.93	105.48	12.84	0.87	19.77	1.46	1.68	2.84	8.74	0.25	2.23
Stops [stops/h]	31.98	386.33	33.66	31.98	196.50	12.09	30.08	51.95	120.90	3.02	27.76
Fuel consumption [US gal/h]	1.12	14.67	1.38	1.05	6.25	0.39	0.62	1.06	2.58	0.06	0.59
CO [g/h]	78.30	1025.51	96.46	73.38	436.94	27.02	43.06	74.29	180.55	4.52	41.44
NOx [g/h]	15.23	199.53	18.77	14.28	85.01	5.26	8.38	14.46	35.13	0.88	8.06
VOC [g/h]	18.15	237.67	22.36	17.01	101.27	6.26	9.98	17.22	41.85	1.05	9.60

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	29.76
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	2.248
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1088	1088	350	350
d_b, Bicycle Delay [s]	8.33	8.33	27.23	27.23
l_b,int, Bicycle LOS Score for Intersection	2.822	2.332	1.733	1.858
Bicycle LOS	C	B	A	A

Sequence

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



Intersection Level Of Service Report
Intersection 5: U.S. Route 395 (NS) at Joshua Street (EW)

Control Type:	Signalized	Delay (sec / veh):	15.0
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.548

Intersection Setup

Name	U.S. Route 395			U.S. Route 395			Joshua Street			Joshua Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	1	0	1
Entry Pocket Length [ft]	190.00	100.00	143.00	191.00	100.00	273.00	94.00	100.00	100.00	65.00	100.00	65.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	U.S. Route 395			U.S. Route 395			Joshua Street			Joshua Street		
Base Volume Input [veh/h]	20	1326	95	104	903	17	56	50	3	75	10	121
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	1326	95	104	903	17	56	50	3	75	10	121
Peak Hour Factor	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	345	25	27	235	4	15	13	1	19	3	31
Total Analysis Volume [veh/h]	21	1378	99	108	939	18	58	52	3	78	10	126
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	105
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Maximum Green [s]	20	50	0	20	50	0	0	40	0	0	40	0
Amber [s]	3.7	5.5	0.0	3.7	5.5	0.0	0.0	4.0	0.0	0.0	4.0	0.0
All red [s]	1.0	2.0	0.0	1.0	2.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	24	0	0	0	0	0	34	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.7	5.5	0.0	2.7	5.5	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	10	39	0	20	49	0	0	46	0	0	46	0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Vehicle Extension [s]	2.5	5.0	0.0	2.5	5.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	L	C	R
C, Calculated Cycle Length [s]	105	105	105	105	105	105	105	105	105	105	105
L, Total Lost Time per Cycle [s]	4.70	7.50	7.50	4.70	7.50	7.50	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.70	5.50	5.50	2.70	5.50	5.50	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	2	70	70	8	76	76	9	9	9	9	9
g / C, Green / Cycle	0.02	0.67	0.67	0.08	0.72	0.72	0.09	0.09	0.09	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.01	0.38	0.06	0.06	0.26	0.01	0.03	0.03	0.05	0.01	0.07
s, saturation flow rate [veh/h]	1700	3600	1800	1700	3600	1800	1700	1800	1700	1800	1800
c, Capacity [veh/h]	37	2400	1200	134	2605	1302	190	163	152	163	163
d1, Uniform Delay [s]	50.84	9.46	6.18	47.55	5.43	4.05	44.95	44.78	45.50	43.66	46.68
k, delay calibration	0.08	0.50	0.50	0.08	0.50	0.50	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.38	1.01	0.13	8.07	0.39	0.02	0.33	0.45	0.99	0.06	2.92
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.56	0.57	0.08	0.80	0.36	0.01	0.30	0.34	0.51	0.06	0.77
d, Delay for Lane Group [s/veh]	60.22	10.46	6.31	55.62	5.82	4.07	45.28	45.23	46.49	43.72	49.61
Lane Group LOS	E	B	A	E	A	A	D	D	D	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.64	7.94	0.76	3.07	3.41	0.10	1.44	1.36	1.98	0.24	3.34
50th-Percentile Queue Length [ft/ln]	16.07	198.57	18.97	76.68	85.37	2.52	35.96	34.07	49.40	6.01	83.45
95th-Percentile Queue Length [veh/ln]	1.16	12.56	1.37	5.52	6.15	0.18	2.59	2.45	3.56	0.43	6.01
95th-Percentile Queue Length [ft/ln]	28.93	314.12	34.15	138.02	153.67	4.53	64.73	61.32	88.93	10.82	150.21

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	60.22	10.46	6.31	55.62	5.82	4.07	45.28	45.23	45.23	46.49	43.72	49.61
Movement LOS	E	B	A	E	A	A	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	10.89			10.84			45.26			48.20		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	14.98											
Intersection LOS	B											
Intersection V/C	0.548											

Emissions

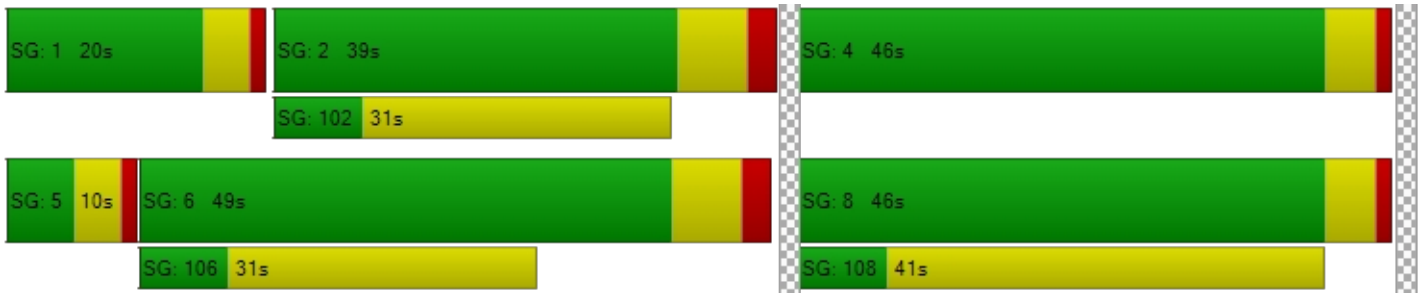
Vehicle Miles Traveled [mph]	1.10	71.99	5.17	7.10	61.72	1.18	3.20	3.04	2.75	0.35	4.44
Stops [stops/h]	22.04	544.65	26.02	105.16	234.16	3.45	49.32	46.72	67.75	8.25	114.45
Fuel consumption [US gal/h]	0.42	8.91	0.48	2.10	4.95	0.08	0.94	0.89	1.23	0.15	2.09
CO [g/h]	29.66	622.61	33.82	146.48	345.74	5.78	65.62	62.17	85.65	10.42	145.87
NOx [g/h]	5.77	121.14	6.58	28.50	67.27	1.12	12.77	12.10	16.67	2.03	28.38
VOC [g/h]	6.87	144.30	7.84	33.95	80.13	1.34	15.21	14.41	19.85	2.41	33.81

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	42.08	42.08	42.08
l_p,int, Pedestrian LOS Score for Intersectio	0.000	2.970	2.000	2.254
Crosswalk LOS	F	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	600	790	781	781
d_b, Bicycle Delay [s]	25.73	19.20	19.50	19.50
l_b,int, Bicycle LOS Score for Intersection	2.795	2.438	1.746	1.913
Bicycle LOS	C	B	A	A

Sequence

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



Intersection Level Of Service Report
Intersection 6: I-15 Southbound Off-Ramp (NS) at Joshua Street (EW)

Control Type:	Two-way stop	Delay (sec / veh):	10.3
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.024

Intersection Setup

Name	I-15 Southbound Off-Ramp		Joshua Street		Joshua Street	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	I-15 Southbound Off-Ramp		Joshua Street		Joshua Street	
Base Volume Input [veh/h]	15	178	0	213	37	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	178	0	213	37	0
Peak Hour Factor	0.8670	0.8670	0.9500	0.8670	0.8670	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	51	0	61	11	0
Total Analysis Volume [veh/h]	17	205	0	246	43	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.20	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	10.26	9.38	0.00	0.00	0.00	0.00
Movement LOS	B	A		A	A	
95th-Percentile Queue Length [veh/ln]	0.07	0.74	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.86	18.56	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.44		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.10					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 7: I-15 Southbound On-Ramp (NS) at Joshua Street (EW)

Control Type:	Two-way stop	Delay (sec / veh):	7.5
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.101

Intersection Setup

Name	I-15 Southbound On-Ramp		Joshua Street		Joshua Street	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	200.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	I-15 Southbound On-Ramp		Joshua Street		Joshua Street	
Base Volume Input [veh/h]	0	0	148	117	37	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	148	117	37	6
Peak Hour Factor	0.9500	0.9500	0.9390	0.9390	0.9390	0.9390
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	39	31	10	2
Total Analysis Volume [veh/h]	0	0	158	125	39	6
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop		Free		Free	
Flared Lane						
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance						
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.10	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.50	0.00	0.00	0.00
Movement LOS			A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.29	0.29	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	7.21	7.21	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		4.18		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.61					
Intersection LOS	A					

Appendix D

Project Opening Year (2026)

Without Project Conditions

Level of Service Analysis Worksheets

RK19177.5
JN:1219-2023-03

Intersection Level Of Service Report
Intersection 1: U.S. Route 395 (NS) at Main Street - Phelan Road (EW)

Control Type:	Signalized	Delay (sec / veh):	169.4
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.155

Intersection Setup

Name	U.S. Route 395			U.S. Route 395			Main Street - Phelan Road			Main Street - Phelan Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	278.00	100.00	100.00	240.00	100.00	100.00	337.00	100.00	100.00	247.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	60.00			60.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	No			No			No			No		

Volumes

Name	U.S. Route 395			U.S. Route 395			Main Street - Phelan Road			Main Street - Phelan Road		
Base Volume Input [veh/h]	209	1008	11	397	1261	44	65	908	212	12	1178	565
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	209	1008	11	397	1261	44	65	908	212	12	1178	565
Peak Hour Factor	0.9650	0.9650	0.9650	0.9650	0.9650	0.9650	0.9650	0.9650	0.9650	0.9650	0.9650	0.9650
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	54	261	3	103	327	11	17	235	55	3	305	146
Total Analysis Volume [veh/h]	217	1045	11	411	1307	46	67	941	220	12	1221	585
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	45	30	0	30	30	0	20	20	0	20	20	0
Amber [s]	3.7	5.5	0.0	3.7	5.5	0.0	3.7	5.5	0.0	3.7	5.5	0.0
All red [s]	1.0	2.0	0.0	1.0	2.0	0.0	1.0	2.0	0.0	1.0	2.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.7	5.5	0.0	2.7	5.5	0.0	2.7	5.5	0.0	2.7	5.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	17	36	0	28	47	0	10	46	0	20	56	0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	28	0	5	28	0	5	28	0	5	28	0
Vehicle Extension [s]	2.5	3.5	0.0	2.5	3.5	0.0	2.5	3.0	0.0	2.5	3.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Calculated Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.70	7.50	7.50	4.70	7.50	7.50	4.70	7.50	7.50	4.70	7.50	7.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.70	5.50	5.50	2.70	5.50	5.50	2.70	5.50	5.50	2.70	5.50	5.50
g_i, Effective Green Time [s]	12	29	29	23	40	40	5	52	52	2	49	49
g / C, Green / Cycle	0.09	0.22	0.22	0.18	0.30	0.30	0.04	0.40	0.40	0.01	0.37	0.37
(v / s)_i Volume / Saturation Flow Rate	0.13	0.29	0.29	0.24	0.38	0.38	0.04	0.33	0.31	0.01	0.51	0.49
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	161	395	395	305	547	547	69	719	719	24	672	672
d1, Uniform Delay [s]	58.85	50.75	50.75	53.35	45.25	45.25	62.26	35.12	34.09	63.60	40.75	40.75
k, delay calibration	0.08	0.50	0.50	0.47	0.50	0.50	0.08	0.50	0.50	0.08	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	163.75	169.35	167.48	176.05	122.71	120.64	35.72	10.87	8.28	10.95	173.10	156.80
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.35	1.34	1.34	1.35	1.24	1.23	0.97	0.83	0.78	0.49	1.36	1.33
d, Delay for Lane Group [s/veh]	222.60	220.10	218.23	229.40	167.96	165.89	97.98	45.98	42.37	74.55	213.85	197.55
Lane Group LOS	F	F	F	F	F	F	F	D	D	E	F	F
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	12.37	30.67	30.46	24.33	35.05	34.74	2.82	18.00	16.09	0.46	52.23	49.19
50th-Percentile Queue Length [ft/ln]	309.25	766.65	761.51	608.13	876.34	868.48	70.58	449.95	402.30	11.40	1305.84	1229.82
95th-Percentile Queue Length [veh/ln]	20.07	45.95	45.61	37.10	50.85	50.33	5.08	24.96	22.67	0.82	77.26	72.19
95th-Percentile Queue Length [ft/ln]	501.67	1148.65	1140.30	927.39	1271.15	1258.36	127.05	623.89	566.77	20.52	1931.41	1804.71

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	222.60	219.17	218.23	229.40	166.96	165.89	97.98	44.67	42.37	74.55	209.78	197.55
Movement LOS	F	F	F	F	F	F	F	D	D	E	F	F
d_A, Approach Delay [s/veh]	219.75			181.48			47.17			204.95		
Approach LOS	F			F			D			F		
d_I, Intersection Delay [s/veh]	169.39											
Intersection LOS	F											
Intersection V/C	1.155											

Emissions

Vehicle Miles Traveled [mph]	13.89	33.85	33.74	23.65	39.01	38.85	6.26	55.95	52.57	0.77	58.38	56.76
Stops [stops/h]	342.55	849.21	843.52	673.63	970.72	962.01	78.18	498.41	445.63	12.63	1446.47	1362.26
Fuel consumption [US gal/h]	17.87	43.61	43.20	34.88	45.96	45.38	3.00	16.73	14.89	0.44	68.66	62.99
CO [g/h]	1249.45	3048.55	3019.92	2438.21	3212.32	3172.04	209.52	1169.42	1040.49	30.90	4799.47	4402.83
NOx [g/h]	243.10	593.14	587.57	474.39	625.00	617.16	40.77	227.53	202.44	6.01	933.80	856.63
VOC [g/h]	289.57	706.53	699.90	565.08	744.49	735.15	48.56	271.02	241.14	7.16	1112.32	1020.40

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	438	608	592	746
d_b, Bicycle Delay [s]	39.62	31.50	32.20	25.55
l_b,int, Bicycle LOS Score for Intersection	2.610	3.015	2.573	3.059
Bicycle LOS	B	C	B	C

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: U.S. Route 395 (NS) at Poplar Street (EW)

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	30.866

Intersection Setup

Name	U.S. Route 395			U.S. Route 395			Poplar Street			Poplar Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	13.00	12.00	12.00	12.00	12.00	12.00	12.00	13.00	12.00	20.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	373.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	200.00
Speed [mph]	60.00			60.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	U.S. Route 395			U.S. Route 395			Poplar Street			Poplar Street		
Base Volume Input [veh/h]	71	1194	550	112	1133	29	5	0	29	119	0	25
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	71	1194	550	112	1133	29	5	0	29	119	0	25
Peak Hour Factor	0.8880	0.8880	0.8880	0.8880	0.8880	0.8880	0.8880	0.8880	0.8880	0.8880	0.8880	0.8880
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	336	155	32	319	8	1	0	8	34	0	7
Total Analysis Volume [veh/h]	80	1345	619	126	1276	33	6	0	33	134	0	28
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.15	0.01	0.01	0.43	0.01	0.00	0.77	0.00	0.08	30.87	0.00	0.11
d_M, Delay for Movement [s/veh]	13.10	0.00	0.00	26.33	0.00	0.00	823.38	1575.66	14.57	10000.0	1002.24	21.34
Movement LOS	B	A	A	D	A	A	F	F	B	F	F	C
95th-Percentile Queue Length [veh/ln]	0.53	0.00	0.00	2.07	0.00	0.00	1.39	0.26	0.26	18.87	0.38	0.38
95th-Percentile Queue Length [ft/ln]	13.37	0.00	0.00	51.69	0.00	0.00	34.86	6.55	6.55	471.76	9.41	9.41
d_A, Approach Delay [s/veh]	0.51			2.31			139.01			8275.29		
Approach LOS	A			A			F			F		
d_I, Intersection Delay [s/veh]	366.95											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 3: Three Flags Avenue (NS) at Poplar Street (EW)

Control Type:	Two-way stop	Delay (sec / veh):	127.2
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.567

Intersection Setup

Name	Three Flags Avenue			Three Flags Avenue			Poplar Street			Poplar Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	16.00	16.00	14.00	14.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	1	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Three Flags Avenue			Three Flags Avenue			Poplar Street			Poplar Street		
Base Volume Input [veh/h]	20	0	42	0	0	41	156	418	40	132	187	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	0	42	0	0	41	156	418	40	132	187	0
Peak Hour Factor	0.7500	0.7500	0.7500	0.7500	0.7500	0.7500	0.7500	0.7500	0.7500	0.7500	0.7500	0.7500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	0	14	0	0	14	52	139	13	44	62	0
Total Analysis Volume [veh/h]	27	0	56	0	0	55	208	557	53	176	249	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.57	0.00	0.11	0.00	0.00	0.07	0.16	0.01	0.00	0.18	0.00	0.00
d_M, Delay for Movement [s/veh]	127.21	108.30	58.59	88.02	64.25	9.90	8.01	0.00	0.00	8.93	0.00	0.00
Movement LOS	F	F	F	F	F	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	3.63	3.63	3.63	0.22	0.22	0.22	0.40	0.40	0.40	0.32	0.32	0.32
95th-Percentile Queue Length [ft/ln]	90.67	90.67	90.67	5.60	5.60	5.60	9.97	9.97	9.97	8.12	8.12	8.12
d_A, Approach Delay [s/veh]	80.91			9.90			2.04			3.70		
Approach LOS	F			A			A			A		
d_I, Intersection Delay [s/veh]	7.60											
Intersection LOS	F											

Intersection Level Of Service Report

Intersection 4: U.S. Route 395 (NS) at Three Flags Road - Three Flags Court (EW)

Control Type:	Signalized	Delay (sec / veh):	23.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.780

Intersection Setup

Name	U.S. Route 395			U.S. Route 395			Th- T			Th- T		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	1	0	1
Entry Pocket Length [ft]	190.00	100.00	207.00	225.00	100.00	225.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	60.00			60.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	No			No			No			Yes		

Volumes

Name	U.S. Route 395			U.S. Route 395			Th- T			Th- T		
Base Volume Input [veh/h]	25	1725	191	22	1372	81	26	1	92	308	2	47
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	25	1725	191	22	1372	81	26	1	92	308	2	47
Peak Hour Factor	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	468	52	6	372	22	7	0	25	84	1	13
Total Analysis Volume [veh/h]	27	1873	207	24	1490	88	28	1	100	334	2	51
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	95
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Maximum Green [s]	20	50	0	20	50	0	0	20	0	0	20	0
Amber [s]	4.0	5.5	0.0	4.0	5.5	0.0	0.0	5.0	0.0	0.0	5.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	7	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	34	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	4.5	0.0	3.0	4.5	0.0	0.0	4.0	0.0	0.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	10	48	0	10	48	0	0	37	0	0	37	0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Vehicle Extension [s]	2.0	3.0	0.0	2.0	3.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	L	C	R
C, Calculated Cycle Length [s]	95	95	95	95	95	95	95	95	95	95	95
L, Total Lost Time per Cycle [s]	5.00	6.50	6.50	5.00	6.50	6.50	6.00	6.00	6.00	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	4.50	4.50	3.00	4.50	4.50	4.00	4.00	4.00	4.00	4.00
g_i, Effective Green Time [s]	3	55	55	2	54	54	20	20	20	20	20
g / C, Green / Cycle	0.03	0.58	0.58	0.03	0.57	0.57	0.22	0.22	0.22	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.02	0.52	0.12	0.01	0.41	0.05	0.02	0.06	0.20	0.00	0.03
s, saturation flow rate [veh/h]	1700	3600	1800	1700	3600	1800	1700	1800	1700	1800	1800
c, Capacity [veh/h]	47	2067	1034	43	2060	1030	415	389	341	389	389
d1, Uniform Delay [s]	45.64	17.94	9.73	45.75	14.83	9.14	29.69	30.94	36.34	29.23	30.05
k, delay calibration	0.04	0.50	0.50	0.04	0.50	0.50	0.04	0.04	0.07	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.07	7.17	0.44	4.02	2.24	0.16	0.03	0.13	14.31	0.00	0.06
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.57	0.91	0.20	0.55	0.72	0.09	0.07	0.26	0.98	0.01	0.13
d, Delay for Lane Group [s/veh]	49.71	25.11	10.16	49.77	17.07	9.30	29.72	31.07	50.66	29.24	30.11
Lane Group LOS	D	C	B	D	B	A	C	C	D	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.64	15.64	1.75	0.57	9.56	0.70	0.50	1.87	8.57	0.03	0.92
50th-Percentile Queue Length [ft/ln]	16.02	391.11	43.82	14.28	238.95	17.39	12.43	46.81	214.33	0.87	22.94
95th-Percentile Queue Length [veh/ln]	1.15	22.13	3.15	1.03	14.63	1.25	0.90	3.37	13.38	0.06	1.65
95th-Percentile Queue Length [ft/ln]	28.84	553.28	78.87	25.71	365.70	31.31	22.38	84.26	334.38	1.57	41.29

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	49.71	25.11	10.16	49.77	17.07	9.30	29.72	31.07	31.07	50.66	29.24	30.11
Movement LOS	D	C	B	D	B	A	C	C	C	D	C	C
d_A, Approach Delay [s/veh]	23.96			17.14			30.77			47.84		
Approach LOS	C			B			C			D		
d_I, Intersection Delay [s/veh]	23.77											
Intersection LOS	C											
Intersection V/C	0.780											

Emissions

Vehicle Miles Traveled [mph]	2.14	148.43	16.40	0.57	35.20	2.08	1.20	4.34	20.69	0.12	3.16
Stops [stops/h]	24.28	1185.69	66.42	21.65	724.38	26.36	18.85	70.96	324.89	1.33	34.77
Fuel consumption [US gal/h]	0.88	40.85	2.46	0.74	22.39	0.82	0.40	1.49	7.38	0.03	0.77
CO [g/h]	61.72	2855.75	171.74	51.80	1565.23	57.34	27.79	104.22	515.55	2.05	53.63
NOx [g/h]	12.01	555.62	33.41	10.08	304.54	11.16	5.41	20.28	100.31	0.40	10.43
VOC [g/h]	14.31	661.85	39.80	12.00	362.76	13.29	6.44	24.16	119.48	0.48	12.43

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	37.14
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	2.335
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	874	874	653	653
d_b, Bicycle Delay [s]	15.06	15.06	21.56	21.56
l_b,int, Bicycle LOS Score for Intersection	3.298	2.881	1.772	2.198
Bicycle LOS	C	C	A	B

Sequence

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



Intersection Level Of Service Report
Intersection 5: U.S. Route 395 (NS) at Joshua Street (EW)

Control Type:	Signalized	Delay (sec / veh):	53.1
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.919

Intersection Setup

Name	U.S. Route 395			U.S. Route 395			Joshua Street			Joshua Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	1	0	1
Entry Pocket Length [ft]	190.00	100.00	143.00	191.00	100.00	273.00	94.00	100.00	100.00	65.00	100.00	65.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	U.S. Route 395			U.S. Route 395			Joshua Street			Joshua Street		
Base Volume Input [veh/h]	37	1413	41	228	1376	169	57	71	17	102	217	505
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	37	1413	41	228	1376	169	57	71	17	102	217	505
Peak Hour Factor	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	384	11	62	374	46	15	19	5	28	59	137
Total Analysis Volume [veh/h]	40	1534	45	248	1494	183	62	77	18	111	236	548
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Maximum Green [s]	20	50	0	20	50	0	0	40	0	0	40	0
Amber [s]	3.7	5.5	0.0	3.7	5.5	0.0	0.0	4.0	0.0	0.0	4.0	0.0
All red [s]	1.0	2.0	0.0	1.0	2.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	24	0	0	0	0	0	34	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.7	5.5	0.0	2.7	5.5	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	12	61	0	23	72	0	0	46	0	0	46	0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Vehicle Extension [s]	2.5	5.0	0.0	2.5	5.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	L	C	R
C, Calculated Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.70	7.50	7.50	4.70	7.50	7.50	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.70	5.50	5.50	2.70	5.50	5.50	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	4	54	54	18	68	68	41	41	41	41	41
g / C, Green / Cycle	0.03	0.41	0.41	0.14	0.52	0.52	0.32	0.32	0.32	0.32	0.32
(v / s)_i Volume / Saturation Flow Rate	0.02	0.43	0.03	0.15	0.42	0.10	0.04	0.05	0.07	0.13	0.30
s, saturation flow rate [veh/h]	1700	3600	1800	1700	3600	1800	1700	1800	1700	1800	1800
c, Capacity [veh/h]	52	1482	741	239	1880	940	390	567	500	567	567
d1, Uniform Delay [s]	62.58	38.24	23.07	55.85	25.38	16.53	31.64	32.18	32.61	35.08	43.83
k, delay calibration	0.08	0.50	0.50	0.36	0.50	0.50	0.04	0.04	0.04	0.04	0.41
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	16.42	32.90	0.16	59.21	3.57	0.46	0.07	0.05	0.08	0.18	26.72
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	1.03	0.06	1.04	0.79	0.19	0.16	0.17	0.22	0.42	0.97
d, Delay for Lane Group [s/veh]	79.00	71.14	23.23	115.06	28.95	16.99	31.71	32.23	32.69	35.26	70.55
Lane Group LOS	E	F	C	F	C	B	C	C	C	D	E
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.55	29.90	0.88	11.77	19.27	3.05	1.41	2.20	2.61	5.96	21.42
50th-Percentile Queue Length [ft/ln]	38.81	747.56	21.99	294.36	481.72	76.15	35.33	54.97	65.14	149.05	535.56
95th-Percentile Queue Length [veh/ln]	2.79	39.89	1.58	17.69	26.47	5.48	2.54	3.96	4.69	9.97	29.01
95th-Percentile Queue Length [ft/ln]	69.87	997.18	39.58	442.35	661.70	137.07	63.60	98.95	117.25	249.16	725.33

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	79.00	71.14	23.23	115.06	28.95	16.99	31.71	32.23	32.23	32.69	35.26	70.55
Movement LOS	E	F	C	F	C	B	C	C	C	C	D	E
d_A, Approach Delay [s/veh]	70.00			38.91			32.02			56.55		
Approach LOS	E			D			C			E		
d_I, Intersection Delay [s/veh]	53.06											
Intersection LOS	D											
Intersection V/C	0.919											

Emissions

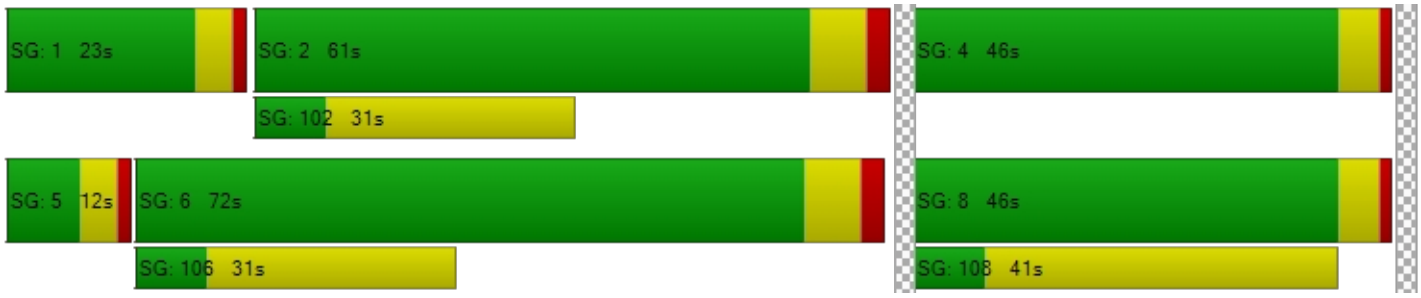
Vehicle Miles Traveled [mph]	2.09	80.13	2.35	16.30	98.20	12.03	3.43	5.25	3.91	8.31	19.31
Stops [stops/h]	42.99	1656.14	24.36	326.06	1067.20	84.35	39.14	60.90	72.16	165.10	593.24
Fuel consumption [US gal/h]	0.97	34.65	0.44	8.28	18.74	1.59	0.76	1.18	1.30	2.95	11.94
CO [g/h]	67.56	2422.26	31.04	578.67	1309.93	111.41	52.93	82.17	90.74	206.06	834.52
NOx [g/h]	13.14	471.28	6.04	112.59	254.87	21.68	10.30	15.99	17.65	40.09	162.37
VOC [g/h]	15.66	561.38	7.19	134.11	303.59	25.82	12.27	19.04	21.03	47.76	193.41

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	54.47	54.47	54.47
l_p,int, Pedestrian LOS Score for Intersectio	0.000	3.220	2.158	2.457
Crosswalk LOS	F	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	823	992	631	631
d_b, Bicycle Delay [s]	22.51	16.50	30.47	30.47
l_b,int, Bicycle LOS Score for Intersection	2.895	3.148	1.819	3.036
Bicycle LOS	C	C	A	C

Sequence

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



Intersection Level Of Service Report
Intersection 6: I-15 Southbound Off-Ramp (NS) at Joshua Street (EW)

Control Type:	Two-way stop	Delay (sec / veh):	56.3
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.010

Intersection Setup

Name	I-15 Southbound Off-Ramp		Joshua Street		Joshua Street	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	I-15 Southbound Off-Ramp		Joshua Street		Joshua Street	
Base Volume Input [veh/h]	12	640	0	311	167	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	640	0	311	167	0
Peak Hour Factor	0.7700	0.7700	0.9500	0.7700	0.7700	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	208	0	101	54	0
Total Analysis Volume [veh/h]	16	831	0	404	217	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	1.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	13.28	56.26	0.00	0.00	0.00	0.00
Movement LOS	B	F		A	A	
95th-Percentile Queue Length [veh/ln]	0.11	18.17	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	2.75	454.29	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	55.45		0.00		0.00	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	31.99					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 7: I-15 Southbound On-Ramp (NS) at Joshua Street (EW)

Control Type:	Two-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.247

Intersection Setup

Name	I-15 Southbound On-Ramp		Joshua Street		Joshua Street	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	200.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	I-15 Southbound On-Ramp		Joshua Street		Joshua Street	
Base Volume Input [veh/h]	0	0	255	69	167	43
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	255	69	167	43
Peak Hour Factor	0.9500	0.9500	0.7950	0.7950	0.7950	0.7950
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	80	22	53	14
Total Analysis Volume [veh/h]	0	0	321	87	210	54
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop		Free		Free	
Flared Lane						
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance						
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.25	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	8.36	0.00	0.00	0.00
Movement LOS			A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.77	0.77	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	19.14	19.14	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		6.57		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.99					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 1: U.S. Route 395 (NS) at Main Street - Phelan Road (EW)

Control Type:	Signalized	Delay (sec / veh):	253.6
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.369

Intersection Setup

Name	U.S. Route 395			U.S. Route 395			Main Street - Phelan Road			Main Street - Phelan Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	278.00	100.00	100.00	240.00	100.00	100.00	337.00	100.00	100.00	247.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	60.00			60.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	No			No			No			No		

Volumes

Name	U.S. Route 395			U.S. Route 395			Main Street - Phelan Road			Main Street - Phelan Road		
Base Volume Input [veh/h]	274	1438	37	627	1099	64	63	1318	191	14	967	448
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	274	1438	37	627	1099	64	63	1318	191	14	967	448
Peak Hour Factor	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	72	377	10	164	288	17	17	346	50	4	254	118
Total Analysis Volume [veh/h]	288	1509	39	658	1153	67	66	1383	200	15	1015	470
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	45	30	0	30	30	0	20	20	0	20	20	0
Amber [s]	3.7	5.5	0.0	3.7	5.5	0.0	3.7	5.5	0.0	3.7	5.5	0.0
All red [s]	1.0	2.0	0.0	1.0	2.0	0.0	1.0	2.0	0.0	1.0	2.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.7	5.5	0.0	2.7	5.5	0.0	2.7	5.5	0.0	2.7	5.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	24	42	0	35	53	0	10	43	0	10	43	0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	28	0	5	28	0	5	28	0	5	28	0
Vehicle Extension [s]	2.5	3.5	0.0	2.5	3.5	0.0	2.5	3.0	0.0	2.5	3.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Calculated Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.70	7.50	7.50	4.70	7.50	7.50	4.70	7.50	7.50	4.70	7.50	7.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.70	5.50	5.50	2.70	5.50	5.50	2.70	5.50	5.50	2.70	5.50	5.50
g_i, Effective Green Time [s]	19	35	35	30	46	46	5	39	39	2	36	36
g / C, Green / Cycle	0.15	0.27	0.27	0.23	0.35	0.35	0.04	0.30	0.30	0.02	0.27	0.27
(v / s)_i Volume / Saturation Flow Rate	0.17	0.43	0.43	0.39	0.34	0.34	0.04	0.44	0.43	0.01	0.43	0.40
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	252	478	478	396	630	630	69	535	535	29	492	492
d1, Uniform Delay [s]	55.35	47.75	47.75	49.85	41.57	41.51	62.22	45.70	45.70	63.39	47.25	47.25
k, delay calibration	0.08	0.50	0.50	0.50	0.40	0.40	0.08	0.50	0.50	0.08	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	71.69	289.33	287.97	308.30	25.46	24.92	32.84	233.67	218.72	10.54	266.30	214.09
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.14	1.62	1.62	1.66	0.97	0.97	0.95	1.50	1.46	0.52	1.57	1.45
d, Delay for Lane Group [s/veh]	127.04	337.08	335.72	358.15	67.03	66.43	95.07	279.36	264.42	73.93	313.55	261.34
Lane Group LOS	F	F	F	F	E	E	F	F	F	E	F	F
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	12.88	52.88	52.70	46.05	22.23	22.06	2.73	50.93	48.72	0.56	51.39	44.26
50th-Percentile Queue Length [ft/ln]	322.01	1321.96	1317.46	1151.15	555.71	551.56	68.37	1273.36	1217.89	14.01	1284.77	1106.58
95th-Percentile Queue Length [veh/ln]	19.91	81.22	80.92	71.28	29.96	29.77	4.92	77.18	73.49	1.01	78.54	66.75
95th-Percentile Queue Length [ft/ln]	497.67	2030.39	2022.97	1782.03	749.01	744.14	123.06	1929.44	1837.29	25.22	1963.47	1668.83

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	127.04	336.42	335.72	358.15	66.75	66.43	95.07	273.07	264.42	73.93	301.04	261.34
Movement LOS	F	F	F	F	E	E	F	F	F	E	F	F
d_A, Approach Delay [s/veh]	303.56			168.84			264.90			286.33		
Approach LOS	F			F			F			F		
d_I, Intersection Delay [s/veh]	253.64											
Intersection LOS	F											
Intersection V/C	1.369											

Emissions

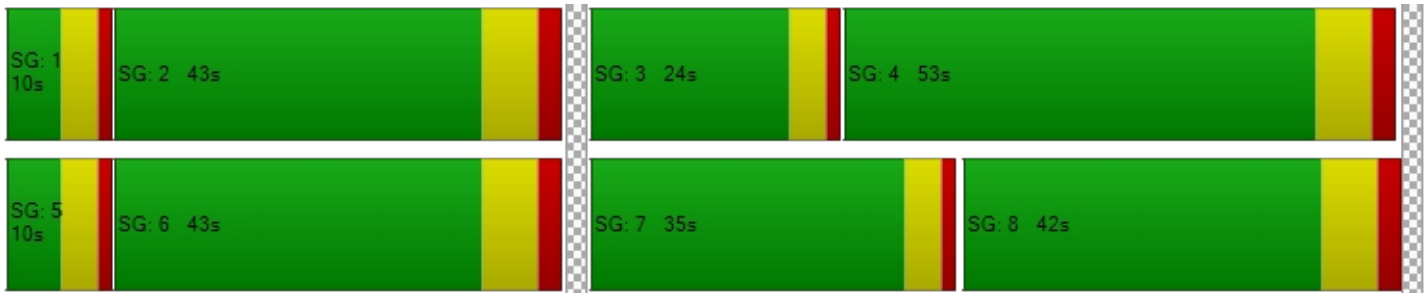
Vehicle Miles Traveled [mph]	18.43	49.59	49.49	37.86	35.15	35.06	6.17	74.84	73.13	0.96	49.21	45.47
Stops [stops/h]	356.69	1464.33	1459.34	1275.13	615.55	610.96	75.73	1410.49	1349.05	15.52	1423.13	1225.75
Fuel consumption [US gal/h]	15.96	87.20	86.77	77.43	23.14	22.94	2.89	74.21	69.59	0.55	77.32	62.21
CO [g/h]	1115.54	6094.95	6065.08	5412.23	1617.42	1603.35	201.99	5187.17	4864.65	38.16	5404.35	4348.57
NOx [g/h]	217.04	1185.86	1180.04	1053.02	314.69	311.95	39.30	1009.23	946.48	7.43	1051.49	846.07
VOC [g/h]	258.54	1412.56	1405.64	1254.34	374.85	371.59	46.81	1202.18	1127.43	8.84	1252.51	1007.82

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	531	700	546	546
d_b, Bicycle Delay [s]	35.08	27.46	34.35	34.35
l_b,int, Bicycle LOS Score for Intersection	3.074	3.109	2.920	2.797
Bicycle LOS	C	C	C	C

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: U.S. Route 395 (NS) at Poplar Street (EW)

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	51.445

Intersection Setup

Name	U.S. Route 395			U.S. Route 395			Poplar Street			Poplar Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	13.00	12.00	12.00	12.00	12.00	12.00	12.00	13.00	12.00	20.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	373.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	200.00
Speed [mph]	60.00			60.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	U.S. Route 395			U.S. Route 395			Poplar Street			Poplar Street		
Base Volume Input [veh/h]	37	1632	152	43	1248	15	25	0	56	438	0	92
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	37	1632	152	43	1248	15	25	0	56	438	0	92
Peak Hour Factor	0.9760	0.9760	0.9760	0.9760	0.9760	0.9760	0.9760	0.9760	0.9760	0.9760	0.9760	0.9760
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	418	39	11	320	4	6	0	14	112	0	24
Total Analysis Volume [veh/h]	38	1672	156	44	1279	15	26	0	57	449	0	94
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.02	0.00	0.13	0.01	0.00	2.30	0.00	0.14	51.44	0.00	0.34
d_M, Delay for Movement [s/veh]	12.29	0.00	0.00	17.56	0.00	0.00	1261.37	519.55	15.09	10000.0	472.02	24.68
Movement LOS	B	A	A	C	A	A	F	F	C	F	F	C
95th-Percentile Queue Length [veh/ln]	0.23	0.00	0.00	0.46	0.00	0.00	4.17	0.47	0.47	57.94	1.46	1.46
95th-Percentile Queue Length [ft/ln]	5.75	0.00	0.00	11.38	0.00	0.00	104.35	11.86	11.86	1448.50	36.49	36.49
d_A, Approach Delay [s/veh]	0.25			0.58			405.49			8273.15		
Approach LOS	A			A			F			F		
d_I, Intersection Delay [s/veh]	1182.04											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 3: Three Flags Avenue (NS) at Poplar Street (EW)

Control Type:	Two-way stop	Delay (sec / veh):	27.0
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.158

Intersection Setup

Name	Three Flags Avenue			Three Flags Avenue			Poplar Street			Poplar Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	16.00	16.00	14.00	14.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	1	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Three Flags Avenue			Three Flags Avenue			Poplar Street			Poplar Street		
Base Volume Input [veh/h]	28	0	139	0	0	153	32	211	25	73	315	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	28	0	139	0	0	153	32	211	25	73	315	0
Peak Hour Factor	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	0	38	0	0	42	9	58	7	20	87	0
Total Analysis Volume [veh/h]	31	0	154	0	0	169	35	233	28	81	348	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.16	0.00	0.19	0.00	0.00	0.24	0.03	0.00	0.00	0.06	0.00	0.00
d_M, Delay for Movement [s/veh]	27.04	21.85	13.24	26.10	20.06	11.83	8.01	0.00	0.00	7.86	0.00	0.00
Movement LOS	D	C	B	D	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.58	1.58	1.58	0.95	0.95	0.95	0.06	0.06	0.06	0.14	0.14	0.14
95th-Percentile Queue Length [ft/ln]	39.38	39.38	39.38	23.75	23.75	23.75	1.52	1.52	1.52	3.53	3.53	3.53
d_A, Approach Delay [s/veh]	15.55			11.83			0.95			1.48		
Approach LOS	C			B			A			A		
d_I, Intersection Delay [s/veh]	5.37											
Intersection LOS	D											

Intersection Level Of Service Report

Intersection 4: U.S. Route 395 (NS) at Three Flags Road - Three Flags Court (EW)

Control Type:	Signalized	Delay (sec / veh):	18.2
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.694

Intersection Setup

Name	U.S. Route 395			U.S. Route 395			Th- T			Th- T		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	1	0	1
Entry Pocket Length [ft]	190.00	100.00	207.00	225.00	100.00	225.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	60.00			60.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	No			No			No			Yes		

Volumes

Name	U.S. Route 395			U.S. Route 395			Th- T			Th- T		
Base Volume Input [veh/h]	37	1694	292	37	1659	63	40	1	67	240	4	36
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	37	1694	292	37	1659	63	40	1	67	240	4	36
Peak Hour Factor	0.9820	0.9820	0.9820	0.9820	0.9820	0.9820	0.9820	0.9820	0.9820	0.9820	0.9820	0.9820
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	431	74	9	422	16	10	0	17	61	1	9
Total Analysis Volume [veh/h]	38	1725	297	38	1689	64	41	1	68	244	4	37
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	85
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Maximum Green [s]	20	50	0	20	50	0	0	20	0	0	20	0
Amber [s]	4.0	5.5	0.0	4.0	5.5	0.0	0.0	5.0	0.0	0.0	5.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	7	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	34	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	4.5	0.0	3.0	4.5	0.0	0.0	4.0	0.0	0.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	10	48	0	10	48	0	0	27	0	0	27	0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Vehicle Extension [s]	2.0	3.0	0.0	2.0	3.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	L	C	R
C, Calculated Cycle Length [s]	85	85	85	85	85	85	85	85	85	85	85
L, Total Lost Time per Cycle [s]	5.00	6.50	6.50	5.00	6.50	6.50	6.00	6.00	6.00	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	4.50	4.50	3.00	4.50	4.50	4.00	4.00	4.00	4.00	4.00
g_i, Effective Green Time [s]	3	50	50	3	50	50	14	14	14	14	14
g / C, Green / Cycle	0.04	0.59	0.59	0.04	0.59	0.59	0.17	0.17	0.17	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.02	0.48	0.17	0.02	0.47	0.04	0.02	0.04	0.14	0.00	0.02
s, saturation flow rate [veh/h]	1700	3600	1800	1700	3600	1800	1700	1800	1700	1800	1800
c, Capacity [veh/h]	61	2134	1067	61	2134	1067	332	298	280	298	298
d1, Uniform Delay [s]	40.43	13.53	8.44	40.43	13.27	7.31	30.31	30.76	34.54	29.65	30.20
k, delay calibration	0.04	0.50	0.50	0.04	0.50	0.50	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.94	3.42	0.65	3.94	3.10	0.11	0.06	0.15	3.32	0.01	0.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.63	0.81	0.28	0.63	0.79	0.06	0.12	0.23	0.87	0.01	0.12
d, Delay for Lane Group [s/veh]	44.37	16.95	9.09	44.37	16.37	7.41	30.37	30.91	37.86	29.65	30.27
Lane Group LOS	D	B	A	D	B	A	C	C	D	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.79	9.86	2.09	0.79	9.42	0.39	0.69	1.19	4.92	0.07	0.62
50th-Percentile Queue Length [ft/ln]	19.66	246.51	52.31	19.66	235.43	9.66	17.34	29.67	123.08	1.65	15.61
95th-Percentile Queue Length [veh/ln]	1.42	15.01	3.77	1.42	14.45	0.70	1.25	2.14	8.56	0.12	1.12
95th-Percentile Queue Length [ft/ln]	35.39	375.26	94.17	35.39	361.25	17.39	31.21	53.41	214.05	2.98	28.09

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	44.37	16.95	9.09	44.37	16.37	7.41	30.37	30.91	30.91	37.86	29.65	30.27
Movement LOS	D	B	A	D	B	A	C	C	C	D	C	C
d_A, Approach Delay [s/veh]	16.32			16.65			30.71			36.76		
Approach LOS	B			B			C			D		
d_I, Intersection Delay [s/veh]	18.20											
Intersection LOS	B											
Intersection V/C	0.694											

Emissions

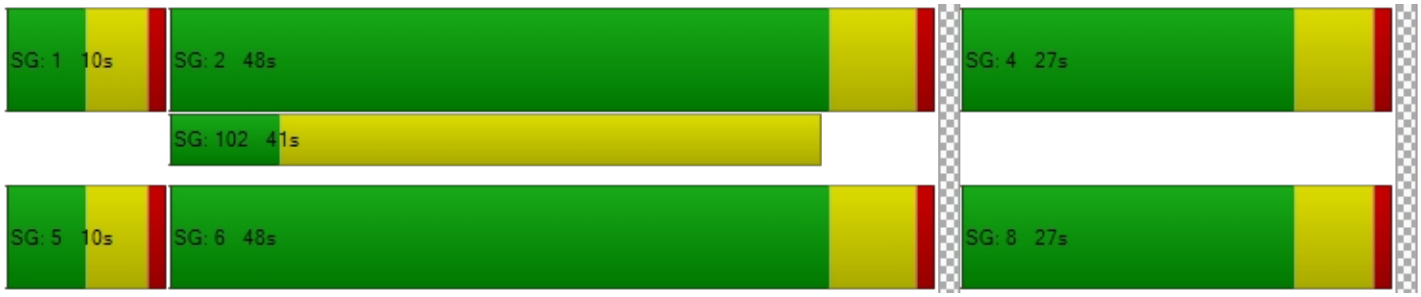
Vehicle Miles Traveled [mph]	3.01	136.71	23.54	0.90	39.90	1.51	1.76	2.97	15.12	0.25	2.29
Stops [stops/h]	33.31	835.24	88.63	33.31	797.69	16.37	29.38	50.27	208.51	2.80	26.44
Fuel consumption [US gal/h]	1.18	29.09	3.31	1.11	24.62	0.51	0.61	1.03	4.47	0.06	0.57
CO [g/h]	82.64	2033.05	231.56	77.59	1721.25	35.65	42.30	72.28	312.43	4.23	39.83
NOx [g/h]	16.08	395.56	45.05	15.10	334.89	6.94	8.23	14.06	60.79	0.82	7.75
VOC [g/h]	19.15	471.18	53.67	17.98	398.92	8.26	9.80	16.75	72.41	0.98	9.23

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	32.21
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	2.329
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	976	976	494	494
d_b, Bicycle Delay [s]	11.13	11.13	24.09	24.09
l_b,int, Bicycle LOS Score for Intersection	3.259	3.037	1.741	2.030
Bicycle LOS	C	C	A	B

Sequence

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



Intersection Level Of Service Report
Intersection 5: U.S. Route 395 (NS) at Joshua Street (EW)

Control Type:	Signalized	Delay (sec / veh):	53.7
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.945

Intersection Setup

Name	U.S. Route 395			U.S. Route 395			Joshua Street			Joshua Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	1	0	1
Entry Pocket Length [ft]	190.00	100.00	143.00	191.00	100.00	273.00	94.00	100.00	100.00	65.00	100.00	65.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	U.S. Route 395			U.S. Route 395			Joshua Street			Joshua Street		
Base Volume Input [veh/h]	33	1562	99	467	1417	82	196	244	35	78	81	286
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	33	1562	99	467	1417	82	196	244	35	78	81	286
Peak Hour Factor	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	406	26	121	368	21	51	63	9	20	21	74
Total Analysis Volume [veh/h]	34	1624	103	485	1473	85	204	254	36	81	84	297
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Maximum Green [s]	20	50	0	20	50	0	0	40	0	0	40	0
Amber [s]	3.7	5.5	0.0	3.7	5.5	0.0	0.0	4.0	0.0	0.0	4.0	0.0
All red [s]	1.0	2.0	0.0	1.0	2.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	24	0	0	0	0	0	34	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.7	5.5	0.0	2.7	5.5	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	10	41	0	37	68	0	0	52	0	0	52	0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Vehicle Extension [s]	2.5	5.0	0.0	2.5	5.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	L	C	R
C, Calculated Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.70	7.50	7.50	4.70	7.50	7.50	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.70	5.50	5.50	2.70	5.50	5.50	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	4	57	57	32	86	86	24	24	24	24	24
g / C, Green / Cycle	0.03	0.44	0.44	0.25	0.66	0.66	0.18	0.18	0.18	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.02	0.45	0.06	0.29	0.41	0.05	0.12	0.16	0.05	0.05	0.17
s, saturation flow rate [veh/h]	1700	3600	1800	1700	3600	1800	1700	1800	1700	1800	1800
c, Capacity [veh/h]	47	1575	788	422	2371	1186	281	327	86	327	327
d1, Uniform Delay [s]	62.74	36.56	21.81	48.85	12.82	7.95	49.46	51.89	45.71	45.66	52.13
k, delay calibration	0.08	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	14.90	31.02	0.34	90.93	1.24	0.12	1.34	3.25	16.75	0.15	3.99
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.73	1.03	0.13	1.15	0.62	0.07	0.73	0.89	0.94	0.26	0.91
d, Delay for Lane Group [s/veh]	77.64	67.58	22.15	139.78	14.06	8.07	50.81	55.14	62.46	45.81	56.12
Lane Group LOS	E	F	C	F	B	A	D	E	E	D	E
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.31	31.17	1.98	24.30	12.15	0.88	6.29	9.52	2.67	2.36	9.85
50th-Percentile Queue Length [ft/ln]	32.78	779.16	49.43	607.50	303.84	21.98	157.26	238.00	66.73	59.12	246.33
95th-Percentile Queue Length [veh/ln]	2.36	41.28	3.56	35.05	17.87	1.58	10.40	14.58	4.80	4.26	15.00
95th-Percentile Queue Length [ft/ln]	59.01	1032.11	88.97	876.13	446.77	39.57	260.09	364.50	120.12	106.42	375.03

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	77.64	67.58	22.15	139.78	14.06	8.07	50.81	55.14	55.14	62.46	45.81	56.12
Movement LOS	E	F	C	F	B	A	D	E	E	E	D	E
d_A, Approach Delay [s/veh]	65.11			43.65			53.35			55.36		
Approach LOS	E			D			D			E		
d_I, Intersection Delay [s/veh]	53.74											
Intersection LOS	D											
Intersection V/C	0.945											

Emissions

Vehicle Miles Traveled [mph]	1.78	84.84	5.38	31.88	96.82	5.59	11.27	16.02	2.85	2.96	10.46
Stops [stops/h]	36.32	1726.14	54.75	672.93	673.12	24.35	174.20	263.63	73.92	65.49	272.86
Fuel consumption [US gal/h]	0.81	35.36	0.99	18.82	11.92	0.50	3.54	5.37	1.56	1.27	5.33
CO [g/h]	56.68	2471.62	69.08	1315.74	833.09	35.23	247.12	375.36	108.71	88.54	372.54
NOx [g/h]	11.03	480.89	13.44	255.99	162.09	6.86	48.08	73.03	21.15	17.23	72.48
VOC [g/h]	13.14	572.82	16.01	304.93	193.08	8.17	57.27	86.99	25.19	20.52	86.34

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	54.47	54.47	54.47
l_p,int, Pedestrian LOS Score for Intersectio	0.000	3.438	2.184	2.467
Crosswalk LOS	F	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	515	931	723	723
d_b, Bicycle Delay [s]	35.82	18.58	26.50	26.50
l_b,int, Bicycle LOS Score for Intersection	3.012	3.245	2.375	2.322
Bicycle LOS	C	C	B	B

Sequence

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



Intersection Level Of Service Report
Intersection 6: I-15 Southbound Off-Ramp (NS) at Joshua Street (EW)

Control Type:	Two-way stop	Delay (sec / veh):	22.6
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.224

Intersection Setup

Name	I-15 Southbound Off-Ramp		Joshua Street		Joshua Street	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	I-15 Southbound Off-Ramp		Joshua Street		Joshua Street	
Base Volume Input [veh/h]	51	346	0	773	108	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	51	346	0	773	108	0
Peak Hour Factor	0.8670	0.8670	0.9500	0.8670	0.8670	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	100	0	223	31	0
Total Analysis Volume [veh/h]	59	399	0	892	125	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.22	0.43	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	22.58	11.80	0.00	0.00	0.00	0.00
Movement LOS	C	B		A	A	
95th-Percentile Queue Length [veh/ln]	0.84	2.20	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	20.97	54.99	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	13.19		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	4.10					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 7: I-15 Southbound On-Ramp (NS) at Joshua Street (EW)

Control Type:	Two-way stop	Delay (sec / veh):	8.5
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.422

Intersection Setup

Name	I-15 Southbound On-Ramp		Joshua Street		Joshua Street	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	200.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	I-15 Southbound On-Ramp		Joshua Street		Joshua Street	
Base Volume Input [veh/h]	0	0	571	290	108	26
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	571	290	108	26
Peak Hour Factor	0.9500	0.9500	0.9390	0.9390	0.9390	0.9390
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	152	77	29	7
Total Analysis Volume [veh/h]	0	0	608	309	115	28
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop		Free		Free	
Flared Lane						
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance						
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.42	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	8.52	0.00	0.00	0.00
Movement LOS			A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	1.52	1.52	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	37.91	37.91	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		5.65		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.89					
Intersection LOS	A					

Appendix E

Project Opening Year (2026)

With Project Conditions

Level of Service Analysis Worksheets

RK19177.5
JN:1219-2023-03

Intersection Level Of Service Report
Intersection 1: U.S. Route 395 (NS) at Main Street - Phelan Road (EW)

Control Type:	Signalized	Delay (sec / veh):	169.5
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.155

Intersection Setup

Name	U.S. Route 395			U.S. Route 395			Main Street - Phelan Road			Main Street - Phelan Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	278.00	100.00	100.00	240.00	100.00	100.00	337.00	100.00	100.00	247.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	60.00			60.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	No			No			No			No		

Volumes

Name	U.S. Route 395			U.S. Route 395			Main Street - Phelan Road			Main Street - Phelan Road		
Base Volume Input [veh/h]	209	1008	11	397	1263	44	65	908	214	12	1178	565
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	209	1008	11	397	1263	44	65	908	214	12	1178	565
Peak Hour Factor	0.9650	0.9650	0.9650	0.9650	0.9650	0.9650	0.9650	0.9650	0.9650	0.9650	0.9650	0.9650
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	54	261	3	103	327	11	17	235	55	3	305	146
Total Analysis Volume [veh/h]	217	1045	11	411	1309	46	67	941	222	12	1221	585
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	8	7	4	4	5	2	2	1	6	6
Auxiliary Signal Groups												
Maximum Green [s]	45	30	30	30	30	30	20	20	20	20	20	20
Amber [s]	3.7	5.5	5.5	3.7	5.5	5.5	3.7	5.5	5.5	3.7	5.5	5.5
All red [s]	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.7	5.5	5.5	2.7	5.5	5.5	2.7	5.5	5.5	2.7	5.5	5.5
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	17	36	36	28	47	47	10	46	46	20	56	56
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	28	28	5	28	28	5	28	28	5	28	28
Vehicle Extension [s]	2.5	3.5	3.5	2.5	3.5	3.5	2.5	3.0	3.0	2.5	3.0	3.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Calculated Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.70	7.50	7.50	4.70	7.50	7.50	4.70	7.50	7.50	4.70	7.50	7.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.70	5.50	5.50	2.70	5.50	5.50	2.70	5.50	5.50	2.70	5.50	5.50
g_i, Effective Green Time [s]	12	29	29	23	40	40	5	52	52	2	49	49
g / C, Green / Cycle	0.09	0.22	0.22	0.18	0.30	0.30	0.04	0.40	0.40	0.01	0.37	0.37
(v / s)_i Volume / Saturation Flow Rate	0.13	0.29	0.29	0.24	0.38	0.38	0.04	0.33	0.31	0.01	0.51	0.49
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	161	395	395	305	547	547	69	719	719	24	672	672
d1, Uniform Delay [s]	58.85	50.75	50.75	53.35	45.25	45.25	62.26	35.15	34.11	63.60	40.75	40.75
k, delay calibration	0.08	0.50	0.50	0.47	0.50	0.50	0.08	0.50	0.50	0.08	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	163.75	169.35	167.48	176.05	123.45	121.40	35.72	10.96	8.34	10.95	173.10	156.80
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.35	1.34	1.34	1.35	1.24	1.24	0.97	0.83	0.78	0.49	1.36	1.33
d, Delay for Lane Group [s/veh]	222.60	220.10	218.23	229.40	168.70	166.65	97.98	46.11	42.45	74.55	213.85	197.55
Lane Group LOS	F	F	F	F	F	F	F	D	D	E	F	F
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	12.37	30.67	30.46	24.33	35.17	34.85	2.82	18.06	16.13	0.46	52.23	49.19
50th-Percentile Queue Length [ft/ln]	309.25	766.65	761.51	608.13	879.16	871.37	70.58	451.58	403.35	11.40	1305.84	1229.82
95th-Percentile Queue Length [veh/ln]	20.07	45.95	45.61	37.10	51.03	50.52	5.08	25.03	22.72	0.82	77.26	72.19
95th-Percentile Queue Length [ft/ln]	501.67	1148.65	1140.30	927.39	1275.75	1263.07	127.05	625.83	568.04	20.52	1931.41	1804.71

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	222.60	219.17	218.23	229.40	167.71	166.65	97.98	44.78	42.45	74.55	209.78	197.55
Movement LOS	F	F	F	F	F	F	F	D	D	E	F	F
d_A, Approach Delay [s/veh]	219.75			182.04			47.26			204.95		
Approach LOS	F			F			D			F		
d_I, Intersection Delay [s/veh]	169.53											
Intersection LOS	F											
Intersection V/C	1.155											

Emissions

Vehicle Miles Traveled [mph]	13.89	33.85	33.74	23.65	39.07	38.91	6.26	56.06	52.65	0.77	58.38	56.76
Stops [stops/h]	342.55	849.21	843.52	673.63	973.84	965.21	78.18	500.21	446.79	12.63	1446.47	1362.26
Fuel consumption [US gal/h]	17.87	43.61	43.20	34.88	46.16	45.59	3.00	16.79	14.93	0.44	68.66	62.99
CO [g/h]	1249.45	3048.55	3019.92	2438.21	3226.82	3186.84	209.52	1173.89	1043.30	30.90	4799.47	4402.83
NOx [g/h]	243.10	593.14	587.57	474.39	627.82	620.04	40.77	228.40	202.99	6.01	933.80	856.63
VOC [g/h]	289.57	706.53	699.90	565.08	747.85	738.58	48.56	272.06	241.80	7.16	1112.32	1020.40

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	438	608	592	746
d_b, Bicycle Delay [s]	39.62	31.50	32.20	25.55
l_b,int, Bicycle LOS Score for Intersection	2.610	3.017	2.574	3.059
Bicycle LOS	B	C	B	C

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: U.S. Route 395 (NS) at Poplar Street (EW)

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	34.488

Intersection Setup

Name	U.S. Route 395			U.S. Route 395			Poplar Street			Poplar Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	13.00	12.00	12.00	12.00	12.00	12.00	12.00	13.00	12.00	20.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	373.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	200.00
Speed [mph]	60.00			60.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	U.S. Route 395			U.S. Route 395			Poplar Street			Poplar Street		
Base Volume Input [veh/h]	71	1194	556	116	1133	29	5	0	29	125	0	26
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	71	1194	556	116	1133	29	5	0	29	125	0	26
Peak Hour Factor	0.8880	0.8880	0.8880	0.8880	0.8880	0.8880	0.8880	0.8880	0.8880	0.8880	0.8880	0.8880
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	336	157	33	319	8	1	0	8	35	0	7
Total Analysis Volume [veh/h]	80	1345	626	131	1276	33	6	0	33	141	0	29
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.15	0.01	0.01	0.45	0.01	0.00	0.82	0.00	0.08	34.49	0.00	0.12
d_M, Delay for Movement [s/veh]	13.10	0.00	0.00	27.19	0.00	0.00	885.05	1676.57	14.57	10000.0	1060.30	21.51
Movement LOS	B	A	A	D	A	A	F	F	B	F	F	C
95th-Percentile Queue Length [veh/ln]	0.53	0.00	0.00	2.22	0.00	0.00	1.42	0.26	0.26	19.79	0.39	0.39
95th-Percentile Queue Length [ft/ln]	13.37	0.00	0.00	55.45	0.00	0.00	35.50	6.55	6.55	494.66	9.84	9.84
d_A, Approach Delay [s/veh]	0.51			2.47			148.49			8297.79		
Approach LOS	A			A			F			F		
d_I, Intersection Delay [s/veh]	384.06											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 3: Three Flags Avenue (NS) at Poplar Street (EW)

Control Type:	Two-way stop	Delay (sec / veh):	138.6
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.600

Intersection Setup

Name	Three Flags Avenue			Three Flags Avenue			Poplar Street			Poplar Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	16.00	16.00	14.00	14.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	1	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Three Flags Avenue			Three Flags Avenue			Poplar Street			Poplar Street		
Base Volume Input [veh/h]	20	0	46	0	0	41	156	428	40	133	194	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	0	46	0	0	41	156	428	40	133	194	0
Peak Hour Factor	0.7500	0.7500	0.7500	0.7500	0.7500	0.7500	0.7500	0.7500	0.7500	0.7500	0.7500	0.7500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	0	15	0	0	14	52	143	13	44	65	0
Total Analysis Volume [veh/h]	27	0	61	0	0	55	208	571	53	177	259	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.60	0.00	0.12	0.00	0.00	0.07	0.16	0.01	0.00	0.18	0.00	0.00
d_M, Delay for Movement [s/veh]	138.56	118.20	65.72	94.26	67.27	9.97	8.03	0.00	0.00	8.98	0.00	0.00
Movement LOS	F	F	F	F	F	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	4.00	4.00	4.00	0.23	0.23	0.23	0.40	0.40	0.40	0.33	0.33	0.33
95th-Percentile Queue Length [ft/ln]	100.02	100.02	100.02	5.68	5.68	5.68	9.97	9.97	9.97	8.17	8.17	8.17
d_A, Approach Delay [s/veh]	88.06			9.97			2.01			3.65		
Approach LOS	F			A			A			A		
d_I, Intersection Delay [s/veh]	8.19											
Intersection LOS	F											

Intersection Level Of Service Report

Intersection 4: U.S. Route 395 (NS) at Three Flags Road - Three Flags Court (EW)

Control Type:	Signalized	Delay (sec / veh):	24.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.783

Intersection Setup

Name	U.S. Route 395			U.S. Route 395			Th- T			Th- T		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	1	0	1
Entry Pocket Length [ft]	190.00	100.00	207.00	225.00	100.00	225.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	60.00			60.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	No			No			No			Yes		

Volumes

Name	U.S. Route 395			U.S. Route 395			Th- T			Th- T		
Base Volume Input [veh/h]	25	1731	195	22	1378	81	26	1	92	309	2	47
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	25	1731	195	22	1378	81	26	1	92	309	2	47
Peak Hour Factor	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	470	53	6	374	22	7	0	25	84	1	13
Total Analysis Volume [veh/h]	27	1879	212	24	1496	88	28	1	100	336	2	51
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	95
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	2	1	6	6	4	4	4	8	8	8
Auxiliary Signal Groups												
Maximum Green [s]	20	50	50	20	50	50	20	20	20	20	20	20
Amber [s]	4.0	5.5	5.5	4.0	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.0
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Walk [s]	0	7	7	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	34	34	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	3.0	4.5	4.5	3.0	4.5	4.5	4.0	4.0	4.0	4.0	4.0	4.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	10	48	48	10	48	48	37	37	37	37	37	37
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	5	5	5	5	5	5	5	5	5	5	5	5
Vehicle Extension [s]	2.0	3.0	3.0	2.0	3.0	3.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	L	C	R
C, Calculated Cycle Length [s]	95	95	95	95	95	95	95	95	95	95	95
L, Total Lost Time per Cycle [s]	5.00	6.50	6.50	5.00	6.50	6.50	6.00	6.00	6.00	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	4.50	4.50	3.00	4.50	4.50	4.00	4.00	4.00	4.00	4.00
g_i, Effective Green Time [s]	3	55	55	2	54	54	21	21	21	21	21
g / C, Green / Cycle	0.03	0.57	0.57	0.03	0.57	0.57	0.22	0.22	0.22	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.02	0.52	0.12	0.01	0.42	0.05	0.02	0.06	0.20	0.00	0.03
s, saturation flow rate [veh/h]	1700	3600	1800	1700	3600	1800	1700	1800	1700	1800	1800
c, Capacity [veh/h]	47	2063	1032	43	2056	1028	417	391	342	391	391
d1, Uniform Delay [s]	45.64	18.10	9.81	45.75	14.95	9.19	29.60	30.85	36.29	29.15	29.97
k, delay calibration	0.04	0.50	0.50	0.04	0.50	0.50	0.04	0.04	0.07	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.07	7.49	0.45	4.02	2.30	0.16	0.02	0.13	14.71	0.00	0.06
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.57	0.91	0.21	0.55	0.73	0.09	0.07	0.26	0.98	0.01	0.13
d, Delay for Lane Group [s/veh]	49.71	25.60	10.26	49.77	17.25	9.35	29.63	30.98	51.00	29.15	30.02
Lane Group LOS	D	C	B	D	B	A	C	C	D	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.64	15.88	1.81	0.57	9.67	0.70	0.50	1.87	8.66	0.03	0.92
50th-Percentile Queue Length [ft/ln]	16.02	397.09	45.22	14.28	241.79	17.46	12.41	46.73	216.49	0.87	22.90
95th-Percentile Queue Length [veh/ln]	1.15	22.42	3.26	1.03	14.77	1.26	0.89	3.36	13.49	0.06	1.65
95th-Percentile Queue Length [ft/ln]	28.84	560.49	81.39	25.71	369.30	31.44	22.34	84.11	337.14	1.57	41.22

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	49.71	25.60	10.26	49.77	17.25	9.35	29.63	30.98	30.98	51.00	29.15	30.02
Movement LOS	D	C	B	D	B	A	C	C	C	D	C	C
d_A, Approach Delay [s/veh]	24.37			17.30			30.68			48.14		
Approach LOS	C			B			C			D		
d_I, Intersection Delay [s/veh]	24.06											
Intersection LOS	C											
Intersection V/C	0.783											

Emissions

Vehicle Miles Traveled [mph]	2.14	148.91	16.80	0.57	35.34	2.08	1.20	4.34	20.82	0.12	3.16
Stops [stops/h]	24.28	1203.80	68.54	21.65	733.01	26.47	18.81	70.83	328.15	1.32	34.71
Fuel consumption [US gal/h]	0.88	41.49	2.53	0.74	22.66	0.82	0.40	1.49	7.46	0.03	0.77
CO [g/h]	61.72	2899.88	176.98	51.80	1584.07	57.58	27.73	104.01	521.17	2.05	53.53
NOx [g/h]	12.01	564.21	34.43	10.08	308.20	11.20	5.40	20.24	101.40	0.40	10.41
VOC [g/h]	14.31	672.08	41.02	12.00	367.12	13.34	6.43	24.10	120.79	0.47	12.40

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	37.14
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	2.337
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	874	874	653	653
d_b, Bicycle Delay [s]	15.06	15.06	21.56	21.56
l_b,int, Bicycle LOS Score for Intersection	3.307	2.886	1.772	2.201
Bicycle LOS	C	C	A	B

Sequence

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



Intersection Level Of Service Report
Intersection 5: U.S. Route 395 (NS) at Joshua Street (EW)

Control Type:	Signalized	Delay (sec / veh):	54.2
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.926

Intersection Setup

Name	U.S. Route 395			U.S. Route 395			Joshua Street			Joshua Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	1	0	1
Entry Pocket Length [ft]	190.00	100.00	143.00	191.00	100.00	273.00	94.00	100.00	100.00	65.00	100.00	65.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	U.S. Route 395			U.S. Route 395			Joshua Street			Joshua Street		
Base Volume Input [veh/h]	37	1419	41	231	1380	169	57	71	17	102	217	509
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	37	1419	41	231	1380	169	57	71	17	102	217	509
Peak Hour Factor	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	385	11	63	375	46	15	19	5	28	59	138
Total Analysis Volume [veh/h]	40	1541	45	251	1498	183	62	77	18	111	236	553
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	2	1	6	6	4	4	4	8	8	8
Auxiliary Signal Groups												
Maximum Green [s]	20	50	50	20	50	50	40	40	40	40	40	40
Amber [s]	3.7	5.5	5.5	3.7	5.5	5.5	4.0	4.0	4.0	4.0	4.0	4.0
All red [s]	1.0	2.0	2.0	1.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0
Walk [s]	0	7	7	0	7	7	0	0	0	7	7	7
Pedestrian Clearance [s]	0	24	24	0	24	24	0	0	0	34	34	34
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.7	5.5	5.5	2.7	5.5	5.5	3.0	3.0	3.0	3.0	3.0	3.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	12	61	61	23	72	72	46	46	46	46	46	46
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	5	5	5	5	5	5	5	5	5	5	5	5
Vehicle Extension [s]	2.5	5.0	5.0	2.5	5.0	5.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	L	C	R
C, Calculated Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.70	7.50	7.50	4.70	7.50	7.50	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.70	5.50	5.50	2.70	5.50	5.50	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	4	54	54	18	68	68	41	41	41	41	41
g / C, Green / Cycle	0.03	0.41	0.41	0.14	0.52	0.52	0.32	0.32	0.32	0.32	0.32
(v / s)_i Volume / Saturation Flow Rate	0.02	0.43	0.03	0.15	0.42	0.10	0.04	0.05	0.07	0.13	0.31
s, saturation flow rate [veh/h]	1700	3600	1800	1700	3600	1800	1700	1800	1700	1800	1800
c, Capacity [veh/h]	52	1482	741	239	1879	939	390	568	501	568	568
d1, Uniform Delay [s]	62.58	38.25	23.09	55.85	25.45	16.54	31.62	32.16	32.59	35.06	43.98
k, delay calibration	0.08	0.50	0.50	0.37	0.50	0.50	0.04	0.04	0.04	0.04	0.42
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	16.42	34.53	0.16	63.44	3.62	0.46	0.07	0.05	0.08	0.18	28.64
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	1.04	0.06	1.05	0.80	0.19	0.16	0.17	0.22	0.42	0.97
d, Delay for Lane Group [s/veh]	79.00	72.78	23.24	119.29	29.07	17.00	31.69	32.21	32.68	35.24	72.62
Lane Group LOS	E	F	C	F	C	B	C	C	C	D	E
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.55	30.22	0.88	12.06	19.38	3.05	1.41	2.20	2.60	5.96	21.95
50th-Percentile Queue Length [ft/ln]	38.81	755.61	22.00	301.38	484.38	76.19	35.32	54.96	65.12	149.00	548.71
95th-Percentile Queue Length [veh/ln]	2.79	40.42	1.58	18.15	26.59	5.49	2.54	3.96	4.69	9.96	29.63
95th-Percentile Queue Length [ft/ln]	69.87	1010.39	39.60	453.66	664.85	137.14	63.58	98.92	117.21	249.09	740.79

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	79.00	72.78	23.24	119.29	29.07	17.00	31.69	32.21	32.21	32.68	35.24	72.62
Movement LOS	E	F	C	F	C	B	C	C	C	C	D	E
d_A, Approach Delay [s/veh]	71.56			39.65			32.01			57.89		
Approach LOS	E			D			C			E		
d_I, Intersection Delay [s/veh]	54.19											
Intersection LOS	D											
Intersection V/C	0.926											

Emissions

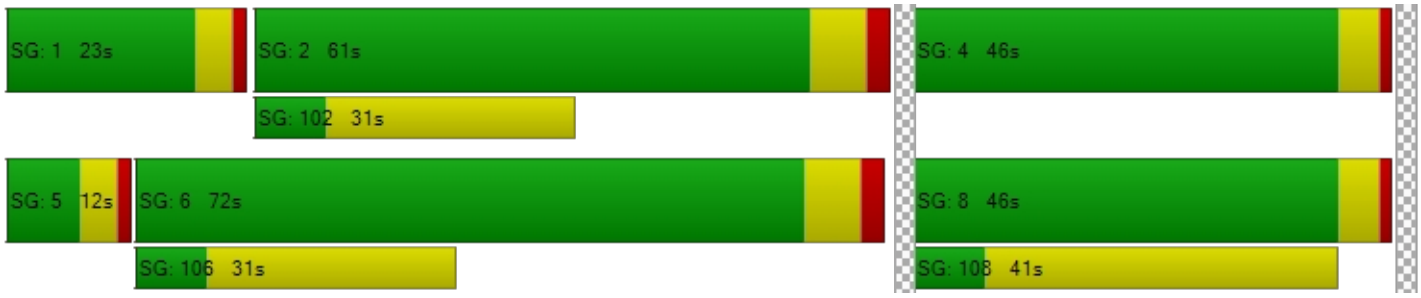
Vehicle Miles Traveled [mph]	2.09	80.50	2.35	16.50	98.46	12.03	3.43	5.25	3.91	8.31	19.48
Stops [stops/h]	42.99	1673.97	24.37	333.84	1073.09	84.39	39.12	60.88	72.13	165.05	607.80
Fuel consumption [US gal/h]	0.97	35.38	0.44	8.62	18.84	1.59	0.76	1.18	1.30	2.95	12.33
CO [g/h]	67.56	2473.25	31.05	602.22	1317.18	111.46	52.91	82.14	90.70	205.97	861.94
NOx [g/h]	13.14	481.20	6.04	117.17	256.28	21.69	10.29	15.98	17.65	40.07	167.70
VOC [g/h]	15.66	573.20	7.20	139.57	305.27	25.83	12.26	19.04	21.02	47.73	199.76

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	54.47	54.47	54.47
l_p,int, Pedestrian LOS Score for Intersectio	0.000	3.223	2.158	2.459
Crosswalk LOS	F	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	823	992	631	631
d_b, Bicycle Delay [s]	22.51	16.50	30.47	30.47
l_b,int, Bicycle LOS Score for Intersection	2.901	3.154	1.819	3.045
Bicycle LOS	C	C	A	C

Sequence

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



Intersection Level Of Service Report
Intersection 6: I-15 Southbound Off-Ramp (NS) at Joshua Street (EW)

Control Type:	Two-way stop	Delay (sec / veh):	57.9
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.016

Intersection Setup

Name	I-15 Southbound Off-Ramp		Joshua Street		Joshua Street	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	I-15 Southbound Off-Ramp		Joshua Street		Joshua Street	
Base Volume Input [veh/h]	12	644	0	314	167	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	644	0	314	167	0
Peak Hour Factor	0.7700	0.7700	0.9500	0.7700	0.7700	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	209	0	102	54	0
Total Analysis Volume [veh/h]	16	836	0	408	217	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	1.02	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	13.32	57.85	0.00	0.00	0.00	0.00
Movement LOS	B	F		A	A	
95th-Percentile Queue Length [veh/ln]	0.11	18.55	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	2.77	463.73	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	57.01		0.00		0.00	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	32.89					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 7: I-15 Southbound On-Ramp (NS) at Joshua Street (EW)

Control Type:	Two-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.250

Intersection Setup

Name	I-15 Southbound On-Ramp		Joshua Street		Joshua Street	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	200.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	I-15 Southbound On-Ramp		Joshua Street		Joshua Street	
Base Volume Input [veh/h]	0	0	258	69	167	43
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	258	69	167	43
Peak Hour Factor	0.9500	0.9500	0.7950	0.7950	0.7950	0.7950
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	81	22	53	14
Total Analysis Volume [veh/h]	0	0	325	87	210	54
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop		Free		Free	
Flared Lane						
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance						
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.25	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	8.37	0.00	0.00	0.00
Movement LOS			A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.78	0.78	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	19.51	19.51	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		6.60		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.02					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 8: Project Access Driveway 1 (NS) at Poplar Street (EW)

Control Type:	Two-way stop	Delay (sec / veh):	16.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name	Project Access Driveway 1		Poplar Street		Poplar Street	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Project Access Driveway 1		Poplar Street		Poplar Street	
Base Volume Input [veh/h]	1	1	470	4	5	326
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	1	470	4	5	326
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	124	1	1	86
Total Analysis Volume [veh/h]	1	1	495	4	5	343
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	15.99	11.32	0.00	0.00	8.39	0.00
Movement LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.36	0.36	0.00	0.00	0.21	0.21
d_A, Approach Delay [s/veh]	13.65		0.00		0.12	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.08					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 9: Project Access Driveway 2 (NS) at Poplar Street (EW)

Control Type:	Two-way stop	Delay (sec / veh):	15.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.009

Intersection Setup

Name	Project Access Driveway 2		Poplar Street		Poplar Street	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Project Access Driveway 2		Poplar Street		Poplar Street	
Base Volume Input [veh/h]	3	0	468	3	0	328
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	0	468	3	0	328
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	123	1	0	86
Total Analysis Volume [veh/h]	3	0	493	3	0	345
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	15.82	11.36	0.00	0.00	8.37	0.00
Movement LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.68	0.68	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	15.82		0.00		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.06					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 10: Project Access Driveway 3 (NS) at Poplar Street (EW)

Control Type:	Two-way stop	Delay (sec / veh):	15.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.009

Intersection Setup

Name	Project Access Driveway 3		Poplar Street		Poplar Street	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Project Access Driveway 3		Poplar Street		Poplar Street	
Base Volume Input [veh/h]	3	0	465	3	0	325
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	0	465	3	0	325
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	122	1	0	86
Total Analysis Volume [veh/h]	3	0	489	3	0	342
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	15.72	11.32	0.00	0.00	8.36	0.00
Movement LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.67	0.67	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	15.72		0.00		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.06					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 11: Project Access Driveway 4 (NS) at Poplar Street (EW)

Control Type:	Two-way stop	Delay (sec / veh):	15.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name	Project Access Driveway 4		Poplar Street		Poplar Street	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Project Access Driveway 4		Poplar Street		Poplar Street	
Base Volume Input [veh/h]	1	1	461	4	5	324
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	1	461	4	5	324
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	121	1	1	85
Total Analysis Volume [veh/h]	1	1	485	4	5	341
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	15.81	11.24	0.00	0.00	8.36	0.00
Movement LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.36	0.36	0.00	0.00	0.21	0.21
d_A, Approach Delay [s/veh]	13.52		0.00		0.12	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.08					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1: U.S. Route 395 (NS) at Main Street - Phelan Road (EW)

Control Type:	Signalized	Delay (sec / veh):	254.1
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.370

Intersection Setup

Name	U.S. Route 395			U.S. Route 395			Main Street - Phelan Road			Main Street - Phelan Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	278.00	100.00	100.00	240.00	100.00	100.00	337.00	100.00	100.00	247.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	60.00			60.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	No			No			No			No		

Volumes

Name	U.S. Route 395			U.S. Route 395			Main Street - Phelan Road			Main Street - Phelan Road		
Base Volume Input [veh/h]	276	1440	37	627	1100	64	63	1318	192	14	967	448
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	276	1440	37	627	1100	64	63	1318	192	14	967	448
Peak Hour Factor	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	72	378	10	164	289	17	17	346	50	4	254	118
Total Analysis Volume [veh/h]	290	1511	39	658	1154	67	66	1383	201	15	1015	470
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	8	7	4	4	5	2	2	1	6	6
Auxiliary Signal Groups												
Maximum Green [s]	45	30	30	30	30	30	20	20	20	20	20	20
Amber [s]	3.7	5.5	5.5	3.7	5.5	5.5	3.7	5.5	5.5	3.7	5.5	5.5
All red [s]	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.7	5.5	5.5	2.7	5.5	5.5	2.7	5.5	5.5	2.7	5.5	5.5
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	24	42	42	35	53	53	10	43	43	10	43	43
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	28	28	5	28	28	5	28	28	5	28	28
Vehicle Extension [s]	2.5	3.5	3.5	2.5	3.5	3.5	2.5	3.0	3.0	2.5	3.0	3.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Calculated Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.70	7.50	7.50	4.70	7.50	7.50	4.70	7.50	7.50	4.70	7.50	7.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.70	5.50	5.50	2.70	5.50	5.50	2.70	5.50	5.50	2.70	5.50	5.50
g_i, Effective Green Time [s]	19	35	35	30	46	46	5	39	39	2	36	36
g / C, Green / Cycle	0.15	0.27	0.27	0.23	0.35	0.35	0.04	0.30	0.30	0.02	0.27	0.27
(v / s)_i Volume / Saturation Flow Rate	0.17	0.43	0.43	0.39	0.34	0.34	0.04	0.45	0.43	0.01	0.43	0.40
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	252	478	478	396	630	630	69	535	535	29	492	492
d1, Uniform Delay [s]	55.35	47.75	47.75	49.85	41.58	41.53	62.22	45.70	45.70	63.39	47.25	47.25
k, delay calibration	0.08	0.50	0.50	0.50	0.40	0.40	0.08	0.50	0.50	0.08	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	74.96	290.23	288.92	308.30	25.63	25.09	32.84	234.09	219.12	10.54	266.30	214.09
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.15	1.62	1.62	1.66	0.97	0.97	0.95	1.50	1.46	0.52	1.57	1.45
d, Delay for Lane Group [s/veh]	130.31	337.98	336.67	358.15	67.22	66.62	95.07	279.79	264.81	73.93	313.55	261.34
Lane Group LOS	F	F	F	F	E	E	F	F	F	E	F	F
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	13.11	53.00	52.82	46.05	22.28	22.12	2.73	51.00	48.77	0.56	51.39	44.26
50th-Percentile Queue Length [ft/ln]	327.74	1324.95	1320.61	1151.15	556.99	552.88	68.37	1274.94	1219.35	14.01	1284.77	1106.58
95th-Percentile Queue Length [veh/ln]	20.26	81.41	81.13	71.28	30.02	29.83	4.92	77.28	73.59	1.01	78.54	66.75
95th-Percentile Queue Length [ft/ln]	506.60	2035.32	2028.16	1782.03	750.51	745.69	123.06	1932.07	1839.71	25.22	1963.47	1668.83

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	130.31	337.34	336.67	358.15	66.94	66.62	95.07	273.49	264.81	73.93	301.04	261.34
Movement LOS	F	F	F	F	E	E	F	F	F	E	F	F
d_A, Approach Delay [s/veh]	304.70			168.91			265.29			286.33		
Approach LOS	F			F			F			F		
d_I, Intersection Delay [s/veh]	254.08											
Intersection LOS	F											
Intersection V/C	1.370											

Emissions

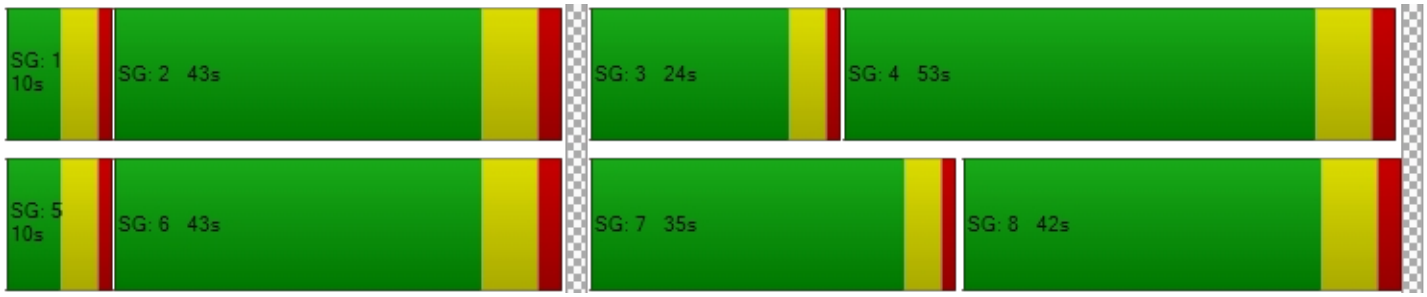
Vehicle Miles Traveled [mph]	18.56	49.65	49.56	37.86	35.18	35.09	6.17	74.89	73.18	0.96	49.21	45.47
Stops [stops/h]	363.03	1467.64	1462.82	1275.13	616.97	612.42	75.73	1412.24	1350.66	15.52	1423.13	1225.75
Fuel consumption [US gal/h]	16.35	87.48	87.07	77.43	23.20	23.00	2.89	74.34	69.71	0.55	77.32	62.21
CO [g/h]	1142.71	6114.82	6085.94	5412.23	1621.77	1607.84	201.99	5196.49	4873.01	38.16	5404.35	4348.57
NOx [g/h]	222.33	1189.72	1184.10	1053.02	315.54	312.83	39.30	1011.05	948.11	7.43	1051.49	846.07
VOC [g/h]	264.83	1417.17	1410.48	1254.34	375.86	372.63	46.81	1204.34	1129.37	8.84	1252.51	1007.82

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	531	700	546	546
d_b, Bicycle Delay [s]	35.08	27.46	34.35	34.35
l_b,int, Bicycle LOS Score for Intersection	3.078	3.110	2.921	2.797
Bicycle LOS	C	C	C	C

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: U.S. Route 395 (NS) at Poplar Street (EW)

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	52.831

Intersection Setup

Name	U.S. Route 395			U.S. Route 395			Poplar Street			Poplar Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	13.00	12.00	12.00	12.00	12.00	12.00	12.00	13.00	12.00	20.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	373.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	200.00
Speed [mph]	60.00			60.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	U.S. Route 395			U.S. Route 395			Poplar Street			Poplar Street		
Base Volume Input [veh/h]	37	1632	158	44	1248	15	25	0	56	444	0	96
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	37	1632	158	44	1248	15	25	0	56	444	0	96
Peak Hour Factor	0.9760	0.9760	0.9760	0.9760	0.9760	0.9760	0.9760	0.9760	0.9760	0.9760	0.9760	0.9760
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	418	40	11	320	4	6	0	14	114	0	25
Total Analysis Volume [veh/h]	38	1672	162	45	1279	15	26	0	57	455	0	98
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.02	0.00	0.14	0.01	0.00	2.38	0.00	0.14	52.83	0.00	0.36
d_M, Delay for Movement [s/veh]	12.29	0.00	0.00	17.69	0.00	0.00	1314.08	528.19	15.09	10000.0	478.10	25.25
Movement LOS	B	A	A	C	A	A	F	F	C	F	F	D
95th-Percentile Queue Length [veh/ln]	0.23	0.00	0.00	0.47	0.00	0.00	4.20	0.47	0.47	58.70	1.56	1.56
95th-Percentile Queue Length [ft/ln]	5.75	0.00	0.00	11.75	0.00	0.00	105.08	11.86	11.86	1467.62	38.94	38.94
d_A, Approach Delay [s/veh]	0.25			0.59			422.00			8232.32		
Approach LOS	A			A			F			F		
d_I, Intersection Delay [s/veh]	1192.82											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 3: Three Flags Avenue (NS) at Poplar Street (EW)

Control Type:	Two-way stop	Delay (sec / veh):	28.4
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.167

Intersection Setup

Name	Three Flags Avenue			Three Flags Avenue			Poplar Street			Poplar Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	16.00	16.00	14.00	14.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	1	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Three Flags Avenue			Three Flags Avenue			Poplar Street			Poplar Street		
Base Volume Input [veh/h]	28	0	140	0	0	153	32	218	25	77	325	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	28	0	140	0	0	153	32	218	25	77	325	0
Peak Hour Factor	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	0	39	0	0	42	9	60	7	21	90	0
Total Analysis Volume [veh/h]	31	0	155	0	0	169	35	241	28	85	360	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.17	0.00	0.20	0.00	0.00	0.25	0.03	0.00	0.00	0.07	0.00	0.00
d_M, Delay for Movement [s/veh]	28.38	22.74	13.59	27.25	20.72	11.98	8.04	0.00	0.00	7.88	0.00	0.00
Movement LOS	D	C	B	D	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.65	1.65	1.65	0.97	0.97	0.97	0.06	0.06	0.06	0.15	0.15	0.15
95th-Percentile Queue Length [ft/ln]	41.36	41.36	41.36	24.22	24.22	24.22	1.52	1.52	1.52	3.71	3.71	3.71
d_A, Approach Delay [s/veh]	16.05			11.98			0.93			1.51		
Approach LOS	C			B			A			A		
d_I, Intersection Delay [s/veh]	5.40											
Intersection LOS	D											

Intersection Level Of Service Report

Intersection 4: U.S. Route 395 (NS) at Three Flags Road - Three Flags Court (EW)

Control Type:	Signalized	Delay (sec / veh):	18.5
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.698

Intersection Setup

Name	U.S. Route 395			U.S. Route 395			Th- T			Th- T		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	1	0	1
Entry Pocket Length [ft]	190.00	100.00	207.00	225.00	100.00	225.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	60.00			60.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	No			No			No			Yes		

Volumes

Name	U.S. Route 395			U.S. Route 395			Th- T			Th- T		
Base Volume Input [veh/h]	37	1700	293	37	1665	63	40	1	67	244	4	36
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	37	1700	293	37	1665	63	40	1	67	244	4	36
Peak Hour Factor	0.9820	0.9820	0.9820	0.9820	0.9820	0.9820	0.9820	0.9820	0.9820	0.9820	0.9820	0.9820
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	433	75	9	424	16	10	0	17	62	1	9
Total Analysis Volume [veh/h]	38	1731	298	38	1696	64	41	1	68	248	4	37
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	85
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	2	1	6	6	4	4	4	8	8	8
Auxiliary Signal Groups												
Maximum Green [s]	20	50	50	20	50	50	20	20	20	20	20	20
Amber [s]	4.0	5.5	5.5	4.0	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.0
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Walk [s]	0	7	7	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	34	34	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	3.0	4.5	4.5	3.0	4.5	4.5	4.0	4.0	4.0	4.0	4.0	4.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	10	48	48	10	48	48	27	27	27	27	27	27
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	5	5	5	5	5	5	5	5	5	5	5	5
Vehicle Extension [s]	2.0	3.0	3.0	2.0	3.0	3.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	L	C	R
C, Calculated Cycle Length [s]	85	85	85	85	85	85	85	85	85	85	85
L, Total Lost Time per Cycle [s]	5.00	6.50	6.50	5.00	6.50	6.50	6.00	6.00	6.00	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	4.50	4.50	3.00	4.50	4.50	4.00	4.00	4.00	4.00	4.00
g_i, Effective Green Time [s]	3	50	50	3	50	50	14	14	14	14	14
g / C, Green / Cycle	0.04	0.59	0.59	0.04	0.59	0.59	0.17	0.17	0.17	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.02	0.48	0.17	0.02	0.47	0.04	0.02	0.04	0.15	0.00	0.02
s, saturation flow rate [veh/h]	1700	3600	1800	1700	3600	1800	1700	1800	1700	1800	1800
c, Capacity [veh/h]	61	2126	1063	61	2126	1063	336	302	284	302	302
d1, Uniform Delay [s]	40.43	13.72	8.54	40.43	13.47	7.39	30.15	30.59	34.45	29.49	30.04
k, delay calibration	0.04	0.50	0.50	0.04	0.50	0.50	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.94	3.56	0.66	3.94	3.23	0.11	0.06	0.14	3.36	0.01	0.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.63	0.81	0.28	0.63	0.80	0.06	0.12	0.23	0.87	0.01	0.12
d, Delay for Lane Group [s/veh]	44.37	17.28	9.20	44.37	16.70	7.50	30.21	30.73	37.80	29.49	30.10
Lane Group LOS	D	B	A	D	B	A	C	C	D	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.79	10.05	2.12	0.79	9.60	0.39	0.69	1.18	5.00	0.07	0.62
50th-Percentile Queue Length [ft/ln]	19.66	251.17	53.04	19.66	240.11	9.75	17.28	29.57	125.08	1.65	15.55
95th-Percentile Queue Length [veh/ln]	1.42	15.25	3.82	1.42	14.69	0.70	1.24	2.13	8.67	0.12	1.12
95th-Percentile Queue Length [ft/ln]	35.39	381.13	95.47	35.39	367.17	17.56	31.11	53.23	216.79	2.97	28.00

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	44.37	17.28	9.20	44.37	16.70	7.50	30.21	30.73	30.73	37.80	29.49	30.10
Movement LOS	D	B	A	D	B	A	C	C	C	D	C	C
d_A, Approach Delay [s/veh]	16.62			16.96			30.54			36.70		
Approach LOS	B			B			C			D		
d_I, Intersection Delay [s/veh]	18.48											
Intersection LOS	B											
Intersection V/C	0.698											

Emissions

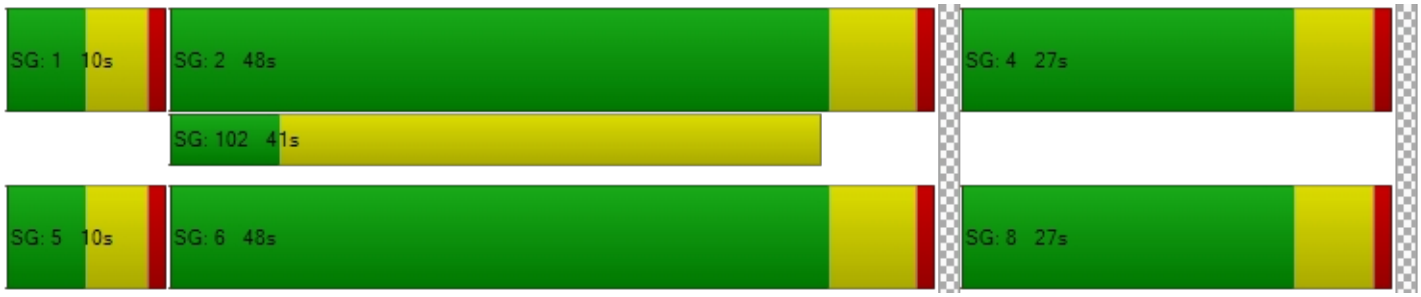
Vehicle Miles Traveled [mph]	3.01	137.18	23.62	0.90	40.06	1.51	1.76	2.97	15.36	0.25	2.29
Stops [stops/h]	33.31	851.03	89.85	33.31	813.55	16.52	29.28	50.10	211.90	2.79	26.35
Fuel consumption [US gal/h]	1.18	29.59	3.35	1.11	25.12	0.51	0.60	1.03	4.54	0.06	0.57
CO [g/h]	82.64	2068.24	234.23	77.59	1755.63	35.97	42.13	71.99	317.32	4.22	39.68
NOx [g/h]	16.08	402.40	45.57	15.10	341.58	7.00	8.20	14.01	61.74	0.82	7.72
VOC [g/h]	19.15	479.33	54.29	17.98	406.88	8.34	9.76	16.68	73.54	0.98	9.20

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	32.21
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	2.331
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	976	976	494	494
d_b, Bicycle Delay [s]	11.13	11.13	24.09	24.09
l_b,int, Bicycle LOS Score for Intersection	3.265	3.043	1.741	2.036
Bicycle LOS	C	C	A	B

Sequence

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



Intersection Level Of Service Report
Intersection 5: U.S. Route 395 (NS) at Joshua Street (EW)

Control Type:	Signalized	Delay (sec / veh):	54.9
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.951

Intersection Setup

Name	U.S. Route 395			U.S. Route 395			Joshua Street			Joshua Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	1	0	1
Entry Pocket Length [ft]	190.00	100.00	143.00	191.00	100.00	273.00	94.00	100.00	100.00	65.00	100.00	65.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	U.S. Route 395			U.S. Route 395			Joshua Street			Joshua Street		
Base Volume Input [veh/h]	33	1566	99	471	1423	82	196	244	35	78	81	289
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	33	1566	99	471	1423	82	196	244	35	78	81	289
Peak Hour Factor	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	407	26	122	370	21	51	63	9	20	21	75
Total Analysis Volume [veh/h]	34	1628	103	490	1479	85	204	254	36	81	84	300
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	2	1	6	6	4	4	4	8	8	8
Auxiliary Signal Groups												
Maximum Green [s]	20	50	50	20	50	50	40	40	40	40	40	40
Amber [s]	3.7	5.5	5.5	3.7	5.5	5.5	4.0	4.0	4.0	4.0	4.0	4.0
All red [s]	1.0	2.0	2.0	1.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0
Walk [s]	0	7	7	0	7	7	0	0	0	7	7	7
Pedestrian Clearance [s]	0	24	24	0	24	24	0	0	0	34	34	34
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.7	5.5	5.5	2.7	5.5	5.5	3.0	3.0	3.0	3.0	3.0	3.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	10	41	41	37	68	68	52	52	52	52	52	52
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	5	5	5	5	5	5	5	5	5	5	5	5
Vehicle Extension [s]	2.5	5.0	5.0	2.5	5.0	5.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	L	C	R
C, Calculated Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.70	7.50	7.50	4.70	7.50	7.50	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.70	5.50	5.50	2.70	5.50	5.50	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	4	57	57	32	85	85	24	24	24	24	24
g / C, Green / Cycle	0.03	0.44	0.44	0.25	0.66	0.66	0.18	0.18	0.18	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.02	0.45	0.06	0.29	0.41	0.05	0.12	0.16	0.05	0.05	0.17
s, saturation flow rate [veh/h]	1700	3600	1800	1700	3600	1800	1700	1800	1700	1800	1800
c, Capacity [veh/h]	47	1569	785	422	2365	1183	284	330	89	330	330
d1, Uniform Delay [s]	62.74	36.66	21.94	48.85	12.98	8.03	49.27	51.68	45.52	45.48	52.03
k, delay calibration	0.08	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	14.90	33.03	0.35	95.36	1.26	0.12	1.28	3.01	12.47	0.15	3.99
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.73	1.04	0.13	1.16	0.63	0.07	0.72	0.88	0.91	0.25	0.91
d, Delay for Lane Group [s/veh]	77.64	69.70	22.28	144.21	14.24	8.14	50.55	54.69	57.99	45.63	56.02
Lane Group LOS	E	F	C	F	B	A	D	D	E	D	E
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.31	31.50	1.98	24.82	12.32	0.88	6.27	9.48	2.57	2.36	9.95
50th-Percentile Queue Length [ft/ln]	32.78	787.51	49.60	620.52	307.92	22.12	156.83	236.99	64.32	58.99	248.77
95th-Percentile Queue Length [veh/ln]	2.36	41.87	3.57	35.89	18.07	1.59	10.38	14.53	4.63	4.25	15.12
95th-Percentile Queue Length [ft/ln]	59.01	1046.78	89.28	897.33	451.81	39.81	259.51	363.23	115.78	106.18	378.10

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	77.64	69.70	22.28	144.21	14.24	8.14	50.55	54.69	54.69	57.99	45.63	56.02
Movement LOS	E	F	C	F	B	A	D	D	D	E	D	E
d_A, Approach Delay [s/veh]	67.08			45.00			52.98			54.49		
Approach LOS	E			D			D			D		
d_I, Intersection Delay [s/veh]	54.90											
Intersection LOS	D											
Intersection V/C	0.951											

Emissions

Vehicle Miles Traveled [mph]	1.78	85.05	5.38	32.21	97.21	5.59	11.27	16.02	2.85	2.96	10.57
Stops [stops/h]	36.32	1744.64	54.94	687.34	682.15	24.50	173.71	262.51	71.25	65.34	275.56
Fuel consumption [US gal/h]	0.81	36.23	0.99	19.50	12.06	0.51	3.52	5.34	1.47	1.26	5.38
CO [g/h]	56.68	2532.26	69.35	1363.12	842.80	35.39	246.19	373.08	102.54	88.26	375.86
NOx [g/h]	11.03	492.69	13.49	265.21	163.98	6.88	47.90	72.59	19.95	17.17	73.13
VOC [g/h]	13.14	586.88	16.07	315.92	195.33	8.20	57.06	86.46	23.76	20.46	87.11

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	54.47	54.47	54.47
l_p,int, Pedestrian LOS Score for Intersectio	0.000	3.441	2.184	2.468
Crosswalk LOS	F	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	515	931	723	723
d_b, Bicycle Delay [s]	35.82	18.58	26.50	26.50
l_b,int, Bicycle LOS Score for Intersection	3.016	3.254	2.375	2.327
Bicycle LOS	C	C	B	B

Sequence

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



Intersection Level Of Service Report
Intersection 6: I-15 Southbound Off-Ramp (NS) at Joshua Street (EW)

Control Type:	Two-way stop	Delay (sec / veh):	22.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.225

Intersection Setup

Name	I-15 Southbound Off-Ramp		Joshua Street		Joshua Street	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	I-15 Southbound Off-Ramp		Joshua Street		Joshua Street	
Base Volume Input [veh/h]	51	349	0	777	108	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	51	349	0	777	108	0
Peak Hour Factor	0.8670	0.8670	0.9500	0.8670	0.8670	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	101	0	224	31	0
Total Analysis Volume [veh/h]	59	403	0	896	125	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.23	0.44	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	22.70	11.85	0.00	0.00	0.00	0.00
Movement LOS	C	B		A	A	
95th-Percentile Queue Length [veh/ln]	0.84	2.24	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	21.11	55.92	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	13.24		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	4.12					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 7: I-15 Southbound On-Ramp (NS) at Joshua Street (EW)

Control Type:	Two-way stop	Delay (sec / veh):	8.5
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.424

Intersection Setup

Name	I-15 Southbound On-Ramp		Joshua Street		Joshua Street	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	200.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	I-15 Southbound On-Ramp		Joshua Street		Joshua Street	
Base Volume Input [veh/h]	0	0	574	290	108	26
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	574	290	108	26
Peak Hour Factor	0.9500	0.9500	0.9390	0.9390	0.9390	0.9390
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	153	77	29	7
Total Analysis Volume [veh/h]	0	0	611	309	115	28
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop		Free		Free	
Flared Lane						
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance						
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.42	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	8.53	0.00	0.00	0.00
Movement LOS			A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	1.53	1.53	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	38.29	38.29	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		5.67		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.90					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 8: Project Access Driveway 1 (NS) at Poplar Street (EW)

Control Type:	Two-way stop	Delay (sec / veh):	15.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.011

Intersection Setup

Name	Project Access Driveway 1		Poplar Street		Poplar Street	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Project Access Driveway 1		Poplar Street		Poplar Street	
Base Volume Input [veh/h]	4	5	357	1	2	399
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	5	357	1	2	399
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	94	0	1	105
Total Analysis Volume [veh/h]	4	5	376	1	2	420
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	15.34	10.52	0.00	0.00	8.05	0.00
Movement LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.06	0.06	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.43	1.43	0.00	0.00	0.08	0.08
d_A, Approach Delay [s/veh]	12.66		0.00		0.04	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.16					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 9: Project Access Driveway 2 (NS) at Poplar Street (EW)

Control Type:	Two-way stop	Delay (sec / veh):	15.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.008

Intersection Setup

Name	Project Access Driveway 2		Poplar Street		Poplar Street	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Project Access Driveway 2		Poplar Street		Poplar Street	
Base Volume Input [veh/h]	3	0	360	3	0	397
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	0	360	3	0	397
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	95	1	0	104
Total Analysis Volume [veh/h]	3	0	379	3	0	418
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	15.23	10.49	0.00	0.00	8.06	0.00
Movement LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.64	0.64	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	15.23		0.00		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.06					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 10: Project Access Driveway 3 (NS) at Poplar Street (EW)

Control Type:	Two-way stop	Delay (sec / veh):	15.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.008

Intersection Setup

Name	Project Access Driveway 3		Poplar Street		Poplar Street	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Project Access Driveway 3		Poplar Street		Poplar Street	
Base Volume Input [veh/h]	3	0	357	3	0	394
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	0	357	3	0	394
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	94	1	0	104
Total Analysis Volume [veh/h]	3	0	376	3	0	415
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	15.15	10.46	0.00	0.00	8.05	0.00
Movement LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.63	0.63	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	15.15		0.00		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.06					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 11: Project Access Driveway 4 (NS) at Poplar Street (EW)

Control Type:	Two-way stop	Delay (sec / veh):	15.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.011

Intersection Setup

Name	Project Access Driveway 4		Poplar Street		Poplar Street	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Project Access Driveway 4		Poplar Street		Poplar Street	
Base Volume Input [veh/h]	4	5	355	1	2	391
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	5	355	1	2	391
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	93	0	1	103
Total Analysis Volume [veh/h]	4	5	374	1	2	412
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	15.20	10.50	0.00	0.00	8.04	0.00
Movement LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.06	0.06	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.42	1.42	0.00	0.00	0.08	0.08
d_A, Approach Delay [s/veh]	12.59		0.00		0.04	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.16					
Intersection LOS	C					

Appendix F

Horizon Year (2040)

Without Project Conditions

Level of Service Analysis Worksheets

RK19177.5
JN:1219-2023-03

Intersection Level Of Service Report
Intersection 1: U.S. Route 395 (NS) at Main Street - Phelan Road (EW)

Control Type:	Signalized	Delay (sec / veh):	293.3
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.516

Intersection Setup

Name	U.S. Route 395			U.S. Route 395			Main Street - Phelan Road			Main Street - Phelan Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	278.00	100.00	100.00	240.00	100.00	100.00	337.00	100.00	100.00	247.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	60.00			60.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	No			No			No			No		

Volumes

Name	U.S. Route 395			U.S. Route 395			Main Street - Phelan Road			Main Street - Phelan Road		
Base Volume Input [veh/h]	206	1093	9	378	2622	45	97	984	349	13	1202	625
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	206	1093	9	378	2622	45	97	984	349	13	1202	625
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	54	288	2	99	690	12	26	259	92	3	316	164
Total Analysis Volume [veh/h]	217	1151	9	398	2760	47	102	1036	367	14	1265	658
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	45	30	0	30	30	0	20	20	0	20	20	0
Amber [s]	3.7	5.5	0.0	3.7	5.5	0.0	3.7	5.5	0.0	3.7	5.5	0.0
All red [s]	1.0	2.0	0.0	1.0	2.0	0.0	1.0	2.0	0.0	1.0	2.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.7	5.5	0.0	2.7	5.5	0.0	2.7	5.5	0.0	2.7	5.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	14	47	0	28	61	0	10	45	0	10	45	0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	28	0	5	28	0	5	28	0	5	28	0
Vehicle Extension [s]	2.5	3.5	0.0	2.5	3.5	0.0	2.5	3.0	0.0	2.5	3.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Calculated Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.70	7.50	7.50	4.70	7.50	7.50	4.70	7.50	7.50	4.70	7.50	7.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.70	5.50	5.50	2.70	5.50	5.50	2.70	5.50	5.50	2.70	5.50	5.50
g_i, Effective Green Time [s]	9	40	40	23	54	54	5	41	41	2	38	38
g / C, Green / Cycle	0.07	0.30	0.30	0.18	0.41	0.41	0.04	0.31	0.31	0.02	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.12	0.31	0.30	0.22	0.74	0.74	0.06	0.38	0.36	0.01	0.51	0.51
s, saturation flow rate [veh/h]	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
c, Capacity [veh/h]	129	577	577	323	782	782	73	595	595	29	548	548
d1, Uniform Delay [s]	60.35	45.25	45.25	53.35	38.25	38.25	62.35	44.64	44.64	63.42	46.25	46.25
k, delay calibration	0.08	0.41	0.41	0.40	0.50	0.50	0.08	0.50	0.50	0.08	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	313.75	35.49	34.86	124.91	362.84	362.84	188.52	112.43	82.24	9.02	347.78	346.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.69	1.01	1.00	1.23	1.79	1.79	1.39	1.22	1.14	0.48	1.76	1.75
d, Delay for Lane Group [s/veh]	374.10	80.74	80.11	178.26	401.09	401.09	250.87	157.07	126.88	72.45	394.03	392.30
Lane Group LOS	F	F	F	F	F	F	F	F	F	E	F	F
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	15.28	23.01	22.91	21.17	101.40	101.40	6.19	36.57	31.58	0.52	69.64	69.38
50th-Percentile Queue Length [ft/ln]	382.08	575.37	572.85	529.34	2535.01	2535.01	154.63	914.35	789.60	12.93	1741.04	1734.48
95th-Percentile Queue Length [veh/ln]	24.92	31.00	30.84	31.75	158.60	158.60	11.05	52.43	44.37	0.93	107.67	107.23
95th-Percentile Queue Length [ft/ln]	623.02	775.09	770.95	793.72	3965.03	3965.03	276.28	1310.69	1109.32	23.28	2691.67	2680.83

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	374.10	80.43	80.11	178.26	401.09	401.09	250.87	147.99	126.88	72.45	393.62	392.30
Movement LOS	F	F	F	F	F	F	F	F	F	E	F	F
d_A, Approach Delay [s/veh]	126.71			373.42			149.81			390.85		
Approach LOS	F			F			F			F		
d_I, Intersection Delay [s/veh]	293.35											
Intersection LOS	F											
Intersection V/C	1.516											

Emissions

Vehicle Miles Traveled [mph]	13.89	37.16	37.08	22.90	80.76	80.76	9.53	67.69	63.45	0.89	61.37	61.23
Stops [stops/h]	423.23	637.33	634.55	586.35	2808.01	2808.01	171.28	1012.81	874.64	14.32	1928.54	1921.26
Fuel consumption [US gal/h]	26.35	24.90	24.74	28.18	179.36	179.36	8.71	44.22	35.89	0.50	115.04	114.39
CO [g/h]	1841.63	1740.35	1729.16	1969.73	12537.5	12537.5	608.59	3091.06	2508.90	35.11	8041.27	7996.05
NOx [g/h]	358.31	338.61	336.43	383.24	2439.35	2439.35	118.41	601.41	488.14	6.83	1564.54	1555.74
VOC [g/h]	426.82	403.34	400.75	456.50	2905.69	2905.69	141.05	716.38	581.46	8.14	1863.64	1853.16

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	608	823	577	577
d_b, Bicycle Delay [s]	31.50	22.51	32.91	32.91
l_b,int, Bicycle LOS Score for Intersection	2.696	4.204	2.801	3.158
Bicycle LOS	B	D	C	C

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: U.S. Route 395 (NS) at Poplar Street (EW)

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.597

Intersection Setup

Name	U.S. Route 395			U.S. Route 395			Poplar Street			Poplar Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	13.00	12.00	12.00	12.00	12.00	12.00	12.00	13.00	12.00	20.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	373.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	200.00
Speed [mph]	60.00			60.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	U.S. Route 395			U.S. Route 395			Poplar Street			Poplar Street		
Base Volume Input [veh/h]	71	1131	553	451	2255	29	5	0	29	343	0	436
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	71	1131	553	451	2255	29	5	0	29	343	0	436
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	298	146	119	593	8	1	0	8	90	0	115
Total Analysis Volume [veh/h]	75	1191	582	475	2374	31	5	0	31	361	0	459
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.38	0.01	0.01	1.37	0.02	0.00	0.00	0.00	0.18	0.00	0.00	1.60
d_M, Delay for Movement [s/veh]	34.37	0.00	0.00	213.45	0.00	0.00	10000.0	10000.0	10000.0	10000.0	10000.0	10000.0
Movement LOS	D	A	A	F	A	A	F	F	F	F	F	F
95th-Percentile Queue Length [veh/ln]	1.68	0.00	0.00	23.55	0.00	0.00	1.72	5.86	5.86	47.95	60.23	60.23
95th-Percentile Queue Length [ft/ln]	41.92	0.00	0.00	588.80	0.00	0.00	42.93	146.48	146.48	1198.71	1505.82	1505.82
d_A, Approach Delay [s/veh]	1.40			35.20			10000.00			10000.00		
Approach LOS	A			E			F			F		
d_I, Intersection Delay [s/veh]	1551.57											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 3: Three Flags Avenue (NS) at Poplar Street (EW)

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	754.327

Intersection Setup

Name	Three Flags Avenue			Three Flags Avenue			Poplar Street			Poplar Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	16.00	16.00	14.00	14.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	1	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Three Flags Avenue			Three Flags Avenue			Poplar Street			Poplar Street		
Base Volume Input [veh/h]	417	0	197	0	0	82	334	594	416	404	294	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	417	0	197	0	0	82	334	594	416	404	294	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	110	0	52	0	0	22	88	156	109	106	77	0
Total Analysis Volume [veh/h]	439	0	207	0	0	86	352	625	438	425	309	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	754.33	0.00	0.57	0.00	0.00	0.12	0.28	0.01	0.00	0.65	0.00	0.00
d_M, Delay for Movement [s/veh]	10000.0	10000.0	10000.0	10000.0	4956.14	10.58	8.46	0.00	0.00	13.64	0.00	0.00
Movement LOS	F	F	F	F	F	B	A	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	83.54	83.54	83.54	0.40	0.40	0.40	0.80	0.80	0.80	2.40	2.40	2.40
95th-Percentile Queue Length [ft/ln]	2088.57	2088.57	2088.57	9.95	9.95	9.95	20.04	20.04	20.04	59.95	59.95	59.95
d_A, Approach Delay [s/veh]	10000.00			10.58			2.10			7.90		
Approach LOS	F			B			A			A		
d_I, Intersection Delay [s/veh]	2245.64											
Intersection LOS	F											

Intersection Level Of Service Report

Intersection 4: U.S. Route 395 (NS) at Three Flags Road - Three Flags Court (EW)

Control Type:	Signalized	Delay (sec / veh):	34.6
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.862

Intersection Setup

Name	U.S. Route 395			U.S. Route 395			Th- T			Th- T		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	1	0	1
Entry Pocket Length [ft]	190.00	100.00	207.00	225.00	100.00	225.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	60.00			60.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	No			No			No			Yes		

Volumes

Name	U.S. Route 395			U.S. Route 395			Th- T			Th- T		
Base Volume Input [veh/h]	31	2040	315	178	2070	123	36	11	83	237	2	56
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	31	2040	315	178	2070	123	36	11	83	237	2	56
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	537	83	47	545	32	9	3	22	62	1	15
Total Analysis Volume [veh/h]	33	2147	332	187	2179	129	38	12	87	249	2	59
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	95
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Maximum Green [s]	20	50	0	20	50	0	0	20	0	0	20	0
Amber [s]	4.0	5.5	0.0	4.0	5.5	0.0	0.0	5.0	0.0	0.0	5.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	7	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	34	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	4.5	0.0	3.0	4.5	0.0	0.0	4.0	0.0	0.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	10	52	0	15	57	0	0	28	0	0	28	0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Vehicle Extension [s]	2.0	3.0	0.0	2.0	3.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	L	C	R
C, Calculated Cycle Length [s]	95	95	95	95	95	95	95	95	95	95	95
L, Total Lost Time per Cycle [s]	5.00	6.50	6.50	5.00	6.50	6.50	6.00	6.00	6.00	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	4.50	4.50	3.00	4.50	4.50	4.00	4.00	4.00	4.00	4.00
g_i, Effective Green Time [s]	3	52	52	10	60	60	15	15	15	15	15
g / C, Green / Cycle	0.03	0.55	0.55	0.11	0.63	0.63	0.16	0.16	0.16	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.02	0.57	0.17	0.10	0.57	0.07	0.02	0.05	0.14	0.00	0.03
s, saturation flow rate [veh/h]	1800	3800	1900	1800	3800	1900	1800	1900	1800	1900	1900
c, Capacity [veh/h]	56	2098	1049	189	2379	1189	330	301	250	301	301
d1, Uniform Delay [s]	45.41	21.28	11.55	42.43	15.58	7.13	34.36	35.48	39.04	33.67	34.71
k, delay calibration	0.04	0.50	0.50	0.04	0.50	0.50	0.04	0.04	0.05	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.56	25.86	0.79	15.70	6.97	0.18	0.06	0.23	16.34	0.00	0.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.59	1.02	0.32	0.99	0.92	0.11	0.12	0.33	1.00	0.01	0.20
d, Delay for Lane Group [s/veh]	48.97	47.14	12.34	58.13	22.54	7.31	34.42	35.72	55.37	33.67	34.83
Lane Group LOS	D	F	B	E	C	A	C	D	E	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.77	25.23	3.27	4.87	16.60	0.84	0.74	1.99	6.59	0.04	1.16
50th-Percentile Queue Length [ft/ln]	19.31	630.72	81.78	121.66	414.89	20.88	18.46	49.80	164.76	0.95	28.99
95th-Percentile Queue Length [veh/ln]	1.39	34.11	5.89	8.48	23.28	1.50	1.33	3.59	10.80	0.07	2.09
95th-Percentile Queue Length [ft/ln]	34.76	852.75	147.21	212.11	581.92	37.59	33.22	89.63	270.02	1.71	52.18

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	48.97	47.14	12.34	58.13	22.54	7.31	34.42	35.72	35.72	55.37	33.67	34.83
Movement LOS	D	F	B	E	C	A	C	D	D	E	C	C
d_A, Approach Delay [s/veh]	42.56			24.42			35.36			51.32		
Approach LOS	D			C			D			D		
d_I, Intersection Delay [s/veh]	34.58											
Intersection LOS	C											
Intersection V/C	0.862											

Emissions

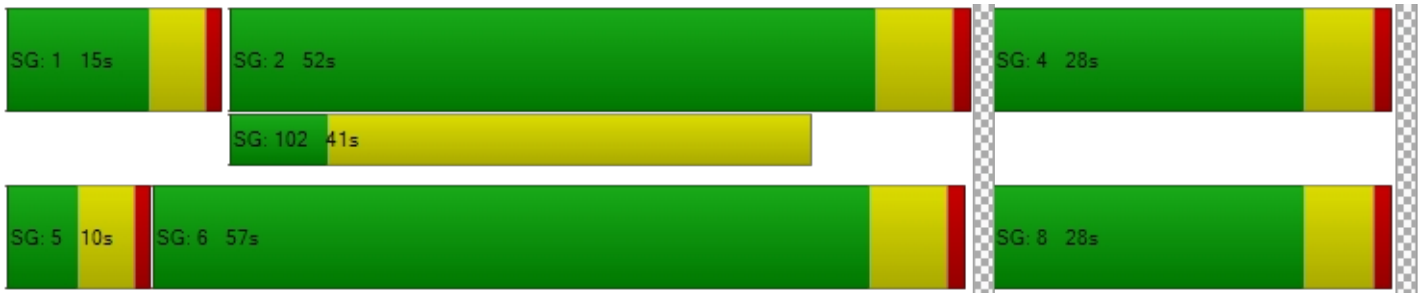
Vehicle Miles Traveled [mph]	2.62	170.15	26.31	4.42	51.47	3.05	1.63	4.25	15.43	0.12	3.66
Stops [stops/h]	29.27	1912.09	123.97	184.42	1257.78	31.65	27.98	75.48	249.75	1.44	43.94
Fuel consumption [US gal/h]	1.07	68.68	4.47	6.44	39.56	1.00	0.60	1.61	5.81	0.03	0.98
CO [g/h]	74.46	4800.42	312.69	450.12	2765.17	69.61	41.90	112.78	406.23	2.26	68.56
NOx [g/h]	14.49	933.99	60.84	87.58	538.00	13.54	8.15	21.94	79.04	0.44	13.34
VOC [g/h]	17.26	1112.54	72.47	104.32	640.85	16.13	9.71	26.14	94.15	0.52	15.89

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	37.14
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	2.407
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	958	1063	463	463
d_b, Bicycle Delay [s]	12.90	10.42	28.05	28.05
l_b,int, Bicycle LOS Score for Intersection	3.632	3.618	1.786	2.071
Bicycle LOS	D	D	A	B

Sequence

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



Intersection Level Of Service Report
Intersection 5: U.S. Route 395 (NS) at Joshua Street (EW)

Control Type:	Signalized	Delay (sec / veh):	55.9
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.950

Intersection Setup

Name	U.S. Route 395			U.S. Route 395			Joshua Street			Joshua Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	1	0	1
Entry Pocket Length [ft]	190.00	100.00	143.00	191.00	100.00	273.00	94.00	100.00	100.00	65.00	100.00	65.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	U.S. Route 395			U.S. Route 395			Joshua Street			Joshua Street		
Base Volume Input [veh/h]	56	1792	94	256	1878	485	82	85	13	76	202	470
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	56	1792	94	256	1878	485	82	85	13	76	202	470
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	472	25	67	494	128	22	22	3	20	53	124
Total Analysis Volume [veh/h]	59	1886	99	269	1977	511	86	89	14	80	213	495
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Maximum Green [s]	20	50	0	20	50	0	0	37	0	0	37	0
Amber [s]	3.7	5.5	0.0	3.7	5.5	0.0	0.0	4.0	0.0	0.0	4.0	0.0
All red [s]	1.0	2.0	0.0	1.0	2.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	24	0	0	0	0	0	34	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.7	5.5	0.0	2.7	5.5	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	10	69	0	19	78	0	0	42	0	0	42	0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Vehicle Extension [s]	2.5	5.0	0.0	2.5	5.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	L	C	R
C, Calculated Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.70	7.50	7.50	4.70	7.50	7.50	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.70	5.50	5.50	2.70	5.50	5.50	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	5	63	63	14	72	72	36	36	36	36	36
g / C, Green / Cycle	0.04	0.48	0.48	0.11	0.55	0.55	0.27	0.27	0.27	0.27	0.27
(v / s)_i Volume / Saturation Flow Rate	0.03	0.50	0.05	0.15	0.52	0.27	0.05	0.05	0.04	0.11	0.26
s, saturation flow rate [veh/h]	1800	3800	1900	1800	3800	1900	1800	1900	1800	1900	1900
c, Capacity [veh/h]	73	1838	919	198	2101	1051	360	521	451	521	521
d1, Uniform Delay [s]	61.83	33.56	18.28	57.85	27.08	17.77	35.98	36.22	35.85	38.59	46.33
k, delay calibration	0.08	0.50	0.50	0.38	0.50	0.50	0.04	0.04	0.04	0.04	0.36
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	13.93	27.93	0.24	184.23	9.93	1.61	0.13	0.07	0.07	0.19	23.36
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.80	1.03	0.11	1.36	0.94	0.49	0.24	0.20	0.18	0.41	0.95
d, Delay for Lane Group [s/veh]	75.76	61.49	18.52	242.08	37.01	19.38	36.11	36.29	35.92	38.78	69.69
Lane Group LOS	E	F	B	F	D	B	D	D	D	D	E
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.22	35.16	1.71	16.64	30.20	9.73	2.12	2.55	1.96	5.63	19.00
50th-Percentile Queue Length [ft/ln]	55.52	879.09	42.63	416.02	754.96	243.28	53.02	63.80	49.08	140.69	475.10
95th-Percentile Queue Length [veh/ln]	4.00	45.84	3.07	26.11	39.21	14.85	3.82	4.59	3.53	9.52	26.15
95th-Percentile Queue Length [ft/ln]	99.94	1145.97	76.73	652.72	980.27	371.18	95.44	114.84	88.34	237.96	653.83

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	75.76	61.49	18.52	242.08	37.01	19.38	36.11	36.29	36.29	35.92	38.78	69.69
Movement LOS	E	F	B	F	D	B	D	D	D	D	D	E
d_A, Approach Delay [s/veh]	59.82			53.75			36.21			57.91		
Approach LOS	E			D			D			E		
d_I, Intersection Delay [s/veh]	55.89											
Intersection LOS	E											
Intersection V/C	0.950											

Emissions

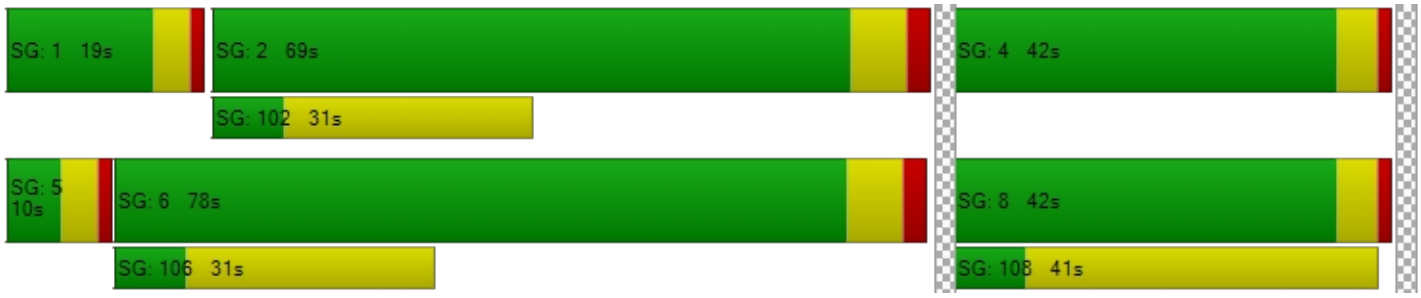
Vehicle Miles Traveled [mph]	3.08	98.52	5.17	17.68	129.94	33.59	4.75	5.69	2.82	7.50	17.44
Stops [stops/h]	61.50	1947.51	47.22	460.83	1672.53	269.48	58.73	70.67	54.36	155.85	526.26
Fuel consumption [US gal/h]	1.38	38.41	0.85	16.52	29.48	4.89	1.15	1.39	1.00	2.85	10.64
CO [g/h]	96.20	2685.00	59.19	1154.94	2060.67	341.60	80.52	96.84	69.98	199.26	744.06
NOx [g/h]	18.72	522.40	11.52	224.71	400.93	66.46	15.67	18.84	13.62	38.77	144.77
VOC [g/h]	22.29	622.27	13.72	267.67	477.58	79.17	18.66	22.44	16.22	46.18	172.44

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	54.47	54.47	54.47
l_p,int, Pedestrian LOS Score for Intersectio	0.000	3.442	2.274	2.452
Crosswalk LOS	F	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	946	1085	569	569
d_b, Bicycle Delay [s]	18.05	13.62	33.27	33.27
l_b,int, Bicycle LOS Score for Intersection	3.246	3.834	1.871	2.860
Bicycle LOS	C	D	A	C

Sequence

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



Intersection Level Of Service Report
Intersection 6: I-15 Southbound Off-Ramp (NS) at Joshua Street (EW)

Control Type:	Two-way stop	Delay (sec / veh):	22.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.821

Intersection Setup

Name	I-15 Southbound Off-Ramp		Joshua Street		Joshua Street	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	I-15 Southbound Off-Ramp		Joshua Street		Joshua Street	
Base Volume Input [veh/h]	17	806	0	342	37	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	17	806	0	342	37	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	212	0	90	10	0
Total Analysis Volume [veh/h]	18	848	0	360	39	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.82	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.12	22.17	0.00	0.00	0.00	0.00
Movement LOS	B	C		A	A	
95th-Percentile Queue Length [veh/ln]	0.09	9.70	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	2.29	242.53	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	21.94		0.00		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	15.02					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 7: I-15 Southbound On-Ramp (NS) at Joshua Street (EW)

Control Type:	Two-way stop	Delay (sec / veh):	7.7
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.193

Intersection Setup

Name	I-15 Southbound On-Ramp		Joshua Street		Joshua Street	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	200.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	I-15 Southbound On-Ramp		Joshua Street		Joshua Street	
Base Volume Input [veh/h]	0	0	286	73	37	8
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	286	73	37	8
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	75	19	10	2
Total Analysis Volume [veh/h]	0	0	301	77	39	8
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop		Free		Free	
Flared Lane						
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance						
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.19	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.71	0.00	0.00	0.00
Movement LOS			A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.60	0.60	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	15.01	15.01	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		6.14		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	5.46					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 1: U.S. Route 395 (NS) at Main Street - Phelan Road (EW)

Control Type:	Signalized	Delay (sec / veh):	324.4
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.564

Intersection Setup

Name	U.S. Route 395			U.S. Route 395			Main Street - Phelan Road			Main Street - Phelan Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	278.00	100.00	100.00	240.00	100.00	100.00	337.00	100.00	100.00	247.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	60.00			60.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	No			No			No			No		

Volumes

Name	U.S. Route 395			U.S. Route 395			Main Street - Phelan Road			Main Street - Phelan Road		
Base Volume Input [veh/h]	398	2625	74	638	1452	91	50	1051	162	7	688	356
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	398	2625	74	638	1452	91	50	1051	162	7	688	356
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	105	691	19	168	382	24	13	277	43	2	181	94
Total Analysis Volume [veh/h]	419	2763	78	672	1528	96	53	1106	171	7	724	375
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	45	30	0	30	30	0	20	20	0	20	20	0
Amber [s]	3.7	5.5	0.0	3.7	5.5	0.0	3.7	5.5	0.0	3.7	5.5	0.0
All red [s]	1.0	2.0	0.0	1.0	2.0	0.0	1.0	2.0	0.0	1.0	2.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.7	5.5	0.0	2.7	5.5	0.0	2.7	5.5	0.0	2.7	5.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	25	55	0	29	59	0	10	36	0	10	36	0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	28	0	5	28	0	5	28	0	5	28	0
Vehicle Extension [s]	2.5	3.5	0.0	2.5	3.5	0.0	2.5	3.0	0.0	2.5	3.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Calculated Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.70	7.50	7.50	4.70	7.50	7.50	4.70	7.50	7.50	4.70	7.50	7.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.70	5.50	5.50	2.70	5.50	5.50	2.70	5.50	5.50	2.70	5.50	5.50
g_i, Effective Green Time [s]	20	48	48	24	52	52	5	33	33	1	29	29
g / C, Green / Cycle	0.16	0.37	0.37	0.19	0.40	0.40	0.04	0.25	0.25	0.01	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.23	0.75	0.75	0.37	0.43	0.43	0.03	0.34	0.33	0.00	0.31	0.27
s, saturation flow rate [veh/h]	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
c, Capacity [veh/h]	281	694	694	336	753	753	69	476	476	17	422	422
d1, Uniform Delay [s]	54.85	41.25	41.25	52.85	39.25	39.25	61.97	48.72	48.72	64.01	50.57	50.57
k, delay calibration	0.19	0.50	0.50	0.50	0.48	0.48	0.08	0.50	0.50	0.08	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	228.08	475.79	475.79	459.24	55.57	55.57	12.77	179.27	155.92	10.94	185.38	121.21
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.49	2.05	2.05	2.00	1.08	1.08	0.77	1.37	1.31	0.41	1.38	1.23
d, Delay for Lane Group [s/veh]	282.93	517.04	517.04	512.09	94.82	94.82	74.74	228.00	204.65	74.94	235.95	171.78
Lane Group LOS	F	F	F	F	F	F	E	F	F	E	F	F
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	26.54	112.17	112.17	53.31	33.50	33.50	1.92	38.31	35.22	0.28	34.76	27.24
50th-Percentile Queue Length [ft/ln]	663.57	2804.31	2804.31	1332.81	837.56	837.56	48.01	957.74	880.59	6.89	869.01	681.10
95th-Percentile Queue Length [veh/ln]	41.07	177.20	177.20	83.18	45.43	45.43	3.46	57.03	52.00	0.50	52.04	39.88
95th-Percentile Queue Length [ft/ln]	1026.68	4429.93	4429.93	2079.48	1135.66	1135.66	86.42	1425.69	1299.97	12.41	1300.99	996.99

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	282.93	517.04	517.04	512.09	94.82	94.82	74.74	218.40	204.65	74.94	223.37	171.78
Movement LOS	F	F	F	F	F	F	E	F	F	E	F	F
d_A, Approach Delay [s/veh]	486.95			216.95			210.91			204.94		
Approach LOS	F			F			F			F		
d_I, Intersection Delay [s/veh]	324.41											
Intersection LOS	F											
Intersection V/C	1.564											

Emissions

Vehicle Miles Traveled [mph]	26.82	90.92	90.92	38.67	46.73	46.73	4.95	60.90	58.46	0.45	37.10	32.96
Stops [stops/h]	735.03	3106.32	3106.32	1476.35	927.76	927.76	53.18	1060.88	975.42	7.63	962.59	754.45
Fuel consumption [US gal/h]	41.28	221.20	221.20	103.97	37.77	37.77	1.96	51.97	46.12	0.26	47.06	33.19
CO [g/h]	2885.76	15461.7	15461.7	7267.43	2640.18	2640.18	136.98	3632.50	3223.47	18.42	3289.45	2319.76
NOx [g/h]	561.46	3008.30	3008.30	1413.98	513.68	513.68	26.65	706.75	627.17	3.58	640.01	451.34
VOC [g/h]	668.80	3583.41	3583.41	1684.30	611.89	611.89	31.75	841.87	747.07	4.27	762.36	537.63

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	731	792	438	438
d_b, Bicycle Delay [s]	26.18	23.70	39.62	39.62
l_b,int, Bicycle LOS Score for Intersection	4.249	3.454	2.657	2.472
Bicycle LOS	D	C	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: U.S. Route 395 (NS) at Poplar Street (EW)

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	4.232

Intersection Setup

Name	U.S. Route 395			U.S. Route 395			Poplar Street			Poplar Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	13.00	12.00	12.00	12.00	12.00	12.00	12.00	13.00	12.00	20.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	373.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	200.00
Speed [mph]	60.00			60.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	U.S. Route 395			U.S. Route 395			Poplar Street			Poplar Street		
Base Volume Input [veh/h]	37	2742	197	423	1136	15	25	0	56	520	0	415
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	37	2742	197	423	1136	15	25	0	56	520	0	415
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	722	52	111	299	4	7	0	15	137	0	109
Total Analysis Volume [veh/h]	39	2886	207	445	1196	16	26	0	59	547	0	437
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.03	0.00	4.29	0.01	0.00	0.00	0.00	0.13	0.00	0.00	4.23
d_M, Delay for Movement [s/veh]	11.76	0.00	0.00	1566.39	0.00	0.00	10000.0	10000.0	10000.0	10000.0	10000.0	10000.0
Movement LOS	B	A	A	F	A	A	F	F	F	F	F	F
95th-Percentile Queue Length [veh/ln]	0.22	0.00	0.00	46.28	0.00	0.00	5.15	9.66	9.66	71.25	57.48	57.48
95th-Percentile Queue Length [ft/ln]	5.48	0.00	0.00	1156.98	0.00	0.00	128.63	241.61	241.61	1781.34	1436.90	1436.90
d_A, Approach Delay [s/veh]	0.15			420.66			10000.00			10000.00		
Approach LOS	A			F			F			F		
d_I, Intersection Delay [s/veh]	1943.92											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 3: Three Flags Avenue (NS) at Poplar Street (EW)

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	23.095

Intersection Setup

Name	Three Flags Avenue			Three Flags Avenue			Poplar Street			Poplar Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	16.00	16.00	14.00	14.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	1	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Three Flags Avenue			Three Flags Avenue			Poplar Street			Poplar Street		
Base Volume Input [veh/h]	337	0	225	0	0	272	60	400	364	294	409	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	337	0	225	0	0	272	60	400	364	294	409	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	89	0	59	0	0	72	16	105	96	77	108	0
Total Analysis Volume [veh/h]	355	0	237	0	0	286	63	421	383	309	431	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	23.10	0.00	0.48	0.00	0.00	0.46	0.06	0.00	0.00	0.38	0.00	0.00
d_M, Delay for Movement [s/veh]	10000.0	10000.0	10000.0	306.36	139.57	15.55	8.28	0.00	0.00	10.02	0.00	0.00
Movement LOS	F	F	F	F	F	C	A	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	73.87	73.87	73.87	2.40	2.40	2.40	0.12	0.12	0.12	0.78	0.78	0.78
95th-Percentile Queue Length [ft/ln]	1846.67	1846.67	1846.67	59.99	59.99	59.99	2.99	2.99	2.99	19.46	19.46	19.46
d_A, Approach Delay [s/veh]	10000.00			15.55			0.60			4.18		
Approach LOS	F			C			A			A		
d_I, Intersection Delay [s/veh]	2385.54											
Intersection LOS	F											

Intersection Level Of Service Report

Intersection 4: U.S. Route 395 (NS) at Three Flags Road - Three Flags Court (EW)

Control Type:	Signalized	Delay (sec / veh):	78.1
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.063

Intersection Setup

Name	U.S. Route 395			U.S. Route 395			Th- T			Th- T		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	1	0	1
Entry Pocket Length [ft]	190.00	100.00	207.00	225.00	100.00	225.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	60.00			60.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	No			No			No			Yes		

Volumes

Name	U.S. Route 395			U.S. Route 395			Th- T			Th- T		
Base Volume Input [veh/h]	36	2324	231	176	1584	72	79	5	60	261	21	480
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	2324	231	176	1584	72	79	5	60	261	21	480
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	612	61	46	417	19	21	1	16	69	6	126
Total Analysis Volume [veh/h]	38	2446	243	185	1667	76	83	5	63	275	22	505
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	125
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Maximum Green [s]	20	50	0	20	50	0	0	20	0	0	20	0
Amber [s]	4.0	5.5	0.0	4.0	5.5	0.0	0.0	5.0	0.0	0.0	5.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	7	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	34	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	4.5	0.0	3.0	4.5	0.0	0.0	4.0	0.0	0.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	12	75	0	16	79	0	0	34	0	0	34	0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Vehicle Extension [s]	2.0	3.0	0.0	2.0	3.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	L	C	R
C, Calculated Cycle Length [s]	125	125	125	125	125	125	125	125	125	125	125
L, Total Lost Time per Cycle [s]	5.00	6.50	6.50	5.00	6.50	6.50	6.00	6.00	6.00	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	4.50	4.50	3.00	4.50	4.50	4.00	4.00	4.00	4.00	4.00
g_i, Effective Green Time [s]	4	69	69	11	76	76	28	28	28	28	28
g / C, Green / Cycle	0.03	0.55	0.55	0.09	0.61	0.61	0.22	0.22	0.22	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.02	0.64	0.13	0.10	0.44	0.04	0.05	0.04	0.15	0.01	0.27
s, saturation flow rate [veh/h]	1800	3800	1900	1800	3800	1900	1800	1900	1800	1900	1900
c, Capacity [veh/h]	54	2082	1041	158	2302	1151	416	426	380	426	426
d1, Uniform Delay [s]	60.06	28.25	14.64	57.00	17.30	10.11	39.46	39.03	44.42	38.08	48.50
k, delay calibration	0.04	0.50	0.50	0.09	0.50	0.50	0.04	0.04	0.13	0.04	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.96	84.01	0.53	88.29	2.02	0.11	0.09	0.06	3.12	0.02	105.38
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.70	1.17	0.23	1.17	0.72	0.07	0.20	0.16	0.72	0.05	1.19
d, Delay for Lane Group [s/veh]	66.02	112.26	15.17	145.29	19.32	10.22	39.54	39.10	47.54	38.10	153.88
Lane Group LOS	E	F	B	F	B	B	D	D	D	D	F
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.23	50.66	3.34	8.65	14.64	0.78	2.06	1.67	7.99	0.53	25.41
50th-Percentile Queue Length [ft/ln]	30.82	1266.57	83.53	216.16	365.91	19.53	51.60	41.81	199.80	13.19	635.14
95th-Percentile Queue Length [veh/ln]	2.22	70.61	6.01	14.22	20.91	1.41	3.72	3.01	12.63	0.95	36.93
95th-Percentile Queue Length [ft/ln]	55.47	1765.23	150.35	355.41	522.76	35.16	92.88	75.26	315.70	23.74	923.36

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	66.02	112.26	15.17	145.29	19.32	10.22	39.54	39.10	39.10	47.54	38.10	153.88
Movement LOS	E	F	B	F	B	B	D	D	D	D	D	F
d_A, Approach Delay [s/veh]	102.96			31.05			39.34			114.24		
Approach LOS	F			C			D			F		
d_I, Intersection Delay [s/veh]	78.14											
Intersection LOS	E											
Intersection V/C	1.063											

Emissions

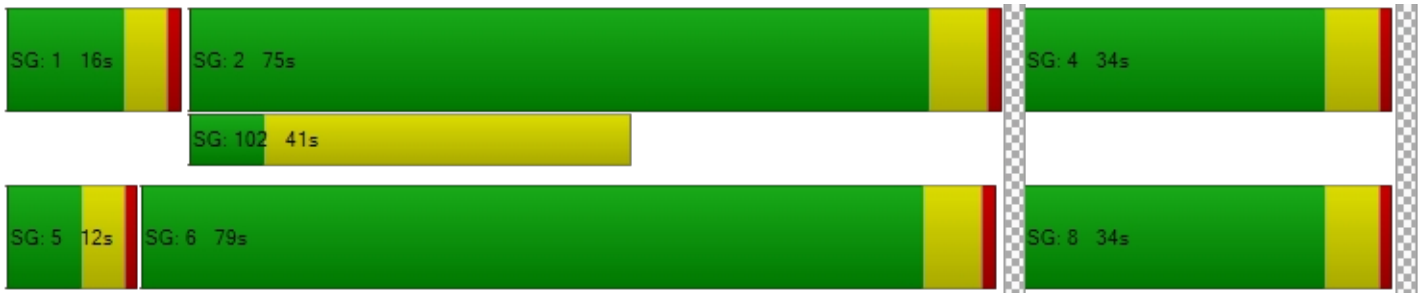
Vehicle Miles Traveled [mph]	3.01	193.84	19.26	4.37	39.38	1.80	3.57	2.92	17.04	1.36	31.29
Stops [stops/h]	35.50	2918.19	96.22	249.02	843.05	22.50	59.45	48.17	230.16	15.20	731.68
Fuel consumption [US gal/h]	1.40	127.00	3.54	11.12	26.53	0.72	1.38	1.12	5.53	0.37	24.12
CO [g/h]	97.73	8877.43	247.10	777.48	1854.76	50.11	96.43	78.21	386.66	25.77	1685.96
NOx [g/h]	19.01	1727.22	48.08	151.27	360.87	9.75	18.76	15.22	75.23	5.01	328.03
VOC [g/h]	22.65	2057.43	57.27	180.19	429.86	11.61	22.35	18.13	89.61	5.97	390.74

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	51.98
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	2.548
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1096	1160	448	448
d_b, Bicycle Delay [s]	12.77	11.03	37.64	37.64
l_b,int, Bicycle LOS Score for Intersection	3.809	3.150	1.809	2.883
Bicycle LOS	D	C	A	C

Sequence

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



Intersection Level Of Service Report
Intersection 5: U.S. Route 395 (NS) at Joshua Street (EW)

Control Type:	Signalized	Delay (sec / veh):	86.2
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.015

Intersection Setup

Name	U.S. Route 395			U.S. Route 395			Joshua Street			Joshua Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	1	0	1
Entry Pocket Length [ft]	190.00	100.00	143.00	191.00	100.00	273.00	94.00	100.00	100.00	65.00	100.00	65.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	U.S. Route 395			U.S. Route 395			Joshua Street			Joshua Street		
Base Volume Input [veh/h]	42	1490	97	379	1493	89	552	329	79	253	111	455
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	42	1490	97	379	1493	89	552	329	79	253	111	455
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	392	26	100	393	23	145	87	21	67	29	120
Total Analysis Volume [veh/h]	44	1568	102	399	1572	94	581	346	83	266	117	479
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	105
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Maximum Green [s]	20	50	0	20	50	0	0	40	0	0	40	0
Amber [s]	3.7	5.5	0.0	3.7	5.5	0.0	0.0	4.0	0.0	0.0	4.0	0.0
All red [s]	1.0	2.0	0.0	1.0	2.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	24	0	0	0	0	0	34	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.7	5.5	0.0	2.7	5.5	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	10	39	0	20	49	0	0	46	0	0	46	0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Vehicle Extension [s]	2.5	5.0	0.0	2.5	5.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	L	C	R
C, Calculated Cycle Length [s]	105	105	105	105	105	105	105	105	105	105	105
L, Total Lost Time per Cycle [s]	4.70	7.50	7.50	4.70	7.50	7.50	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.70	5.50	5.50	2.70	5.50	5.50	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	4	44	44	15	56	56	29	29	29	29	29
g / C, Green / Cycle	0.03	0.42	0.42	0.15	0.53	0.53	0.27	0.27	0.27	0.27	0.27
(v / s)_i Volume / Saturation Flow Rate	0.02	0.41	0.05	0.22	0.41	0.05	0.32	0.23	0.15	0.06	0.25
s, saturation flow rate [veh/h]	1800	3800	1900	1800	3800	1900	1800	1900	1800	1900	1900
c, Capacity [veh/h]	62	1587	793	262	2010	1005	445	519	152	519	519
d1, Uniform Delay [s]	50.17	30.32	18.82	44.85	19.88	12.26	36.87	35.85	30.31	29.57	37.11
k, delay calibration	0.08	0.50	0.50	0.50	0.50	0.50	0.29	0.08	0.04	0.04	0.13
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.55	19.98	0.33	253.12	3.12	0.18	146.55	2.44	341.42	0.08	8.91
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.71	0.99	0.13	1.52	0.78	0.09	1.30	0.83	1.75	0.23	0.92
d, Delay for Lane Group [s/veh]	60.73	50.30	19.16	297.97	23.00	12.45	183.43	38.29	371.72	29.65	46.01
Lane Group LOS	E	D	B	F	C	B	F	D	F	C	D
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No
50th-Percentile Queue Length [veh/ln]	1.32	23.20	1.59	25.21	15.40	1.12	28.98	10.51	17.42	2.30	13.03
50th-Percentile Queue Length [ft/ln]	33.04	580.11	39.80	630.15	385.08	28.09	724.38	262.85	435.54	57.46	325.73
95th-Percentile Queue Length [veh/ln]	2.38	31.10	2.87	39.28	21.84	2.02	43.62	15.83	30.23	4.14	18.95
95th-Percentile Queue Length [ft/ln]	59.48	777.61	71.64	981.98	545.99	50.56	1090.53	395.80	755.82	103.42	473.72

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	60.73	50.30	19.16	297.97	23.00	12.45	183.43	38.29	38.29	371.72	29.65	46.01
Movement LOS	E	D	B	F	C	B	F	D	D	F	C	D
d_A, Approach Delay [s/veh]	48.72			75.65			121.78			144.30		
Approach LOS	D			E			F			F		
d_I, Intersection Delay [s/veh]	86.20											
Intersection LOS	F											
Intersection V/C	1.015											

Emissions

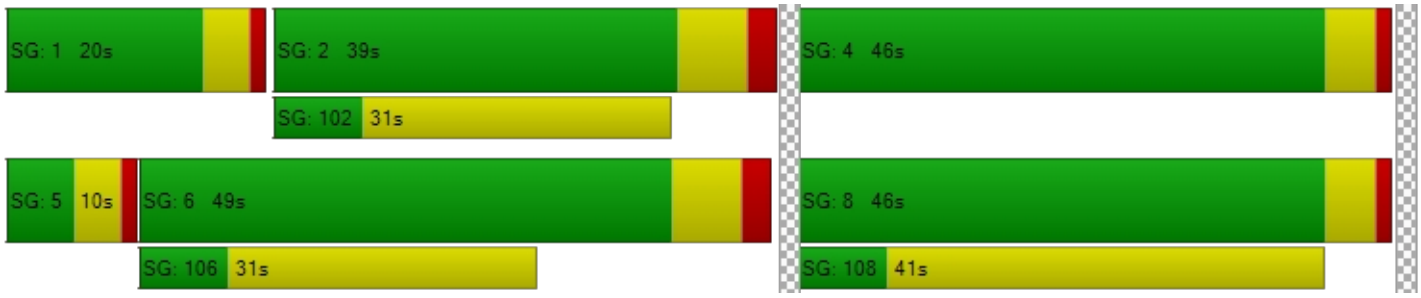
Vehicle Miles Traveled [mph]	2.30	81.91	5.33	26.22	103.32	6.18	32.10	23.70	9.37	4.12	16.88
Stops [stops/h]	45.32	1591.16	54.58	864.21	1056.22	38.52	993.43	360.48	597.31	78.80	446.71
Fuel consumption [US gal/h]	0.89	28.21	0.92	30.04	17.45	0.71	28.49	6.31	23.80	1.31	7.65
CO [g/h]	62.12	1972.03	64.21	2100.02	1219.49	49.30	1991.68	441.06	1663.84	91.64	534.58
NOx [g/h]	12.09	383.69	12.49	408.59	237.27	9.59	387.51	85.81	323.72	17.83	104.01
VOC [g/h]	14.40	457.04	14.88	486.70	282.63	11.43	461.59	102.22	385.61	21.24	123.89

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	42.08	42.08	42.08
l_p,int, Pedestrian LOS Score for Intersectio	0.000	4.049	2.359	2.555
Crosswalk LOS	F	D	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	600	790	781	781
d_b, Bicycle Delay [s]	25.73	19.20	19.50	19.50
l_b,int, Bicycle LOS Score for Intersection	2.974	3.263	3.226	2.982
Bicycle LOS	C	C	C	C

Sequence

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



Intersection Level Of Service Report
Intersection 6: I-15 Southbound Off-Ramp (NS) at Joshua Street (EW)

Control Type:	Two-way stop	Delay (sec / veh):	30.4
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.323

Intersection Setup

Name	I-15 Southbound Off-Ramp		Joshua Street		Joshua Street	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	I-15 Southbound Off-Ramp		Joshua Street		Joshua Street	
Base Volume Input [veh/h]	64	508	0	831	299	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	64	508	0	831	299	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	134	0	219	79	0
Total Analysis Volume [veh/h]	67	535	0	875	315	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.32	0.74	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	30.44	22.56	0.00	0.00	0.00	0.00
Movement LOS	D	C		A	A	
95th-Percentile Queue Length [veh/ln]	1.33	6.60	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	33.28	164.99	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	23.44		0.00		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	7.87					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 7: I-15 Southbound On-Ramp (NS) at Joshua Street (EW)

Control Type:	Two-way stop	Delay (sec / veh):	12.5
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.674

Intersection Setup

Name	I-15 Southbound On-Ramp		Joshua Street		Joshua Street	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	200.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	I-15 Southbound On-Ramp		Joshua Street		Joshua Street	
Base Volume Input [veh/h]	0	0	792	103	299	7
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	792	103	299	7
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	208	27	79	2
Total Analysis Volume [veh/h]	0	0	834	108	315	7
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop		Free		Free	
Flared Lane						
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance						
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.67	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	12.53	0.00	0.00	0.00
Movement LOS			B	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	4.82	4.82	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	120.56	120.56	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		11.10		0.00	
Approach LOS	A		B		A	
d_I, Intersection Delay [s/veh]	8.27					
Intersection LOS	B					

Appendix G

Horizon Year (2040)

With Project Conditions

Level of Service Analysis Worksheets

RK19177.5
JN:1219-2023-03

Intersection Level Of Service Report
Intersection 1: U.S. Route 395 (NS) at Main Street - Phelan Road (EW)

Control Type:	Signalized	Delay (sec / veh):	293.7
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.516

Intersection Setup

Name	U.S. Route 395			U.S. Route 395			Main Street - Phelan Road			Main Street - Phelan Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	278.00	100.00	100.00	240.00	100.00	100.00	337.00	100.00	100.00	247.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	60.00			60.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	No			No			No			No		

Volumes

Name	U.S. Route 395			U.S. Route 395			Main Street - Phelan Road			Main Street - Phelan Road		
Base Volume Input [veh/h]	206	1093	9	378	2624	45	97	984	351	13	1202	625
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	206	1093	9	378	2624	45	97	984	351	13	1202	625
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	54	288	2	99	691	12	26	259	92	3	316	164
Total Analysis Volume [veh/h]	217	1151	9	398	2762	47	102	1036	369	14	1265	658
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	8	7	4	4	5	2	2	1	6	6
Auxiliary Signal Groups												
Maximum Green [s]	45	30	30	30	30	30	20	20	20	20	20	20
Amber [s]	3.7	5.5	5.5	3.7	5.5	5.5	3.7	5.5	5.5	3.7	5.5	5.5
All red [s]	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.7	5.5	5.5	2.7	5.5	5.5	2.7	5.5	5.5	2.7	5.5	5.5
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	14	47	47	28	61	61	10	45	45	10	45	45
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	28	28	5	28	28	5	28	28	5	28	28
Vehicle Extension [s]	2.5	3.5	3.5	2.5	3.5	3.5	2.5	3.0	3.0	2.5	3.0	3.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Calculated Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.70	7.50	7.50	4.70	7.50	7.50	4.70	7.50	7.50	4.70	7.50	7.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.70	5.50	5.50	2.70	5.50	5.50	2.70	5.50	5.50	2.70	5.50	5.50
g_i, Effective Green Time [s]	9	40	40	23	54	54	5	41	41	2	38	38
g / C, Green / Cycle	0.07	0.30	0.30	0.18	0.41	0.41	0.04	0.31	0.31	0.02	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.12	0.31	0.30	0.22	0.74	0.74	0.06	0.38	0.36	0.01	0.51	0.51
s, saturation flow rate [veh/h]	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
c, Capacity [veh/h]	129	577	577	323	782	782	73	595	595	29	548	548
d1, Uniform Delay [s]	60.35	45.25	45.25	53.35	38.25	38.25	62.35	44.64	44.64	63.42	46.25	46.25
k, delay calibration	0.08	0.41	0.41	0.40	0.50	0.50	0.08	0.50	0.50	0.08	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	313.75	35.49	34.86	124.91	363.42	363.42	188.52	113.15	82.85	9.02	347.78	346.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.69	1.01	1.00	1.23	1.80	1.80	1.39	1.22	1.14	0.48	1.76	1.75
d, Delay for Lane Group [s/veh]	374.10	80.74	80.11	178.26	401.67	401.67	250.87	157.79	127.49	72.45	394.03	392.30
Lane Group LOS	F	F	F	F	F	F	F	F	F	E	F	F
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	15.28	23.01	22.91	21.17	101.52	101.52	6.19	36.69	31.68	0.52	69.64	69.38
50th-Percentile Queue Length [ft/ln]	382.08	575.37	572.85	529.34	2538.11	2538.11	154.63	917.33	792.11	12.93	1741.04	1734.48
95th-Percentile Queue Length [veh/ln]	24.92	31.00	30.84	31.75	158.81	158.81	11.05	52.62	44.53	0.93	107.67	107.23
95th-Percentile Queue Length [ft/ln]	623.02	775.09	770.95	793.72	3970.29	3970.29	276.28	1315.53	1113.35	23.28	2691.67	2680.83

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	374.10	80.43	80.11	178.26	401.67	401.67	250.87	148.70	127.49	72.45	393.62	392.30
Movement LOS	F	F	F	F	F	F	F	F	F	E	F	F
d_A, Approach Delay [s/veh]	126.71			373.94			150.42			390.85		
Approach LOS	F			F			F			F		
d_I, Intersection Delay [s/veh]	293.66											
Intersection LOS	F											
Intersection V/C	1.516											

Emissions

Vehicle Miles Traveled [mph]	13.89	37.16	37.08	22.90	80.82	80.82	9.53	67.79	63.54	0.89	61.37	61.23
Stops [stops/h]	423.23	637.33	634.55	586.35	2811.45	2811.45	171.28	1016.12	877.41	14.32	1928.54	1921.26
Fuel consumption [US gal/h]	26.35	24.90	24.74	28.18	179.69	179.69	8.71	44.43	36.06	0.50	115.04	114.39
CO [g/h]	1841.63	1740.35	1729.16	1969.73	12560.0	12560.0	608.59	3105.36	2520.28	35.11	8041.27	7996.05
NOx [g/h]	358.31	338.61	336.43	383.24	2443.73	2443.73	118.41	604.19	490.35	6.83	1564.54	1555.74
VOC [g/h]	426.82	403.34	400.75	456.50	2910.92	2910.92	141.05	719.70	584.10	8.14	1863.64	1853.16

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	608	823	577	577
d_b, Bicycle Delay [s]	31.50	22.51	32.91	32.91
l_b,int, Bicycle LOS Score for Intersection	2.696	4.205	2.803	3.158
Bicycle LOS	B	D	C	C

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: U.S. Route 395 (NS) at Poplar Street (EW)

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.608

Intersection Setup

Name	U.S. Route 395			U.S. Route 395			Poplar Street			Poplar Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	13.00	12.00	12.00	12.00	12.00	12.00	12.00	13.00	12.00	20.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	373.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	200.00
Speed [mph]	60.00			60.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	U.S. Route 395			U.S. Route 395			Poplar Street			Poplar Street		
Base Volume Input [veh/h]	71	1131	559	455	2255	29	5	0	29	349	0	437
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	71	1131	559	455	2255	29	5	0	29	349	0	437
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	298	147	120	593	8	1	0	8	92	0	115
Total Analysis Volume [veh/h]	75	1191	588	479	2374	31	5	0	31	367	0	460
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.38	0.01	0.01	1.39	0.02	0.00	0.00	0.00	0.18	0.00	0.00	1.61
d_M, Delay for Movement [s/veh]	34.37	0.00	0.00	221.41	0.00	0.00	10000.0	10000.0	10000.0	10000.0	10000.0	10000.0
Movement LOS	D	A	A	F	A	A	F	F	F	F	F	F
95th-Percentile Queue Length [veh/ln]	1.68	0.00	0.00	24.16	0.00	0.00	1.72	5.86	5.86	48.70	60.36	60.36
95th-Percentile Queue Length [ft/ln]	41.92	0.00	0.00	603.93	0.00	0.00	42.93	146.48	146.48	1217.52	1508.95	1508.95
d_A, Approach Delay [s/veh]	1.39			36.77			10000.00			10000.00		
Approach LOS	A			E			F			F		
d_I, Intersection Delay [s/veh]	1560.19											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 3: Three Flags Avenue (NS) at Poplar Street (EW)

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	913.060

Intersection Setup

Name	Three Flags Avenue			Three Flags Avenue			Poplar Street			Poplar Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	16.00	16.00	14.00	14.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	1	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Three Flags Avenue			Three Flags Avenue			Poplar Street			Poplar Street		
Base Volume Input [veh/h]	417	0	201	0	0	82	334	604	416	405	301	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	417	0	201	0	0	82	334	604	416	405	301	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	110	0	53	0	0	22	88	159	109	107	79	0
Total Analysis Volume [veh/h]	439	0	212	0	0	86	352	636	438	426	317	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	913.06	0.00	0.59	0.00	0.00	0.12	0.28	0.01	0.00	0.66	0.00	0.00
d_M, Delay for Movement [s/veh]	10000.0	10000.0	10000.0	10000.0	5968.37	10.65	8.48	0.00	0.00	13.75	0.00	0.00
Movement LOS	F	F	F	F	F	B	A	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	84.19	84.19	84.19	0.40	0.40	0.40	0.80	0.80	0.80	2.43	2.43	2.43
95th-Percentile Queue Length [ft/ln]	2104.64	2104.64	2104.64	10.07	10.07	10.07	20.02	20.02	20.02	60.72	60.72	60.72
d_A, Approach Delay [s/veh]	10000.00			10.65			2.09			7.88		
Approach LOS	F			B			A			A		
d_I, Intersection Delay [s/veh]	2243.55											
Intersection LOS	F											

Intersection Level Of Service Report

Intersection 4: U.S. Route 395 (NS) at Three Flags Road - Three Flags Court (EW)

Control Type:	Signalized	Delay (sec / veh):	35.4
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.865

Intersection Setup

Name	U.S. Route 395			U.S. Route 395			Th- T			Th- T		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	1	0	1
Entry Pocket Length [ft]	190.00	100.00	207.00	225.00	100.00	225.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	60.00			60.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	No			No			No			Yes		

Volumes

Name	U.S. Route 395			U.S. Route 395			Th- T			Th- T		
Base Volume Input [veh/h]	31	2046	319	178	2076	123	36	11	83	238	2	56
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	31	2046	319	178	2076	123	36	11	83	238	2	56
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	538	84	47	546	32	9	3	22	63	1	15
Total Analysis Volume [veh/h]	33	2154	336	187	2185	129	38	12	87	251	2	59
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	95
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	2	1	6	6	4	4	4	8	8	8
Auxiliary Signal Groups												
Maximum Green [s]	20	50	50	20	50	50	20	20	20	20	20	20
Amber [s]	4.0	5.5	5.5	4.0	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.0
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Walk [s]	0	7	7	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	34	34	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	3.0	4.5	4.5	3.0	4.5	4.5	4.0	4.0	4.0	4.0	4.0	4.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	10	52	52	15	57	57	28	28	28	28	28	28
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	5	5	5	5	5	5	5	5	5	5	5	5
Vehicle Extension [s]	2.0	3.0	3.0	2.0	3.0	3.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	L	C	R
C, Calculated Cycle Length [s]	95	95	95	95	95	95	95	95	95	95	95
L, Total Lost Time per Cycle [s]	5.00	6.50	6.50	5.00	6.50	6.50	6.00	6.00	6.00	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	4.50	4.50	3.00	4.50	4.50	4.00	4.00	4.00	4.00	4.00
g_i, Effective Green Time [s]	3	52	52	10	59	59	15	15	15	15	15
g / C, Green / Cycle	0.03	0.55	0.55	0.11	0.63	0.63	0.16	0.16	0.16	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.02	0.57	0.18	0.10	0.58	0.07	0.02	0.05	0.14	0.00	0.03
s, saturation flow rate [veh/h]	1800	3800	1900	1800	3800	1900	1800	1900	1800	1900	1900
c, Capacity [veh/h]	56	2094	1047	189	2375	1187	332	303	252	303	303
d1, Uniform Delay [s]	45.41	21.33	11.64	42.43	15.72	7.17	34.27	35.39	38.99	33.59	34.63
k, delay calibration	0.04	0.50	0.50	0.04	0.50	0.50	0.04	0.04	0.05	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.56	27.46	0.81	15.70	7.26	0.18	0.06	0.23	17.09	0.00	0.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.59	1.03	0.32	0.99	0.92	0.11	0.11	0.33	1.00	0.01	0.19
d, Delay for Lane Group [s/veh]	48.97	48.79	12.45	58.13	22.98	7.35	34.33	35.63	56.08	33.59	34.74
Lane Group LOS	D	F	B	E	C	A	C	D	E	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.77	25.67	3.33	4.87	16.85	0.84	0.74	1.99	6.69	0.04	1.16
50th-Percentile Queue Length [ft/ln]	19.31	641.78	83.31	121.66	421.36	20.98	18.43	49.72	167.36	0.95	28.94
95th-Percentile Queue Length [veh/ln]	1.39	34.78	6.00	8.48	23.59	1.51	1.33	3.58	10.94	0.07	2.08
95th-Percentile Queue Length [ft/ln]	34.76	869.48	149.95	212.11	589.68	37.77	33.17	89.49	273.44	1.71	52.10

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	48.97	48.79	12.45	58.13	22.98	7.35	34.33	35.63	35.63	56.08	33.59	34.74
Movement LOS	D	F	B	E	C	A	C	D	D	E	C	C
d_A, Approach Delay [s/veh]	43.96			24.81			35.27			51.90		
Approach LOS	D			C			D			D		
d_I, Intersection Delay [s/veh]	35.44											
Intersection LOS	D											
Intersection V/C	0.865											

Emissions

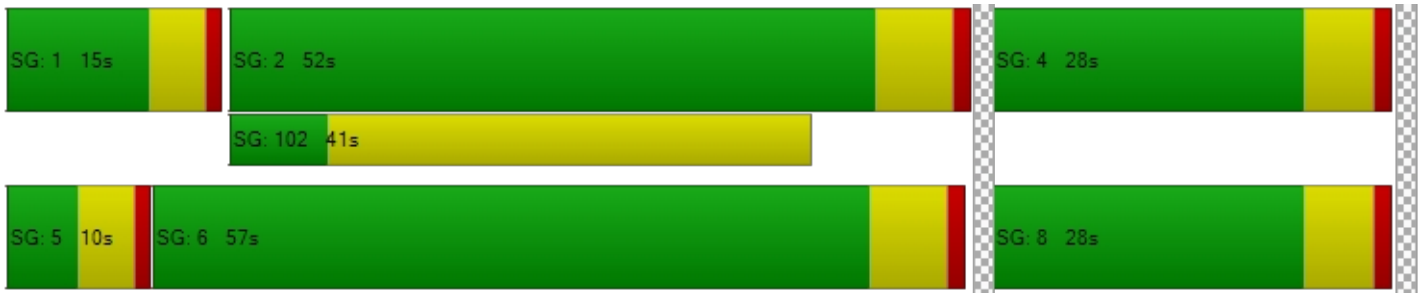
Vehicle Miles Traveled [mph]	2.62	170.70	26.63	4.42	51.61	3.05	1.63	4.25	15.55	0.12	3.66
Stops [stops/h]	29.27	1945.62	126.27	184.42	1277.39	31.81	27.93	75.36	253.68	1.44	43.87
Fuel consumption [US gal/h]	1.07	70.23	4.55	6.44	40.22	1.00	0.60	1.61	5.91	0.03	0.98
CO [g/h]	74.46	4908.96	318.20	450.12	2811.43	69.92	41.83	112.57	413.33	2.26	68.43
NOx [g/h]	14.49	955.11	61.91	87.58	547.00	13.60	8.14	21.90	80.42	0.44	13.31
VOC [g/h]	17.26	1137.70	73.75	104.32	651.58	16.21	9.69	26.09	95.79	0.52	15.86

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	37.14
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	2.409
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	958	1063	463	463
d_b, Bicycle Delay [s]	12.90	10.42	28.05	28.05
l_b,int, Bicycle LOS Score for Intersection	3.641	3.623	1.786	2.074
Bicycle LOS	D	D	A	B

Sequence

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



Intersection Level Of Service Report
Intersection 5: U.S. Route 395 (NS) at Joshua Street (EW)

Control Type:	Signalized	Delay (sec / veh):	57.6
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.957

Intersection Setup

Name	U.S. Route 395			U.S. Route 395			Joshua Street			Joshua Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	1	0	1
Entry Pocket Length [ft]	190.00	100.00	143.00	191.00	100.00	273.00	94.00	100.00	100.00	65.00	100.00	65.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	U.S. Route 395			U.S. Route 395			Joshua Street			Joshua Street		
Base Volume Input [veh/h]	56	1798	94	259	1882	485	82	85	13	76	202	474
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	56	1798	94	259	1882	485	82	85	13	76	202	474
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	473	25	68	495	128	22	22	3	20	53	125
Total Analysis Volume [veh/h]	59	1893	99	273	1981	511	86	89	14	80	213	499
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	2	1	6	6	4	4	4	8	8	8
Auxiliary Signal Groups												
Maximum Green [s]	20	50	50	20	50	50	40	40	40	40	40	40
Amber [s]	3.7	5.5	5.5	3.7	5.5	5.5	4.0	4.0	4.0	4.0	4.0	4.0
All red [s]	1.0	2.0	2.0	1.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0
Walk [s]	0	7	7	0	7	7	0	0	0	7	7	7
Pedestrian Clearance [s]	0	24	24	0	24	24	0	0	0	34	34	34
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.7	5.5	5.5	2.7	5.5	5.5	3.0	3.0	3.0	3.0	3.0	3.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	10	69	69	19	78	78	42	42	42	42	42	42
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	5	5	5	5	5	5	5	5	5	5	5	5
Vehicle Extension [s]	2.5	5.0	5.0	2.5	5.0	5.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	L	C	R
C, Calculated Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.70	7.50	7.50	4.70	7.50	7.50	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.70	5.50	5.50	2.70	5.50	5.50	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	5	63	63	14	72	72	36	36	36	36	36
g / C, Green / Cycle	0.04	0.48	0.48	0.11	0.55	0.55	0.28	0.28	0.28	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.03	0.50	0.05	0.15	0.52	0.27	0.05	0.05	0.04	0.11	0.26
s, saturation flow rate [veh/h]	1800	3800	1900	1800	3800	1900	1800	1900	1800	1900	1900
c, Capacity [veh/h]	73	1829	914	198	2092	1046	366	525	457	525	525
d1, Uniform Delay [s]	61.83	33.72	18.46	57.85	27.45	17.97	35.73	35.97	35.61	38.32	46.14
k, delay calibration	0.08	0.50	0.50	0.39	0.50	0.50	0.04	0.04	0.04	0.04	0.31
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	13.93	30.77	0.24	193.21	10.65	1.63	0.12	0.07	0.07	0.19	20.92
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.80	1.04	0.11	1.38	0.95	0.49	0.23	0.20	0.18	0.41	0.95
d, Delay for Lane Group [s/veh]	75.76	64.49	18.70	251.06	38.09	19.60	35.85	36.04	35.67	38.51	67.06
Lane Group LOS	E	F	B	F	D	B	D	D	D	D	E
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.22	35.70	1.71	17.13	30.66	9.79	2.11	2.54	1.96	5.61	18.80
50th-Percentile Queue Length [ft/ln]	55.52	892.52	42.84	428.37	766.60	244.70	52.84	63.59	48.91	140.23	469.97
95th-Percentile Queue Length [veh/ln]	4.00	46.79	3.08	26.89	39.75	14.92	3.80	4.58	3.52	9.49	25.91
95th-Percentile Queue Length [ft/ln]	99.94	1169.76	77.10	672.29	993.64	372.97	95.12	114.47	88.05	237.34	647.74

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	75.76	64.49	18.70	251.06	38.09	19.60	35.85	36.04	36.04	35.67	38.51	67.06
Movement LOS	E	F	B	F	D	B	D	D	D	D	D	E
d_A, Approach Delay [s/veh]	62.61			55.70			35.96			56.21		
Approach LOS	E			E			D			E		
d_I, Intersection Delay [s/veh]	57.57											
Intersection LOS	E											
Intersection V/C	0.957											

Emissions

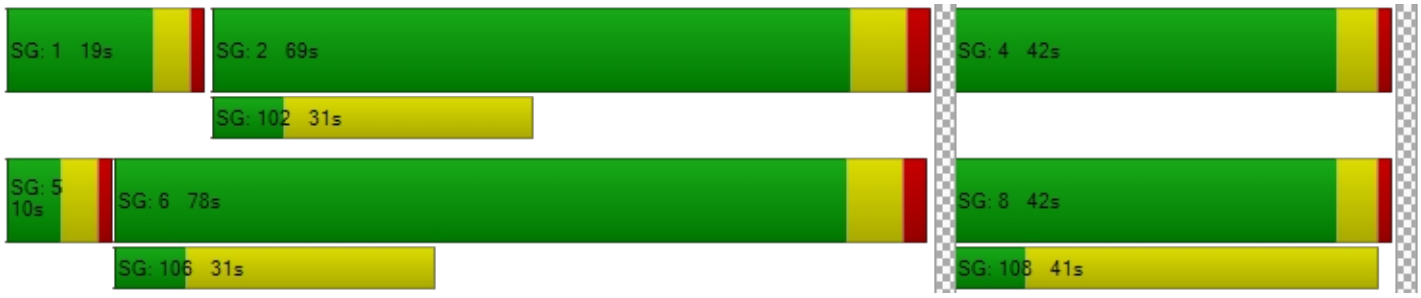
Vehicle Miles Traveled [mph]	3.08	98.89	5.17	17.94	130.20	33.59	4.75	5.69	2.82	7.50	17.58
Stops [stops/h]	61.50	1977.27	47.45	474.50	1698.32	271.05	58.54	70.44	54.18	155.33	520.58
Fuel consumption [US gal/h]	1.38	39.84	0.85	17.30	30.10	4.92	1.15	1.38	1.00	2.84	10.41
CO [g/h]	96.20	2784.53	59.53	1209.60	2103.92	343.82	80.13	96.38	69.63	198.24	727.57
NOx [g/h]	18.72	541.77	11.58	235.34	409.35	66.89	15.59	18.75	13.55	38.57	141.56
VOC [g/h]	22.29	645.34	13.80	280.34	487.60	79.68	18.57	22.34	16.14	45.94	168.62

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	54.47	54.47	54.47
l_p,int, Pedestrian LOS Score for Intersectio	0.000	3.445	2.274	2.454
Crosswalk LOS	F	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	946	1085	569	569
d_b, Bicycle Delay [s]	18.05	13.62	33.27	33.27
l_b,int, Bicycle LOS Score for Intersection	3.252	3.841	1.871	2.866
Bicycle LOS	C	D	A	C

Sequence

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



Intersection Level Of Service Report
Intersection 6: I-15 Southbound Off-Ramp (NS) at Joshua Street (EW)

Control Type:	Two-way stop	Delay (sec / veh):	22.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.826

Intersection Setup

Name	I-15 Southbound Off-Ramp		Joshua Street		Joshua Street	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	I-15 Southbound Off-Ramp		Joshua Street		Joshua Street	
Base Volume Input [veh/h]	17	810	0	345	37	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	17	810	0	345	37	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	213	0	91	10	0
Total Analysis Volume [veh/h]	18	853	0	363	39	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.83	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.14	22.52	0.00	0.00	0.00	0.00
Movement LOS	B	C		A	A	
95th-Percentile Queue Length [veh/ln]	0.09	9.89	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	2.30	247.25	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	22.29		0.00		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	15.25					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 7: I-15 Southbound On-Ramp (NS) at Joshua Street (EW)

Control Type:	Two-way stop	Delay (sec / veh):	7.7
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.195

Intersection Setup

Name	I-15 Southbound On-Ramp		Joshua Street		Joshua Street	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	200.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	I-15 Southbound On-Ramp		Joshua Street		Joshua Street	
Base Volume Input [veh/h]	0	0	289	73	37	8
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	289	73	37	8
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	76	19	10	2
Total Analysis Volume [veh/h]	0	0	304	77	39	8
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop		Free		Free	
Flared Lane						
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance						
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.19	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.71	0.00	0.00	0.00
Movement LOS			A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.61	0.61	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	15.19	15.19	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		6.15		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	5.48					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 8: Project Access Driveway 1 (NS) at Poplar Street (EW)

Control Type:	Two-way stop	Delay (sec / veh):	36.3
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.009

Intersection Setup

Name	Project Access Driveway 1		Poplar Street		Poplar Street	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Project Access Driveway 1		Poplar Street		Poplar Street	
Base Volume Input [veh/h]	1	1	801	4	5	705
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	1	801	4	5	705
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	211	1	1	186
Total Analysis Volume [veh/h]	1	1	843	4	5	742
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.01	0.00	0.01	0.01
d_M, Delay for Movement [s/veh]	36.29	15.16	0.00	0.00	9.56	0.00
Movement LOS	E	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.86	0.86	0.00	0.00	0.21	0.21
d_A, Approach Delay [s/veh]	25.73		0.00		0.06	
Approach LOS	D		A		A	
d_I, Intersection Delay [s/veh]	0.06					
Intersection LOS	E					

Intersection Level Of Service Report
Intersection 9: Project Access Driveway 2 (NS) at Poplar Street (EW)

Control Type:	Two-way stop	Delay (sec / veh):	34.4
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.024

Intersection Setup

Name	Project Access Driveway 2		Poplar Street		Poplar Street	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Project Access Driveway 2		Poplar Street		Poplar Street	
Base Volume Input [veh/h]	3	0	799	3	0	707
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	0	799	3	0	707
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	210	1	0	186
Total Analysis Volume [veh/h]	3	0	841	3	0	744
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	34.41	15.60	0.00	0.00	9.54	0.00
Movement LOS	D	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.07	0.07	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.83	1.83	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	34.41		0.00		0.00	
Approach LOS	D		A		A	
d_I, Intersection Delay [s/veh]	0.06					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 10: Project Access Driveway 3 (NS) at Poplar Street (EW)

Control Type:	Two-way stop	Delay (sec / veh):	34.2
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.024

Intersection Setup

Name	Project Access Driveway 3		Poplar Street		Poplar Street	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Project Access Driveway 3		Poplar Street		Poplar Street	
Base Volume Input [veh/h]	3	0	796	3	0	704
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	0	796	3	0	704
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	209	1	0	185
Total Analysis Volume [veh/h]	3	0	838	3	0	741
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	34.17	15.54	0.00	0.00	9.53	0.00
Movement LOS	D	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.07	0.07	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.81	1.81	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	34.17		0.00		0.00	
Approach LOS	D		A		A	
d_I, Intersection Delay [s/veh]	0.06					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 11: Project Access Driveway 4 (NS) at Poplar Street (EW)

Control Type:	Two-way stop	Delay (sec / veh):	35.8
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.008

Intersection Setup

Name	Project Access Driveway 4		Poplar Street		Poplar Street	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Project Access Driveway 4		Poplar Street		Poplar Street	
Base Volume Input [veh/h]	1	1	792	4	5	703
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	1	792	4	5	703
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	208	1	1	185
Total Analysis Volume [veh/h]	1	1	834	4	5	740
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.01	0.00	0.01	0.01
d_M, Delay for Movement [s/veh]	35.80	15.04	0.00	0.00	9.53	0.00
Movement LOS	E	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.85	0.85	0.00	0.00	0.21	0.21
d_A, Approach Delay [s/veh]	25.42		0.00		0.06	
Approach LOS	D		A		A	
d_I, Intersection Delay [s/veh]	0.06					
Intersection LOS	E					

Intersection Level Of Service Report
Intersection 1: U.S. Route 395 (NS) at Main Street - Phelan Road (EW)

Control Type:	Signalized	Delay (sec / veh):	324.9
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.565

Intersection Setup

Name	U.S. Route 395			U.S. Route 395			Main Street - Phelan Road			Main Street - Phelan Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	278.00	100.00	100.00	240.00	100.00	100.00	337.00	100.00	100.00	247.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	60.00			60.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	No			No			No			No		

Volumes

Name	U.S. Route 395			U.S. Route 395			Main Street - Phelan Road			Main Street - Phelan Road		
Base Volume Input [veh/h]	400	2627	74	638	1453	91	50	1051	163	7	688	356
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	400	2627	74	638	1453	91	50	1051	163	7	688	356
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	105	691	19	168	382	24	13	277	43	2	181	94
Total Analysis Volume [veh/h]	421	2765	78	672	1529	96	53	1106	172	7	724	375
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	8	7	4	4	5	2	2	1	6	6
Auxiliary Signal Groups												
Maximum Green [s]	45	30	30	30	30	30	20	20	20	20	20	20
Amber [s]	3.7	5.5	5.5	3.7	5.5	5.5	3.7	5.5	5.5	3.7	5.5	5.5
All red [s]	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.7	5.5	5.5	2.7	5.5	5.5	2.7	5.5	5.5	2.7	5.5	5.5
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	25	55	55	29	59	59	10	36	36	10	36	36
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	28	28	5	28	28	5	28	28	5	28	28
Vehicle Extension [s]	2.5	3.5	3.5	2.5	3.5	3.5	2.5	3.0	3.0	2.5	3.0	3.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Calculated Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.70	7.50	7.50	4.70	7.50	7.50	4.70	7.50	7.50	4.70	7.50	7.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.70	5.50	5.50	2.70	5.50	5.50	2.70	5.50	5.50	2.70	5.50	5.50
g_i, Effective Green Time [s]	20	48	48	24	52	52	5	33	33	1	29	29
g / C, Green / Cycle	0.16	0.37	0.37	0.19	0.40	0.40	0.04	0.25	0.25	0.01	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.23	0.75	0.75	0.37	0.43	0.43	0.03	0.34	0.33	0.00	0.31	0.27
s, saturation flow rate [veh/h]	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
c, Capacity [veh/h]	281	694	694	336	753	753	69	476	476	17	422	422
d1, Uniform Delay [s]	54.85	41.25	41.25	52.85	39.25	39.25	61.97	48.72	48.72	64.01	50.57	50.57
k, delay calibration	0.20	0.50	0.50	0.50	0.48	0.48	0.08	0.50	0.50	0.08	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	231.31	476.43	476.43	459.24	55.81	55.81	12.77	179.78	156.31	10.94	185.38	121.21
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.50	2.05	2.05	2.00	1.08	1.08	0.77	1.37	1.32	0.41	1.38	1.23
d, Delay for Lane Group [s/veh]	286.16	517.68	517.68	512.09	95.06	95.06	74.74	228.51	205.03	74.94	235.95	171.78
Lane Group LOS	F	F	F	F	F	F	E	F	F	E	F	F
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	26.79	112.30	112.30	53.31	33.55	33.55	1.92	38.38	35.27	0.28	34.76	27.24
50th-Percentile Queue Length [ft/ln]	669.87	2807.42	2807.42	1332.81	838.83	838.83	48.01	959.42	881.86	6.89	869.01	681.10
95th-Percentile Queue Length [veh/ln]	41.47	177.40	177.40	83.18	45.51	45.51	3.46	57.14	52.08	0.50	52.04	39.88
95th-Percentile Queue Length [ft/ln]	1036.73	4435.08	4435.08	2079.48	1137.67	1137.67	86.42	1428.44	1302.04	12.41	1300.99	996.99

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	286.16	517.68	517.68	512.09	95.06	95.06	74.74	218.87	205.03	74.94	223.37	171.78
Movement LOS	F	F	F	F	F	F	E	F	F	E	F	F
d_A, Approach Delay [s/veh]	487.82			217.06			211.35			204.94		
Approach LOS	F			F			F			F		
d_I, Intersection Delay [s/veh]	324.93											
Intersection LOS	F											
Intersection V/C	1.565											

Emissions

Vehicle Miles Traveled [mph]	26.95	90.98	90.98	38.67	46.76	46.76	4.95	60.96	58.50	0.45	37.10	32.96
Stops [stops/h]	742.01	3109.76	3109.76	1476.35	929.16	929.16	53.18	1062.74	976.83	7.63	962.59	754.45
Fuel consumption [US gal/h]	41.83	221.57	221.57	103.97	37.85	37.85	1.96	52.10	46.21	0.26	47.06	33.19
CO [g/h]	2924.24	15487.6	15487.6	7267.43	2645.90	2645.90	136.98	3641.59	3230.11	18.42	3289.45	2319.76
NOx [g/h]	568.95	3013.33	3013.33	1413.98	514.80	514.80	26.65	708.52	628.46	3.58	640.01	451.34
VOC [g/h]	677.72	3589.41	3589.41	1684.30	613.21	613.21	31.75	843.97	748.61	4.27	762.36	537.63

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	731	792	438	438
d_b, Bicycle Delay [s]	26.18	23.70	39.62	39.62
l_b,int, Bicycle LOS Score for Intersection	4.252	3.455	2.658	2.472
Bicycle LOS	E	C	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: U.S. Route 395 (NS) at Poplar Street (EW)

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	4.295

Intersection Setup

Name	U.S. Route 395			U.S. Route 395			Poplar Street			Poplar Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	13.00	12.00	12.00	12.00	12.00	12.00	12.00	13.00	12.00	20.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	373.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	200.00
Speed [mph]	60.00			60.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	U.S. Route 395			U.S. Route 395			Poplar Street			Poplar Street		
Base Volume Input [veh/h]	37	2742	203	424	1136	15	25	0	56	526	0	419
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	37	2742	203	424	1136	15	25	0	56	526	0	419
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	722	53	112	299	4	7	0	15	138	0	110
Total Analysis Volume [veh/h]	39	2886	214	446	1196	16	26	0	59	554	0	441
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.03	0.00	4.33	0.01	0.00	0.00	0.00	0.13	0.00	0.00	4.29
d_M, Delay for Movement [s/veh]	11.76	0.00	0.00	1583.85	0.00	0.00	10000.0	10000.0	10000.0	10000.0	10000.0	10000.0
Movement LOS	B	A	A	F	A	A	F	F	F	F	F	F
95th-Percentile Queue Length [veh/ln]	0.22	0.00	0.00	46.48	0.00	0.00	5.15	9.66	9.66	72.13	57.98	57.98
95th-Percentile Queue Length [ft/ln]	5.48	0.00	0.00	1162.02	0.00	0.00	128.63	241.61	241.61	1803.26	1449.44	1449.44
d_A, Approach Delay [s/veh]	0.15			426.05			10000.00			10000.00		
Approach LOS	A			F			F			F		
d_I, Intersection Delay [s/veh]	1957.95											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 3: Three Flags Avenue (NS) at Poplar Street (EW)

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	25.188

Intersection Setup

Name	Three Flags Avenue			Three Flags Avenue			Poplar Street			Poplar Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	16.00	16.00	14.00	14.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	1	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Three Flags Avenue			Three Flags Avenue			Poplar Street			Poplar Street		
Base Volume Input [veh/h]	337	0	226	0	0	272	60	407	364	298	419	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	337	0	226	0	0	272	60	407	364	298	419	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	89	0	59	0	0	72	16	107	96	78	110	0
Total Analysis Volume [veh/h]	355	0	238	0	0	286	63	428	383	314	441	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	25.19	0.00	0.49	0.00	0.00	0.46	0.06	0.00	0.00	0.39	0.00	0.00
d_M, Delay for Movement [s/veh]	10000.0	10000.0	10000.0	334.21	149.26	15.80	8.30	0.00	0.00	10.07	0.00	0.00
Movement LOS	F	F	F	F	F	C	A	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	74.23	74.23	74.23	2.45	2.45	2.45	0.12	0.12	0.12	0.80	0.80	0.80
95th-Percentile Queue Length [ft/ln]	1855.84	1855.84	1855.84	61.30	61.30	61.30	2.99	2.99	2.99	20.09	20.09	20.09
d_A, Approach Delay [s/veh]	10000.00			15.80			0.60			4.19		
Approach LOS	F			C			A			A		
d_I, Intersection Delay [s/veh]	2367.70											
Intersection LOS	F											

Intersection Level Of Service Report

Intersection 4: U.S. Route 395 (NS) at Three Flags Road - Three Flags Court (EW)

Control Type:	Signalized	Delay (sec / veh):	78.8
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.065

Intersection Setup

Name	U.S. Route 395			U.S. Route 395			Th- T			Th- T		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	1	0	1
Entry Pocket Length [ft]	190.00	100.00	207.00	225.00	100.00	225.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	60.00			60.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	No			No			No			Yes		

Volumes

Name	U.S. Route 395			U.S. Route 395			Th- T			Th- T		
Base Volume Input [veh/h]	36	2330	232	176	1590	72	79	5	60	265	21	480
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	2330	232	176	1590	72	79	5	60	265	21	480
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	613	61	46	418	19	21	1	16	70	6	126
Total Analysis Volume [veh/h]	38	2453	244	185	1674	76	83	5	63	279	22	505
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	125
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	2	1	6	6	4	4	4	8	8	8
Auxiliary Signal Groups												
Maximum Green [s]	20	50	50	20	50	50	20	20	20	20	20	20
Amber [s]	4.0	5.5	5.5	4.0	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.0
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Walk [s]	0	7	7	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	34	34	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	3.0	4.5	4.5	3.0	4.5	4.5	4.0	4.0	4.0	4.0	4.0	4.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	12	75	75	16	79	79	34	34	34	34	34	34
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	5	5	5	5	5	5	5	5	5	5	5	5
Vehicle Extension [s]	2.0	3.0	3.0	2.0	3.0	3.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	L	C	R
C, Calculated Cycle Length [s]	125	125	125	125	125	125	125	125	125	125	125
L, Total Lost Time per Cycle [s]	5.00	6.50	6.50	5.00	6.50	6.50	6.00	6.00	6.00	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	4.50	4.50	3.00	4.50	4.50	4.00	4.00	4.00	4.00	4.00
g_i, Effective Green Time [s]	4	69	69	11	76	76	28	28	28	28	28
g / C, Green / Cycle	0.03	0.55	0.55	0.09	0.61	0.61	0.22	0.22	0.22	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.02	0.65	0.13	0.10	0.44	0.04	0.05	0.04	0.16	0.01	0.27
s, saturation flow rate [veh/h]	1800	3800	1900	1800	3800	1900	1800	1900	1800	1900	1900
c, Capacity [veh/h]	54	2082	1041	158	2302	1151	416	426	380	426	426
d1, Uniform Delay [s]	60.06	28.25	14.65	57.00	17.35	10.11	39.46	39.03	44.54	38.08	48.50
k, delay calibration	0.04	0.50	0.50	0.09	0.50	0.50	0.04	0.04	0.14	0.04	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.96	85.45	0.53	88.29	2.05	0.11	0.09	0.06	3.48	0.02	105.38
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.70	1.18	0.23	1.17	0.73	0.07	0.20	0.16	0.73	0.05	1.19
d, Delay for Lane Group [s/veh]	66.02	113.70	15.18	145.29	19.40	10.22	39.54	39.10	48.02	38.10	153.88
Lane Group LOS	E	F	B	F	B	B	D	D	D	D	F
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.23	51.08	3.36	8.65	14.75	0.78	2.06	1.67	8.16	0.53	25.41
50th-Percentile Queue Length [ft/ln]	30.82	1276.96	83.92	216.16	368.78	19.53	51.60	41.81	204.04	13.19	635.14
95th-Percentile Queue Length [veh/ln]	2.22	71.27	6.04	14.22	21.05	1.41	3.72	3.01	12.85	0.95	36.93
95th-Percentile Queue Length [ft/ln]	55.47	1781.85	151.06	355.41	526.24	35.16	92.88	75.26	321.18	23.74	923.36

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	66.02	113.70	15.18	145.29	19.40	10.22	39.54	39.10	39.10	48.02	38.10	153.88
Movement LOS	E	F	B	F	B	B	D	D	D	D	D	F
d_A, Approach Delay [s/veh]	104.25			31.08			39.34			114.08		
Approach LOS	F			C			D			F		
d_I, Intersection Delay [s/veh]	78.75											
Intersection LOS	E											
Intersection V/C	1.065											

Emissions

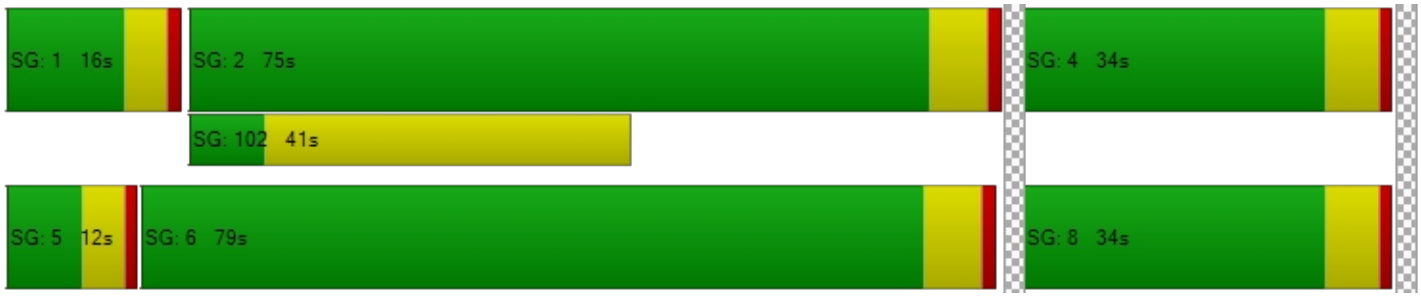
Vehicle Miles Traveled [mph]	3.01	194.40	19.34	4.37	39.54	1.80	3.57	2.92	17.29	1.36	31.29
Stops [stops/h]	35.50	2942.12	96.68	249.02	849.66	22.50	59.45	48.17	235.06	15.20	731.68
Fuel consumption [US gal/h]	1.40	128.43	3.55	11.12	26.74	0.72	1.38	1.12	5.65	0.37	24.12
CO [g/h]	97.73	8977.02	248.26	777.48	1869.36	50.11	96.43	78.21	395.23	25.77	1685.96
NOx [g/h]	19.01	1746.60	48.30	151.27	363.71	9.75	18.76	15.22	76.90	5.01	328.03
VOC [g/h]	22.65	2080.51	57.54	180.19	433.24	11.61	22.35	18.13	91.60	5.97	390.74

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	51.98
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	2.550
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1096	1160	448	448
d_b, Bicycle Delay [s]	12.77	11.03	37.64	37.64
l_b,int, Bicycle LOS Score for Intersection	3.816	3.156	1.809	2.890
Bicycle LOS	D	C	A	C

Sequence

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



Intersection Level Of Service Report
Intersection 5: U.S. Route 395 (NS) at Joshua Street (EW)

Control Type:	Signalized	Delay (sec / veh):	86.7
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.019

Intersection Setup

Name	U.S. Route 395			U.S. Route 395			Joshua Street			Joshua Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	1	0	1
Entry Pocket Length [ft]	190.00	100.00	143.00	191.00	100.00	273.00	94.00	100.00	100.00	65.00	100.00	65.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	U.S. Route 395			U.S. Route 395			Joshua Street			Joshua Street		
Base Volume Input [veh/h]	42	1494	97	383	1499	89	552	329	79	253	111	458
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	42	1494	97	383	1499	89	552	329	79	253	111	458
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	393	26	101	394	23	145	87	21	67	29	121
Total Analysis Volume [veh/h]	44	1573	102	403	1578	94	581	346	83	266	117	482
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	105
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	2	1	6	6	4	4	4	8	8	8
Auxiliary Signal Groups												
Maximum Green [s]	20	50	50	20	50	50	40	40	40	40	40	40
Amber [s]	3.7	5.5	5.5	3.7	5.5	5.5	4.0	4.0	4.0	4.0	4.0	4.0
All red [s]	1.0	2.0	2.0	1.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0
Walk [s]	0	7	7	0	7	7	0	0	0	7	7	7
Pedestrian Clearance [s]	0	24	24	0	24	24	0	0	0	34	34	34
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.7	5.5	5.5	2.7	5.5	5.5	3.0	3.0	3.0	3.0	3.0	3.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	10	39	39	20	49	49	46	46	46	46	46	46
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	5	5	5	5	5	5	5	5	5	5	5	5
Vehicle Extension [s]	2.5	5.0	5.0	2.5	5.0	5.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	L	C	R
C, Calculated Cycle Length [s]	105	105	105	105	105	105	105	105	105	105	105
L, Total Lost Time per Cycle [s]	4.70	7.50	7.50	4.70	7.50	7.50	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.70	5.50	5.50	2.70	5.50	5.50	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	4	44	44	15	55	55	29	29	29	29	29
g / C, Green / Cycle	0.03	0.42	0.42	0.15	0.53	0.53	0.27	0.27	0.27	0.27	0.27
(v / s)_i Volume / Saturation Flow Rate	0.02	0.41	0.05	0.22	0.42	0.05	0.32	0.23	0.15	0.06	0.25
s, saturation flow rate [veh/h]	1800	3800	1900	1800	3800	1900	1800	1900	1800	1900	1900
c, Capacity [veh/h]	62	1582	791	262	2005	1003	447	521	153	521	521
d1, Uniform Delay [s]	50.17	30.51	18.90	44.85	20.03	12.32	36.79	35.73	30.23	29.48	37.07
k, delay calibration	0.08	0.50	0.50	0.50	0.50	0.50	0.29	0.08	0.04	0.04	0.14
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.55	21.29	0.34	259.69	3.21	0.19	144.96	2.38	334.55	0.08	9.22
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.71	0.99	0.13	1.54	0.79	0.09	1.30	0.82	1.74	0.22	0.93
d, Delay for Lane Group [s/veh]	60.73	51.81	19.23	304.54	23.24	12.51	181.75	38.11	364.78	29.56	46.29
Lane Group LOS	E	D	B	F	C	B	F	D	F	C	D
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No
50th-Percentile Queue Length [veh/ln]	1.32	23.64	1.60	25.68	15.58	1.13	28.84	10.48	17.28	2.29	13.15
50th-Percentile Queue Length [ft/ln]	33.04	591.00	39.92	642.12	389.44	28.20	721.10	262.07	431.96	57.32	328.80
95th-Percentile Queue Length [veh/ln]	2.38	31.61	2.87	40.04	22.05	2.03	43.40	15.79	29.97	4.13	19.10
95th-Percentile Queue Length [ft/ln]	59.48	790.34	71.86	1001.10	551.26	50.75	1085.07	394.82	749.25	103.18	477.49

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	60.73	51.81	19.23	304.54	23.24	12.51	181.75	38.11	38.11	364.78	29.56	46.29
Movement LOS	E	D	B	F	C	B	F	D	D	F	C	D
d_A, Approach Delay [s/veh]	50.10			77.39			120.73			141.97		
Approach LOS	D			E			F			F		
d_I, Intersection Delay [s/veh]	86.69											
Intersection LOS	F											
Intersection V/C	1.019											

Emissions

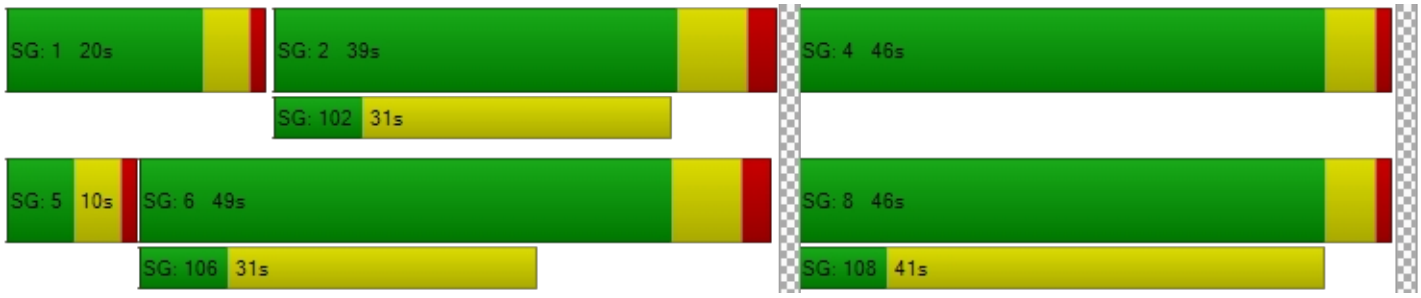
Vehicle Miles Traveled [mph]	2.30	82.17	5.33	26.49	103.72	6.18	32.10	23.70	9.37	4.12	16.98
Stops [stops/h]	45.32	1621.02	54.75	880.63	1068.17	38.67	988.93	359.42	592.40	78.62	450.93
Fuel consumption [US gal/h]	0.89	28.92	0.92	30.93	17.63	0.71	28.27	6.29	23.40	1.31	7.73
CO [g/h]	62.12	2021.63	64.38	2161.74	1232.66	49.44	1976.04	439.54	1635.68	91.41	540.36
NOx [g/h]	12.09	393.33	12.53	420.60	239.83	9.62	384.47	85.52	318.24	17.79	105.14
VOC [g/h]	14.40	468.53	14.92	501.00	285.68	11.46	457.97	101.87	379.08	21.19	125.23

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	42.08	42.08	42.08
l_p,int, Pedestrian LOS Score for Intersectio	0.000	4.052	2.359	2.557
Crosswalk LOS	F	D	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	600	790	781	781
d_b, Bicycle Delay [s]	25.73	19.20	19.50	19.50
l_b,int, Bicycle LOS Score for Intersection	2.978	3.271	3.226	2.987
Bicycle LOS	C	C	C	C

Sequence

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



Intersection Level Of Service Report
Intersection 6: I-15 Southbound Off-Ramp (NS) at Joshua Street (EW)

Control Type:	Two-way stop	Delay (sec / veh):	30.6
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.325

Intersection Setup

Name	I-15 Southbound Off-Ramp		Joshua Street		Joshua Street	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	I-15 Southbound Off-Ramp		Joshua Street		Joshua Street	
Base Volume Input [veh/h]	64	511	0	835	299	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	64	511	0	835	299	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	134	0	220	79	0
Total Analysis Volume [veh/h]	67	538	0	879	315	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.32	0.74	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	30.64	22.79	0.00	0.00	0.00	0.00
Movement LOS	D	C		A	A	
95th-Percentile Queue Length [veh/ln]	1.34	6.70	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	33.52	167.44	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	23.66		0.00		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	7.96					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 7: I-15 Southbound On-Ramp (NS) at Joshua Street (EW)

Control Type:	Two-way stop	Delay (sec / veh):	12.6
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.676

Intersection Setup

Name	I-15 Southbound On-Ramp		Joshua Street		Joshua Street	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	200.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	I-15 Southbound On-Ramp		Joshua Street		Joshua Street	
Base Volume Input [veh/h]	0	0	795	103	299	7
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	795	103	299	7
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	209	27	79	2
Total Analysis Volume [veh/h]	0	0	837	108	315	7
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop		Free		Free	
Flared Lane						
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance						
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.68	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	12.59	0.00	0.00	0.00
Movement LOS			B	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	4.87	4.87	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	121.74	121.74	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		11.15		0.00	
Approach LOS	A		B		A	
d_I, Intersection Delay [s/veh]	8.31					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 8: Project Access Driveway 1 (NS) at Poplar Street (EW)

Control Type:	Two-way stop	Delay (sec / veh):	29.6
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.027

Intersection Setup

Name	Project Access Driveway 1		Poplar Street		Poplar Street	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Project Access Driveway 1		Poplar Street		Poplar Street	
Base Volume Input [veh/h]	4	5	632	1	2	713
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	5	632	1	2	713
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	166	0	1	188
Total Analysis Volume [veh/h]	4	5	665	1	2	751
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.01	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	29.63	13.42	0.00	0.00	8.90	0.00
Movement LOS	D	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.12	0.12	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	2.92	2.92	0.00	0.00	0.08	0.08
d_A, Approach Delay [s/veh]	20.62		0.00		0.02	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.14					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 9: Project Access Driveway 2 (NS) at Poplar Street (EW)

Control Type:	Two-way stop	Delay (sec / veh):	29.3
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.020

Intersection Setup

Name	Project Access Driveway 2		Poplar Street		Poplar Street	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Project Access Driveway 2		Poplar Street		Poplar Street	
Base Volume Input [veh/h]	3	0	635	3	0	711
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	0	635	3	0	711
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	167	1	0	187
Total Analysis Volume [veh/h]	3	0	668	3	0	748
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	29.34	13.36	0.00	0.00	8.92	0.00
Movement LOS	D	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.06	0.06	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.52	1.52	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	29.34		0.00		0.00	
Approach LOS	D		A		A	
d_I, Intersection Delay [s/veh]	0.06					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 10: Project Access Driveway 3 (NS) at Poplar Street (EW)

Control Type:	Two-way stop	Delay (sec / veh):	29.1
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.020

Intersection Setup

Name	Project Access Driveway 3		Poplar Street		Poplar Street	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Project Access Driveway 3		Poplar Street		Poplar Street	
Base Volume Input [veh/h]	3	0	632	3	0	708
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	0	632	3	0	708
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	166	1	0	186
Total Analysis Volume [veh/h]	3	0	665	3	0	745
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	29.13	13.32	0.00	0.00	8.91	0.00
Movement LOS	D	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.06	0.06	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.50	1.50	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	29.13		0.00		0.00	
Approach LOS	D		A		A	
d_I, Intersection Delay [s/veh]	0.06					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 11: Project Access Driveway 4 (NS) at Poplar Street (EW)

Control Type:	Two-way stop	Delay (sec / veh):	29.2
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.026

Intersection Setup

Name	Project Access Driveway 4		Poplar Street		Poplar Street	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Project Access Driveway 4		Poplar Street		Poplar Street	
Base Volume Input [veh/h]	4	5	630	1	2	705
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	5	630	1	2	705
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	166	0	1	186
Total Analysis Volume [veh/h]	4	5	663	1	2	742
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop		Free		Free	
Flared Lane	No					
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance	No					
Number of Storage Spaces in Median	2		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.01	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	29.25	13.38	0.00	0.00	8.89	0.00
Movement LOS	D	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.12	0.12	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	2.88	2.88	0.00	0.00	0.08	0.08
d_A, Approach Delay [s/veh]	20.43		0.00		0.02	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.14					
Intersection LOS	D					

Appendix H

Project Opening Year (2026)

With Project Conditions

With Intersection Improvements

Level of Service Analysis Worksheets

RK19177.5
JN:1219-2023-03

Intersection Level Of Service Report
Intersection 1: U.S. Route 395 (NS) at Main Street - Phelan Road (EW)

Control Type:	Signalized	Delay (sec / veh):	40.7
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.788

Intersection Setup

Name	U.S. Route 395			U.S. Route 395			Main Street - Phelan Road			Main Street - Phelan Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	1
Entry Pocket Length [ft]	278.00	100.00	100.00	240.00	100.00	100.00	337.00	100.00	100.00	247.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	60.00			60.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	No			No			No			No		

Volumes

Name	U.S. Route 395			U.S. Route 395			Main Street - Phelan Road			Main Street - Phelan Road		
Base Volume Input [veh/h]	209	1008	11	397	1263	44	65	908	214	12	1178	565
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	209	1008	11	397	1263	44	65	908	214	12	1178	565
Peak Hour Factor	0.9650	0.9650	0.9650	0.9650	0.9650	0.9650	0.9650	0.9650	0.9650	0.9650	0.9650	0.9650
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	54	261	3	103	327	11	17	235	55	3	305	146
Total Analysis Volume [veh/h]	217	1045	11	411	1309	46	67	941	222	12	1221	585
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Maximum Green [s]	6	19	0	6	19	0	10	9	0	10	9	9
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	15	45	0	30	60	0	11	45	0	10	44	44
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	6
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
Minimum Recall	No	No		No	No		No	No		No	No	No
Maximum Recall	No	No		No	No		No	No		No	No	No
Pedestrian Recall	No	No		No	No		No	No		No	No	No

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	R
C, Calculated Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	11	47	47	26	62	62	6	39	39	2	35	65
g / C, Green / Cycle	0.08	0.36	0.36	0.20	0.48	0.48	0.05	0.30	0.30	0.02	0.27	0.50
(v / s)_i Volume / Saturation Flow Rate	0.07	0.19	0.20	0.13	0.38	0.38	0.04	0.22	0.21	0.01	0.23	0.33
s, saturation flow rate [veh/h]	3200	3600	1800	3200	1800	1800	1700	3600	1800	1700	5400	1800
c, Capacity [veh/h]	263	1293	646	640	858	858	84	1083	541	29	1448	898
d1, Uniform Delay [s]	58.72	33.08	33.44	47.73	28.58	28.51	61.11	40.68	40.16	63.23	44.98	24.17
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.17	0.11	0.11	0.49
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.39	1.60	3.49	1.08	7.37	7.25	15.23	0.95	2.54	9.00	1.41	3.62
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.82	0.54	0.56	0.64	0.79	0.79	0.79	0.73	0.69	0.41	0.84	0.65
d, Delay for Lane Group [s/veh]	65.11	34.68	36.93	48.81	35.94	35.75	76.34	41.64	42.70	72.24	46.39	27.79
Lane Group LOS	E	C	D	D	D	D	E	D	D	E	D	C
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.60	8.40	9.20	5.91	17.71	17.58	2.47	10.84	10.45	0.45	11.98	13.10
50th-Percentile Queue Length [ft/ln]	89.91	210.04	229.94	147.65	442.76	439.47	61.76	271.01	261.22	11.34	299.39	327.59
95th-Percentile Queue Length [veh/ln]	6.47	13.15	14.17	9.89	24.61	24.45	4.45	16.24	15.75	0.82	17.65	19.04
95th-Percentile Queue Length [ft/ln]	161.84	328.87	354.28	247.29	615.31	611.37	111.17	406.00	393.76	20.41	441.27	476.00

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	65.11	35.44	36.93	48.81	35.85	35.75	76.34	41.81	42.70	72.24	46.39	27.79
Movement LOS	E	D	D	D	D	D	E	D	D	E	D	C
d_A, Approach Delay [s/veh]	40.51			38.87			43.85			40.57		
Approach LOS	D			D			D			D		
d_I, Intersection Delay [s/veh]	40.73											
Intersection LOS	D											
Intersection V/C	0.788											

Emissions

Vehicle Miles Traveled [mph]	13.89	44.39	23.19	23.65	39.07	38.91	6.26	73.62	35.09	0.77	77.85	37.30
Stops [stops/h]	199.18	465.31	254.70	327.10	490.44	486.79	68.41	600.39	289.36	12.56	994.88	362.87
Fuel consumption [US gal/h]	7.75	16.70	9.15	12.12	17.14	17.01	2.52	20.29	9.81	0.44	32.61	11.30
CO [g/h]	541.90	1167.15	639.31	847.27	1198.21	1188.95	176.22	1418.06	685.75	30.42	2279.36	789.59
NOx [g/h]	105.43	227.08	124.39	164.85	233.13	231.33	34.29	275.90	133.42	5.92	443.48	153.63
VOC [g/h]	125.59	270.50	148.17	196.36	277.70	275.55	40.84	328.65	158.93	7.05	528.26	183.00

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	631	862	631	615
d_b, Bicycle Delay [s]	30.47	21.06	30.47	31.15
l_b,int, Bicycle LOS Score for Intersection	2.260	3.017	2.236	2.560
Bicycle LOS	B	C	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: U.S. Route 395 (NS) at Poplar Street (EW)

Control Type:	Signalized	Delay (sec / veh):	35.2
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.778

Intersection Setup

Name	U.S. Route 395			U.S. Route 395			Poplar Street			Poplar Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	13.00	12.00	12.00	12.00	12.00	12.00	12.00	13.00	12.00	20.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	373.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	200.00
Speed [mph]	60.00			60.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	U.S. Route 395			U.S. Route 395			Poplar Street			Poplar Street		
Base Volume Input [veh/h]	71	1194	556	116	1133	29	5	0	29	125	0	26
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	71	1194	556	116	1133	29	5	0	29	125	0	26
Peak Hour Factor	0.8880	0.8880	0.8880	0.8880	0.8880	0.8880	0.8880	0.8880	0.8880	0.8880	0.8880	0.8880
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	336	157	33	319	8	1	0	8	35	0	7
Total Analysis Volume [veh/h]	80	1345	626	131	1276	33	6	0	33	141	0	29
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	8	9	0	8	9	0	8	18	0	9	19	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	28	81	0	14	67	0	15	10	0	15	10	0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	L	C	R
C, Calculated Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	7	69	69	10	72	72	1	14	11	24	24
g / C, Green / Cycle	0.06	0.58	0.58	0.08	0.60	0.60	0.01	0.11	0.09	0.20	0.20
(v / s)_i Volume / Saturation Flow Rate	0.05	0.55	0.55	0.08	0.36	0.36	0.00	0.02	0.08	0.00	0.02
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	1700	1800	1700	1800	1800
c, Capacity [veh/h]	103	1039	1039	142	1080	1080	17	206	156	353	353
d1, Uniform Delay [s]	55.59	23.70	23.70	54.63	15.10	15.04	59.05	47.93	53.98	0.00	39.38
k, delay calibration	0.11	0.37	0.37	0.32	0.14	0.13	0.11	0.50	0.32	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	11.97	14.46	14.46	43.66	0.70	0.68	12.88	1.66	37.18	0.00	0.45
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.78	0.95	0.95	0.92	0.61	0.60	0.36	0.16	0.90	0.00	0.08
d, Delay for Lane Group [s/veh]	67.56	38.16	38.16	98.29	15.80	15.72	71.93	49.59	91.16	0.00	39.84
Lane Group LOS	E	D	D	F	B	B	E	D	F	A	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.61	25.61	25.61	5.45	9.58	9.47	0.24	0.99	5.75	0.00	0.74
50th-Percentile Queue Length [ft/ln]	65.37	640.25	640.25	136.30	239.56	236.85	6.01	24.76	143.79	0.00	18.39
95th-Percentile Queue Length [veh/ln]	4.71	33.91	33.91	9.28	14.66	14.52	0.43	1.78	9.68	0.00	1.32
95th-Percentile Queue Length [ft/ln]	117.67	847.74	847.74	232.03	366.47	363.05	10.82	44.57	242.11	0.00	33.10

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	67.56	38.16	38.16	98.29	15.76	15.72	71.93	49.59	49.59	91.16	0.00	39.84
Movement LOS	E	D	D	F	B	B	E	D	D	F	A	D
d_A, Approach Delay [s/veh]	39.30			23.27			53.03			82.40		
Approach LOS	D			C			D			F		
d_I, Intersection Delay [s/veh]	35.19											
Intersection LOS	D											
Intersection V/C	0.778											

Emissions

Vehicle Miles Traveled [mph]	2.66	32.71	32.71	10.81	54.20	53.83	0.14	0.78	5.47	0.00	1.12
Stops [stops/h]	78.45	768.30	768.30	163.56	287.47	284.22	7.22	29.71	172.54	0.00	22.06
Fuel consumption [US gal/h]	2.92	25.75	25.75	6.60	10.32	10.21	0.13	0.53	4.51	0.00	0.49
CO [g/h]	204.43	1800.16	1800.16	461.67	721.26	713.56	9.33	37.00	314.97	0.00	34.40
NOx [g/h]	39.77	350.25	350.25	89.82	140.33	138.83	1.82	7.20	61.28	0.00	6.69
VOC [g/h]	47.38	417.21	417.21	107.00	167.16	165.37	2.16	8.58	73.00	0.00	7.97

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1283	1050	100	100
d_b, Bicycle Delay [s]	7.70	13.54	54.15	54.15
l_b,int, Bicycle LOS Score for Intersection	3.252	2.748	1.624	1.840
Bicycle LOS	C	B	A	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: Three Flags Avenue (NS) at Poplar Street (EW)

Control Type:	All-way stop	Delay (sec / veh):	28.4
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.942

Intersection Setup

Name	Three Flags Avenue			Three Flags Avenue			Poplar Street			Poplar Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	16.00	16.00	14.00	14.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	1	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			No		

Volumes

Name	Three Flags Avenue			Three Flags Avenue			Poplar Street			Poplar Street		
Base Volume Input [veh/h]	20	0	46	0	0	41	156	428	40	133	194	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	0	46	0	0	41	156	428	40	133	194	0
Peak Hour Factor	0.7500	0.7500	0.7500	0.7500	0.7500	0.7500	0.7500	0.7500	0.7500	0.7500	0.7500	0.7500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	0	15	0	0	14	52	143	13	44	65	0
Total Analysis Volume [veh/h]	27	0	61	0	0	55	208	571	53	177	259	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	557	568	600	662	656
Degree of Utilization, x	0.16	0.10	0.35	0.94	0.66

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.56	0.32	1.54	13.08	5.03
95th-Percentile Queue Length [ft]	13.94	8.01	38.58	327.12	125.77
Approach Delay [s/veh]	10.67	10.02	36.59		18.69
Approach LOS	B	B	E		C
Intersection Delay [s/veh]	28.41				
Intersection LOS	D				

Intersection Level Of Service Report
Intersection 5: U.S. Route 395 (NS) at Joshua Street (EW)

Control Type:	Signalized	Delay (sec / veh):	54.2
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.926

Intersection Setup

Name	U.S. Route 395			U.S. Route 395			Joshua Street			Joshua Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	1	0	1
Entry Pocket Length [ft]	190.00	100.00	143.00	191.00	100.00	273.00	94.00	100.00	100.00	65.00	100.00	65.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	U.S. Route 395			U.S. Route 395			Joshua Street			Joshua Street		
Base Volume Input [veh/h]	37	1419	41	231	1380	169	57	71	17	102	217	509
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	37	1419	41	231	1380	169	57	71	17	102	217	509
Peak Hour Factor	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	385	11	63	375	46	15	19	5	28	59	138
Total Analysis Volume [veh/h]	40	1541	45	251	1498	183	62	77	18	111	236	553
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Maximum Green [s]	20	50	0	20	50	0	0	40	0	0	40	0
Amber [s]	3.7	5.5	0.0	3.7	5.5	0.0	0.0	4.0	0.0	0.0	4.0	0.0
All red [s]	1.0	2.0	0.0	1.0	2.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	24	0	0	0	0	0	34	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.7	5.5	0.0	2.7	5.5	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	12	61	0	23	72	0	0	46	0	0	46	0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Vehicle Extension [s]	2.5	5.0	0.0	2.5	5.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	L	C	R
C, Calculated Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.70	7.50	7.50	4.70	7.50	7.50	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.70	5.50	5.50	2.70	5.50	5.50	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	4	54	54	18	68	68	41	41	41	41	41
g / C, Green / Cycle	0.03	0.41	0.41	0.14	0.52	0.52	0.32	0.32	0.32	0.32	0.32
(v / s)_i Volume / Saturation Flow Rate	0.02	0.43	0.03	0.15	0.42	0.10	0.04	0.05	0.07	0.13	0.31
s, saturation flow rate [veh/h]	1700	3600	1800	1700	3600	1800	1700	1800	1700	1800	1800
c, Capacity [veh/h]	52	1482	741	239	1879	939	390	568	501	568	568
d1, Uniform Delay [s]	62.58	38.25	23.09	55.85	25.45	16.54	31.62	32.16	32.59	35.06	43.98
k, delay calibration	0.08	0.50	0.50	0.37	0.50	0.50	0.04	0.04	0.04	0.04	0.42
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	16.42	34.53	0.16	63.44	3.62	0.46	0.07	0.05	0.08	0.18	28.64
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	1.04	0.06	1.05	0.80	0.19	0.16	0.17	0.22	0.42	0.97
d, Delay for Lane Group [s/veh]	79.00	72.78	23.24	119.29	29.07	17.00	31.69	32.21	32.68	35.24	72.62
Lane Group LOS	E	F	C	F	C	B	C	C	C	D	E
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.55	30.22	0.88	12.06	19.38	3.05	1.41	2.20	2.60	5.96	21.95
50th-Percentile Queue Length [ft/ln]	38.81	755.61	22.00	301.38	484.38	76.19	35.32	54.96	65.12	149.00	548.71
95th-Percentile Queue Length [veh/ln]	2.79	40.42	1.58	18.15	26.59	5.49	2.54	3.96	4.69	9.96	29.63
95th-Percentile Queue Length [ft/ln]	69.87	1010.39	39.60	453.66	664.85	137.14	63.58	98.92	117.21	249.09	740.79

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	79.00	72.78	23.24	119.29	29.07	17.00	31.69	32.21	32.21	32.68	35.24	72.62
Movement LOS	E	F	C	F	C	B	C	C	C	C	D	E
d_A, Approach Delay [s/veh]	71.56			39.65			32.01			57.89		
Approach LOS	E			D			C			E		
d_I, Intersection Delay [s/veh]	54.19											
Intersection LOS	D											
Intersection V/C	0.926											

Emissions

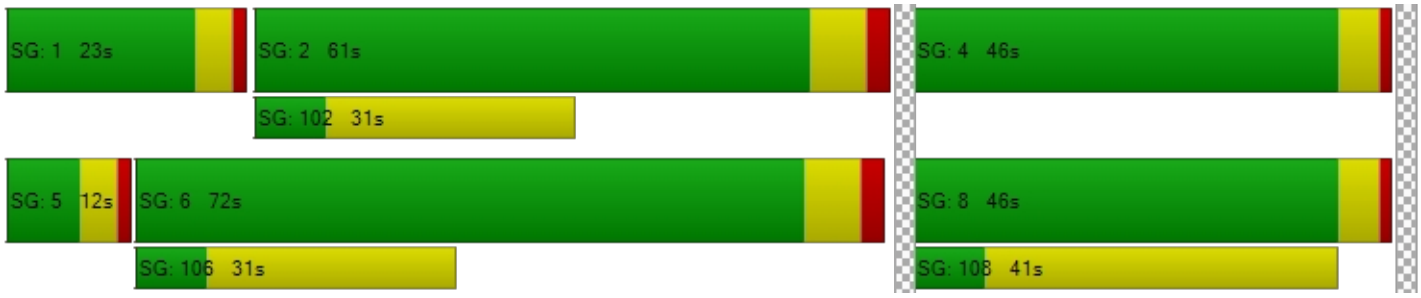
Vehicle Miles Traveled [mph]	2.09	80.50	2.35	16.50	98.46	12.03	3.43	5.25	3.91	8.31	19.48
Stops [stops/h]	42.99	1673.97	24.37	333.84	1073.09	84.39	39.12	60.88	72.13	165.05	607.80
Fuel consumption [US gal/h]	0.97	35.38	0.44	8.62	18.84	1.59	0.76	1.18	1.30	2.95	12.33
CO [g/h]	67.56	2473.25	31.05	602.22	1317.18	111.46	52.91	82.14	90.70	205.97	861.94
NOx [g/h]	13.14	481.20	6.04	117.17	256.28	21.69	10.29	15.98	17.65	40.07	167.70
VOC [g/h]	15.66	573.20	7.20	139.57	305.27	25.83	12.26	19.04	21.02	47.73	199.76

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	54.47	54.47	54.47
l_p,int, Pedestrian LOS Score for Intersectio	0.000	3.223	2.158	2.459
Crosswalk LOS	F	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	823	992	631	631
d_b, Bicycle Delay [s]	22.51	16.50	30.47	30.47
l_b,int, Bicycle LOS Score for Intersection	2.901	3.154	1.819	3.045
Bicycle LOS	C	C	A	C

Sequence

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



Intersection Level Of Service Report
Intersection 6: I-15 Southbound Off-Ramp (NS) at Joshua Street (EW)

Control Type:	Two-way stop	Delay (sec / veh):	13.3
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.036

Intersection Setup

Name	I-15 Southbound Off-Ramp		Joshua Street		Joshua Street	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	I-15 Southbound Off-Ramp		Joshua Street		Joshua Street	
Base Volume Input [veh/h]	12	644	0	314	167	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	0.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	0	0	314	167	0
Peak Hour Factor	0.7700	0.7700	0.9500	0.7700	0.7700	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	0	0	102	54	0
Total Analysis Volume [veh/h]	16	0	0	408	217	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	13.32	9.38	0.00	0.00	0.00	0.00
Movement LOS	B	A		A	A	
95th-Percentile Queue Length [veh/ln]	0.11	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	2.77	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	13.32		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.33					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1: U.S. Route 395 (NS) at Main Street - Phelan Road (EW)

Control Type:	Signalized	Delay (sec / veh):	48.0
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.856

Intersection Setup

Name	U.S. Route 395			U.S. Route 395			Main Street - Phelan Road			Main Street - Phelan Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	1
Entry Pocket Length [ft]	278.00	100.00	100.00	240.00	100.00	100.00	337.00	100.00	100.00	247.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	60.00			60.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	No			No			No			No		

Volumes

Name	U.S. Route 395			U.S. Route 395			Main Street - Phelan Road			Main Street - Phelan Road		
Base Volume Input [veh/h]	276	1440	37	627	1100	64	63	1318	192	14	967	448
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	276	1440	37	627	1100	64	63	1318	192	14	967	448
Peak Hour Factor	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	72	378	10	164	289	17	17	346	50	4	254	118
Total Analysis Volume [veh/h]	290	1511	39	658	1154	67	66	1383	201	15	1015	470
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Maximum Green [s]	6	19	0	6	19	0	10	9	0	10	9	9
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	17	43	0	34	60	0	23	43	0	10	30	30
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	6
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
Minimum Recall	No	No		No	No		No	No		No	No	No
Maximum Recall	No	No		No	No		No	No		No	No	No
Pedestrian Recall	No	No		No	No		No	No		No	No	No

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	R
C, Calculated Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	13	42	42	29	58	58	6	41	41	3	37	70
g / C, Green / Cycle	0.10	0.32	0.32	0.22	0.44	0.44	0.05	0.32	0.32	0.02	0.28	0.54
(v / s)_i Volume / Saturation Flow Rate	0.09	0.28	0.29	0.21	0.34	0.34	0.04	0.29	0.29	0.01	0.19	0.26
s, saturation flow rate [veh/h]	3200	3600	1800	3200	1800	1800	1700	3600	1800	1700	5400	1800
c, Capacity [veh/h]	320	1151	576	713	797	797	85	1133	567	33	1536	969
d1, Uniform Delay [s]	57.90	41.98	42.62	49.42	30.58	30.54	61.05	43.27	43.00	63.04	40.98	18.77
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.38	0.11	0.11	0.37
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.58	10.19	22.25	5.60	6.98	6.92	14.11	4.39	18.74	9.33	0.49	1.30
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.91	0.89	0.92	0.92	0.77	0.77	0.78	0.94	0.92	0.45	0.66	0.49
d, Delay for Lane Group [s/veh]	67.47	52.17	64.87	55.02	37.57	37.46	75.15	47.66	61.73	72.37	41.48	20.07
Lane Group LOS	E	D	E	E	D	D	E	D	E	E	D	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	4.93	16.10	18.80	10.42	16.25	16.17	2.41	16.28	18.20	0.56	9.15	8.39
50th-Percentile Queue Length [ft/ln]	123.25	402.44	470.06	260.45	406.18	404.37	60.32	407.02	455.09	14.02	228.87	209.87
95th-Percentile Queue Length [veh/ln]	8.57	22.68	25.91	15.71	22.86	22.77	4.34	22.90	25.20	1.01	14.12	13.15
95th-Percentile Queue Length [ft/ln]	214.29	566.94	647.84	392.79	571.44	569.27	108.58	572.45	630.02	25.24	352.92	328.66

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	67.47	56.29	64.87	55.02	37.51	37.46	75.15	50.93	61.73	72.37	41.48	20.07
Movement LOS	E	E	E	E	D	D	E	D	E	E	D	C
d_A, Approach Delay [s/veh]	58.24			43.64			53.22			35.08		
Approach LOS	E			D			D			D		
d_I, Intersection Delay [s/veh]	47.98											
Intersection LOS	D											
Intersection V/C	0.856											

Emissions

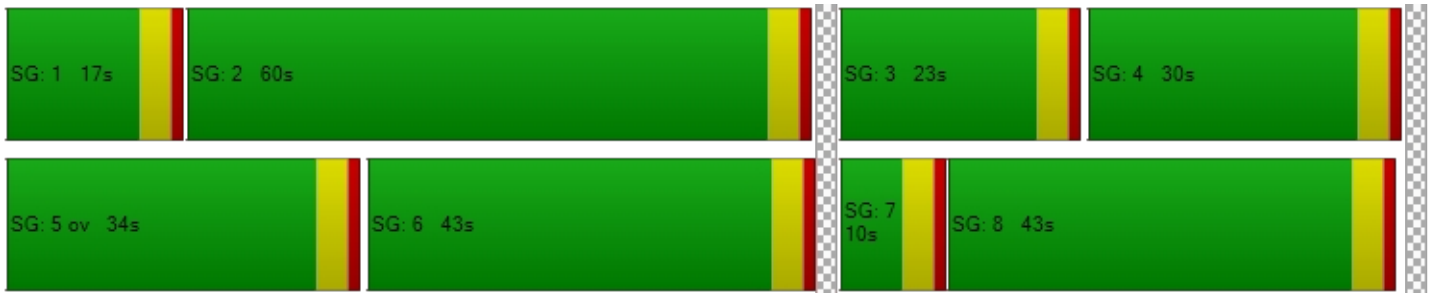
Vehicle Miles Traveled [mph]	18.56	65.31	33.89	37.86	35.18	35.09	6.17	99.21	48.85	0.96	64.71	29.97
Stops [stops/h]	273.06	891.56	520.68	577.00	449.92	447.92	66.82	901.70	504.10	15.53	760.55	232.47
Fuel consumption [US gal/h]	10.65	32.77	19.66	21.42	15.82	15.75	2.46	30.36	17.56	0.54	24.86	7.24
CO [g/h]	744.55	2290.84	1374.09	1496.92	1105.86	1100.76	171.72	2122.27	1227.59	37.84	1737.56	506.10
NOx [g/h]	144.86	445.71	267.35	291.25	215.16	214.17	33.41	412.92	238.84	7.36	338.07	98.47
VOC [g/h]	172.56	530.92	318.46	346.93	256.29	255.11	39.80	491.86	284.51	8.77	402.70	117.29

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	600	862	600	400
d_b, Bicycle Delay [s]	31.85	21.06	31.85	41.60
l_b,int, Bicycle LOS Score for Intersection	2.572	3.110	2.467	2.385
Bicycle LOS	B	C	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: U.S. Route 395 (NS) at Poplar Street (EW)

Control Type:	Signalized	Delay (sec / veh):	49.1
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.891

Intersection Setup

Name	U.S. Route 395			U.S. Route 395			Poplar Street			Poplar Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	13.00	12.00	12.00	12.00	12.00	12.00	12.00	13.00	12.00	20.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	373.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	200.00
Speed [mph]	60.00			60.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	U.S. Route 395			U.S. Route 395			Poplar Street			Poplar Street		
Base Volume Input [veh/h]	37	1632	158	44	1248	15	25	0	56	444	0	96
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	37	1632	158	44	1248	15	25	0	56	444	0	96
Peak Hour Factor	0.9760	0.9760	0.9760	0.9760	0.9760	0.9760	0.9760	0.9760	0.9760	0.9760	0.9760	0.9760
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	418	40	11	320	4	6	0	14	114	0	25
Total Analysis Volume [veh/h]	38	1672	162	45	1279	15	26	0	57	455	0	98
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	8	9	0	8	9	0	8	18	0	9	19	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	10	70	0	10	70	0	40	10	0	40	10	0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	L	C	R
C, Calculated Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	67	67	5	67	67	4	6	36	38	38
g / C, Green / Cycle	0.03	0.52	0.52	0.04	0.52	0.52	0.03	0.05	0.28	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.02	0.51	0.51	0.03	0.36	0.36	0.02	0.03	0.27	0.00	0.05
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	1700	1800	1700	1800	1800
c, Capacity [veh/h]	59	930	930	63	934	934	49	84	471	530	530
d1, Uniform Delay [s]	61.98	31.05	30.91	61.90	23.49	23.45	62.23	61.04	46.40	0.00	34.24
k, delay calibration	0.11	0.47	0.46	0.11	0.24	0.24	0.11	0.50	0.43	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	11.39	25.97	24.90	13.86	2.10	2.06	8.40	36.74	31.19	0.00	0.77
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.65	0.99	0.98	0.71	0.69	0.69	0.53	0.68	0.97	0.00	0.19
d, Delay for Lane Group [s/veh]	73.37	57.02	55.81	75.77	25.59	25.51	70.63	97.77	77.60	0.00	35.01
Lane Group LOS	E	E	E	E	C	C	E	F	E	A	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.38	31.51	31.00	1.65	13.83	13.74	0.97	2.71	18.23	0.00	2.41
50th-Percentile Queue Length [ft/ln]	34.39	787.72	775.08	41.34	345.63	343.57	24.13	67.76	455.69	0.00	60.18
95th-Percentile Queue Length [veh/ln]	2.48	40.71	40.13	2.98	19.92	19.82	1.74	4.88	25.23	0.00	4.33
95th-Percentile Queue Length [ft/ln]	61.90	1017.87	1003.37	74.42	498.08	495.56	43.44	121.97	630.73	0.00	108.33

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	73.37	56.48	55.81	75.77	25.55	25.51	70.63	97.77	97.77	77.60	0.00	35.01
Movement LOS	E	E	E	E	C	C	E	F	F	E	A	D
d_A, Approach Delay [s/veh]	56.76			27.24			89.27			70.05		
Approach LOS	E			C			F			E		
d_I, Intersection Delay [s/veh]	49.10											
Intersection LOS	D											
Intersection V/C	0.891											

Emissions

Vehicle Miles Traveled [mph]	1.26	30.51	30.37	3.71	53.49	53.30	0.62	1.35	17.64	0.00	3.80
Stops [stops/h]	38.09	872.56	858.55	45.80	382.86	380.57	26.73	75.06	504.76	0.00	66.66
Fuel consumption [US gal/h]	1.45	31.00	30.41	1.83	13.67	13.59	0.55	1.60	12.77	0.00	1.49
CO [g/h]	101.52	2166.56	2125.35	128.13	955.28	949.68	38.22	112.14	892.91	0.00	104.08
NOx [g/h]	19.75	421.53	413.52	24.93	185.86	184.77	7.44	21.82	173.73	0.00	20.25
VOC [g/h]	23.53	502.12	492.57	29.69	221.39	220.10	8.86	25.99	206.94	0.00	24.12

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1015	1015	92	92
d_b, Bicycle Delay [s]	15.75	15.75	59.14	59.14
l_b,int, Bicycle LOS Score for Intersection	3.104	2.664	1.697	2.472
Bicycle LOS	C	B	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: Three Flags Avenue (NS) at Poplar Street (EW)

Control Type:	All-way stop	Delay (sec / veh):	16.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.709

Intersection Setup

Name	Three Flags Avenue			Three Flags Avenue			Poplar Street			Poplar Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	16.00	16.00	14.00	14.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	1	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			No		

Volumes

Name	Three Flags Avenue			Three Flags Avenue			Poplar Street			Poplar Street		
Base Volume Input [veh/h]	28	0	140	0	0	153	32	218	25	77	325	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	28	0	140	0	0	153	32	218	25	77	325	0
Peak Hour Factor	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	0	39	0	0	42	9	60	7	21	90	0
Total Analysis Volume [veh/h]	31	0	155	0	0	169	35	241	28	85	360	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	601	609	528	578	628
Degree of Utilization, x	0.31	0.28	0.07	0.47	0.71

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.31	1.13	0.21	2.46	5.82
95th-Percentile Queue Length [ft]	32.82	28.24	5.31	61.53	145.59
Approach Delay [s/veh]	11.66	11.17	13.77		21.47
Approach LOS	B	B	B		C
Intersection Delay [s/veh]	16.12				
Intersection LOS	C				

Intersection Level Of Service Report
Intersection 5: U.S. Route 395 (NS) at Joshua Street (EW)

Control Type:	Signalized	Delay (sec / veh):	54.9
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.951

Intersection Setup

Name	U.S. Route 395			U.S. Route 395			Joshua Street			Joshua Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	1	0	1
Entry Pocket Length [ft]	190.00	100.00	143.00	191.00	100.00	273.00	94.00	100.00	100.00	65.00	100.00	65.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	U.S. Route 395			U.S. Route 395			Joshua Street			Joshua Street		
Base Volume Input [veh/h]	33	1566	99	471	1423	82	196	244	35	78	81	289
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	33	1566	99	471	1423	82	196	244	35	78	81	289
Peak Hour Factor	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	407	26	122	370	21	51	63	9	20	21	75
Total Analysis Volume [veh/h]	34	1628	103	490	1479	85	204	254	36	81	84	300
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Maximum Green [s]	20	50	0	20	50	0	0	40	0	0	40	0
Amber [s]	3.7	5.5	0.0	3.7	5.5	0.0	0.0	4.0	0.0	0.0	4.0	0.0
All red [s]	1.0	2.0	0.0	1.0	2.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	24	0	0	0	0	0	34	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.7	5.5	0.0	2.7	5.5	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	10	41	0	37	68	0	0	52	0	0	52	0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Vehicle Extension [s]	2.5	5.0	0.0	2.5	5.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	L	C	R
C, Calculated Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.70	7.50	7.50	4.70	7.50	7.50	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.70	5.50	5.50	2.70	5.50	5.50	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	4	57	57	32	85	85	24	24	24	24	24
g / C, Green / Cycle	0.03	0.44	0.44	0.25	0.66	0.66	0.18	0.18	0.18	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.02	0.45	0.06	0.29	0.41	0.05	0.12	0.16	0.05	0.05	0.17
s, saturation flow rate [veh/h]	1700	3600	1800	1700	3600	1800	1700	1800	1700	1800	1800
c, Capacity [veh/h]	47	1569	785	422	2365	1183	284	330	89	330	330
d1, Uniform Delay [s]	62.74	36.66	21.94	48.85	12.98	8.03	49.27	51.68	45.52	45.48	52.03
k, delay calibration	0.08	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	14.90	33.03	0.35	95.36	1.26	0.12	1.28	3.01	12.47	0.15	3.99
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.73	1.04	0.13	1.16	0.63	0.07	0.72	0.88	0.91	0.25	0.91
d, Delay for Lane Group [s/veh]	77.64	69.70	22.28	144.21	14.24	8.14	50.55	54.69	57.99	45.63	56.02
Lane Group LOS	E	F	C	F	B	A	D	D	E	D	E
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.31	31.50	1.98	24.82	12.32	0.88	6.27	9.48	2.57	2.36	9.95
50th-Percentile Queue Length [ft/ln]	32.78	787.51	49.60	620.52	307.92	22.12	156.83	236.99	64.32	58.99	248.77
95th-Percentile Queue Length [veh/ln]	2.36	41.87	3.57	35.89	18.07	1.59	10.38	14.53	4.63	4.25	15.12
95th-Percentile Queue Length [ft/ln]	59.01	1046.78	89.28	897.33	451.81	39.81	259.51	363.23	115.78	106.18	378.10

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	77.64	69.70	22.28	144.21	14.24	8.14	50.55	54.69	54.69	57.99	45.63	56.02
Movement LOS	E	F	C	F	B	A	D	D	D	E	D	E
d_A, Approach Delay [s/veh]	67.08			45.00			52.98			54.49		
Approach LOS	E			D			D			D		
d_I, Intersection Delay [s/veh]	54.90											
Intersection LOS	D											
Intersection V/C	0.951											

Emissions

Vehicle Miles Traveled [mph]	1.78	85.05	5.38	32.21	97.21	5.59	11.27	16.02	2.85	2.96	10.57
Stops [stops/h]	36.32	1744.64	54.94	687.34	682.15	24.50	173.71	262.51	71.25	65.34	275.56
Fuel consumption [US gal/h]	0.81	36.23	0.99	19.50	12.06	0.51	3.52	5.34	1.47	1.26	5.38
CO [g/h]	56.68	2532.26	69.35	1363.12	842.80	35.39	246.19	373.08	102.54	88.26	375.86
NOx [g/h]	11.03	492.69	13.49	265.21	163.98	6.88	47.90	72.59	19.95	17.17	73.13
VOC [g/h]	13.14	586.88	16.07	315.92	195.33	8.20	57.06	86.46	23.76	20.46	87.11

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	54.47	54.47	54.47
l_p,int, Pedestrian LOS Score for Intersectio	0.000	3.441	2.184	2.468
Crosswalk LOS	F	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	515	931	723	723
d_b, Bicycle Delay [s]	35.82	18.58	26.50	26.50
l_b,int, Bicycle LOS Score for Intersection	3.016	3.254	2.375	2.327
Bicycle LOS	C	C	B	B

Sequence

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



Intersection Level Of Service Report
Intersection 6: I-15 Southbound Off-Ramp (NS) at Joshua Street (EW)

Control Type:	Two-way stop	Delay (sec / veh):	22.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.225

Intersection Setup

Name	I-15 Southbound Off-Ramp		Joshua Street		Joshua Street	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	I-15 Southbound Off-Ramp		Joshua Street		Joshua Street	
Base Volume Input [veh/h]	51	349	0	777	108	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	0.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	51	0	0	777	108	0
Peak Hour Factor	0.8670	0.8670	0.9500	0.8670	0.8670	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	0	0	224	31	0
Total Analysis Volume [veh/h]	59	0	0	896	125	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.23	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	22.70	8.89	0.00	0.00	0.00	0.00
Movement LOS	C	A		A	A	
95th-Percentile Queue Length [veh/ln]	0.84	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	21.11	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	22.70		0.00		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	1.24					
Intersection LOS	C					

Appendix I

Horizon Year (2040)

With Project Conditions

With Intersection Improvements

Level of Service Analysis Worksheets

RK19177.5
JN:1219-2023-03

Intersection Level Of Service Report
Intersection 1: U.S. Route 395 (NS) at Main Street - Phelan Road (EW)

Control Type:	Signalized	Delay (sec / veh):	46.0
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.976

Intersection Setup

Name	U.S. Route 395			U.S. Route 395			Main Street - Phelan Road			Main Street - Phelan Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	1
Entry Pocket Length [ft]	278.00	100.00	100.00	240.00	100.00	100.00	337.00	100.00	100.00	247.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	60.00			60.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	No			No			No			No		

Volumes

Name	U.S. Route 395			U.S. Route 395			Main Street - Phelan Road			Main Street - Phelan Road		
Base Volume Input [veh/h]	206	1093	9	378	2624	45	97	984	351	13	1202	625
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	206	1093	9	378	2624	45	97	984	351	13	1202	625
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	54	288	2	99	691	12	26	259	92	3	316	164
Total Analysis Volume [veh/h]	217	1151	9	398	2762	47	102	1036	369	14	1265	658
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	125
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Maximum Green [s]	6	19	0	6	19	0	10	9	0	10	9	9
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	12	50	0	32	70	0	11	33	0	10	32	32
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	6
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
Minimum Recall	No	No		No	No		No	No		No	No	No
Maximum Recall	No	No		No	No		No	No		No	No	No
Pedestrian Recall	No	No		No	No		No	No		No	No	No

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R	L	C	R
C, Calculated Cycle Length [s]	125	125	125	125	125	125	125	125	125	125	125	125
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	8	46	46	28	66	66	7	33	33	2	28	60
g / C, Green / Cycle	0.06	0.37	0.37	0.22	0.53	0.53	0.06	0.26	0.26	0.02	0.22	0.48
(v / s)_i Volume / Saturation Flow Rate	0.06	0.20	0.22	0.12	0.48	0.54	0.06	0.18	0.19	0.01	0.22	0.35
s, saturation flow rate [veh/h]	3400	3800	1800	3400	3800	1800	1800	5700	1900	1800	5700	1900
c, Capacity [veh/h]	218	1398	662	762	2006	950	101	1485	495	35	1277	912
d1, Uniform Delay [s]	58.49	31.22	32.06	42.63	27.02	29.50	59.00	41.76	42.41	60.57	48.37	25.85
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.18	0.11	0.27	0.11	0.11	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	27.71	1.53	4.01	0.56	8.21	33.72	56.67	0.60	5.45	7.26	9.76	4.92
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.00	0.54	0.60	0.52	0.92	1.02	1.01	0.70	0.75	0.40	0.99	0.72
d, Delay for Lane Group [s/veh]	86.20	32.75	36.07	43.18	35.23	63.22	115.67	42.36	47.85	67.83	58.13	30.77
Lane Group LOS	F	C	D	D	D	F	F	D	D	E	E	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.11	8.72	9.79	5.17	23.98	33.35	4.66	9.21	10.66	0.49	13.58	15.37
50th-Percentile Queue Length [ft/ln]	102.79	218.10	244.80	129.35	599.50	833.66	116.44	230.36	266.44	12.36	339.42	384.34
95th-Percentile Queue Length [veh/ln]	7.40	13.57	14.92	8.90	32.01	43.45	8.23	14.19	16.01	0.89	19.62	21.80
95th-Percentile Queue Length [ft/ln]	185.02	339.20	373.10	222.62	800.28	1086.35	205.63	354.81	400.29	22.24	490.49	545.10

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	86.20	33.87	36.07	43.18	44.55	63.22	115.67	42.36	47.85	67.83	58.13	30.77
Movement LOS	F	C	D	D	D	E	F	D	D	E	E	C
d_A, Approach Delay [s/veh]	42.13			44.66			48.67			48.91		
Approach LOS	D			D			D			D		
d_I, Intersection Delay [s/veh]	46.00											
Intersection LOS	D											
Intersection V/C	0.976											

Emissions

Vehicle Miles Traveled [mph]	13.89	48.75	25.50	22.90	105.98	55.66	9.53	96.84	34.49	0.89	80.65	41.95
Stops [stops/h]	236.83	502.51	282.01	298.03	1381.26	960.38	134.13	796.12	306.94	14.24	1173.04	442.77
Fuel consumption [US gal/h]	9.52	17.85	10.03	10.87	47.36	35.57	5.21	26.96	10.45	0.49	39.45	13.75
CO [g/h]	665.14	1247.65	701.08	759.67	3310.27	2486.67	364.25	1884.28	730.33	34.08	2757.48	960.98
NOx [g/h]	129.41	242.75	136.41	147.80	644.06	483.82	70.87	366.61	142.10	6.63	536.51	186.97
VOC [g/h]	154.15	289.16	162.48	176.06	767.19	576.31	84.42	436.70	169.26	7.90	639.07	222.72

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	736	1056	464	448
d_b, Bicycle Delay [s]	24.96	13.92	36.86	37.64
l_b,int, Bicycle LOS Score for Intersection	2.317	3.323	2.388	2.625
Bicycle LOS	B	C	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: U.S. Route 395 (NS) at Poplar Street (EW)

Control Type:	Signalized	Delay (sec / veh):	40.2
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.918

Intersection Setup

Name	U.S. Route 395			U.S. Route 395			Poplar Street			Poplar Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	13.00	12.00	12.00	12.00	12.00	12.00	12.00	13.00	12.00	20.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	373.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	200.00
Speed [mph]	60.00			60.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	U.S. Route 395			U.S. Route 395			Poplar Street			Poplar Street		
Base Volume Input [veh/h]	71	1131	559	455	2255	29	5	0	29	349	0	437
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	71	1131	559	455	2255	29	5	0	29	349	0	437
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	298	147	120	593	8	1	0	8	92	0	115
Total Analysis Volume [veh/h]	75	1191	588	479	2374	31	5	0	31	367	0	460
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	8	9	0	8	9	0	8	18	0	6	19	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	15	73	0	29	87	0	10	18	0	10	18	0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall	No	No		No	No		No	No		Yes	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	L	C	R
C, Calculated Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00	0.00	2.00
g_i, Effective Green Time [s]	7	73	73	21	87	87	1	14	24	25	19
g / C, Green / Cycle	0.05	0.56	0.56	0.16	0.67	0.67	0.01	0.11	0.19	0.19	0.15
(v / s)_i Volume / Saturation Flow Rate	0.04	0.21	0.31	0.14	0.63	0.67	0.00	0.02	0.14	0.17	0.15
s, saturation flow rate [veh/h]	1800	5700	1900	3400	1900	1800	1800	1800	1800	1750	1900
c, Capacity [veh/h]	96	3211	1070	540	1271	1204	55	195	391	416	279
d1, Uniform Delay [s]	60.81	15.66	17.94	53.54	19.39	21.44	64.17	52.56	50.20	49.12	55.45
k, delay calibration	0.11	0.11	0.13	0.11	0.44	0.48	0.11	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	13.06	0.07	0.55	5.15	13.88	25.06	0.70	1.73	8.09	9.30	57.54
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.78	0.37	0.55	0.89	0.95	1.00	0.09	0.16	0.65	0.70	1.01
d, Delay for Lane Group [s/veh]	73.88	15.73	18.49	58.69	33.27	46.50	64.87	54.28	58.30	58.41	112.99
Lane Group LOS	E	B	B	E	C	D	E	D	E	E	F
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.69	5.79	9.96	7.67	30.07	36.22	0.18	1.02	8.59	10.14	13.46
50th-Percentile Queue Length [ft/ln]	67.26	144.84	248.94	191.75	751.85	905.54	4.40	25.47	214.76	253.50	336.45
95th-Percentile Queue Length [veh/ln]	4.84	9.74	15.13	12.21	39.07	46.09	0.32	1.83	13.40	15.36	19.61
95th-Percentile Queue Length [ft/ln]	121.07	243.53	378.32	305.30	976.70	1152.29	7.92	45.84	334.93	384.05	490.25

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	73.88	15.73	18.49	58.69	39.80	46.50	64.87	54.28	54.28	58.33	58.41	90.81
Movement LOS	E	B	B	E	D	D	E	D	D	E	E	F
d_A, Approach Delay [s/veh]	18.96			43.01			55.75			77.07		
Approach LOS	B			D			E			E		
d_I, Intersection Delay [s/veh]	40.16											
Intersection LOS	D											
Intersection V/C	0.918											

Emissions

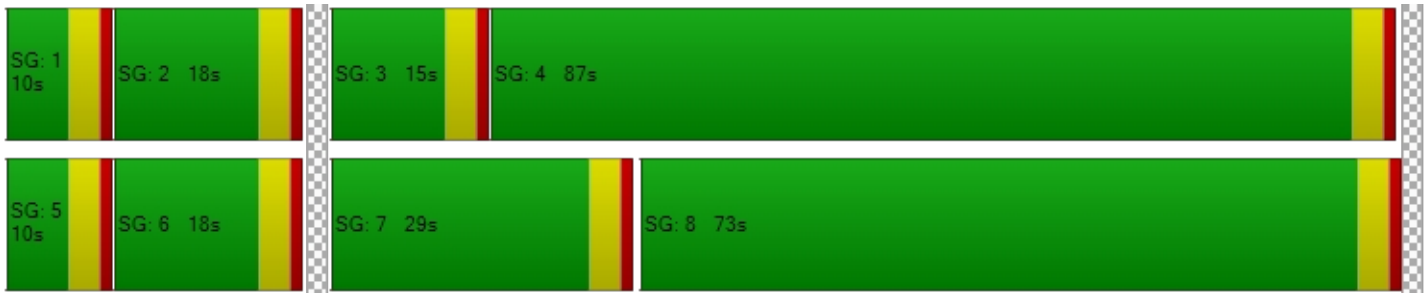
Vehicle Miles Traveled [mph]	2.49	39.53	19.52	39.53	99.25	99.25	0.12	0.74	9.84	11.24	10.98
Stops [stops/h]	74.51	481.32	275.75	424.80	832.82	1003.05	4.87	28.21	237.89	280.80	372.68
Fuel consumption [US gal/h]	2.86	15.80	8.98	16.46	29.94	36.94	0.10	0.53	5.70	6.61	10.57
CO [g/h]	199.88	1104.71	627.39	1150.65	2092.98	2582.28	6.84	36.95	398.48	461.81	738.50
NOx [g/h]	38.89	214.94	122.07	223.87	407.22	502.42	1.33	7.19	77.53	89.85	143.69
VOC [g/h]	46.32	256.03	145.40	266.67	485.07	598.47	1.58	8.56	92.35	107.03	171.16

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1062	1277	215	369
d_b, Bicycle Delay [s]	14.31	8.50	51.75	43.22
l_b,int, Bicycle LOS Score for Intersection	2.579	3.939	1.619	2.924
Bicycle LOS	B	D	A	C

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: Three Flags Avenue (NS) at Poplar Street (EW)

Control Type:	Signalized	Delay (sec / veh):	29.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.599

Intersection Setup

Name	Three Flags Avenue			Three Flags Avenue			Poplar Street			Poplar Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	16.00	16.00	14.00	14.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	1	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Three Flags Avenue			Three Flags Avenue			Poplar Street			Poplar Street		
Base Volume Input [veh/h]	417	0	201	0	0	82	334	604	416	405	301	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	417	0	201	0	0	82	334	604	416	405	301	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	110	0	53	0	0	22	88	159	109	107	79	0
Total Analysis Volume [veh/h]	439	0	212	0	0	86	352	636	438	426	317	0
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	2.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Maximum Green [s]	0	6	0	0	6	0	0	46	0	0	46	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	10	0	0	10	0	0	50	0	0	50	0
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	6	0	0	6	0	0	6	0	0	6	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C
C, Calculated Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	2.00	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	28	28	28	24	24	24	24	24
g / C, Green / Cycle	0.47	0.47	0.47	0.40	0.40	0.40	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.24	0.12	0.05	0.20	0.33	0.23	0.24	0.18
s, saturation flow rate [veh/h]	1800	1800	1750	1800	1900	1900	1800	1800
c, Capacity [veh/h]	789	843	879	617	757	757	350	717
d1, Uniform Delay [s]	11.22	9.62	8.92	13.49	16.32	14.11	13.47	13.17
k, delay calibration	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.82	0.72	0.22	0.83	2.60	0.70	103.44	0.43
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.56	0.25	0.10	0.57	0.84	0.58	1.22	0.44
d, Delay for Lane Group [s/veh]	14.05	10.33	9.15	14.33	18.92	14.81	116.92	13.60
Lane Group LOS	B	B	A	B	B	B	F	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	3.82	1.49	0.59	3.08	6.96	3.96	12.97	2.67
50th-Percentile Queue Length [ft/ln]	95.41	37.28	14.83	76.93	173.94	99.11	324.35	66.63
95th-Percentile Queue Length [veh/ln]	6.87	2.68	1.07	5.54	11.28	7.14	21.16	4.80
95th-Percentile Queue Length [ft/ln]	171.75	67.11	26.70	138.47	282.09	178.40	528.90	119.94

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	14.05	10.33	10.33	9.15	9.15	9.15	14.33	18.92	14.81	116.92	13.60	13.60
Movement LOS	B	B	B	A	A	A	B	B	B	F	B	B
d_A, Approach Delay [s/veh]	12.84			9.15			16.52			72.84		
Approach LOS	B			A			B			E		
d_I, Intersection Delay [s/veh]	29.88											
Intersection LOS	C											
Intersection V/C	0.599											

Emissions

Vehicle Miles Traveled [mph]	12.13	5.86	2.03	21.99	39.72	27.36	16.23	12.08
Stops [stops/h]	228.99	89.48	35.60	184.62	417.46	237.87	778.45	159.92
Fuel consumption [US gal/h]	3.94	1.53	0.44	3.63	7.97	4.64	18.36	2.88
CO [g/h]	275.34	107.29	30.79	253.56	557.28	324.11	1283.58	201.39
NOx [g/h]	53.57	20.87	5.99	49.33	108.43	63.06	249.74	39.18
VOC [g/h]	63.81	24.86	7.13	58.77	129.15	75.11	297.48	46.68

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	200	200	1533	1533
d_b, Bicycle Delay [s]	24.30	24.30	1.63	1.63
l_b,int, Bicycle LOS Score for Intersection	2.634	1.702	3.913	2.786
Bicycle LOS	B	A	D	C

Sequence

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



Intersection Level Of Service Report
Intersection 5: U.S. Route 395 (NS) at Joshua Street (EW)

Control Type:	Signalized	Delay (sec / veh):	56.6
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.957

Intersection Setup

Name	U.S. Route 395			U.S. Route 395			Joshua Street			Joshua Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	1	0	1
Entry Pocket Length [ft]	190.00	100.00	143.00	191.00	100.00	273.00	94.00	100.00	100.00	65.00	100.00	65.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	U.S. Route 395			U.S. Route 395			Joshua Street			Joshua Street		
Base Volume Input [veh/h]	56	1798	94	259	1882	485	82	85	13	76	202	474
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	56	1798	94	259	1882	485	82	85	13	76	202	474
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	473	25	68	495	128	22	22	3	20	53	125
Total Analysis Volume [veh/h]	59	1893	99	273	1981	511	86	89	14	80	213	499
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Maximum Green [s]	20	50	0	20	50	0	0	35	0	0	35	0
Amber [s]	3.7	5.5	0.0	3.7	5.5	0.0	0.0	4.0	0.0	0.0	4.0	0.0
All red [s]	1.0	2.0	0.0	1.0	2.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	24	0	0	0	0	0	34	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.7	5.5	0.0	2.7	5.5	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	10	70	0	19	79	0	0	40	0	0	40	0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Vehicle Extension [s]	2.5	5.0	0.0	2.5	5.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	L	C	R
C, Calculated Cycle Length [s]	129	129	129	129	129	129	129	129	129	129	129
L, Total Lost Time per Cycle [s]	4.70	7.50	7.50	4.70	7.50	7.50	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.70	5.50	5.50	2.70	5.50	5.50	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	5	63	63	14	72	72	35	35	35	35	35
g / C, Green / Cycle	0.04	0.48	0.48	0.11	0.55	0.55	0.27	0.27	0.27	0.27	0.27
(v / s)_i Volume / Saturation Flow Rate	0.03	0.50	0.05	0.15	0.52	0.27	0.03	0.06	0.04	0.11	0.26
s, saturation flow rate [veh/h]	1800	3800	1900	1800	3800	1900	3400	1800	1800	1900	1900
c, Capacity [veh/h]	74	1841	921	200	2106	1053	612	488	438	516	516
d1, Uniform Delay [s]	61.32	33.25	18.08	57.35	26.77	17.53	35.14	36.33	35.84	38.57	46.45
k, delay calibration	0.08	0.50	0.50	0.38	0.50	0.50	0.04	0.04	0.04	0.04	0.40
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	13.42	28.54	0.24	188.33	9.88	1.60	0.04	0.08	0.07	0.20	28.43
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.80	1.03	0.11	1.37	0.94	0.49	0.14	0.21	0.18	0.41	0.97
d, Delay for Lane Group [s/veh]	74.74	61.79	18.32	245.68	36.65	19.13	35.18	36.41	35.91	38.77	74.87
Lane Group LOS	E	F	B	F	D	B	D	D	D	D	E
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.20	35.13	1.69	16.94	29.97	9.62	1.03	2.55	1.95	5.60	19.79
50th-Percentile Queue Length [ft/ln]	54.89	878.34	42.21	423.53	749.27	240.41	25.70	63.71	48.84	140.01	494.72
95th-Percentile Queue Length [veh/ln]	3.95	45.88	3.04	26.58	38.95	14.70	1.85	4.59	3.52	9.48	27.08
95th-Percentile Queue Length [ft/ln]	98.81	1146.98	75.97	664.45	973.73	367.56	46.26	114.67	87.91	237.03	677.11

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	74.74	61.79	18.32	245.68	36.65	19.13	35.18	36.41	36.41	35.91	38.77	74.87
Movement LOS	E	F	B	F	D	B	D	D	D	D	D	E
d_A, Approach Delay [s/veh]	60.06			54.05			35.85			61.23		
Approach LOS	E			D			D			E		
d_I, Intersection Delay [s/veh]	56.56											
Intersection LOS	E											
Intersection V/C	0.957											

Emissions

Vehicle Miles Traveled [mph]	3.08	98.89	5.17	17.94	130.20	33.59	4.75	5.69	2.82	7.50	17.58
Stops [stops/h]	61.28	1960.94	47.11	472.78	1672.80	268.37	57.37	71.12	54.52	156.28	552.25
Fuel consumption [US gal/h]	1.36	38.71	0.84	17.00	29.38	4.85	1.13	1.39	1.00	2.85	11.38
CO [g/h]	95.25	2705.48	58.87	1188.08	2053.32	339.33	78.86	97.17	70.03	199.40	795.24
NOx [g/h]	18.53	526.39	11.45	231.16	399.50	66.02	15.34	18.91	13.63	38.80	154.73
VOC [g/h]	22.07	627.02	13.64	275.35	475.88	78.64	18.28	22.52	16.23	46.21	184.31

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	53.97	53.97	53.97
l_p,int, Pedestrian LOS Score for Intersectio	0.000	3.444	2.385	2.454
Crosswalk LOS	F	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	969	1109	543	543
d_b, Bicycle Delay [s]	17.14	12.81	34.25	34.25
l_b,int, Bicycle LOS Score for Intersection	3.252	3.841	1.871	2.866
Bicycle LOS	C	D	A	C

Sequence

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



Intersection Level Of Service Report
Intersection 6: I-15 Southbound Off-Ramp (NS) at Joshua Street (EW)

Control Type:	Two-way stop	Delay (sec / veh):	11.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.030

Intersection Setup

Name	I-15 Southbound Off-Ramp		Joshua Street		Joshua Street	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	I-15 Southbound Off-Ramp		Joshua Street		Joshua Street	
Base Volume Input [veh/h]	17	810	0	345	37	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	0.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	17	0	0	345	37	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	0	0	91	10	0
Total Analysis Volume [veh/h]	18	0	0	363	39	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.14	8.49	0.00	0.00	0.00	0.00
Movement LOS	B	A		A	A	
95th-Percentile Queue Length [veh/ln]	0.09	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	2.30	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	11.14		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.48					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1: U.S. Route 395 (NS) at Main Street - Phelan Road (EW)

Control Type:	Signalized	Delay (sec / veh):	57.2
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.004

Intersection Setup

Name	U.S. Route 395			U.S. Route 395			Main Street - Phelan Road			Main Street - Phelan Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	1
Entry Pocket Length [ft]	278.00	100.00	100.00	240.00	100.00	100.00	337.00	100.00	100.00	247.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	60.00			60.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	No			No			No			No		

Volumes

Name	U.S. Route 395			U.S. Route 395			Main Street - Phelan Road			Main Street - Phelan Road		
Base Volume Input [veh/h]	400	2627	74	638	1453	91	50	1051	163	7	688	356
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	400	2627	74	638	1453	91	50	1051	163	7	688	356
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	105	691	19	168	382	24	13	277	43	2	181	94
Total Analysis Volume [veh/h]	421	2765	78	672	1529	96	53	1106	172	7	724	375
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	125
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Maximum Green [s]	6	19	0	6	19	0	10	9	0	10	9	9
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	60	65	0	27	32	0	17	22	0	11	16	16
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	6
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
Minimum Recall	No	No		No	No		No	No		No	No	No
Maximum Recall	No	No		No	No		No	No		No	No	No
Pedestrian Recall	No	No		No	No		No	No		No	No	No

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R	L	C	R
C, Calculated Cycle Length [s]	125	125	125	125	125	125	125	125	125	125	125	125
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	18	61	61	23	66	66	5	24	24	1	20	47
g / C, Green / Cycle	0.15	0.49	0.49	0.18	0.53	0.53	0.04	0.19	0.19	0.01	0.16	0.38
(v / s)_i Volume / Saturation Flow Rate	0.12	0.49	0.54	0.20	0.28	0.31	0.03	0.19	0.09	0.00	0.13	0.20
s, saturation flow rate [veh/h]	3400	3800	1800	3400	3800	1800	1800	5700	1900	1800	5700	1900
c, Capacity [veh/h]	498	1858	880	626	2001	948	73	1076	359	19	904	712
d1, Uniform Delay [s]	51.98	31.95	31.95	51.00	19.52	20.21	59.29	50.71	45.23	61.44	50.68	30.45
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.06	21.69	66.13	40.75	1.03	2.61	12.86	20.80	1.00	11.78	1.70	2.78
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.85	1.00	1.11	1.07	0.54	0.58	0.73	1.03	0.48	0.37	0.80	0.53
d, Delay for Lane Group [s/veh]	56.05	53.64	98.07	91.75	20.56	22.82	72.14	71.51	46.23	73.22	52.38	33.23
Lane Group LOS	E	F	F	F	C	C	E	F	D	E	D	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	6.38	30.15	39.43	12.77	9.41	10.41	1.86	12.74	4.66	0.27	7.10	8.81
50th-Percentile Queue Length [ft/ln]	159.55	753.81	985.67	319.33	235.19	260.13	46.51	318.41	116.59	6.87	177.56	220.22
95th-Percentile Queue Length [veh/ln]	10.52	39.27	53.96	19.31	14.44	15.70	3.35	18.86	8.21	0.49	11.47	13.68
95th-Percentile Queue Length [ft/ln]	263.12	981.66	1349.07	482.87	360.95	392.39	83.71	471.58	205.13	12.36	286.82	341.91

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	56.05	68.12	98.07	91.75	21.23	22.82	72.14	71.51	46.23	73.22	52.38	33.23
Movement LOS	E	F	F	F	C	C	E	F	D	E	D	C
d_A, Approach Delay [s/veh]	67.28			41.93			68.27			46.02		
Approach LOS	E			D			E			D		
d_I, Intersection Delay [s/veh]	57.22											
Intersection LOS	E											
Intersection V/C	1.004											

Emissions

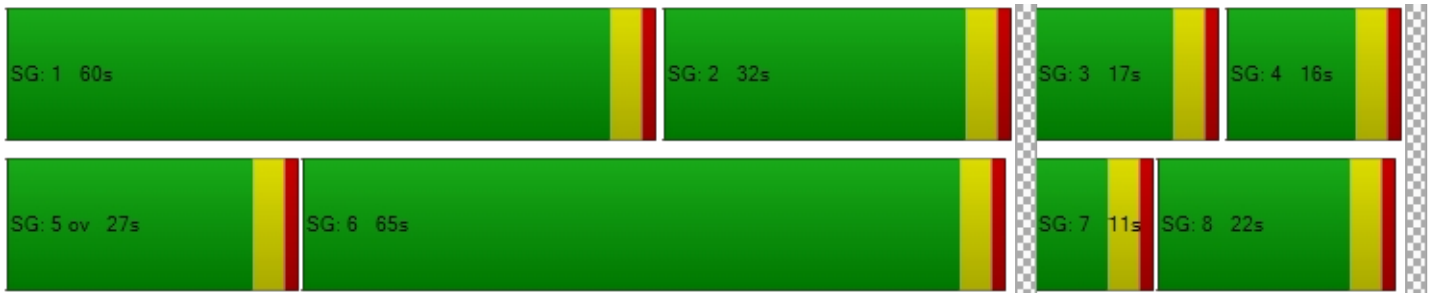
Vehicle Miles Traveled [mph]	26.95	119.30	62.66	38.67	61.74	31.77	4.95	103.38	16.08	0.45	46.16	23.91
Stops [stops/h]	367.60	1736.77	1135.49	735.73	541.88	299.67	53.58	1100.42	134.31	7.91	613.64	253.70
Fuel consumption [US gal/h]	13.85	62.81	46.78	30.13	18.58	10.27	1.94	39.99	4.65	0.27	20.66	8.05
CO [g/h]	967.96	4390.69	3269.75	2106.10	1298.49	718.18	135.53	2795.38	325.08	18.61	1444.03	562.56
NOx [g/h]	188.33	854.27	636.18	409.77	252.64	139.73	26.37	543.88	63.25	3.62	280.96	109.45
VOC [g/h]	224.33	1017.58	757.80	488.11	300.94	166.44	31.41	647.86	75.34	4.31	334.67	130.38

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	976	448	288	192
d_b, Bicycle Delay [s]	16.38	37.64	45.80	51.08
l_b,int, Bicycle LOS Score for Intersection	3.355	2.823	2.292	2.168
Bicycle LOS	C	C	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: U.S. Route 395 (NS) at Poplar Street (EW)

Control Type:	Signalized	Delay (sec / veh):	40.1
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.905

Intersection Setup

Name	U.S. Route 395			U.S. Route 395			Poplar Street			Poplar Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	13.00	12.00	12.00	12.00	12.00	12.00	12.00	13.00	12.00	20.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	373.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	200.00
Speed [mph]	60.00			60.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	U.S. Route 395			U.S. Route 395			Poplar Street			Poplar Street		
Base Volume Input [veh/h]	37	2742	203	424	1136	15	25	0	56	526	0	419
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	37	2742	203	424	1136	15	25	0	56	526	0	419
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	722	53	112	299	4	7	0	15	138	0	110
Total Analysis Volume [veh/h]	39	2886	214	446	1196	16	26	0	59	554	0	441
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	8	9	0	8	9	0	8	18	0	6	19	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	10	70	0	22	82	0	17	10	0	28	21	0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall	No	No		No	No		No	No		Yes	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	L	C	R
C, Calculated Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00	0.00	2.00
g_i, Effective Green Time [s]	5	66	66	18	79	79	4	12	34	34	26
g / C, Green / Cycle	0.03	0.51	0.51	0.14	0.61	0.61	0.03	0.09	0.26	0.26	0.20
(v / s)_i Volume / Saturation Flow Rate	0.02	0.51	0.11	0.13	0.32	0.34	0.01	0.03	0.14	0.21	0.20
s, saturation flow rate [veh/h]	1800	5700	1900	3400	1900	1800	1800	1800	1800	1750	1900
c, Capacity [veh/h]	63	2894	965	471	1161	1100	55	162	504	536	385
d1, Uniform Delay [s]	61.88	31.91	17.75	55.53	14.43	14.80	62.28	55.65	41.07	42.12	51.48
k, delay calibration	0.11	0.11	0.11	0.11	0.12	0.14	0.11	0.50	0.25	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.61	7.18	0.11	10.35	0.39	0.55	6.06	6.23	1.71	7.37	39.56
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.62	1.00	0.22	0.95	0.52	0.55	0.47	0.36	0.49	0.70	0.97
d, Delay for Lane Group [s/veh]	71.49	39.09	17.87	65.88	14.82	15.34	68.34	61.88	42.77	49.49	91.04
Lane Group LOS	E	D	B	E	B	B	E	E	D	D	F
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.39	28.29	3.29	7.57	8.85	9.09	0.94	2.11	6.90	12.21	16.10
50th-Percentile Queue Length [ft/ln]	34.69	707.16	82.34	189.29	221.27	227.33	23.57	52.70	172.40	305.19	402.42
95th-Percentile Queue Length [veh/ln]	2.50	37.01	5.93	12.08	13.73	14.04	1.70	3.79	11.20	17.94	22.68
95th-Percentile Queue Length [ft/ln]	62.44	925.21	148.20	302.10	343.25	350.96	42.43	94.86	280.06	448.44	566.91

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	71.49	39.09	17.87	65.88	15.08	15.34	68.34	61.88	61.88	46.16	49.49	80.74
Movement LOS	E	D	B	E	B	B	E	E	E	D	D	F
d_A, Approach Delay [s/veh]	38.05			28.75			63.85			63.46		
Approach LOS	D			C			E			E		
d_I, Intersection Delay [s/veh]	40.10											
Intersection LOS	D											
Intersection V/C	0.905											

Emissions

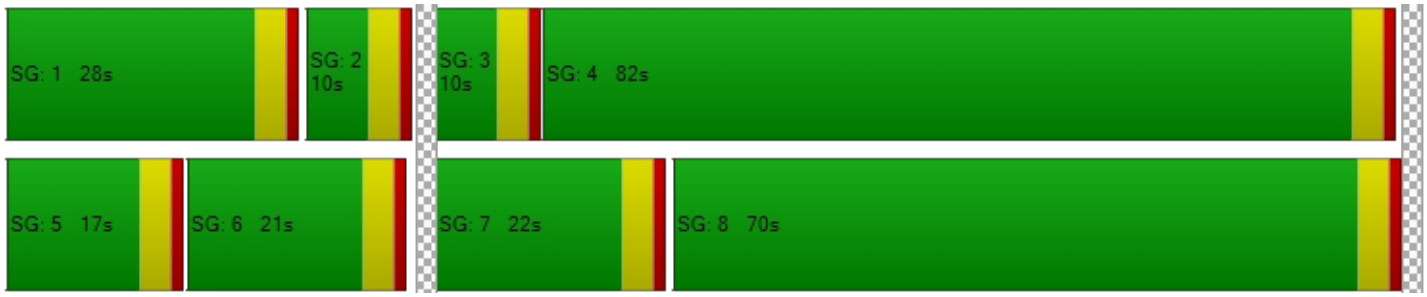
Vehicle Miles Traveled [mph]	1.29	95.80	7.10	36.81	50.07	49.96	0.62	1.40	9.55	14.51	14.51
Stops [stops/h]	38.42	2349.93	91.20	419.34	245.10	251.81	26.11	58.37	190.96	338.05	445.75
Fuel consumption [US gal/h]	1.46	78.18	3.04	16.51	8.96	9.16	0.53	1.12	4.36	7.61	11.83
CO [g/h]	102.12	5464.57	212.28	1153.78	626.23	640.53	37.13	78.49	304.87	531.96	827.13
NOx [g/h]	19.87	1063.21	41.30	224.48	121.84	124.62	7.22	15.27	59.32	103.50	160.93
VOC [g/h]	23.67	1266.47	49.20	267.40	145.14	148.45	8.61	18.19	70.66	123.29	191.69

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1015	1200	92	523
d_b, Bicycle Delay [s]	15.75	10.40	59.14	35.45
l_b,int, Bicycle LOS Score for Intersection	3.286	2.927	1.700	3.201
Bicycle LOS	C	C	A	C

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: Three Flags Avenue (NS) at Poplar Street (EW)

Control Type:	Signalized	Delay (sec / veh):	24.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.457

Intersection Setup

Name	Three Flags Avenue			Three Flags Avenue			Poplar Street			Poplar Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	16.00	16.00	14.00	14.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	1	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Three Flags Avenue			Three Flags Avenue			Poplar Street			Poplar Street		
Base Volume Input [veh/h]	337	0	226	0	0	272	60	407	364	298	419	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	337	0	226	0	0	272	60	407	364	298	419	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	89	0	59	0	0	72	16	107	96	78	110	0
Total Analysis Volume [veh/h]	355	0	238	0	0	286	63	428	383	314	441	0
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	2.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Maximum Green [s]	0	6	0	0	6	0	0	46	0	0	46	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	10	0	0	10	0	0	50	0	0	50	0
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	6	0	0	6	0	0	6	0	0	6	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C
C, Calculated Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	2.00	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	35	35	35	17	17	17	17	17
g / C, Green / Cycle	0.58	0.58	0.58	0.29	0.29	0.29	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.20	0.13	0.16	0.04	0.23	0.20	0.17	0.25
s, saturation flow rate [veh/h]	1800	1800	1750	1800	1900	1900	1800	1800
c, Capacity [veh/h]	892	1036	1068	242	553	553	281	524
d1, Uniform Delay [s]	6.72	6.22	6.45	15.63	19.47	18.90	17.88	19.98
k, delay calibration	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.33	0.52	0.62	0.56	2.36	1.57	63.49	3.77
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.40	0.23	0.27	0.26	0.77	0.69	1.12	0.84
d, Delay for Lane Group [s/veh]	8.05	6.74	7.07	16.20	21.83	20.47	81.37	23.75
Lane Group LOS	A	A	A	B	C	C	F	C
Critical Lane Group	Yes	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.97	1.17	1.61	0.59	5.06	4.32	7.79	5.52
50th-Percentile Queue Length [ft/ln]	49.23	29.15	40.14	14.83	126.52	108.02	194.82	137.89
95th-Percentile Queue Length [veh/ln]	3.54	2.10	2.89	1.07	8.75	7.73	13.10	9.37
95th-Percentile Queue Length [ft/ln]	88.61	52.47	72.25	26.69	218.76	193.25	327.48	234.18

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	8.05	6.74	6.74	7.07	7.07	7.07	16.20	21.83	20.47	81.37	23.75	23.75
Movement LOS	A	A	A	A	A	A	B	C	C	F	C	C
d_A, Approach Delay [s/veh]	7.53			7.07			20.83			47.71		
Approach LOS	A			A			C			D		
d_I, Intersection Delay [s/veh]	24.21											
Intersection LOS	C											
Intersection V/C	0.457											

Emissions

Vehicle Miles Traveled [mph]	9.81	6.58	6.76	3.93	26.73	23.92	11.96	16.80
Stops [stops/h]	118.15	69.96	96.33	35.59	303.66	259.25	467.56	330.94
Fuel consumption [US gal/h]	2.09	1.25	1.22	0.70	5.84	5.00	10.22	5.98
CO [g/h]	146.37	87.32	85.40	48.81	408.39	349.43	714.42	418.31
NOx [g/h]	28.48	16.99	16.62	9.50	79.46	67.99	139.00	81.39
VOC [g/h]	33.92	20.24	19.79	11.31	94.65	80.98	165.57	96.95

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	200	200	1533	1533
d_b, Bicycle Delay [s]	24.30	24.30	1.63	1.63
l_b,int, Bicycle LOS Score for Intersection	2.538	2.032	3.002	2.805
Bicycle LOS	B	B	C	C

Sequence

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



Intersection Level Of Service Report
Intersection 5: U.S. Route 395 (NS) at Joshua Street (EW)

Control Type:	Signalized	Delay (sec / veh):	78.0
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.943

Intersection Setup

Name	U.S. Route 395			U.S. Route 395			Joshua Street			Joshua Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	1	0	1
Entry Pocket Length [ft]	190.00	100.00	143.00	191.00	100.00	273.00	94.00	100.00	100.00	65.00	100.00	65.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	U.S. Route 395			U.S. Route 395			Joshua Street			Joshua Street		
Base Volume Input [veh/h]	42	1494	97	383	1499	89	552	329	79	253	111	458
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	42	1494	97	383	1499	89	552	329	79	253	111	458
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	393	26	101	394	23	145	87	21	67	29	121
Total Analysis Volume [veh/h]	44	1573	102	403	1578	94	581	346	83	266	117	482
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Maximum Green [s]	20	50	0	20	50	0	0	40	0	0	40	0
Amber [s]	3.7	5.5	0.0	3.7	5.5	0.0	0.0	4.0	0.0	0.0	4.0	0.0
All red [s]	1.0	2.0	0.0	1.0	2.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	24	0	0	0	0	0	34	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.7	5.5	0.0	2.7	5.5	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	11	39	0	19	47	0	0	52	0	0	52	0
Lead / Lag	Lag	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Vehicle Extension [s]	2.5	5.0	0.0	2.5	5.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	L	C	R
C, Calculated Cycle Length [s]	110	110	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.70	7.50	7.50	4.70	7.50	7.50	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.70	5.50	5.50	2.70	5.50	5.50	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	4	48	48	14	59	59	30	30	30	30	30
g / C, Green / Cycle	0.03	0.44	0.44	0.13	0.54	0.54	0.27	0.27	0.27	0.27	0.27
(v / s)_i Volume / Saturation Flow Rate	0.02	0.41	0.05	0.22	0.42	0.05	0.17	0.24	0.15	0.06	0.25
s, saturation flow rate [veh/h]	1800	3800	1900	1800	3800	1900	3400	1800	1800	1900	1900
c, Capacity [veh/h]	62	1673	836	234	2036	1018	803	492	142	520	520
d1, Uniform Delay [s]	52.57	29.41	18.22	47.85	20.27	12.47	35.01	38.12	31.51	30.94	38.90
k, delay calibration	0.08	0.50	0.50	0.50	0.50	0.50	0.04	0.06	0.04	0.04	0.07
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.65	11.80	0.30	342.41	2.96	0.18	0.47	2.95	398.05	0.08	5.21
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.71	0.94	0.12	1.72	0.78	0.09	0.72	0.87	1.88	0.23	0.93
d, Delay for Lane Group [s/veh]	63.22	41.21	18.51	390.26	23.23	12.65	35.48	41.06	429.56	31.02	44.11
Lane Group LOS	E	D	B	F	C	B	D	D	F	C	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.38	21.81	1.60	28.63	16.05	1.17	6.82	11.29	18.62	2.42	13.23
50th-Percentile Queue Length [ft/ln]	34.60	545.27	40.02	715.77	401.27	29.15	170.60	282.23	465.38	60.53	330.86
95th-Percentile Queue Length [veh/ln]	2.49	29.47	2.88	44.95	22.62	2.10	11.11	16.80	32.48	4.36	19.20
95th-Percentile Queue Length [ft/ln]	62.29	736.74	72.04	1123.63	565.53	52.47	277.71	419.99	811.88	108.96	480.02

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	63.22	41.21	18.51	390.26	23.23	12.65	35.48	41.06	41.06	429.56	31.02	44.11
Movement LOS	E	D	B	F	C	B	D	D	D	F	C	D
d_A, Approach Delay [s/veh]	40.43			94.03			37.85			160.87		
Approach LOS	D			F			D			F		
d_I, Intersection Delay [s/veh]	77.97											
Intersection LOS	E											
Intersection V/C	0.943											

Emissions

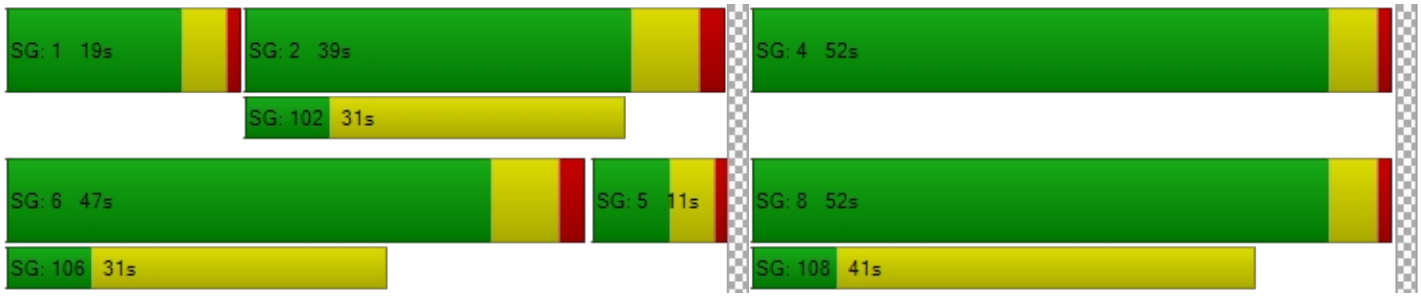
Vehicle Miles Traveled [mph]	2.30	82.17	5.33	26.49	103.72	6.18	32.10	23.70	9.37	4.12	16.98
Stops [stops/h]	45.30	1427.60	52.40	937.01	1050.61	38.16	446.67	369.47	609.22	79.25	433.13
Fuel consumption [US gal/h]	0.91	24.46	0.89	38.27	17.53	0.71	7.98	6.60	27.00	1.35	7.42
CO [g/h]	63.67	1709.87	62.43	2674.76	1225.51	49.43	558.10	461.47	1887.22	94.08	518.53
NOx [g/h]	12.39	332.68	12.15	520.41	238.44	9.62	108.59	89.78	367.18	18.31	100.89
VOC [g/h]	14.76	396.28	14.47	619.90	284.02	11.45	129.34	106.95	437.38	21.80	120.18

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	44.55	44.55	44.55
l_p,int, Pedestrian LOS Score for Intersectio	0.000	4.054	2.449	2.559
Crosswalk LOS	F	D	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	573	718	855	855
d_b, Bicycle Delay [s]	28.01	22.59	18.04	18.04
l_b,int, Bicycle LOS Score for Intersection	2.978	3.271	3.226	2.987
Bicycle LOS	C	C	C	C

Sequence

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



Intersection Level Of Service Report
Intersection 6: I-15 Southbound Off-Ramp (NS) at Joshua Street (EW)

Control Type:	Two-way stop	Delay (sec / veh):	30.6
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.325

Intersection Setup

Name	I-15 Southbound Off-Ramp		Joshua Street		Joshua Street	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	I-15 Southbound Off-Ramp		Joshua Street		Joshua Street	
Base Volume Input [veh/h]	64	511	0	835	299	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	0.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	64	0	0	835	299	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	0	0	220	79	0
Total Analysis Volume [veh/h]	67	0	0	879	315	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.32	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	30.64	9.96	0.00	0.00	0.00	0.00
Movement LOS	D	A		A	A	
95th-Percentile Queue Length [veh/ln]	1.34	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	33.52	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	30.64		0.00		0.00	
Approach LOS	D		A		A	
d_I, Intersection Delay [s/veh]	1.63					
Intersection LOS	D					

Appendix J

Project Opening Year (2026)

With Project Conditions

With Intersection + Queuing Improvements

Level of Service Analysis Worksheets

RK19177.5
JN:1219-2023-03

Intersection Level Of Service Report
Intersection 5: U.S. Route 395 (NS) at Joshua Street (EW)

Control Type:	Signalized	Delay (sec / veh):	29.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.818

Intersection Setup

Name	U.S. Route 395			U.S. Route 395			Joshua Street			Joshua Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	1	0	1
Entry Pocket Length [ft]	190.00	100.00	143.00	191.00	100.00	273.00	94.00	100.00	100.00	65.00	100.00	65.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	U.S. Route 395			U.S. Route 395			Joshua Street			Joshua Street		
Base Volume Input [veh/h]	37	1419	41	231	1380	169	57	71	17	102	217	509
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	37	1419	41	231	1380	169	57	71	17	102	217	509
Peak Hour Factor	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	385	11	63	375	46	15	19	5	28	59	138
Total Analysis Volume [veh/h]	40	1541	45	251	1498	183	62	77	18	111	236	553
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap
Signal Group	1	6	0	5	2	0	0	8	0	0	4	4
Auxiliary Signal Groups												4,5
Maximum Green [s]	8	58	0	11	61	0	0	49	0	0	49	49
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	1.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	7
Pedestrian Clearance [s]	0	21	0	0	15	0	0	0	0	0	33	33
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	15	70	0	16	71	0	0	44	0	0	44	44
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	6	6	0	6	6	0	0	6	0	0	6	6
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	3.0
Minimum Recall	No	No		No	No			No			No	No
Maximum Recall	No	No		No	No			No			No	No
Pedestrian Recall	No	No		No	No			No			No	No

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	L	C	R
C, Calculated Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	5	69	69	12	76	76	37	37	37	37	53
g / C, Green / Cycle	0.04	0.53	0.53	0.09	0.59	0.59	0.29	0.29	0.29	0.29	0.41
(v / s)_i Volume / Saturation Flow Rate	0.02	0.43	0.03	0.08	0.42	0.10	0.04	0.05	0.03	0.07	0.31
s, saturation flow rate [veh/h]	1700	3600	1800	3200	3600	1800	1700	1800	3200	3600	1800
c, Capacity [veh/h]	61	1906	953	295	2109	1054	431	515	796	1029	736
d1, Uniform Delay [s]	61.85	25.16	14.76	58.11	19.10	12.42	34.40	34.99	34.34	35.47	32.77
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.33
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	11.15	3.82	0.09	6.77	2.06	0.36	0.15	0.17	0.08	0.11	4.68
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.65	0.81	0.05	0.85	0.71	0.17	0.14	0.18	0.14	0.23	0.75
d, Delay for Lane Group [s/veh]	73.00	28.97	14.85	64.88	21.16	12.77	34.55	35.16	34.42	35.58	37.45
Lane Group LOS	E	C	B	E	C	B	C	D	C	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.50	20.01	0.68	4.35	16.07	2.56	1.49	2.32	1.33	2.91	15.69
50th-Percentile Queue Length [ft/ln]	37.45	500.32	16.90	108.72	401.85	64.04	37.30	58.04	33.14	72.71	392.28
95th-Percentile Queue Length [veh/ln]	2.70	27.35	1.22	7.77	22.65	4.61	2.69	4.18	2.39	5.23	22.19
95th-Percentile Queue Length [ft/ln]	67.41	683.74	30.41	194.21	566.22	115.27	67.14	104.47	59.65	130.87	554.69

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	73.00	28.97	14.85	64.88	21.16	12.77	34.55	35.16	35.16	34.42	35.58	37.45
Movement LOS	E	C	B	E	C	B	C	D	D	C	D	D
d_A, Approach Delay [s/veh]	29.67			26.05			34.92			36.59		
Approach LOS	C			C			C			D		
d_I, Intersection Delay [s/veh]	29.68											
Intersection LOS	C											
Intersection V/C	0.818											

Emissions

Vehicle Miles Traveled [mph]	2.09	80.50	2.35	16.50	98.46	12.03	3.43	5.25	3.91	8.31	19.48
Stops [stops/h]	41.48	1108.41	18.71	240.85	890.24	70.94	41.31	64.29	73.42	161.07	434.52
Fuel consumption [US gal/h]	0.91	18.52	0.34	5.32	15.42	1.36	0.81	1.25	1.34	2.94	7.42
CO [g/h]	63.56	1294.82	23.50	372.10	1078.08	95.26	56.28	87.45	93.94	205.58	518.45
NOx [g/h]	12.37	251.92	4.57	72.40	209.76	18.53	10.95	17.01	18.28	40.00	100.87
VOC [g/h]	14.73	300.09	5.45	86.24	249.86	22.08	13.04	20.27	21.77	47.64	120.16

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	54.47	54.47	54.47
l_p,int, Pedestrian LOS Score for Intersectio	0.000	3.269	2.299	2.789
Crosswalk LOS	F	C	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1015	1031	615	615
d_b, Bicycle Delay [s]	15.75	15.27	31.15	31.15
l_b,int, Bicycle LOS Score for Intersection	2.901	3.154	1.819	2.302
Bicycle LOS	C	C	A	B

Sequence

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



Intersection Level Of Service Report
Intersection 5: U.S. Route 395 (NS) at Joshua Street (EW)

Control Type:	Signalized	Delay (sec / veh):	25.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.813

Intersection Setup

Name	U.S. Route 395			U.S. Route 395			Joshua Street			Joshua Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	1	0	1
Entry Pocket Length [ft]	190.00	100.00	143.00	191.00	100.00	273.00	94.00	100.00	100.00	65.00	100.00	65.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	U.S. Route 395			U.S. Route 395			Joshua Street			Joshua Street		
Base Volume Input [veh/h]	33	1566	99	471	1423	82	196	244	35	78	81	289
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	33	1566	99	471	1423	82	196	244	35	78	81	289
Peak Hour Factor	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	407	26	122	370	21	51	63	9	20	21	75
Total Analysis Volume [veh/h]	34	1628	103	490	1479	85	204	254	36	81	84	300
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	105
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap
Signal Group	1	6	0	5	2	0	0	8	0	0	4	4
Auxiliary Signal Groups												4,5
Maximum Green [s]	6	28	0	23	45	0	0	67	0	0	67	67
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	1.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	7
Pedestrian Clearance [s]	0	21	0	0	15	0	0	0	0	0	33	33
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	10	32	0	25	47	0	0	48	0	0	48	48
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	6	6	0	6	6	0	0	6	0	0	6	6
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	3.0
Minimum Recall	No	No		No	No			No			No	No
Maximum Recall	No	No		No	No			No			No	No
Pedestrian Recall	No	No		No	No			No			No	No

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	L	C	R
C, Calculated Cycle Length [s]	105	105	105	105	105	105	105	105	105	105	105
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	4	55	55	19	70	70	19	19	19	19	42
g / C, Green / Cycle	0.04	0.52	0.52	0.18	0.66	0.66	0.19	0.19	0.19	0.19	0.40
(v / s)_i Volume / Saturation Flow Rate	0.02	0.45	0.06	0.15	0.41	0.05	0.12	0.16	0.03	0.02	0.17
s, saturation flow rate [veh/h]	1700	3600	1800	3200	3600	1800	1700	1800	3200	3600	1800
c, Capacity [veh/h]	62	1882	941	567	2388	1194	331	335	139	670	722
d1, Uniform Delay [s]	49.76	21.84	12.69	41.98	10.09	6.24	39.53	41.47	35.69	35.62	22.59
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.47	5.62	0.24	4.11	1.22	0.12	1.87	6.77	3.80	0.08	0.38
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.55	0.87	0.11	0.86	0.62	0.07	0.62	0.87	0.58	0.13	0.42
d, Delay for Lane Group [s/veh]	57.23	27.46	12.92	46.09	11.31	6.36	41.40	48.24	39.50	35.70	22.98
Lane Group LOS	E	C	B	D	B	A	D	D	D	D	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	1.00	17.84	1.27	6.43	9.08	0.65	5.01	7.85	0.94	0.91	5.33
50th-Percentile Queue Length [ft/ln]	25.08	446.03	31.63	160.84	226.89	16.37	125.28	196.15	23.53	22.64	133.34
95th-Percentile Queue Length [veh/ln]	1.81	24.77	2.28	10.59	14.02	1.18	8.68	12.44	1.69	1.63	9.12
95th-Percentile Queue Length [ft/ln]	45.15	619.21	56.93	264.84	350.40	29.46	217.06	310.99	42.35	40.75	228.03

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	57.23	27.46	12.92	46.09	11.31	6.36	41.40	48.24	48.24	39.50	35.70	22.98
Movement LOS	E	C	B	D	B	A	D	D	D	D	D	C
d_A, Approach Delay [s/veh]	27.18			19.40			45.41			28.15		
Approach LOS	C			B			D			C		
d_I, Intersection Delay [s/veh]	25.82											
Intersection LOS	C											
Intersection V/C	0.813											

Emissions

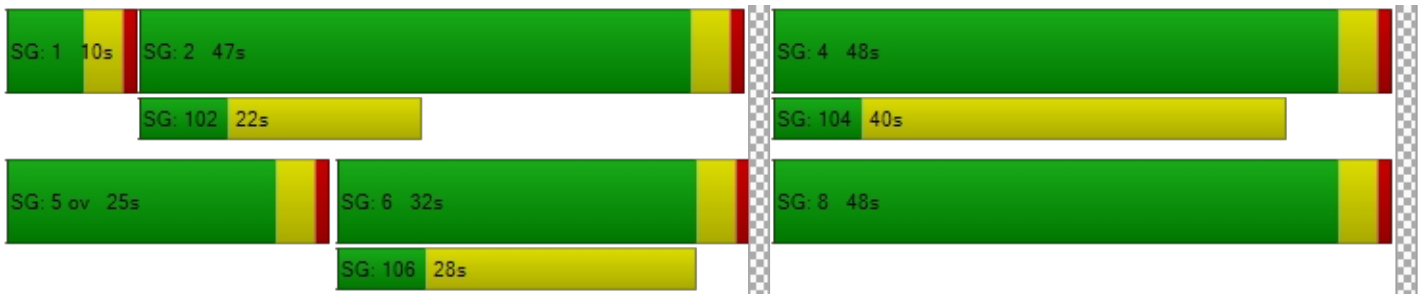
Vehicle Miles Traveled [mph]	1.78	85.05	5.38	32.21	97.21	5.59	11.27	16.02	2.85	2.96	10.57
Stops [stops/h]	34.40	1223.39	43.38	441.17	622.32	22.45	171.81	269.00	64.53	62.09	182.87
Fuel consumption [US gal/h]	0.66	19.36	0.73	8.36	10.84	0.46	3.13	4.99	1.12	1.08	2.85
CO [g/h]	46.07	1353.02	51.17	584.30	758.01	32.43	218.92	348.96	78.63	75.15	199.08
NOx [g/h]	8.96	263.25	9.96	113.68	147.48	6.31	42.59	67.89	15.30	14.62	38.73
VOC [g/h]	10.68	313.58	11.86	135.42	175.68	7.52	50.74	80.87	18.22	17.42	46.14

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	42.08	42.08	42.08
l_p,int, Pedestrian LOS Score for Intersectio	0.000	3.474	2.308	2.784
Crosswalk LOS	F	C	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	533	819	838	838
d_b, Bicycle Delay [s]	28.23	18.30	17.72	17.72
l_b,int, Bicycle LOS Score for Intersection	3.016	3.254	2.375	1.943
Bicycle LOS	C	C	B	A

Sequence

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



Appendix K

Horizon Year (2040)

With Project Conditions

With Intersection + Queuing Improvements

Level of Service Analysis Worksheets

RK19177.5
JN:1219-2023-03

Intersection Level Of Service Report
Intersection 5: U.S. Route 395 (NS) at Joshua Street (EW)

Control Type:	Signalized	Delay (sec / veh):	30.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.852

Intersection Setup

Name	U.S. Route 395			U.S. Route 395			Joshua Street			Joshua Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	1	0	1
Entry Pocket Length [ft]	190.00	100.00	143.00	191.00	100.00	273.00	94.00	100.00	100.00	65.00	100.00	65.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	U.S. Route 395			U.S. Route 395			Joshua Street			Joshua Street		
Base Volume Input [veh/h]	56	1798	94	259	1882	485	82	85	13	76	202	474
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	56	1798	94	259	1882	485	82	85	13	76	202	474
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	473	25	68	495	128	22	22	3	20	53	125
Total Analysis Volume [veh/h]	59	1893	99	273	1981	511	86	89	14	80	213	499
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap
Signal Group	1	6	0	5	2	0	0	8	0	0	4	4
Auxiliary Signal Groups												4,5
Maximum Green [s]	8	64	0	12	68	0	0	42	0	0	42	42
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	1.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	7
Pedestrian Clearance [s]	0	21	0	0	15	0	0	0	0	0	33	33
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	11	70	0	16	75	0	0	44	0	0	44	44
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	6	6	0	6	6	0	0	6	0	0	6	6
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	3.0
Minimum Recall	No	No		No	No			No			No	No
Maximum Recall	No	No		No	No			No			No	No
Pedestrian Recall	No	No		No	No			No			No	No

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	L	C	R
C, Calculated Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	6	73	73	12	80	80	33	33	33	33	49
g / C, Green / Cycle	0.04	0.56	0.56	0.09	0.61	0.61	0.25	0.25	0.25	0.25	0.37
(v / s)_i Volume / Saturation Flow Rate	0.03	0.50	0.05	0.08	0.52	0.27	0.03	0.06	0.02	0.06	0.26
s, saturation flow rate [veh/h]	1800	3800	1900	3400	3800	1900	3400	1800	3400	3800	1900
c, Capacity [veh/h]	77	2146	1073	314	2335	1168	716	451	713	953	710
d1, Uniform Delay [s]	61.61	24.54	12.99	58.23	20.18	13.21	37.44	38.71	37.38	38.66	34.57
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.32
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	14.95	5.67	0.17	7.36	4.07	1.19	0.07	0.25	0.07	0.12	3.78
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.88	0.09	0.87	0.85	0.44	0.12	0.23	0.11	0.22	0.70
d, Delay for Lane Group [s/veh]	76.56	30.21	13.16	65.59	24.25	14.41	37.52	38.97	37.45	38.78	38.35
Lane Group LOS	E	C	B	E	C	B	D	D	D	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.25	25.89	1.39	4.76	24.13	8.09	1.07	2.67	1.00	2.74	14.10
50th-Percentile Queue Length [ft/ln]	56.28	647.14	34.77	118.94	603.29	202.33	26.85	66.84	24.93	68.59	352.55
95th-Percentile Queue Length [veh/ln]	4.05	34.23	2.50	8.33	32.19	12.76	1.93	4.81	1.80	4.94	20.26
95th-Percentile Queue Length [ft/ln]	101.31	855.74	62.58	208.36	804.70	318.97	48.34	120.32	44.88	123.47	506.51

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	76.56	30.21	13.16	65.59	24.25	14.41	37.52	38.97	38.97	37.45	38.78	38.35
Movement LOS	E	C	B	E	C	B	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	30.72			26.51			38.31			38.38		
Approach LOS	C			C			D			D		
d_I, Intersection Delay [s/veh]	30.01											
Intersection LOS	C											
Intersection V/C	0.852											

Emissions

Vehicle Miles Traveled [mph]	3.08	98.89	5.17	17.94	130.20	33.59	4.75	5.69	2.82	7.50	17.58
Stops [stops/h]	62.34	1433.66	38.51	263.49	1336.52	224.12	59.49	74.04	55.24	151.96	390.51
Fuel consumption [US gal/h]	1.39	23.63	0.69	5.84	22.52	4.12	1.18	1.46	1.03	2.83	6.78
CO [g/h]	97.19	1651.73	48.29	408.05	1574.07	287.92	82.54	102.06	72.05	197.77	473.61
NOx [g/h]	18.91	321.37	9.40	79.39	306.26	56.02	16.06	19.86	14.02	38.48	92.15
VOC [g/h]	22.52	382.80	11.19	94.57	364.81	66.73	19.13	23.65	16.70	45.84	109.76

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	54.47	54.47	54.47
l_p,int, Pedestrian LOS Score for Intersectio	0.000	3.464	2.507	2.786
Crosswalk LOS	F	C	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1015	1092	615	615
d_b, Bicycle Delay [s]	15.75	13.39	31.15	31.15
l_b,int, Bicycle LOS Score for Intersection	3.252	3.841	1.871	2.213
Bicycle LOS	C	D	A	B

Sequence

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



Intersection Level Of Service Report
Intersection 5: U.S. Route 395 (NS) at Joshua Street (EW)

Control Type:	Signalized	Delay (sec / veh):	36.0
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.826

Intersection Setup

Name	U.S. Route 395			U.S. Route 395			Joshua Street			Joshua Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	1	0	1
Entry Pocket Length [ft]	190.00	100.00	143.00	191.00	100.00	273.00	94.00	100.00	100.00	65.00	100.00	65.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	U.S. Route 395			U.S. Route 395			Joshua Street			Joshua Street		
Base Volume Input [veh/h]	42	1494	97	383	1499	89	552	329	79	253	111	458
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	42	1494	97	383	1499	89	552	329	79	253	111	458
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	393	26	101	394	23	145	87	21	67	29	121
Total Analysis Volume [veh/h]	44	1573	102	403	1578	94	581	346	83	266	117	482
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap
Signal Group	1	6	0	5	2	0	0	8	0	0	4	4
Auxiliary Signal Groups												4,5
Maximum Green [s]	6	29	0	14	37	0	0	55	0	0	55	55
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	1.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	7
Pedestrian Clearance [s]	0	21	0	0	15	0	0	10	0	0	33	33
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	10	32	0	14	36	0	0	44	0	0	44	44
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	6	6	0	6	6	0	0	6	0	0	6	6
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	3.0
Minimum Recall	No	No		No	No			No			No	No
Maximum Recall	No	No		No	No			No			No	No
Pedestrian Recall	No	No		No	No			No			No	No

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	L	C	R
C, Calculated Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	4	44	44	10	50	50	24	24	24	24	38
g / C, Green / Cycle	0.04	0.49	0.49	0.11	0.55	0.55	0.27	0.27	0.27	0.27	0.42
(v / s)_i Volume / Saturation Flow Rate	0.02	0.41	0.05	0.12	0.42	0.05	0.17	0.24	0.08	0.03	0.25
s, saturation flow rate [veh/h]	1800	3800	1900	3400	3800	1900	3400	1800	3400	3800	1900
c, Capacity [veh/h]	81	1852	926	378	2103	1051	869	483	195	1019	805
d1, Uniform Delay [s]	42.05	20.18	12.50	40.00	15.35	9.45	29.07	31.64	25.56	24.87	20.02
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.50	5.09	0.24	41.85	2.52	0.17	0.90	5.77	172.23	0.05	0.72
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.54	0.85	0.11	1.07	0.75	0.09	0.67	0.89	1.37	0.11	0.60
d, Delay for Lane Group [s/veh]	47.55	25.27	12.74	81.85	17.87	9.61	29.97	37.41	197.80	24.92	20.74
Lane Group LOS	D	C	B	F	B	A	C	D	F	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	1.07	14.62	1.13	6.31	11.88	0.87	5.51	9.46	6.25	0.94	7.61
50th-Percentile Queue Length [ft/ln]	26.78	365.48	28.27	157.63	297.01	21.65	137.83	236.56	156.18	23.45	190.29
95th-Percentile Queue Length [veh/ln]	1.93	20.89	2.04	10.68	17.53	1.56	9.36	14.51	11.25	1.69	12.14
95th-Percentile Queue Length [ft/ln]	48.20	522.25	50.88	267.03	438.33	38.97	234.10	362.68	281.13	42.21	303.40

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	47.55	25.27	12.74	81.85	17.87	9.61	29.97	37.41	37.41	197.80	24.92	20.74
Movement LOS	D	C	B	F	B	A	C	D	D	F	C	C
d_A, Approach Delay [s/veh]	25.10			29.92			33.13			75.75		
Approach LOS	C			C			C			E		
d_I, Intersection Delay [s/veh]	36.02											
Intersection LOS	D											
Intersection V/C	0.826											

Emissions

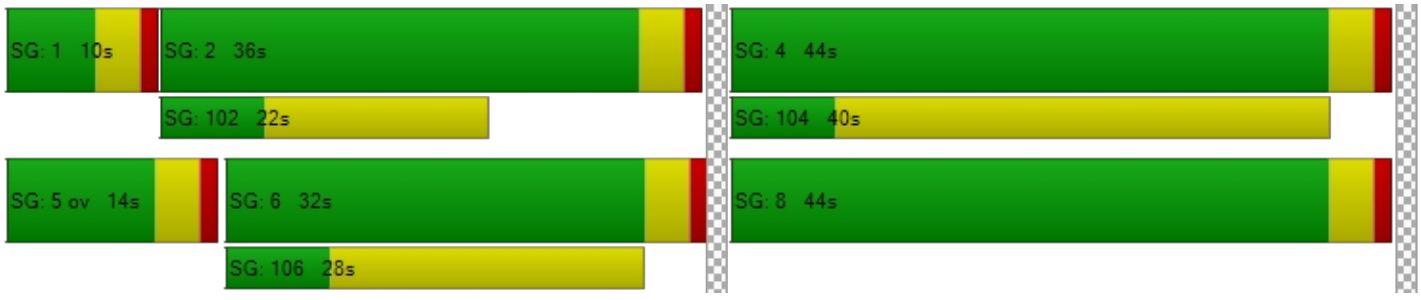
Vehicle Miles Traveled [mph]	2.30	82.17	5.33	26.49	103.72	6.18	32.10	23.70	9.37	4.12	16.98
Stops [stops/h]	42.84	1169.54	45.23	504.42	950.43	34.64	441.05	378.49	499.78	75.05	304.46
Fuel consumption [US gal/h]	0.76	17.93	0.73	10.59	15.26	0.63	7.30	6.33	13.85	1.18	4.42
CO [g/h]	52.92	1253.58	51.28	740.18	1066.68	44.01	510.35	442.69	968.25	82.31	308.66
NOx [g/h]	10.30	243.90	9.98	144.01	207.54	8.56	99.30	86.13	188.39	16.01	60.05
VOC [g/h]	12.26	290.53	11.88	171.54	247.21	10.20	118.28	102.60	224.40	19.08	71.54

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersectio	0.000	4.076	2.546	2.832
Crosswalk LOS	F	D	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	622	711	889	889
d_b, Bicycle Delay [s]	21.36	18.69	13.89	13.89
l_b,int, Bicycle LOS Score for Intersection	2.978	3.271	3.226	2.273
Bicycle LOS	C	C	C	B

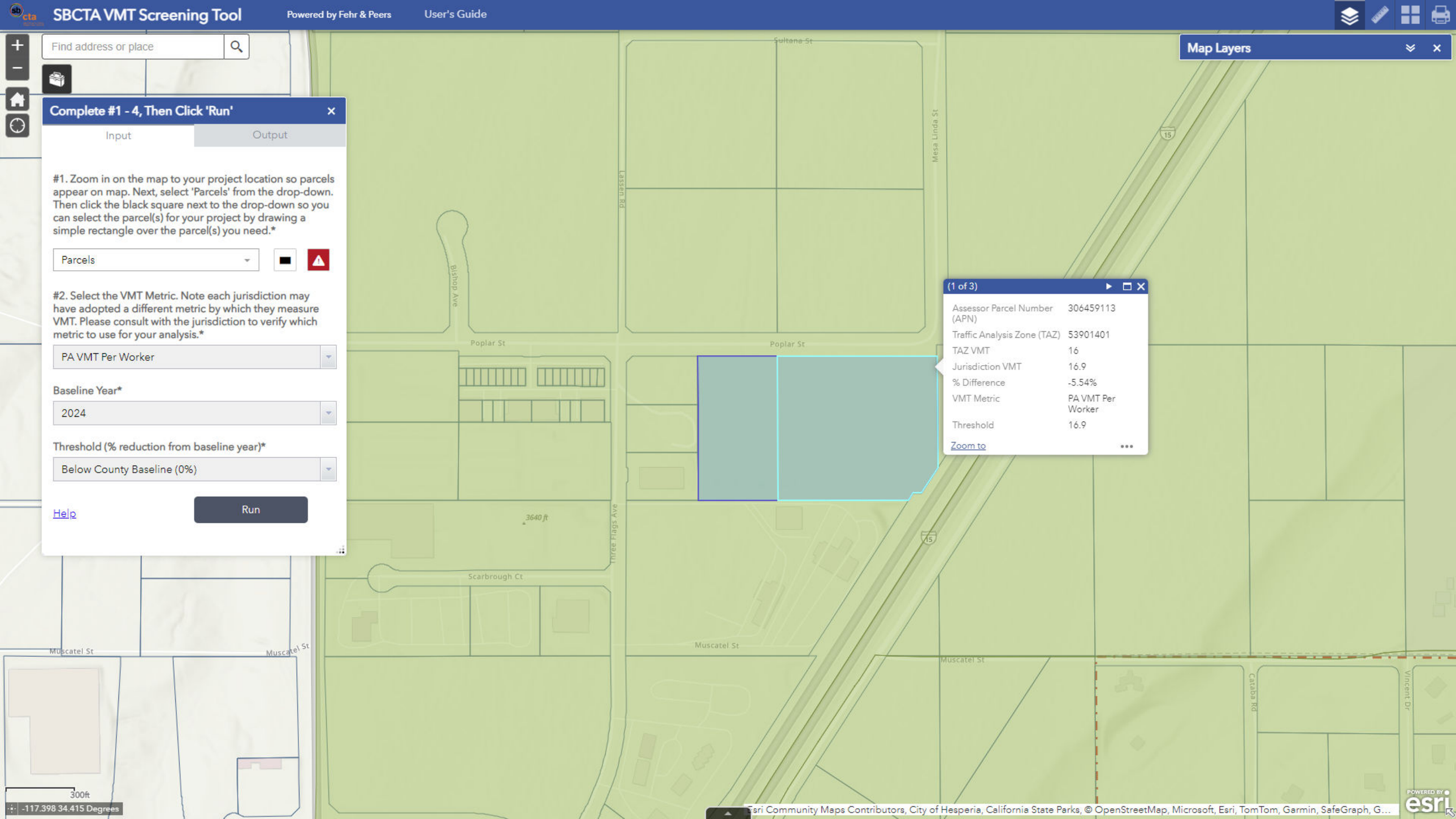
Sequence

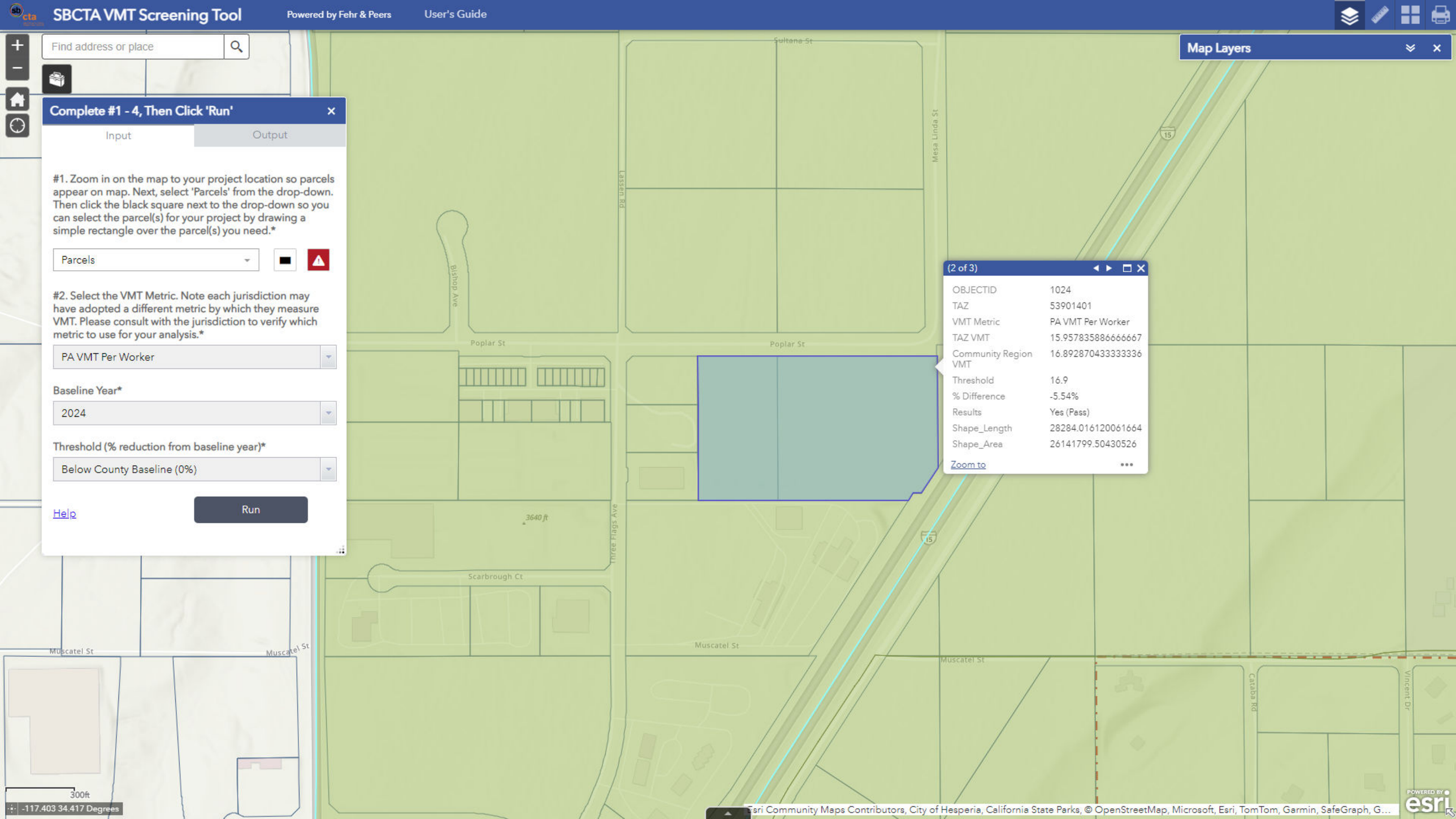
Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

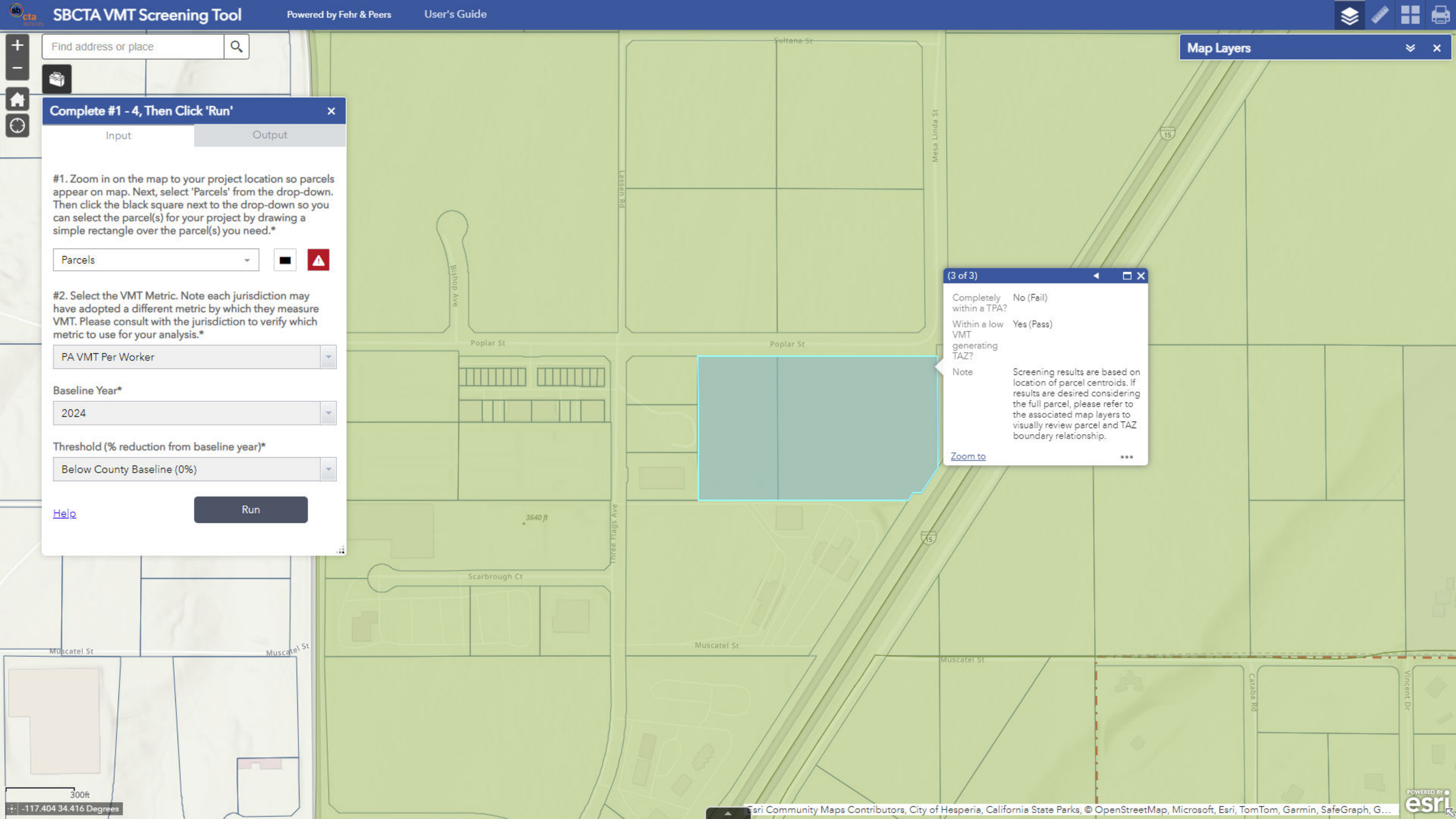


Appendix L

SBCTA VMT Screening Tool Printouts


SBCTA VMT Screening Tool
Powered by Fehr & Peers
User's Guide
Find address or place
Complete #1 - 4, Then Click 'Run'
Input
Output
#1. Zoom in on the map to your project location so parcels appear on map. Next, select 'Parcels' from the drop-down. Then click the black square next to the drop-down so you can select the parcel(s) for your project by drawing a simple rectangle over the parcel(s) you need.*
Parcels
#2. Select the VMT Metric. Note each jurisdiction may have adopted a different metric by which they measure VMT. Please consult with the jurisdiction to verify which metric to use for your analysis.*
PA VMT Per Worker
Baseline Year*
2024
Threshold (% reduction from baseline year)*
Below County Baseline (0%)
Help
Run
Map Layers
(1 of 3)
Assessor Parcel Number (APN) 306459113
Traffic Analysis Zone (TAZ) 53901401
TAZ VMT 16
Jurisdiction VMT 16.9
% Difference -5.54%
VMT Metric PA VMT Per Worker
Threshold 16.9
Zoom to
Sultana St
Lassen Rd
Mesa Linda St
Bishop Ave
Poplar St
Three Flags Ave
Scarbrough Ct
Muscatel St
Catalpa Rd
Vincent Dr
3640 ft
300ft
-117.398 34.415 Degrees
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SBCTA VMT Screening Tool
Powered by Fehr & Peers
User's Guide
Find address or place
Complete #1 - 4, Then Click 'Run'
Input
Output
#1. Zoom in on the map to your project location so parcels appear on map. Next, select 'Parcels' from the drop-down. Then click the black square next to the drop-down so you can select the parcel(s) for your project by drawing a simple rectangle over the parcel(s) you need.*
Parcels
#2. Select the VMT Metric. Note each jurisdiction may have adopted a different metric by which they measure VMT. Please consult with the jurisdiction to verify which metric to use for your analysis.*
PA VMT Per Worker
Baseline Year*
2024
Threshold (% reduction from baseline year)*
Below County Baseline (0%)
Help
Run
Map Layers
(2 of 3)
OBJECTID 1024
TAZ 53901401
VMT Metric PA VMT Per Worker
TAZ VMT 15.957835886666667
Community Region VMT 16.892870433333336
Threshold 16.9
% Difference -5.54%
Results Yes (Pass)
Shape_Length 28284.016120061664
Shape_Area 26141799.50430526
Zoom to
Sultana St
Lassen Rd
Mesa Linda St
Bishop Ave
Poplar St
Three Flags Ave
Scarbrough Ct
Muscatel St
Catalpa Rd
Vincent Dr
3640 ft
300ft
-117.403 34.417 Degrees
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SBCTA VMT Screening Tool
Powered by Fehr & Peers
User's Guide
Find address or place
Map Layers
Complete #1 - 4, Then Click 'Run'
Input
Output
#1. Zoom in on the map to your project location so parcels appear on map. Next, select 'Parcels' from the drop-down. Then click the black square next to the drop-down so you can select the parcel(s) for your project by drawing a simple rectangle over the parcel(s) you need.*
Parcels
#2. Select the VMT Metric. Note each jurisdiction may have adopted a different metric by which they measure VMT. Please consult with the jurisdiction to verify which metric to use for your analysis.*
PA VMT Per Worker
Baseline Year*
2024
Threshold (% reduction from baseline year)*
Below County Baseline (0%)
Help
Run
(3 of 3)
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
Sultana St
Mesa Linda St
Lassen Rd
Bishop Ave
Poplar St
Three Flags Ave
3640 ft
Scarbrough Ct
Muscatel St
Catalpa Rd
Vincent Dr
15
300ft
-117.404 34.416 Degrees
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