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# US Cold Storage

## TRAFFIC ANALYSIS

### CITY OF HESPERIA

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*13201-12 TA Report*



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## **LIST OF ABBREVIATED TERMS**

(1)	Reference
ADT	Average Daily Traffic
CA MUTCD	California Manual on Uniform Traffic Control Devices
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
CMP	Congestion Management Program
DIF	Development Impact Fee
E+P	Existing Plus Project
HCM	Highway Capacity Manual
HCS	Highway Capacity Software
HOV	High Occupancy Vehicle
ITE	Institute of Transportation Engineers
LOS	Level of Service
OPR	Office of Planning and Research
PCE	Passenger Car Equivalent
PeMS	Performance Measurement System
PHF	Peak Hour Factor
Project	US Cold Storage
RTP	Regional Transportation Plan
SB	Senate Bill
SBCTA	San Bernardino County Transportation Authority
SBTAM	San Bernardino Transportation Analysis Model
SCAG	Southern California Association of Governments
SCS	Sustainable Communities Strategy
SF	Square Feet
SHS	State Highway System
TCR	Transportation Concept Report
TA	Traffic Analysis
TSF	Thousand Square Feet
TUMF	Transportation Uniform Mitigation Fee
Vphgpl	Vehicles Per Hour Green Per Lane
VVTA	Victor Valley Transit Authority
WRCOG	Western Riverside Council of Governments
VMT	Vehicle Miles Traveled

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# 1 INTRODUCTION

This report presents the results of the traffic analysis (TA) for the proposed US Cold Storage development (referred to as “Project”) located north of east of US Highway 395 and between Avenal Street and Yucca Terrace Drive in the City of Hesperia, as shown on Exhibit 1-1.

The purpose of this TA is to evaluate the potential circulation system deficiencies that may result from the development of the proposed Project, and to recommend improvements to achieve acceptable circulation system operational conditions. This traffic study has been prepared in accordance with the City’s adopted Traffic Impact Analysis Guidelines for Vehicle Miles Traveled (VMT) and Level of Service Assessment (LOS) in July 2020 (City Guidelines), San Bernardino County Congestion Management Program (CMP) Guidelines for CMP Traffic Impact Analysis Reports (Appendix B, 2016 Update), the California Department of Transportation (Caltrans) Guide for the Preparation of Traffic Impact Studies, and through consultation with City of Hesperia staff during the scoping process. (1) (2) (3) The approved Project Traffic Study Scoping agreement is provided in Appendix 1.1 of this TA.

## 1.1 SUMMARY OF FINDINGS

### 1.1.1 PEAK HOUR OPERATIONS ANALYSIS

The Project is proposing to construct the following improvements as design features in conjunction with development of the site.

**Recommendation 1.1 – US Highway 395 & Avenal Street (#1)** – The following improvements are necessary to accommodate site access:

- Project to install a traffic signal and construct a southbound left turn lane with a minimum of 100-feet of storage and a westbound shared left-right turn lane.

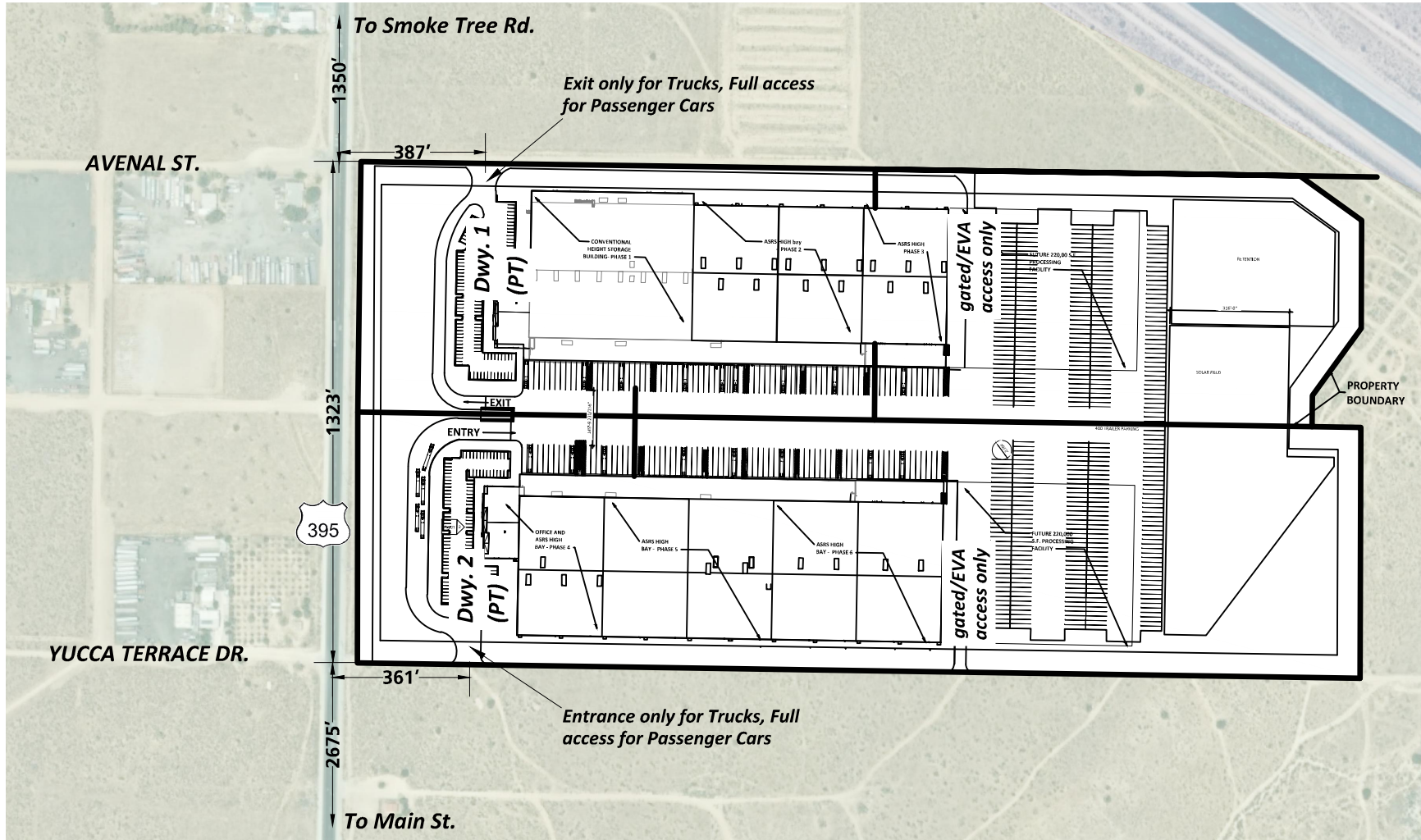
**Recommendation 2.1 – US Highway 395 & Yucca Terrace Drive (#2)** – The following improvements are necessary to accommodate site access:

- Project to install a traffic signal and construct southbound left turn lane with a minimum of 100-feet of storage, westbound left turn lane with a minimum of 100-feet of storage and westbound shared through-right turn lane.
- A northbound left turn lane, eastbound left turn lane, and eastbound shared through-right turn lane are to be provided by a future development to the west for its site access.

**Recommendation 3.1 – Driveway 1 & Avenal Street (#4)** – The following improvements are necessary to accommodate site access:

- Project to install a stop control on the northbound approach and construct northbound shared left-right turn lane, eastbound shared through-right turn lane, westbound shared left-through lane.

EXHIBIT 1-1: PRELIMINARY SITE PLAN



**LEGEND:**

- PT = PASSENGER CARS AND TRUCKS
- EVA = EMERGENCY VEHICLE ACCESS ONLY



**Recommendation 4.1 – Driveway 2 & Yucca Terrace Drive (#5)** – The following improvements are necessary to accommodate site access:

- Project to install a stop control on the southbound approach and construct southbound shared left-right turn lane, eastbound shared left-through lane, and westbound shared through-right turn lane.

**Recommendation 5.1 – Avenal Street** – Avenal Street is an east-west oriented roadway located along the Project’s northern boundary. Project to construct Avenal Street from US Highway 395 to the Project’s eastern boundary at its ultimate half-section width as an Industrial Collector (ultimate 70-foot right-of-way) in compliance with the circulation recommendations found in the City of Hesperia’s General Plan. The Project will also provide an additional 12-feet of pavement width to accommodate one westbound lane from the eastern Project boundary to US Highway 395 to facilitate site access.

**Recommendation 6.1 – Yucca Terrace Drive** – Yucca Terrace Drive is an east-west oriented roadway located along the Project’s southern boundary. Project to construct Yucca Terrace Drive from the western Project boundary to the eastern Project boundary at its ultimate half-section width as an Industrial Collector (ultimate 70-foot right-of-way) in compliance with the circulation recommendations found in the City of Hesperia’s General Plan. The project will provide an additional 12-feet of pavement width to accommodate one eastbound lane from the eastern Project boundary to US Highway 395 in order to facilitate site access.

**Recommendation 7.1 – US Highway 395** – US Highway 395 is a north-south oriented roadway located along the Project’s western boundary Project to construct US Highway 395 from Avenal Street to Yucca Terrace Drive at its ultimate half-section width (ultimate 130-foot right-of-way) in compliance with Caltrans standards and the circulation recommendations found in the City of Hesperia’s General Plan. The additional northbound through lanes may not be striped until such time in the future when US Highway 395 is widened to the north with additional receiving lanes.

The Project Applicant’s responsibility for the Project’s contributions towards off-site deficient intersections is fulfilled through payment of fair share and/or payment into pre-existing fee programs (if applicable) that would be assigned to construction of the identified recommended improvements. The Project Applicant would be required to pay requisite fees and/or fair share contributions consistent with the City’s requirements (see Section 8 *Local and Regional Funding Mechanisms*).

**Recommendation 8.1** – Prior to the issuance of building permits, the Project Applicant shall pay the Project’s fair share amount of \$27,214 for the improvements identified in Table 1-3 at intersections located within the City of Hesperia, or as agreed to by the City and Project Applicant.

**Recommendation 9.1** – The Developer’s fair-share amount for the intersections that either share a mutual border with or are wholly located within the jurisdiction of Caltrans that have recommended improvements which are not covered by a pre-existing fee program is \$129,301. Developer shall be required to pay the amount shown above to the City of Hesperia prior to the issuance of building permits. The City of Hesperia shall hold Developer’s Fair Share contribution

in trust and shall apply Developer's Fair Share Contribution to any fee program adopted or agreed upon with Caltrans.

### **1.1.2 VEHICLE MILES TRAVELED (VMT) ANALYSIS**

Changes to California Environmental Quality Act (CEQA) Guidelines were adopted in December 2018, which requires all lead agencies to adopt VMT as a replacement for automobile delay-based level of service (LOS) as the new measure for identifying transportation impacts for land use projects. This statewide mandate went into effect July 1, 2020. Using the San Bernardino County Transportation Authority (SBCTA) Guidelines as a reference document, the City of Hesperia adopted City Guidelines. (1) These guidelines were used to conduct the VMT analysis.

A VMT screening assessment evaluating transit priority area, low VMT area, and project-type screening criteria indicated the Project did not meet the criteria to screen out. As described in the City Guidelines, "projects not screened through the steps above should complete VMT analysis and forecasting through the San Bernardino Traffic Analysis Model (SBTAM) to determine if they have a significant VMT impact. This analysis should include 'project generated VMT' and 'project effect on VMT' estimates for the project Traffic Analysis Zone (TAZ)." Both the baseline (2016) and cumulative (2040) Project generated VMT per service population values would exceed the City's adopted threshold by 54.9% for baseline (2016) conditions and 56.2% for cumulative (2040) conditions, respectively. The transportation impact based on the assessment of Project generated VMT as compared to the City's adopted threshold is potentially significant.

Furthermore, the project's suburban context limits the effectiveness of potential TDM measures that could reduce project generated VMT due to the lack of pedestrian and bicycle network facilities in the area, limited access to public transit and a lack of land use diversification within walking distance to the Project site. Therefore, any potential reduction in VMT resulting from the aforementioned limited feasible TDM measures would not be enough to reduce project generated VMT to a level of less than significant. The detailed VMT analysis (dated September 4, 2020) has been provided in Appendix 1.2 of this report.

## **1.2 PROJECT OVERVIEW**

It is our understanding that the Project is to consist of 1,046,768 square feet (sf) of High-Cube Cold Storage Warehouse use (515,334 sf for the northern building and 531,434 sf for the southern building). The Project is anticipated to be developed in multiple phases, however, a single phase with an anticipated opening year of 2022 has been assumed for the purposes of this TA. Regional access to the Project site is available via US Highway 395 and from the I-15 Freeway at the Main Street interchange. Access to the Project site will be provided via 2 driveways on Avenal Street and Yucca Terrace Drive. The western driveway (Driveway 1) on Avenal Street will be utilized by both inbound and outbound passenger cars and for outbound trucks only. The western driveway (Driveway 2) on Yucca Terrace Drive will be utilized by both inbound and outbound passenger cars and for inbound trucks only. The eastern driveways on both Avenal Street and Yucca Terrace Drive will be gated and are intended for emergency access only.



Trips generated by the Project's proposed land uses have been estimated based on trip generation rates published by the Institute of Transportation Engineers (ITE) as provided in their Trip Generation Manual, 10<sup>th</sup> Edition, 2017. (4) The Project is estimated to generate a total of 2,220 trip-ends per day on a typical weekday with 115 AM peak hour trips and 125 PM peak hour trips. The assumptions and methods used to estimate the Project's trip generation characteristics are discussed in greater detail in Section 4.1 *Project Trip Generation* of this report.

### **1.3 ANALYSIS SCENARIOS**

For the purposes of this traffic study, potential deficiencies to traffic and circulation have been assessed for each of the following conditions:

- Existing (2020)
- Existing Plus Project (E+P)
- Opening Year Cumulative (2022) Without Project
- Opening Year Cumulative (2022) With Project
- Horizon Year (2040) Without Project
- Horizon Year (2040) With Project

#### **1.3.1 EXISTING (2020) CONDITIONS**

Existing (2020) conditions represents the baseline traffic conditions as they existed at the time this report was prepared.

#### **1.3.2 EXISTING PLUS PROJECT CONDITIONS**

The E+P analysis determines circulation system deficiencies that would occur on the existing roadway system in the scenario of the Project being placed upon Existing conditions. The E+P analysis is intended to identify the project-specific traffic deficiencies associated solely with the development of the proposed Project based on a comparison of the E+P traffic conditions to Existing (2020) conditions.

#### **1.3.3 OPENING YEAR CUMULATIVE (2022) CONDITIONS**

The Opening Year Cumulative (2022) conditions analysis determines the potential near-term cumulative circulation system deficiencies. To account for growth in traffic between Existing (2020) traffic conditions and the Project Opening Year Cumulative (2022), a growth rate of 4.04 percent was assumed (2.0 percent per year, compounded annually over 2 years).

#### **1.3.4 HORIZON YEAR (2040) CONDITIONS**

Traffic projections for Horizon Year (2040) with Project conditions were derived from the San Bernardino Transportation Analysis Model (SBTAM). The Horizon Year (2040) conditions analysis will be utilized to determine if improvements funded through regional transportation mitigation fee programs, such as the City's Development Impact Fee (DIF) program or other approved funding mechanisms, can accommodate the long-range cumulative traffic at the target level of service (LOS) identified by the City of Hesperia (lead agency). If the planned and funded

improvements can provide the target LOS, then the Project’s payment into established fee programs will be considered as cumulative improvements. Other improvements needed beyond the “funded” improvements (such as localized improvements to non-DIF facilities) are identified as such.

**1.4 STUDY AREA**

**1.4.1 INTERSECTIONS**

The following 10 study area intersections listed in Table 1-1 and shown on Exhibit 1-2 were selected for this TA based on where the Project is anticipated to contribute 50 or more peak hour trips, or if the intersection provides access to the proposed Project.

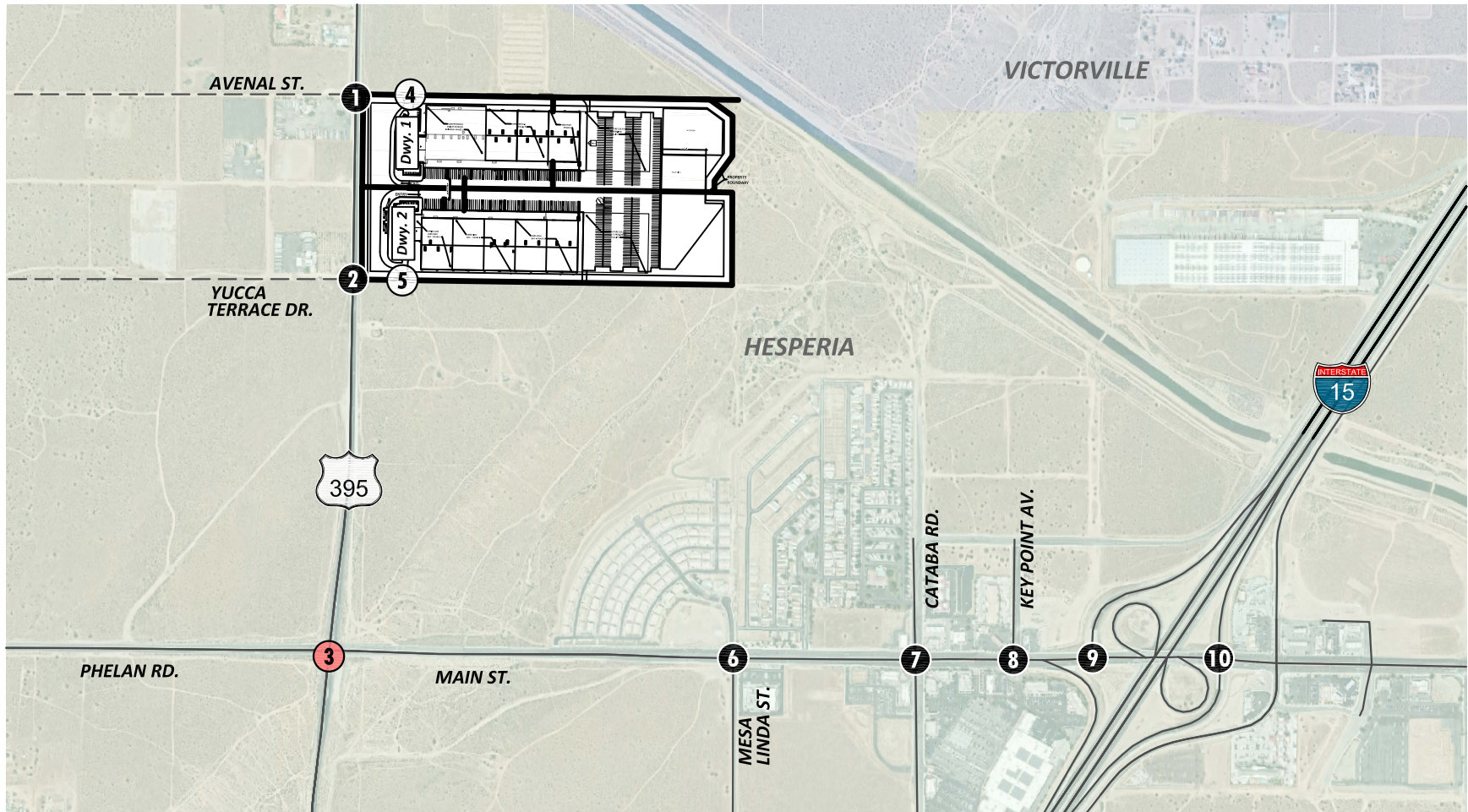
**TABLE 1-1: INTERSECTION ANALYSIS LOCATIONS**

ID	Intersection Location	Jurisdiction	CMP?
1	US Highway 395 & Avenal St. – Future Intersection	City of Hesperia, Caltrans	No
2	US Highway 395 & Yucca Terrace Dr.	City of Hesperia, Caltrans	No
3	US Highway 395 & Phelan Rd./Main St.	City of Hesperia, Caltrans	Yes
4	Driveway 1 & Avenal St. – Future Intersection	City of Hesperia	No
5	Driveway 2 & Yucca Terrace Dr. – Future Intersection	City of Hesperia	No
6	Mesa Linda St. & Main St.	City of Hesperia	No
7	Catawba Rd. & Main St.	City of Hesperia	No
8	Key Point Av. & Main St.	City of Hesperia	No
9	I-15 SB Ramps & Main St.	City of Hesperia, Caltrans	No
10	I-15 NB Ramps & Main St.	City of Hesperia, Caltrans	No




The “50 peak hour trip” criterion utilized by the City of Hesperia is consistent with the methodology employed by the County of San Bernardino, and generally represents a minimum number of trips at which a typical intersection would have the potential to be affected by a given development proposal. Although each intersection may have unique operating characteristics, this traffic engineering rule of thumb is a widely-utilized tool for estimating a study area.

The intent of a CMP is to more directly link land use, transportation, and air quality, thereby prompting reasonable growth management programs that will effectively utilize new transportation funds, alleviate traffic congestion and related deficiencies, and improve air quality. Counties within California have developed CMPs with varying methods and strategies to meet the intent of the CMP legislation. The intersection of US Highway 395 & Phelan Road/Main Street is identified as a San Bernardino County Transportation Authority (SBCTA) CMP intersection.

EXHIBIT 1-2: LOCATION MAP



**LEGEND:**

-  = EXISTING INTERSECTION ANALYSIS LOCATION
-  = FUTURE INTERSECTION ANALYSIS LOCATION
-  = CMP INTERSECTION
- = DIRT ROAD



**1.4.2 FREEWAY MAINLINE AND RAMP JUNCTION ANALYSIS**

Study area freeway mainline analysis locations were selected based on Caltrans traffic study guidelines, which may require the analysis of State highway facilities. (3) Consistent with recent Caltrans guidance, and because deficiencies to freeway segments tend to dissipate with distance from the point of State Highway System (SHS) entry, quantitative study of freeway segments beyond those immediately adjacent to the point of entry typically is not required. This study evaluates the following freeway facilities adjacent to the point of entry to the SHS at the I-15 Freeway and Main Street (see Table 1-2):

**TABLE 1-2: FREEWAY FACILITY ANALYSIS LOCATIONS**

ID	Freeway Facilities
1	I-15 Freeway Southbound, North of Main St. (mainline segment)
2	I-15 Freeway Southbound, Off-Ramp at Main St. (diverge ramp junction)
3	I-15 Freeway Southbound, Loop On-Ramp at Main St. (merge ramp junction)
4	I-15 Freeway Southbound, On-Ramp at Main St. (merge ramp junction)
5	I-15 Freeway Southbound, South of Main St. (mainline segment)
6	I-15 Freeway Northbound, North of Main St. (mainline segment)
7	I-15 Freeway Northbound, On-Ramp at Main St. (merge ramp junction)
8	I-15 Freeway Northbound, Loop On-Ramp at Main St. (merge ramp junction)
9	I-15 Freeway Northbound, Off-Ramp at Main St. (diverge ramp junction)
10	I-15 Freeway Northbound, South of Main St. (mainline segment)

**1.5 SENATE BILL 743 – VEHICLE MILES TRAVELED (VMT)**

Senate Bill 743 (SB 743), approved in 2013, endeavors to change the way transportation impacts will be determined according to the CEQA. The Office of Planning and Research (OPR) has recommended the use of VMT as the replacement for automobile delay-based LOS. In December 2018, the Natural Resources Agency finalized updates to CEQA Guidelines to incorporate SB 743 (i.e., VMT). While a lead agency has the option to immediately apply the new VMT based analysis methodology and thresholds for the purposes of evaluating transportation impacts, statewide application of the new guidelines was required by July 1, 2020. VMT analysis for the proposed Project has been prepared under separate cover.

It is our understanding that the City of Hesperia has not currently adopted VMT thresholds. In July 2019, the County of San Bernardino adopted new Traffic Impact Study Guidelines which includes a set of procedures and thresholds for conducting VMT analyses in the County. The County has concluded that County projects will be required to complete a level of service (LOS) based traffic study, in conjunction with a VMT assessment, in order to demonstrate consistency with the General Plan. For purposes of SB 743 compliance, VMT analysis should be conducted for land use projects as deemed necessary by the lead agency and would apply to projects that have the potential to increase the average VMT per person or employee. The County recommends VMT be estimated by multiplying average trip length by the trip generation for the

project and that average trip length information be obtained for each trip purpose from the SBTAM traffic model. Using SBTAM to determine both trip generation and trip lengths allows the user to use an identical methodology when comparing project VMT per person/employee to the regional VMT per person/employee. The San Bernardino County Transportation Authority (SBCTA) is also currently conducting a multi-jurisdictional study to develop a set of procedures and provide local jurisdictions with sufficient information to adopt VMT baselines and thresholds of significance at or around the July 2020 required implementation date.

Caltrans also acknowledges automobile delay will no longer be considered a CEQA impact for development projects and will use VMT for projects on the SHS. As such, the LOS operations included in this TA for intersections and freeway facilities are informational and are not anticipated to support the environmental document.

The Project's VMT analysis is included in Appendix 1.2 of this traffic study.

## 1.6 DEFICIENCIES

This section provides a summary of Project deficiencies. Section 2 *Methodologies* provides information on the methodologies used in the analysis and Section 5 *E+P Traffic Conditions*, Section 6 *Opening Year Cumulative (2022) Traffic Conditions*, and Section 7 *Horizon Year (2040) Traffic Conditions* includes the detailed analysis. A summary of LOS results for all analysis scenarios is presented on Exhibit 1-3.

### 1.6.1 E+P CONDITIONS

#### *Intersections*

**US Highway 395 & Yucca Terrace Drive (#2)** – This intersection was found to operate at an unacceptable LOS (LOS E or worse) during the PM peak hour under Existing traffic conditions and is anticipated to continue to operate at an unacceptable LOS during one or more peak hours with the addition of Project traffic. However, the installation of a traffic signal at this location by the Project is anticipated to result in acceptable peak hour operations.

**US Highway 395 & Phelan Road/Main Street (#3)** – This intersection was found to operate at an acceptable LOS (LOS D or better) during the peak hours under Existing traffic conditions. However, the intersection is anticipated to operate at an unacceptable LOS (LOS E or worse) during the peak hours with the addition of Project traffic for E+P traffic conditions.

#### *Queuing*

The following turning movement is anticipated to experience periodic queuing issues during the peak hours based on the 95<sup>th</sup> percentile peak hour traffic flows under E+P traffic conditions:

- US Highway 395 & Phelan Road/Main Street (#3) Southbound Left – AM and PM peak hours

Consistent with Existing (2020) traffic conditions, there are no off-ramp movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95<sup>th</sup> percentile traffic flows.

**EXHIBIT 1-3: SUMMARY OF DEFICIENT INTERSECTIONS BY ANALYSIS SCENARIO**

#	Intersection	Existing (2020)	E+P	Opening Year Cumulative (2022) Without Project	Opening Year Cumulative (2022) With Project	Horizon Year (2040) Without Project	Horizon Year (2040) With Project
1	US Highway 395 & Avenal St.	NA		NA		NA	
2	US Highway 395 & Yucca Terrace Dr.						
3	US Highway 395 & Phelan Rd. / Main St.						
4	Dwy. 1 & Avenal St.	NA		NA		NA	
5	Dwy. 2 & Yucca Terrace Dr.	NA		NA		NA	
6	Mesa Linda St. & Main St.						
7	Cataba Rd. & Main St.						
8	Key Point Av. & Main St.						
9	I-15 SB Ramps & Main St.						
10	I-15 NB Ramps & Main St.						

**LEGEND:**

- AM PEAK HOUR
- PM PEAK HOUR
- LOS A-D
- LOS D-E
- LOS F
- NA = NOT AN ANALYSIS LOCATION FOR THIS SCENARIO

### *Freeway Facilities*

Consistent with Existing (2020) traffic conditions, the following study area freeway segments and merge/diverge ramp junctions analyzed for this study are anticipated to operate at an unacceptable LOS (i.e., LOS E or worse) during the peak hours for E+P traffic conditions:

- I-15 Freeway Northbound, Off-Ramp at Main Street (#9) – LOS E PM peak hour only
- I-15 Freeway Northbound, South of Main Street (#10) – LOS E PM peak hour only

### **1.6.2 OPENING YEAR CUMULATIVE (2022) CONDITIONS**

#### *Intersections*

The following intersections are anticipated to operate at an unacceptable LOS during the peak hours for Opening Year Cumulative (2022) Without Project traffic conditions:

- US Highway 395 & Yucca Terrace Drive (#2) – LOS F AM and PM peak hours
- US Highway 395 & Phelan Road/Main Street (#3) – LOS F AM and PM peak hours

The Project will install a traffic signal at the intersections of Avenal Street and Yucca Terrace Drive on US Highway 395. However, these intersections are anticipated to operate at unacceptable LOS for Opening Year Cumulative (2022) With Project traffic conditions with only the installation of a traffic signal.

#### *Queuing*

The following intersection turning movements are anticipated to experience periodic queuing issues during the peak hours based on the 95<sup>th</sup> percentile peak hour traffic flows for Opening Year Cumulative (2022) Without and With Project traffic conditions:

- US Highway 395 & Phelan Road/Main Street (#3) Northbound Left – AM and PM peak hours
- US Highway 395 & Phelan Road/Main Street (#3) Southbound Left – AM and PM peak hours

Consistent with Existing (2020) traffic conditions, there are no off-ramp movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95<sup>th</sup> percentile traffic flows under Opening Year Cumulative (2022) Without Project and With Project traffic conditions.

### *Freeway Facilities*

The following study area freeway segments and merge/diverge ramp junctions analyzed for this study are anticipated to operate at an unacceptable LOS (i.e., LOS E or worse) during the peak hours for Opening Year Cumulative (2022) Without and With Project traffic conditions:

- I-15 Freeway Northbound, North of Main Street (#6) – LOS E PM peak hour only
- I-15 Freeway Northbound, On-Ramp at Main Street (#7) – LOS E PM peak hour only
- I-15 Freeway Northbound, Off-Ramp at Main Street (#9) – LOS E PM peak hour only
- I-15 Freeway Northbound, South of Main Street (#10) – LOS E PM peak hour only

### 1.6.3 HORIZON YEAR (2040) CONDITIONS

#### *Intersections*

The following intersections are anticipated to operate at an unacceptable LOS during the peak hours for Horizon Year (2040) Without Project traffic conditions:

- US Highway 395 & Yucca Terrace Drive (#2) – LOS F AM and PM peak hours
- US Highway 395 & Phelan Road/Main Street (#3) – LOS F AM and PM peak hours

The Project will install a traffic signal at the intersections of Avenal Street and Yucca Terrace Drive on US Highway 395. However, the following intersections are anticipated to operate at unacceptable LOS for Horizon Year (2040) With Project traffic conditions with only the installation of a traffic signal:

- US Highway 395 & Avenal Street (#1) – LOS F AM and PM peak hours
- US Highway 395 & Yucca Terrace Drive (#2) – LOS F AM and PM peak hours

#### *Queuing*

The following intersection turning movements are anticipated to experience periodic queuing issues during the peak hours based on the 95<sup>th</sup> percentile peak hour traffic flows for Horizon Year (2040) Without Project traffic conditions:

- US Highway 395 & Phelan Road/Main Street (#3) Northbound Left – PM peak hour only
- US Highway 395 & Phelan Road/Main Street (#3) Southbound Left – AM and PM peak hours

With the addition of Project traffic, there are no additional intersection turning movements that are anticipated to experience queuing issues during the peak hours based on the 95<sup>th</sup> percentile peak hour traffic flows for Horizon Year (2040) With Project traffic conditions, in addition to the movements identified under Horizon Year (2040) Without Project traffic conditions.

Consistent with Existing (2020) traffic conditions, there are no off-ramp movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95<sup>th</sup> percentile traffic flows under Horizon Year (2040) Without Project and With Project traffic conditions.

#### *Freeway Facilities*

The following study area freeway segments and merge/diverge ramp junctions analyzed for this study are anticipated to operate at an unacceptable LOS (i.e., LOS E or worse) during the peak hours for Horizon Year (2040) Without and With Project traffic conditions:

- I-15 Freeway Southbound, North of Main Street (#1) – LOS E AM and PM peak hours
- I-15 Freeway Southbound, Off-Ramp at Main Street (#2) – LOS E AM and PM peak hours
- I-15 Freeway Southbound, Off-Ramp at Main Street (#4) – LOS E AM peak hour only
- I-15 Freeway Southbound, South of Main Street (#5) – LOS E AM peak hour only
- I-15 Freeway Northbound, North of Main Street (#6) – LOS F PM peak hour only



- I-15 Freeway Northbound, On-Ramp at Main Street (#7) – LOS F PM peak hour only
- I-15 Freeway Northbound, Loop On-Ramp at Main Street (#8) – LOS F PM peak hour only
- I-15 Freeway Northbound, Off-Ramp at Main Street (#9) – LOS F PM peak hour only
- I-15 Freeway Northbound, South of Main Street (#10) – LOS F PM peak hour only

## 1.7 RECOMMENDATIONS

The following recommendations are based on the improvements needed to accommodate site access. Exhibit 1-4 shows the site adjacent recommendations.

**Recommendation 1.1 – US Highway 395 & Avenal Street (#1)** – The following improvements are necessary to accommodate site access:

- Project to install a traffic signal.
- Project to construct a southbound left turn lane with a minimum of 100-feet of storage.
- Project to construct a westbound shared left-right turn lane.

**Recommendation 2.1 – US Highway 395 & Yucca Terrace Drive (#2)** – The following improvements are necessary to accommodate site access:

- Project to install a traffic signal.
- Project to construct a southbound left turn lane with a minimum of 100-feet of storage.
- Project to construct a westbound left turn lane with a minimum of 100-feet of storage and shared through-right turn lane.
- A northbound left turn lane, eastbound left turn lane, and eastbound shared through-right turn lane are to be provided by a future development to the west for its site access.

**Recommendation 3.1 – Driveway 1 & Avenal Street (#4)** – The following improvements are necessary to accommodate site access:

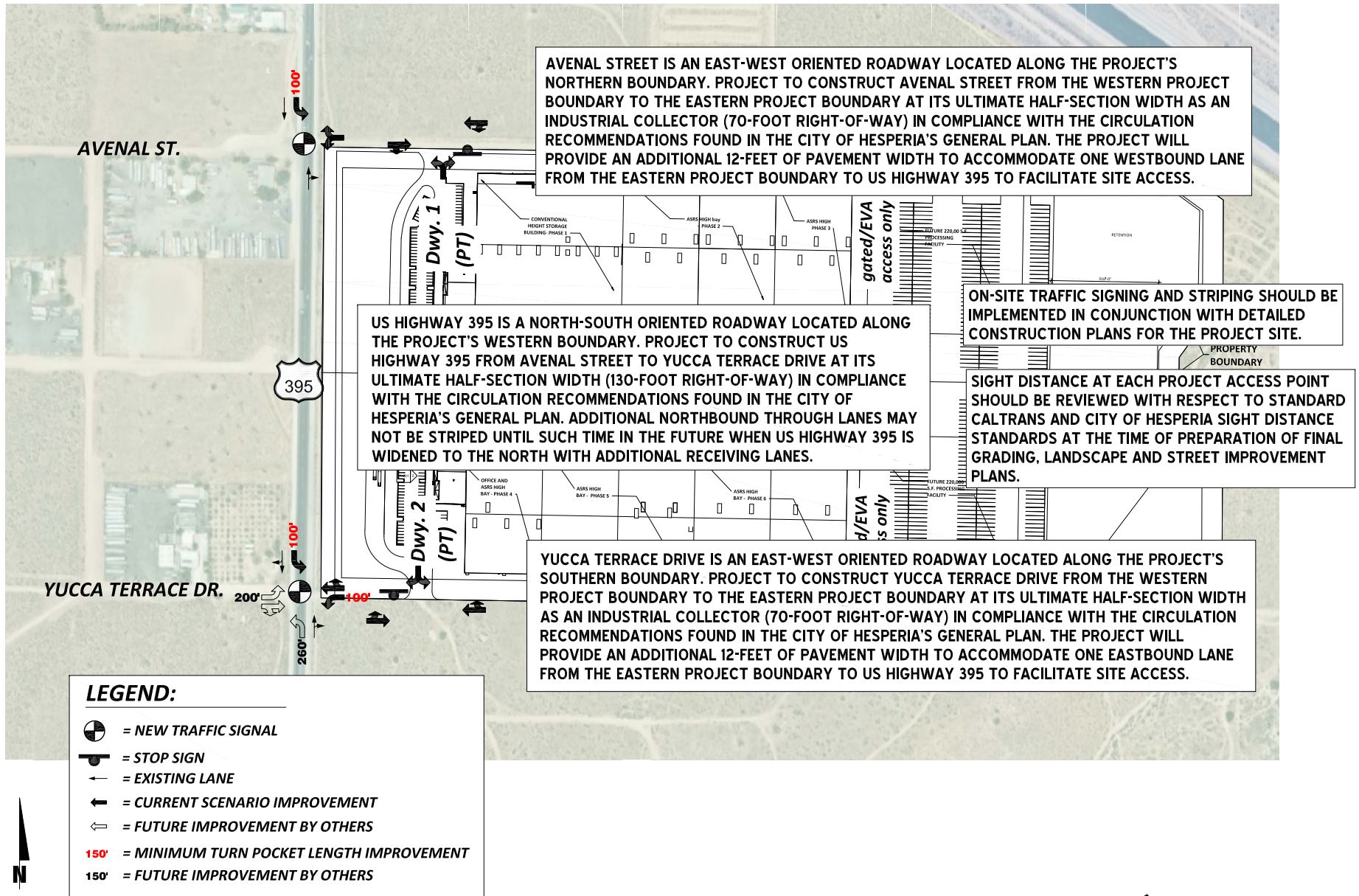
- Project to install a stop control on the northbound approach and a shared left-right turn lane.
- Project to construct an eastbound shared through-right turn lane.
- Project to construct a westbound shared left-through lane.

**Recommendation 4.1 – Driveway 2 & Yucca Terrace Drive (#5)** – The following improvements are necessary to accommodate site access:

- Project to install a stop control on the southbound approach and a shared left-right turn lane.
- Project to construct an eastbound shared left-through lane.
- Project to construct a westbound shared through-right turn lane.

A peak hour queuing analysis of the proposed Project driveways is included in Appendix 1.3. The queuing analysis has been used to recommend the turn pocket storage lengths needed to accommodate the 95<sup>th</sup> percentile peak hour queues.

**EXHIBIT 1-4: SITE ADJACENT ROADWAY AND SITE ACCESS RECOMMENDATIONS**



**Recommendation 5.1 – Avenal Street** – Avenal Street is an east-west oriented roadway located along the Project’s northern boundary. Project to construct Avenal Street from US Highway 395 to the Project’s eastern boundary at its ultimate half-section width as an Industrial Collector (ultimate 70-foot right-of-way) in compliance with the circulation recommendations found in the City of Hesperia’s General Plan. The Project will also provide an additional 12-feet of pavement width to accommodate one westbound lane from the eastern Project boundary to US Highway 395 to facilitate site access.

**Recommendation 6.1 – Yucca Terrace Drive** – Yucca Terrace Drive is an east-west oriented roadway located along the Project’s southern boundary. Project to construct Yucca Terrace Drive from the western Project boundary to the eastern Project boundary at its ultimate half-section width as an Industrial Collector (ultimate 70-foot right-of-way) in compliance with the circulation recommendations found in the City of Hesperia’s General Plan. The project will provide an additional 12-feet of pavement width to accommodate one eastbound lane from the eastern Project boundary to US Highway 395 in order to facilitate site access.

**Recommendation 7.1 – US Highway 395** – US Highway 395 is a north-south oriented roadway located along the Project’s western boundary Project to construct US Highway 395 from Avenal Street to Yucca Terrace Drive at its ultimate half-section width (ultimate 130-foot right-of-way) in compliance with Caltrans standards and the circulation recommendations found in the City of Hesperia’s General Plan. The additional northbound through lanes may not be striped until such time in the future when US Highway 395 is widened to the north with additional receiving lanes.

On-site traffic signing and striping should be implemented in conjunction with detailed construction plans for the Project site.

Sight distance at each project access point should be reviewed with respect to standard City of Hesperia sight distance standards at the time of preparation of final grading, landscape and street improvement plans.

The recommended improvements needed to address the cumulative deficiencies identified under E+P, Opening Year Cumulative (2022), and Horizon Year (2040) traffic conditions are shown in Table 1-3. For those improvements listed in Table 1-3 and not constructed as part of the Project, the Applicant's responsibility for the Project's contributions towards deficient intersections is fulfilled through payment of fair share that would be assigned to construction of the identified recommended improvements. Preliminary cost estimates and fee assessments for these improvements are summarized in Table 1-3. The Project Applicant would be required to pay fair share fees consistent with the City's requirements (see Section 8 *Local and Regional Funding Mechanisms*).

**Recommendation 8.1** – Prior to the issuance of building permits, the Project Applicant shall pay the Project's fair share amount of \$27,214 for the improvements identified in Table 1-3 at intersections located within the City of Hesperia, or as agreed to by the City and Project Applicant.

**Recommendation 9.1** – The Developer's fair-share amount for the intersections that either share a mutual border with or are wholly located within the jurisdiction of Caltrans that have recommended improvements which are not covered by a pre-existing fee program is \$129,301. Developer shall be required to pay the amount shown above to the City of Hesperia prior to the issuance of building permits. The City of Hesperia shall hold Developer's Fair Share contribution in trust and shall apply Developer's Fair Share Contribution to any fee program adopted or agreed upon with Caltrans.

## 1.8 TRUCK ACCESS

Due to the typical wide turning radius of large trucks, a truck turning template has been overlaid on the site plan at each applicable Project driveway and site adjacent intersection anticipated to be utilized by heavy trucks in order to determine appropriate curb radii and to verify that trucks will have sufficient space to execute turning maneuvers (see Exhibit 1-5). A WB-67 truck (53-foot trailer) has been utilized for the purposes of this analysis. As shown on Exhibit 1-5, the Project driveways are anticipated to accommodate the wide turning radius of trucks as currently designed. However, the southeast corner of the intersection of US Highway 395 and Yucca Terrace Drive should accommodate a 40-foot curb radius in order to accommodate the northbound right turn truck movement.

Table 1-3

Summary of Improvements by Analysis Scenario

#	Intersection Location	Jurisdiction	Existing (2020)	E+P	2022 Without Project	2022 With Project	Horizon Year (2040) Without Project	Horizon Year (2040) With Project	Improvements in Fee Program <sup>1</sup>	Project Responsibility <sup>2</sup>	Total Cost <sup>3</sup>	Fair Share % <sup>4</sup>	Fair Share Cost <sup>5</sup>	
1	US Highway 395 & Avenal St.	Hesperia, Caltrans	None	Install a Traffic Signal	Not Applicable	Same Add 2nd NB through lane Add 2nd SB through lane	Not Applicable	Same Same Same Add 3rd NB through lane Add 3rd SB through lane	No No No No No	Construct <sup>9</sup> Fair Share Fair Share Fair Share Fair Share	\$0 \$282,240 \$282,240 \$282,240 \$282,240	4.15%	\$0 \$11,699 \$11,699 \$11,699 \$11,699	
										<b>Total</b>	<b>\$1,128,960</b>		<b>\$46,796</b>	
2	US Highway 395 & Yucca Terrace Dr.	Hesperia, Caltrans	Add 2nd NB through lane Add 2nd SB through lane Add NB left turn lane Add SB left turn lane	Same Same Same Same Install a Traffic Signal Add WB left turn lane Add WB shared through-right turn lane	Same Same Same Same Same Same Same Add EB left turn lane Add EB shared through-right turn lane	Same Same Same Same Same Same Same Same Same	Same Same Same Same Same Same Same Same Add 3rd NB through lane Add 3rd SB through lane	Same Same Same Same Same Same Same Same Same Same	No No No No No No No No No No	Fair Share Fair Share Other <sup>8</sup> Construct <sup>9</sup> Construct <sup>9</sup> Construct <sup>9</sup> Construct <sup>9</sup> Other <sup>8</sup> Other <sup>8</sup> Fair Share Fair Share	\$282,240 \$282,240 \$0 \$0 \$0 \$0 \$0 \$0 \$282,240 \$282,240	5.24%	\$14,776 \$14,776 \$0 \$0 \$0 \$0 \$0 \$0 \$14,776 \$14,776	
										<b>Total</b>	<b>\$1,128,960</b>		<b>\$59,106</b>	
3	US Highway 395 & Phelan Rd./Main St.	Hesperia, Caltrans	None	Add 2nd NB left turn lane Add 2nd SB left turn lane	Same Same Add 3rd EB through lane Add 3rd WB through lane Add WB right turn lane Modify the traffic signal to implement overlap phasing for the WB right turn lane	Same Same Same Same Same Same	Same Same Same Same Same Same Add 3rd NB through lane Add NB right turn lane Add 3rd SB through lane Add SB right turn lane Add EB right turn lane	Same Same Same Same Same Same Same Same Same Same Same	No No No No No No No No No No No	Construct Construct Fair Share Fair Share Fair Share Fair Share Fair Share Fair Share Fair Share Fair Share Fair Share	\$0 \$0 \$282,240 \$282,240 \$78,400 \$117,600 \$282,240 \$78,400 \$282,240 \$78,400 \$78,400	3.24%	\$0 \$0 \$9,156 \$9,156 \$2,543 \$3,815 \$9,156 \$2,543 \$9,156 \$2,543 \$2,543	
										<b>Total</b>	<b>\$1,560,160</b>		<b>\$50,613</b>	
<b>Total Costs for Horizon Year (2040) Improvements</b>											<b>\$3,818,080</b>		<b>\$156,515</b>	
<b>Total Project Fair Share Contribution to the City of Hesperia (non-DIF)<sup>6</sup></b>												<b>\$27,214</b>		
<b>Total Project Fair Share Contribution to Caltrans<sup>7</sup></b>												<b>\$129,301</b>		

<sup>1</sup> Improvements included in City of Hesperia Development Impact Fee (DIF) or the San Bernardino County Transportation Authority (SBCTA) Congestion Management Program (CMP) fee programs.

<sup>2</sup> Identifies the Project's responsibility to construct an improvement, contribute fair share, or contribute a fee payment towards the implementation of the improvements shown.

<sup>3</sup> Costs have been estimated using the data provided in Appendix "G" of the CMP (2016 Update) for preliminary construction costs. A factor of 1.568 has been applied to adjust and reflect 2020 costs.

<sup>4</sup> Program improvements constructed by project may be eligible for fee credit, at discretion of the City. See Table 8-1 for Fair Share Calculations.

<sup>5</sup> Rough order of magnitude cost estimate.

<sup>6</sup> Total project fair share contribution consists of the improvements which are not already included in a fee program for those intersections wholly or partially within the City of Hesperia.

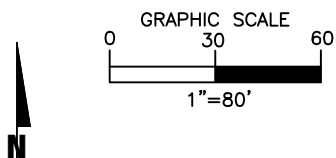
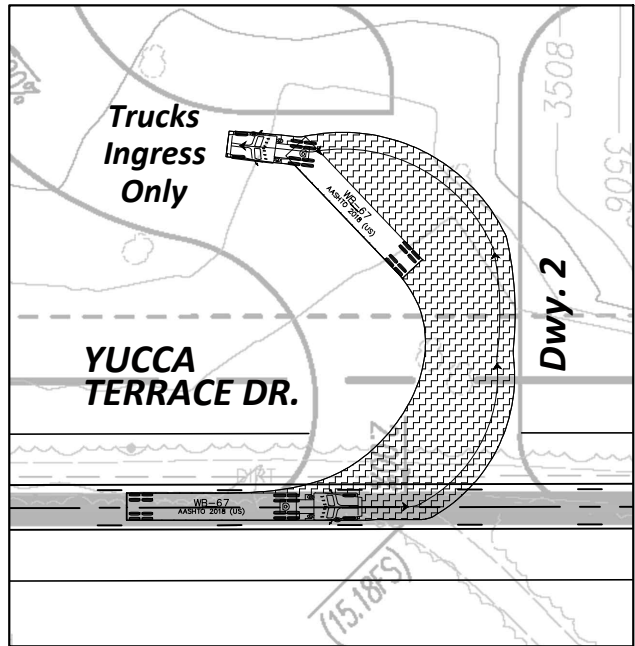
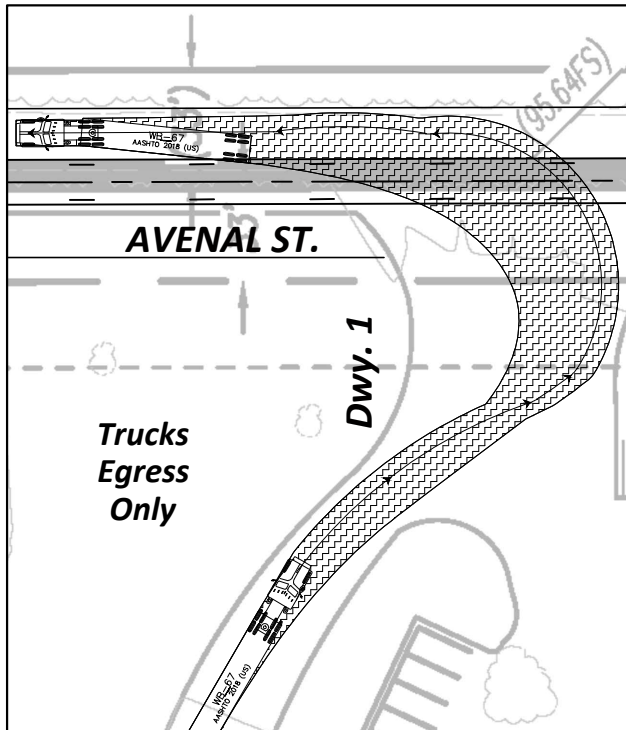
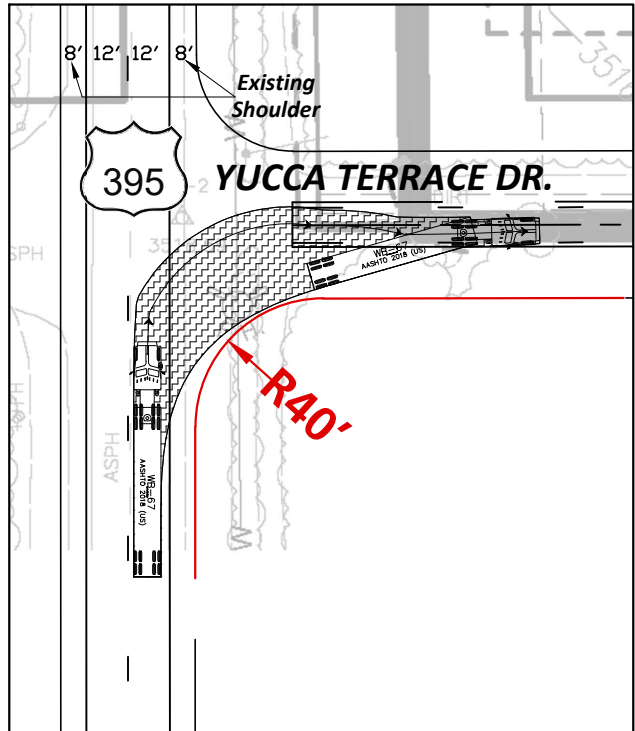
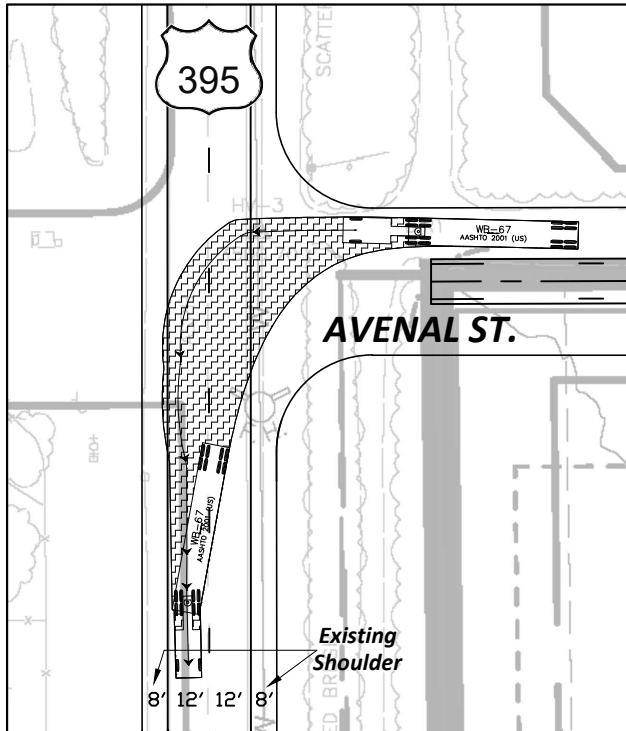
<sup>7</sup> Total project fair share contribution consists of the improvements which are not already included in a fee program for those intersections wholly or partially within Caltrans' jurisdiction.

<sup>8</sup> Improvement to be constructed by others as needed to facilitate site access.

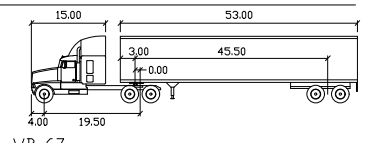
<sup>9</sup> Project will construct the improvement in order to facilitate site access or as a design feature.

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EXHIBIT 1-5: TRUCK ACCESS



LEGEND:



WB-67		feet	
Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 28.4
Tractor Track	: 8.00	Articulating Angle	: 75.0
Trailer Track	: 8.50		

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## 2 METHODOLOGIES

This section of the report presents the methodologies used to perform the traffic analyses summarized in this report. The methodologies described are generally consistent with the SBCTA CMP and Caltrans traffic study guidelines. (2) (3)

### 2.1 LEVEL OF SERVICE

Traffic operations of roadway facilities are described using the term "Level of Service" (LOS). LOS is a qualitative description of traffic flow based on several factors such as speed, travel time, delay, and freedom to maneuver. Six levels are typically defined ranging from LOS A, representing completely free-flow conditions, to LOS F, representing breakdown in flow resulting in stop-and-go conditions. LOS E represents operations at or near capacity, an unstable level where vehicles are operating with the minimum spacing for maintaining uniform flow.

### 2.2 INTERSECTION CAPACITY ANALYSIS

The definitions of LOS for interrupted traffic flow (flow restrained by the existence of traffic signals and other traffic control devices) differ slightly depending on the type of traffic control. The LOS is typically dependent on the quality of traffic flow at the intersections along a roadway. The Transportation Research Board’s Highway Capacity Manual (HCM) 6<sup>th</sup> Edition methodology expresses the LOS at an intersection in terms of delay time for the various intersection approaches. (5) The HCM uses different procedures depending on the type of intersection control.

#### 2.2.1 SIGNALIZED INTERSECTIONS

The City of Hesperia, County of San Bernardino, and Caltrans require signalized intersection operations analysis based on the methodology described in the HCM 6<sup>th</sup> Edition. Intersection LOS operations are based on an intersection’s average control delay. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. For signalized intersections, LOS is directly related to the average control delay per vehicle and is correlated to a LOS designation as described in Table 2-1. Study area intersections have been evaluated using the Synchro (Version 10) analysis software package.

**TABLE 2-1: SIGNALIZED INTERSECTION LOS THRESHOLDS**

Description	Average Control Delay (Seconds), V/C ≤ 1.0	Level of Service, V/C ≤ 1.0	Level of Service, V/C > 1.0
Operations with very low delay occurring with favorable progression and/or short cycle length.	0 to 10.00	A	F
Operations with low delay occurring with good progression and/or short cycle lengths.	10.01 to 20.00	B	F

Description	Average Control Delay (Seconds), V/C ≤ 1.0	Level of Service, V/C ≤ 1.0	Level of Service, V/C > 1.0
Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	20.01 to 35.00	C	F
Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	35.01 to 55.00	D	F
Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	55.01 to 80.00	E	F
Operation with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths.	80.01 and up	F	F

Source: HCM, 6<sup>th</sup> Edition

Consistent with Appendix B of the SBCTA CMP, the following saturation flow rates, in vehicles per hour green per lane (vphgpl), will be utilized in the traffic analysis for signalized intersections:

*Existing and Opening Year Cumulative (2022) Traffic Conditions:*

- Exclusive through: 1800 vphgpl
- Exclusive left: 1700 vphgpl
- Exclusive right: 1800 vphgpl
- Exclusive dual left: 1600 vphgpl
- Exclusive triple left: 1500 vphgpl

*Horizon Year (2040) Traffic Conditions:*

- Exclusive through: 1900 vphgpl
- Exclusive left: 1800 vphgpl
- Exclusive right: 1900 vphgpl
- Exclusive dual left: 1700 vphgpl
- Exclusive triple left: 1600 vphgpl

Synchro is a macroscopic traffic software program that is based on the signalized intersection capacity analysis as specified in the HCM. Macroscopic level models represent traffic in terms of aggregate measures for each movement at the study intersections. Equations are used to determine measures of effectiveness such as delay and queue length. The level of service and capacity analysis performed by Synchro takes into consideration optimization and coordination of signalized intersections within a network.

The peak hour traffic volumes have been adjusted using a peak hour factor (PHF) to reflect peak 15-minute volumes. Common practice for LOS analysis is to use a peak 15-minute rate of flow. However, flow rates are typically expressed in vehicles per hour. The PHF is the relationship between the peak 15-minute flow rate and the full hourly volume (e.g.  $PHF = [Hourly Volume] / [4 \times Peak\ 15\text{-minute\ Flow\ Rate}]$ ). The use of a 15-minute PHF produces a more detailed analysis as compared to analyzing vehicles per hour. Existing PHFs have been used for all analysis scenarios with the exception of Horizon Year (2040) traffic conditions where a minimum PHF of 0.92 has been utilized. Per the HCM, PHF values over 0.95 often are indicative of high traffic volumes with capacity constraints on peak hour flows while lower PHF values are indicative of greater variability of flow during the peak hour. (5)

**2.2.2 UNSIGNALIZED INTERSECTIONS**

The City of Hesperia, County of San Bernardino, and Caltrans require the operations of unsignalized intersections be evaluated using the methodology described the HCM 6<sup>th</sup> Edition. (5) The LOS rating is based on the weighted average control delay expressed in seconds per vehicle (see Table 2-2).

**TABLE 2-2: UNSIGNALIZED INTERSECTION LOS THRESHOLDS**

Description	Average Control Delay Per Vehicle (Seconds)	Level of Service, V/C ≤ 1.0	Level of Service, V/C > 1.0
Little or no delays.	0 to 10.00	A	F
Short traffic delays.	10.01 to 15.00	B	F
Average traffic delays.	15.01 to 25.00	C	F
Long traffic delays.	25.01 to 35.00	D	F
Very long traffic delays.	35.01 to 50.00	E	F
Extreme traffic delays with intersection capacity exceeded.	> 50.00	F	F

Source: HCM, 6<sup>th</sup> Edition

At two-way or side-street stop-controlled intersections, LOS is calculated for each controlled movement and for the left turn movement from the major street, as well as for the intersection as a whole. For approaches composed of a single lane, the delay is computed as the average of all movements in that lane. For all-way stop controlled intersections, LOS is computed for the intersection as a whole.

**2.3 TRAFFIC SIGNAL WARRANT ANALYSIS METHODOLOGY**

The term "signal warrants" refers to the list of established criteria used by Caltrans and other public agencies to quantitatively justify or ascertain the potential need for installation of a traffic signal at an otherwise unsignalized intersection. This TA uses the signal warrant criteria presented in the latest edition of the Caltrans California Manual on Uniform Traffic Control Devices (CA MUTCD) for all unsignalized study area intersections. (6)

The signal warrant criteria for Existing study area intersections are based upon several factors, including volume of vehicular and pedestrian traffic, frequency of accidents, and location of school areas. The CA MUTCD indicate that the installation of a traffic signal should be considered

if one or more of the signal warrants are met. (6) Specifically, this TA utilizes the Peak Hour Volume-based Warrant 3 as the appropriate representative traffic signal warrant analysis for existing traffic conditions. Warrant 3 is appropriate to use for this TA because it provides specialized warrant criteria for intersections with rural characteristics (e.g. located in communities with populations of less than 10,000 persons or with adjacent major streets operating above 40 miles per hour). For the purposes of this study, the speed limit was the basis for determining whether Urban or Rural warrants were used for a given intersection.

Future unsignalized intersections, that currently do not exist, have been assessed regarding the potential need for new traffic signals based on future average daily traffic (ADT) volumes, using the Caltrans planning level ADT-based signal warrant analysis worksheets.

As shown in Table 2-3, traffic signal warrant analyses were performed for the following unsignalized study area intersections during the peak weekday conditions wherein the Project is anticipated to contribute the highest trips:

**TABLE 2-3: TRAFFIC SIGNAL WARRANT ANALYSIS LOCATIONS**

ID	Intersection Location	Jurisdiction
1	US Highway 395 & Avenal St.	City of Hesperia, Caltrans
2	US Highway 395 & Yucca Terrace Dr.	City of Hesperia, Caltrans
4	Driveway 1 & Avenal St. – Future Intersection	City of Hesperia
5	Driveway 2 & Yucca Terrace Dr. – Future Intersection	City of Hesperia

The Existing conditions traffic signal warrant analysis is presented in the subsequent section, Section 3 *Area Conditions* of this report. The traffic signal warrant analyses for future conditions are presented in Section 5 *E+P Traffic Analysis*, Section 6 *Opening Year Cumulative (2022) Traffic Analysis*, and Section 7 *Horizon Year (2040) Traffic Analysis* of this report.

It is important to note that a signal warrant defines the minimum condition under which the installation of a traffic signal might be warranted. Meeting this threshold condition does not require that a traffic control signal be installed at a particular location, but rather, that other traffic factors and conditions be evaluated in order to determine whether the signal is truly justified. It should also be noted that signal warrants do not necessarily correlate with LOS. An intersection may satisfy a signal warrant condition and operate at or above acceptable LOS or operate below acceptable LOS and not meet a signal warrant.

## 2.4 FREEWAY OFF-RAMP QUEUING ANALYSIS

Consistent with Caltrans requirements, the 95<sup>th</sup> percentile queuing of vehicles has been assessed at the off-ramps to determine potential queuing deficiencies at the freeway ramp intersections at the I-15 Freeway and Main Street interchange. Specifically, the queuing analysis is utilized to identify any potential queuing and “spill back” onto the I-15 Freeway mainline from the off-ramps.

The traffic progression analysis tool and HCM intersection analysis program, Synchro, has been used to assess the potential deficiencies/needs of the intersections with traffic added from the proposed Project. Storage (turn-pocket) length recommendations at the ramps have been based upon the 95<sup>th</sup> percentile queue resulting from the Synchro progression analysis. The footnote from the Synchro output sheets indicates if the 95<sup>th</sup> percentile cycle exceeds capacity. Traffic is simulated for two complete cycles of the 95<sup>th</sup> percentile traffic in Synchro in order to account for the effects of spillover between cycles. A vehicle is considered queued whenever it is traveling at less than 10 feet/second. A vehicle will only become queued when it is either at the stop bar or behind another queued vehicle. In practice, the 95<sup>th</sup> percentile queue shown will rarely be exceeded and the queues shown with the footnote are acceptable for the design of storage bays. The 95<sup>th</sup> percentile queue is derived from the average queue plus 1.65 standard deviations. The 95<sup>th</sup> percentile queue is not necessarily ever observed it is simply based on statistical calculations.

## 2.5 FREEWAY MAINLINE SEGMENT ANALYSIS METHODOLOGY

Consistent with recent Caltrans guidance, the traffic study has evaluated all freeway segments where the Project is anticipated to contribute 50 or more peak hour one-way trips, in an effort to conduct a conservative analysis and overstate as opposed to understand potential deficiencies.

The freeway system in the study area has been broken into segments defined by the freeway-to-arterial interchange locations. The freeway segments have been evaluated in this TA based upon peak hour directional volumes. The freeway segment analysis is based on the methodology described in the HCM and performed using Highway Capacity Software (HCS) 7. The performance measure preferred by Caltrans to calculate LOS is density. Density is expressed in terms of passenger cars per mile per lane. Table 2-4 illustrates the freeway segment LOS descriptions for each density range utilized for this analysis.

**TABLE 2-4: DESCRIPTION OF FREEWAY MAINLINE LOS**

Level of Service	Description	Density Range (pc/mi/ln) <sup>1</sup>
A	Free-flow operations in which vehicles are relatively unimpeded in their ability to maneuver within the traffic stream. Effects of incidents are easily absorbed.	0.0 – 11.0
B	Relative free-flow operations in which vehicle maneuvers within the traffic stream are slightly restricted. Effects of minor incidents are easily absorbed.	11.1 – 18.0
C	Travel is still at relative free-flow speeds, but freedom to maneuver within the traffic stream is noticeably restricted. Minor incidents may be absorbed, but local deterioration in service will be substantial. Queues begin to form behind significant blockages.	18.1 – 26.0
D	Speeds begin to decline slightly, and flows and densities begin to increase more quickly. Freedom to maneuver is noticeably limited. Minor incidents can be expected to create queuing as the traffic stream has little space to absorb disruptions.	26.1 – 35.0
E	Operation at capacity. Vehicles are closely spaced with little room to maneuver. Any disruption in the traffic stream can establish a disruption wave that propagates throughout the upstream traffic flow. Any incident can be expected to produce a serious disruption in traffic flow and extensive queuing.	35.1 – 45.0
F	Breakdown in vehicle flow.	>45.0

<sup>1</sup> pc/mi/ln = passenger cars per mile per lane. Source: HCM, 6<sup>th</sup> Edition

The number of lanes for existing baseline conditions has been obtained from field observations conducted by Urban Crossroads in July 2020. These existing freeway geometrics have been utilized for Existing, E+P, Opening Year Cumulative (2022), and Horizon Year (2040) conditions.

The I-15 Freeway mainline volume data was obtained from the Caltrans Performance Measurement System (PeMS) website for the segments of the I-15 Freeway interchange at Main Street. The data was obtained from September 2019 and has been adjusted by 2% to reflect 2020 baseline traffic conditions. In an effort to conduct a conservative analysis, the maximum value observed within the 3-day period was utilized for the weekday morning (AM) and weekday evening (PM) peak hours. In addition, truck traffic, represented as a percentage of total traffic and actual vehicles (as opposed to passenger car equivalent or PCE volumes) have been utilized for the purposes of the basic freeway segment analysis. (7)

## 2.6 FREEWAY MERGE/DIVERGE RAMP JUNCTION ANALYSIS

The freeway system in the study area has been broken into segments defined by freeway-to-arterial interchange locations resulting in 4 existing on and off ramp locations where the Project is anticipated to contribute 50 or more peak hour trips (see Table 1-2). Although the HCM indicates the influence area for a merge/diverge junction is 1,500 feet, the analysis presented in this traffic study has been performed at all ramp locations with respect to the nearest on or off ramp at each interchange in an effort to be consistent with Caltrans guidance/comments on other projects Urban Crossroads has worked on in the region.

The merge/diverge analysis is based on the HCM Ramps and Ramp Junctions analysis method and performed using HCS7 software. The measure of effectiveness (reported in passenger car/mile/lane) are calculated based on the existing number of travel lanes, number of lanes at the on and off ramps both at the analysis junction and at upstream and downstream locations (if applicable) and acceleration/deceleration lengths at each merge/diverge point. Table 2-5 presents the merge/diverge area level of service descriptions for each density range utilized for this analysis.

**TABLE 2-5: DESCRIPTION OF FREEWAY MERGE AND DIVERGE LOS**

Level of Service	Density Range (pc/mi/ln) <sup>1</sup>
A	≤10.0
B	10.0 – 20.0
C	20.0 – 28.0
D	28.0 – 35.0
E	>35.0
F	Demand Exceeds Capacity

<sup>1</sup> pc/mi/ln = passenger cars per mile per lane. Source: HCM, 6<sup>th</sup> Edition

Similar to the basic freeway segment analysis, the I-15 Freeway mainline volume data were obtained from the Caltrans maintained PeMS website for the segments of the I-15 Freeway interchanges at Main Street. The ramp data (per the count data presented in Appendix 3.1) were then utilized to flow conserve the mainline volumes to determine the remaining I-15 Freeway mainline segment volumes. Flow conservation checks ensure that traffic flows from north to south (and vice versa) of the interchange area with no unexplained loss of vehicles. The data was obtained from September 2019 and adjusted by 2% to reflect 2020 baseline traffic conditions. In an effort to conduct a conservative analysis, the maximum value observed within the 3-day period was utilized for the weekday morning (AM) and weekday evening (PM) peak hours. In addition, truck traffic, represented as a percentage of total traffic and actual vehicles (as opposed to PCE volumes) have been utilized for the purposes of the freeway ramp junction (merge/diverge) analysis. (7)

## 2.7 MINIMUM ACCEPTABLE LEVELS OF SERVICE (LOS)

### 2.7.1 CITY OF HESPERIA

For the purposes of this traffic analysis, and consistent with the City of Hesperia General Plan Circulation Element, LOS D is considered acceptable for circulation element intersections.

### 2.7.2 COUNTY OF SAN BERNARDINO

The definition of an intersection deficiency in the County of San Bernardino is based on the County’s General Plan Circulation Element. The County of San Bernardino’s General Plan states that target LOS C be maintained at County intersections and roadway segments wherever possible within the Desert region.

### 2.7.3 SAN BERNARDINO COUNTY CMP

The CMP definition of deficiency is based on maintaining a level of service standard of LOS E or better, where feasible, except where an existing LOS F condition is identified in the CMP document. However, for the purposes of this analysis, LOS D (or LOS C in County of San Bernardino) has been utilized for all study area intersections.

### 2.7.4 CALTRANS

Caltrans endeavors to maintain a target LOS at the transition between LOS C and LOS D on the SHS facilities; however, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. If an existing State highway facility is operating at less than this target LOS, the existing LOS should be maintained. Caltrans acknowledges that the region-wide goal for an acceptable LOS on all freeways, roadway segments, and intersections is LOS D. Consistent with the Caltrans LOS threshold of LOS D and in excess of the CMP stated LOS threshold of LOS E, LOS D will be used as the target LOS for freeway ramps, freeway segments, and freeway merge/diverge ramp junctions.

## 2.8 INTERSECTION DEFICIENCY CRITERIA

### *City of Hesperia*

To determine whether the addition of project traffic (as defined through the comparison of Existing traffic conditions to E+P traffic conditions) at a study intersection, which would result in a direct project-specific traffic deficiency, the following will be utilized:

- When the pre-Project condition is at or better than LOS D (i.e., acceptable LOS), and project-generated traffic, as measured by 50 or more peak hour trips, causes deterioration below LOS D (i.e., unacceptable LOS), a deficiency is deemed to occur.

However, when the pre-Project condition is already below LOS D (i.e., unacceptable LOS), the Project will be responsible for improving its contribution to a deficiency to a level of service equal to or better than it was without the Project for intersections that receive 50 or more peak hour project-related trips.

Cumulative traffic deficiencies are created as a result of a combination of the proposed Project together with other future developments contributing to the overall traffic deficiencies requiring additional improvements to maintain acceptable level of service operations with or without the Project. A Project's contribution to a cumulative deficiency can be reduced if the Project is required to implement or fund its fair share of improvements designed to alleviate its contribution to the deficiency. A cumulative deficiency is identified when the Project contributes 50 or more peak hour trips, and all facilities that would receive 50 or more peak hour trips from the Project are evaluated in this report.



### **County of San Bernardino**

Consistent with the County of San Bernardino traffic study guidelines and the acceptable LOS for the Desert, Valley, and Mountain regions as described in the General Plan, the County will consider the following signalized intersection criteria when identifying operational deficiencies in a traffic study to demonstrate consistency with the General Plan: (8)

- Any signalized study intersection in the Valley or Mountain regions that is operating at an acceptable LOS D or better without project traffic in which the addition of project traffic causes the intersection to degrade to an LOS E or F shall identify improvements to improve operations to LOS D or better.
- Any signalized study intersection in the Desert region that is operating at an LOS C or better without project traffic in which the addition of project traffic causes the intersection to degrade to an LOS D, E, or F shall identify improvements to improve operations to LOS C.
- Any signalized study intersection in the Valley or Mountain regions that is operating at LOS E or F without project traffic where the project increases delay by 5.0 or more seconds shall identify improvements to offset the increase in delay.
- Any signalized study intersection in the Desert region that is operating at LOS D, E, or F without project traffic where the project increases delay by 5.0 or more seconds shall identify improvements to offset the increase in delay.

Consistent with the County of San Bernardino traffic study guidelines and the acceptable LOS for the Desert, Valley, and Mountain regions as described in the General Plan, the County will consider the following unsignalized intersection criteria when identifying operational deficiencies in a traffic study to demonstrate consistency with the General Plan:

- The addition of project related traffic causes the intersection to move from a LOS D or better to a LOS E or worse in the Valley and Mountain regions or from an LOS C or better to an LOS D or worse in the Desert region.  
OR
- The project contributes additional traffic to an intersection that is already projected to operate at an LOS E or F in the Valley and Mountain regions or at an LOS D, E, or F in the Desert region (per Section 10.5.2 b))  
AND
- One or both of the following conditions are met:
  - The project adds ten (10) or more trips to any approach
  - The intersection meets the peak hour traffic signal warrant after the addition of project traffic (per Section 10.5.2 c)).

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

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

Improvements for project level deficiencies should focus on providing operations that offset the project deficiency (e.g. achieve a “no project” LOS). Improvements could consist of signal timing improvements, lane restriping, or new lanes to study facilities. Cumulative deficiencies should include a fair-share contribution toward achieving acceptable levels of service as noted below. Alternatively, if a cumulative location is included in an existing traffic impact fee program, payment of those fees would constitute an appropriate contribution. A key element of SB 743 is the elimination of automobile delay and level of service as the sole basis of determining CEQA impacts. The most recent CEQA guidelines, released in December 2018, recommend VMT as the most appropriate measure of project transportation impacts. However, SB 743 does not prevent a city or county from continuing to analyze delay or LOS as part of other plans (i.e., the general plan), studies, or ongoing network monitoring. VMT thresholds, methodology, analysis, and findings are discussed under separate cover.

## **2.9 PROJECT FAIR SHARE CALCULATION METHODOLOGY**

Improvements found to be included in the City’s DIF will be identified as such. For improvements that do not appear to be in any pre-existing fee programs, a fair share financial contribution based on the Project’s proportional share may be imposed in order to improve the Project’s share of deficiencies in lieu of construction. It should be noted that fair share calculations are for informational purposes only and the City Engineer will determine the appropriate improvements to be implemented by a project (to be identified in the conditions of approval).

The Project’s fair share cost of improvements have been determined based on the following equation, which is the ratio of Project traffic to new traffic, where new traffic is total future traffic less existing baseline traffic:

$$\text{Project Fair Share \%} = \text{Project Traffic} / (\text{2040 With Project Total Traffic} - \text{Existing 2020 Traffic})$$

### 3 AREA CONDITIONS

This section provides a summary of the existing circulation network, the City of Hesperia General Plan Circulation Network, and a review of existing peak hour intersection operations, traffic signal warrant, queuing, and freeway facility operations analyses.

#### 3.1 EXISTING CIRCULATION NETWORK

Pursuant to the scoping agreement with City of Hesperia staff (Appendix 1.1), the study area includes a total of 10 existing and future intersections as shown previously on Exhibit 1-2 where the Project is anticipated to contribute 50 or more peak hour trips. Exhibit 3-1 illustrates the study area intersections located near the proposed Project and identifies the number of through traffic lanes for existing roadways and intersection traffic controls.

#### 3.2 CITY OF HESPERIA GENERAL PLAN CIRCULATION ELEMENT

As previously noted, the Project site is located within the City of Hesperia. Exhibit 3-2 shows the City of Hesperia General Plan Circulation Element, and Exhibit 3-3 illustrates the City of Hesperia General Plan roadway cross-sections. The roadway classifications and planned (ultimate) roadway cross-sections of the major roadways within the City of Hesperia in the vicinity of the proposed Project as identified on the City's General Plan Circulation Element are described subsequently.

**Major Arterials** can accommodate six travel lanes and may have raised medians. These roadways experience the most traffic within the city. Examples of a Major Arterial within the study area include:

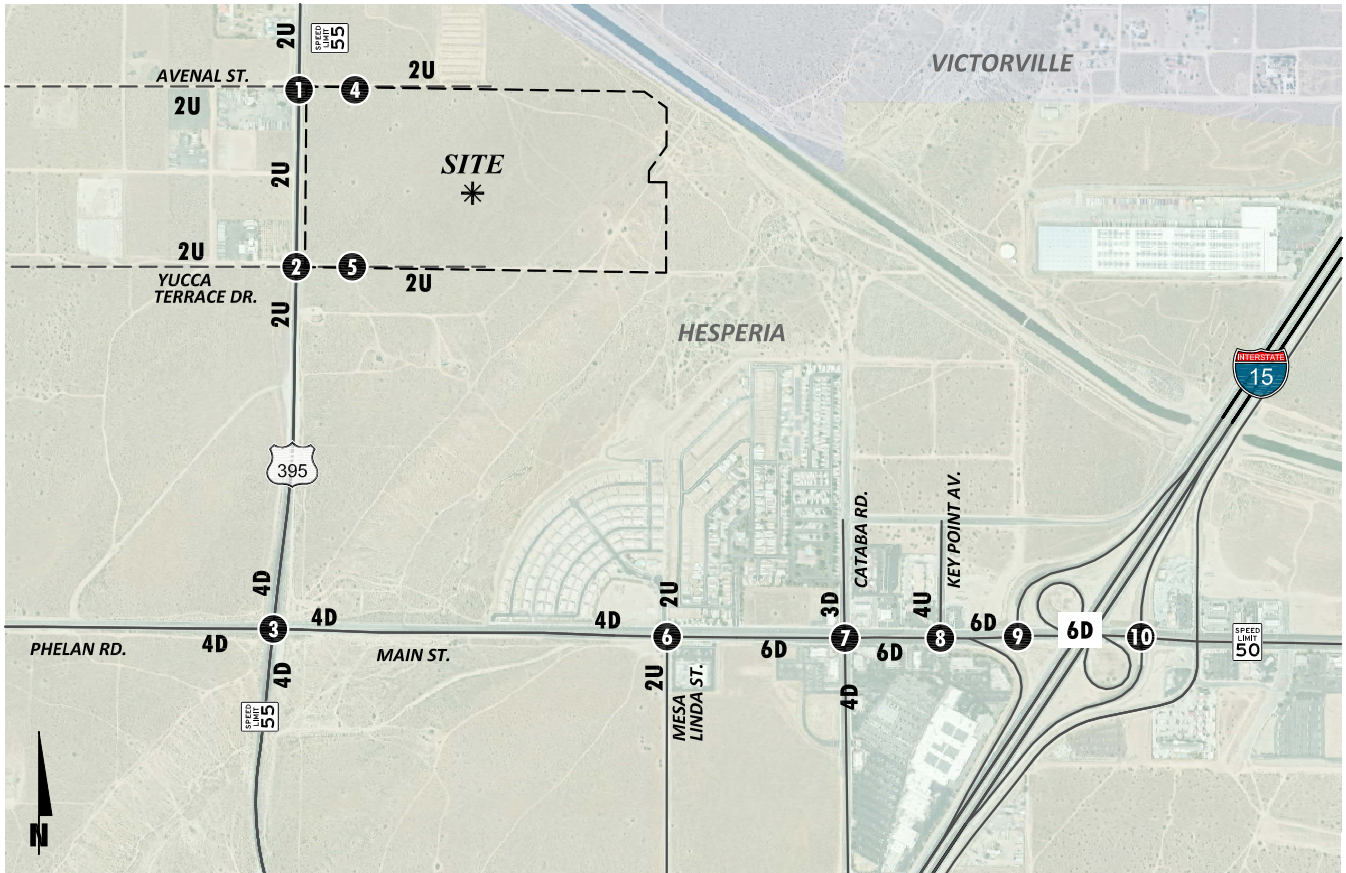
- Phelan Road (west of US Highway 395)
- Main Street, west of I-15 Freeway

**Arterials** can accommodate four travel lanes. Arterials may have two-way left-turn lanes. Examples of Arterials within the study area include:

- Mesa Linda Street

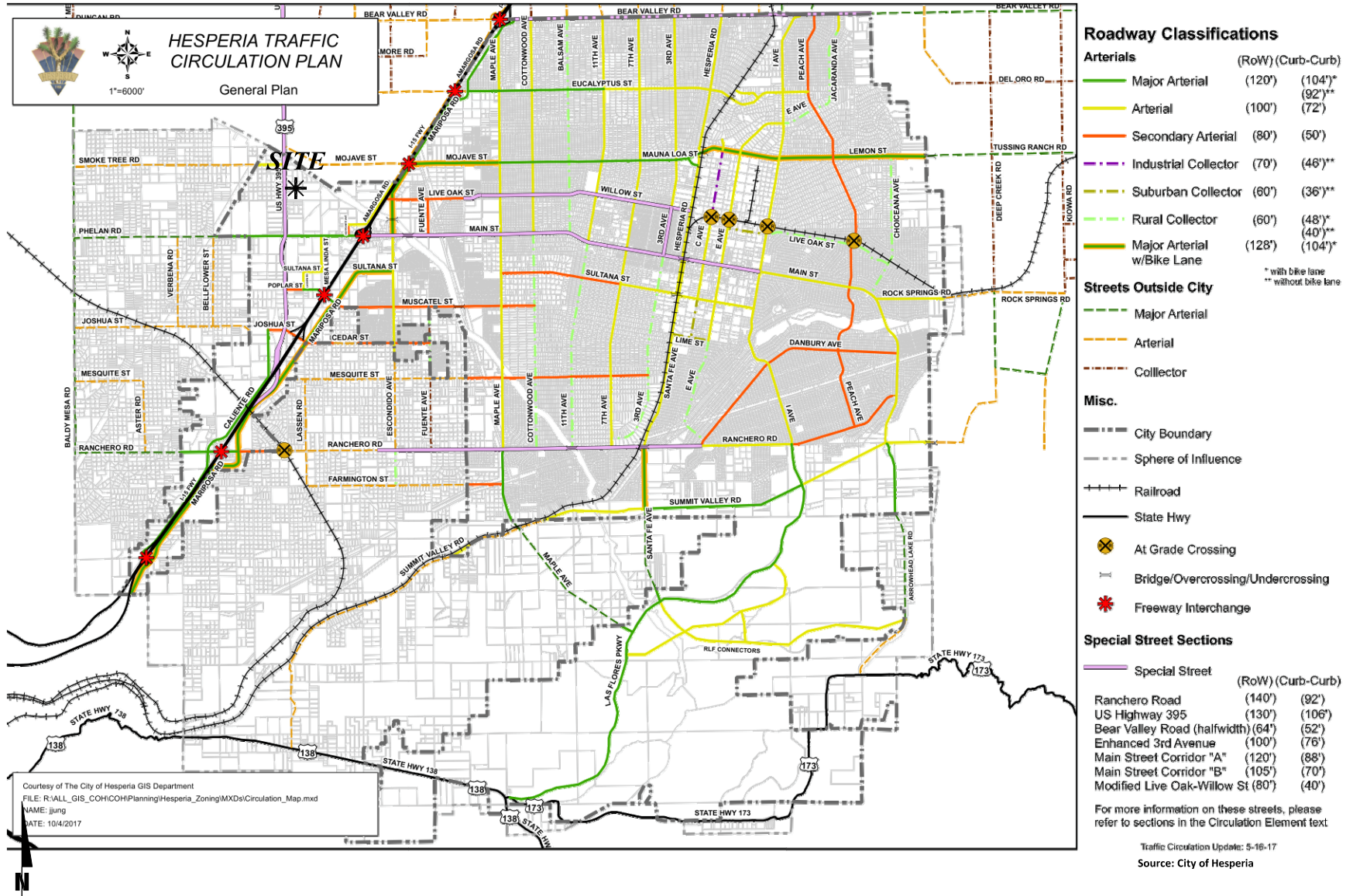
**Main Street Corridor 'A'** is the segment of Main Street from the I-15 Freeway to Ninth Avenue. This segment of Main Street can accommodate six travel lanes and includes a landscape median. This segment does not include bike lanes.

**EXHIBIT 3-1: EXISTING NUMBER OF THROUGH LANES AND INTERSECTION CONTROLS**

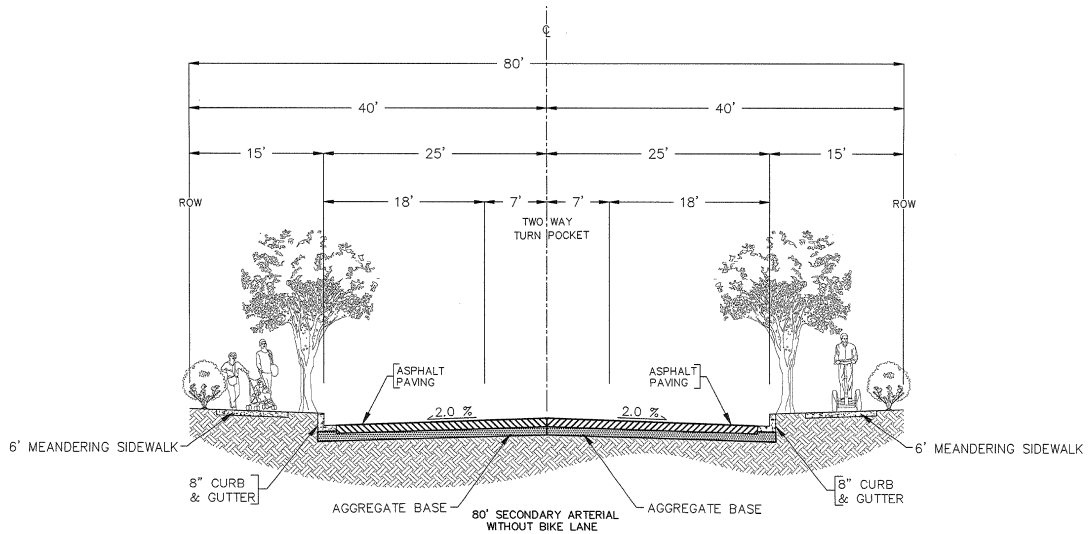
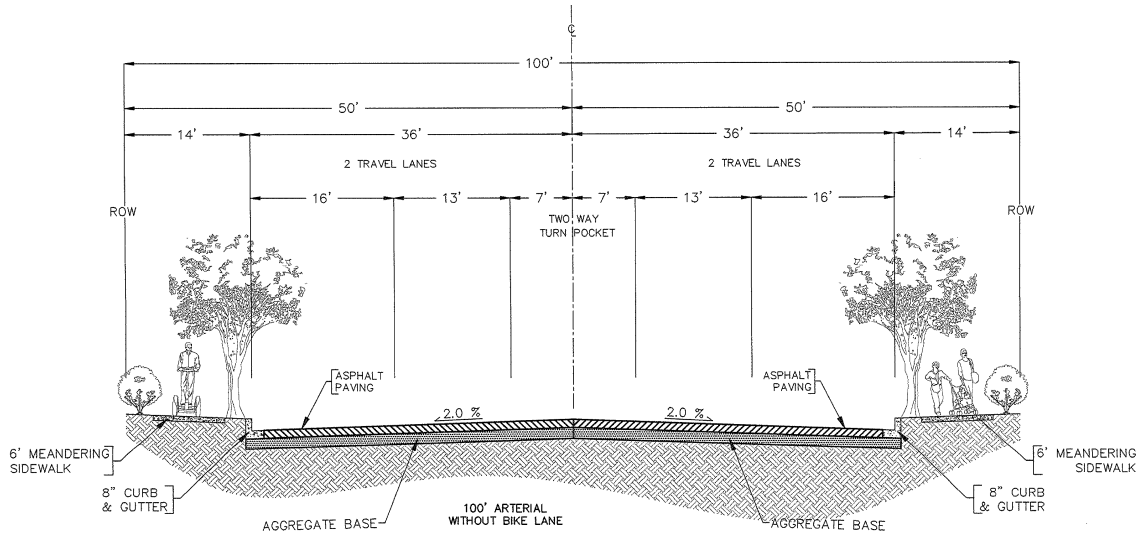
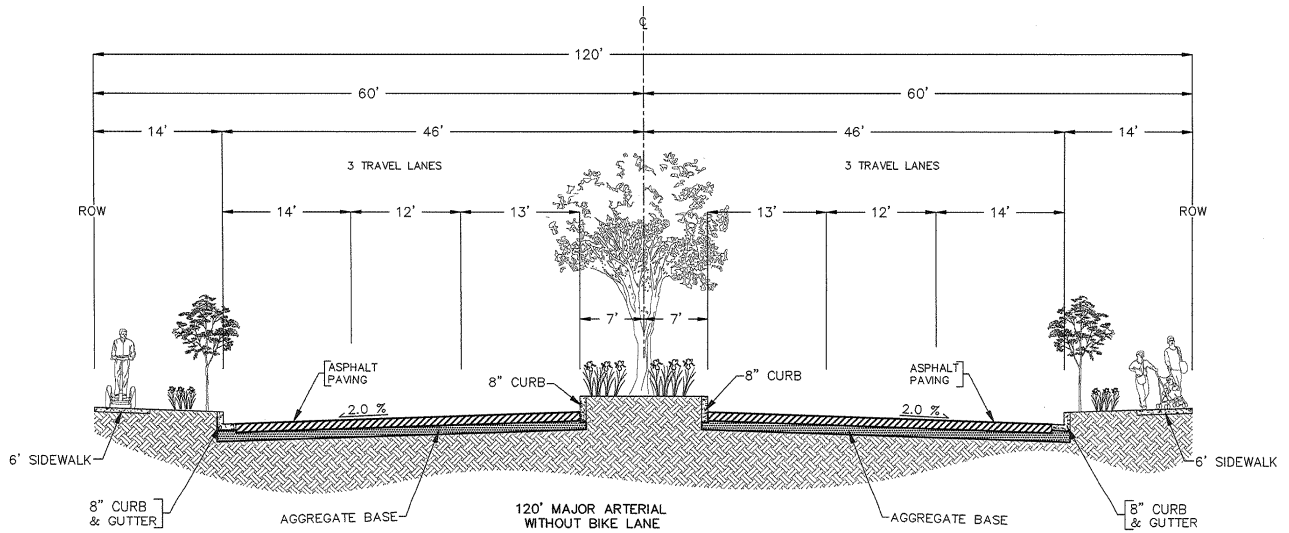


<p><b>1</b> US Highway 395 &amp; Avenal St.</p>	<p><b>2</b> US Highway 395 &amp; Yucca Terrace Dr.</p>	<p><b>3</b> US Highway 395 &amp; Phelan Rd./Main St.</p>	<p><b>4</b> Dwy. 1 &amp; Avenal St.</p> <p>Future Intersection</p>	<p><b>5</b> Dwy. 2 &amp; Yucca Terrace Dr.</p> <p>Future Intersection</p>	<p><b>6</b> Mesa Linda St. &amp; Main St.</p>
<p><b>7</b> Cataba Rd. &amp; Main St.</p>	<p><b>8</b> Key Point Av. &amp; Main St.</p>	<p><b>9</b> I-15 SB Ramps &amp; Main St.</p>	<p><b>10</b> I-15 NB Ramps &amp; Main St.</p>	<p><b>LEGEND:</b></p> <ul style="list-style-type: none"> <li> = TRAFFIC SIGNAL</li> <li> = STOP SIGN</li> <li><b>4</b> = NUMBER OF LANES</li> <li><b>D</b> = DIVIDED</li> <li><b>U</b> = UNDIVIDED</li> <li><b>DEF</b> = DEFACTO RIGHT TURN</li> <li> = SPEED LIMIT (MPH)</li> </ul>	

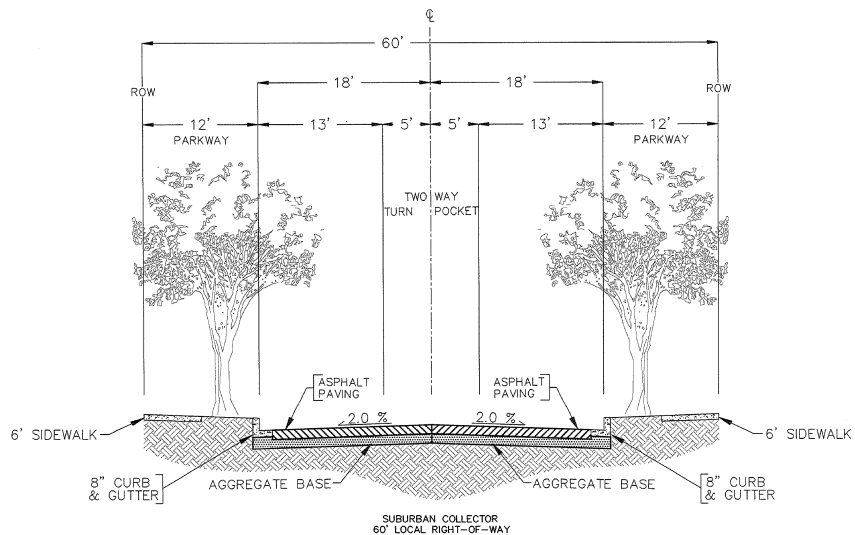
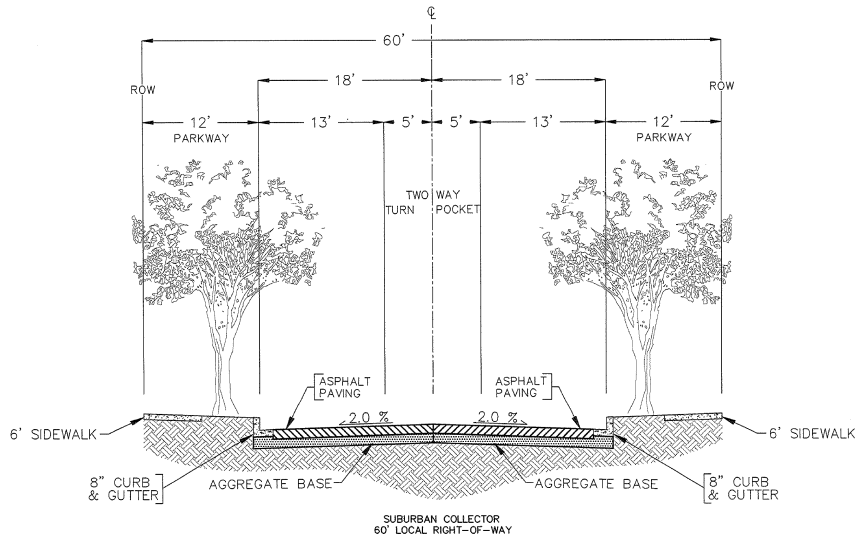
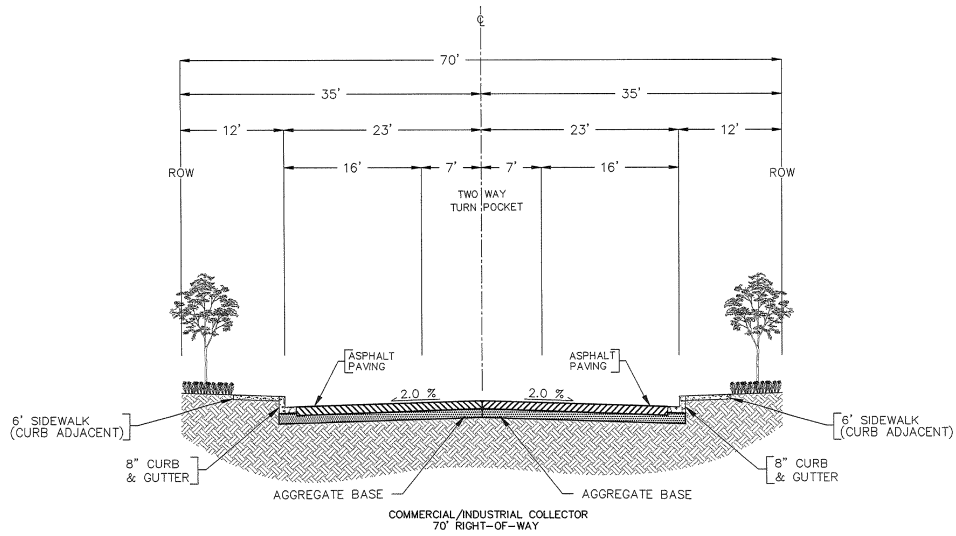
EXHIBIT 3-2: CITY OF HESPERIA GENERAL PLAN CIRCULATION ELEMENT



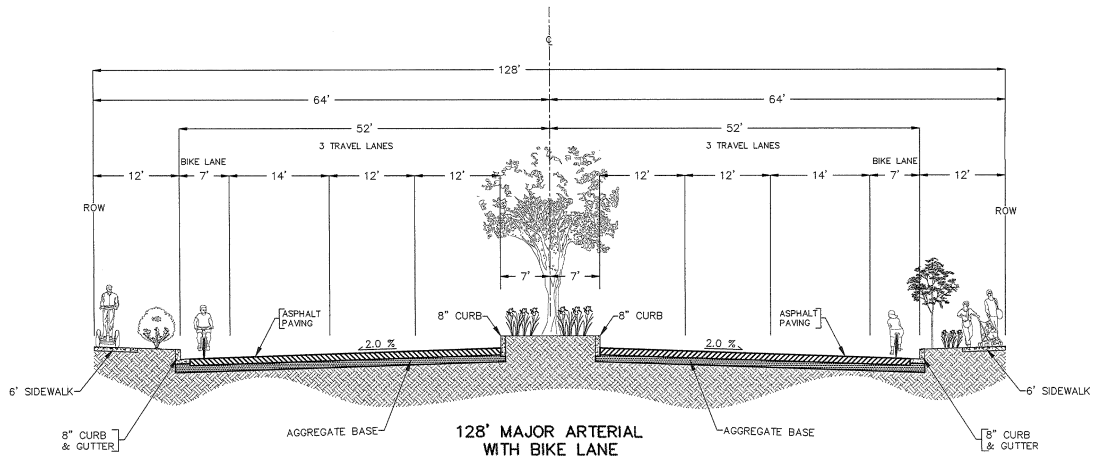
**EXHIBIT 3-3 (1of3): CITY OF HESPERIA GENERAL PLAN ROADWAY CROSS-SECTIONS**



**EXHIBIT 3-3 (2OF3): CITY OF HESPERIA GENERAL PLAN ROADWAY CROSS-SECTIONS**



**EXHIBIT 3-3 (3OF3): CITY OF HESPERIA GENERAL PLAN ROADWAY CROSS-SECTIONS**





### 3.3 BICYCLE & PEDESTRIAN FACILITIES

In an effort to promote alternative modes of transportation, the City of Hesperia General Plan also includes a bike plan. The City of Hesperia bike plan is shown on Exhibit 3-4. Within the study area, there are proposed Class I bike paths along Main Street, east of I-15 Freeway. Field observations conducted in October 2019 indicated nominal pedestrian and bicycle activity within the study area. Exhibit 3-5 illustrates the existing pedestrian facilities, including sidewalks and crosswalks. As shown on Exhibit 3-5, there are existing sidewalks along portions of Main Street, adjacent to existing development, within the study area.

### 3.4 TRANSIT SERVICE

The study area is currently served by the Victor Valley Transit Authority (VVTA), a public transit agency serving the Victor Valley area within San Bernardino County, with bus service along Main Street, Phelan Road, Catawba Road, and Key Point Avenue. Existing bus routes provided within the area by VVTA are shown on Exhibit 3-6. VVTA Route 21W could potentially serve the Project in the future. Transit service is reviewed and updated by VVTA periodically to address ridership, budget and community demand needs. Changes in land use can affect these periodic adjustments which may lead to either enhanced or reduced service where appropriate. As such, it is recommended that the Project Applicant work in conjunction with VVTA to potentially provide bus service to the site.

### 3.5 TRUCK ROUTES

The City of Hesperia's General Plan does not provide designated truck routes. Truck routes for the proposed Project have been determined based on discussions with City staff and as approved in the Project scoping agreement. These truck route assumptions serve both the proposed Project and future cumulative development projects for the purposes of this TA.

### 3.6 EXISTING TRAFFIC COUNTS

The intersection LOS analysis is based on the traffic volumes observed during the peak hour conditions using traffic count data collected in September 2019, while schools were in session. Consistent with standard engineering practice, these traffic counts were conducted either on Tuesday, Wednesday, or Thursday due to potential fluctuations in traffic that typically occur on Mondays, Fridays, Holidays, or weekends. Due to the currently ongoing COVID-19 pandemic, new traffic counts could not be conducted. As such, September 2019 traffic counts have been utilized in conjunction with the application of a 2% adjustment factor to establish 2020 baseline traffic volumes. The following peak hours were selected for analysis:

- Weekday AM Peak Hour (peak hour between 7:00 AM and 9:00 AM)
- Weekday PM Peak Hour (peak hour between 4:00 PM and 6:00 PM)

The weekday AM and weekday PM peak hour count data are representative of typical weekday peak hour traffic conditions in the study area. There were no observations made in the field that would indicate atypical traffic conditions on the count dates, such as construction activity or detour routes and near-by schools were in session and operating on normal schedules.

EXHIBIT 3-4: CITY OF HESPERIA GENERAL PLAN BIKE PLAN

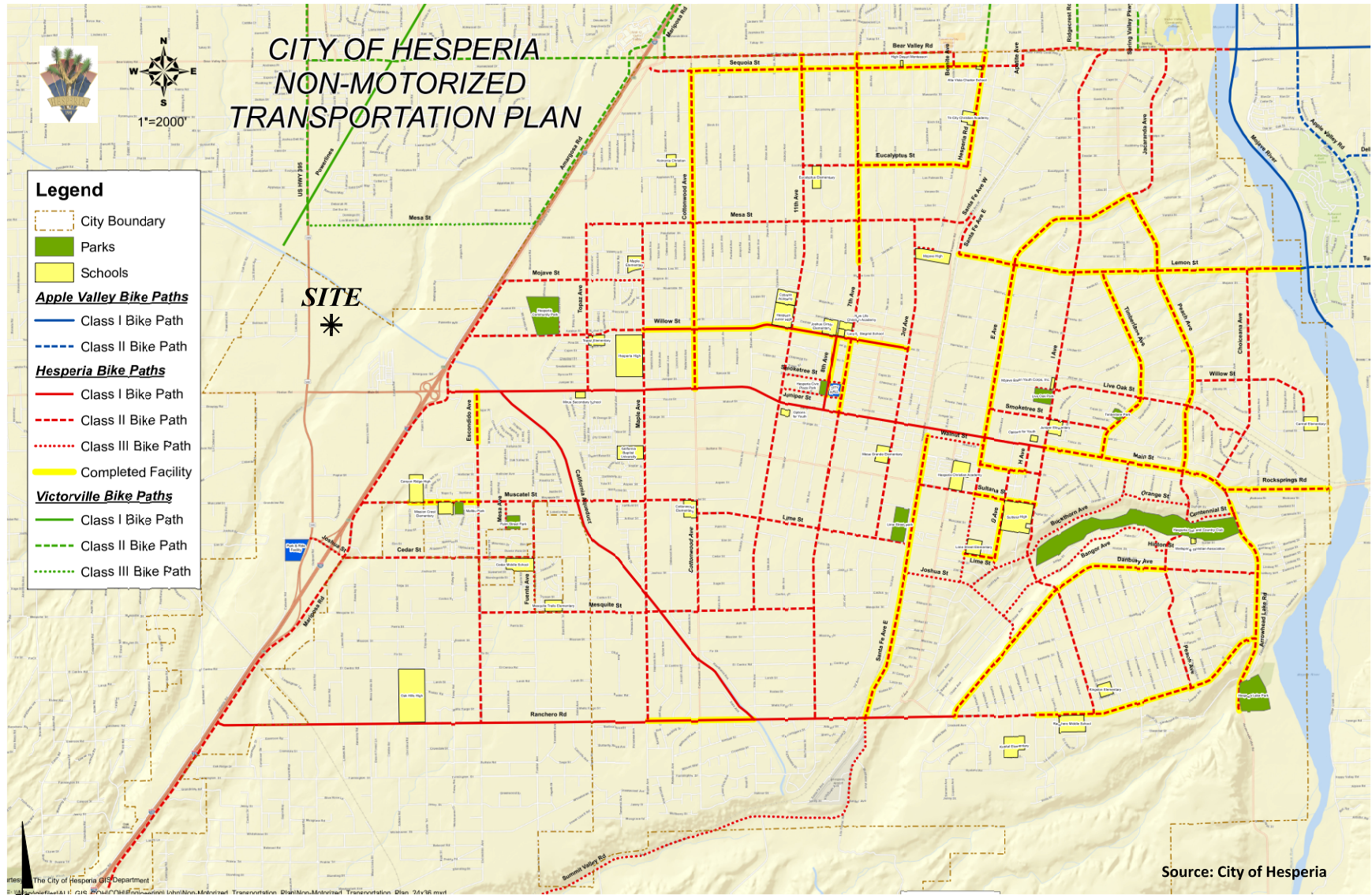
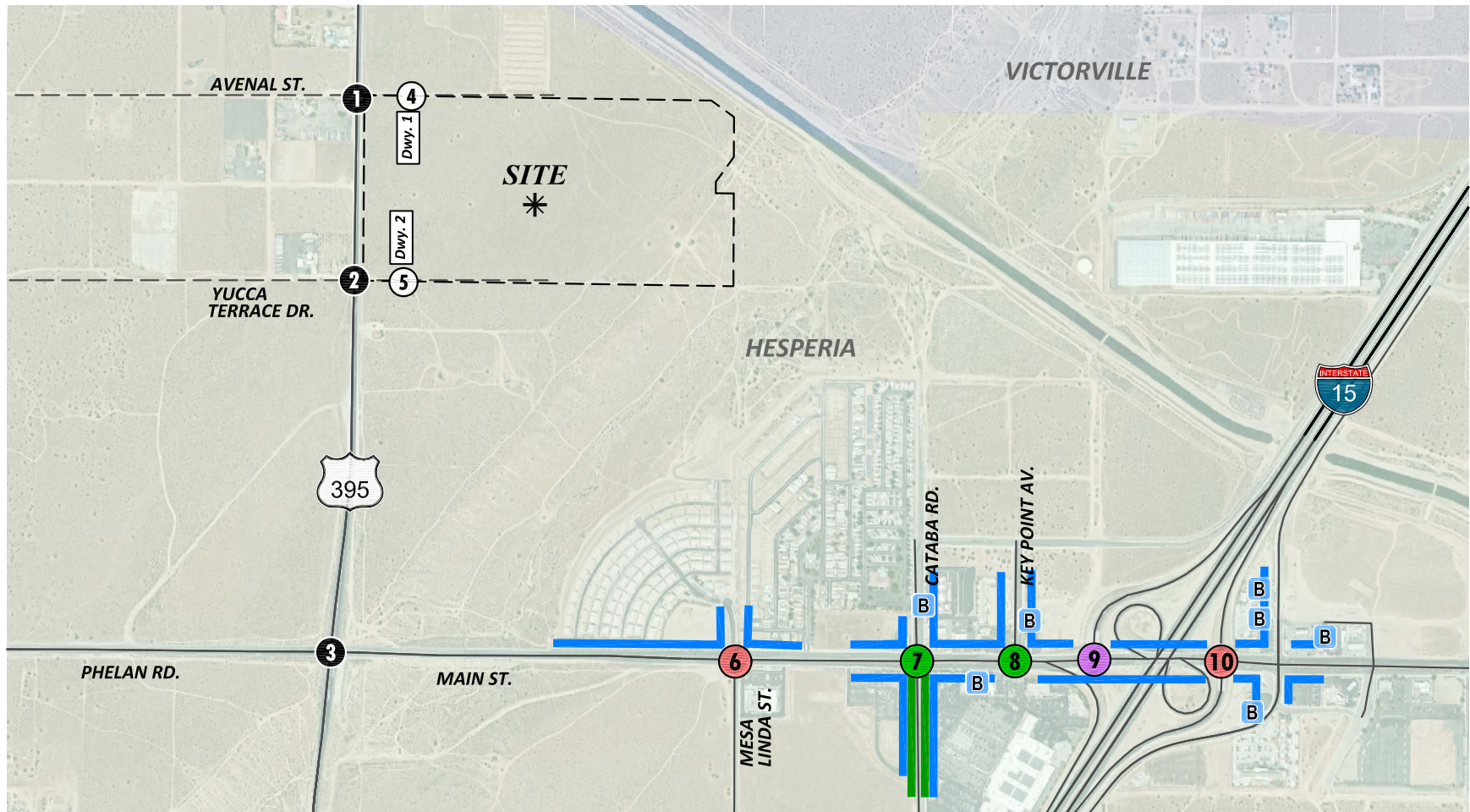


EXHIBIT 3-5: EXISTING PEDESTRIAN FACILITIES

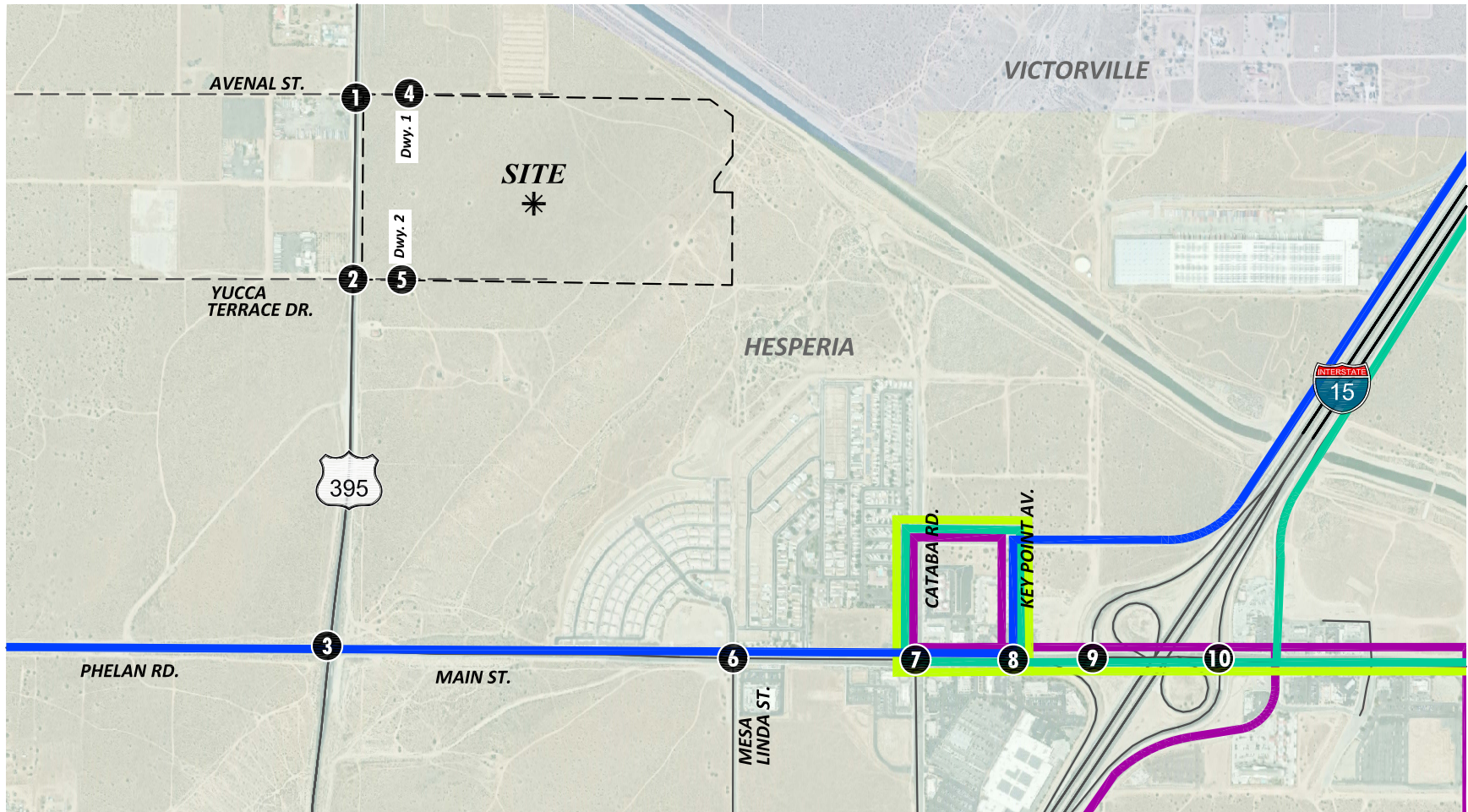


LEGEND:

- █ = SIDEWALK
- █ = BIKE LANE
- B = BUS STOP
- = NO CROSSWALK
- = FUTURE INTERSECTION
- = CROSSWALK ON ALL APPROACHES
- = CROSSWALK ON TWO APPROACHES
- = CROSSWALK ON ONE APPROACH



EXHIBIT 3-6: EXISTING TRANSIT ROUTES



**LEGEND:**

- - VVTA ROUTE 21W
- - VVTA ROUTE 25
- - VVTA ROUTE 64
- - VVTA ROUTE 68



The raw manual peak hour turning movement traffic count data sheets are included in Appendix 3.1. These raw turning volumes have been flow conserved between intersections with limited access, no access, and where there are currently no uses generating traffic. The traffic counts collected in September 2019 include the vehicle classifications as shown below:

- Passenger Cars
- 2-Axle Trucks
- 3-Axle Trucks
- 4 or More Axle Trucks

To represent the effect of large trucks, buses, and recreational vehicles have on traffic flow, all trucks were converted into PCEs. By their size alone, these vehicles occupy the same space as two or more passenger cars. In addition, the time it takes for them to accelerate and slow-down is also much longer than for passenger cars and varies depending on the type of vehicle and number of axles. For this analysis, a PCE factor of 1.5 has been applied to 2-axle trucks, 2.0 for 3-axle trucks, and 3.0 for 4+-axle trucks to estimate each turning movement. These factors are consistent with the values recommended for use in the SBCTA CMP. (9)

Existing weekday ADT volumes on arterial highways throughout the study area are shown on Exhibit 3-7. Where actual 24-hour tube count data was not available, Existing ADT volumes were based upon factored intersection peak hour counts collected by Urban Crossroads, Inc. using the following formula for each intersection leg:

$$\text{Weekday PM Peak Hour (Approach Volume + Exit Volume)} \times 10.66 = \text{Leg Volume}$$

A comparison of the PM peak hour and daily traffic volumes of various roadway segments within the study area indicated that the peak-to-daily relationship is approximately 9.38 percent. As such, the above equation utilizing a factor of 10.66 estimates the ADT volumes on the study area roadway segments assuming a peak-to-daily relationship of approximately 9.38 percent (i.e.,  $1/0.0938 = 10.66$ ) and was assumed to sufficiently estimate average daily traffic (ADT) volumes for planning-level analyses. Existing weekday AM and weekday PM peak hour intersection volumes (in PCE) are also shown on Exhibit 3-7.

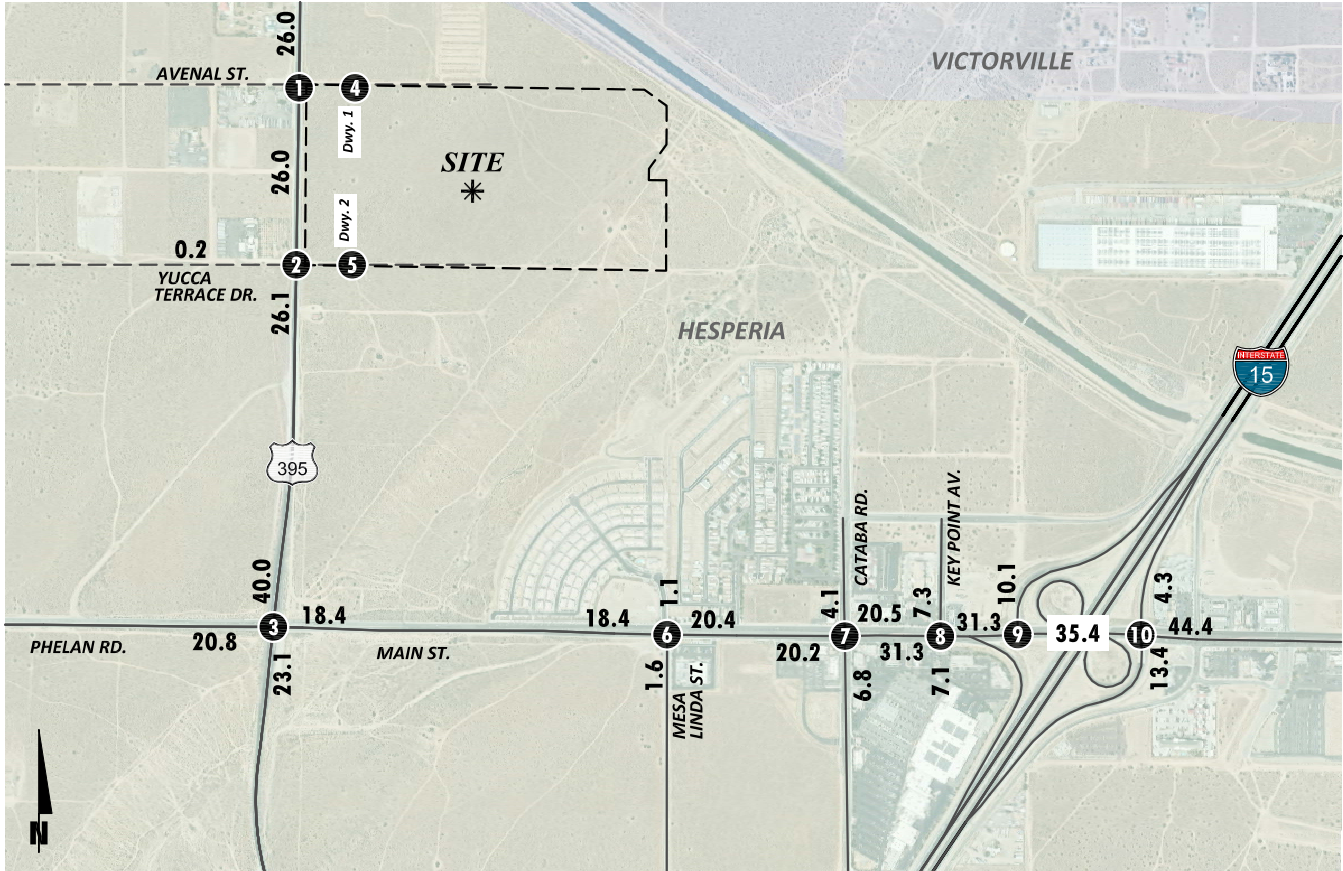
### 3.7 INTERSECTION OPERATIONS ANALYSIS

Existing peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2.2 *Intersection Capacity Analysis* of this report. The intersection operations analysis results are summarized in Table 3-1, which indicates that the following study area intersection is currently operating at an unacceptable LOS during the peak hours (i.e., LOS E or worse):

- US Highway 395 & Yucca Terrace Drive (#2) – LOS F PM peak hour only

Consistent with Table 3-1, a summary of the peak hour intersection LOS for Existing conditions is shown on Exhibit 3-8. The intersection operations analysis worksheets are included in Appendix 3.2 of this TA.

**EXHIBIT 3-7: EXISTING (2020) TRAFFIC VOLUMES (IN PCE)**



1	2	3	4	5
<b>US Highway 395 &amp; Avenal St.</b> ↓ 0(0) ↓ 1199(1030) ↓ 0(0) ↓ 0(0) ↓ 0(0) ↓ 0(0) ↓ 0(0) ↓ 0(0) ↓ 0(0) ↑ 0(0) ↑ 988(1407) ↑ 0(0)	<b>US Highway 395 &amp; Yucca Terrace Dr.</b> ↓ 0(4) ↓ 1199(1026) ↓ 0(0) ↓ 0(0) ↓ 0(0) ↓ 0(0) ↓ 0(0) ↓ 0(0) ↓ 0(0) ↑ 0(3) ↑ 3(8) ↑ 988(1404) ↑ 0(0)	<b>US Highway 395 &amp; Phelan Rd./Main St.</b> ↓ 32(47) ↓ 958(793) ↓ 210(191) ↓ 221(260) ↓ 324(668) ↓ 4(9) ↑ 48(45) ↑ 665(568) ↑ 108(69) ↑ 93(165) ↑ 722(1107) ↑ 9(26)	<b>Dwy. 1 &amp; Avenal St.</b> Future Intersection	<b>Dwy. 2 &amp; Yucca Terrace Dr.</b> Future Intersection
<b>Mesa Linda St. &amp; Main St.</b> ↓ 14(3) ↓ 2(0) ↓ 48(32) ↓ 17(55) ↓ 524(924) ↓ 51(47) ↓ 0(10) ↓ 2(7) ↓ 128(82)	<b>Cataba Rd. &amp; Main St.</b> ↓ 26(113) ↓ 6(30) ↓ 34(70) ↓ 17(44) ↓ 537(778) ↓ 71(192) ↓ 31(137) ↓ 7(52) ↓ 48(139)	<b>Key Point Av. &amp; Main St.</b> ↓ 15(31) ↓ 27(86) ↓ 146(226) ↓ 109(217) ↓ 664(1113) ↓ 140(219) ↓ 30(56) ↓ 880(920) ↓ 12(24)	<b>I-15 SB Ramps &amp; Main St.</b> ↓ 176(400) ↓ 313(551) ↓ 723(1150)	<b>I-15 NB Ramps &amp; Main St.</b> ↓ 462(404) ↓ 1215(1333)
↑ 5(5) ↑ 873(774) ↑ 3(6) ↑ 0(10) ↑ 2(7) ↑ 128(82)	↑ 50(78) ↑ 831(698) ↑ 37(90) ↑ 31(137) ↑ 7(52) ↑ 48(139)	↑ 11(30) ↑ 11(72) ↑ 80(235)	↑ 1002(1249)	↑ 1018(1575) ↑ 297(225) ↑ 79(183) ↑ 6(0) ↑ 395(847)

**LEGEND:**

10(10) = AM(PM) PEAK HOUR INTERSECTION VOLUMES  
 10.0 = VEHICLES PER DAY (1000'S)

EXHIBIT 3-8: EXISTING (2020) SUMMARY OF LOS



Table 3-1

Intersection Analysis for Existing (2020) Conditions

#	Intersection	Traffic Control <sup>3</sup>	Intersection Approach Lanes <sup>1</sup>												Delay <sup>2</sup> (secs.)		Level of Service		Acceptable LOS
			Northbound			Southbound			Eastbound			Westbound			AM	PM	AM	PM	
			L	T	R	L	T	R	L	T	R	L	T	R					
1	US Highway 395 & Avenal St.		Future Intersection																D
2	US Highway 395 & Yucca Terrace Dr.	CSS	0	1	0	0	1	0	0	1	0	0	1	0	24.0	<b>124.8</b>	C	<b>F</b>	D
3	US Highway 395 & Phelan Rd./Main St.	TS	1	2	0	1	2	0	1	2	0	1	2	0	27.3	50.8	C	D	D
4	Driveway 1 & Avenal St.		Future Intersection																
5	Driveway 2 & Yucca Terrace Dr.		Future Intersection																
6	Mesa Linda St. & Main St.	TS	0	1	1	0	1	1	1	3	0	1	3	d	16.3	11.0	B	B	D
7	Cataba Rd. & Main St.	TS	1	1	1	1	1	1	1	3	1	2	3	d	15.3	22.3	B	C	D
8	Key Point Av. & Main St.	TS	1	1	1	1	1	0	1	3	1	1	3	0	14.4	23.3	B	C	D
9	I-15 SB Ramps & Main St.	TS	0	0	0	2	0	1	0	3	1>>	0	3	1>>	6.2	9.3	A	A	D
10	I-15 NB Ramps & Main St.	TS	1	1	1	0	0	0	0	3	1>>	0	3	1	4.9	11.6	A	B	D

\* **BOLD** = Level of Service (LOS) does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

<sup>1</sup> When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; > = Right-Turn Overlap Phasing; >> = Free-Right Turn Lane; d= Defacto Right Turn Lane

<sup>2</sup> Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown. HCM delay reported in seconds.

<sup>3</sup> CSS = Cross-street Stop; TS = Traffic Signal



### 3.8 TRAFFIC SIGNAL WARRANTS ANALYSIS

Traffic signal warrants for Existing (2020) traffic conditions are based on existing peak hour intersection turning volumes. There are no study area intersections that currently warrant a traffic signal under Existing (2020) traffic conditions. Existing (2020) traffic conditions traffic signal warrant analysis worksheets are provided in Appendix 3.3.

### 3.9 QUEUING ANALYSIS

#### 3.9.1 ARTERIAL ANALYSIS

A queuing analysis was performed for US Highway 395 at Main Street to assess vehicle queues along US Highway 395. Queuing analysis findings are presented in Table 3-2. It is important to note that the available stacking distances are consistent with the measured turn pocket lengths. As shown in Table 3-2, the southbound left turn pocket is currently experiencing periodic queuing issues during the PM peak hour based on the 95<sup>th</sup> percentile peak hour traffic flows. Worksheets for Existing (2020) traffic conditions queuing analysis are provided in Appendix 3.4.

#### 3.9.2 FREEWAY OFF-RAMP ANALYSIS

A queuing analysis was performed for the off-ramps at the I-15 Freeway and Main Street interchange to assess vehicle queues for the off ramps that may potentially result in deficient peak hour operations at the ramp-to-arterial intersections and may potentially “spill back” onto the I-15 Freeway mainline. Queuing analysis findings are presented in Table 3-2. It is important to note that off-ramp lengths are consistent with the measured distance between the intersection and the freeway mainline. As shown in Table 3-2, there are no off-ramp movements that are currently experiencing queuing issues during the weekday AM or weekday PM peak 95<sup>th</sup> percentile traffic flows. Worksheets for Existing (2020) traffic conditions queuing analysis are provided in Appendix 3.4.

### 3.10 FREEWAY FACILITY ANALYSIS

Existing (2020) mainline directional volumes for the AM and PM peak hours are provided on Exhibit 3-9. As shown in Table 3-3, the following study area freeway segments and merge/diverge ramp junctions analyzed for this study are currently operating at an unacceptable LOS (i.e., LOS E or worse) during the peak hours for Existing (2020) traffic conditions:

- I-15 Freeway Northbound, Off-Ramp at Main Street (#9) – LOS E PM peak hour only
- I-15 Freeway Northbound, South of Main Street (#10) – LOS E PM peak hour only

Existing (2020) freeway facility analysis worksheets are provided in Appendix 3.5.

Table 3-2

Peak Hour Queuing Summary for Existing (2020) Conditions

Intersection	Movement	Available Stacking Distance (Feet)	95th Percentile Queue (Feet)		Acceptable? <sup>1</sup>	
			AM Peak Hour	PM Peak Hour	AM	PM
US Highway 95 & Phelan Rd./Main St.	NBL	280	130	206	Yes	Yes
	SBL	250	249 <sup>2</sup>	293 <sup>2</sup>	Yes	No
I-15 SB Ramps & Main St.	SBL	1,750	57	143	Yes	Yes
	SBR	1,200	32	244	Yes	Yes
I-15 NB Ramps & Main St.	NBL	1,290	56	139	Yes	Yes
	NBT/R	1,200	82	382	Yes	Yes
	NBR	700	84	381	Yes	Yes

<sup>1</sup> Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided

<sup>2</sup> 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

Table 3-3

Freeway Facility Analysis for Existing (2020) Conditions

Freeway	Direction <sup>1</sup>	Mainline Segment	Lanes <sup>2</sup>	Density <sup>3</sup>		LOS <sup>4</sup>	
				AM	PM	AM	PM
I-15 Freeway	SB	North of Main St.	3	20.5	22.4	C	C
		Off-Ramp at Main St.	3	27.6	30.0	D	D
		Loop On-Ramp at Main St.	3	24.4	22.4	C	C
		On-Ramp at Main St.	3	22.8	21.6	C	C
		South of Main St.	3	21.4	20.1	C	C
	NB	North of Main St.	3	18.7	34.5	C	D
		On-Ramp at Main St.	3	22.0	32.9	C	D
		Loop On-Ramp at Main St.	3	18.5	29.9	B	D
		Off-Ramp at Main St.	3	24.0	<b>38.5</b>	C	<b>E</b>
		South of Main St.	3	17.0	<b>39.2</b>	B	<b>E</b>

\* **BOLD** = Unacceptable Level of Service

<sup>1</sup> NB = Northbound; SB = Southbound

<sup>2</sup> Number of lanes are in the specified direction and is based on existing conditions.

<sup>3</sup> Density is measured by passenger cars per mile per lane (pc/mi/ln).

<sup>4</sup> LOS = Level of Service

EXHIBIT 3-9: EXISTING (2020) FREEWAY MAINLINE VOLUMES



**LEGEND:**

← 100/200 = AM/PM PEAK HOUR VOLUMES  
NOTE: VOLUMES IN ACTUAL VEHICLES (NOT PCE)



### 3.11 DEFICIENCIES AND RECOMMENDED IMPROVEMENTS

This section provides a summary of existing deficiencies and recommended improvements. Based on the City of Hesperia deficiency criteria discussed in Section 2.7 *Minimum Acceptable Levels of Service (LOS) and Intersection Deficiency Criteria*, the following intersections were found to be deficient. Improvements necessary to improve traffic deficiencies back to acceptable levels are also discussed below.

#### 3.11.1 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES AT INTERSECTIONS

The effectiveness of the proposed recommended improvements is presented in Table 3-4 for Existing (2020) traffic conditions. The intersection operations analysis worksheets for Existing (2020) traffic conditions, with improvements, are included in Appendix 3.6 of this TA.

**Recommended Improvement – US Highway 395 & Yucca Terrace Drive (#2)** – The following improvements are necessary to bring the LOS back to acceptable levels:

- Add a northbound left turn lane and 2<sup>nd</sup> through lane.
- Add a southbound left turn lane and 2<sup>nd</sup> through lane.

#### 3.11.2 RECOMMENDED IMPROVEMENTS TO ADDRESS QUEUING DEFICIENCIES

As shown previously in Table 3-2, the southbound left turn should provide a minimum of 300-foot of storage to accommodate the PM peak hour queues at the intersection of US Highway 395 and Main Street.

#### 3.11.3 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES ON FREEWAY FACILITIES

As shown previously in Table 3-3, there are study area freeway mainline segments and ramp junctions that currently operate at an unacceptable LOS for Existing (2020) traffic conditions. At this time, Caltrans has no fee programs or other improvement programs in place to address the deficiencies caused by development projects in the City of Hesperia (or other neighboring jurisdictions) on the SHS roadway segments. As such, no improvements have been recommended to address the Existing (2020) deficiencies on the SHS.

Table 3-4

Intersection Analysis for Existing (2020) Conditions With Improvements

#	Intersection	Traffic Control <sup>3</sup>	Intersection Approach Lanes <sup>1</sup>												Delay <sup>2</sup> (secs.)		Level of Service	
			Northbound			Southbound			Eastbound			Westbound			AM	PM	AM	PM
			L	T	R	L	T	R	L	T	R	L	T	R				
11	US Highway 395 & Yucca Terrace Dr.																	
	- Without Improvements	CSS	0	1	0	0	1	0	0	1	0	0	1	0	24.0	<b>124.8</b>	C	F
	- With Improvements	CSS	<u>1</u>	<u>2</u>	0	<u>1</u>	<u>2</u>	0	0	1	0	0	1	0	13.9	19.7	B	C

<sup>1</sup> When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; 1 = Improvement

<sup>2</sup> Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

<sup>3</sup> CSS = Cross-street Stop

## 4 PROJECTED FUTURE TRAFFIC

This section presents the traffic volumes estimated to be generated by the Project, as well as the Project's trip assignment, onto the study area roadway network. The proposed Project is to consist of 1,046,768 sf of High-Cube Cold Storage Warehouse use (515,334 sf for the northern building and 531,434 sf for the southern building). The Project is anticipated to be developed in multiple phases, however, a single phase with an anticipated opening year of 2022 has been assumed for the purposes of this TA. Regional access to the Project site is available via US Highway 395 and from the I-15 Freeway at Main Street interchange. Vehicular and truck traffic access will be provided via the following driveways:

- Driveway 1 via Avenal Street – Full access for both passenger cars and outbound trucks only
- Driveway 2 via Yucca Terrace Drive – Full access for both passenger cars and inbound trucks only
- The eastern driveways on both Avenal Street and Yucca Terrace Drive will be gated and are intended for emergency access only

### 4.1 PROJECT TRIP GENERATION

Trip generation represents the amount of traffic that is attracted and produced by a development, and is based upon the specific land uses planned for a given project. In order to develop the traffic characteristics of the proposed project, the trip generation rates used for this analysis are based upon information collected by the ITE as provided in their Trip Generation Manual, 10<sup>th</sup> Edition, 2017. (4) Trip generation rates for the Project are shown in Table 4-1. The trip generation summary illustrating daily, and peak hour trip generation estimates for the proposed Project in actual vehicles and PCE are shown in Table 4-2.

For purposes of this analysis, the following ITE land use codes and vehicle mixes have been utilized for the proposed Project:

- ITE land use code 157 (High-Cube Cold Storage Warehouse) has been used to derive site specific trip generation estimates for the proposed Project. High-cube cold storage warehouses include warehouses characterized by the storage and/or consolidation of manufactured goods (and to a lesser extent, raw materials) prior to their distribution to retail locations or other warehouses. High-cube cold storage warehouses are facilities typified by temperature-controlled environments for frozen food or other perishable products. The High-Cube Cold Storage Warehouse vehicle mix (passenger cars versus trucks) has been obtained from the ITE's Trip Generation Manual Supplement (dated February 2020). This study provides the following vehicle mix: AM Peak Hour: 73.0% passenger cars and 27.0% trucks; PM Peak Hour: 77.0% passenger cars and 23.0% trucks; Weekday Daily: 65.0% passenger cars and 35.0% trucks. The truck percentages were further broken down by axle type per the following SCAQMD recommended truck mix: 2-Axle = 34.7%; 3-Axle = 11.0%; 4+-Axle = 54.3%.

Table 4-1

Project Trip Generation Rates

Land Use <sup>1</sup>	Units <sup>2</sup>	ITE LU Code	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
<b>Actual Vehicle Trip Generation Rates</b>									
High-Cube Cold Storage Warehouse <sup>3</sup>	TSF	157	0.085	0.025	0.110	0.032	0.088	0.120	2.120
Passenger Cars (AM-73.0%; PM-77.0%; Daily-65.0%)			0.062	0.018	0.080	0.025	0.067	0.092	1.378
2-Axle Trucks (AM-9.37%; PM-7.98%; Daily-12.15%)			0.008	0.002	0.010	0.003	0.007	0.010	0.257
3-Axle Trucks (AM-2.97%; PM-2.53%; Daily-3.85%)			0.003	0.001	0.003	0.001	0.002	0.003	0.082
4-Axle+ Trucks (AM-14.66%; PM-12.49%; Daily-19.01%)			0.012	0.004	0.016	0.004	0.011	0.015	0.403
<b>Passenger Car Equivalent (PCE) Trip Generation Rates<sup>5</sup></b>									
High-Cube Cold Storage Warehouse <sup>3</sup>	TSF	157	0.085	0.025	0.110	0.032	0.088	0.120	2.120
Passenger Cars (78.6%)			0.062	0.018	0.080	0.025	0.067	0.092	1.378
2-Axle Trucks (8.0%) (PCE = 1.5)			0.012	0.004	0.015	0.004	0.010	0.014	0.386
3-Axle Trucks (3.9%) (PCE = 2.0)			0.005	0.002	0.007	0.002	0.004	0.006	0.163
4-Axle+ Trucks (9.5%) (PCE = 3.0)			0.037	0.011	0.048	0.012	0.033	0.045	1.209

<sup>1</sup> Trip Generation Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, Tenth Edition (2017).

<sup>2</sup> TSF = thousand square feet

<sup>3</sup> Vehicle Mix Source: ITE Trip Generation Handbook Supplement (2020), Appendix C.

Truck Mix: South Coast Air Quality Management District's (SCAQMD) recommended truck mix, by axle type.

Normalized % - With Cold Storage: 34.7% 2-Axle trucks, 11.0% 3-Axle trucks, 54.3% 4-Axle trucks.

<sup>4</sup> PCE rates are per SBCTA: 2-Axle = 1.5, 3-Axle = 2.0, 4+-Axle = 3.0



Table 4-2

Project Trip Generation Summary

Land Use	Quantity	Units <sup>1</sup>	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
<b>Project Trip Generation Summary (Actual)</b>									
High-Cube Cold Storage Warehouse	1,046.768	TSF							
Passenger Cars:			65	19	84	26	71	97	1,442
Truck Trips:									
2-axle:			8	2	10	3	7	10	270
3-axle:			3	1	4	1	2	3	86
4+-axle:			13	4	17	4	11	15	422
- Truck Trips			24	7	31	8	20	28	778
<b>TOTAL TRIPS (Actual Vehicles)<sup>2</sup></b>			<b>89</b>	<b>26</b>	<b>115</b>	<b>34</b>	<b>91</b>	<b>125</b>	<b>2,220</b>
<b>Project Trip Generation Summary (PCE)</b>									
High-Cube Cold Storage Warehouse	1,046.768	TSF							
Passenger Cars:			65	19	84	26	71	97	1,442
Truck Trips:									
2-axle:			12	4	16	4	11	15	404
3-axle:			5	2	7	2	5	7	172
4+-axle:			39	12	51	13	34	47	1,266
- Truck Trips (PCE)			56	18	74	19	50	69	1,842
<b>TOTAL TRIPS (PCE)<sup>2</sup></b>			<b>121</b>	<b>37</b>	<b>158</b>	<b>45</b>	<b>121</b>	<b>166</b>	<b>3,284</b>

<sup>1</sup> TSF = thousand square feet

<sup>2</sup> TOTAL TRIPS = Passenger Cars + Truck Trips.

As shown in Table 4-1, refinements to the raw trip generation estimates have been made to provide a more detailed breakdown of trips between passenger cars and trucks. Trip generation for heavy trucks was further broken down by truck type (or axle type). The total truck percentage is comprised of 3 different truck types: 2-axle, 3-axle, and 4+-axle trucks for High-Cube Cold Storage Warehouse use. PCE factors were applied to the trip generation rates for heavy trucks (large 2-axles, 3-axles, 4+-axles). PCEs allow the typical “real-world” mix of vehicle types to be represented as a single, standardized unit, such as the passenger car, to be used for the purposes of capacity and level of service analyses. The PCE factors are consistent with the recommended PCE factors in Appendix B of the San Bernardino County Congestion Management Program (CMP) (2016 Update). (9)

As shown in Table 4-2, the proposed Project is anticipated to generate a total of 2,220 actual vehicle trip-ends per day, with 115 AM peak hour trips and 125 PM peak hour trips. Consistent with the City’s traffic study guidelines, the peak hour operations analysis has been conducted using PCE volumes. The proposed Project is anticipated to generate a total of 3,284 PCE trip-ends per day, 158 PCE AM peak hour trips and 166 PCE PM peak hour trips, as shown in Table 4-2.

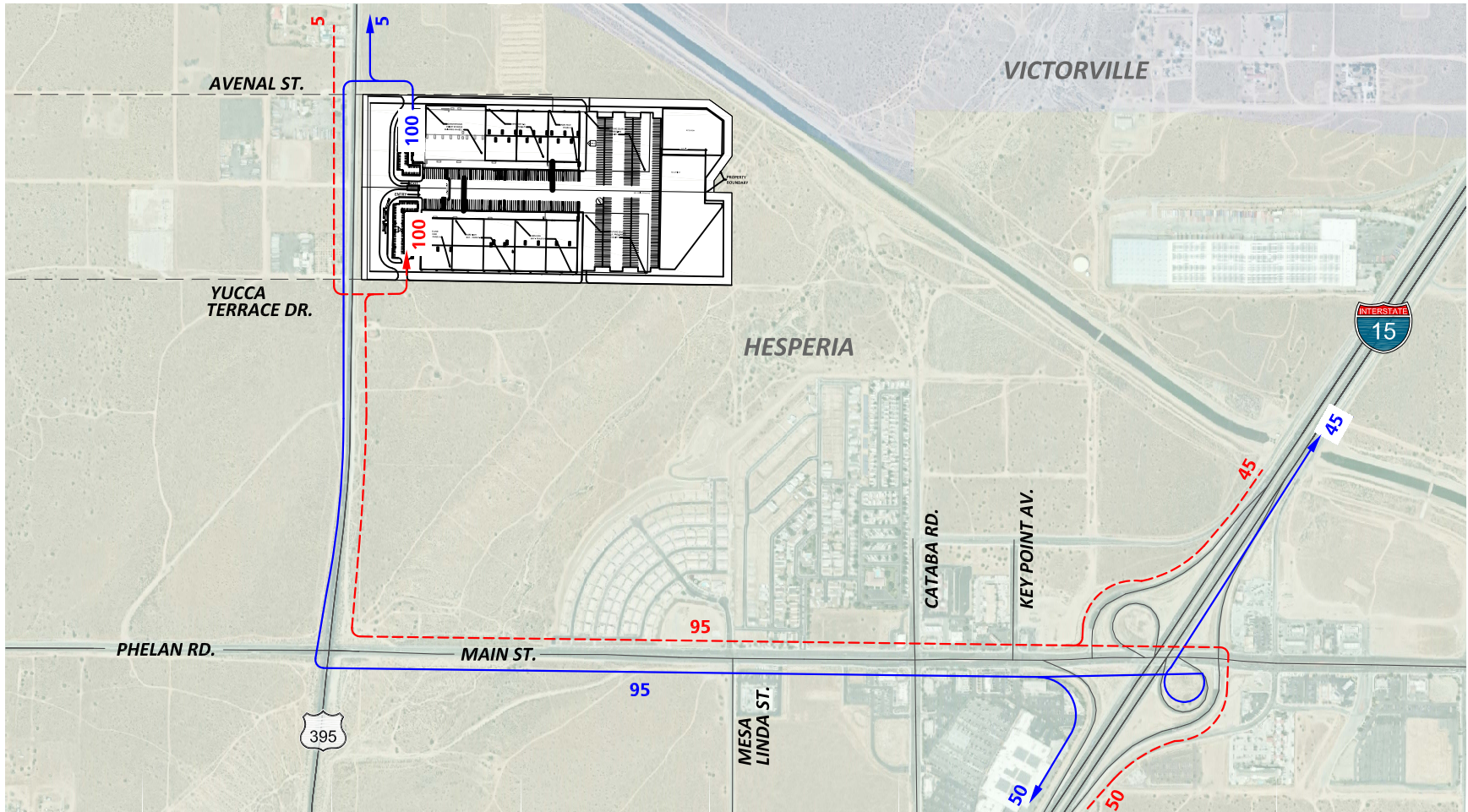
## 4.2 PROJECT TRIP DISTRIBUTION

Trip distribution is the process of identifying the probable destinations, directions, or traffic routes that will be utilized by Project traffic. The potential interaction between the planned land uses and surrounding regional access routes are considered to identify the route where the Project traffic would distribute.

The Project trip distribution was developed based on anticipated travel patterns to and from the Project site for both passenger cars and truck traffic. The Project trip distribution patterns have been developed based on the anticipated travel patterns for the warehousing trucks. For both passenger cars and trucks, the Project trip distribution was developed based on an understanding of existing travel patterns in the area, the geographical location of the site, and the site’s proximity to the regional arterial and state highway system.

The Project truck trip distribution pattern is graphically depicted on Exhibit 4-1. The Project passenger car trip distribution pattern is graphically depicted on Exhibit 4-2. Each of these distribution patterns was reviewed by the City of Hesperia as part of the traffic study scoping process (see Appendix 1.1).

### EXHIBIT 4-1: PROJECT (TRUCK) TRIP DISTRIBUTION

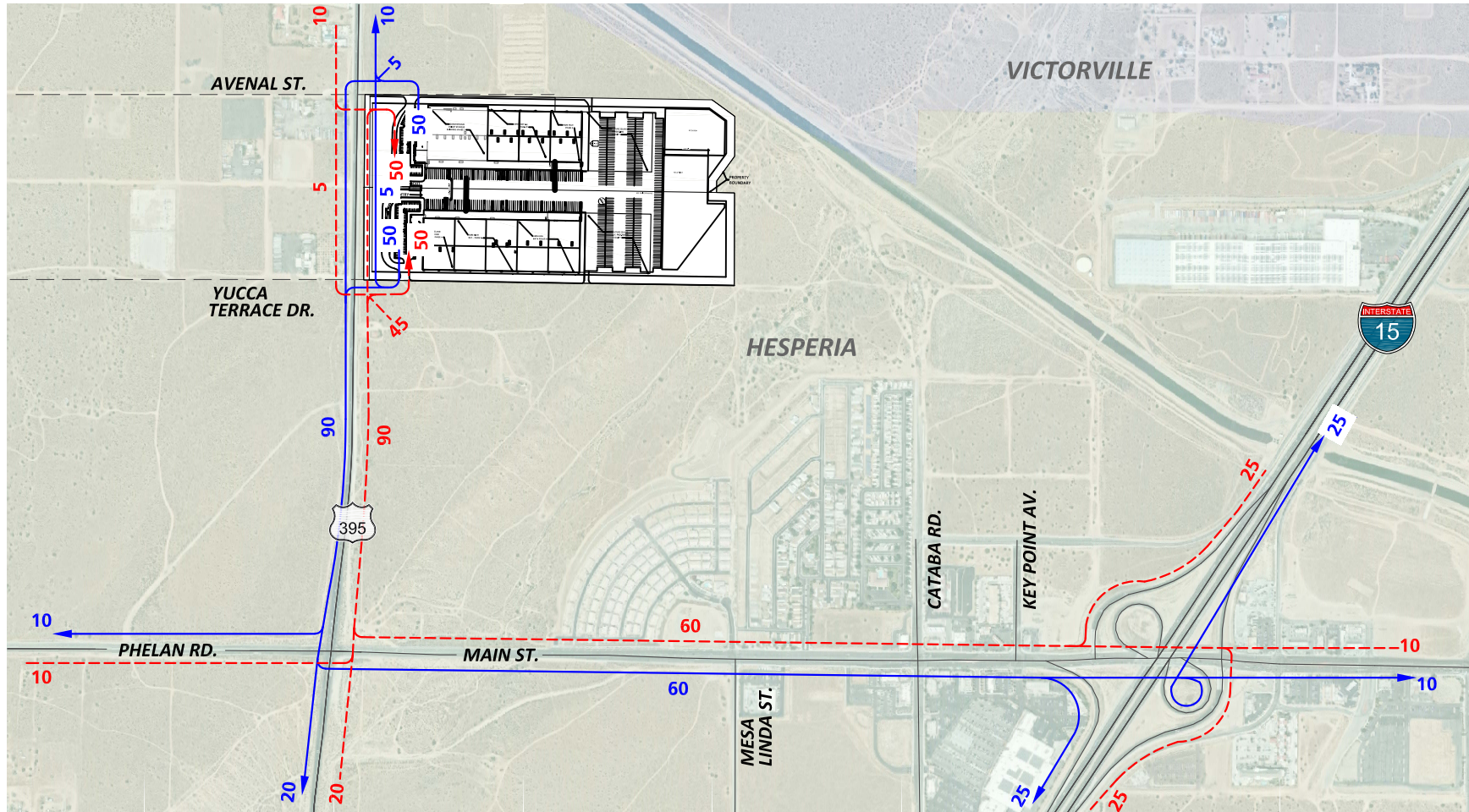


**LEGEND:**

- 10 = PERCENT TO/FROM PROJECT
- ← = OUTBOUND
- ← = INBOUND



**EXHIBIT 4-2: PROJECT (PASSENGER CAR) TRIP DISTRIBUTION**



**LEGEND:**

- 10 = PERCENT TO/FROM PROJECT
- ← = OUTBOUND
- ← - - - = INBOUND



### 4.3 MODAL SPLIT

The traffic reducing potential of public transit, walking, or bicycling have not been considered in this TA. Essentially, the traffic projections are "conservative" in that these alternative travel modes might be able to reduce the forecasted traffic volumes (employee trips only).

### 4.4 PROJECT TRIP ASSIGNMENT

The assignment of traffic from the Project area to the adjoining roadway system is based upon the Project trip generation, trip distribution, and the arterial highway and local street system improvements that would be in place by the time of initial occupancy of the Project. Based on the identified Project traffic generation and trip distribution patterns, Project ADT and peak hour intersection turning movement volumes in PCE are shown on Exhibit 4-3.

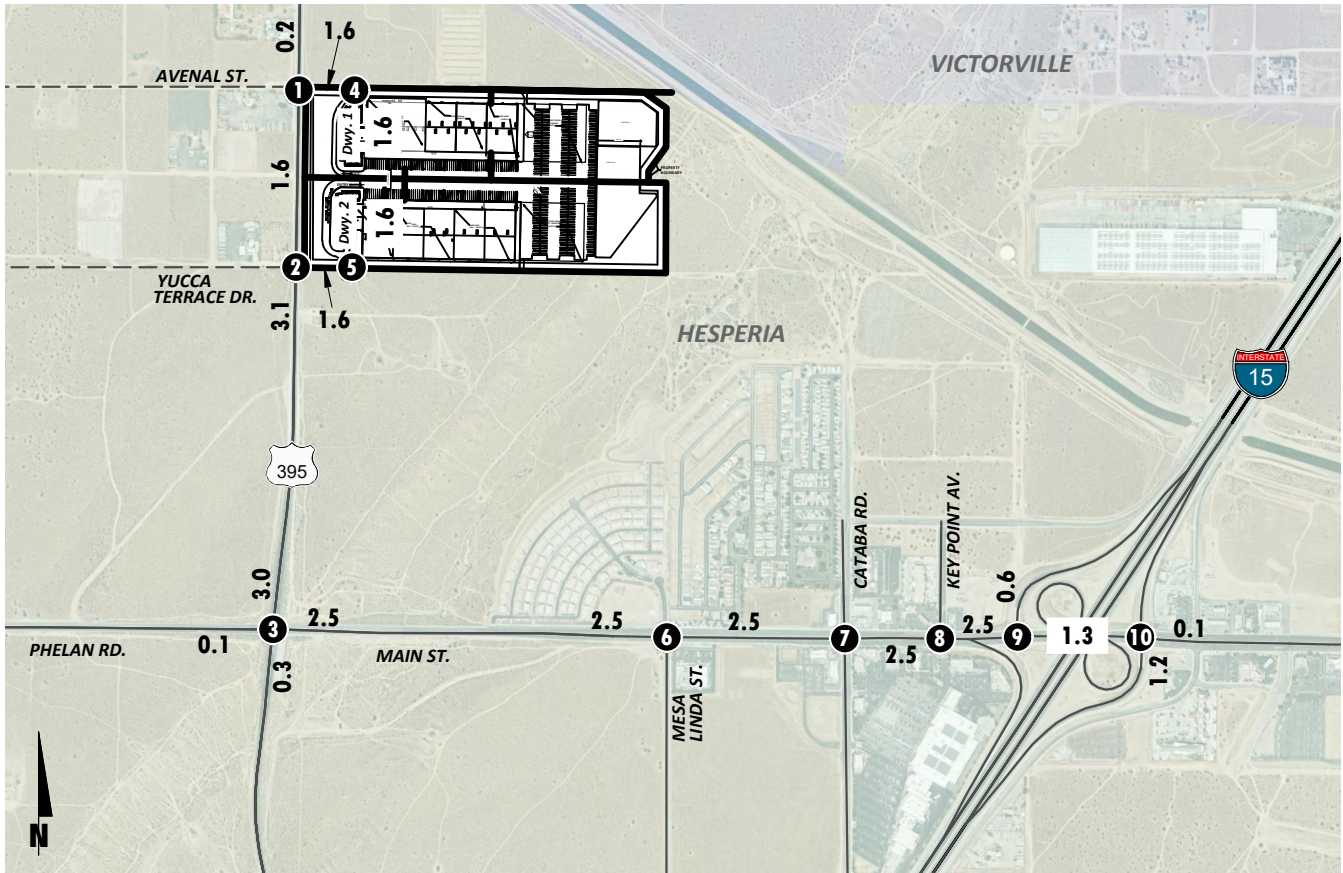
### 4.5 BACKGROUND TRAFFIC

Future year traffic forecasts have been based upon two years of background (ambient) growth at 2% per year for 2022 traffic conditions. The total ambient growth is 4.04% for 2022 traffic conditions (growth of 2 percent per year, compounded over two years or  $1.02^{2 \text{ years}}$ ). This ambient growth factor is added to existing traffic volumes to account for area-wide growth not reflected by cumulative development projects. Ambient growth has been added to daily and peak hour traffic volumes on surrounding roadways. Ambient growth has been added to daily and peak hour traffic volumes on surrounding roadways, in addition to traffic generated by the development of future projects that have been approved but not yet built and/or for which development applications have been filed and are under consideration by governing agencies.

The 2.0 percent annual growth rate is intended to capture non-specific ambient traffic growth. Conservatively, the TA estimates area-wide traffic growth, then adds traffic generated by other known or probable related projects. These related projects are at least in part already accounted for in the assumed annual 2.0 percent ambient growth in traffic noted above; and in some instances, these related projects would likely not be implemented and operational within the 2022 Opening Year Cumulative time frame assumed for the Project. The resulting traffic growth rate used in the TA (2.0 percent compounded annual ambient growth plus traffic generated by related projects) would therefore tend to overstate rather than understate background cumulative traffic deficiencies under 2022 traffic conditions.

The currently adopted Southern California Association of Governments (SCAG) 2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) (April 2016) growth forecasts for the City of Hesperia identifies projected growth in population of 91,5100 in 2012 to 129,100 in 2040, or a 41.7 percent increase over the 28-year period. The change in population equates to roughly a 1.25 percent growth rate, compounded annually. Similarly, growth over the same 28-year period in households is projected to increase by 48.1 percent, or 1.41 percent annual growth rate. Finally, growth in employment over the same 28-year period is projected to increase by 89.9 percent, or a 2.32 percent annual growth rate.

**EXHIBIT 4-3: PROJECT ONLY TRAFFIC VOLUMES (IN PCE)**



1	2	3	4	5
<p><b>1</b> US Highway 395 &amp; Avenal St.</p>	<p><b>2</b> US Highway 395 &amp; Yucca Terrace Dr.</p>	<p><b>3</b> US Highway 395 &amp; Phelan Rd./Main St.</p>	<p><b>4</b> Dwy. 1 &amp; Avenal St.</p>	<p><b>5</b> Dwy. 2 &amp; Yucca Terrace Dr.</p>
<p><b>6</b> Mesa Linda St. &amp; Main St.</p>	<p><b>7</b> Cataba Rd. &amp; Main St.</p>	<p><b>8</b> Key Point Av. &amp; Main St.</p>	<p><b>9</b> I-15 SB Ramps &amp; Main St.</p>	<p><b>10</b> I-15 NB Ramps &amp; Main St.</p>

**LEGEND:**

10(10) = AM(PM) PEAK HOUR INTERSECTION VOLUMES  
 10.0 = VEHICLES PER DAY (1000'S)

Therefore, the use of an annual growth rate of 2.0 percent would appear to conservatively approximate the anticipated regional growth in traffic volumes in the City of Hesperia, especially when considered along with the addition of Project-related traffic and traffic generated by other known development projects. As such, the growth in traffic volumes assumed in this TA would tend to overstate as opposed to understate the potential deficiencies to traffic and circulation.

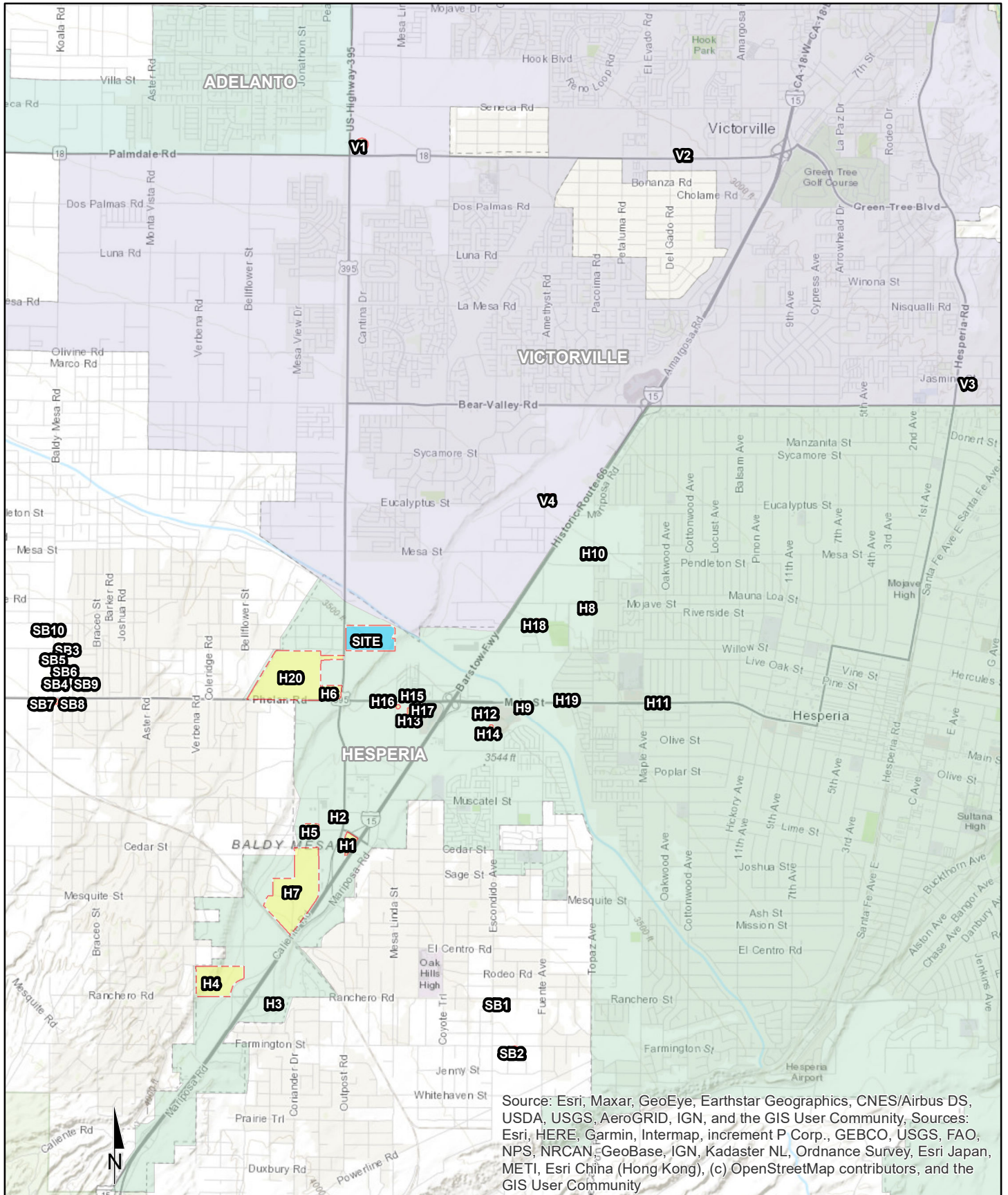
#### 4.6 CUMULATIVE DEVELOPMENT TRAFFIC

California Environmental Quality Act (CEQA) guidelines require that other reasonably foreseeable development projects which are either approved or being processed concurrently in the study area also be included as part of a cumulative analysis scenario. A cumulative project list was developed for the purposes of this analysis through consultation with planning and engineering staff from the City of Hesperia, City of Victorville, and County of San Bernardino. The cumulative project list includes known and foreseeable projects that are anticipated to contribute traffic to the study area intersections.

Where applicable, cumulative projects anticipated to contribute measurable traffic (i.e. 50 or more peak hour trips) to study area intersections have been manually added to the study area network to generate Opening Year Cumulative (2022) forecasts. In other words, this list of cumulative development projects has been reviewed to determine which projects would likely contribute measurable traffic through the study area intersections (e.g., those cumulative projects in close proximity to the proposed Project). For the purposes of this analysis, the cumulative projects that were determined to affect one or more of the study area intersections are shown on Exhibit 4-4, listed in Table 4-3, and have been considered for inclusion.

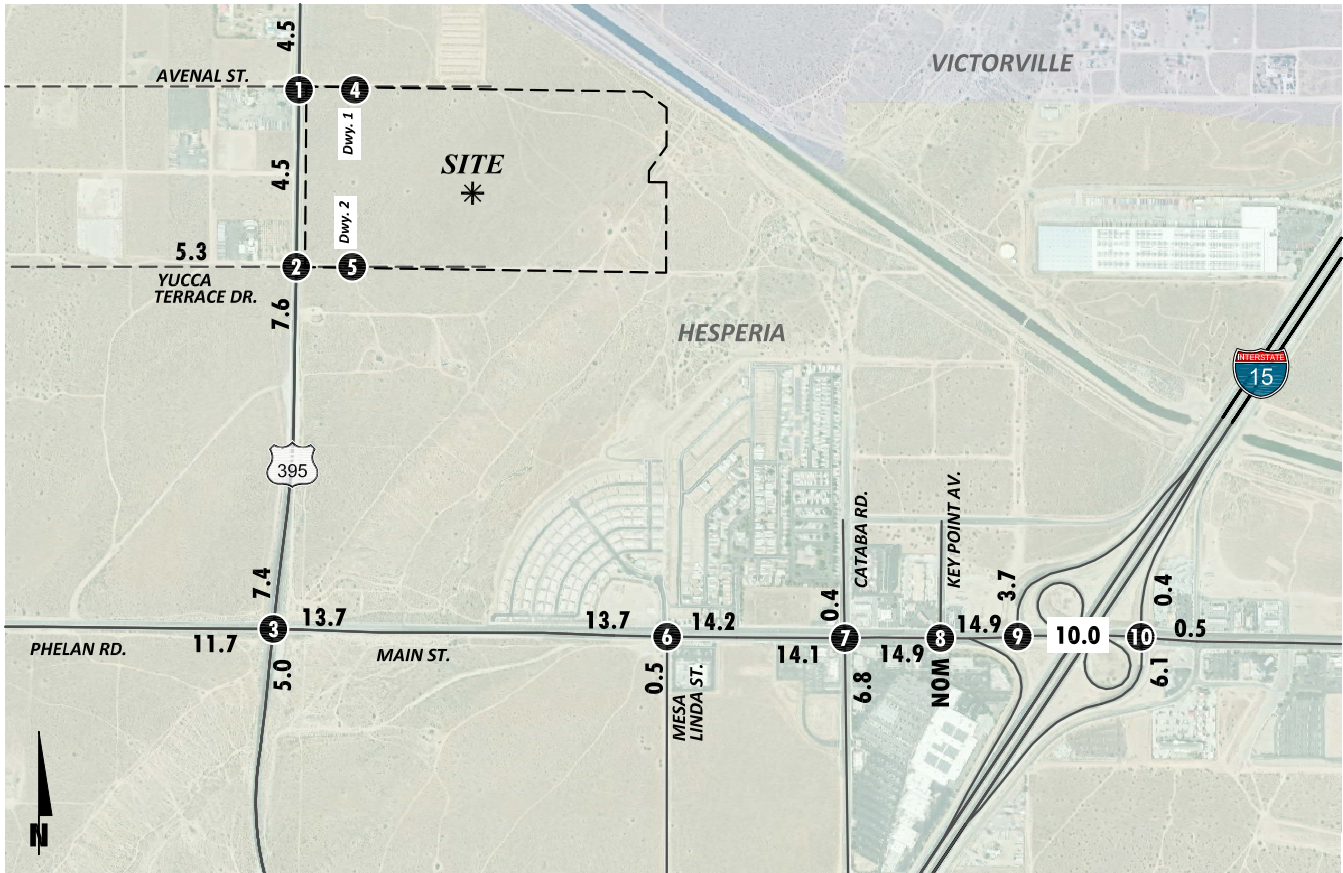
Any other cumulative projects located beyond the study area that are not expected to contribute measurable traffic to study area intersections have not been included since the traffic would dissipate due to the distance from the Project site and study area intersections. Any additional traffic generated by other projects not on the cumulative projects list is accounted for through background ambient growth factors that have been applied to the peak hour volumes at study area intersections as discussed in Section 4.5 *Background Traffic*. Cumulative only ADT and peak hour traffic volumes are shown on Exhibit 4-5.

EXHIBIT 4-4: CUMULATIVE DEVELOPMENT LOCATION MAP





**EXHIBIT 4-5: CUMULATIVE ONLY TRAFFIC VOLUMES (IN PCE)**



1	2	3	4	5
<b>US Highway 395 &amp; Avenal St.</b> ↓ 0(0) ↓ 263(181) ↓ 0(0) ↓ 0(0) ↓ 0(0) ↓ 0(0) ↓ 0(0) ↓ 0(0) ↓ 0(0) 144(262) ↑ 0(0) ↑ 0(0)	<b>US Highway 395 &amp; Yucca Terrace Dr.</b> ↓ 111(23) ↓ 152(158) ↓ 0(0) ↓ 0(0) ↓ 0(0) ↓ 0(0) ↓ 0(0) ↓ 0(0) ↓ 0(0) 19(107) ↑ 0(0) ↑ 73(409) 321(63) ↑ 125(155) ↑ 0(0)	<b>US Highway 395 &amp; Phelan Rd./Main St.</b> ↓ 40(44) ↓ 81(157) ↓ 104(365) ↓ 275(82) ↓ 804(214) ↓ 17(15) 39(41) ↑ 170(664) ↑ 60(128) 128(70) ↑ 132(94) ↑ 14(20)	<b>Dwy. 1 &amp; Avenal St.</b> Future Intersection	<b>Dwy. 2 &amp; Yucca Terrace Dr.</b> Future Intersection
6	7	8	9	10
<b>Mesa Linda St. &amp; Main St.</b> ↓ 0(0) ↓ 0(0) ↓ 0(0) ↓ 0(0) ↓ 1095(311) ↓ 58(41) 288(1050) ↑ 0(0) ↑ 0(0) ↑ 0(0)	<b>Cataba Rd. &amp; Main St.</b> ↓ 0(0) ↓ 7(3) ↓ 0(1) ↓ 1(1) ↓ 980(269) ↓ 185(99) 19(11) ↑ 236(1048) ↑ 41(7) 131(58) ↑ 6(3) ↑ 91(46)	<b>Key Point Av. &amp; Main St.</b> ↓ 0(0) ↓ 0(0) ↓ 0(0) ↓ 0(0) ↓ 1166(391) ↓ 1(1) 0(0) ↑ 328(1121) ↑ 0(0) 0(0) ↑ 0(0) ↑ 0(1)	<b>I-15 SB Ramps &amp; Main St.</b> ↓ 485(127) ↓ 39(25) ← 682(241)	<b>I-15 NB Ramps &amp; Main St.</b> ↓ 21(42) ↓ 216(171) 155(211) ↑ 114(453) ↑ 487(111) ↑ 0(0) ↑ 39(25)

**LEGEND:**

- 10(10) = AM(PM) PEAK HOUR INTERSECTION VOLUMES
- 10.0 = VEHICLES PER DAY (1000'S)
- NOM = NOMINAL, LESS THAN 50 VEHICLES PER DAY

Table 4-3

Cumulative Development Land Use Summary

#	Case No.	Land Use	Quantity	Units <sup>1</sup>
<b>City of Hesperia</b>				
H1	CUP12-10189: SEC of Outpost Rd. & Joshua St.	Travel Center	12.271	TSF
H2	CUP15-00009: SWC of US-395 & Three Flags Rd.	Gas Station w/ Convenience Market and Car Wash	12	VFP
		High-Turnover Sit-Down Restaurant	1.300	TSF
		Fast Food w/ Drive Thru	3.000	TSF
H3	CUP16-00007: SEC of Mariposa Rd. & Rancho Rd.	Gas Station w/ Convenience Market and Car Wash	8	VFP
		Fast Food w/ Drive Thru	2.546	TSF
H4	CUPE16-00002: SEC of Verbena Rd. & Rodeo St.	Hotel	212	RM
		Quality Restaurant	11.600	TSF
		Golf Course	9	Holes
H5	SPR16-00016: south of Muscatel St., west of Caliente Rd.	Manufacturing	75.000	TSF
H6	CUP18-00003	Gas Station	9	VFP
		High-Turnover Sit-Down Restaurant	4.188	TSF
H7	Hesperia Commerce Center	High-Cube Fulfillment Center	4382.800	TSF
H8	TTE 19-00007 (TT 17916)	Single Family Detached Residential	177	DU
H9	TPM 19-00001	Shopping Center	13.0	Acres
H10	TTE 16-00002 (TT 17243)	Single Family Detached Residential	125	DU
H11	SPR 19-00005	Shopping Center	4.889	TSF
H12	Kaiser Medical Office	Medical Office	54.168	TSF
H13	Hesperia West	Shopping Center	34.675	TSF
		Department Store	40.400	TSF
		Furniture Store	38.000	TSF
		Walk in Bank	4.500	TSF
		High-Turnover Sit-Down Restaurant	5.926	TSF
		Fast Food w/ Drive Thru	3.260	TSF
H14	Hesperia Walmart Shopping Center	Fast Food w/ Drive Thru (vacant pad)	2.500	TSF
H15	SPR 16-00011	Shopping Center	4.377	TSF
H16	CUP 16-00011	Shopping Center	5.423	TSF
H17	High Desert Gateway West I & II	Shopping Center	3.000	TSF
		Shopping Center	9.450	TSF
H18	SPRE16-00004 ext	Senior Adult Housing - Detached	96	DU
H19	SPR18-00002	Medical Office	8.400	TSF
H20	Hesperia Commerce Center II	High-Cube Fulfillment Center	2361.648	TSF
		Shopping Center	1383.781	TSF
<b>County of San Bernardino</b>				
SB1	P201400514/RMC PM 19030	Gasoline/Service Station w/Conven. Mkt.	8	VFP
		High Turnover (Sit-Down) Restaurant	2.700	TSF
SB2	P201600125/TT	Assisted Living	12	BEDS
SB3	P201800466/CUP	Church	17.355	TSF
		Recreation Area with Restroom	0.5850	TSF
SB4	P201200482/CUP	General Office/Retail	20.4500	TSF
		Fast Food w/ Drive Thru	2.850	TSF
SB5	P201400478/CUP	Church	3.996	TSF

Table 4-3

Cumulative Development Land Use Summary

#	Case No.	Land Use	Quantity	Units <sup>1</sup>
SB6	P201400342/PREAPPDR PM 19590	Commercial Retail	881.285	TSF
SB7	P201600418/CUP	Church	1.440	TSF
SB8	P201400220/CUP	Church	2.3	Acres
SB9	P201300184/PREAPPDR	Commercial Retail	70.000	TSF
SB10	P201500257/PREAPPDR	Commercial Retail	9.100	TSF
<b>City of Victorville</b>				
V1	ADMN19-00068	Shopping Center	4.300	TSF
V2	ADMN19-00058	Church	2.800	TSF
V3	PLAN19-00023	Medical Office	16.500	TSF
V4	PLAN19-00020	Single Family Detached Residential	168	DU

<sup>1</sup> TSF = Thousand Square Feet; VFP = Vehicle Fueling Positions; RM = Room; DU = Dwelling Units

## 4.7 TRAFFIC FORECASTS

To provide a comprehensive assessment of the deficiencies, two types of analyses, “buildup” and “buildout”, were performed in support of this work effort. The “buildup” method was used to approximate E+P and Opening Year Cumulative (2022) traffic conditions and is intended to identify the near-term deficiencies on both the existing and planned near-term circulation system. The Opening Year Cumulative (2022) traffic conditions includes background traffic, traffic generated by other cumulative development projects within the study area, and traffic generated by the proposed Project. The “buildout” method was utilized for Horizon Year traffic conditions and is based on the regional traffic model for 2040 traffic conditions.

## 4.8 NEAR-TERM TRAFFIC CONDITIONS

The “buildup” approach combines existing traffic counts with a background ambient growth factor to forecast Opening Year Cumulative (2022) traffic conditions. An ambient growth factor of 2.0% per year has been used to account for background (area-wide) traffic increases that occur over time up to the year 2022 from the year 2020 (2.0 percent per year growth rate, compounded annually over a 2-year period). Traffic volumes generated by the Project are then added to assess the near-term traffic conditions. The 2022 roadway networks are similar to the Existing conditions roadway network, with the exception of future driveways proposed to be developed by the Project.

The near-term traffic analyses include the following traffic conditions, with the various traffic components:

- Opening Year Cumulative (2022) Without Project
  - Existing 2020 counts
  - Ambient growth (4.04%)
  - Cumulative Development traffic
- Opening Year Cumulative (2022) With Project
  - Existing 2020 counts
  - Ambient growth (4.04%)
  - Cumulative Development traffic
  - Project traffic

## 4.9 HORIZON YEAR (2040) CONDITIONS

Traffic projections for Horizon Year (2040) with Project conditions were derived from the SBTAM modified to represent buildout of the City of Hesperia. The SBTAM uses an AM peak period-to-peak hour factor of 0.35 and a PM peak period-to-peak hour factor of 0.27. These factors represent the relationship of the highest single AM peak hour to the modeled 3-hour AM peak period (an even distribution would result in a factor of 0.33) and the highest single PM peak hour to the modeled 4-hour PM peak period (an even distribution would result in a factor of 0.25).

In some instances, the traffic model zone structure is not designed to provide accurate turning movements along arterial roadways unless refinement and reasonableness checking is performed. Horizon Year (2040) turning volumes were compared to Opening Year Cumulative (2022) volumes in order to ensure a minimum growth as a part of the refinement process, where applicable. The minimum growth includes any additional growth between Opening Year Cumulative (2022) and Horizon Year traffic conditions that is not accounted for by the traffic generated by cumulative development projects and the ambient growth between Existing and Opening Year Cumulative (2022) traffic conditions. The initial estimate of the future Horizon Year (2040) peak hour turning movements were then reviewed by Urban Crossroads for reasonableness at intersections where model results showed unreasonable turning movements. The initial raw model estimates were adjusted to achieve flow conservation (where applicable), reasonable growth, and reasonable diversion between parallel routes. Post-processing worksheets for Horizon Year with Project traffic conditions are provided in Appendix 4.1.

The Horizon Year (2040) conditions analysis will be utilized to determine if improvements funded through regional transportation mitigation fee programs, such as the City's DIF program or other approved funding mechanisms, can accommodate the long-range cumulative traffic at the target LOS identified by the City of Hesperia (lead agency). If the planned and funded improvements can provide the target LOS, then the Project's payment into established fee programs will be considered as cumulative improvements. Other improvements needed beyond the "funded" improvements (such as localized improvements to non-DIF facilities) are identified as such.

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## 5 E+P TRAFFIC ANALYSIS

This section discusses the traffic forecasts for Existing plus Project (E+P) conditions and the resulting peak hour intersection operations, traffic signal warrant, queuing, and freeway facility operations analyses.

### 5.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for E+P conditions are consistent with those shown previously on Exhibit 3-1, with the exception of the following:

- Project driveways and those facilities assumed to be constructed by the Project to provide site access are also assumed to be in place for E+P conditions only (e.g., intersection and roadway improvements at the Project's frontage and driveways). This includes the installation of a traffic signal at both Avenal Street and Yucca Terrace Drive on US 395 and additional lane improvements needed to accommodate site access.

### 5.2 E+P TRAFFIC VOLUME FORECASTS

This scenario includes Existing traffic volumes plus Project traffic. The ADT volumes and weekday AM and PM peak hour intersection turning movement volumes which can be expected for E+P traffic conditions are shown on Exhibit 5-1.

### 5.3 INTERSECTION OPERATIONS ANALYSIS

E+P peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2 *Methodologies* of this TA. The intersection analysis results are summarized in Table 5-1, which indicates that with the addition of Project traffic and implementation of Project design features, the following study area intersection is anticipated to operate at unacceptable LOS for E+P traffic conditions:

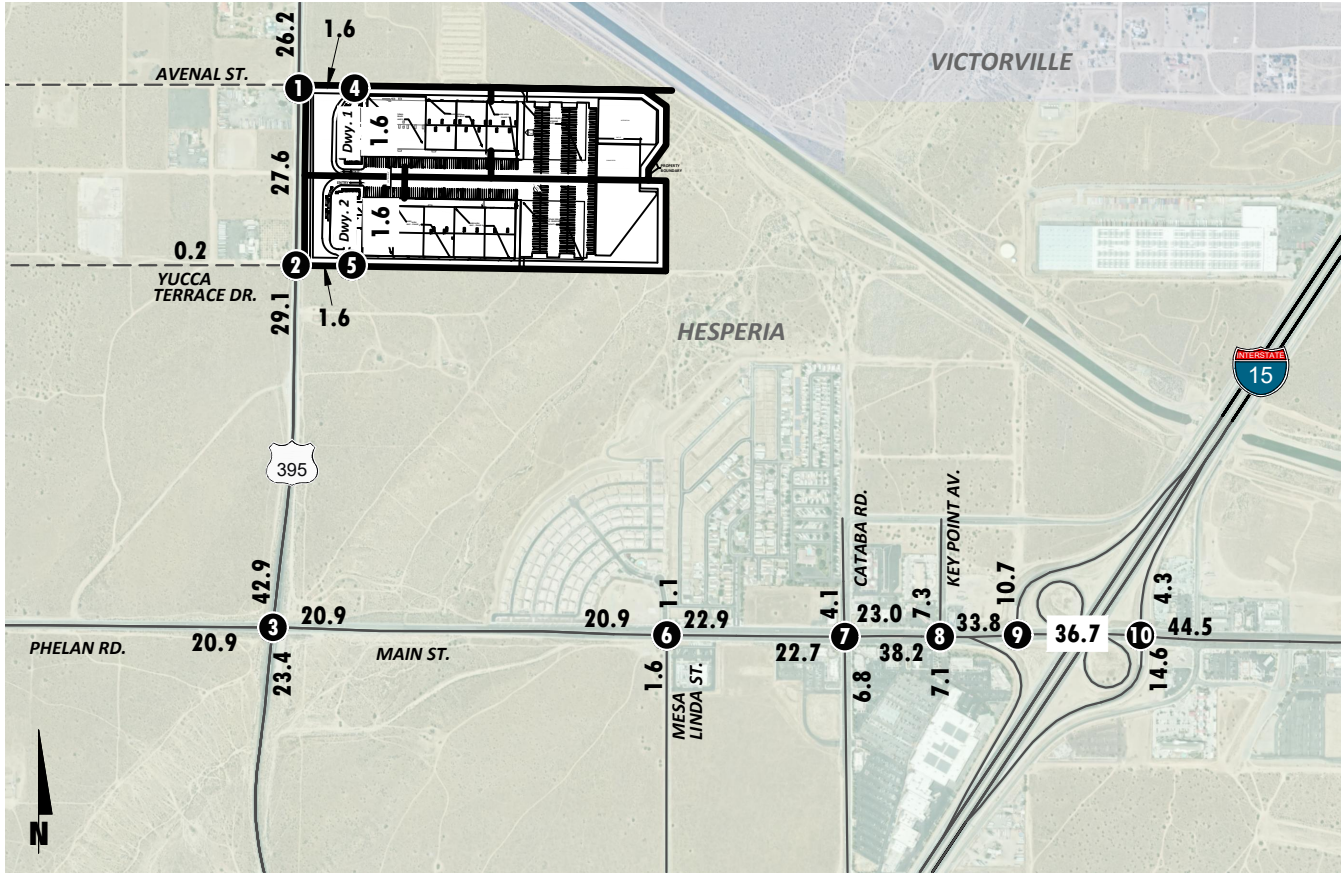
- US Highway 395 & Phelan Road/Main Street (#3) – LOS E PM peak hour only

A summary of the peak hour intersection LOS for E+P traffic conditions is shown on Exhibit 5-2. The intersection operations analysis worksheets for E+P traffic conditions are included in Appendix 5.1.

### 5.4 TRAFFIC SIGNAL WARRANTS ANALYSIS

The intersection of US 395 at Avenal Street is anticipated to meet peak hour volume-based traffic signal warrants under E+P traffic conditions. Traffic signals are to be constructed by the Project at the intersection of US 395 at Avenal Street and US 395 at Yucca Terrace Drive as part of the site adjacent Project design features. For all Project design features, see Section 1.7 *Recommendations* of this report. E+P traffic conditions traffic signal warrant analysis worksheets are provided in Appendix 5.2.

EXHIBIT 5-1: E+P TRAFFIC VOLUMES (IN PCE)



1	2	3	4	5
<b>US Highway 395 &amp; Avenal St.</b> ↑ 0(0) ↓ 1205(1032) ↓ 3(1) ↑ 2(6) ↓ 0(0) ↑ 0(0) ↓ 26(79) ↑ 0(0)	<b>US Highway 395 &amp; Yucca Terrace Dr.</b> ↓ 0(4) ↑ 1225(1105) ↓ 6(2) ↑ 1(4) ↓ 0(0) ↑ 0(0) ↓ 9(32) ↑ 0(0)	<b>US Highway 395 &amp; Phelan Rd./Main St.</b> ↓ 34(54) ↑ 962(807) ↓ 238(277) ↑ 311(292) ↓ 4(9) ↑ 324(668)	<b>Dwy. 1 &amp; Avenal St.</b> ↓ 0(0) ↑ 0(0) ↓ 0(0) ↑ 0(0) ↓ 0(0) ↑ 0(0)	<b>Dwy. 2 &amp; Yucca Terrace Dr.</b> ↓ 10(36) ↑ 0(0) ↓ 0(0) ↑ 0(0) ↓ 0(0) ↑ 0(0)
0(0) ↑ 0(0) 0(0) ↑ 989(1411) 0(0) ↑ 29(12)	0(3) ↑ 0(0) 1(4) ↑ 3(8) ↓ 1017(1416) ↓ 82(30)	54(48) ↑ 665(568) 108(69) ↑ 93(165) ↓ 735(1112) ↓ 9(26)	0(0) ↑ 0(0) 0(0) ↑ 33(13) ↓ 28(86) ↓ 0(0)	89(32) ↑ 0(0) 0(0) ↑ 0(0) 0(0) ↑ 0(0)
6	7	8	9	10
<b>Mesa Linda St. &amp; Main St.</b> ↓ 14(3) ↑ 17(55) ↓ 2(0) ↑ 614(956) ↓ 48(32) ↑ 51(47)	<b>Cataba Rd. &amp; Main St.</b> ↓ 26(113) ↑ 17(44) ↓ 6(30) ↑ 627(810) ↓ 34(70) ↑ 71(192)	<b>Key Point Av. &amp; Main St.</b> ↓ 15(31) ↑ 109(217) ↓ 27(86) ↑ 754(1145) ↓ 146(226) ↑ 140(219)	<b>I-15 SB Ramps &amp; Main St.</b> ↓ 217(414) ↑ 313(551) ↓ 773(1168)	<b>I-15 NB Ramps &amp; Main St.</b> ↓ 462(404) ↑ 1221(1336)
5(5) ↑ 901(860) 2(7) ↑ 2(7) 3(6) ↑ 128(82)	50(78) ↑ 859(784) 37(90) ↑ 31(137) 7(52) ↑ 48(139)	30(56) ↑ 908(1006) 12(24) ↑ 11(30) 11(72) ↑ 80(235)	1016(1294)	1020(1582) ↑ 309(264) 122(198) ↑ 6(0) 395(847)

**LEGEND:**

10(10) = AM(PM) PEAK HOUR INTERSECTION VOLUMES  
 10.0 = VEHICLES PER DAY (1000'S)



EXHIBIT 5-2: E+P SUMMARY OF LOS

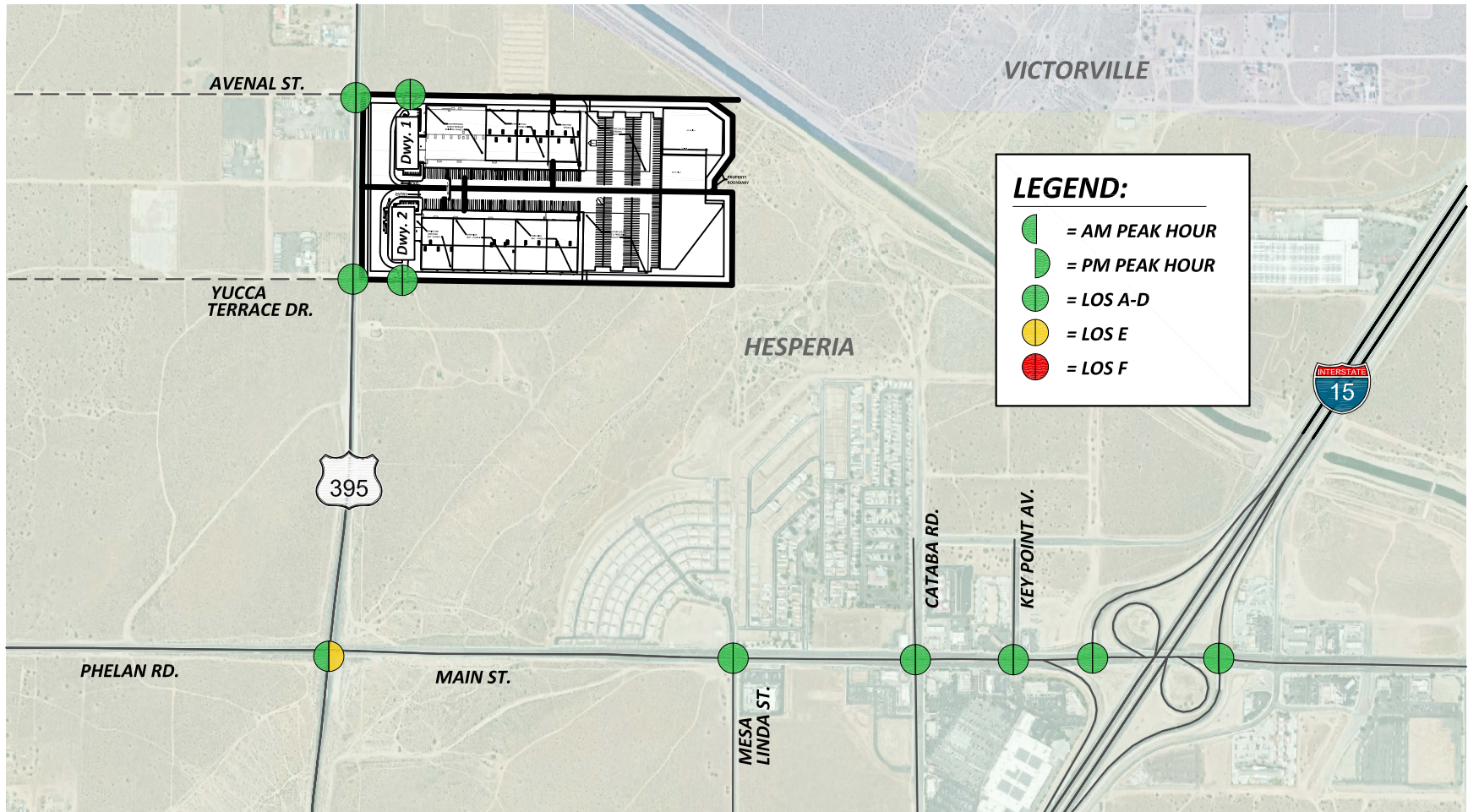


Table 5-1

Intersection Analysis for E+P Conditions

#	Intersection	Traffic Control <sup>2</sup>	Existing (2020)				E+P				Acceptable LOS
			Delay <sup>1</sup> (secs.)		Level of Service		Delay <sup>1</sup> (secs.)		Level of Service		
			AM	PM	AM	PM	AM	PM	AM	PM	
1	US Highway 395 & Avenal St.	<u>TS</u> <sup>3</sup>	Future Intersection				11.2	52.6	B	D	D
2	US Highway 395 & Yucca Terrace Dr.	CSS/ <u>TS</u> <sup>3</sup>	24.0	<b>124.8</b>	C	<b>F</b>	17.1	41.9	B	D	D
3	US Highway 395 & Phelan Rd./Main St.	TS	27.3	50.8	C	D	28.8	<b>63.9</b>	C	E	D
4	Driveway 1 & Avenal St.	<u>CSS</u>	Future Intersection				8.7	8.9	A	A	D
5	Driveway 2 & Yucca Terrace Dr.	<u>CSS</u>	Future Intersection				8.3	8.4	A	A	D
6	Mesa Linda St. & Main St.	TS	16.3	11.0	B	B	16.5	11.1	B	B	D
7	Cataba Rd. & Main St.	TS	15.3	22.3	B	C	15.3	22.4	B	C	D
8	Key Point Av. & Main St.	TS	14.4	23.3	B	C	14.5	23.4	B	C	D
9	I-15 SB Ramps & Main St.	TS	6.2	9.3	A	A	6.4	9.7	A	A	D
10	I-15 NB Ramps & Main St.	TS	4.9	11.6	A	B	5.3	11.6	A	B	D

\* **BOLD** = Level of Service (LOS) does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

<sup>1</sup> Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown. HCM delay reported in seconds.

<sup>2</sup> CSS = Cross-street Stop; TS = Traffic Signal; CSS = Improvement

<sup>3</sup> The Project will construct a traffic signal as part of the Project design features.

## 5.5 QUEUING ANALYSIS

### 5.5.1 ARTERIAL ANALYSIS

A queuing analysis was performed for US Highway 395 at Main Street to assess vehicle queues along the roadways. Queuing analysis findings are presented in Table 5-2. It is important to note that the available stacking distances are consistent with the measured turn pocket lengths. As shown in Table 5-2, the following intersection turning movement is anticipated to experience periodic queuing issues during the peak hours based on the 95<sup>th</sup> percentile peak hour traffic flows with the addition of Project traffic under E+P traffic conditions:

- US Highway 395 & Phelan Road/Main Street (#3) Southbound Left – AM and PM peak hours

Worksheets for E+P traffic conditions queuing analysis are provided in Appendix 5.3.

### 5.5.2 FREEWAY OFF-RAMP ANALYSIS

A queuing analysis was performed for the off-ramps at the I-15 Freeway and Main Street interchange to assess vehicle queues for the off ramps that may potentially result in deficient peak hour operations at the ramp-to-arterial intersections and may potentially “spill back” onto the I-15 Freeway mainline. Queuing analysis findings are presented in Table 5-2. It is important to note that off-ramp lengths are consistent with the measured distance between the intersection and the freeway mainline. As shown in Table 5-2 and consistent with Existing (2020) traffic conditions, there are no off-ramp movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95<sup>th</sup> percentile traffic flows. Worksheets for E+P traffic conditions queuing analysis are provided in Appendix 5.3.

## 5.6 FREEWAY FACILITY ANALYSIS

E+P mainline directional volumes for the AM and PM peak hours are provided on Exhibit 5-3. As shown in Table 5-3, there are no additional study area freeway segments and merge/diverge ramp junctions analyzed for this study that are anticipated to operate at an unacceptable LOS (i.e., LOS E or worse) during the peak hours with the addition of Project traffic for E+P traffic conditions in addition to the deficient locations identified under Existing traffic conditions. E+P freeway facility analysis worksheets are provided in Appendix 5.4.

Table 5-2

Peak Hour Queuing Summary for E+P Conditions

Intersection	Movement	Available Stacking Distance (Feet)	Existing (2020)				E+P			
			95th Percentile Queue (Feet)		Acceptable? <sup>1</sup>		95th Percentile Queue (Feet)		Acceptable? <sup>1</sup>	
			AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour	AM	PM
US Highway 95 & Phelan Rd./Main St.	NBL	280	130	206	Yes	Yes	130 <sup>2,3</sup>	206	Yes	Yes
	SBL	250	249 <sup>2</sup>	<b>293<sup>2</sup></b>	Yes	<b>No</b>	<b>310<sup>2</sup></b>	<b>462<sup>2</sup></b>	<b>No</b>	<b>No</b>
I-15 SB Ramps & Main St.	SBL	1,750	57	143	Yes	Yes	58	148	Yes	Yes
	SBR	1,200	32	244	Yes	Yes	51	266	Yes	Yes
I-15 NB Ramps & Main St.	NBL	1,290	56	139	Yes	Yes	79	15	Yes	Yes
	NBT/R	1,200	82	382	Yes	Yes	82	382	Yes	Yes
	NBR	700	84	381	Yes	Yes	84	381	Yes	Yes

<sup>1</sup> Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided.

<sup>2</sup> 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

<sup>3</sup> An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table.

Table 5-3

Freeway Facility Analysis for E+P Conditions

Freeway	Direction <sup>1</sup>	Mainline Segment	Lanes <sup>2</sup>	Existing (2020)				E+P			
				Density <sup>3</sup>		LOS <sup>4</sup>		Density <sup>3</sup>		LOS <sup>4</sup>	
				AM	PM	AM	PM	AM	PM	AM	PM
I-15 Freeway	SB	North of Main St.	3	20.5	22.4	C	C	20.6	22.5	C	C
		Off-Ramp at Main St.	3	27.6	30.0	D	D	27.8	30.1	D	D
		Loop On-Ramp at Main St.	3	24.4	22.4	C	C	24.4	22.4	C	C
		On-Ramp at Main St.	3	22.8	21.6	C	C	22.9	21.9	C	C
		South of Main St.	3	21.4	20.1	C	C	21.4	20.2	C	C
	NB	North of Main St.	3	18.7	34.5	C	D	18.7	34.8	C	D
		On-Ramp at Main St.	3	22.0	32.9	C	D	22.0	33.0	C	D
		Loop On-Ramp at Main St.	3	18.5	29.9	B	D	14.5	30.1	B	D
		Off-Ramp at Main St.	3	24.0	<b>38.5</b>	C	E	24.4	<b>38.6</b>	C	E
		South of Main St.	3	17.0	<b>39.2</b>	B	E	17.4	<b>39.3</b>	C	E

\* **BOLD** = Unacceptable Level of Service

<sup>1</sup> NB = Northbound; SB = Southbound

<sup>2</sup> Number of lanes are in the specified direction and is based on existing conditions.

<sup>3</sup> Density is measured by passenger cars per mile per lane (pc/mi/ln).

<sup>4</sup> LOS = Level of Service

EXHIBIT 5-3: E+P FREEWAY MAINLINE VOLUMES



**LEGEND:**

← 100/200 = AM/PM PEAK HOUR VOLUMES  
 NOTE: VOLUMES IN ACTUAL VEHICLES (NOT PCE)



## 5.7 RECOMMENDED IMPROVEMENTS

This section provides a summary of E+P deficiencies and recommended improvements. Based on the deficiency criteria discussed in Section 2.7 *Minimum Acceptable Levels of Service (LOS) and Intersection Deficiency Criteria*, the following intersections were found to be deficient. Improvements necessary to improve traffic deficiencies back to acceptable levels are also discussed below.

### 5.7.1 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES AT INTERSECTIONS

The effectiveness of the proposed recommended improvements is presented in Table 5-4 for E+P traffic conditions. The intersection operations analysis worksheets for E+P traffic conditions, with improvements, are included in Appendix 5.5 of this TA.

**Recommended Improvement – US Highway 395 & Phelan Road/Main Street (#3)** – The following improvements are necessary to bring the LOS back to acceptable levels:

- Add a 2<sup>nd</sup> northbound left turn lane.
- Add a 2<sup>nd</sup> southbound left turn lane.

### 5.7.2 RECOMMENDED IMPROVEMENTS TO ADDRESS QUEUING DEFICIENCIES

As shown previously in Table 5-2, there is one peak hour queuing issue at the intersection of US Highway 395 & Phelan Road/Main Street. Recommended improvements to address queuing issues for E+P traffic conditions are shown in Table 5-5 and reflect the recommended improvements to address intersection deficiencies, as previously described in Section 5.8.1 *Recommended Improvements to Address Deficiencies at Intersections*. The 2<sup>nd</sup> southbound left turn pocket needed to address peak hour intersection operations (as shown on Table 5-4) would also improve the 95<sup>th</sup> percentile peak hour queues for E+P traffic conditions at the intersection of US Highway 395 & Phelan Road/Main Street. Worksheets for E+P traffic conditions off-ramp queuing analysis, with improvements, are provided in Appendix 5.6.

### 5.7.3 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES ON FREEWAY FACILITIES

As shown previously in Table 5-3, there are study area freeway mainline segments and ramp junctions that are anticipated to operate at an unacceptable LOS for E+P traffic conditions. At this time, Caltrans has no fee programs or other improvement programs in place to address the deficiencies caused by development projects in the City of Hesperia (or other neighboring jurisdictions) on the SHS roadway segments. As such, no improvements have been recommended to address the E+P deficiencies on the SHS.

Table 5-4

Intersection Analysis for E+P Conditions With Improvements

#	Intersection	Traffic Control <sup>3</sup>	Intersection Approach Lanes <sup>1</sup>												Delay <sup>2</sup> (secs.)		Level of Service	
			Northbound			Southbound			Eastbound			Westbound			AM	PM	AM	PM
			L	T	R	L	T	R	L	T	R	L	T	R				
3	US Highway 395 & Phelan Rd./Main St. <i>Existing (2020)</i>																	
	- Without Improvements	TS	1	2	0	1	2	0	1	2	0	1	2	0	27.3	50.8	C	D
	- With Improvements		Not Applicable															
	<i>E+P</i>																	
	- Without Improvements	TS	1	2	0	1	2	0	1	2	0	1	2	0	28.8	<b>63.9</b>	C	E
	- With Improvements	TS	<b>2</b>	2	0	<b>2</b>	2	0	1	2	0	1	2	0	25.9	46.1	C	D

<sup>1</sup> When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; **1** = Improvement

<sup>2</sup> Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

<sup>3</sup> CSS = Cross-street Stop; TS = Traffic Signal; **TS** = Improvement



Table 5-5

Peak Hour Queuing Summary for E+P Conditions With Improvements

Intersection	Movement	Available Stacking Distance (Feet)	Existing (2020)				E+P			
			95th Percentile Queue (Feet)		Acceptable? <sup>1</sup>		95th Percentile Queue (Feet)		Acceptable? <sup>1</sup>	
			AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour	AM	PM
US Highway 95 & Phelan Rd./Main St.	NBL	280	Not Applicable				67	105	Yes	Yes
	SBL	250					138	203 <sup>2</sup>	Yes	Yes

<sup>1</sup> Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided.

<sup>2</sup> 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

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## 6 OPENING YEAR CUMULATIVE (2022) TRAFFIC ANALYSIS

This section discusses the traffic forecasts for Opening Year Cumulative (2022) conditions and the resulting peak hour intersection operations, traffic signal warrant, queuing, and freeway facility operations analyses.

### 6.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for Opening Year Cumulative (2022) conditions are consistent with those shown previously on Exhibit 3-1, with the exception of the following:

- Project driveways and those facilities assumed to be constructed by the Project to provide site access are also assumed to be in place for Opening Year Cumulative conditions only (e.g., intersection and roadway improvements along the Project's frontage and driveways). This includes the installation of a traffic signal at both Avenal Street and Yucca Terrace Drive on US 395 and additional lane improvements needed to accommodate site access.
- Driveways and those facilities assumed to be constructed by cumulative developments to provide site access are also assumed to be in place for Opening Year Cumulative conditions only (e.g., intersection and roadway improvements along the cumulative development's frontages and driveways).

### 6.2 OPENING YEAR CUMULATIVE (2022) WITHOUT PROJECT VOLUME FORECASTS

To account for background traffic, other known cumulative development projects in the study area were included in addition to 4.04% of ambient growth for Opening Year Cumulative traffic conditions. The weekday ADT and weekday AM and PM peak hour volumes which can be expected for Opening Year Cumulative (2022) Without Project traffic conditions are shown on Exhibit 6-1.

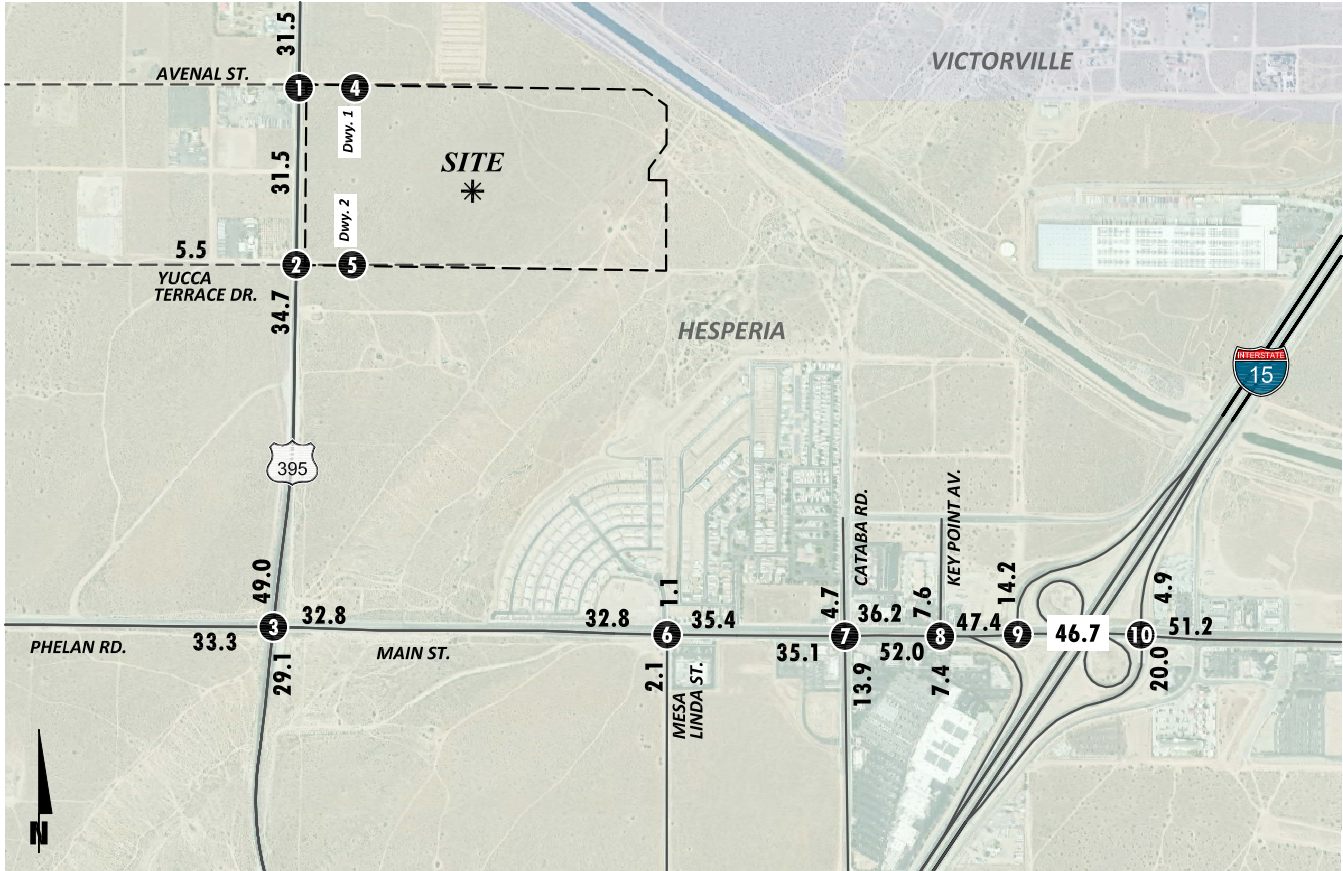
### 6.3 OPENING YEAR CUMULATIVE (2022) WITH PROJECT VOLUME FORECASTS

To account for background traffic, other known cumulative development projects in the study area were included in addition to 4.04% of ambient growth for Opening Year Cumulative traffic conditions in conjunction with traffic associated with the proposed Project. The weekday ADT and weekday AM and PM peak hour volumes which can be expected for Opening Year Cumulative (2022) With Project traffic conditions are shown on Exhibit 6-2.

### 6.4 INTERSECTION OPERATIONS ANALYSIS

Opening Year Cumulative (2022) Without and With Project peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2 *Methodologies* of this TA. The intersection analysis results are summarized in Table 6-1 for both Opening Year Cumulative (2022) Without and With Project traffic conditions.

**EXHIBIT 6-1: OPENING YEAR CUMULATIVE (2022) WITHOUT PROJECT TRAFFIC VOLUMES (IN PCE)**

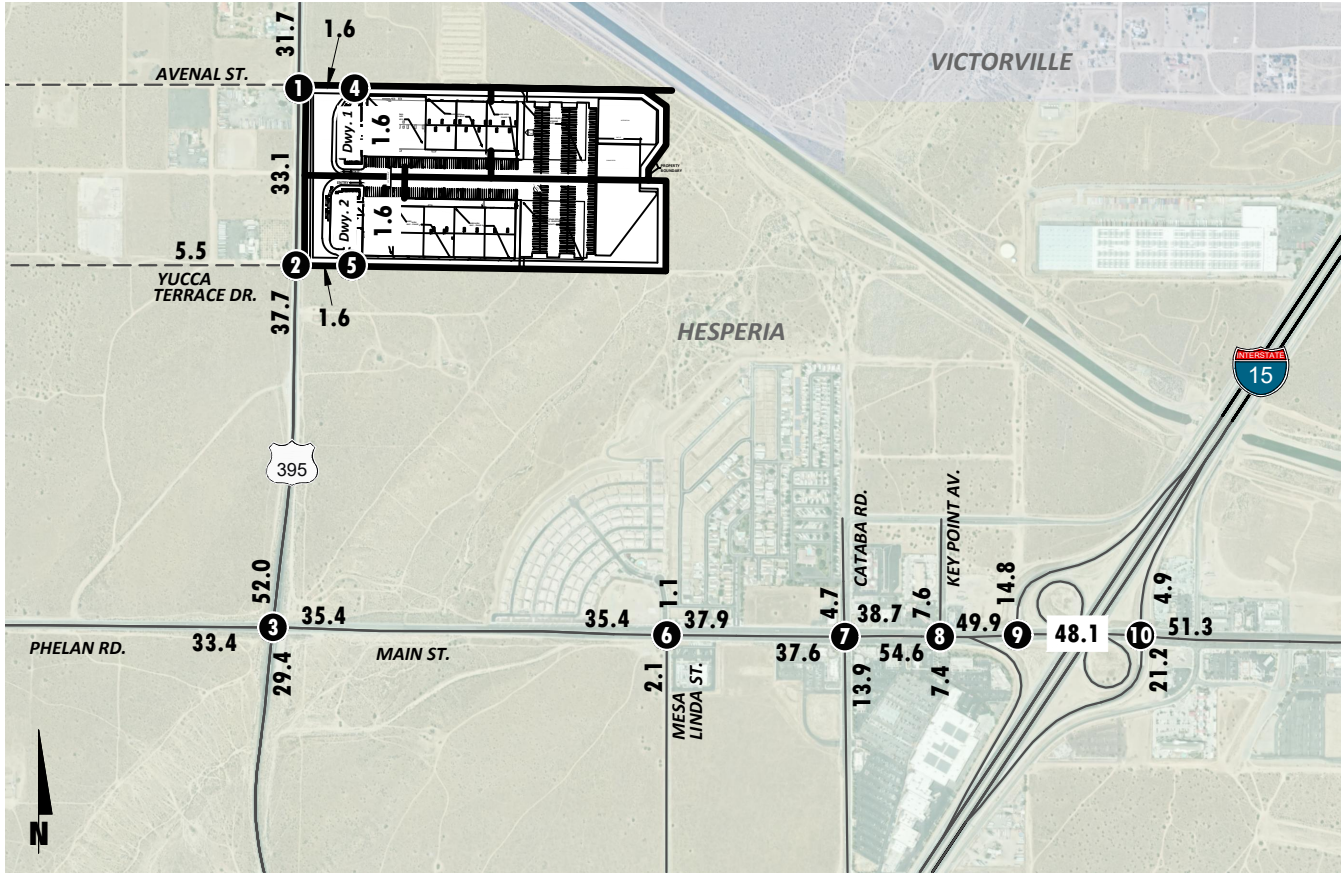


1	2	3	4	5
<b>US Highway 395 &amp; Avenal St.</b> ↑ 0(0) ↓ 1510(1253) ↑ 0(0) ↓ 0(0) ↑ 0(0) ↓ 0(0) ↓ 0(0) ↑ 0(0) ↓ 0(0) ↑ 0(0)	<b>US Highway 395 &amp; Yucca Terrace Dr.</b> ↓ 111(27) ↑ 1399(1226) ↓ 0(0) ↑ 0(0) ↓ 0(0) ↑ 0(0)	<b>US Highway 395 &amp; Phelan Rd./Main St.</b> ↓ 73(93) ↑ 1078(982) ↓ 322(563) ↑ 505(352) ↓ 21(25) ↑ 1141(909)	<b>Dwy. 1 &amp; Avenal St.</b> Future Intersection	<b>Dwy. 2 &amp; Yucca Terrace Dr.</b> Future Intersection
0(0) ↓ 0(0) ↓ 0(0) 0(0) ↓ 0(0) ↓ 0(0) 1172(1726) ↓ 0(0)	19(110) ↓ 0(0) ↓ 74(413) 324(71) ↓ 1153(1616) ↓ 0(0)	89(88) ↓ 861(1255) ↓ 172(200) 225(241) ↓ 883(1246) ↓ 24(47)		
<b>6 Mesa Linda St. &amp; Main St.</b> ↓ 14(3) ↓ 2(0) ↓ 48(32) ↓ 17(55) ↓ 614(956) ↓ 51(47)	<b>7 Cataba Rd. &amp; Main St.</b> ↓ 27(117) ↓ 13(34) ↓ 36(74) ↓ 19(47) ↓ 1538(1078) ↓ 259(299)	<b>8 Key Point Av. &amp; Main St.</b> ↓ 15(32) ↓ 28(89) ↓ 152(236) ↓ 114(226) ↓ 1857(1549) ↓ 147(229)	<b>9 I-15 SB Ramps &amp; Main St.</b> ↓ 668(544) ↓ 365(598) ↓ 1434(1438)	<b>10 I-15 NB Ramps &amp; Main St.</b> ↓ 501(462) ↓ 1480(1557)
5(5) ↓ 901(860) ↓ 3(6) 0(10) ↓ 2(7) ↓ 128(82)	72(92) ↓ 1101(1774) ↓ 79(100) 163(201) ↓ 13(57) ↓ 141(191)	31(58) ↓ 1243(2078) ↓ 13(25) 11(31) ↓ 12(75) ↓ 83(245)	1271(1938)	1214(1850) ↓ 423(687) 569(301) ↓ 6(0) ↓ 450(906)

**LEGEND:**

10(10) = AM(PM) PEAK HOUR INTERSECTION VOLUMES  
 10.0 = VEHICLES PER DAY (1000'S)

**EXHIBIT 6-2: OPENING YEAR CUMULATIVE (2022) WITH PROJECT TRAFFIC VOLUMES (IN PCE)**



1	2	3	4	5
<b>US Highway 395 &amp; Avenal St.</b>	<b>US Highway 395 &amp; Yucca Terrace Dr.</b>	<b>US Highway 395 &amp; Phelan Rd./Main St.</b>	<b>Dwy. 1 &amp; Avenal St.</b>	<b>Dwy. 2 &amp; Yucca Terrace Dr.</b>
↓ 0(0) ↓ 1515(1252) ↓ 3(1) ↓ 26(79) ↓ 2(6) ↓ 0(0)	↓ 111(27) ↓ 1424(1302) ↓ 6(2) ↓ 9(31) ↓ 1(3) ↓ 0(0)	↓ 75(100) ↓ 1082(996) ↓ 350(649) ↓ 21(25) ↓ 595(384) ↓ 1141(909)	↓ 0(0) ↓ 0(0) ↓ 0(0) ↓ 0(0)	↓ 10(36) ↓ 0(0) ↓ 0(0) ↓ 0(0)
0(0) → 0(0) → 0(0) → 1172(1728) → 29(12) →	19(110) → 0(0) → 74(413) → 324(71) → 1181(1627) → 81(28) →	95(91) → 861(1255) → 172(200) → 225(241) → 896(1251) → 24(47) →	0(0) → 0(0) → 33(13) → 28(86) → 0(0) → 0(0) →	89(32) → 0(0) → 0(0) → 0(0) →
<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<b>Mesa Linda St. &amp; Main St.</b>	<b>Cataba Rd. &amp; Main St.</b>	<b>Key Point Av. &amp; Main St.</b>	<b>I-15 SB Ramps &amp; Main St.</b>	<b>I-15 NB Ramps &amp; Main St.</b>
↓ 15(3) ↓ 2(0) ↓ 50(33) ↓ 18(57) ↓ 1640(1272) ↓ 111(90)	↓ 27(117) ↓ 13(34) ↓ 36(74) ↓ 19(47) ↓ 1628(1110) ↓ 259(299)	↓ 15(32) ↓ 28(89) ↓ 152(236) ↓ 114(226) ↓ 1947(1581) ↓ 147(229)	↓ 709(558) ↓ 365(596) ↓ 1484(1456)	↓ 501(462) ↓ 1486(1560)
5(5) → 1196(1855) → 3(6) → 0(10) → 2(7) → 133(85) →	72(92) → 1129(1860) → 79(100) → 163(201) → 13(57) → 141(191) →	31(58) → 1271(2164) → 13(25) → 11(31) → 12(75) → 83(245) →	1285(1983) →	1216(1857) → 435(726) → 612(316) → 6(0) → 450(906) →

**LEGEND:**

10(10) = AM(PM) PEAK HOUR INTERSECTION VOLUMES  
 10.0 = VEHICLES PER DAY (1000'S)

Table 6-1

Intersection Analysis for Opening Year Cumulative (2022) Conditions

#	Intersection	Traffic Control <sup>2</sup>	2022 Without Project				2022 With Project				Acceptable LOS
			Delay <sup>1</sup> (secs.)		Level of Service		Delay <sup>1</sup> (secs.)		Level of Service		
			AM	PM	AM	PM	AM	PM	AM	PM	
1	US Highway 395 & Avenal St.	<u>TS</u> <sup>3</sup>	Future Intersection				42.7	<b>119.4</b>	D	F	D
2	US Highway 395 & Yucca Terrace Dr.	CSS/ <u>TS</u> <sup>3</sup>	<b>&gt;200.0</b>	<b>&gt;200.0</b>	F	F	<b>&gt;200.0</b>	<b>196.0</b>	F	F	D
3	US Highway 395 & Phelan Rd./Main St.	TS	<b>152.3</b>	<b>&gt;200.0</b>	F	F	<b>171.8</b>	<b>&gt;200.0</b>	F	F	D
4	Driveway 1 & Avenal St.	<u>CSS</u>	Future Intersection				8.7	8.9	A	A	D
5	Driveway 2 & Yucca Terrace Dr.	<u>CSS</u>	Future Intersection				8.3	8.4	A	A	D
6	Mesa Linda St. & Main St.	TS	16.5	11.1	B	B	21.1	16.1	C	B	D
7	Cataba Rd. & Main St.	TS	32.3	43.5	C	D	33.2	52.0	C	D	D
8	Key Point Av. & Main St.	TS	14.7	43.2	B	D	14.9	50.9	B	D	D
9	I-15 SB Ramps & Main St.	TS	20.4	16.6	C	B	24.2	17.6	C	B	D
10	I-15 NB Ramps & Main St.	TS	17.9	14.5	B	B	20.4	14.9	C	B	D

\* **BOLD** = Level of Service (LOS) does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

<sup>1</sup> Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown. HCM delay reported in seconds.

<sup>2</sup> CSS = Cross-street Stop; TS = Traffic Signal; CSS = Improvement

<sup>3</sup> The Project will construct a traffic signal as part of the Project design features.

#### 6.4.1 OPENING YEAR CUMULATIVE (2022) WITHOUT PROJECT CONDITIONS

Opening Year Cumulative (2022) peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2 *Methodologies* of this TA. The intersection analysis results are summarized in Table 6-1 and shown on Exhibit 6-3, which indicates that the following intersections are anticipated to operate at an unacceptable LOS during the peak hours:

- US Highway 395 & Yucca Terrace Drive (#2) – LOS F AM and PM peak hours
- US Highway 395 & Phelan Road/Main Street (#3) – LOS E PM peak hour only

The intersection operations analysis worksheets for Opening Year Cumulative (2022) Without Project traffic conditions are included in Appendix 6.1 of this TA.

#### 6.4.2 OPENING YEAR CUMULATIVE (2022) WITH PROJECT CONDITIONS

With the addition of Project traffic, the following additional study area intersection is anticipated to operate at an unacceptable LOS during the peak hours:

- US Highway 395 & Avenal Street (#1) – LOS F PM peak hour only

Consistent with Table 6-1, a summary of the peak hour intersection LOS for Opening Year Cumulative (2022) With Project conditions are shown on Exhibit 6-4. The intersection operations analysis worksheets for Opening Year Cumulative (2022) With Project traffic conditions are included in Appendix 6.2 of this TA.

#### 6.5 TRAFFIC SIGNAL WARRANTS ANALYSIS

The following intersection is anticipated to meet a peak hour volume-based traffic signal warrant for Opening Year Cumulative (2022) Without Project:

- US Highway 395 & Yucca Terrace Drive (#2)

There are no additional intersections anticipated to meet traffic signal warrants for Opening Year Cumulative (2022) With Project traffic conditions. Traffic signal will be constructed by the Project at the intersections of US Highway 395 & Avenal Street and US Highway 395 & Yucca Terrace Drive as part of the site adjacent Project design features. For all Project design features, see Section 1.7 *Recommendations* of this report. Worksheets for Opening Year Cumulative (2022) Without and With Project traffic conditions signal warrants are provided in Appendices 6.3 and 6.4, respectively.

**EXHIBIT 6-3: OPENING YEAR CUMULATIVE (2022) WITHOUT PROJECT SUMMARY OF LOS**

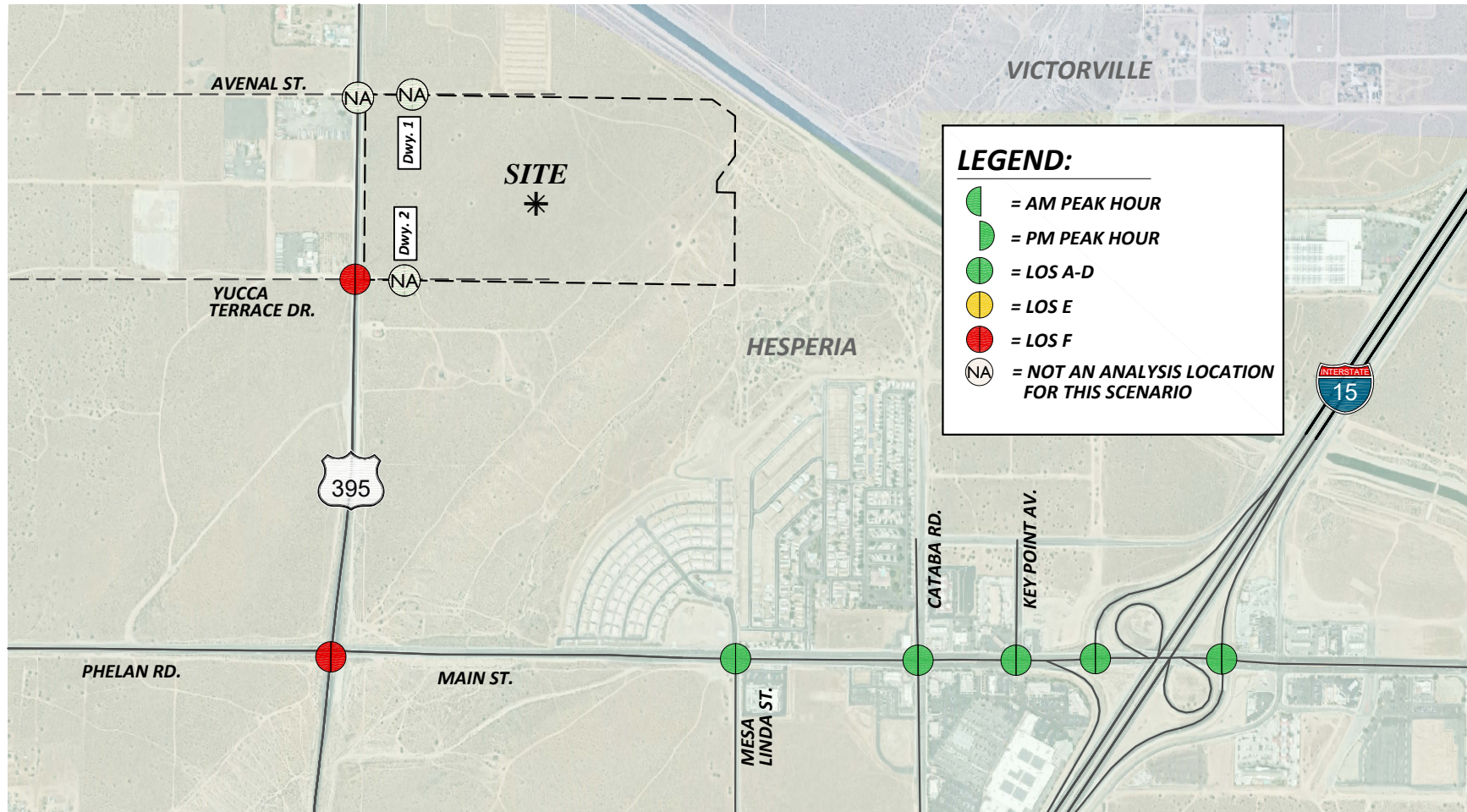
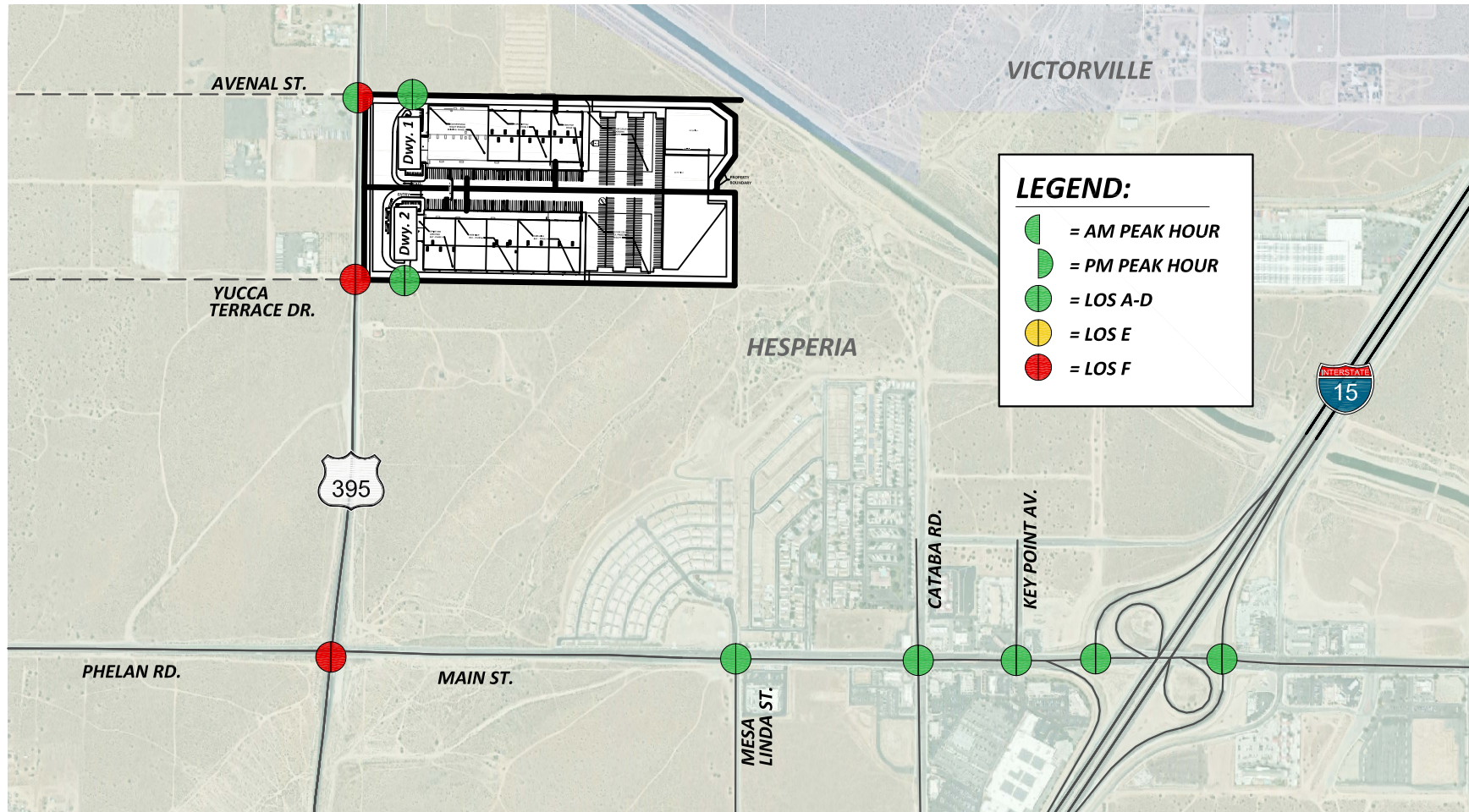




EXHIBIT 6-4: OPENING YEAR CUMULATIVE (2022) WITH PROJECT SUMMARY OF LOS



## 6.6 QUEUING ANALYSIS

### 6.6.1 ARTERIAL ANALYSIS

A queuing analysis was performed for US Highway 395 at Main Street. Queuing analysis findings are presented in Table 6-2. It is important to note that the available stacking distances are consistent with the measured turn pocket lengths. As shown in Table 6-2, the following intersection turning movements are anticipated to experience periodic queuing issues during the peak hours based on the 95<sup>th</sup> percentile peak hour traffic flows for Opening Year Cumulative (2022) Without and With Project traffic conditions:

- US Highway 395 & Phelan Road/Main Street (#3) Northbound Left – AM and PM peak hours
- US Highway 395 & Phelan Road/Main Street (#3) Southbound Left – AM and PM peak hours

Worksheets for Opening Year Cumulative (2022) Without Project traffic conditions queuing analysis are provided in Appendix 6.5. Worksheets for Opening Year Cumulative (2022) With Project traffic conditions queuing analysis are provided in Appendix 6.6.

### 6.6.2 FREEWAY OFF-RAMP ANALYSIS

A queuing analysis was performed for the off-ramps at the I-15 Freeway and Main Street interchange to assess vehicle queues for the off ramps that may potentially result in deficient peak hour operations at the ramp-to-arterial intersections and may potentially “spill back” onto the I-15 Freeway mainline. Queuing analysis findings are presented in Table 6-2. It is important to note that off-ramp lengths are consistent with the measured distance between the intersection and the freeway mainline. As shown in Table 6-2 and consistent with Existing (2020) traffic conditions, there are no off-ramp movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95<sup>th</sup> percentile traffic flows under Opening Year Cumulative (2022) Without Project traffic conditions. Worksheets for Opening Year Cumulative (2022) Without Project traffic conditions off-ramp queuing analysis are provided in Appendix 6.5.

There are no off-ramp movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95<sup>th</sup> percentile traffic flows under Opening Year Cumulative (2022) With Project traffic conditions. Worksheets for Opening Year Cumulative (2022) With Project traffic conditions off-ramp queuing analysis are provided in Appendix 6.6.

Table 6-2

Peak Hour Queuing Summary for Opening Year Cumulative (2022) Conditions

Intersection	Movement	Available Stacking Distance (Feet)	2022 Without Project				2022 With Project			
			95th Percentile Queue (Feet)		Acceptable? <sup>1</sup>		95th Percentile Queue (Feet)		Acceptable? <sup>1</sup>	
			AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour	AM	PM
US Highway 95 & Phelan Rd./Main St.	NBL	280	394 <sup>2</sup>	360 <sup>2</sup>	No	No	394 <sup>2</sup>	360 <sup>2</sup>	No	No
	SBL	250	469 <sup>2</sup>	652 <sup>2</sup>	No	No	631 <sup>2</sup>	671 <sup>2</sup>	No	No
I-15 SB Ramps & Main St.	SBL	1,750	114	194	Yes	Yes	119	194	Yes	Yes
	SBR	1,200	710 <sup>2</sup>	474	Yes	Yes	804 <sup>2</sup>	493	Yes	Yes
I-15 NB Ramps & Main St.	NBL	1,290	649 <sup>2</sup>	233	Yes	Yes	718 <sup>2</sup>	246	Yes	Yes
	NBT/R	1,200	158	421	Yes	Yes	158	421	Yes	Yes
	NBR	700	161	421	Yes	Yes	162	421	Yes	Yes

<sup>1</sup> Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided.

<sup>2</sup> 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

<sup>3</sup> An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table.

## 6.7 FREEWAY FACILITY ANALYSIS

Opening Year Cumulative (2022) Without Project mainline directional volumes for the AM and PM peak hours are provided on Exhibit 6-5. As shown in Table 6-3, the following study area freeway segments and merge/diverge ramp junctions analyzed for this study are anticipated to operate at an unacceptable LOS (i.e., LOS E or worse) during the peak hours for Opening Year Cumulative (2022) Without Project traffic conditions:

- I-15 Freeway Northbound, North of Main Street (#6) – LOS E PM peak hour only
- I-15 Freeway Northbound, On-Ramp at Main Street (#7) – LOS E PM peak hour only
- I-15 Freeway Northbound, Off-Ramp at Main Street (#9) – LOS E PM peak hour only
- I-15 Freeway Northbound, South of Main Street (#10) – LOS E PM peak hour only

Opening Year Cumulative (2022) Without Project freeway facility analysis worksheets are provided in Appendix 6.7.

Opening Year Cumulative (2022) With Project mainline directional volumes for the AM and PM peak hours are provided on Exhibit 6-6. There are no additional study area freeway segments or ramp junctions anticipated to operate at an unacceptable LOS with the addition of Project traffic under Opening Year Cumulative (2022) With Project traffic conditions. Opening Year Cumulative (2022) With Project freeway facility analysis worksheets are provided in Appendix 6.8.

## 6.8 RECOMMENDED IMPROVEMENTS

This section provides a summary of Opening Year Cumulative (2022) deficiencies and recommended improvements. Based on the deficiency criteria discussed in Section 2.7 *Minimum Acceptable Levels of Service (LOS) and Intersection Deficiency Criteria*, the following intersections were found to be deficient. Improvements necessary to improve traffic deficiencies back to acceptable levels are also discussed below.

### 6.8.1 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES AT INTERSECTIONS

The effectiveness of the proposed recommended improvements is presented in Table 6-4 for Opening Year Cumulative (2022) traffic conditions. The intersection operations analysis worksheets for Opening Year Cumulative (2022) Without Project and With Project traffic conditions, with improvements, are included in Appendices 6.9 and 6.10, respectively.

**EXHIBIT 6-5: OPENING YEAR CUMULATIVE (2022) WITHOUT PROJECT FREEWAY MAINLINE VOLUMES**



**LEGEND:**

← 100/200 = AM/PM PEAK HOUR VOLUMES  
 NOTE: VOLUMES IN ACTUAL VEHICLES (NOT PCE)



**EXHIBIT 6-6: OPENING YEAR CUMULATIVE (2022) WITH PROJECT FREEWAY MAINLINE VOLUMES**



**LEGEND:**

← 100/200 = AM/PM PEAK HOUR VOLUMES  
 NOTE: VOLUMES IN ACTUAL VEHICLES (NOT PCE)



Table 6-3

Freeway Facility Analysis for Opening Year Cumulative (2022) Conditions

Freeway	Direction <sup>1</sup>	Mainline Segment	Lanes <sup>2</sup>	2022 Without Project				2022 With Project			
				Density <sup>3</sup>		LOS <sup>4</sup>		Density <sup>3</sup>		LOS <sup>4</sup>	
				AM	PM	AM	PM	AM	PM	AM	PM
I-15 Freeway	SB	North of Main St.	3	24.5	24.4	C	C	24.7	24.5	C	C
		Off-Ramp at Main St.	3	31.8	31.9	D	D	32.0	32.0	D	D
		Loop On-Ramp at Main St.	3	25.4	23.5	C	C	25.4	23.5	C	C
		On-Ramp at Main St.	3	24.5	26.0	C	C	24.6	26.3	C	C
		South of Main St.	3	23.1	23.6	C	C	23.1	23.8	C	C
	NB	North of Main St.	3	20.2	<b>43.4</b>	C	E	20.2	<b>43.8</b>	C	E
		On-Ramp at Main St.	3	23.5	<b>36.8</b>	C	E	23.5	<b>23.9</b>	C	E
		Loop On-Ramp at Main St.	3	20.1	30.7	C	D	20.1	35.0	C	D
		Off-Ramp at Main St.	3	28.9	<b>40.9</b>	D	E	29.1	<b>41.0</b>	D	E
		South of Main St.	3	20.9	<b>44.4</b>	C	E	21.0	<b>44.6</b>	C	E

\* **BOLD** = Unacceptable Level of Service

<sup>1</sup> NB = Northbound; SB = Southbound

<sup>2</sup> Number of lanes are in the specified direction and is based on existing conditions.

<sup>3</sup> Density is measured by passenger cars per mile per lane (pc/mi/ln).

<sup>4</sup> LOS = Level of Service

Table 6-4

Intersection Analysis for Opening Year Cumulative (2022) Conditions With Improvements

#	Intersection	Traffic Control <sup>3</sup>	Intersection Approach Lanes <sup>1</sup>												Delay <sup>2</sup> (secs.)		Level of Service				
			Northbound			Southbound			Eastbound			Westbound			AM	PM	AM	PM			
			L	T	R	L	T	R	L	T	R	L	T	R							
1	US Highway 395 & Avenal St. - Without Project - With Project		Future Intersection																		
		<b>TS</b>	0	<u>2</u>	0	<u>1</u>	<u>2</u>	0	0	0	0	0	0	0	1	0	5.7	8.5	A	A	
2	US Highway 395 & Yucca Terrace Dr. - Without Project - With Project	TS <b>TS</b>	<u>1</u>	<u>2</u>	0	<u>1</u>	<u>2</u>	0	0	1	0	0	<u>1</u>	0	0	<u>1</u>	0	28.5	25.8	C	C
		<b>TS</b>	<u>1</u>	<u>2</u>	0	<u>1</u>	<u>2</u>	0	<u>1</u>	1	0	<u>1</u>	<u>1</u>	0	<u>1</u>	<u>1</u>	0	30.3	33.2	C	C
3	US Highway 395 & Phelan Rd./Main St. - Without Project - With Project	TS <b>TS</b>	<u>2</u>	2	0	<u>2</u>	2	0	1	<u>3</u>	0	1	<u>3</u>	<u>1</u>	>			37.9	52.8	D	D
		<b>TS</b>	<u>2</u>	2	0	<u>2</u>	2	0	1	<u>3</u>	0	1	<u>3</u>	<u>1</u>	>			41.1	54.8	D	D

<sup>1</sup> When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; > = Right-Turn Overlap Phasing; 1 = Improvement

<sup>2</sup> Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

<sup>3</sup> TS = Traffic Signal; **TS** = Improvement



**Recommended Improvement – US Highway 395 & Yucca Terrace Drive (#2)** – The following improvements are necessary to bring the LOS back to acceptable levels:

- Add a traffic signal.
- Add a northbound left turn lane and 2<sup>nd</sup> through lane.
- Add a southbound left turn lane and 2<sup>nd</sup> through lane.
- Add an eastbound left turn lane.
- Add a westbound left turn lane and shared through-right turn lane.

**Recommended Improvement – US Highway 395 & Phelan Road/Main Street (#3)** – The following improvements are necessary to bring the LOS back to acceptable levels:

- Add a 2<sup>nd</sup> northbound left turn lane.
- Add a 2<sup>nd</sup> southbound left turn lane.
- Add a 3<sup>rd</sup> eastbound through lane.
- Add a 3<sup>rd</sup> westbound through lane.
- Add a westbound right turn lane.
- Modify the traffic signal to implement overlap phasing for the westbound right turn lane.

The following additional improvements are required for Opening Year Cumulative (2022) With Project traffic conditions only:

**Recommended Improvement – US Highway 395 & Avenal Street (#1)** – The following improvements are necessary to bring the LOS back to acceptable levels:

- Add a traffic signal.
- Add a 2<sup>nd</sup> northbound through lane.
- Add a southbound left turn lane and 2<sup>nd</sup> through lane.
- Add a westbound shared left-right turn lane.

## 6.8.2 RECOMMENDED IMPROVEMENTS TO ADDRESS QUEUING DEFICIENCIES

As shown previously in Table 6-2, there are peak hour queuing issues at Main Street. Recommended improvements to address queuing issues for Opening Year Cumulative (2022) traffic conditions are shown in Table 6-5 and reflect the recommended improvements to address intersection deficiencies, as previously described in Section 6.8.1 *Recommended Improvements to Address Deficiencies at Intersections*. In order to accommodate the 95<sup>th</sup> percentile peak hour queues for Opening Year Cumulative (2022) traffic conditions, 430-foot southbound dual left turn pockets are recommended at the intersection of US Highway 395 & Phelan Road/Main Street. Opening Year Cumulative (2022) Without Project and With Project traffic conditions with improvements queuing analysis worksheets are provided in Appendices 6.11 and 6.12, respectively.

### **6.8.3 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES ON FREEWAY FACILITIES**

As shown previously in Table 6-3, there are study area freeway mainline segments and ramp junctions that are anticipated to operate at an unacceptable LOS for Opening Year Cumulative (2022) traffic conditions. At this time, Caltrans has no fee programs or other improvement programs in place to address the deficiencies caused by development projects in the City of Hesperia (or other neighboring jurisdictions) on the SHS roadway segments. As such, no improvements have been recommended to address the Opening Year Cumulative (2022) deficiencies on the SHS.

Table 6-5

Peak Hour Queuing Summary for Opening Year Cumulative (2022) Conditions With Improvements

Intersection	Movement	Available Stacking Distance (Feet)	2022 Without Project				2022 With Project			
			95th Percentile Queue (Feet)		Acceptable? <sup>1</sup>		95th Percentile Queue (Feet)		Acceptable? <sup>1</sup>	
			AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour	AM	PM
US Highway 95 & Phelan Rd./Main St.	NBL	280	142 <sup>2</sup>	138	Yes	Yes	142 <sup>2</sup>	138	Yes	Yes
	SBL	<u>430</u>	173	346 <sup>2</sup>	Yes	Yes	188	415 <sup>2</sup>	Yes	Yes

<sup>1</sup> Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided.

<sup>2</sup> 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

<sup>3</sup> An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table.

<sup>4</sup> 100 = Improvement

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## 7 HORIZON YEAR (2040) TRAFFIC ANALYSIS

This section discusses the methods used to develop Horizon Year (2040) Without and With Project traffic forecasts and the resulting peak hour intersection operations, traffic signal warrant, queuing, freeway facility operations analyses.

### 7.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for Horizon Year (2040) conditions are consistent with those shown previously on Exhibit 3-1, with the exception of the following:

- Project driveways and those facilities assumed to be constructed by the Project to provide site access are also assumed to be in place for Horizon Year (2040) traffic conditions only (e.g., intersection and roadway improvements along the Project's frontage and driveways). This includes the installation of a traffic signal at both Avenal Street and Yucca Terrace Drive on US 395 and additional lane improvements needed to accommodate site access.
- Other parallel facilities, that although not evaluated for the purposes of this analysis, are anticipated to be in place for Horizon Year traffic conditions and would affect the travel patterns within the study area.
- The future I-15 Freeway and Muscatel interchange is assumed to be constructed. Although the interchange is not included as part of this analysis, the shift in traffic patterns due to the future Muscatel Interchange has been assumed.

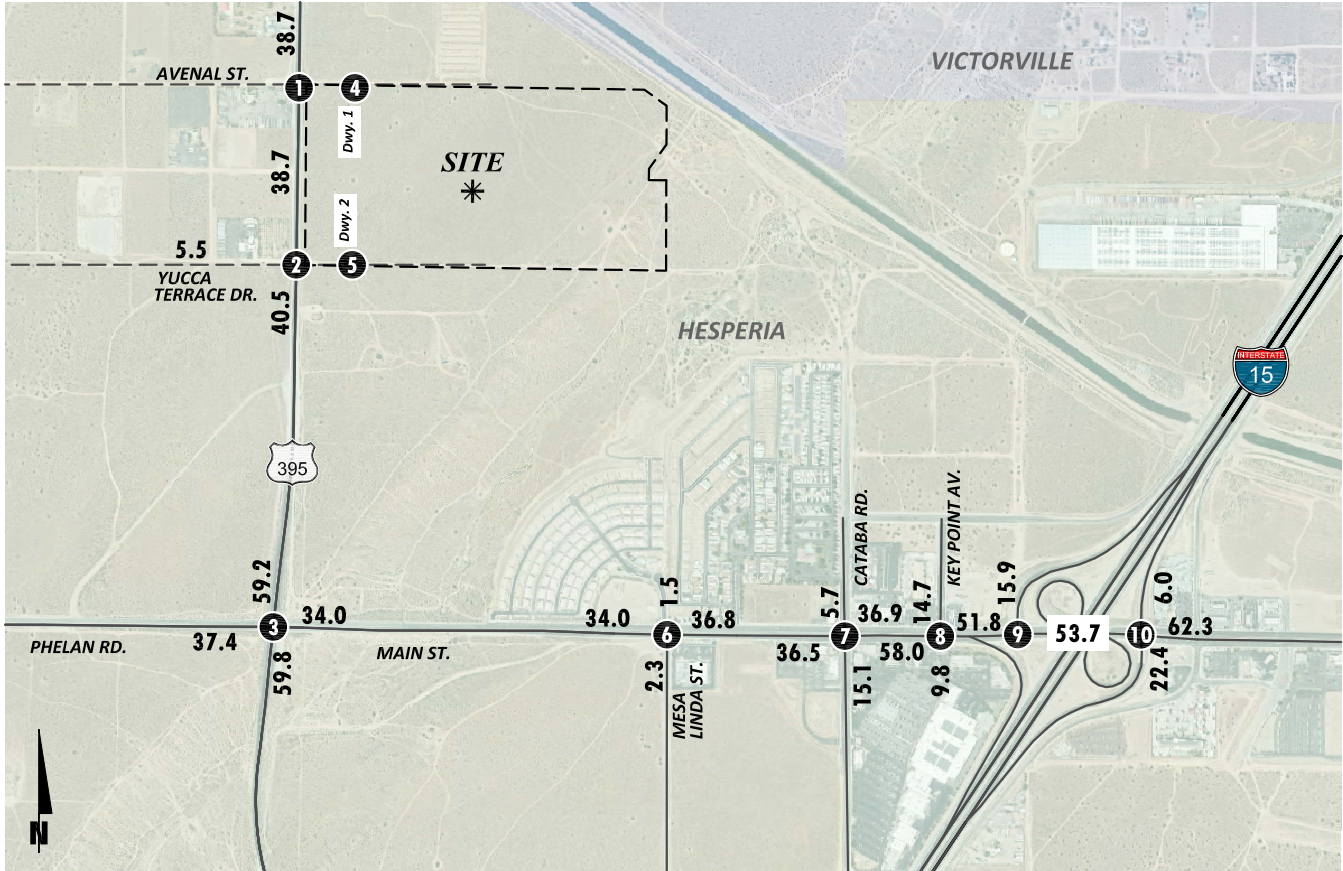
### 7.2 HORIZON YEAR (2040) WITHOUT PROJECT VOLUME FORECASTS

The Horizon Year (2040) Without Project analysis scenario includes the refined post-process volumes obtained from the SBTAM (see Section 4.9 *Horizon Year (2040) Conditions* of this TA for a detailed discussion on the post-processing methodology). The weekday ADT and weekday AM and PM peak hour volumes which can be expected for Horizon Year (2040) Without Project traffic conditions are shown on Exhibit 7-1.

### 7.3 HORIZON YEAR (2040) WITH PROJECT VOLUME FORECASTS

The Horizon Year (2040) Without Project analysis scenario includes the refined post-process volumes obtained from the SBTAM, plus the traffic generated by the buildout of the proposed Project (see Section 4.9 *Horizon Year (2040) Conditions* of this TA for a detailed discussion on the post-processing methodology). The weekday ADT and weekday AM and PM peak hour volumes which can be expected for Horizon Year (2040) With Project traffic conditions are shown on Exhibit 7-2.

**EXHIBIT 7-1: HORIZON YEAR (2040) WITHOUT PROJECT TRAFFIC VOLUMES (IN PCE)**

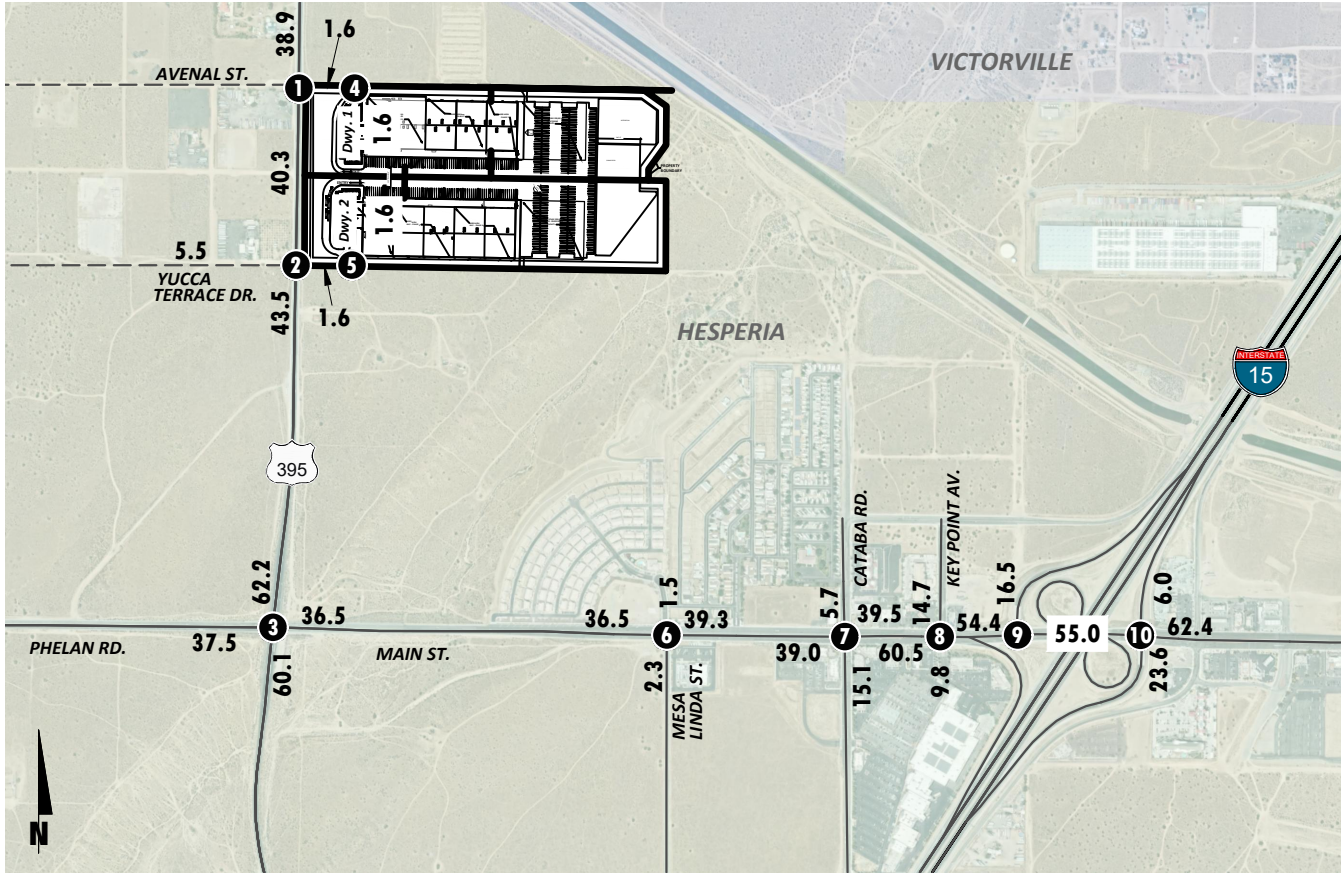


1	2	3	4	5
<b>US Highway 395 &amp; Avenal St.</b> ↑ 0(0) ↓ 2742(1958) ↑ 0(0) ↓ 0(0) ↑ 0(0) ↓ 0(0) ↓ 0(0) ↑ 1911(2889) ↓ 0(0) ↑ 0(0)	<b>US Highway 395 &amp; Yucca Terrace Dr.</b> ↑ 111(29) ↓ 2631(1929) ↑ 0(0) ↓ 0(0) ↑ 0(0) ↓ 0(0) ↓ 19(111) ↑ 74(415) ↓ 0(0) ↑ 325(74) ↓ 0(0) ↑ 1892(2778)	<b>US Highway 395 &amp; Phelan Rd./Main St.</b> ↑ 80(102) ↓ 2279(1621) ↑ 347(621) ↓ 561(372) ↑ 1203(1077) ↓ 23(27) ↓ 97(96) ↑ 1030(1399) ↓ 218(210) ↑ 237(296) ↓ 1558(2382) ↑ 26(423)	<b>Dwy. 1 &amp; Avenal St.</b> Future Intersection	<b>Dwy. 2 &amp; Yucca Terrace Dr.</b> Future Intersection
<b>Mesa Linda St. &amp; Main St.</b> ↓ 20(4) ↑ 3(0) ↓ 66(44) ↓ 24(76) ↑ 1702(1444) ↓ 121(98) ↑ 7(7) ↓ 1349(1923) ↑ 0(13) ↓ 3(10) ↑ 177(114)	<b>Cataba Rd. &amp; Main St.</b> ↓ 36(156) ↑ 15(41) ↓ 47(98) ↓ 24(61) ↑ 1789(1242) ↓ 284(324) ↑ 78(108) ↓ 1291(1832) ↑ 15(71) ↓ 310(124) ↑ 179(218) ↓ 154(193) ↑ 15(71)	<b>Key Point Av. &amp; Main St.</b> ↓ 26(43) ↑ 37(119) ↓ 522(254) ↓ 316(607) ↑ 1938(1707) ↓ 194(303) ↑ 42(85) ↓ 1358(2126) ↑ 15(41) ↓ 17(34) ↑ 16(100) ↓ 110(325) ↑ 15(41)	<b>I-15 SB Ramps &amp; Main St.</b> ↓ 691(628) ↑ 434(763) ↓ 1646(1935)	<b>I-15 NB Ramps &amp; Main St.</b> ↓ 670(560) ↑ 1821(1862) ↓ 1423(2281) ↑ 473(688) ↓ 582(329) ↑ 8(0) ↓ 547(1174) ↑ 8(0)

**LEGEND:**

10(10) = AM(PM) PEAK HOUR INTERSECTION VOLUMES  
 10.0 = VEHICLES PER DAY (1000'S)

**EXHIBIT 7-2: HORIZON YEAR (2040) WITH PROJECT TRAFFIC VOLUMES (IN PCE)**



1	2	3	4	5
<b>US Highway 395 &amp; Avenal St.</b> ↑ 0(0) ↓ 2747(1957) ↓ 3(1) ↑ 2(6) ↓ 26(79) ↑ 0(0)	<b>US Highway 395 &amp; Yucca Terrace Dr.</b> ↓ 111(29) ↓ 2656(2005) ↓ 6(2) ↑ 1(3) ↓ 9(31) ↑ 0(0)	<b>US Highway 395 &amp; Phelan Rd./Main St.</b> ↓ 82(109) ↓ 2283(1635) ↓ 375(707) ↑ 651(404) ↓ 1203(1077) ↑ 23(27)	<b>Dwy. 1 &amp; Avenal St.</b> ↓ 0(0) ↓ 0(0) ↓ 0(0) ↑ 0(0) ↑ 0(0) ↑ 0(0)	<b>Dwy. 2 &amp; Yucca Terrace Dr.</b> ↓ 10(36) ↓ 0(0) ↓ 0(0) ↓ 0(0) ↑ 0(0) ↑ 0(0)
0(0) ↓ 0(0) ↓ 0(0) 1911(2891) ↑ 29(12)	19(111) ↓ 0(0) ↑ 74(415) 325(74) ↓ 1920(2789) ↑ 81(28)	103(99) ↓ 1030(1399) ↑ 218(210) 237(296) ↓ 1571(2387) ↑ 26(423)	0(0) ↓ 0(0) ↓ 33(13) 28(86) ↑ 0(0) ↑ 0(0)	89(32) ↓ 0(0) ↓ 0(0)
<b>6 Mesa Linda St. &amp; Main St.</b> ↓ 20(4) ↓ 3(0) ↓ 66(44) ↓ 24(76) ↓ 1792(1476) ↓ 121(98) ↑ 0(13) ↑ 3(10)	<b>7 Cataba Rd. &amp; Main St.</b> ↓ 36(156) ↓ 15(41) ↓ 47(98) ↓ 24(61) ↓ 1879(1274) ↓ 284(324) ↑ 179(218) ↑ 15(71) ↑ 154(193)	<b>8 Key Point Av. &amp; Main St.</b> ↓ 26(43) ↓ 37(119) ↓ 522(254) ↓ 316(607) ↓ 2028(1739) ↓ 194(303) ↑ 42(85) ↑ 1386(2212) ↑ 17(34)	<b>9 I-15 SB Ramps &amp; Main St.</b> ↓ 732(642) ↓ 434(763) ↓ 1696(1953)	<b>10 I-15 NB Ramps &amp; Main St.</b> ↑ 670(560) ↓ 1827(1865) 1425(2288) ↓ 485(727) 625(344) ↓ 8(0) ↑ 547(1174)
1377(2009) ↓ 7(7) ↑ 0(13) ↑ 177(114)	78(108) ↓ 1319(1918) ↑ 310(124)	15(41) ↓ 16(100) ↑ 110(325)	1477(2252)	625(344) ↓ 8(0) ↑ 547(1174)

**LEGEND:**

10(10) = AM(PM) PEAK HOUR INTERSECTION VOLUMES  
 10.0 = VEHICLES PER DAY (1000'S)

## 7.4 INTERSECTION OPERATIONS ANALYSIS

Horizon Year (2040) Without and With Project peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2 *Methodologies* of this TA. The intersection analysis results are summarized in Table 7-1 for both Horizon Year (2040) Without and With Project traffic conditions.

### 7.4.1 HORIZON YEAR (2040) WITHOUT PROJECT CONDITIONS

As shown in Table 7-1, the following study area intersections are anticipated to operate at an unacceptable LOS during the peak hours under Horizon Year (2040) Without Project conditions:

- US Highway 395 & Yucca Terrace Drive (#2) – LOS F AM and PM peak hours
- US Highway 395 & Phelan Road/Main Street (#3) – LOS F AM and PM peak hours

A summary of the peak hour intersection LOS for Horizon Year Without Project conditions are shown on Exhibit 7-3. The intersection operations analysis worksheets for Horizon Year Without Project traffic conditions are included in Appendix 7.1 of this TA.

### 7.4.2 HORIZON YEAR (2040) WITH PROJECT CONDITIONS

With the addition of Project traffic, the following additional study area intersection is anticipated to operate at an unacceptable LOS during the peak hours:

- US Highway 395 & Avenal Street (#1) – LOS F AM and PM peak hours

A summary of the peak hour intersection LOS for Horizon Year With Project conditions are shown on Exhibit 7-4. The intersection operations analysis worksheets for Horizon Year (2040) With Project traffic conditions are included in Appendix 7.2 of this TA.

## 7.5 TRAFFIC SIGNAL WARRANTS ANALYSIS

There are no additional study area intersections anticipated to meet either peak hour or daily volume-based traffic signal warrants in addition to the location previously warranted under Opening Year Cumulative (2022) traffic conditions for both Horizon Year (2040) With Project traffic conditions. Worksheets for Horizon Year (2040) With Project traffic conditions signal warrants are provided in Appendix 7.3.



Table 7-1

Intersection Analysis for Horizon Year (2040) Conditions

#	Intersection	Traffic Control <sup>2</sup>	2040 Without Project				2040 With Project				Acceptable LOS
			Delay <sup>1</sup> (secs.)		Level of Service		Delay <sup>1</sup> (secs.)		Level of Service		
			AM	PM	AM	PM	AM	PM	AM	PM	
1	US Highway 395 & Avenal St.	<u>TS</u> <sup>3</sup>	Future Intersection				<b>&gt;200.0</b>	<b>&gt;200.0</b>	F	F	D
2	US Highway 395 & Yucca Terrace Dr.	CSS/ <u>TS</u> <sup>3</sup>	<b>&gt;100.0</b>	<b>&gt;100.0</b>	F	F	<b>&gt;200.0</b>	<b>&gt;200.0</b>	F	F	D
3	US Highway 395 & Phelan Rd./Main St.	TS	<b>&gt;200.0</b>	<b>&gt;200.0</b>	F	F	<b>&gt;200.0</b>	<b>&gt;200.0</b>	F	F	D
4	Driveway 1 & Avenal St.	<u>CSS</u>	Future Intersection				8.7	8.9	A	A	D
5	Driveway 2 & Yucca Terrace Dr.	<u>CSS</u>	Future Intersection				8.3	8.4	A	A	D
6	Mesa Linda St. & Main St.	TS	21.3	18.5	C	B	21.6	19.3	C	B	D
7	Cataba Rd. & Main St.	TS	37.3	48.8	D	D	39.5	52.3	D	D	D
8	Key Point Av. & Main St.	TS	42.3	48.4	D	D	45.0	53.2	D	D	D
9	I-15 SB Ramps & Main St.	TS	22.4	22.2	C	C	26.1	23.7	C	C	D
10	I-15 NB Ramps & Main St.	TS	20.4	23.4	C	C	22.9	23.5	C	C	D

\* **BOLD** = Level of Service (LOS) does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

<sup>1</sup> Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown. HCM delay reported in seconds.

<sup>2</sup> CSS = Cross-street Stop; TS = Traffic Signal; CSS = Improvement

<sup>3</sup> The Project will construct a traffic signal as part of the Project design features.

**EXHIBIT 7-3: HORIZON YEAR (2040) WITHOUT PROJECT SUMMARY OF LOS**

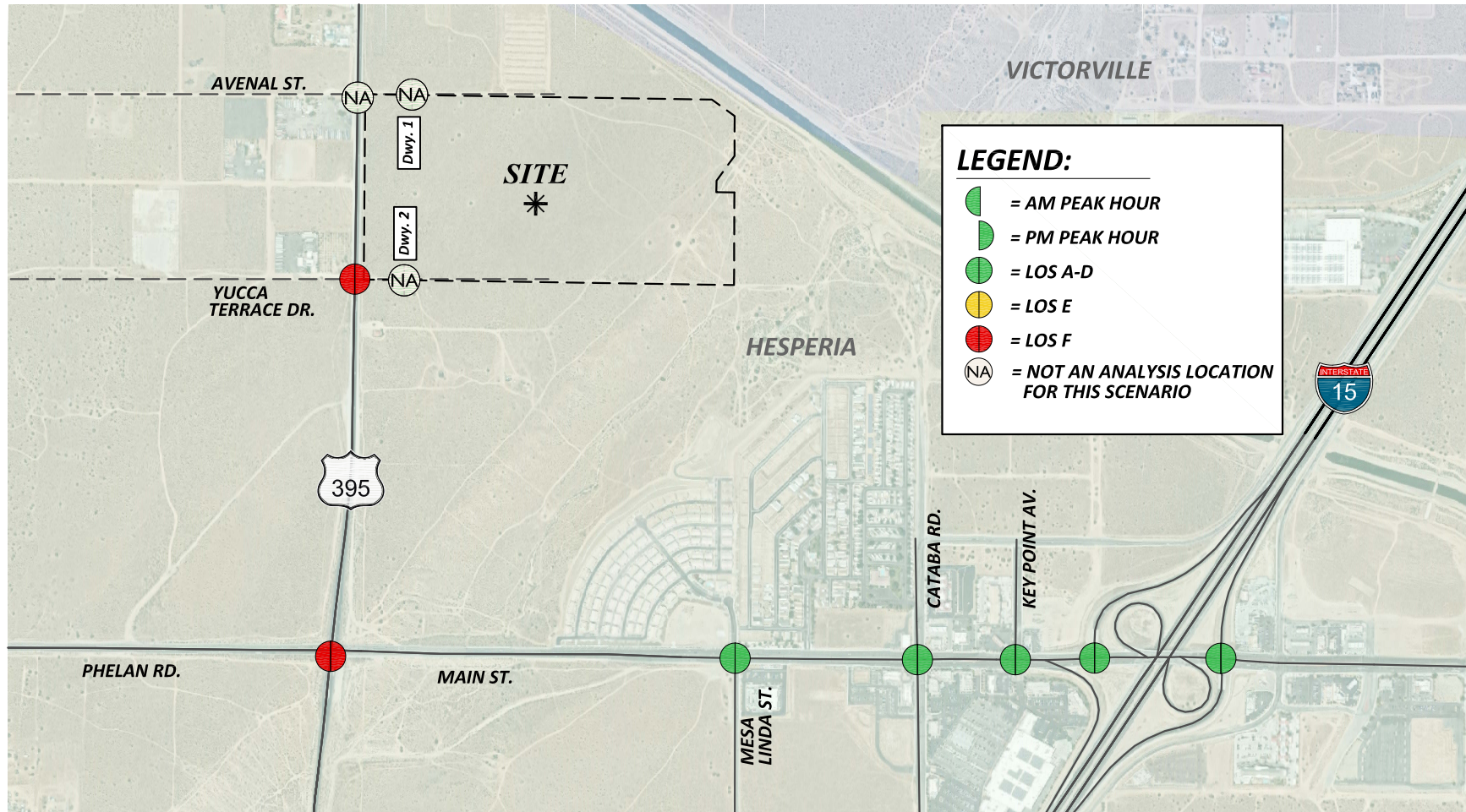
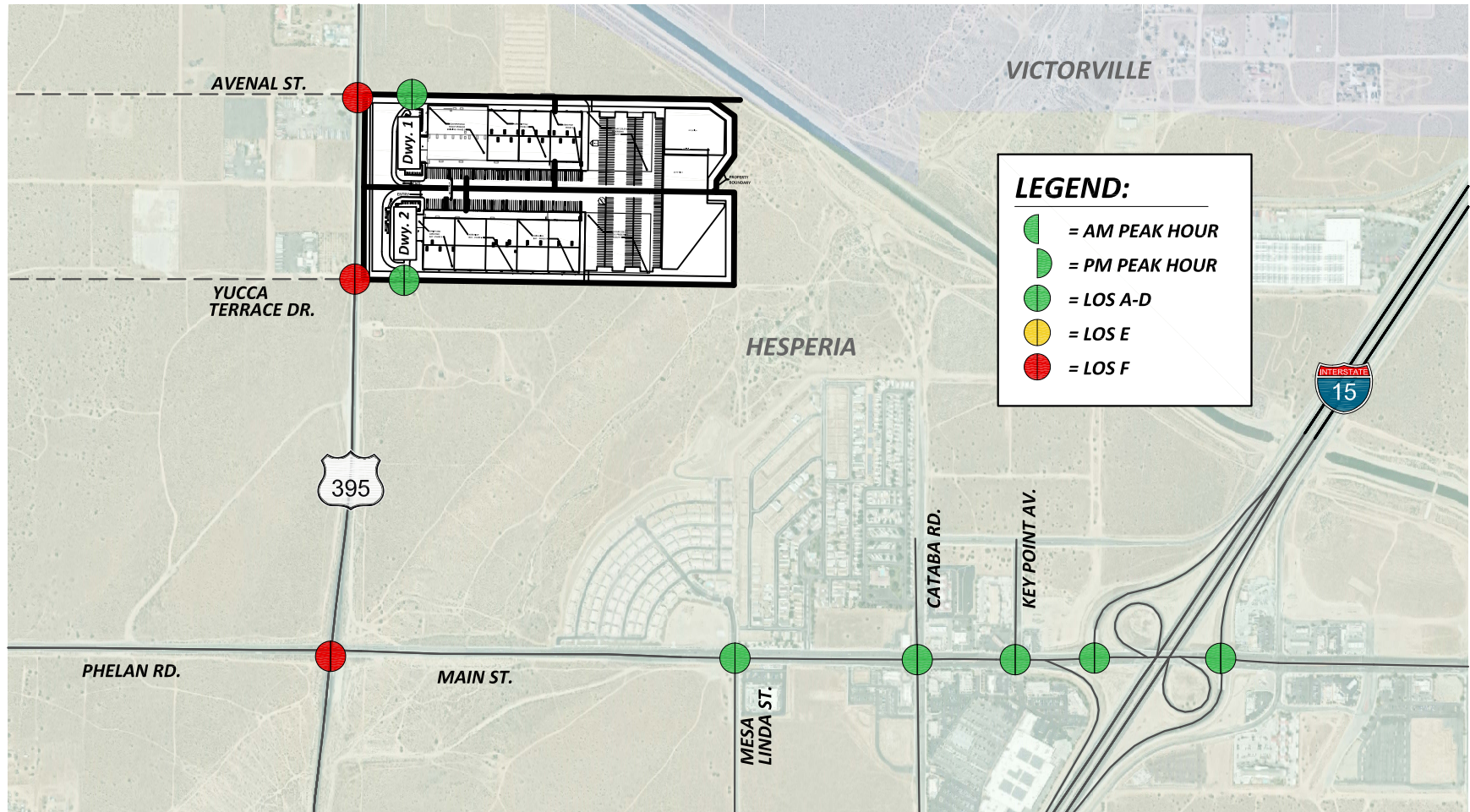


EXHIBIT 7-4: HORIZON YEAR (2040) WITH PROJECT SUMMARY OF LOS



## 7.6 QUEUING ANALYSIS

### 7.6.1 ARTERIAL ANALYSIS

A queuing analysis was performed for US Highway 395 at Main Street. Queuing analysis findings are presented in Table 7-2. It is important to note that the available stacking distances are consistent with the measured turn pocket lengths. As shown in Table 7-2, the following intersection turning movements are anticipated to experience periodic queuing issues during the peak hours based on the 95<sup>th</sup> percentile peak hour traffic flows for Horizon Year (2040) Without Project traffic conditions:

- US Highway 395 & Phelan Road/Main Street (#3) Northbound Left – PM peak hour only
- US Highway 395 & Phelan Road/Main Street (#3) Southbound Left – AM and PM peak hours

There are no additional intersection turning movements that are anticipated to experience queuing issues during the peak hours based on the 95<sup>th</sup> percentile peak hour traffic flows for Horizon Year (2040) With Project traffic conditions, in addition to the movements identified under Horizon Year (2040) Without Project traffic conditions.

### 7.6.2 FREEWAY OFF-RAMP ANALYSIS

A queuing analysis was performed for the off-ramps at the I-15 Freeway and Main Street interchange to assess vehicle queues for the off ramps that may potentially result in deficient peak hour operations at the ramp-to-arterial intersections and may potentially “spill back” onto the I-15 Freeway mainline. Queuing analysis findings are presented in Table 7-2. It is important to note that off-ramp lengths are consistent with the measured distance between the intersection and the freeway mainline. As shown in Table 7-2 and consistent with Existing (2020) traffic conditions, there are no off-ramp movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95<sup>th</sup> percentile traffic flows under Horizon Year (2040) Without Project traffic conditions. Worksheets for Horizon Year (2040) Without Project traffic conditions off-ramp queuing analysis are provided in Appendix 7.4.

There are no off-ramp movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95<sup>th</sup> percentile traffic flows with the addition of Project traffic under Horizon Year (2040) With Project traffic conditions. Worksheets for Horizon Year (2040) Without Project traffic conditions off-ramp queuing analysis are provided in Appendix 7.5.

Table 7-2

Peak Hour Queuing Summary for Horizon Year (2040) Conditions

Intersection	Movement	Available Stacking Distance (Feet)	2040 Without Project				2040 With Project			
			95th Percentile Queue (Feet)		Acceptable? <sup>1</sup>		95th Percentile Queue (Feet)		Acceptable? <sup>1</sup>	
			AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour	AM	PM
US Highway 95 & Phelan Rd./Main St.	NBL	280	234 <sup>2</sup>	406 <sup>2</sup>	Yes	No	407 <sup>2</sup>	441 <sup>2</sup>	No	No
	SBL	250	439 <sup>2</sup>	640 <sup>2</sup>	No	No	546 <sup>2</sup>	1,230 <sup>2</sup>	No	No
I-15 SB Ramps & Main St.	SBL	1,750	112	250	Yes	Yes	160	250	Yes	Yes
	SBR	1,200	155	467	Yes	Yes	923 <sup>2</sup>	597	Yes	Yes
I-15 NB Ramps & Main St.	NBL	1,290	155	187	Yes	Yes	802 <sup>2</sup>	261	Yes	Yes
	NBT/R	1,200	253	648 <sup>2</sup>	Yes	Yes	254	648 <sup>2</sup>	Yes	Yes
	NBR	700	258	648 <sup>2</sup>	Yes	Yes	258	648 <sup>2</sup>	Yes	Yes

<sup>1</sup> Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided.

<sup>2</sup> 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

<sup>3</sup> An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table.

## 7.7 FREEWAY FACILITY ANALYSIS

Horizon Year (2040) Without Project mainline directional volumes for the AM and PM peak hours are provided on Exhibit 7-5. As shown in Table 7-3, the following study area freeway segments and merge/diverge ramp junctions analyzed for this study are anticipated to operate at an unacceptable LOS (i.e., LOS E or worse) during the peak hours for Horizon Year (2040) Without Project traffic conditions:

- I-15 Freeway Southbound, North of Main Street (#1) – LOS E AM and PM peak hours
- I-15 Freeway Southbound, Off-Ramp at Main Street (#2) – LOS E AM and PM peak hours
- I-15 Freeway Southbound, On-Ramp at Main Street (#4) – LOS E AM peak hour only
- I-15 Freeway Southbound, South of Main Street (#5) – LOS E AM peak hour only
- I-15 Freeway Northbound, North of Main Street (#6) – LOS F PM peak hour only
- I-15 Freeway Northbound, On-Ramp at Main Street (#7) – LOS F PM peak hour only
- I-15 Freeway Northbound, Loop On-Ramp at Main Street (#8) – LOS F PM peak hour only
- I-15 Freeway Northbound, Off-Ramp at Main Street (#9) – LOS F PM peak hour only
- I-15 Freeway Northbound, South of Main Street (#10) – LOS F PM peak hour only

Horizon Year (2040) Without Project freeway facility analysis worksheets are provided in Appendix 7.6.

Horizon Year (2040) With Project mainline directional volumes for the AM and PM peak hours are provided on Exhibit 7-8. There are no additional study area freeway segments or ramp junctions anticipated to operate at an unacceptable LOS with the addition of Project traffic under Horizon Year (2040) With Project traffic conditions. Horizon Year (2040) With Project freeway facility analysis worksheets are provided in Appendix 7.7.

## 7.8 RECOMMENDED IMPROVEMENTS

This section provides a summary of Horizon Year (2040) deficiencies and recommended improvements. Based on the City of Hesperia deficiency criteria discussed in Section 2.7 *Minimum Acceptable Levels of Service (LOS) and Intersection Deficiency Criteria*, the following intersections were found to be deficient. Improvements necessary to improve traffic deficiencies back to acceptable levels are also discussed below.

### 7.8.1 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES AT INTERSECTIONS

The effectiveness of the proposed recommended improvements is presented in Table 7-4 for Horizon Year (2040) traffic conditions. The intersection operations analysis worksheets for Horizon Year (2040) Without Project and With Project traffic conditions, with improvements, are included in Appendices 7.8 and 7.9, respectively.

**EXHIBIT 7-5: HORIZON YEAR (2040) WITHOUT PROJECT FREEWAY MAINLINE VOLUMES**



**LEGEND:**

← 100/200 = AM/PM PEAK HOUR VOLUMES  
 NOTE: VOLUMES IN ACTUAL VEHICLES (NOT PCE)



EXHIBIT 7-6: HORIZON YEAR (2040) WITH PROJECT FREEWAY MAINLINE VOLUMES



**LEGEND:**

← 100/200 = AM/PM PEAK HOUR VOLUMES  
NOTE: VOLUMES IN ACTUAL VEHICLES (NOT PCE)





Table 7-3

Freeway Facility Analysis for Horizon Year (2040) Conditions

Freeway	Direction <sup>1</sup>	Mainline Segment	Lanes <sup>2</sup>	2040 Without Project				2040 With Project			
				Density <sup>3</sup>		LOS <sup>4</sup>		Density <sup>3</sup>		LOS <sup>4</sup>	
				AM	PM	AM	PM	AM	PM	AM	PM
I-15 Freeway	SB	North of Main St.	3	<b>40.3</b>	<b>39.8</b>	E	E	<b>40.6</b>	<b>40.0</b>	E	E
		Off-Ramp at Main St.	3	<b>39.0</b>	<b>39.6</b>	E	E	<b>39.2</b>	<b>39.6</b>	E	E
		Loop On-Ramp at Main St.	3	34.5	29.7	D	D	34.5	39.7	D	D
		On-Ramp at Main St.	3	<b>35.4</b>	31.8	E	D	<b>35.5</b>	32.1	E	D
		South of Main St.	3	<b>41.0</b>	33.3	E	D	<b>41.2</b>	33.6	E	D
	NB	North of Main St.	3	26.9	<b>39.6</b>	D	F	26.9	<b>39.9</b>	D	F
		On-Ramp at Main St.	3	29.3	<b>35.9</b>	D	F	29.3	<b>36.0</b>	D	F
		Loop On-Ramp at Main St.	3	24.6	<b>32.8</b>	C	F	24.6	<b>33.4</b>	C	F
		Off-Ramp at Main St.	3	33.3	<b>41.2</b>	D	F	33.5	<b>41.3</b>	D	F
		South of Main St.	3	26.6	<b>45.0</b>	D	F	27.1	<b>45.0</b>	D	F

\* **BOLD** = Unacceptable Level of Service

<sup>1</sup> NB = Northbound; SB = Southbound

<sup>2</sup> Number of lanes are in the specified direction and is based on existing conditions.

<sup>3</sup> Density is measured by passenger cars per mile per lane (pc/mi/ln).

<sup>4</sup> LOS = Level of Service

Table 7-4

Intersection Analysis for Horizon Year (2040) Conditions With Improvements

#	Intersection	Traffic Control <sup>3</sup>	Intersection Approach Lanes <sup>1</sup>												Delay <sup>2</sup> (secs.)		Level of Service				
			Northbound			Southbound			Eastbound			Westbound			AM	PM	AM	PM			
			L	T	R	L	T	R	L	T	R	L	T	R							
1	US Highway 395 & Avenal St. - Without Project - With Project		Future Intersection																		
		<b>TS</b>	0	<u>3</u>	0	<u>1</u>	<u>3</u>	0	0	0	0	0	0	0	<u>1</u>	0	4.4	6.7	A	A	
2	US Highway 395 & Yucca Terrace Dr. - Without Project - With Project	TS <b>TS</b>	<u>1</u>	<u>3</u>	0	<u>1</u>	<u>3</u>	0	0	1	0	0	<u>1</u>	0	0	<u>1</u>	0	44.8	25.8	D	C
		<b>TS</b>	<u>1</u>	<u>3</u>	0	<u>1</u>	<u>3</u>	0	<u>1</u>	1	0	<u>1</u>	<u>1</u>	0	<u>1</u>	<u>1</u>	0	47.4	31.1	D	C
3	US Highway 395 & Phelan Rd./Main St. - Without Project - With Project	TS <b>TS</b>	<u>2</u>	<u>3</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>1</u>	1	<u>3</u>	<u>1</u>	1	<u>3</u>	<u>1</u>	1	<u>3</u>	<u>1</u>	50.2	50.8	D	D
		<b>TS</b>	<u>2</u>	<u>3</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>1</u>	1	<u>3</u>	<u>1</u>	1	<u>3</u>	<u>1</u>	1	<u>3</u>	<u>1</u>	51.2	54.5	D	D

<sup>1</sup> When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; > = Right-Turn Overlap Phasing; 1 = Improvement

<sup>2</sup> Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

<sup>3</sup> CSS = Cross-street Stop; TS = Traffic Signal; **TS** = Improvement

**Recommended Improvement – US Highway 395 & Yucca Terrace Drive (#3)** – The following improvements are necessary to bring the LOS back to acceptable levels:

- Install a traffic signal.
- Add a northbound left turn lane and 2<sup>nd</sup> and 3<sup>rd</sup> through lanes.
- Add a southbound left turn lane and 2<sup>nd</sup> and 3<sup>rd</sup> through lanes.
- Add an eastbound left turn lane.
- Add a westbound left turn lane and shared through-right turn lane.

**Recommended Improvement – US Highway 395 & Phelan Road/Main Street (#3)** – The following improvements are necessary to bring the LOS back to acceptable levels:

- Add a 2<sup>nd</sup> northbound left turn lane, 3<sup>rd</sup> through lane, and right turn lane.
- Add a 2<sup>nd</sup> southbound left turn lane, 3<sup>rd</sup> through lane, and right turn lane.
- Add a 3<sup>rd</sup> eastbound through lane and right turn lane.
- Add a 3<sup>rd</sup> westbound through lane and right turn lane.
- Modify the traffic signal to implement overlap phasing for the westbound right turn lane.

The following additional improvements are required for Horizon Year (2040) With Project traffic conditions only:

**Recommended Improvement – US Highway 395 & Avenal Street (#1)** – The following improvements are necessary to bring the LOS back to acceptable levels:

- Add a traffic signal.
- Add a 2<sup>nd</sup> and 3<sup>rd</sup> northbound through lanes.
- Add a southbound left turn lane and 2<sup>nd</sup> and 3<sup>rd</sup> through lanes.
- Add a westbound shared left-right turn lane.

## 7.8.2 RECOMMENDED IMPROVEMENTS TO ADDRESS QUEUING DEFICIENCIES

As shown previously in Table 7-2, there are peak hour queuing issues at seven intersection turning movements. Recommended improvements to address queuing issues for Horizon Year (2040) traffic conditions are shown in Table 7-5 and reflect the recommended improvements to address intersection deficiencies, as previously described in Section 7.8.1 *Recommended Improvements to Address Deficiencies at Intersections*. In order to accommodate the 95<sup>th</sup> percentile peak hour queues for Horizon Year (2040) traffic conditions, the following improvements are necessary:

- US Highway 395 & Phelan Road/Main Street (#3) – dual northbound left turn pockets
- US Highway 395 & Phelan Road/Main Street (#3) – 325-foot northbound right turn pocket
- US Highway 395 & Phelan Road/Main Street (#3) – 430-foot southbound dual left turn pockets
- US Highway 395 & Phelan Road/Main Street (#3) – 100-foot southbound right turn pocket

### 7.8.3 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES ON FREEWAY FACILITIES

According to the Caltrans I-15 Transportation Concept Report (TCR), the I-15 Freeway is anticipated to be constructed to include the addition of a carpool or High Occupancy Vehicle (HOV) lane. (10) For the purposes of this TA, this improvement has been analyzed. Caltrans typically assumes a reduction of 14 percent to the freeway mainline through volumes in this region to account for vehicles utilizing the HOV lanes. The reduction to the I-15 Freeway mainline volumes has been applied to account for the proposed HOV lanes. The analysis has been performed assuming the same on and off-ramp configurations as existing baseline conditions at the I-15 Freeway and Main Street interchange.

As shown in Table 7-6, the I-15 Freeway mainline segment operations are anticipated to improve operations with the proposed Caltrans HOV lanes. Although the freeway facilities are anticipated to improve operations with the improvements, the following freeway segments and merge/diverge ramp junctions are anticipated to continue to operate at an unacceptable LOS during the weekday AM or PM peak hours with the improvements to the I-15 Freeway:

- I-15 Freeway Southbound, Off-Ramp at Main Street (#2) – LOS E AM and PM peak hours
- I-15 Freeway Northbound, North of Main Street (#6) – LOS E PM peak hour only
- I-15 Freeway Northbound, On-Ramp at Main Street (#7) – LOS E PM peak hour only
- I-15 Freeway Northbound, Off-Ramp at Main Street (#9) – LOS E PM peak hour only
- I-15 Freeway Northbound, South of Main Street (#10) – LOS F PM peak hour only

Neither Caltrans nor the State have adopted a fee program that can ensure that locally-contributed impact fees will be tied to improvements to freeway mainlines, and only Caltrans has the jurisdiction over mainline improvements. Because Caltrans has exclusive control over state highway improvements, ensuring that fair share contributions to mainline improvements are actually part of a program tied to implementation is within the jurisdiction of Caltrans. No other improvements beyond those planned by the I-15 Freeway Project have been evaluated. Worksheets for Horizon Year (2040) With Project conditions freeway facility level of service analysis, with improvements, are provided in Appendix 7.10.

Table 7-5

Peak Hour Queuing Summary for Horizon Year (2040) Conditions With Improvements

Intersection	Movement <sup>4</sup>	Available Stacking Distance (Feet) <sup>5</sup>	2040 Without Project				2040 With Project			
			95th Percentile Queue (Feet)		Acceptable? <sup>1</sup>		95th Percentile Queue (Feet)		Acceptable? <sup>1</sup>	
			AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour	AM	PM
US Highway 95 & Phelan Rd./Main St.	NBL	280	181 <sup>2</sup>	158	Yes	Yes	181 <sup>2</sup>	158	Yes	Yes
	<b><u>NBR</u></b>	<b><u>325</u></b>	0	322	Yes	Yes	0	323	Yes	Yes
	SBL	<b><u>430</u></b>	180	354 <sup>2</sup>	Yes	Yes	195	431 <sup>2</sup>	Yes	Yes
	<b><u>SBR</u></b>	<b><u>100</u></b>	20	20	Yes	Yes	21	25	Yes	Yes

<sup>1</sup> Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided (assumed an additional 15-feet can be accommodated within the transition).

<sup>2</sup> 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

<sup>3</sup> An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table.

<sup>4</sup> **NBR** = Improvement

<sup>5</sup> **100** = Improvement

Table 7-6

Freeway Facility Analysis for Horizon Year (2040) Conditions With Improvements

Freeway	Direction	Ramp or Segment	Lanes on Freeway <sup>1</sup>	2040 With Project			
				AM Peak Hour		PM Peak Hour	
				Density <sup>2</sup>	LOS <sup>3</sup>	Density <sup>2</sup>	LOS <sup>3</sup>
I-15	Southbound	North of Main St.	3	31.7	D	30.8	D
		Off-Ramp at Main St.	3	<b>35.7</b>	<b>E</b>	<b>36.2</b>	<b>E</b>
		Loop On-Ramp at Main St.	3	30.3	D	25.4	C
		On-Ramp at Main St.	3	31.2	D	27.7	D
		South of Main St.	3	32.2	D	26.2	D
	Northbound	North of Main St.	3	22.4	C	<b>39.9</b>	<b>E</b>
		Northbound On-Ramp at Main St.	3	25.9	C	<b>36.0</b>	<b>E</b>
		Northbound Loop On-Ramp at Main St.	3	21.2	C	33.0	D
		Northbound Off-Ramp at Main St.	3	30.4	D	<b>41.3</b>	<b>E</b>
		South of Main St.	3	22.7	C	<b>45.0</b>	<b>F</b>

\* **BOLD** = Unacceptable Level of Service

<sup>1</sup> Number of lanes are in the specified direction and is based on planned toll lanes (2 toll lanes in each direction).

<sup>2</sup> Density is measured by passenger cars per mile per lane (pc/mi/ln).

<sup>3</sup> LOS = Level of Service

## 8 LOCAL AND REGIONAL FUNDING MECHANISMS

Transportation improvements within the City of Hesperia are funded through a combination of construction of off-site improvements by the Project, development impact fee programs or fair share contributions, such as the City of Hesperia Development Impact Fee (DIF) program. Identification and timing of needed improvements is generally determined through local jurisdictions based upon a variety of factors.

### 8.1 MEASURE “I” FUNDS

In 2004, the voters of San Bernardino County approved the 30-year extension of Measure “I”, a one-half of one percent sales tax on retail transactions, through the year 2040, for transportation projects including, but not limited to, infrastructure improvements, commuter rail, public transit, and other identified improvements. The Measure “I” extension requires that a regional traffic impact fee be created to ensure development is paying its fair share. A regional Nexus study was prepared by SBCTA and concluded that each jurisdiction should include a regional fee component in their local programs to meet the Measure “I” requirement. The regional component assigns specific facilities and cost sharing formulas to each jurisdiction and was most recently updated in September 2017. Revenues collected through these programs are used in tandem with Measure “I” funds to deliver projects identified in the Nexus Study.

While Measure “I” is a self-executing sales tax administered by SBCTA, it bears discussion here because the funds raised through Measure “I” have funded in the past, and will continue to fund, new transportation facilities in San Bernardino County, including within the City of Hesperia.

### 8.2 CITY OF HESPERIA DEVELOPMENT IMPACT FEE PROGRAM

The City of Hesperia has created its own local DIF program to impose and collect fees from new residential, commercial and industrial development for the purpose of funding roadways and intersections necessary to accommodate City growth as identified in the City’s General Plan Circulation Element. The City’s DIF includes a Regional Circulation System Fee to comply with Measure “I” and a Local Circulation System Fee to address transportation improvements which are locally noteworthy. The City of Hesperia DIF facilities list has been provided by City staff.

Under the City’s DIF program, the City may grant to developers a credit against specific components of fees when those developers construct certain facilities and landscaped medians identified in the list of improvements funded by the DIF program. The timing to use the DIF fees is established through periodic capital improvement programs which are overseen by the City’s Public Works Department. Periodic traffic counts, review of traffic accidents, and a review of traffic trends throughout the City are also periodically performed by City staff and consultants. The City uses this data to determine the timing of implementing the improvements listed in its facilities list. The City also uses this data to ensure that the improvements listed on the facilities list are constructed before the LOS falls below the LOS performance standards adopted by the City. In this way, the improvements are constructed before the LOS falls below the City’s LOS performance thresholds.

The Project Applicant will be subject to the City's DIF fee program and will pay the requisite City DIF fees at the rates then in effect. The Project Applicant's payment of the requisite DIF fees at the rates then in effect pursuant to the DIF Program will reduce its deficiencies to DIF-funded facilities. After the City's DIF fees are collected, they are placed in a separate interest-bearing account pursuant to the requirements of Government Code § 66000 *et seq.* The timing to use the DIF fees is established through periodic capital improvement programs which are overseen by the City's Public Works Department.

### **8.3 FAIR SHARE CONTRIBUTION**

Project improvements may include a combination of fee payments to established programs (e.g., DIF), construction of specific improvements, payment of a fair share contribution toward future improvements or a combination of these approaches. Improvements constructed by development may be eligible for a fee credit or reimbursement through the program where appropriate (to be determined at the City of Hesperia's discretion).

When off-site improvements are identified with a minor share of responsibility assigned to proposed development, the approving jurisdiction may elect to collect a fair share contribution or require the development to construct improvements. Detailed fair share calculations, for each peak hour, have been provided in Table 8-1 for the applicable deficient intersections shown previously in Table 1-3. Improvements included in a defined program and constructed by development may be eligible for a fee credit or reimbursement through the program where appropriate.



Table 8-1

Project Fair Share Calculations

#	Intersection	Existing (2020)	Project Only	Horizon Year (2040) With Project	Net New Traffic	Project % of New Traffic <sup>1</sup>	
1	US Highway 395 & Avenal St.	AM:	2,187	67	4,718	2,531	2.65%
		PM:	2,437	104	4,946	2,509	<b>4.15%</b>
2	US Highway 395 & Yucca Terrace Dr.	AM:	2,190	153	5,201	3,011	5.08%
		PM:	2,450	159	5,487	3,037	<b>5.24%</b>
3	US Highway 395 & Phelan Rd./Main St.	AM:	3,393	143	7,801	4,408	<b>3.24%</b>
		PM:	3,947	147	8,772	4,825	3.05%

**BOLD** = Denotes highest fair share percentage.

<sup>1</sup> Highest trip generation percentage is used to calculate rough order of magnitude costs on Table 1-3.

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## 9 REFERENCES

1. **City of Hesperia.** *Traffic Impact Analysis Guidelines for Vehicle Miles Traveled (VMT) and Level of Service Assessment (LOS)*. City of Hesperia : s.n., July 2020.
2. **San Bernardino Associated Governments.** *Congestion Management Program for County of San Bernardino*. County of San Bernardino : s.n., Updated June 2016.
3. **California Department of Transportation.** *Guide for the Preparation of Traffic Impact Studies*. December 2002.
4. **Institute of Transportation Engineers.** *Trip Generation Manual*. 10th Edition. 2017.
5. **Transportation Research Board.** *Highway Capacity Manual (HCM)*. 6th Edition. s.l. : National Academy of Sciences, 2016.
6. **California Department of Transportation.** California Manual on Uniform Traffic Control Devices (MUTCD). [book auth.] California Department of Transportation. *California Manual on Uniform Traffic Control Devices (CAMUTCD)*. 2014.
7. **Transportation, California Department of.** *Freeway Performance Measurement (PeMS)*. [Online] <http://pems.dot.ca.gov/>.
8. **County of San Bernardino.** *Transportation Impact Study Guidelines*. County of San Bernardino : s.n., July 9, 2019.
9. **San Bernardino County Transportation Authority.** *Congestion Management Program for County of San Bernardino*. County of San Bernardino : s.n., Updated 2016.
10. **California Department of Transportation.** *Transportation Concept Report Interstate 15. District 8* : s.n., September 2012.

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**APPENDIX 1.1:**

**APPROVED TRAFFIC STUDY SCOPING AGREEMENT**

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**D. Study Intersections:** (NOTE: Subject to revision after other projects, trip generation and distribution are determined, or comments from other agencies)

- 1. US Highway 395 & Avenal St.
- 2. US Highway 395 & Yucca Terrace Dr.
- 3. US Highway 395 & Phelan Rd./Main St.
- 4. Driveway 1 & Avenal St.
- 5. Driveway 2 & Yucca Terrace Dr.
- 6. Mesa Linda St. & Main St.
- 7. Cataba Rd. & Main St.
- 8. Key Point Av. & Main St.
- 9. I-15 Freeway Southbound & Main St.
- 10. I-15 Freeway Northbound & Main St.

**E. Study Roadway Segments:** (NOTE: Subject to revision after other projects, trip generation and distribution are determined, or comments from other agencies)

None  
\_\_\_\_\_  
\_\_\_\_\_

**F. Other Jurisdictional Impacts**

Is this project within a City's Sphere of Influence or one-mile radius of City boundaries?      **Yes**      **No**  
If so, name of City Jurisdiction:      Caltrans

**G. Site Plan** (Provide reduced copy) **See Exhibit 1**

**H. Specific issues to be addressed in the Study (in addition to the standard analysis described in the Guideline)** (To be filled out by local agency)

See memo.  
\_\_\_\_\_  
\_\_\_\_\_

**J. Existing Conditions**

Traffic count data must be new or recent within one year. Provide traffic count dates if using other than new counts. Date of counts Due to the currently on-going pandemic, we propose to utilize October 2019 traffic count data and apply a 2% growth adjustment to reflect 2020 baseline traffic conditions.

**Recommended by:**

Charlene S  
\_\_\_\_\_  
Consultant's Representative      5/19/2020  
Date

Scoping Agreement Submitted on 4/17/2020  
Revised on 5/19/2020

**Approved Scoping Agreement:** Plus Memorandum dated 5-19-20, includes Caltrans e-mail.

MP for Michael Thornton, P.E.      5.26.20  
City Engineer      Date  
Consulting City Engineers





May 19, 2020

Mr. Mike Thornton  
City of Hesperia  
9700 Seventh Avenue  
Hesperia, CA 92345

**SUBJECT: US COLD STORAGE TRAFFIC IMPACT ANALYSIS SCOPING AGREEMENT**

Dear Mr. Mike Thornton:

Urban Crossroads, Inc. is pleased to submit this scoping letter regarding the traffic impact analysis for US Cold Storage development ("Project"), which is located northeast of U.S. Highway 395 and Yucca Terrace Drive in the City of Hesperia. This letter describes the proposed Project trip generation, trip distribution, and analysis methodology, which have been used to establish the draft proposed Project study area and analysis locations.

**PROJECT DESCRIPTION**

A preliminary site use plan for the proposed Project is shown on Exhibit 1. Exhibit 2 depicts the location of the proposed project in relation to the existing roadway network. The Project is anticipated to have an Opening Year of 2022. Access to the Project site will be provided via 2 driveways on Avenal Street and Yucca Terrace Drive. The western driveway (Driveway 1) on Avenal Street will be utilized by both inbound and outbound passenger cars and for outbound trucks only. The western driveway (Driveway 2) on Yucca Terrace Drive will be utilized by both inbound and outbound passenger cars and for inbound trucks only. The eastern driveways on both Avenal Street and Yucca Terrace Drive will be gated and are intended for emergency access only. It is our understanding that the Project is to consist of 1,012,816 square feet (sf) of High-Cube Cold Storage Warehouse use (504,506 sf for the northern building and 508,310 sf for the southern building). The Project will be evaluated in a single phase.

**TRIP GENERATION**

Trip generation represents the amount of traffic that is attracted and produced by a development and is based upon the specific land uses planned for a given project. In order to develop the traffic characteristics of the proposed Project, trip-generation statistics published in the Institute of Transportation Engineers (ITE) Trip Generation Manual (10<sup>th</sup> Edition, 2017) for the High-Cube Cold Storage Warehouse use was utilized. Trip generation rates for the Project are shown in Table 1 for both actual vehicles and passenger car equivalent (PCE). The trip generation summary show in Table 2 indicates the daily and peak hour trip generation estimates for the proposed Project in actual vehicles and PCE. It should be noted that the PCE values will be utilized for the operations analysis.

For purposes of this analysis, the following land use and vehicle mix has been utilized:

- ITE land use code 157 (High-Cube Cold Storage Warehouse) has been used to derive site specific trip generation estimates for the proposed Project. High-cube cold storage warehouses include warehouses characterized by the storage and/or consolidation of manufactured goods (and to a lesser extent, raw materials) prior to their distribution to retail locations or other warehouses. High-cube cold storage warehouses are facilities typified by temperature-controlled environments for frozen food or other perishable products. The High-Cube Cold Storage Warehouse vehicle mix (passenger cars versus trucks) has been obtained from the ITE's Trip Generation Manual Supplement (dated February 2020). This study provides the following vehicle mix: AM Peak Hour: 73.0% passenger cars and 27.0% trucks; PM Peak Hour: 77.0% passenger cars and 23.0% trucks; Weekday Daily: 65.0% passenger cars and 35.0% trucks. The truck percentages were further broken down by axle type per the following SCAQMD recommended truck mix: 2-Axle = 34.7%; 3-Axle = 11.0%; 4+-Axle = 54.3%.

Finally, PCE factors were applied to the trip generation rates to convert trips made by heavy trucks (large 2-axles, 3-axles, 4+-axles) to PCE values. PCEs allow the typical "real-world" mix of vehicle types to be represented as a single, standardized unit, such as the passenger car, to be used for the purposes of capacity and level of service analyses. The PCE factors are consistent with the recommended PCE factors in Appendix B of the San Bernardino County Congestion Management Program (CMP) (2016 Update).

As shown on Table 2, the proposed Project is anticipated to generate a total of 2,150 actual vehicle trip-ends per day with 113 AM peak hour trips and 121 PM peak hour trips. The proposed Project is anticipated to generate a total of 3,178 PCE trip-ends per day, 154 PCE AM peak hour trips and 159 PCE PM peak hour trips (see Table 2), which will be utilized for the operations analysis.

## TRIP DISTRIBUTION

The Project trip distribution represents the directional orientation of traffic to and from the Project site. Trip distribution is the process of identifying the probable destinations, directions or traffic routes that will be utilized by Project traffic. The potential interaction between the planned land uses and surrounding regional access routes are considered to identify the route where the Project traffic would distribute. Truck distribution patterns will be based on truck routes, the site's proximity to the regional freeway system and likely distribution of traffic if a future tenant is known. Passenger car distribution patterns will be based on existing and planned land uses in the area along with the planned circulation system. Exhibit 3 illustrates the passenger car trip distribution patterns for the Project and Exhibit 4 illustrates the truck trip distribution patterns.

## ANALYSIS SCENARIOS

Consistent with the County's TIA guidelines, intersection analysis will be provided for the following analysis scenarios:

- Existing (2020) Conditions
- Existing plus Project (E+P) Conditions
- Opening Year Cumulative (2022) Without Project Conditions
- Opening Year Cumulative (2022) With Project Conditions (Project Buildout)
- Horizon Year (2040) Without Project Conditions
- Horizon Year (2040) With Project Conditions (Project Buildout)

\* Ambient growth assumptions are included for Opening Year Cumulative traffic conditions.

All study area intersections will be evaluated using the Highway Capacity Manual (HCM) 6th Edition analysis methodology. The following study intersections will be evaluated:

1. US Highway 395 & Avenal St.
2. US Highway 395 & Yucca Terrace Dr.
3. US Highway 395 & Main St./Phelan Rd.
4. Driveway 1 & Avenal St.
5. Driveway 2 & Yucca Terrace Dr.
6. Mesa Linda St. & Main St.
7. Catawba Rd. & Main St.
8. Key Point Av. & Main St.
9. I-15 SB Ramps & Main St.
10. I-15 NB Ramps & Main St.

## CUMULATIVE PROJECTS

Exhibit 5 and Table 3 show the locations and list of proposed cumulative projects within the study area. These cumulative projects have been provided by the City of Hesperia and County of San Bernardino. If there are any new cumulative projects that should be considered, it is requested that the City provide the project name, location, and land use information for inclusion in the traffic study.

## TRAFFIC COUNTS

In light of the current on-going pandemic, it is not feasible to conduct traffic counts at this time. As such, we recommend the use of October 2019 traffic counts at the study area intersections in conjunction with the application of a 2% adjustment factor to reflect 2020 traffic conditions as our baseline. If the City has more recent counts available or would suggest a different adjustment factor, we are open to explore those options as well.

## CALTRANS FACILITIES

The following Caltrans facilities will also be evaluated as part of the traffic study:

- Conduct freeway segment analysis for the following mainline freeway segments based on the currently accepted Highway Capacity Manual (HCM) Freeway Facilities Analysis methodology for each analysis scenario for the following freeway segments, in each direction of travel:
  - I-15 Freeway Southbound, north of Main Street
  - I-15 Freeway Northbound, south of Main Street
- Perform Merge/Diverge analysis for the following ramp junctions for each analysis scenario using the HCM Freeway Facilities Analysis methodology:
  - I-15 Freeway Southbound, Off-Ramp at Main Street
  - I-15 Freeway Southbound, On-Ramp at Main Street
  - I-15 Freeway Northbound, Loop On-Ramp at Main Street
  - I-15 Freeway Northbound, Off-Ramp at Main Street
- Conduct queuing analysis to identify the storage necessary to accommodate 95<sup>th</sup> percentile queues during peak hour traffic flows for each analysis scenario, at the following locations:
  - US Highway 395 & Main Street/Phelan Road
  - I-15 Southbound Off-Ramp & Main Street
  - I-15 Northbound Off-Ramp & Main Street

## SPECIAL ISSUES

The following special issues will be addressed in the traffic study:

- Truck turning templates will be used to address how Project truck traffic (e.g., large trucks such as a WB-67) would enter and exit the Project site to determine radii at curb returns, radii of streets per Highway Design Manual, and widths/radii required for on-site maneuvering for two-way truck traffic.

Mr. Mike Thornton  
City of Hesperia  
May 19, 2020  
Page 5 of 5

- Traffic signal warrant analysis will be conducted for all unsignalized study area intersections, as applicable.
- "Fair-share" contributions for improvements within the City's DIF program and within in other jurisdictions will be included in the TIA. It is recommended that the City provide a list of facilities and improvements that are included in the City's DIF and/or CIP programs.
- Caltrans signal timing has been obtained from District 8 and will be utilized for Caltrans ramp locations on Main Street. The scoping agreement has been shared with Caltrans District 8 to obtain comments with respect to analysis methodology for Caltrans facilities (see Attachment A for their comments).
- Conduct a queuing analysis for all Project driveways and site adjacent intersections, including intersections on US Highway 395. The queuing analysis will be used to satisfy Caltrans District 8 concerns with potential queues onto and off of US Highway 395 and will identify whether there is adequate storage between driveways and US Highway 395 to accommodate 95<sup>th</sup> percentile queues.
- Vehicle Miles Traveled (VMT) analyses will be prepared under separate cover in accordance with SB743 requirements. It is recommended that the City provide any methodology or thresholds available for the VMT analysis. Alternatively, we can follow the methodology/thresholds outlined by either the County of San Bernardino or San Bernardino County Transportation Authority (SBCTA).

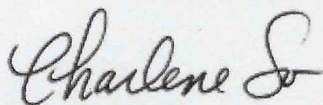
## CONCLUSION

Urban Crossroads, Inc. is pleased to submit this letter documenting the Project trip generation, trip distribution, and the recommended intersection analysis locations for the US Cold Storage Traffic Impact Study. We will continue to move forward towards completing the traffic study after receiving jurisdiction approval or comments finalizing the study area.

If you have any questions, please contact me directly at (949) 336-5982.

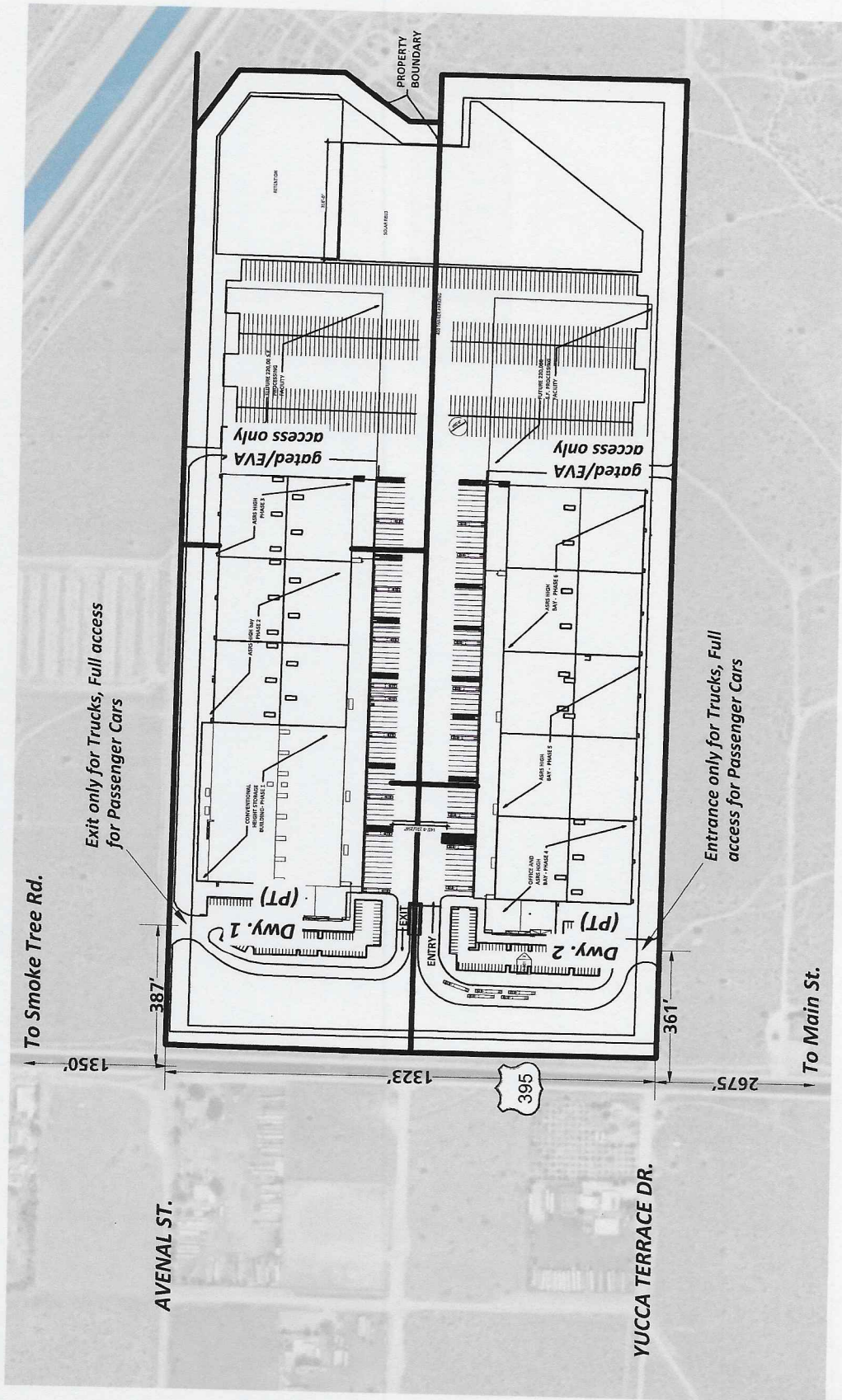
Respectfully submitted,

URBAN CROSSROADS, INC.



Charlene So, PE  
Associate Principal

**EXHIBIT 1: PRELIMINARY SITE PLAN**



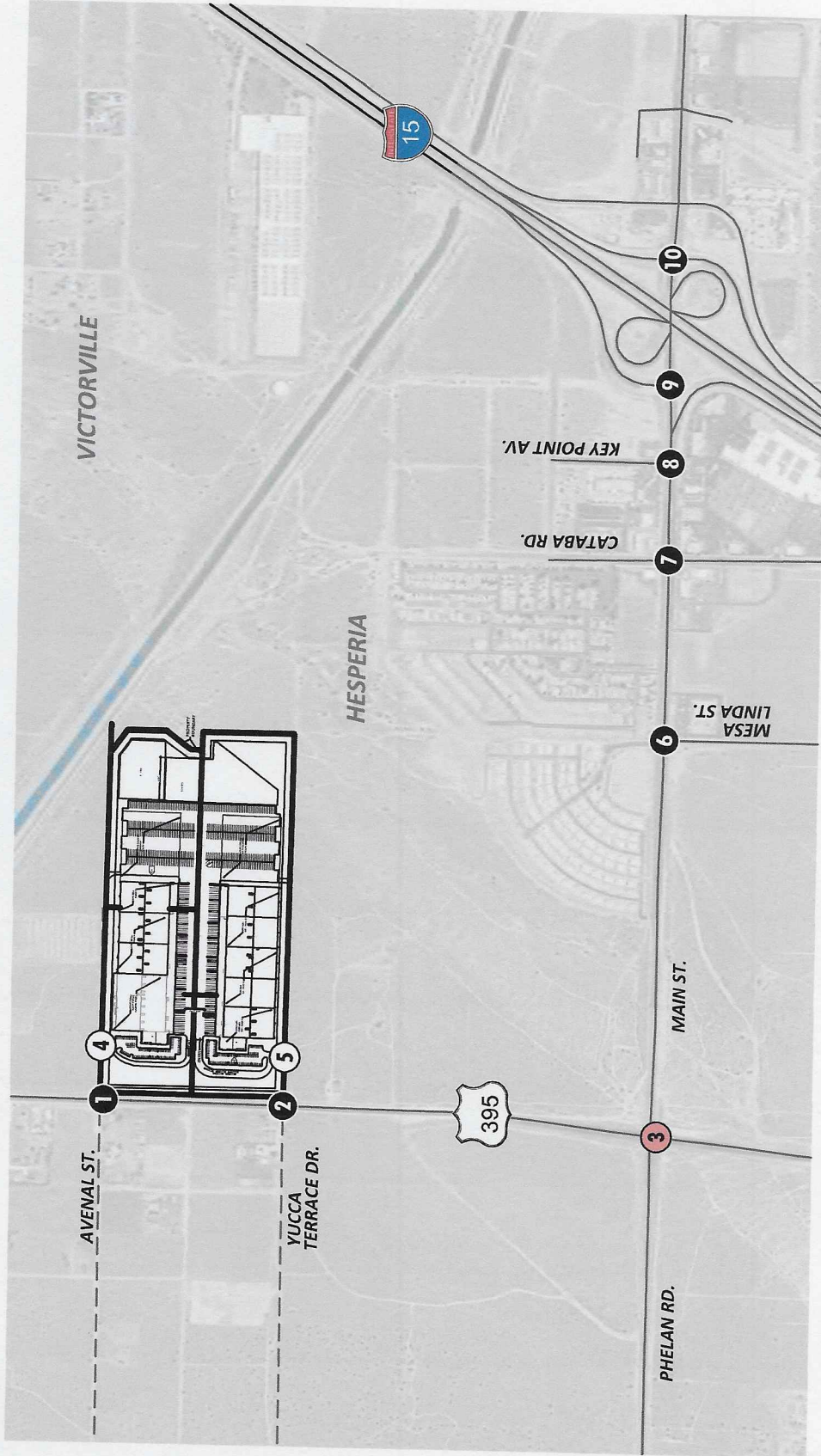
**LEGEND:**

- PT = PASSENGER CARS AND TRUCKS
- EVA = EMERGENCY VEHICLE ACCESS ONLY

13201 - siteplan.dwg



EXHIBIT 2: LOCATION MAP

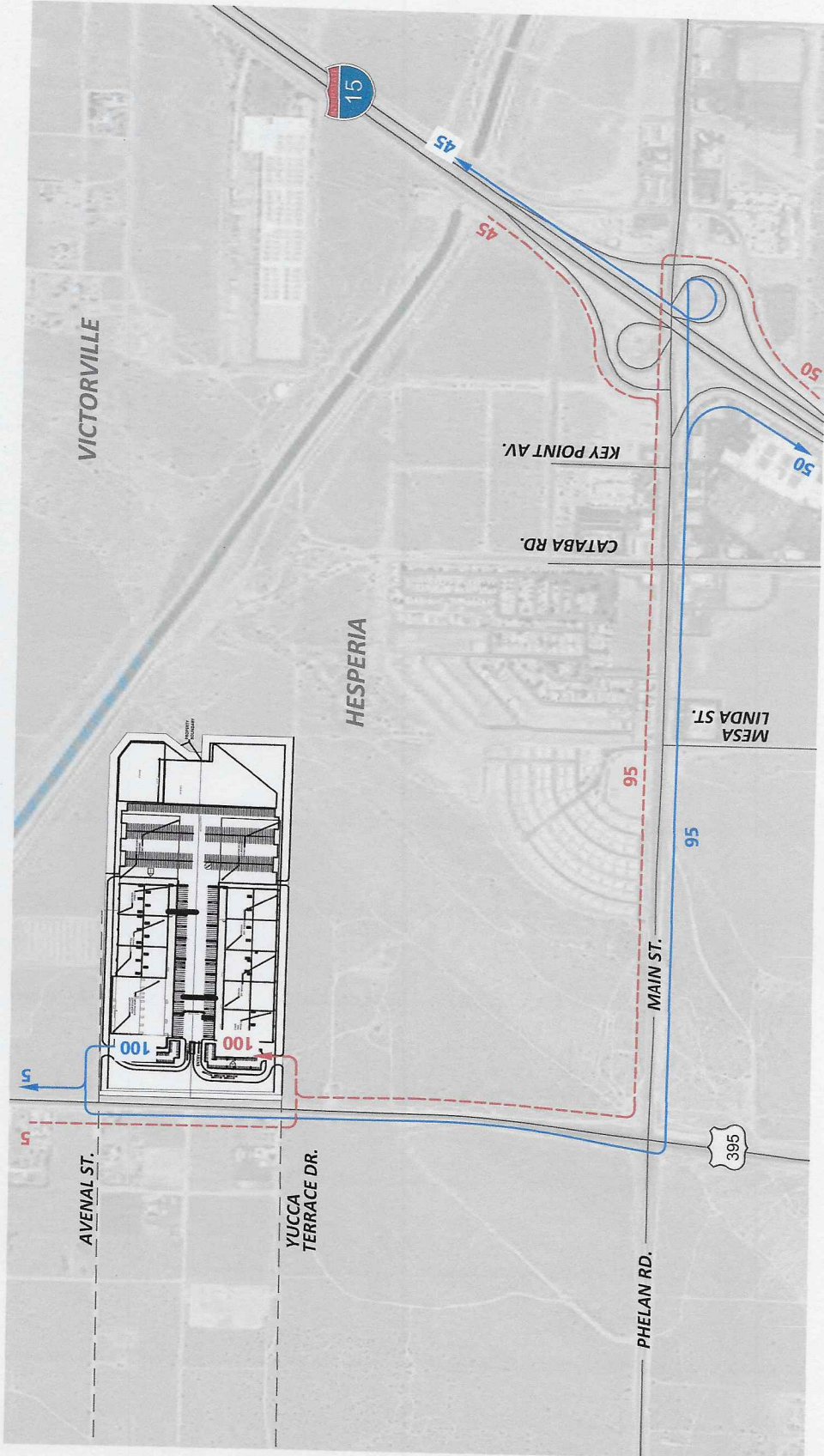


**LEGEND:**

- 0** = EXISTING INTERSECTION ANALYSIS LOCATION
- 0** = FUTURE INTERSECTION ANALYSIS LOCATION
- 0** = CMP INTERSECTION
- = DIRT ROAD



EXHIBIT 3: PROJECT (TRUCK) TRIP DISTRIBUTION



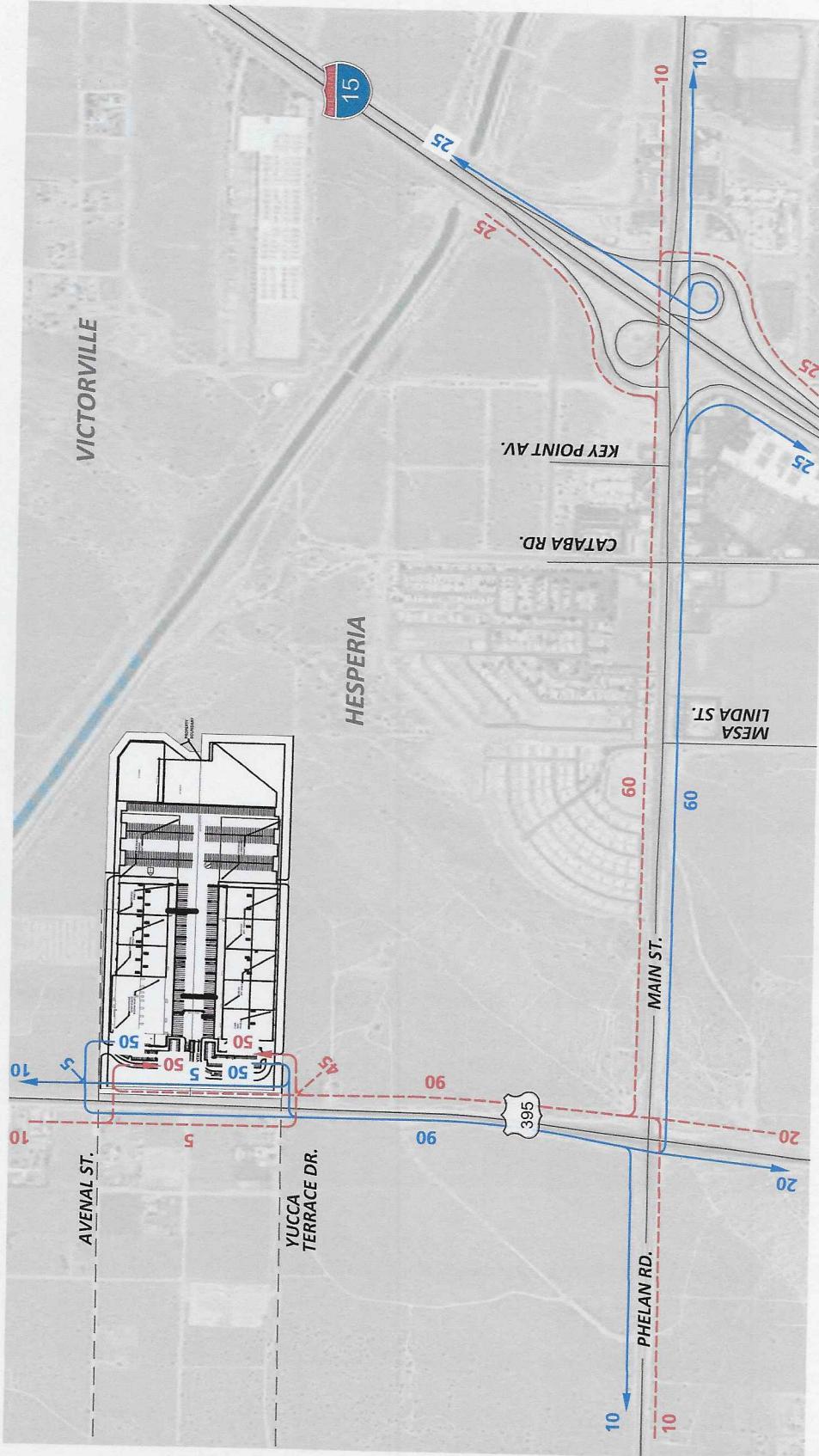
LEGEND:

- 10 = PERCENT TO/FROM PROJECT
- = OUTBOUND
- - - = INBOUND





EXHIBIT 4: PROJECT (PASSENGER CAR) TRIP DISTRIBUTION

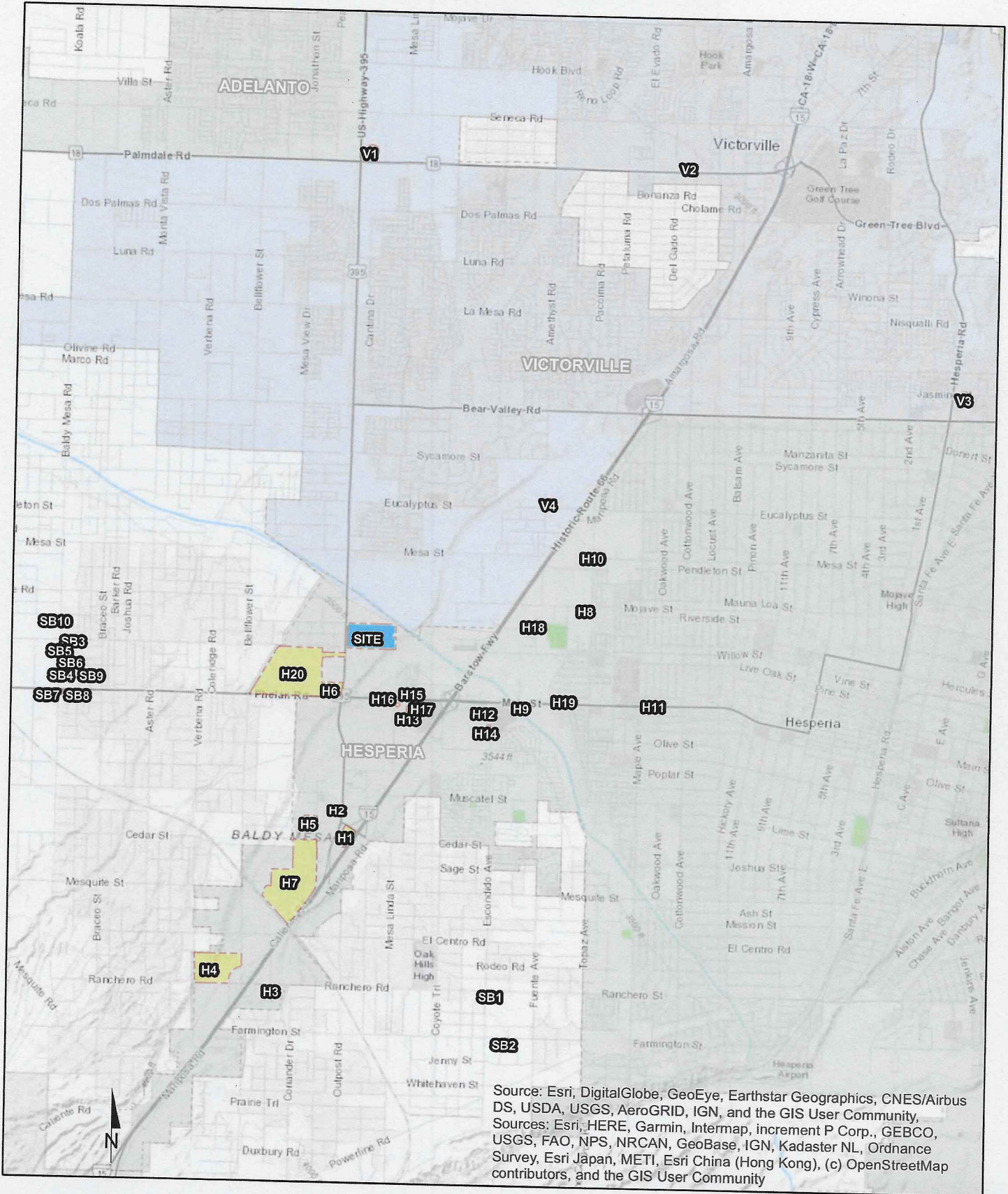


LEGEND:

- 10 = PERCENT TO/FROM PROJECT
- = OUTBOUND
- - - = INBOUND



EXHIBIT 5: CUMULATIVE DEVELOPMENT LOCATION MAP



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community  
 Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Table 1

Project Trip Generation Rates

Land Use <sup>1</sup>	Units <sup>2</sup>	ITE LU Code	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
<b>Actual Vehicle Trip Generation Rates</b>									
High-Cube Cold Storage Warehouse <sup>3</sup>	TSF	157	0.085	0.025	0.110	0.032	0.088	0.120	2.120
Passenger Cars (AM-73.0%; PM-77.0%; Daily-65.0%)			0.062	0.018	0.080	0.025	0.067	0.092	1.378
2-Axle Trucks (AM-9.37%; PM-7.98%; Daily-12.15%)			0.008	0.002	0.010	0.003	0.007	0.010	0.257
3-Axle Trucks (AM-2.97%; PM-2.53%; Daily-3.85%)			0.003	0.001	0.003	0.001	0.002	0.003	0.082
4-Axle+ Trucks (AM-14.66%; PM-12.49%; Daily-19.01%)			0.012	0.004	0.016	0.004	0.011	0.015	0.403
<b>Passenger Car Equivalent (PCE) Trip Generation Rates<sup>5</sup></b>									
High-Cube Cold Storage Warehouse <sup>3</sup>	TSF	157	0.085	0.025	0.110	0.032	0.088	0.120	2.120
Passenger Cars (78.6%)			0.062	0.018	0.080	0.025	0.067	0.092	1.378
2-Axle Trucks (8.0%) (PCE = 1.5)			0.012	0.004	0.015	0.004	0.010	0.014	0.386
3-Axle Trucks (3.9%) (PCE = 2.0)			0.005	0.002	0.007	0.002	0.004	0.006	0.163
4-Axle+ Trucks (9.5%) (PCE = 3.0)			0.037	0.011	0.048	0.012	0.033	0.045	1.209

<sup>1</sup> Trip Generation Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, Tenth Edition (2017).

<sup>2</sup> TSF = thousand square feet

<sup>3</sup> Vehicle Mix Source: ITE Trip Generation Handbook Supplement (2020), Appendix C.

Truck Mix: South Coast Air Quality Management District's (SCAQMD) recommended truck mix, by axle type.

Normalized % - With Cold Storage: 34.7% 2-Axle trucks, 11.0% 3-Axle trucks, 54.3% 4-Axle trucks.

<sup>4</sup> PCE rates are per SBCTA: 2-Axle = 1.5, 3-Axle = 2.0, 4+-Axle = 3.0

Table 2

Project Trip Generation Summary

Land Use	Quantity	Units <sup>1</sup>	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
<b>Project Trip Generation Summary (Actual)</b>									
High-Cube Cold Storage Warehouse	1,012.816	TSF							
Passenger Cars:			63	19	82	25	68	93	1,396
Truck Trips:									
2-axle:			8	2	10	3	7	10	262
3-axle:			3	1	4	1	2	3	84
4+-axle:			13	4	17	4	11	15	408
- Truck Trips			24	7	31	8	20	28	754
<b>TOTAL TRIPS (Actual Vehicles)<sup>2</sup></b>			<b>87</b>	<b>26</b>	<b>113</b>	<b>33</b>	<b>88</b>	<b>121</b>	<b>2,150</b>
<b>Project Trip Generation Summary (PCE)</b>									
High-Cube Cold Storage Warehouse	1,012.816	TSF							
Passenger Cars:			63	19	82	25	68	93	1,396
Truck Trips:									
2-axle:			12	4	16	4	11	15	392
3-axle:			5	2	7	2	4	6	166
4+-axle:			38	11	49	12	33	45	1,224
- Truck Trips (PCE)			55	17	72	18	48	66	1,782
<b>TOTAL TRIPS (PCE)<sup>2</sup></b>			<b>118</b>	<b>36</b>	<b>154</b>	<b>43</b>	<b>116</b>	<b>159</b>	<b>3,178</b>

<sup>1</sup> TSF = thousand square feet

<sup>2</sup> TOTAL TRIPS = Passenger Cars + Truck Trips.

Table 3

## Cumulative Development Land Use Summary

#	Case No.	Land Use	Quantity	Units <sup>1</sup>
<b>City of Hesperia</b>				
H1	CUP12-10189: SEC of Outpost Rd. & Joshua St.	Travel Center	12.271	TSF
H2	CUP15-00009: SWC of US-395 & Three Flags Rd.	Gas Station w/ Convenience Market and Car Wash	12	VFP
		High-Turnover Sit-Down Restaurant	1.300	TSF
		Fast Food w/ Drive Thru	3.000	TSF
H3	CUP16-00007: SEC of Mariposa Rd. & Rancho Rd.	Gas Station w/ Convenience Market and Car Wash	8	VFP
		Fast Food w/ Drive Thru	2.546	TSF
H4	CUPE16-00002: SEC of Verbena Rd. & Rodeo St.	Hotel	212	RM
		Quality Restaurant	11.600	TSF
		Golf Course	9	Holes
H5	SPR16-00016: south of Muscatel St., west of Caliente Rd.	Manufacturing	75.000	TSF
H6	CUP18-00003	Gas Station	9	VFP
		High-Turnover Sit-Down Restaurant	4.188	TSF
H7	Hesperia Commerce Center	High-Cube Fulfillment Center	4382.800	TSF
H8	TTE 19-00007 (TT 17916)	Single Family Detached Residential	177	DU
H9	TPM 19-00001	Shopping Center	13.0	Acres
H10	TTE 16-00002 (TT 17243)	Single Family Detached Residential	125	DU
H11	SPR 19-00005	Shopping Center	4.889	TSF
H12	Kaiser Medical Office	Medical Office	54.168	TSF
H13	Hesperia West	Shopping Center	34.675	TSF
		Department Store	40.400	TSF
		Furniture Store	38.000	TSF
		Walk in Bank	4.500	TSF
		High-Turnover Sit-Down Restaurant	5.926	TSF
		Fast Food w/ Drive Thru	3.260	TSF
		Fast Food w/ Drive Thru (vacant pad)	2.500	TSF
H14	Hesperia Walmart Shopping Center	Shopping Center	4.377	TSF
H15	SPR 16-00011	Shopping Center	5.423	TSF
H16	CUP 16-00011	Shopping Center	3.000	TSF
H17	High Desert Gateway West I & II	Shopping Center	9.450	TSF
H18	SPRE16-00004 ext	Senior Adult Housing - Detached	96	DU
H19	SPR18-00002	Medical Office	8.400	TSF
H20	Hesperia Commerce Center II	High-Cube Fulfillment Center	2361.648	TSF
		Shopping Center	1383.781	TSF
<b>County of San Bernardino</b>				
SB1	P201400514/RMC PM 19030	Gasoline/Service Station w/Conven. Mkt. High Turnover (Sit-Down) Restaurant	8	VFP
SB2	P201600125/TT	Assisted Living	12	BEDS
SB3	P201800466/CUP	Church	17.355	TSF
		Recreation Area with Restroom	0.5850	TSF
SB4	P201200482/CUP	General Office/Retail	20.4500	TSF
		Fast Food w/ Drive Thru	2.850	TSF
SB5	P201400478/CUP	Church	3.996	TSF

Table 3

Cumulative Development Land Use Summary

#	Case No.	Land Use	Quantity	Units <sup>1</sup>
SB6	P201400342/PREAPPDR PM 19590	Commercial Retail	881.285	TSF
SB7	P201600418/CUP	Church	1.440	TSF
SB8	P201400220/CUP	Church	2.3	Acres
SB9	P201300184/PREAPPDR	Commercial Retail	70.000	TSF
SB10	P201500257/PREAPPDR	Commercial Retail	9.100	TSF
<b>City of Victorville</b>				
V1	ADMN19-00068	Shopping Center	4.300	TSF
V2	ADMN19-00058	Church	2.800	TSF
V3	PLAN19-00023	Medical Office	16.500	TSF
V4	PLAN19-00020	Single Family Detached Residential	168	DU

<sup>1</sup> TSF = Thousand Square Feet; VFP = Vehicle Fueling Positions; RM = Room; DU = Dwelling Units

**ATTACHMENT A: CALTRANS COMMENTS, MAY 15, 2020**

## Charlene Hwang So

---

**From:** MATHEW, JACOB K@DOT <Jacob.MATHEW@dot.ca.gov>  
**Sent:** Friday, May 15, 2020 1:51 PM  
**To:** Charlene Hwang So  
**Cc:** Clark, Rosa F@DOT; Connor Paquin; CMS Administrator  
**Subject:** JN:13201 US Cold Storage Scoping Agreement

Hi Charlene,

Thank you for providing the California Department of Transportation (Caltrans) the opportunity to review and comment on the Scoping Agreement for Traffic Impact Analysis (TIA) for the US Cold Storage (project), located at the located northeast of US-395 and Yucca Terrace Drive in the City of Hesperia. This project proposes to construct and operate a 1,012,816 square feet of High-Cube Cold Storage Warehouse.

The presented scope appears to be appropriate and adequate. However, provide us the Hydrology/Drainage Report for our review. Also, we will need a Site Plan that shows the existing and proposed roadway features and improvements to complete the IGR review process.

Here is the answer your questions regarding the requirement and methodology for the preparation of TIA: 1) Yes, Operations analysis is still be required of State facilities; 2) Count data from 2019 would work if the counts include: Vehicle classification (FHWA/axle); and PCE conversion rate included, if applicable. Do not hesitate to contact me for any additional information regarding this project.

Thanks,  
Jacob Mathew  
D-8, Planning

---

**From:** Charlene Hwang So <cso@urbanxroads.com>  
**Sent:** Tuesday, April 21, 2020 10:38 AM  
**To:** MATHEW, JACOB K@DOT <Jacob.MATHEW@dot.ca.gov>  
**Cc:** Clark, Rosa F@DOT <rosa.f.clark@dot.ca.gov>; Connor Paquin <cpaquin@urbanxroads.com>; CMS Administrator <cmsadmin@urbanxroads.com>  
**Subject:** JN:13201 US Cold Storage Scoping Agreement  
**Importance:** High

**EXTERNAL EMAIL.** Links/attachments may not be safe.

Hi Jacob,

The City of Hesperia is requesting that Caltrans review and comment on the attached scope before they will provide an approval. Specifically, can Caltrans confirm:

1. Will operations analysis still be required of State facilities (or just VMT)?
2. Based on the draft guidelines, it appears Caltrans' methodology and thresholds are generally in line with those established in the OPR Technical Advisory. Please let me know if there are any other changes anticipated to the



methodology/thresholds. I have been added to the listserv to receive the update on when the final Caltrans SB743 documents are posted.

3. Confirm whether Caltrans approves of the use of the 2019 Count data and the proposed methodology in establishing a 2020 baseline in light of the on-going pandemic. The City has agreed to the proposed methodology.

Thank you in advance for your help!

Regards,

**CHARLENE SO, P.E.**  
Associate Principal



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**APPENDIX 1.2:**

**VEHICLE MILES TRAVELED (VMT) ANALYSIS, DATED SEPTEMBER 4, 2020**

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September 4, 2020

Ms. Cheryl Tubbs  
Lilburn Corporation  
1905 Business Center Drive  
San Bernardino, CA 92408

**SUBJECT: US COLD STORAGE VEHICLE MILES TRAVELLED (VMT) ANALYSIS**

Dear Ms. Cheryl Tubbs:

The following Vehicle Miles Travelled (VMT) Analysis has been prepared for the proposed US Cold Storage (**Project**), which is located north of east of US Highway 395 and between Avenal Street and Yucca Terrace Drive in the City of Hesperia.

## **PROJECT OVERVIEW**

The Project consists of 1,012,816 square feet (sf) of High-Cube Cold Storage Warehouse use (504,506 sf for the northern building and 508,310 sf for the southern building). Trips generated by the Project's proposed land uses have been estimated based on trip generation rates collected by the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10<sup>th</sup> Edition, 2017. (1) The proposed Project is anticipated to generate a total of 2,150 vehicle trip-ends per day (in actual vehicles). (See Attachment A)

## **BACKGROUND**

Changes to California Environmental Quality Act (CEQA) Guidelines were adopted in December 2018, which requires all lead agencies to adopt VMT as a replacement for automobile delay-based level of service (LOS) as the new measure for identifying transportation impacts for land use projects. This statewide mandate went into effect July 1, 2020. To aid in this transition, the Governor's Office of Planning and Research (OPR) released a Technical Advisory on Evaluating Transportation Impacts in CEQA (December of 2018) (**Technical Advisory**). (2)

In February 2020, the San Bernardino County Transportation Authority (SBCTA) released the SBCTA Recommended Traffic Impact Analysis Guidelines for Vehicle Miles Traveled and Level of Service Assessment (**SBCTA Guidelines**) that address both traditional automobile delay-based level of service (LOS) and new VMT analysis requirements. (3) Using the SBCTA Guidelines as a reference document, the City of Hesperia adopted Traffic Impact Analysis Guidelines for Vehicle Miles Traveled (VMT) and Level of Service Assessment (LOS) in July 2020 (**City Guidelines**). (4) These guidelines have been used to conduct this analysis.

## PROJECT SCREENING

The City Guidelines describe specific “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 project level VMT analysis. Screening thresholds are described in the following three steps:

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

Consistent with City Guidelines a land use project needs only to satisfy one of the above screening thresholds to result in a less than significant impact.

For the purposes of this analysis, the initial VMT screening process has been conducted with using the SBCTA VMT Screening Tool (**Screening Tool**), which uses screening criteria consistent with the screening thresholds recommended in the Technical Advisory and City Guidelines.

### TPA SCREENING

Projects located within a Transit Priority Area (TPA) (i.e., within ½ mile of an existing “major transit stop”<sup>1</sup> or an existing stop along a “high-quality transit corridor”<sup>2</sup>) may be presumed to have a less than significant impact absent substantial evidence to the contrary.

However, the presumption may NOT be appropriate if a 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.

Based on the Screening Tool results presented in Attachment B, 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 threshold is not met.**

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<sup>1</sup> 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.”).

<sup>2</sup> 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**

The Technical Advisory also states that, “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 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.” A low VMT area is defined as an individual traffic analysis zone (TAZ) where total daily Origin/Destination VMT per service population is lower than the County average total daily Origin/Destination VMT per service population of 32.7 VMT per service population.

The Screening Tool uses the sub-regional San Bernardino Transportation Analysis Model (SBTAM) to measure VMT performance within individual TAZ’s. The Project’s physical location based on parcel number was selected within the Screening Tool to determine the TAZ’s VMT per service population as compared to the County average (see Attachment B for output). The Project is not located within a low VMT generating TAZ based on VMT per service population as compared to the County average.

**The Low VMT Area screening threshold is not met.**

### **PROJECT TYPE SCREENING**

The City Guidelines identifies local serving retail projects less than 50,000 square feet or other local serving uses (e.g., day care centers, student housing, public facilities, places of worship, etc.) may be presumed to have a less than significant impact absent substantial evidence to the contrary. In addition, projects that generate fewer than 110 daily vehicle trips also may be presumed to have a less than significant impact on VMT. The Project is forecast to generate more than 110 daily vehicle trips; therefore, the Project would not be eligible to screen out based on project type screening.

**The Project Type screening threshold is not met.**

### **VMT METHODOLOGY**

As described in the City Guidelines, “projects not screened through the steps above should complete VMT analysis and forecasting through the SBTAM model to determine if they have a significant VMT impact. This analysis should include ‘project generated VMT’ and ‘project effect on VMT’ estimates for the project TAZ.”

### **PROJECT GENERATED VMT**

Project generated VMT has been calculated using the SBTAM model. Adjustments in socio-economic data (SED) (i.e., employment) has been made to a separate TAZ to reflect the Project’s proposed land use (i.e., industrial/warehouse uses). A separate TAZ is utilized to more easily be able to isolate the VMT generated by the Project. Table 1 summarizes the employment factors for the Project.

**TABLE 1: EMPLOYMENT FACTORS**

	Project
Building Square Footage (sf)	1,012,816 sf
Employment Factor <sup>3</sup>	1 emp per 1,195 sf
Employees	848

Adjustments to SED to represent the Project employment were made for a separate TAZ in the baseline (2016) SBTAM model and cumulative (2040) SBTAM model. Project generated VMT was then calculated using the Origin/Destination (OD) trip matrix for both baseline (2016) and cumulative (2040) model runs. Lastly, Project generated VMT is divided by the Project’s service population, which includes 848 employees. Dividing by the Project’s service population provides a transportation efficiency metric in which the analysis can be based. Using this efficiency metric allows the project to be compared to the remainder of the County of San Bernardino for purposes of identifying transportation impacts. Use of the service population efficiency metric is consistent with City Guidelines. Table 2 presents the baseline (2016) Project VMT per service population and the cumulative (2040) Project VMT per service population.

**TABLE 2: PROJECT VMT PER SERVICE POPULATION**

	Baseline 2016	Cumulative 2040
Project VMT	42,941	43,295
Project Employees	848	848
VMT per service population	50.64	51.06

**COUNTY OF SAN BERNARDINO VMT**

The County of San Bernardino’s regional average VMT per service population is 32.7.

**PROJECT GENERATED VMT ASSESSMENT**

As noted in the City Guidelines, the Project results in a significant project generated VMT impact if either of the following conditions are met:

1. The baseline project-generated VMT per service population exceeds the San Bernardino County regional average baseline of 32.7 VMT per service population, or
2. The cumulative project-generated VMT per service population exceeds the San Bernardino County regional average baseline of 32.7 VMT per service population.

<sup>3</sup> Table II-B of the SCAG Employment Density Study.



Table 3 provides a comparison of the Project generated VMT per service population for both baseline and cumulative traffic models as compared to the City’s threshold.

**TABLE 3: PROJECT VMT PER SERVICE POPULATION COMPARISON**

	Baseline 2016	Cumulative 2040
City Threshold	32.7	32.7
Project VMT per service population	50.64	51.06
Percent Change	+54.9%	+56.2%
Potentially Significant?	Yes	Yes

As shown in Table 3, both the baseline (2016) and cumulative (2040) Project generated VMT per service population values would exceed the City’s adopted threshold by 54.9% for baseline (2016) conditions and 56.2% for cumulative (2040) conditions. The transportation impact based on the assessment of Project generated VMT as compared to the City’s adopted threshold is potentially significant.

**PROJECT’S EFFECT ON VMT**

Consistent with City Guidelines, the project level VMT analysis should also provide an additional assessment to evaluate a project’s effect on VMT. This analysis is performed using the boundary method, which includes all vehicle trips with one or both trip-ends within a specific geographic area of interest (i.e., the City of Hesperia). Once VMT is calculated for all the roadways within the boundary area or in this case the County of San Bernardino, it is then normalized by dividing by that County’s service population (i.e., population and employment).

The City Guidelines state that a project’s effect on VMT is considered significant if the following condition is met:

1. The baseline link-level boundary (County of San Bernardino) VMT per service population increases under the plus project condition compared to the no project condition, or
2. The cumulative link-level boundary (County of San Bernardino) VMT per service population increases under the plus project condition compared to the no project condition.

**TABLE 4: BASELINE COUNTY OF SAN BERNARDINO VMT PER SERVICE POPULATION**

	Baseline without Project	Baseline with Project
VMT	55,818,252	56,059,311
Service Population	2,727,430	2,728,278
VMT per Service Population	20.47	20.55
Change in VMT	+0.08	
Potentially Significant?	Yes	

**TABLE 5: CUMULATIVE COUNTY OF SAN BERNARDINO VMT PER SERVICE POPULATION**

	Cumulative without Project	Cumulative with Project
VMT	82,167,731	82,164,838
Service Population	3,749,647	3,750,495
VMT per Service Population	21.913	21.908
Change in VMT	-0.005	
Potentially Significant?	No	

As presented in Tables 4 and 5, the baseline link-level VMT per service population within the City of Hesperia does increase under the plus project condition and cumulative link-level VMT per service population within the City of Hesperia does not increase under the plus project condition. The Project’s effect on VMT is considered potentially significant.

In addition, the Technical Advisory states the following, “a project that falls below an efficiency-based threshold that is aligned with long-term goals and relevant plans has no cumulative impact distinct from the project impact. Accordingly, a finding of a less-than-significant project impact would imply a less than significant cumulative impact and vice versa. This is similar to the analysis typically conducted for greenhouse gas emissions, air quality impacts, and impacts that utilize plan compliance as a threshold of significance.”<sup>4</sup> Therefore, the Project’s finding related to cumulative impacts is considered potentially significant.

**POTENTIAL VMT REDUCTION STRATEGIES**

Consistent with City Guidelines, VMT reduction strategies should be considered to address project generated VMT that exceeds the City’s threshold. Transportation demand management (TDM) strategies have been evaluated for the purpose of reducing VMT impacts determined to be potentially significant. The effectiveness of TDM strategies to reduce VMT has been determined based on the SB 743 Implementation Mitigation and TDM Strategy Assessment (November 11, 2019, Fehr & Peers) prepared for SBCTA (**SBCTA TDM Report**), which was based on a current assessment of the previously published Quantifying Greenhouse Gas Mitigation Measures (CAPCOA, 2010) for applicability to projects in the SBCTA region. The SBCTA TDM Report indicates that of the 50 transportation measures presented by CAPCOA, only 41 of those measures are applicable at a building and site level. The remaining 9 measures are functions of, or depend on, site location and/or actions by local and regional agencies or funders.<sup>5</sup>

<sup>4</sup> Page 6 of the OPR’s Technical Advisory.  
<sup>5</sup> Measures obtained from SBCTA TDM report, p. 5.

Based on a review of the 41 transportation measures identified by CAPCOA, the SBCTA TDM Report identifies that only 7 of those measures may be effective at the project level. Land use context is a major factor relevant to the potential application and effectiveness of TDM measures. More specifically, the land use context of the Project is characteristically suburban<sup>6</sup>. Based on a review of the potentially relevant TDM measures presented in the SBCTA TDM Report, the following TDM measures were evaluated for their applicability to the Project based on its suburban context and their ability to reduce project generated VMT:

- **Measure 1: Increase Diversity of Land Uses (LUT-3).** Having different types of land uses near one another can decrease VMT since trips between land use types are shorter and may be accommodated by non-auto modes of transportation. For example, when residential areas are in the same neighborhood as retail and office buildings, a resident does not need to travel outside of the neighborhood to meet his/her trip needs.

**Remarks:** The Project proposes the construction of 1,012,816 square feet of industrial warehouse use. In order for the above measure to apply, at least 3 of the following land uses should be located on-site, or if not on-site then within ¼ mile or less of the Project: residential development, retail development, office development, park, or open space. As the proposed Project does not include a mix of land uses on-site, and is not located within a ¼ mile of 3 of the land uses listed above, this particular TDM measure is therefore not evaluated further as a means of providing a reduction in Project VMT.

- **Measure 2: Provide Pedestrian Network Improvements (SDT-1).** Providing on-site pedestrian access network to link areas of the Project to the off-site pedestrian network encourages people to walk for short trips instead of drive. This mode shift results in people driving less for nearby trips (typically less than ¼ mile and no greater than ½ mile) and thus a reduction in VMT.

**Remarks:** There currently is no existing off-site pedestrian network within a ¼ mile of the Project. This measure is not evaluated further as a means of providing a reduction in Project VMT.

- **Measure 3: Provide Traffic Calming Measure (SDT-2).** Providing traffic calming measures encourages people to walk or bike instead of using a passenger car. This mode shift would result in a decrease in VMT. Traffic calming features may include: marked crosswalks, count-down signal timers, curb extensions, speed tables, raised crosswalks, raised intersections, median islands, tight corner radii, roundabouts or mini-circles, on-street parking, planter strips with street trees, chicanes/chokers, and others.

**Remarks:** There currently is no existing off-site pedestrian or bicycle network within a ¼ mile of the Project. This measure is not evaluated further as a means of providing a reduction in Project VMT.

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<sup>6</sup> **Suburban:** Characterized by dispersed, low intensity, single use, automobile dependent land use patterns, usually outside of the central city (a suburb). (*Quantifying Greenhouse Gas Mitigation Measures*, p. 60).

- Measure 4: Implement Car-Sharing Program (TRT-9). Implementing a car-sharing program would allow individuals to have on-demand access to a shared fleet of vehicles on an as-needed basis. User costs are typically determined through mileage or hourly rates, with deposits and/or annual membership fees.  
Remarks: This measure would likely require the Project to pay fees toward its inclusion in an existing car sharing program – which may not be feasible for a project of this size. The potential reduction in VMT is also extremely limited with a maximum reduction in VMT between 0.4% and .07% as noted by CAPCOA (Quantifying Greenhouse Gas Mitigation Measures, p. 245), therefore, this measure is not evaluated further as a means of providing a reduction in Project VMT.
- Measure 5: Increase Transit Service Frequency and Speed (TST-4). This measure serves to reduce transit-passenger travel time through more reduced headways and increased speed and reliability. This makes transit service more attractive and may result in a mode shift from auto to transit which reduces VMT.  
Remarks: The area is currently served by Victor Valley Transit Authority (VVTA), a public transit agency serving various jurisdictions within the Victor Valley area of San Bernardino County. Route 21W provides service in the area but there is not currently a Route that provides a transit stop within ¼ mile to the Project, therefore, this measure is not evaluated further as a means of providing a reduction in Project VMT.
- Measure 6: Encourage Telecommuting and Alternative Work Schedule (TRT-6). Encouraging telecommuting and alternative work schedules reduces the number of commute trips and therefore VMT traveled by employees. Alternative work schedules could take the form of staggered starting times, flexible schedules, or compressed work weeks.  
Remarks: The effectiveness of this strategy depends on the ultimate building tenant(s) and is a factor in considering any potential VMT reduction. In addition, these types of work schedules may not be applicable for this type of industrial land use, therefore, this measure is not evaluated further as means of providing a reduction in Project VMT.
- Measure 7: Provide Ride-Sharing Programs (TRT-3). This strategy focuses on encouraging carpooling and vanpooling, but its ultimate implementation is limited as Measure 6 above.  
Remarks: This measure may be applicable for project's in a suburban context and could include designating a certain percentage of parking spaces for ride share vehicles, provide ride share coordination services and other promotional incentives. The suburban context of the Project site would tend to limit the effectiveness of this measure thereby limiting commute VMT reduction to 1% noted by CAPCOA (Quantifying Greenhouse Gas Mitigation Measures, p. 229).

Ms. Cheryl Tubbs  
Lilburn Corporation  
September 4, 2020  
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## CONCLUSION

In summary, both the baseline and cumulative Project VMT per service population was found to exceed the City's adopted impact threshold of better than the San Bernardino County regional average baseline VMT per service population (32.7) threshold by more than 50%. Furthermore, the project's suburban context limits the effectiveness of potential TDM measures that could reduce project generated VMT due to the lack of pedestrian and bicycle network facilities in the area, limited access to public transit and a lack of land use diversification within walking distance to the Project site. Therefore, any potential reduction in VMT resulting from the aforementioned limited feasible TDM measures would not be enough to reduce project generated VMT to a level of less than significant.

If you have any questions, please contact me directly at (949) 480-7788.

Respectfully submitted,

URBAN CROSSROADS, INC.



Aric Evatt, PTP  
President



Robert Vu, PE  
Transportation Engineer

## REFERENCES

1. **Institute of Transportation Engineers.** *Trip Generation Manual.* 10th Edition. 2017.
2. **Office of Planning and Research.** *Technical Advisory on Evaluating Transportation Impacts in CEQA.* State of California : s.n., December 2018.
3. **San Bernardino County Transportation Authority (SBCTA).** *Recommended Traffic Impact Analysis Guidelines for Vehicle Miles Traveled and Level of Service Assessment.* February 2020.
4. **City of Hesperia.** *Traffic Impact Analysis Guidelines for Vehicle Miles Traveled (VMT) and Level of Service Assessment (LOS).* City of Hesperia : s.n., July 2020.

**ATTACHMENT A:  
PROJECT TRIP GENERATION**

**Project Trip Generation Summary**

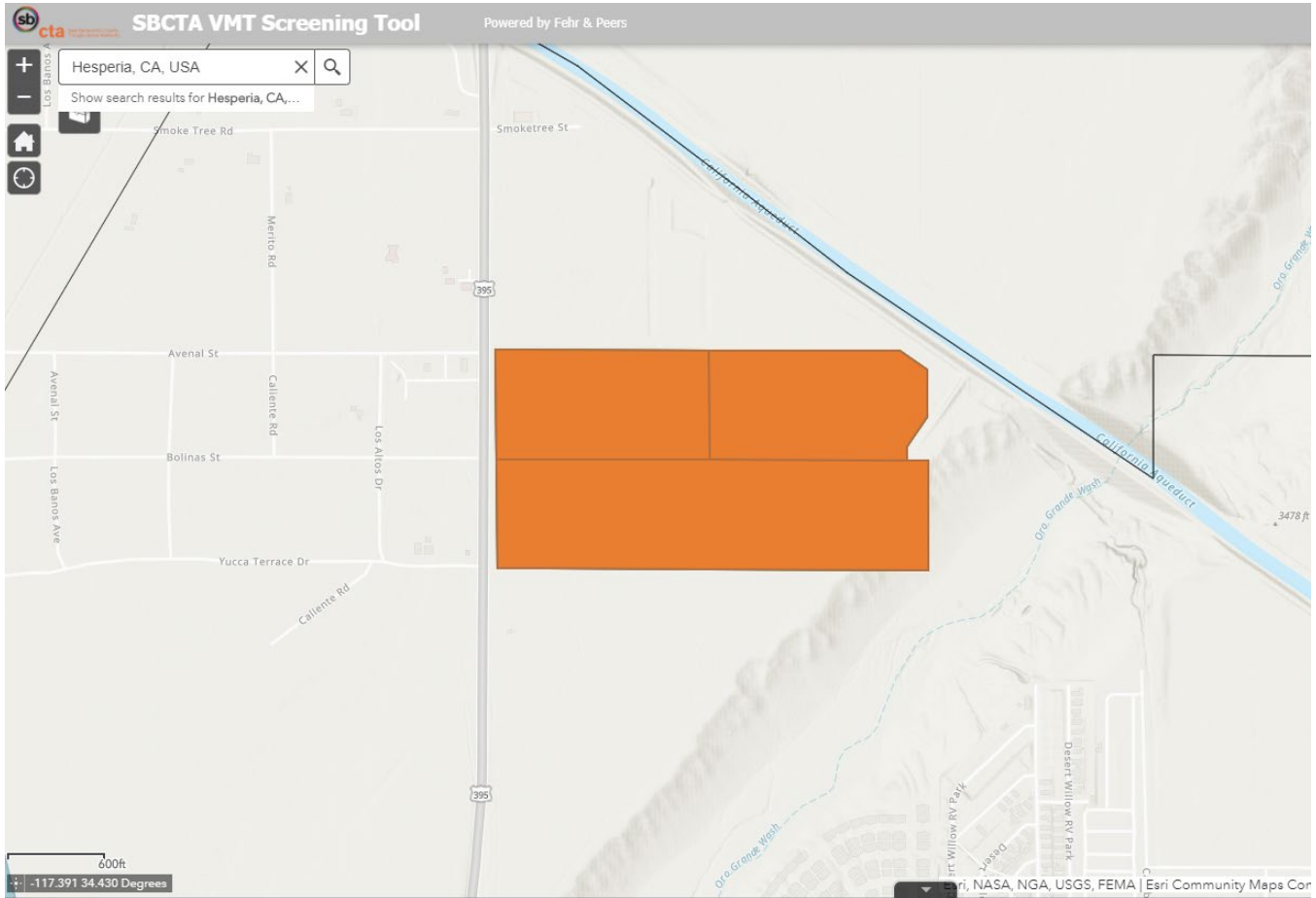
Land Use	Quantity	Units <sup>1</sup>	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
<b>Project Trip Generation Summary (Actual)</b>									
High-Cube Cold Storage Warehouse	1,012.816	TSF							
Passenger Cars:			63	19	82	25	68	93	1,396
Truck Trips:									
2-axle:			8	2	10	3	7	10	262
3-axle:			3	1	4	1	2	3	84
4+-axle:			13	4	17	4	11	15	408
- Truck Trips			24	7	31	8	20	28	754
<b>TOTAL TRIPS (Actual Vehicles)<sup>2</sup></b>			<b>87</b>	<b>26</b>	<b>113</b>	<b>33</b>	<b>88</b>	<b>121</b>	<b>2,150</b>
<b>Project Trip Generation Summary (PCE)</b>									
High-Cube Cold Storage Warehouse	1,012.816	TSF							
Passenger Cars:			63	19	82	25	68	93	1,396
Truck Trips:									
2-axle:			12	4	16	4	11	15	392
3-axle:			5	2	7	2	4	6	166
4+-axle:			38	11	49	12	33	45	1,224
- Truck Trips (PCE)			55	17	72	18	48	66	1,782
<b>TOTAL TRIPS (PCE)<sup>2</sup></b>			<b>118</b>	<b>36</b>	<b>154</b>	<b>43</b>	<b>116</b>	<b>159</b>	<b>3,178</b>

<sup>1</sup> TSF = thousand square feet

<sup>2</sup> TOTAL TRIPS = Passenger Cars + Truck Trips.



**ATTACHMENT B:  
SBCTA SCREENING ASSESSMENT**



OBJECTID	Assessor Parcel Number (APN)	Traffic Analysis Zone (TAZ)	Community Region	Inside a Transit Priority Area (TPA)	TAZ VMT	Jurisdiction VMT	% Difference	VMT Metric	Threshold
1	306442103	53,908,201.00	Hesperia	No	76.80	32.70	135.16%	OD VMT Per Service Population	32.70
2	306442102	53,908,201.00	Hesperia	No	76.80	32.70	135.16%	OD VMT Per Service Population	32.70

**APPENDIX 1.3:**  
**SITE ADJACENT QUEUING WORKSHEETS**

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**Intersection: 1: US-395 & Avenal St.**

Movement	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LR	T	T	TR	L	T	T	T
Maximum Queue (ft)	76	125	140	156	27	221	196	172
Average Queue (ft)	27	40	46	53	2	84	71	50
95th Queue (ft)	62	100	114	130	16	182	159	128
Link Distance (ft)	299	1254	1254	1254		1287	1287	1287
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)					200			
Storage Blk Time (%)						0		
Queuing Penalty (veh)						0		

**Intersection: 2: US-395 & Yucca Terrace Dr.**

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB	
Directions Served	L	TR	L	TR	L	T	T	TR	L	T	T	TR	
Maximum Queue (ft)	51	100	44	30	249	375	330	173	116	1000	885	877	
Average Queue (ft)	15	44	8	2	197	128	101	72	10	502	504	496	
95th Queue (ft)	44	80	30	13	273	318	239	152	68	836	820	813	
Link Distance (ft)	581	581	285	285		2647	2647	2647		1254	1254	1254	
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)					200					200			
Storage Blk Time (%)					14	0					37		
Queuing Penalty (veh)					90	0					2		

**Intersection: 4: Driveway 1 & Avenal St.**

Movement	NB
Directions Served	LR
Maximum Queue (ft)	44
Average Queue (ft)	17
95th Queue (ft)	39
Link Distance (ft)	426
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 5: Yucca Terrace Dr. & Driveway 2

Movement	SB
Directions Served	LR
Maximum Queue (ft)	39
Average Queue (ft)	8
95th Queue (ft)	31
Link Distance (ft)	337
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 93

**Intersection: 1: US-395 & Avenal St.**

Movement	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LR	T	T	TR	L	T	T	T
Maximum Queue (ft)	122	143	163	176	10	128	110	84
Average Queue (ft)	56	46	54	57	1	59	47	25
95th Queue (ft)	100	111	134	142	6	105	94	66
Link Distance (ft)	299	1254	1254	1254	1287	1287	1287	1287
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

**Intersection: 2: US-395 & Yucca Terrace Dr.**

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	TR	L	T	T	TR
Maximum Queue (ft)	152	334	68	25	249	322	327	324	28	324	325	286
Average Queue (ft)	75	170	21	2	68	183	187	178	2	192	190	165
95th Queue (ft)	134	286	55	14	147	289	289	289	12	278	279	256
Link Distance (ft)	581	581	285	285		2647	2647	2647		1254	1254	1254
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)					200				200			
Storage Blk Time (%)						4				5		
Queuing Penalty (veh)						3				0		

**Intersection: 4: Driveway 1 & Avenal St.**

Movement	NB
Directions Served	LR
Maximum Queue (ft)	44
Average Queue (ft)	25
95th Queue (ft)	37
Link Distance (ft)	426
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 5: Yucca Terrace Dr. & Driveway 2

Movement	SB
Directions Served	LR
Maximum Queue (ft)	34
Average Queue (ft)	20
95th Queue (ft)	43
Link Distance (ft)	337
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 3



**APPENDIX 3.1:**  
**EXISTING TRAFFIC COUNTS**

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**Volume Development  
AM Peak Hour**

**1: US Highway 395& Avenal St.**

	PHF: 0.920		NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	Count Date:		TOTAL
	NBL	NBT									WBT	WBR	
Existing 2019:		802			1,003								1,805
2-Axle:		60			56								116
3-Axle:		5			8								13
4+-Axle:		66			68								134
2019 PCE:	0	969	0	0	1,175	0	0	0	0	0	0	0	2,144
2020 PCE:	0	988	0	0	1,199	0	0	0	0	0	0	0	2,187

**2: US Highway 395 & Yucca Terrace Drive**

	PHF: 0.904		NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	Count Date: 9/28/2019		TOTAL
	NBL	NBT									WBT	WBR	
Existing 2019:	2	802	0	0	1,003	0	0	0	1	0	0	0	1,808
2-Axle:	1	60	0	0	56	0	0	0	0	0	0	0	117
3-Axle:	0	5	0	0	8	0	0	0	0	0	0	0	13
4+-Axle:	0	66	0	0	68	0	0	0	0	0	0	0	134
2019 PCE:	3	969	0	0	1,175	0	0	0	1	0	0	0	2,148
2020 PCE:	3	988	0	0	1,199	0	0	0	1	0	0	0	2,190

**3: US Highway 395 & Phelan Road/Main Street**

	PHF: 0.965		NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	Count Date: 9/28/2019		TOTAL
	NBL	NBT									WBT	WBR	
Existing 2019:	85	551	7	199	775	30	47	630	101	4	303	206	2,938
2-Axle:	7	59	0	3	51	2	0	13	1	0	15	2	153
3-Axle:	1	3	0	1	7	0	0	5	0	0	5	2	24
4+-Axle:	1	62	1	2	66	0	0	5	2	0	1	4	144
2019 PCE:	92	708	9	206	940	31	47	652	106	4	318	217	3,327
2020 PCE:	93	722	9	210	958	32	48	665	108	4	324	221	3,393

**4: Driveway 1 & Avenal St.**

	PHF:		NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	Count Date:		TOTAL
	NBL	NBT									WBT	WBR	
Existing 2019:													0
2-Axle:													0
3-Axle:													0
4+-Axle:													0
2019 PCE:	0	0	0	0	0	0	0	0	0	0	0	0	0
2020 PCE:	0	0	0	0	0	0	0	0	0	0	0	0	0

**5: Driveway 2 & Avenal St.**

	PHF:		NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	Count Date:		TOTAL
	NBL	NBT									WBT	WBR	
Existing 2019:													0
2-Axle:													0
3-Axle:													0
4+-Axle:													0
2019 PCE:	0	0	0	0	0	0	0	0	0	0	0	0	0
2020 PCE:	0	0	0	0	0	0	0	0	0	0	0	0	0

**6: Mesa Linda Street & Main Street**

	PHF: 0.849		NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	Count Date: 9/28/2019		TOTAL
	NBL	NBT									WBT	WBR	
Existing 2019:	0	2	21	47	2	14	5	830	2	45	495	17	1,480
2-Axle:	0	0	1	0	0	0	0	8	1	0	15	0	25
3-Axle:	0	0	100	0	0	0	0	6	0	1	3	0	110
4+-Axle:	0	0	2	0	0	0	0	8	0	2	4	0	16
2019 PCE:	0	2	126	47	2	14	5	856	3	50	514	17	1,635
2020 PCE:	0	2	128	48	2	14	5	873	3	51	524	17	1,667

## Volume Development

## 7: Cataba Road &amp; Main Street

	PHF: 0.889		7:00						Count Date: 9/28/2019				TOTAL
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	
Existing 2019:	30	7	42	29	6	25	46	784	36	67	497	14	1,583
2-Axle:	1	0	1	7	0	1	1	8	0	2	18	2	41
3-Axle:	0	0	1	1	0	0	1	5	0	0	4	0	12
4+-Axle:	0	0	2	0	0	0	1	11	0	1	8	1	24
<b>2019 PCE:</b>	<b>31</b>	<b>7</b>	<b>48</b>	<b>34</b>	<b>6</b>	<b>26</b>	<b>50</b>	<b>815</b>	<b>36</b>	<b>70</b>	<b>526</b>	<b>17</b>	<b>1,664</b>
<b>2020 PCE:</b>	<b>31</b>	<b>7</b>	<b>48</b>	<b>34</b>	<b>6</b>	<b>26</b>	<b>50</b>	<b>831</b>	<b>37</b>	<b>71</b>	<b>537</b>	<b>17</b>	<b>1,697</b>

## 8: Key Point Avenue &amp; Main Street

	PHF: 0.977		7:15						Count Date: 9/28/2019				TOTAL
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	
Existing 2019:	10	11	78	129	26	14	27	836	11	137	622	99	2,000
2-Axle:	1	0	0	6	0	1	1	15	2	1	28	4	59
3-Axle:	0	0	0	1	0	0	0	3	0	0	5	0	9
4+-Axle:	0	0	0	5	0	0	1	8	0	0	5	3	22
<b>2019 PCE:</b>	<b>11</b>	<b>11</b>	<b>78</b>	<b>143</b>	<b>26</b>	<b>15</b>	<b>30</b>	<b>863</b>	<b>12</b>	<b>138</b>	<b>651</b>	<b>107</b>	<b>2,083</b>
<b>2020 PCE:</b>	<b>11</b>	<b>11</b>	<b>80</b>	<b>146</b>	<b>27</b>	<b>15</b>	<b>30</b>	<b>880</b>	<b>12</b>	<b>140</b>	<b>664</b>	<b>109</b>	<b>2,124</b>

## 9: I-15 Southbound Ramps &amp; Main Street

	PHF: 0.951		7:00						Count Date: 9/28/2019				TOTAL
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	
Existing 2019:	0	0	0	271	0	155	0	951	0	0	677	0	2,054
2-Axle:	0	0	0	24	0	7	0	18	0	0	34	0	83
3-Axle:	0	0	0	8	0	2	0	2	0	0	5	0	17
4+-Axle:	0	0	0	8	0	6	0	10	0	0	5	0	29
<b>2019 PCE:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>307</b>	<b>0</b>	<b>173</b>	<b>0</b>	<b>982</b>	<b>0</b>	<b>0</b>	<b>709</b>	<b>0</b>	<b>2,171</b>
<b>2020 PCE:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>313</b>	<b>0</b>	<b>176</b>	<b>0</b>	<b>1,002</b>	<b>0</b>	<b>0</b>	<b>723</b>	<b>0</b>	<b>2,214</b>

## 10: I-15 Northbound Ramps &amp; Main Street

	PHF: 0.983		7:00						Count Date: 9/28/2019				TOTAL
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	
Existing 2019:	64	3	356	0	0	0	0	948	274	0	1,146	438	3,229
2-Axle:	3	1	20	0	0	0	0	40	2	0	36	5	107
3-Axle:	0	0	3	0	0	0	0	8	2	0	7	2	22
4+-Axle:	6	1	9	0	0	0	0	11	7	0	10	5	49
<b>2019 PCE:</b>	<b>78</b>	<b>6</b>	<b>387</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>998</b>	<b>291</b>	<b>0</b>	<b>1,191</b>	<b>453</b>	<b>3,403</b>
<b>2020 PCE:</b>	<b>79</b>	<b>6</b>	<b>395</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1,018</b>	<b>297</b>	<b>0</b>	<b>1,215</b>	<b>462</b>	<b>3,471</b>

**Volume Development  
PM Peak Hour**

**1: US Highway 395& Avenal St.**

	PHF: 0.920		NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
	NBL	NBT											
Existing 2019:		1,238			817								2,055
2-Axle:		61			40								101
3-Axle:		7			5								12
4+-Axle:		52			84								136
2019 PCE:	0	1,380	0	0	1,010	0	0	0	0	0	0	0	2,390
2020 PCE:	0	1,407	0	0	1,030	0	0	0	0	0	0	0	2,437

**2: US Highway 395 & Yucca Terrace Drive**

	PHF: 0.957		NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
	NBL	NBT											
Existing 2019:	2	1,237	0	0	815	2	1	0	4	0	0	0	2,061
2-Axle:	0	61	0	0	40	0	0	0	0	0	0	0	101
3-Axle:	0	7	0	0	5	0	0	0	0	0	0	0	12
4+-Axle:	3	51	0	0	83	1	1	0	0	0	0	0	139
2019 PCE:	8	1,377	0	0	1,006	4	3	0	4	0	0	0	2,402
2020 PCE:	8	1,404	0	0	1,026	4	3	0	4	0	0	0	2,450

**3: US Highway 395 & Phelan Road/Main Street**

	PHF: 0.953		NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
	NBL	NBT											
Existing 2019:	153	951	23	180	602	37	44	544	65	9	646	244	3,498
2-Axle:	5	55	1	2	36	2	1	14	1	0	7	5	129
3-Axle:	0	7	0	0	5	0	0	0	2	0	1	0	15
4+-Axle:	3	50	1	3	76	4	0	3	0	0	2	4	146
2019 PCE:	162	1,086	26	187	777	46	45	557	68	9	655	255	3,870
2020 PCE:	165	1,107	26	191	793	47	45	568	69	9	668	260	3,947

**4: Driveway 1 & Avenal St.**

	PHF: 0.920		NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
	NBL	NBT											
Existing 2019:													0
2-Axle:													0
3-Axle:													0
4+-Axle:													0
2019 PCE:	0	0	0	0	0	0	0	0	0	0	0	0	0
2020 PCE:	0	0	0	0	0	0	0	0	0	0	0	0	0

**5: Driveway 2 & Avenal St.**

	PHF: 0.920		NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
	NBL	NBT											
Existing 2019:													0
2-Axle:													0
3-Axle:													0
4+-Axle:													0
2019 PCE:	0	0	0	0	0	0	0	0	0	0	0	0	0
2020 PCE:	0	0	0	0	0	0	0	0	0	0	0	0	0

**6: Mesa Linda Street & Main Street**

	PHF: 0.962		NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
	NBL	NBT											
Existing 2019:	9	7	71	31	0	3	5	736	6	41	887	53	1,849
2-Axle:	1	0	1	0	0	0	0	17	0	1	11	1	32
3-Axle:	0	0	1	0	0	0	0	0	0	1	1	0	3
4+-Axle:	0	0	4	0	0	0	0	7	0	2	6	0	19
2019 PCE:	10	7	81	31	0	3	5	759	6	47	906	54	1,906
2020 PCE:	10	7	82	32	0	3	5	774	6	47	924	55	1,944

**Volume Development**  
**PM Peak Hour**

**7: Cataba Road & Main Street**

	PHF: 0.979			16:15				Count Date: 9/28/2019					<u>TOTAL</u>
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	
Existing 2019:	134	48	134	67	28	110	74	655	88	188	740	41	2,307
2-Axle:	1	1	1	4	2	1	1	15	0	0	13	1	40
3-Axle:	0	0	0	0	0	0	0	0	0	0	2	0	2
4+-Axle:	0	1	1	0	0	0	1	11	0	0	7	1	22
<b>2019 PCE:</b>	<b>135</b>	<b>51</b>	<b>137</b>	<b>69</b>	<b>29</b>	<b>111</b>	<b>77</b>	<b>685</b>	<b>88</b>	<b>188</b>	<b>763</b>	<b>44</b>	<b>2,373</b>
<b>2020 PCE:</b>	<b>137</b>	<b>52</b>	<b>139</b>	<b>70</b>	<b>30</b>	<b>113</b>	<b>78</b>	<b>698</b>	<b>90</b>	<b>192</b>	<b>778</b>	<b>44</b>	<b>2,420</b>

**8: Key Point Avenue & Main Street**

	PHF: 0.982			16:45				Count Date: 9/28/2019					<u>TOTAL</u>
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	
Existing 2019:	29	71	230	218	84	30	52	866	24	214	1,065	211	3,094
2-Axle:	0	0	0	2	0	1	1	18	0	1	11	3	37
3-Axle:	0	0	0	1	0	0	0	5	0	0	1	0	7
4+-Axle:	0	0	0	1	0	0	1	11	0	0	10	0	23
<b>2019 PCE:</b>	<b>29</b>	<b>71</b>	<b>230</b>	<b>222</b>	<b>84</b>	<b>31</b>	<b>55</b>	<b>902</b>	<b>24</b>	<b>215</b>	<b>1,092</b>	<b>213</b>	<b>3,166</b>
<b>2020 PCE:</b>	<b>30</b>	<b>72</b>	<b>235</b>	<b>226</b>	<b>86</b>	<b>31</b>	<b>56</b>	<b>920</b>	<b>24</b>	<b>219</b>	<b>1,113</b>	<b>217</b>	<b>3,229</b>

**9: I-15 Southbound Ramps & Main Street**

	PHF: 0.967			16:45				Count Date: 9/28/2019					<u>TOTAL</u>
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	
Existing 2019:	0	0	0	521	0	379	0	1,198	0	0	1,113	0	3,211
2-Axle:	0	0	0	12	0	3	0	13	0	0	13	0	41
3-Axle:	0	0	0	3	0	0	0	4	0	0	2	0	9
4+-Axle:	0	0	0	5	0	6	0	8	0	0	3	0	22
<b>2019 PCE:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>540</b>	<b>0</b>	<b>393</b>	<b>0</b>	<b>1,225</b>	<b>0</b>	<b>0</b>	<b>1,128</b>	<b>0</b>	<b>3,285</b>
<b>2020 PCE:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>551</b>	<b>0</b>	<b>400</b>	<b>0</b>	<b>1,249</b>	<b>0</b>	<b>0</b>	<b>1,150</b>	<b>0</b>	<b>3,350</b>

**10: I-15 Northbound Ramps & Main Street**

	PHF: 0.966			16:45				Count Date: 9/28/2019					<u>TOTAL</u>
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	
Existing 2019:	175	0	759	0	0	0	0	1,510	209	0	1,274	378	4,305
2-Axle:	0	0	45	0	0	0	0	22	3	0	19	8	97
3-Axle:	0	0	3	0	0	0	0	7	0	0	5	0	15
4+-Axle:	2	0	23	0	0	0	0	8	5	0	9	7	54
<b>2019 PCE:</b>	<b>179</b>	<b>0</b>	<b>831</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1,544</b>	<b>221</b>	<b>0</b>	<b>1,307</b>	<b>396</b>	<b>4,477</b>
<b>2020 PCE:</b>	<b>183</b>	<b>0</b>	<b>847</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1,575</b>	<b>225</b>	<b>0</b>	<b>1,333</b>	<b>404</b>	<b>4,566</b>

City of Hesperia  
 N/S: US-395  
 E/W: Yucca Terrace Drive  
 Weather: Clear

File Name : 06\_HES\_US-395\_Yucca Terrace AM  
 Site Code : 05119658  
 Start Date : 9/28/2019  
 Page No : 1

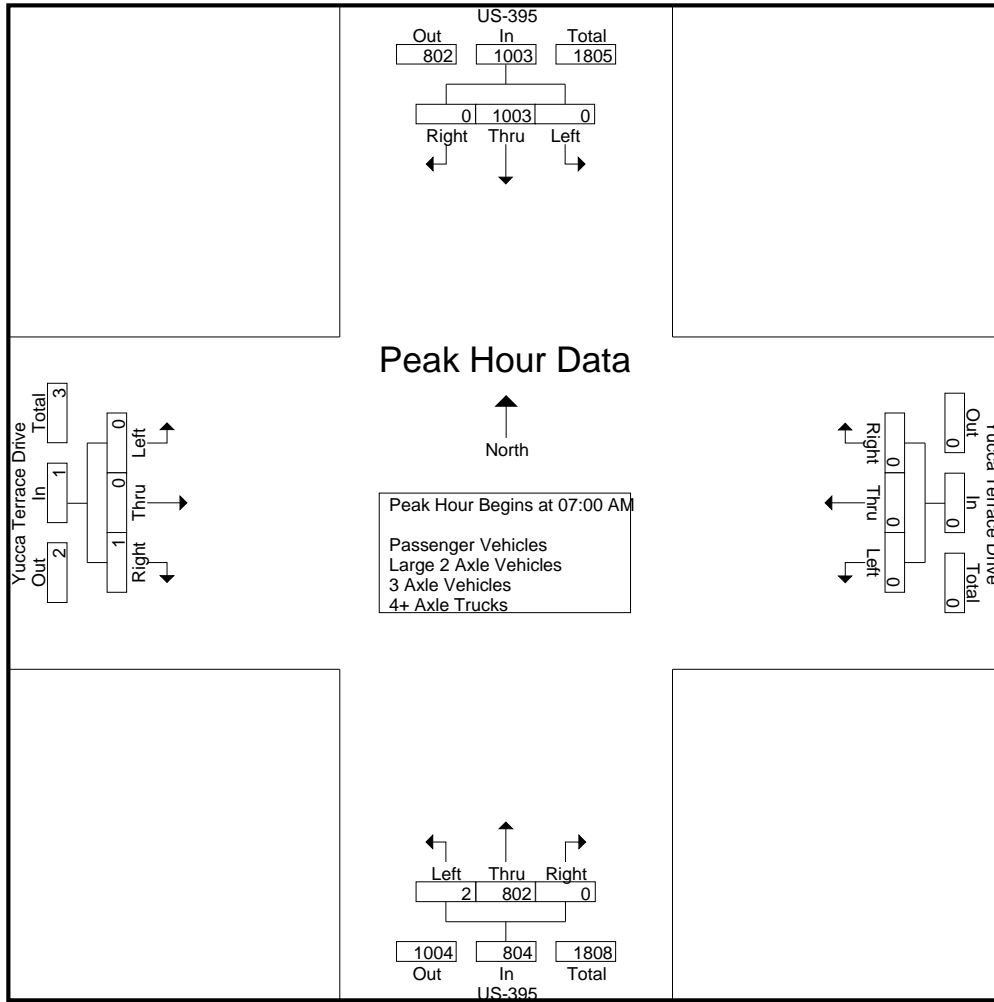
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	US-395 Southbound				Yucca Terrace Drive Westbound				US-395 Northbound				Yucca Terrace Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	287	0	287	0	0	0	0	0	213	0	213	0	0	0	0	500
07:15 AM	0	251	0	251	0	0	0	0	0	203	0	203	0	0	0	0	454
07:30 AM	0	226	0	226	0	0	0	0	1	233	0	234	0	0	0	0	460
07:45 AM	0	239	0	239	0	0	0	0	1	153	0	154	0	0	1	1	394
<b>Total</b>	<b>0</b>	<b>1003</b>	<b>0</b>	<b>1003</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>802</b>	<b>0</b>	<b>804</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>1808</b>
08:00 AM	0	217	0	217	0	0	0	0	0	136	0	136	0	0	0	0	353
08:15 AM	0	217	0	217	0	0	0	0	1	167	0	168	0	0	0	0	385
08:30 AM	0	220	0	220	0	0	0	0	0	174	0	174	0	0	1	1	395
08:45 AM	0	195	1	196	0	0	0	0	1	151	0	152	1	0	0	1	349
<b>Total</b>	<b>0</b>	<b>849</b>	<b>1</b>	<b>850</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>628</b>	<b>0</b>	<b>630</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>1482</b>
<b>Grand Total</b>	<b>0</b>	<b>1852</b>	<b>1</b>	<b>1853</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>1430</b>	<b>0</b>	<b>1434</b>	<b>1</b>	<b>0</b>	<b>2</b>	<b>3</b>	<b>3290</b>
Apprch %	0	99.9	0.1		0	0	0		0.3	99.7	0		33.3	0	66.7		
Total %	0	56.3	0	56.3	0	0	0	0	0.1	43.5	0	43.6	0	0	0.1	0.1	
Passenger Vehicles	0	1691	1	1692	0	0	0	0	3	1273	0	1276	1	0	2	3	2971
% Passenger Vehicles	0	91.3	100	91.3	0	0	0	0	75	89	0	89	100	0	100	100	90.3
Large 2 Axle Vehicles	0	35	0	35	0	0	0	0	1	55	0	56	0	0	0	0	91
% Large 2 Axle Vehicles	0	1.9	0	1.9	0	0	0	0	25	3.8	0	3.9	0	0	0	0	2.8
3 Axle Vehicles	0	10	0	10	0	0	0	0	0	9	0	9	0	0	0	0	19
% 3 Axle Vehicles	0	0.5	0	0.5	0	0	0	0	0	0.6	0	0.6	0	0	0	0	0.6
4+ Axle Trucks	0	116	0	116	0	0	0	0	0	93	0	93	0	0	0	0	209
% 4+ Axle Trucks	0	6.3	0	6.3	0	0	0	0	0	6.5	0	6.5	0	0	0	0	6.4

Start Time	US-395 Southbound				Yucca Terrace Drive Westbound				US-395 Northbound				Yucca Terrace Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	<b>287</b>	0	<b>287</b>	0	0	0	0	0	213	0	213	0	0	0	0	<b>500</b>
07:15 AM	0	251	0	251	0	0	0	0	0	203	0	203	0	0	0	0	454
07:30 AM	0	226	0	226	0	0	0	0	<b>1</b>	<b>233</b>	0	<b>234</b>	0	0	0	0	460
07:45 AM	0	239	0	239	0	0	0	0	1	153	0	154	0	0	<b>1</b>	<b>1</b>	394
<b>Total Volume</b>	<b>0</b>	<b>1003</b>	<b>0</b>	<b>1003</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>802</b>	<b>0</b>	<b>804</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>1808</b>
% App. Total	0	100	0		0	0	0		0.2	99.8	0		0	0	100		
PHF	.000	.874	.000	.874	.000	.000	.000	.000	.500	.861	.000	.859	.000	.000	.250	.250	.904

City of Hesperia  
 N/S: US-395  
 E/W: Yucca Terrace Drive  
 Weather: Clear

File Name : 06\_HES\_US-395\_Yucca Terrace AM  
 Site Code : 05119658  
 Start Date : 9/28/2019  
 Page No : 2



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

	07:00 AM				07:00 AM				07:00 AM				07:45 AM			
+0 mins.	0	<b>287</b>	0	<b>287</b>	0	0	0	0	0	213	0	213	0	0	<b>1</b>	<b>1</b>
+15 mins.	0	251	0	251	0	0	0	0	0	203	0	203	0	0	0	0
+30 mins.	0	226	0	226	0	0	0	0	<b>1</b>	<b>233</b>	0	<b>234</b>	0	0	0	0
+45 mins.	0	239	0	239	0	0	0	0	1	153	0	154	0	0	1	1
Total Volume	0	1003	0	1003	0	0	0	0	2	802	0	804	0	0	2	2
% App. Total	0	100	0		0	0	0		0.2	99.8	0		0	0	100	
PHF	.000	.874	.000	.874	.000	.000	.000	.000	.500	.861	.000	.859	.000	.000	.500	.500



City of Hesperia  
 N/S: US-395  
 E/W: Yucca Terrace Drive  
 Weather: Clear

File Name : 06\_HES\_US-395\_Yucca Terrace AM  
 Site Code : 05119658  
 Start Date : 9/28/2019  
 Page No : 1

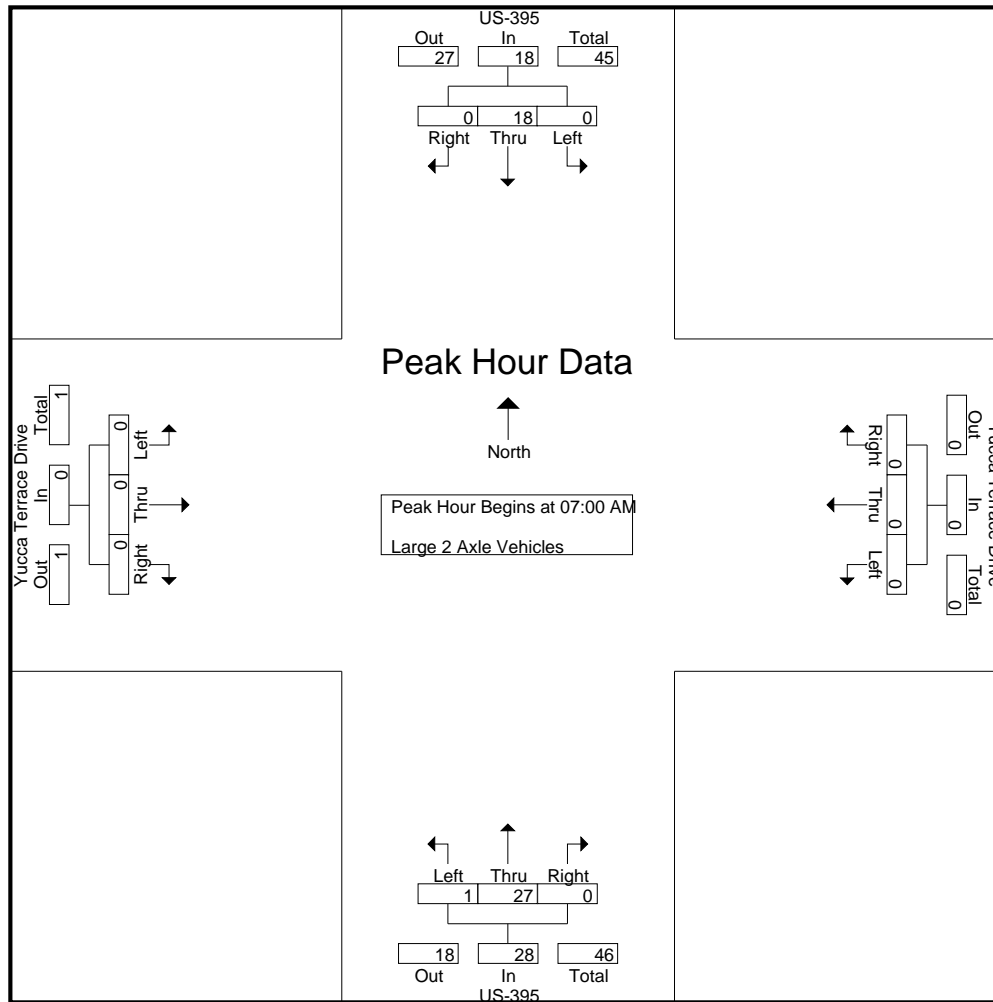
Groups Printed- Large 2 Axle Vehicles

Start Time	US-395 Southbound				Yucca Terrace Drive Westbound				US-395 Northbound				Yucca Terrace Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	6	0	6	0	0	0	0	0	6	0	6	0	0	0	0	12
07:15 AM	0	4	0	4	0	0	0	0	0	10	0	10	0	0	0	0	14
07:30 AM	0	4	0	4	0	0	0	0	0	7	0	7	0	0	0	0	11
07:45 AM	0	4	0	4	0	0	0	0	1	4	0	5	0	0	0	0	9
Total	0	18	0	18	0	0	0	0	1	27	0	28	0	0	0	0	46
08:00 AM	0	3	0	3	0	0	0	0	0	3	0	3	0	0	0	0	6
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	7	0	7	0	0	0	0	0	9	0	9	0	0	0	0	16
08:45 AM	0	7	0	7	0	0	0	0	0	16	0	16	0	0	0	0	23
Total	0	17	0	17	0	0	0	0	0	28	0	28	0	0	0	0	45
Grand Total	0	35	0	35	0	0	0	0	1	55	0	56	0	0	0	0	91
Apprch %	0	100	0		0	0	0		1.8	98.2	0		0	0	0		
Total %	0	38.5	0	38.5	0	0	0	0	1.1	60.4	0	61.5	0	0	0	0	

Start Time	US-395 Southbound				Yucca Terrace Drive Westbound				US-395 Northbound				Yucca Terrace Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	6	0	6	0	0	0	0	0	6	0	6	0	0	0	0	12
07:15 AM	0	4	0	4	0	0	0	0	0	10	0	10	0	0	0	0	14
07:30 AM	0	4	0	4	0	0	0	0	0	7	0	7	0	0	0	0	11
07:45 AM	0	4	0	4	0	0	0	0	1	4	0	5	0	0	0	0	9
Total Volume	0	18	0	18	0	0	0	0	1	27	0	28	0	0	0	0	46
% App. Total	0	100	0		0	0	0		3.6	96.4	0		0	0	0		
PHF	.000	.750	.000	.750	.000	.000	.000	.000	.250	.675	.000	.700	.000	.000	.000	.000	.821

City of Hesperia  
 N/S: US-395  
 E/W: Yucca Terrace Drive  
 Weather: Clear

File Name : 06\_HES\_US-395\_Yucca Terrace AM  
 Site Code : 05119658  
 Start Date : 9/28/2019  
 Page No : 2



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

	07:00 AM				07:00 AM				07:00 AM							
+0 mins.	0	<b>6</b>	0	<b>6</b>	0	0	0	0	0	6	0	6	0	0	0	0
+15 mins.	0	4	0	4	0	0	0	0	0	<b>10</b>	0	<b>10</b>	0	0	0	0
+30 mins.	0	4	0	4	0	0	0	0	0	7	0	7	0	0	0	0
+45 mins.	0	4	0	4	0	0	0	0	<b>1</b>	4	0	5	0	0	0	0
Total Volume	0	18	0	18	0	0	0	0	1	27	0	28	0	0	0	0
% App. Total	0	100	0		0	0	0		3.6	96.4	0		0	0	0	
PHF	.000	.750	.000	.750	.000	.000	.000	.000	.250	.675	.000	.700	.000	.000	.000	.000

City of Hesperia  
 N/S: US-395  
 E/W: Yucca Terrace Drive  
 Weather: Clear

File Name : 06\_HES\_US-395\_Yucca Terrace AM  
 Site Code : 05119658  
 Start Date : 9/28/2019  
 Page No : 1

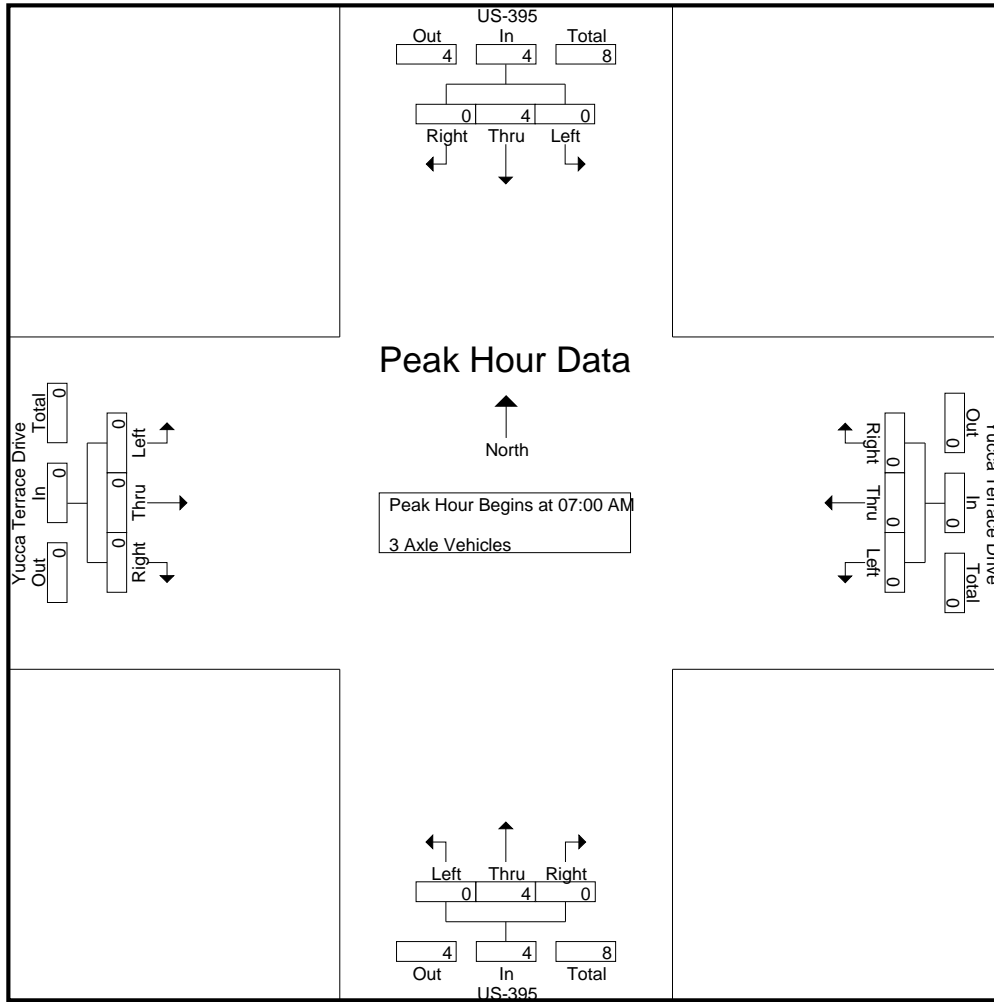
Groups Printed- 3 Axle Vehicles

Start Time	US-395 Southbound				Yucca Terrace Drive Westbound				US-395 Northbound				Yucca Terrace Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	3	0	3	0	0	0	0	0	1	0	1	0	0	0	0	4
07:15 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
Total	0	4	0	4	0	0	0	0	0	4	0	4	0	0	0	0	8
08:00 AM	0	2	0	2	0	0	0	0	0	1	0	1	0	0	0	0	3
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	4	0	4	0	0	0	0	0	3	0	3	0	0	0	0	7
08:45 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
Total	0	6	0	6	0	0	0	0	0	5	0	5	0	0	0	0	11
Grand Total	0	10	0	10	0	0	0	0	0	9	0	9	0	0	0	0	19
Apprch %	0	100	0		0	0	0		0	100	0		0	0	0		
Total %	0	52.6	0	52.6	0	0	0	0	0	47.4	0	47.4	0	0	0	0	

Start Time	US-395 Southbound				Yucca Terrace Drive Westbound				US-395 Northbound				Yucca Terrace Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	3	0	3	0	0	0	0	0	1	0	1	0	0	0	0	4
07:15 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
Total Volume	0	4	0	4	0	0	0	0	0	4	0	4	0	0	0	0	8
% App. Total	0	100	0		0	0	0		0	100	0		0	0	0		
PHF	.000	.333	.000	.333	.000	.000	.000	.000	.000	.500	.000	.500	.000	.000	.000	.000	.500

City of Hesperia  
 N/S: US-395  
 E/W: Yucca Terrace Drive  
 Weather: Clear

File Name : 06\_HES\_US-395\_Yucca Terrace AM  
 Site Code : 05119658  
 Start Date : 9/28/2019  
 Page No : 2



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

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	<b>3</b>	0	<b>3</b>	0	0	0	0	0	1	0	1	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	<b>2</b>	0	<b>2</b>	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0
Total Volume	0	4	0	4	0	0	0	0	0	4	0	4	0	0	0	0
% App. Total	0	100	0	0	0	0	0	0	0	100	0	0	0	0	0	0
PHF	.000	.333	.000	.333	.000	.000	.000	.000	.000	.500	.000	.500	.000	.000	.000	.000

City of Hesperia  
 N/S: US-395  
 E/W: Yucca Terrace Drive  
 Weather: Clear

File Name : 06\_HES\_US-395\_Yucca Terrace AM  
 Site Code : 05119658  
 Start Date : 9/28/2019  
 Page No : 1

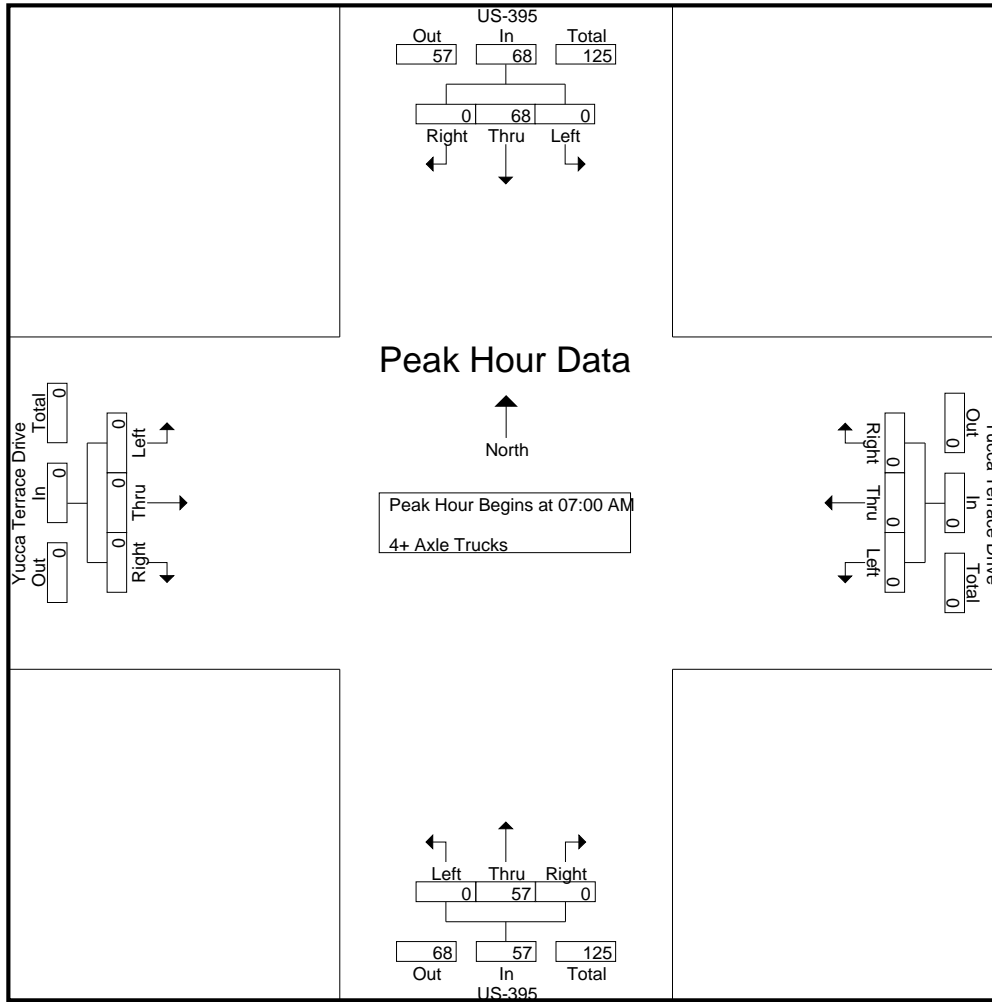
Groups Printed- 4+ Axle Trucks

Start Time	US-395 Southbound				Yucca Terrace Drive Westbound				US-395 Northbound				Yucca Terrace Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	18	0	18	0	0	0	0	0	16	0	16	0	0	0	0	34
07:15 AM	0	14	0	14	0	0	0	0	0	11	0	11	0	0	0	0	25
07:30 AM	0	18	0	18	0	0	0	0	0	18	0	18	0	0	0	0	36
07:45 AM	0	18	0	18	0	0	0	0	0	12	0	12	0	0	0	0	30
Total	0	68	0	68	0	0	0	0	0	57	0	57	0	0	0	0	125
08:00 AM	0	14	0	14	0	0	0	0	0	11	0	11	0	0	0	0	25
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	21	0	21	0	0	0	0	0	11	0	11	0	0	0	0	32
08:45 AM	0	13	0	13	0	0	0	0	0	14	0	14	0	0	0	0	27
Total	0	48	0	48	0	0	0	0	0	36	0	36	0	0	0	0	84
Grand Total	0	116	0	116	0	0	0	0	0	93	0	93	0	0	0	0	209
Apprch %	0	100	0		0	0	0		0	100	0		0	0	0		
Total %	0	55.5	0	55.5	0	0	0	0	0	44.5	0	44.5	0	0	0	0	

Start Time	US-395 Southbound				Yucca Terrace Drive Westbound				US-395 Northbound				Yucca Terrace Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	18	0	18	0	0	0	0	0	16	0	16	0	0	0	0	34
07:15 AM	0	14	0	14	0	0	0	0	0	11	0	11	0	0	0	0	25
07:30 AM	0	18	0	18	0	0	0	0	0	18	0	18	0	0	0	0	36
07:45 AM	0	18	0	18	0	0	0	0	0	12	0	12	0	0	0	0	30
Total Volume	0	68	0	68	0	0	0	0	0	57	0	57	0	0	0	0	125
% App. Total	0	100	0		0	0	0		0	100	0		0	0	0		
PHF	.000	.944	.000	.944	.000	.000	.000	.000	.000	.792	.000	.792	.000	.000	.000	.000	.868

City of Hesperia  
 N/S: US-395  
 E/W: Yucca Terrace Drive  
 Weather: Clear

File Name : 06\_HES\_US-395\_Yucca Terrace AM  
 Site Code : 05119658  
 Start Date : 9/28/2019  
 Page No : 2



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

	07:00 AM				07:00 AM				07:00 AM							
+0 mins.	0	<b>18</b>	0	<b>18</b>	0	0	0	0	0	16	0	16	0	0	0	0
+15 mins.	0	14	0	14	0	0	0	0	0	11	0	11	0	0	0	0
+30 mins.	0	18	0	18	0	0	0	0	0	<b>18</b>	0	<b>18</b>	0	0	0	0
+45 mins.	0	18	0	18	0	0	0	0	0	12	0	12	0	0	0	0
Total Volume	0	68	0	68	0	0	0	0	0	57	0	57	0	0	0	0
% App. Total	0	100	0		0	0	0		0	100	0		0	0	0	
PHF	.000	.944	.000	.944	.000	.000	.000	.000	.000	.792	.000	.792	.000	.000	.000	.000

City of Hesperia  
 N/S: US-395  
 E/W: Yucca Terrace Drive  
 Weather: Clear

File Name : 06\_HES\_US-395\_Yucca Terrace PM  
 Site Code : 05119658  
 Start Date : 9/28/2019  
 Page No : 1

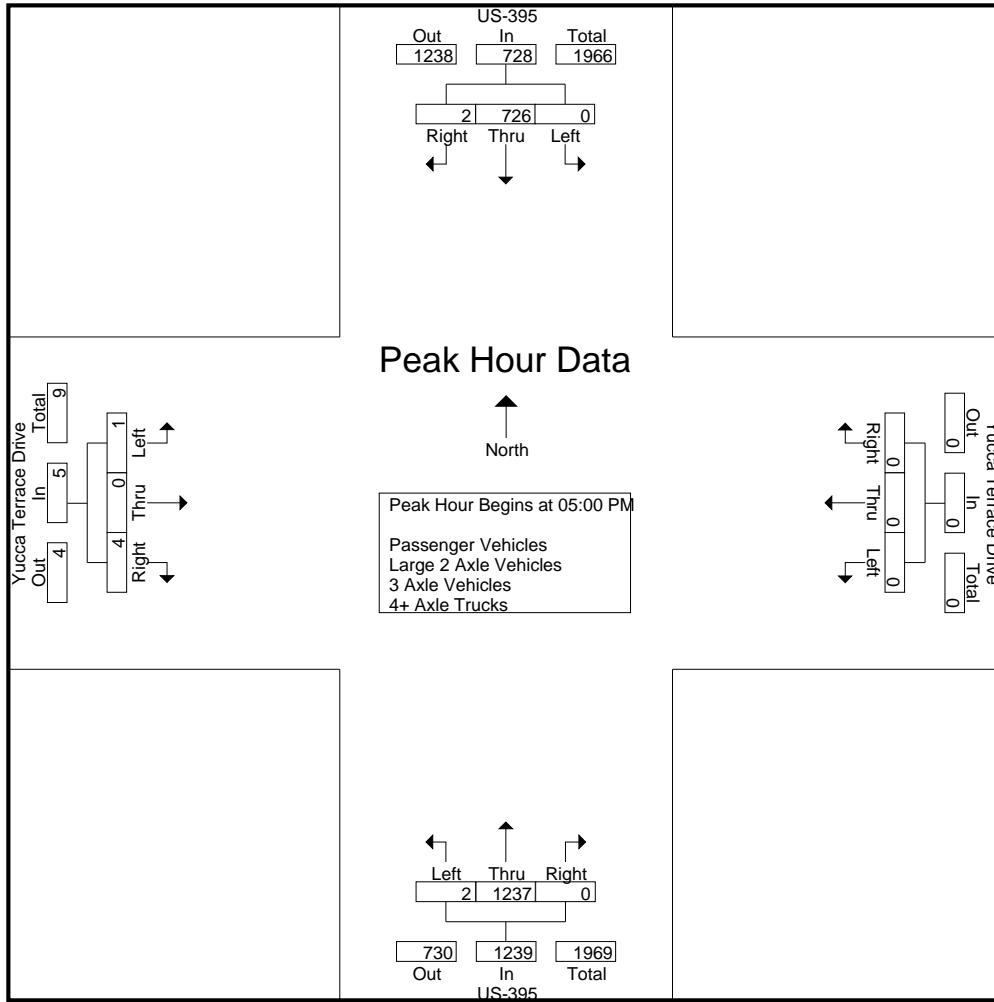
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	US-395 Southbound				Yucca Terrace Drive Westbound				US-395 Northbound				Yucca Terrace Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	205	0	205	0	0	0	0	0	274	0	274	0	0	0	0	479
04:15 PM	0	180	0	180	0	0	0	0	0	315	0	315	0	0	0	0	495
04:30 PM	0	197	2	199	0	0	0	0	1	298	0	299	0	0	0	0	498
04:45 PM	0	175	0	175	0	0	0	0	2	318	0	320	0	0	1	1	496
<b>Total</b>	<b>0</b>	<b>757</b>	<b>2</b>	<b>759</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>1205</b>	<b>0</b>	<b>1208</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>1968</b>
05:00 PM	0	192	0	192	0	0	0	0	1	273	0	274	0	0	1	1	467
05:15 PM	0	181	1	182	0	0	0	0	0	310	0	310	0	0	1	1	493
05:30 PM	0	178	0	178	0	0	0	0	1	336	0	337	0	0	0	0	515
05:45 PM	0	175	1	176	0	0	0	0	0	318	0	318	1	0	2	3	497
<b>Total</b>	<b>0</b>	<b>726</b>	<b>2</b>	<b>728</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>1237</b>	<b>0</b>	<b>1239</b>	<b>1</b>	<b>0</b>	<b>4</b>	<b>5</b>	<b>1972</b>
<b>Grand Total</b>	<b>0</b>	<b>1483</b>	<b>4</b>	<b>1487</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>2442</b>	<b>0</b>	<b>2447</b>	<b>1</b>	<b>0</b>	<b>5</b>	<b>6</b>	<b>3940</b>
Apprch %	0	99.7	0.3		0	0	0		0.2	99.8	0		16.7	0	83.3		
Total %	0	37.6	0.1	37.7	0	0	0		0.1	62	0	62.1	0	0	0.1	0.2	
Passenger Vehicles	0	1309	2	1311	0	0	0	0	2	2312	0	2314	0	0	5	5	3630
% Passenger Vehicles	0	88.3	50	88.2	0	0	0	0	40	94.7	0	94.6	0	0	100	83.3	92.1
Large 2 Axle Vehicles	0	35	0	35	0	0	0	0	1	40	0	41	0	0	0	0	76
% Large 2 Axle Vehicles	0	2.4	0	2.4	0	0	0	0	20	1.6	0	1.7	0	0	0	0	1.9
3 Axle Vehicles	0	6	0	6	0	0	0	0	0	13	0	13	0	0	0	0	19
% 3 Axle Vehicles	0	0.4	0	0.4	0	0	0	0	0	0.5	0	0.5	0	0	0	0	0.5
4+ Axle Trucks	0	133	2	135	0	0	0	0	2	77	0	79	1	0	0	1	215
% 4+ Axle Trucks	0	9	50	9.1	0	0	0	0	40	3.2	0	3.2	100	0	0	16.7	5.5

Start Time	US-395 Southbound				Yucca Terrace Drive Westbound				US-395 Northbound				Yucca Terrace Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	192	0	192	0	0	0	0	1	273	0	274	0	0	1	1	467
05:15 PM	0	181	1	182	0	0	0	0	0	310	0	310	0	0	1	1	493
05:30 PM	0	178	0	178	0	0	0	0	1	336	0	337	0	0	0	0	515
05:45 PM	0	175	1	176	0	0	0	0	0	318	0	318	1	0	2	3	497
<b>Total Volume</b>	<b>0</b>	<b>726</b>	<b>2</b>	<b>728</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>1237</b>	<b>0</b>	<b>1239</b>	<b>1</b>	<b>0</b>	<b>4</b>	<b>5</b>	<b>1972</b>
% App. Total	0	99.7	0.3		0	0	0		0.2	99.8	0		20	0	80		
PHF	.000	.945	.500	.948	.000	.000	.000	.000	.500	.920	.000	.919	.250	.000	.500	.417	.957

City of Hesperia  
 N/S: US-395  
 E/W: Yucca Terrace Drive  
 Weather: Clear

File Name : 06\_HES\_US-395\_Yucca Terrace PM  
 Site Code : 05119658  
 Start Date : 9/28/2019  
 Page No : 2



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

	04:00 PM				04:45 PM				05:00 PM							
+0 mins.	0	<b>205</b>	0	<b>205</b>	0	0	0	0	<b>2</b>	318	0	320	0	0	1	1
+15 mins.	0	180	0	180	0	0	0	0	1	273	0	274	0	0	1	1
+30 mins.	0	197	<b>2</b>	199	0	0	0	0	0	310	0	310	0	0	0	0
+45 mins.	0	175	0	175	0	0	0	0	1	<b>336</b>	0	<b>337</b>	<b>1</b>	0	<b>2</b>	<b>3</b>
Total Volume	0	757	2	759	0	0	0	0	4	1237	0	1241	1	0	4	5
% App. Total	0	99.7	0.3		0	0	0		0.3	99.7	0		20	0	80	
PHF	.000	.923	.250	.926	.000	.000	.000	.000	.500	.920	.000	.921	.250	.000	.500	.417



City of Hesperia  
 N/S: US-395  
 E/W: Yucca Terrace Drive  
 Weather: Clear

File Name : 06\_HES\_US-395\_Yucca Terrace PM  
 Site Code : 05119658  
 Start Date : 9/28/2019  
 Page No : 1

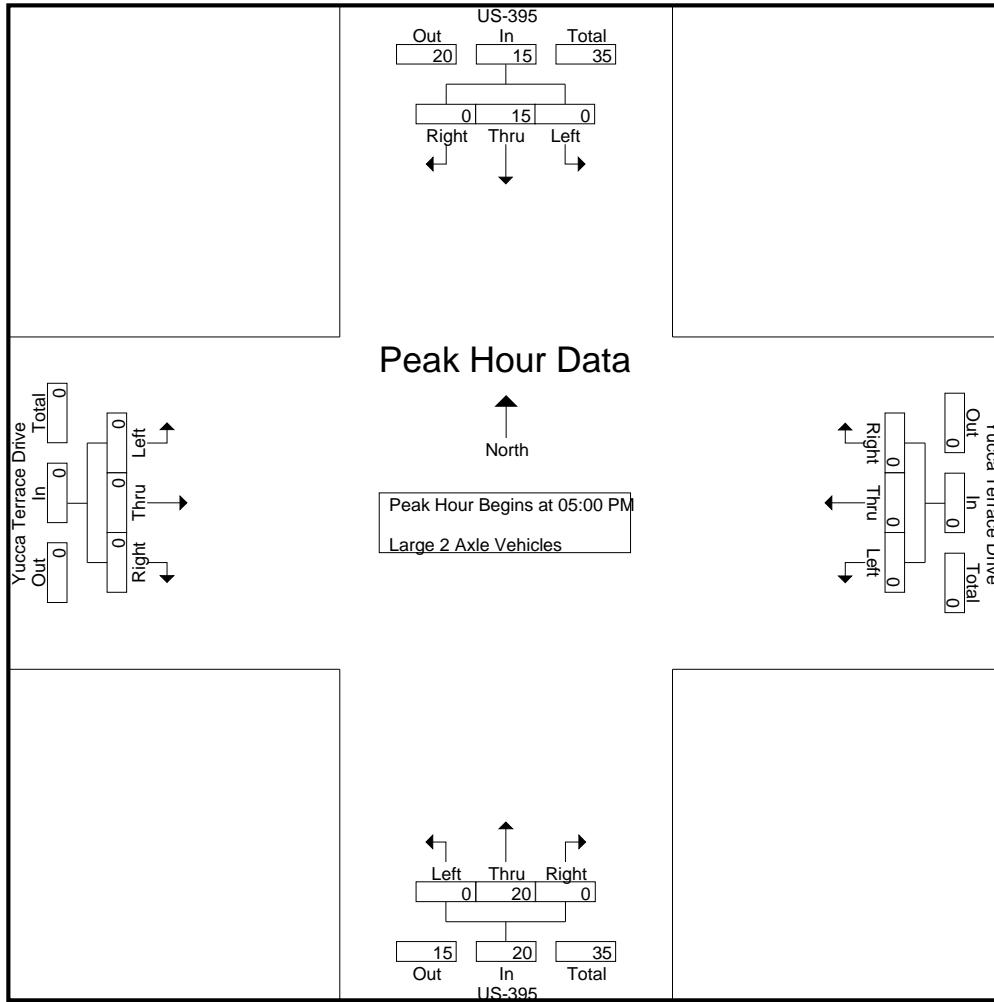
Groups Printed- Large 2 Axle Vehicles

Start Time	US-395 Southbound				Yucca Terrace Drive Westbound				US-395 Northbound				Yucca Terrace Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	3	0	3	0	0	0	0	0	6	0	6	0	0	0	0	9
04:15 PM	0	5	0	5	0	0	0	0	0	7	0	7	0	0	0	0	12
04:30 PM	0	8	0	8	0	0	0	0	0	5	0	5	0	0	0	0	13
04:45 PM	0	4	0	4	0	0	0	0	1	2	0	3	0	0	0	0	7
Total	0	20	0	20	0	0	0	0	1	20	0	21	0	0	0	0	41
05:00 PM	0	7	0	7	0	0	0	0	0	5	0	5	0	0	0	0	12
05:15 PM	0	2	0	2	0	0	0	0	0	1	0	1	0	0	0	0	3
05:30 PM	0	3	0	3	0	0	0	0	0	10	0	10	0	0	0	0	13
05:45 PM	0	3	0	3	0	0	0	0	0	4	0	4	0	0	0	0	7
Total	0	15	0	15	0	0	0	0	0	20	0	20	0	0	0	0	35
Grand Total	0	35	0	35	0	0	0	0	1	40	0	41	0	0	0	0	76
Apprch %	0	100	0		0	0	0		2.4	97.6	0		0	0	0		
Total %	0	46.1	0	46.1	0	0	0	0	1.3	52.6	0	53.9	0	0	0	0	

Start Time	US-395 Southbound				Yucca Terrace Drive Westbound				US-395 Northbound				Yucca Terrace Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	7	0	7	0	0	0	0	0	5	0	5	0	0	0	0	12
05:15 PM	0	2	0	2	0	0	0	0	0	1	0	1	0	0	0	0	3
05:30 PM	0	3	0	3	0	0	0	0	0	10	0	10	0	0	0	0	13
05:45 PM	0	3	0	3	0	0	0	0	0	4	0	4	0	0	0	0	7
Total Volume	0	15	0	15	0	0	0	0	0	20	0	20	0	0	0	0	35
% App. Total	0	100	0		0	0	0		0	100	0		0	0	0		
PHF	.000	.536	.000	.536	.000	.000	.000	.000	.000	.500	.000	.500	.000	.000	.000	.000	.673

City of Hesperia  
 N/S: US-395  
 E/W: Yucca Terrace Drive  
 Weather: Clear

File Name : 06\_HES\_US-395\_Yucca Terrace PM  
 Site Code : 05119658  
 Start Date : 9/28/2019  
 Page No : 2



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

	05:00 PM				05:00 PM				05:00 PM							
+0 mins.	0	7	0	7	0	0	0	0	0	5	0	5	0	0	0	0
+15 mins.	0	2	0	2	0	0	0	0	0	1	0	1	0	0	0	0
+30 mins.	0	3	0	3	0	0	0	0	0	10	0	10	0	0	0	0
+45 mins.	0	3	0	3	0	0	0	0	0	4	0	4	0	0	0	0
Total Volume	0	15	0	15	0	0	0	0	0	20	0	20	0	0	0	0
% App. Total	0	100	0		0	0	0		0	100	0		0	0	0	
PHF	.000	.536	.000	.536	.000	.000	.000	.000	.000	.500	.000	.500	.000	.000	.000	.000

City of Hesperia  
 N/S: US-395  
 E/W: Yucca Terrace Drive  
 Weather: Clear

File Name : 06\_HES\_US-395\_Yucca Terrace PM  
 Site Code : 05119658  
 Start Date : 9/28/2019  
 Page No : 1

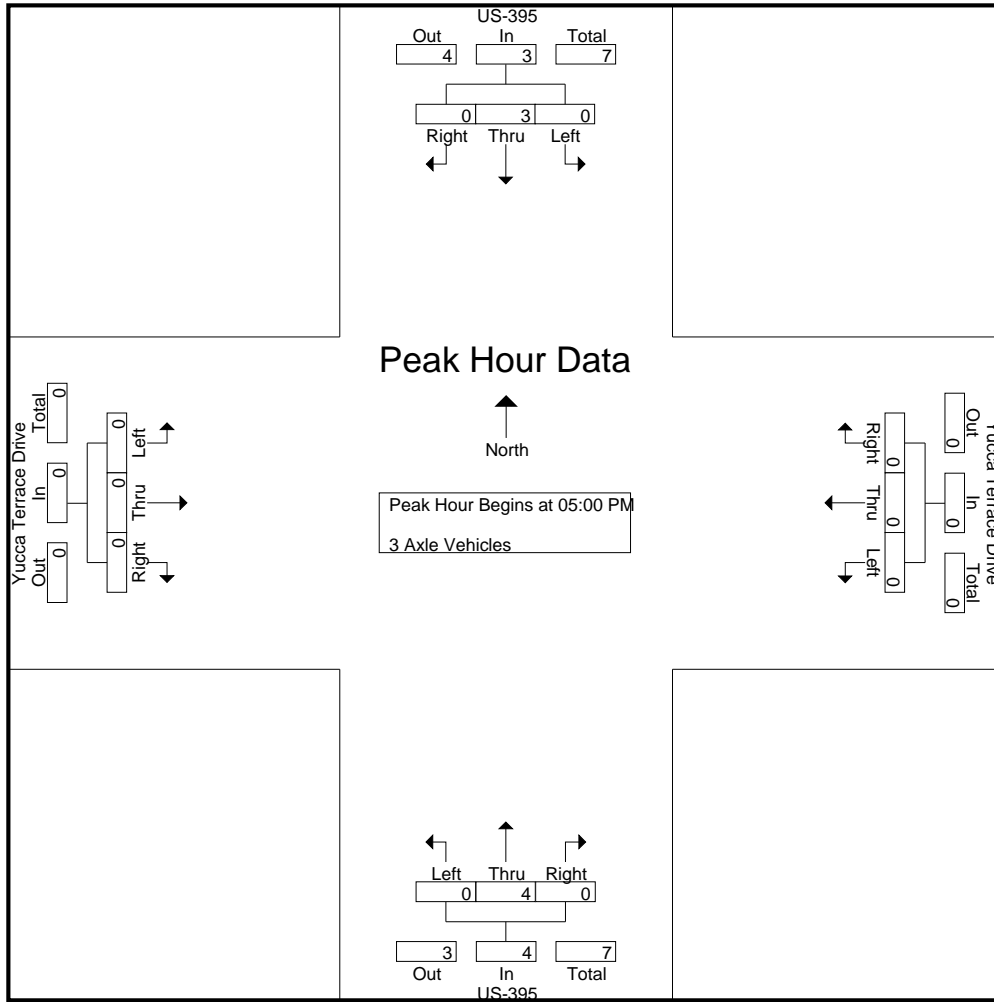
Groups Printed- 3 Axle Vehicles

Start Time	US-395 Southbound				Yucca Terrace Drive Westbound				US-395 Northbound				Yucca Terrace Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	2	0	2	0	0	0	0	0	1	0	1	0	0	0	0	3
04:15 PM	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	3
04:30 PM	0	1	0	1	0	0	0	0	0	3	0	3	0	0	0	0	4
04:45 PM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
Total	0	3	0	3	0	0	0	0	0	9	0	9	0	0	0	0	12
05:00 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
05:30 PM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
05:45 PM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
Total	0	3	0	3	0	0	0	0	0	4	0	4	0	0	0	0	7
Grand Total	0	6	0	6	0	0	0	0	0	13	0	13	0	0	0	0	19
Apprch %	0	100	0		0	0	0		0	100	0		0	0	0		
Total %	0	31.6	0	31.6	0	0	0	0	0	68.4	0	68.4	0	0	0	0	

Start Time	US-395 Southbound				Yucca Terrace Drive Westbound				US-395 Northbound				Yucca Terrace Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
05:30 PM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
05:45 PM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
Total Volume	0	3	0	3	0	0	0	0	0	4	0	4	0	0	0	0	7
% App. Total	0	100	0		0	0	0		0	100	0		0	0	0		
PHF	.000	.750	.000	.750	.000	.000	.000	.000	.000	.500	.000	.500	.000	.000	.000	.000	.875

City of Hesperia  
 N/S: US-395  
 E/W: Yucca Terrace Drive  
 Weather: Clear

File Name : 06\_HES\_US-395\_Yucca Terrace PM  
 Site Code : 05119658  
 Start Date : 9/28/2019  
 Page No : 2



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

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0
+30 mins.	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0
+45 mins.	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0
Total Volume	0	3	0	3	0	0	0	0	0	4	0	4	0	0	0	0
% App. Total	0	100	0		0	0	0		0	100	0		0	0	0	
PHF	.000	.750	.000	.750	.000	.000	.000	.000	.000	.500	.000	.500	.000	.000	.000	.000

City of Hesperia  
 N/S: US-395  
 E/W: Yucca Terrace Drive  
 Weather: Clear

File Name : 06\_HES\_US-395\_Yucca Terrace PM  
 Site Code : 05119658  
 Start Date : 9/28/2019  
 Page No : 1

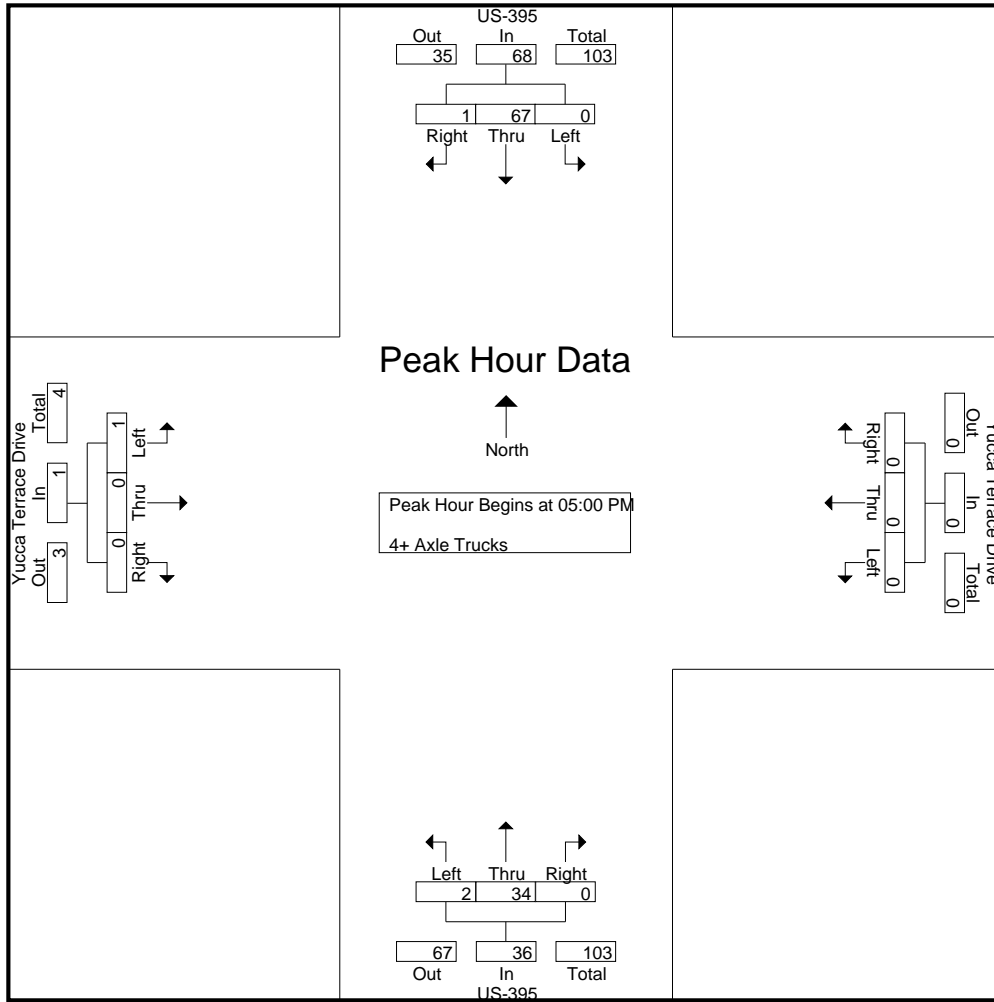
Groups Printed- 4+ Axle Trucks

Start Time	US-395 Southbound				Yucca Terrace Drive Westbound				US-395 Northbound				Yucca Terrace Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	20	0	20	0	0	0	0	0	11	0	11	0	0	0	0	31
04:15 PM	0	16	0	16	0	0	0	0	0	15	0	15	0	0	0	0	31
04:30 PM	0	15	1	16	0	0	0	0	0	13	0	13	0	0	0	0	29
04:45 PM	0	15	0	15	0	0	0	0	0	4	0	4	0	0	0	0	19
Total	0	66	1	67	0	0	0	0	0	43	0	43	0	0	0	0	110
05:00 PM	0	17	0	17	0	0	0	0	1	10	0	11	0	0	0	0	28
05:15 PM	0	17	1	18	0	0	0	0	0	5	0	5	0	0	0	0	23
05:30 PM	0	18	0	18	0	0	0	0	1	13	0	14	0	0	0	0	32
05:45 PM	0	15	0	15	0	0	0	0	0	6	0	6	1	0	0	1	22
Total	0	67	1	68	0	0	0	0	2	34	0	36	1	0	0	1	105
Grand Total	0	133	2	135	0	0	0	0	2	77	0	79	1	0	0	1	215
Apprch %	0	98.5	1.5		0	0	0		2.5	97.5	0		100	0	0		
Total %	0	61.9	0.9	62.8	0	0	0	0	0.9	35.8	0	36.7	0.5	0	0	0.5	

Start Time	US-395 Southbound				Yucca Terrace Drive Westbound				US-395 Northbound				Yucca Terrace Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	17	0	17	0	0	0	0	1	10	0	11	0	0	0	0	28
05:15 PM	0	17	1	18	0	0	0	0	0	5	0	5	0	0	0	0	23
05:30 PM	0	18	0	18	0	0	0	0	1	13	0	14	0	0	0	0	32
05:45 PM	0	15	0	15	0	0	0	0	0	6	0	6	1	0	0	1	22
Total Volume	0	67	1	68	0	0	0	0	2	34	0	36	1	0	0	1	105
% App. Total	0	98.5	1.5		0	0	0		5.6	94.4	0		100	0	0		
PHF	.000	.931	.250	.944	.000	.000	.000	.000	.500	.654	.000	.643	.250	.000	.000	.250	.820

City of Hesperia  
 N/S: US-395  
 E/W: Yucca Terrace Drive  
 Weather: Clear

File Name : 06\_HES\_US-395\_Yucca Terrace PM  
 Site Code : 05119658  
 Start Date : 9/28/2019  
 Page No : 2



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

	05:00 PM				05:00 PM				05:00 PM							
+0 mins.	0	17	0	17	0	0	0	0	1	10	0	11	0	0	0	0
+15 mins.	0	17	1	18	0	0	0	0	0	5	0	5	0	0	0	0
+30 mins.	0	18	0	18	0	0	0	0	1	13	0	14	0	0	0	0
+45 mins.	0	15	0	15	0	0	0	0	0	6	0	6	1	0	0	1
Total Volume	0	67	1	68	0	0	0	0	2	34	0	36	1	0	0	1
% App. Total	0	98.5	1.5		0	0	0		5.6	94.4	0		100	0	0	
PHF	.000	.931	.250	.944	.000	.000	.000	.000	.500	.654	.000	.643	.250	.000	.000	.250

Location: Hesperia  
 N/S: US-395  
 E/W: Yucca Terrace Drive



Date: 9/28/2019  
 Day: Saturday

**PEDESTRIANS**

	North Leg US-395	East Leg Yucca Terrace Drive	South Leg US-395	West Leg Yucca Terrace Drive	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
<b>TOTAL VOLUMES:</b>	0	0	0	0	0

	North Leg US-395	East Leg Yucca Terrace Drive	South Leg US-395	West Leg Yucca Terrace Drive	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	1	0	0	1
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
<b>TOTAL VOLUMES:</b>	0	1	0	0	1

Location: Hesperia  
 N/S: US-395  
 E/W: Yucca Terrace Drive



Date: 9/28/2019  
 Day: Saturday

BICYCLES

	Southbound US-395			Westbound Yucca Terrace Drive			Northbound US-395			Eastbound Yucca Terrace Drive			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

	Southbound US-395			Westbound Yucca Terrace Drive			Northbound US-395			Eastbound Yucca Terrace Drive			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0



Counts Unlimited  
 PO Box 1178  
 Corona, CA 92878  
 (951) 268-6268

File Name : 08\_HES\_US-395\_Main AM  
 Site Code : 05119658  
 Start Date : 9/28/2019  
 Page No : 1

City of Hesperia  
 N/S: US-395  
 E/W: Phelan Road/Main Street  
 Weather: Clear

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	US-395 Southbound						Main Street Westbound						US-395 Northbound						Phelan Road Eastbound																
	Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total						
	Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total								
07:00 AM	68	219	5	0	292	2	76	53	19	131	15	137	1	0	153	12	134	25	15	171	34	747	781				34	747	781						
07:15 AM	45	190	11	2	246	1	67	54	24	122	22	133	3	0	158	11	149	34	12	194	38	720	758				38	720	758						
07:30 AM	39	172	8	2	219	1	88	66	21	155	27	153	1	0	181	12	174	15	6	201	29	756	785				29	756	785						
07:45 AM	47	188	6	0	241	0	72	33	13	105	21	119	2	0	142	12	169	27	10	208	23	696	719				23	696	719						
<b>Total</b>	<b>199</b>	<b>769</b>	<b>30</b>	<b>4</b>	<b>998</b>	<b>4</b>	<b>303</b>	<b>206</b>	<b>77</b>	<b>513</b>	<b>85</b>	<b>542</b>	<b>7</b>	<b>0</b>	<b>634</b>	<b>47</b>	<b>626</b>	<b>101</b>	<b>43</b>	<b>774</b>	<b>124</b>	<b>2919</b>	<b>3043</b>				<b>124</b>	<b>2919</b>	<b>3043</b>						
08:00 AM	31	176	5	1	212	1	71	35	14	107	13	85	1	0	99	7	153	34	6	194	21	612	633				21	612	633						
08:15 AM	44	182	9	2	235	1	57	31	16	89	13	136	1	0	150	14	141	27	14	182	32	656	688				32	656	688						
08:30 AM	35	170	9	2	214	2	87	37	16	126	20	129	3	0	152	12	158	22	8	192	26	684	710				26	684	710						
08:45 AM	33	158	10	1	201	1	53	29	22	83	15	105	4	1	124	11	130	17	4	158	28	566	594				28	566	594						
<b>Total</b>	<b>143</b>	<b>686</b>	<b>33</b>	<b>6</b>	<b>862</b>	<b>5</b>	<b>268</b>	<b>132</b>	<b>68</b>	<b>405</b>	<b>61</b>	<b>455</b>	<b>9</b>	<b>1</b>	<b>525</b>	<b>44</b>	<b>582</b>	<b>100</b>	<b>32</b>	<b>726</b>	<b>107</b>	<b>2518</b>	<b>2625</b>				<b>107</b>	<b>2518</b>	<b>2625</b>						
<b>Grand Total</b>	<b>342</b>	<b>1455</b>	<b>63</b>	<b>10</b>	<b>1860</b>	<b>9</b>	<b>571</b>	<b>338</b>	<b>145</b>	<b>918</b>	<b>146</b>	<b>997</b>	<b>16</b>	<b>1</b>	<b>1159</b>	<b>91</b>	<b>1208</b>	<b>201</b>	<b>75</b>	<b>1500</b>	<b>231</b>	<b>5437</b>	<b>5668</b>				<b>231</b>	<b>5437</b>	<b>5668</b>						
Approch %	18.4	78.2	3.4			1	62.2	36.8			12.6	86	1.4			6.1	80.5	13.4			6.1	80.5	13.4			4.1	95.9				4.1	95.9			
Total %	6.3	26.8	1.2		34.2	0.2	10.5	6.2		16.9	2.7	18.3	0.3		21.3	1.7	22.2	3.7		27.6	1.7	22.2	3.7		27.6	4.1	95.9			95.9					
Passenger Vehicles	330	1295	58		1693	9	537	325		1010	130	846	12		989	90	1178	191		1534	0	0	0		0	0	0	0		0					
% 2+ Passenger Vehicles	96.5	89	92.1	100	90.5	100	94	96.2	95.9	95	89	84.9	75	100	85.3	98.9	97.5	95	100	97.4	0	0	0		0	0	0	0		0					
Large 2 Axle Vehicles	6	23	5		34	0	25	5		34	11	40	2		53	0	16	7		23	0	0	0		0	0	0	0		0					
% Large 2 Axle Vehicles	1.8	1.6	7.9	0	1.8	0	4.4	1.5	2.8	3.2	7.5	4	12.5	0	4.6	0	1.3	3.5	0	1.5	0	0	0		0	0	0	0		0					
3 Axle Vehicles	3	8	0		11	0	6	3		10	2	10	0		12	0	7	0		7	0	0	0		0	0	0	0		0					
% 3 Axle Vehicles	0.9	0.5	0	0	0.6	0	1.1	0.9	0.7	0.9	1.4	1	0	0	1	0	0.6	0	0	0.4	0	0	0		0	0	0	0		0					
4+ Axle Trucks	3	129	0		132	0	3	5		9	3	101	2		106	1	7	3		11	0	0	0		0	0	0	0		0					
% 4+ Axle Trucks	0.9	8.9	0	0	7.1	0	0.5	1.5	0.7	0.8	2.1	10.1	12.5	0	9.1	1.1	0.6	1.5	0	0.7	0	0	0		0	0	0	0		0					

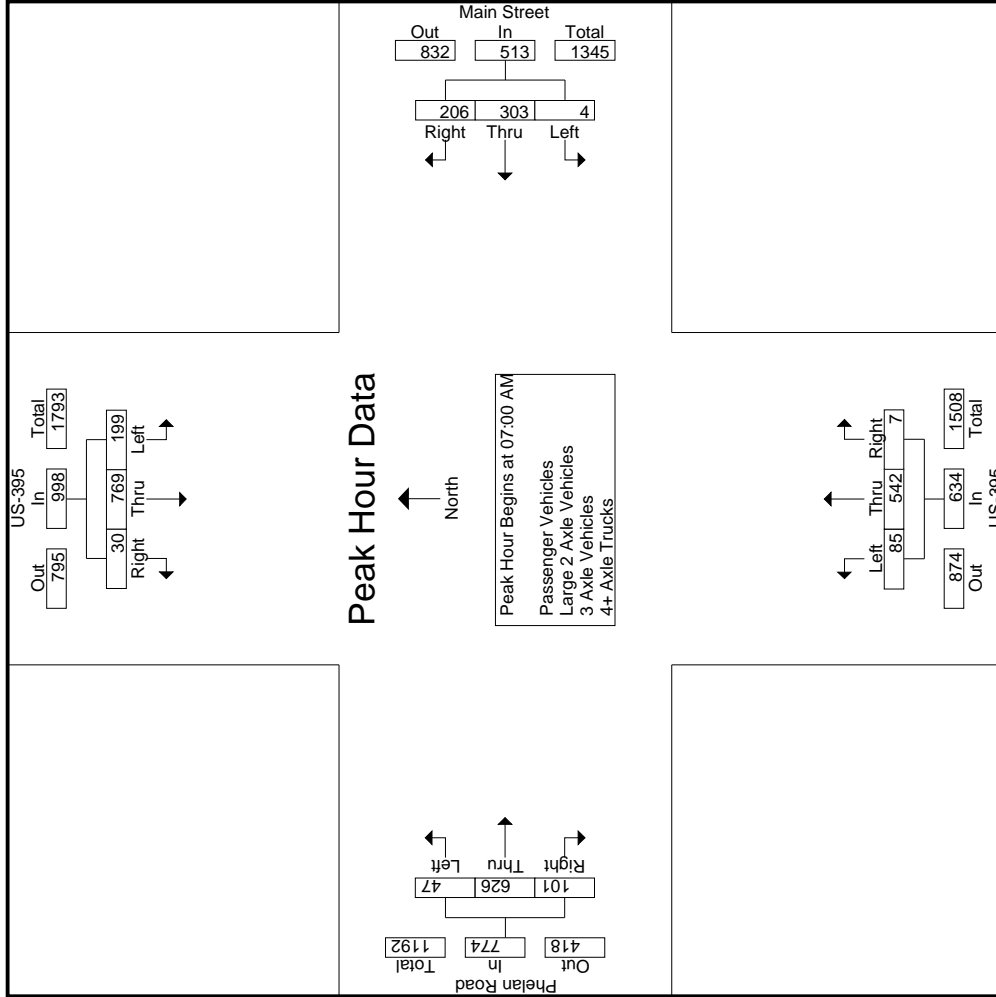
  

Start Time	US-395 Southbound						Main Street Westbound						US-395 Northbound						Phelan Road Eastbound											
	Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total	
	Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total			
07:00 AM	68	219	5		292	2	76	53		131	15	137	1		153	12	134	25		171	34	747	781				34	747	781	
07:15 AM	45	190	11		246	1	67	54		122	22	133	3		158	11	149	34		194	38	720	758				38	720	758	
07:30 AM	39	172	8		219	1	88	66		155	27	153	1		181	12	174	15		201	29	756	785				29	756	785	
07:45 AM	47	188	6		241	0	72	33		105	21	119	2		142	12	169	27		208	23	696	719				23	696	719	
<b>Total</b>	<b>199</b>	<b>769</b>	<b>30</b>		<b>998</b>	<b>4</b>	<b>303</b>	<b>206</b>		<b>513</b>	<b>85</b>	<b>542</b>	<b>7</b>		<b>634</b>	<b>47</b>	<b>626</b>	<b>101</b>		<b>774</b>	<b>124</b>	<b>2919</b>	<b>3043</b>				<b>124</b>	<b>2919</b>	<b>3043</b>	
08:00 AM	31	176	5		212	1	71	35		107	13	85	1		99	7	153	34		194	21	612	633				21	612	633	
08:15 AM	44	182	9		235	1	57	31		89	13	136	1		150	14	141	27		182	32	656	688				32	656	688	
08:30 AM	35	170	9		214	2	87	37		126	20	129	3		152	12	158	22		192	26	684	710				26	684	710	
08:45 AM	33	158	10		201	1	53	29		83	15	105	4		124	11	130	17		158	28	566	594				28	566	594	
<b>Total</b>	<b>143</b>	<b>686</b>	<b>33</b>		<b>862</b>	<b>5</b>	<b>268</b>	<b>132</b>		<b>405</b>	<b>61</b>	<b>455</b>	<b>9</b>		<b>525</b>	<b>44</b>	<b>582</b>	<b>100</b>		<b>726</b>	<b>107</b>	<b>2518</b>	<b>2625</b>				<b>107</b>	<b>2518</b>	<b>2625</b>	
<b>Grand Total</b>	<b>342</b>	<b>1455</b>	<b>63</b>		<b>1860</b>	<b>9</b>	<b>571</b>	<b>338</b>		<b>918</b>	<b>146</b>	<b>997</b>	<b>16</b>		<b>1159</b>	<b>91</b>	<b>1208</b>	<b>201</b>		<b>1500</b>	<b>231</b>	<b>5437</b>	<b>5668</b>				<b>231</b>	<b>5437</b>	<b>5668</b>	
Approch %	18.4	78.2	3.4			1	62.2	36.8			12.6	86	1.4			6.1	80.5	13.4			6.1	80.5	13.4			4.1	95.9			95.9
Total %	6.3	26.8	1.2		34.2	0.2	10.5	6.2		16.9	2.7	18.3	0.3		21.3	1.7	22.2	3.7		27.6	1.7	22.2	3.7		27.6	4.1	95.9			95.9
Passenger Vehicles	330	1295	58		1693	9	537	325		1010	130	846	12		989	90	1178	191		1534	0	0	0		0	0	0	0		0
% 2+ Passenger Vehicles	96.5	89	92.1	100	90.5	100	94	96.2	95.9	95	89	84.9	75	100	85.3	98.9	97.5	95	100	97.4	0	0	0		0	0	0	0		0
Large 2 Axle Vehicles	6	23	5		34	0	25	5		34	11	40	2		53	0	16	7		23	0	0	0		0	0	0	0		0
% Large 2 Axle Vehicles	1.8	1.6	7.9	0	1.8	0	4.4	1.5	2.8	3.2	7.5	4	12.5	0	4.6	0	1.3	3.5	0	1.5	0	0	0		0	0	0	0		0
3 Axle Vehicles	3	8	0		11	0	6	3		10	2	10	0		12	0	7	0		7	0	0	0		0	0	0	0		0
% 3 Axle Vehicles	0.9	0.5	0	0	0.6	0	1.1	0.9	0.7	0.9	1.4	1	0	0	1	0	0.6	0	0	0.4	0	0	0		0	0	0	0		0
4+ Axle Trucks	3	129	0		132	0	3	5		9	3	101	2		106	1	7	3		11	0	0	0		0	0	0	0		0
% 4+ Axle Trucks	0.9	8.9	0	0	7.1	0	0.5	1.5	0.7	0.8	2.1	10.1	12.5	0	9.1	1.1	0.6	1.5	0	0.7	0	0	0		0	0	0	0		0

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 07:00 AM

Start Time	US-395 Southbound						Main Street Westbound						US-395 Northbound						Phelan Road Eastbound											
	Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total	
	Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total			
07:00 AM	68	219	5		292	2	76	53		131	15	137	1		153	12	134	25		171	34	747	781				34	747	781	
07:15 AM	45	190	11		246	1	67	54		122	22	133	3		158	11	149	34		194	38	720	758				38	720	758	
07:30 AM	39</																													



Groups Printed - Large 2 Axle Vehicles

Start Time	US-395 Southbound						Main Street Westbound						US-395 Northbound						Phelan Road Eastbound											
	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total						
	24.3						21.4						37.9						16.4											
07:00 AM	1	3	1	0	5	0	0	7	1	0	8	0	0	3	0	0	3	0	0	2	0	0	2	0	0	2	0	0	2	0
07:15 AM	1	2	1	0	4	0	0	3	0	0	3	0	1	8	0	0	9	0	0	2	0	0	2	0	0	2	0	0	2	0
07:30 AM	0	4	0	0	4	0	0	2	1	1	3	0	4	5	0	0	9	0	0	1	1	0	2	1	0	1	1	0	2	1
07:45 AM	1	0	0	0	1	0	0	3	0	0	3	0	2	4	0	0	6	0	0	4	0	0	4	0	0	4	0	0	4	0
Total	3	9	2	0	14	0	0	15	2	1	17	0	7	20	0	0	27	0	0	9	1	0	10	1	0	10	1	0	11	1
08:00 AM	1	2	0	0	3	0	0	4	1	1	5	0	1	1	1	1	3	0	0	2	5	0	7	1	0	2	5	0	7	1
08:15 AM	0	5	0	0	5	0	0	2	0	0	2	0	0	4	0	0	4	0	0	1	0	0	1	0	0	1	0	0	1	0
08:30 AM	2	4	1	0	7	0	0	3	1	1	4	0	3	4	0	0	7	0	0	3	1	0	4	1	0	3	1	0	4	1
08:45 AM	0	3	2	0	5	0	0	1	1	1	2	0	0	11	1	0	12	0	0	1	0	0	1	1	0	1	0	0	1	1
Total	3	14	3	0	20	0	0	10	3	3	13	0	4	20	2	0	26	0	0	7	6	0	13	3	0	7	6	0	13	3
Grand Total	6	23	5	0	34	0	0	25	5	4	30	0	11	40	2	0	53	0	0	16	7	0	23	4	0	16	7	0	23	4
Approch %	17.6	67.6	14.7				0	83.3	16.7				20.8	75.5	3.8				0	69.6	30.4				0	69.6	30.4			
Total %	4.3	16.4	3.6		24.3		0	17.9	3.6		21.4		7.9	28.6	1.4		37.9		0	11.4	5		16.4		0	11.4	5		16.4	

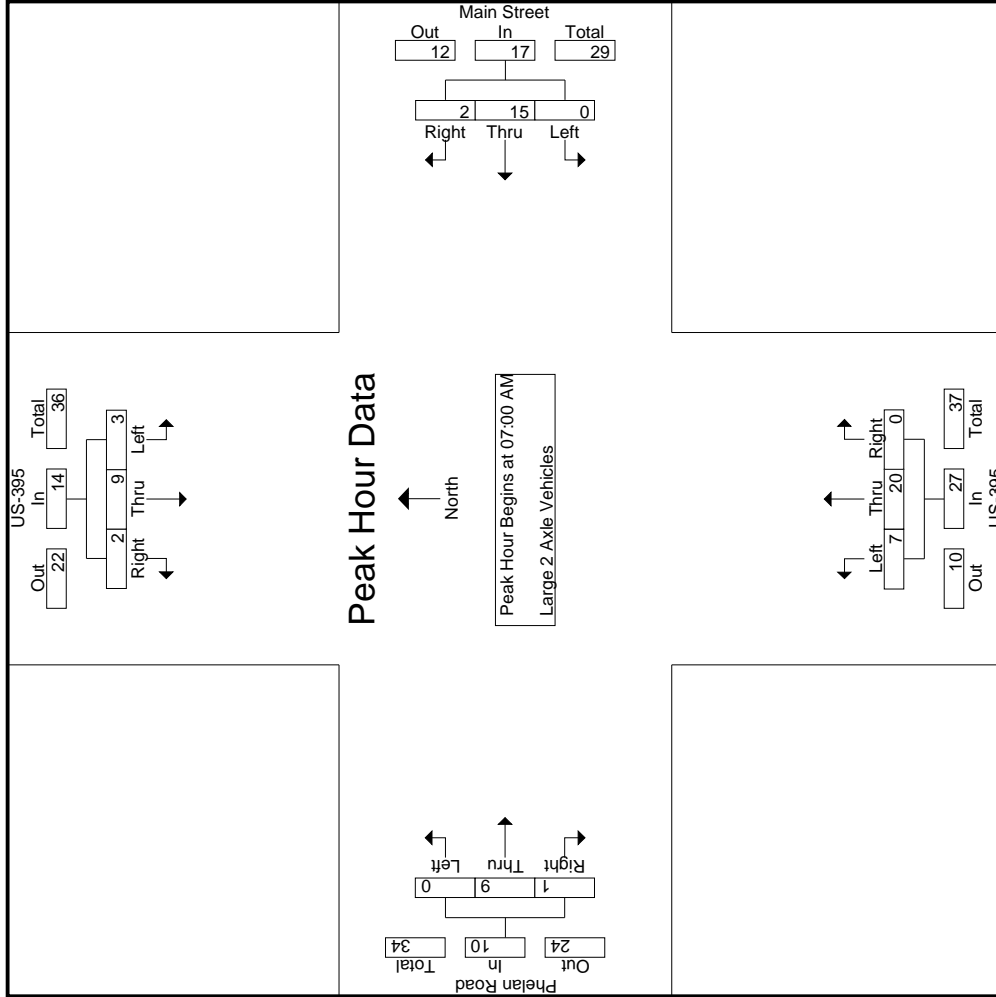
Start Time	US-395 Southbound						Main Street Westbound						US-395 Northbound						Phelan Road Eastbound											
	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total						
	.700						.531						.000						.625											
07:00 AM	1	3	1	0	5	0	0	7	1	0	8	0	0	3	0	0	3	0	0	2	0	0	2	0	0	2	0	0	2	0
07:15 AM	1	2	1	0	4	0	0	3	0	0	3	0	1	8	0	0	9	0	0	2	0	0	2	0	0	2	0	0	2	0
07:30 AM	0	4	0	0	4	0	0	2	1	1	3	0	4	5	0	0	9	0	0	1	1	0	2	1	0	1	1	0	2	1
07:45 AM	1	0	0	0	1	0	0	3	0	0	3	0	2	4	0	0	6	0	0	4	0	0	4	0	0	4	0	0	4	0
Total Volume	3	9	2	0	14	0	0	15	2	1	17	0	7	20	0	0	27	0	0	9	1	0	10	1	0	10	1	0	11	1
% App. Total	21.4	64.3	14.3				0	88.2	11.8				25.9	74.1	0				0	90	10				0	90	10			
PHF	.750	.563	.500		.700		.000	.536	.500		.531		.438	.625	.000		.750		.000	.563	.250		.625		.000	.563	.250		.625	

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1  
 Peak Hour for Entire Intersection Begins at 07:00 AM

Counts Unlimited  
 PO Box 1178  
 Corona, CA 92878  
 (951) 268-6268

City of Hesperia  
 N/S: US-395  
 E/W: Phelan Road/Main Street  
 Weather: Clear

File Name : 08\_HES\_US-395\_Main AM  
 Site Code : 05119658  
 Start Date : 9/28/2019  
 Page No : 2



Counts Unlimited  
 PO Box 1178  
 Corona, CA 92878  
 (951) 268-6268

File Name : 08\_HES\_US-395\_Main AM  
 Site Code : 05119658  
 Start Date : 9/28/2019  
 Page No : 1

City of Hesperia  
 N/S: US-395  
 E/W: Phelan Road/Main Street  
 Weather: Clear

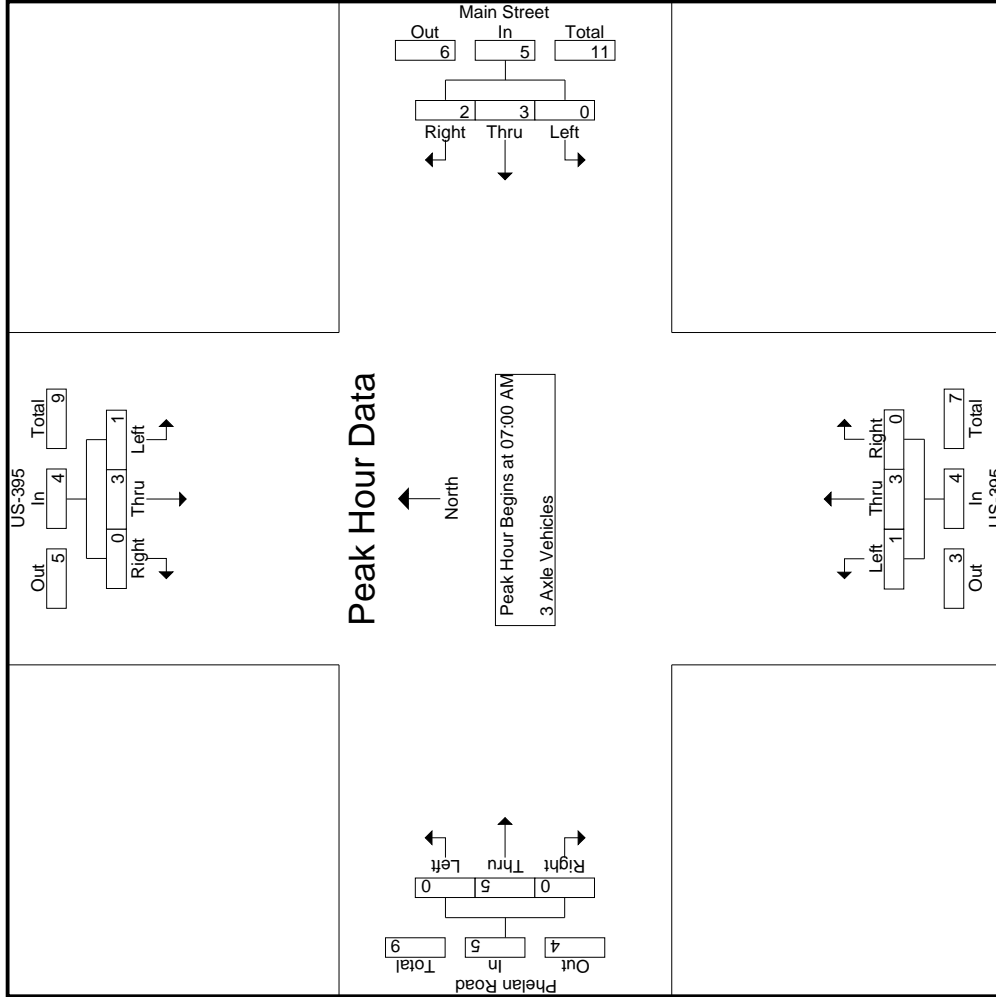
Groups Printed - 3 Axle Vehicles

Start Time	US-395 Southbound				Main Street Westbound				US-395 Northbound				Phelan Road Eastbound							
	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Exclu. Total	Inclu. Total	Int. Total	
07:00 AM	1	2	0	0	0	0	1	0	1	0	1	0	0	1	0	0	0	6	6	6
07:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	2	2	2
07:30 AM	0	0	0	0	2	0	0	0	2	0	0	0	0	1	0	0	0	3	3	3
07:45 AM	0	1	0	0	1	1	0	0	2	1	1	0	0	2	0	0	0	7	7	7
<b>Total</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>18</b>	<b>18</b>	<b>18</b>
08:00 AM	2	1	0	0	0	1	0	0	1	1	1	0	0	0	0	0	0	6	6	6
08:15 AM	0	0	0	0	0	1	0	0	1	0	4	0	0	1	0	0	0	6	6	6
08:30 AM	0	3	0	0	1	1	1	0	2	0	2	0	0	0	0	0	1	7	7	8
08:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	2	2	2
<b>Total</b>	<b>2</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>4</b>	<b>1</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>21</b>	<b>21</b>	<b>22</b>
<b>Grand Total</b>	<b>3</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>3</b>	<b>1</b>	<b>9</b>	<b>23.1</b>	<b>2</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>39</b>	<b>39</b>	<b>40</b>
Apprch %	27.3	72.7	0	0	66.7	33.3	0	16.7	83.3	0	25.6	0	0	100	0	0	2.5	97.5	97.5	0
Total %	7.7	20.5	0	0	15.4	7.7	0	5.1	25.6	0	30.8	0	0	17.9	0	0	17.9	97.5	97.5	0

3.1-27

Start Time	US-395 Southbound				Main Street Westbound				US-395 Northbound				Phelan Road Eastbound							
	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Exclu. Total	Inclu. Total	Int. Total	
07:00 AM	1	2	0	0	0	0	1	0	1	0	1	0	0	1	0	0	0	6	6	6
07:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	2	2	2
07:30 AM	0	0	0	0	2	0	0	0	2	0	0	0	0	1	0	0	0	3	3	3
07:45 AM	0	1	0	0	1	1	0	0	2	1	1	0	0	2	0	0	0	7	7	7
<b>Total Volume</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>18</b>	<b>18</b>	<b>18</b>
% App. Total	25	75	0	0	60	40	0	75	100	25	75	0	0	100	0	0	0	.625	.625	.643
PHF	.250	.375	.000	.333	.000	.375	.500	.750	.625	.250	.750	.000	.500	.625	.000	.000	.625	.625	.643	.643

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1  
 Peak Hour for Entire Intersection Begins at 07:00 AM



Counts Unlimited  
 PO Box 1178  
 Corona, CA 92878  
 (951) 268-6268

File Name : 08\_HES\_US-395\_Main AM  
 Site Code : 05119658  
 Start Date : 9/28/2019  
 Page No : 1

City of Hesperia  
 N/S: US-395  
 E/W: Phelan Road/Main Street  
 Weather: Clear

Groups Printed- 4+ Axle Trucks

Start Time	US-395 Southbound						Main Street Westbound						US-395 Northbound						Phelan Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total
07:00 AM	2	15	0	0	17	0	0	0	1	0	1	0	0	13	0	0	13	0	0	1	1	0	2	0
07:15 AM	0	15	0	0	15	0	0	1	2	0	3	0	0	12	0	0	12	0	0	0	0	0	0	0
07:30 AM	0	18	0	0	18	0	0	0	1	0	1	0	0	14	0	0	14	0	0	2	0	0	2	0
07:45 AM	0	18	0	0	18	0	0	0	0	0	0	0	0	14	1	0	15	0	0	2	1	0	3	0
<b>Total</b>	<b>2</b>	<b>66</b>	<b>0</b>	<b>0</b>	<b>68</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>4</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>53</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>55</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>2</b>	<b>0</b>	<b>7</b>	<b>0</b>
08:00 AM	1	11	0	0	12	0	0	0	1	1	1	0	0	11	0	0	11	0	0	1	1	0	2	1
08:15 AM	0	16	0	0	16	0	0	0	0	0	0	0	0	11	0	0	11	0	0	1	0	0	1	0
08:30 AM	0	20	0	0	20	0	0	1	0	0	1	0	0	14	1	0	15	0	0	0	0	0	0	0
08:45 AM	0	16	0	0	16	0	0	1	0	0	1	0	0	12	0	0	12	0	0	0	0	0	0	0
<b>Total</b>	<b>1</b>	<b>63</b>	<b>0</b>	<b>0</b>	<b>64</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>48</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>51</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>4</b>	<b>1</b>
<b>Grand Total</b>	<b>3</b>	<b>129</b>	<b>0</b>	<b>0</b>	<b>132</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>5</b>	<b>1</b>	<b>8</b>	<b>0</b>	<b>101</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>106</b>	<b>0</b>	<b>1</b>	<b>7</b>	<b>3</b>	<b>0</b>	<b>11</b>	<b>1</b>
Approch %	2.3	97.7	0	0			0	37.5	62.5		3.1		2.8	95.3	1.9		41.2		9.1	63.6	27.3		4.3	0.4
Total %	1.2	50.2	0	0	51.4		0	1.2	1.9		3.1		1.2	39.3	0.8		41.2		0.4	2.7	1.2		4.3	0.4

3.1-29

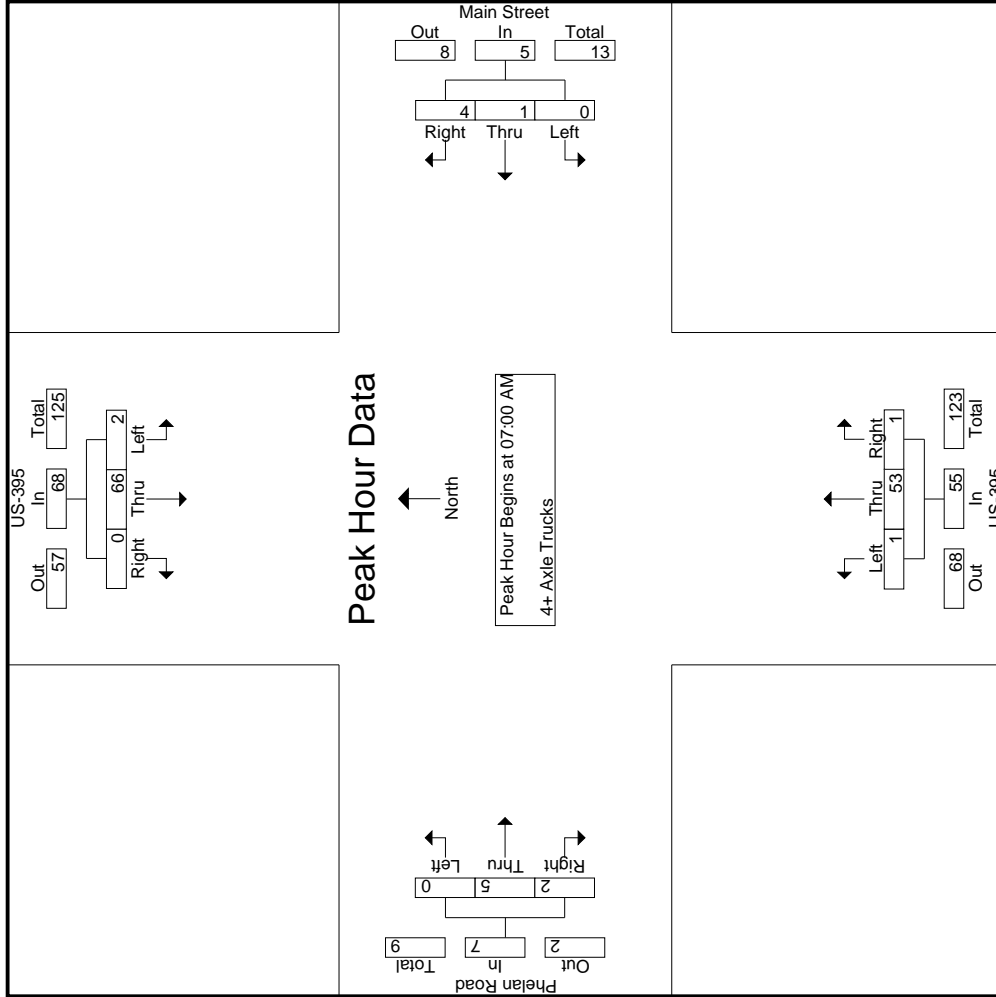
Start Time	US-395 Southbound						Main Street Westbound						US-395 Northbound						Phelan Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total
07:00 AM	2	15	0	0	17	0	0	0	1	0	1	0	0	13	0	0	13	0	0	1	1	0	2	0
07:15 AM	0	15	0	0	15	0	0	1	2	0	3	0	0	12	0	0	12	0	0	0	0	0	0	0
07:30 AM	0	18	0	0	18	0	0	0	1	0	1	0	0	14	0	0	14	0	0	2	0	0	2	0
07:45 AM	0	18	0	0	18	0	0	0	0	0	0	0	0	14	1	0	15	0	0	2	1	0	3	0
<b>Total Volume</b>	<b>2</b>	<b>66</b>	<b>0</b>	<b>0</b>	<b>68</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>4</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>53</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>55</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>2</b>	<b>0</b>	<b>7</b>	<b>0</b>
% App. Total	2.9	97.1	0	0			0	20	80		3.1		1.8	96.4	1.8		41.2		9.1	71.4	28.6		4.3	0.4
PHF	.250	.917	.000	.944	.944	.000	.250	.500	.417	.250	.946	.250	.250	.946	.250	.917	.583	.000	.625	.500	.583	.500	.938	

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1  
 Peak Hour for Entire Intersection Begins at 07:00 AM

Counts Unlimited  
 PO Box 1178  
 Corona, CA 92878  
 (951) 268-6268

City of Hesperia  
 N/S: US-395  
 E/W: Phelan Road/Main Street  
 Weather: Clear

File Name : 08\_HES\_US-395\_Main AM  
 Site Code : 05119658  
 Start Date : 9/28/2019  
 Page No : 2





Counts Unlimited  
 PO Box 1178  
 Corona, CA 92878  
 (951) 268-6268

File Name : 08\_HES\_US-395\_Main PM  
 Site Code : 05119658  
 Start Date : 9/28/2019  
 Page No : 1

City of Hesperia  
 N/S: US-395  
 E/W: Phelan Road/Main Street  
 Weather: Clear

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	US-395 Southbound						Main Street Westbound						US-395 Northbound						Phelan Road Eastbound						
	Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		
	Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total				
04:00 PM	47	144	11	5	202	1	164	52	19	217	31	209	10	2	250	8	137	22	11	167	37	836	873		
04:15 PM	46	132	9	4	187	3	180	68	25	251	47	230	6	0	283	9	140	12	5	161	34	882	916		
04:30 PM	42	142	6	1	190	1	144	57	16	202	38	225	2	2	265	15	138	19	8	172	27	829	856		
04:45 PM	45	117	11	4	173	4	158	50	20	212	37	252	5	3	294	11	114	11	3	136	30	815	845		
<b>Total</b>	180	535	37	14	752	9	646	227	80	882	153	916	23	7	1092	43	529	64	27	636	128	3362	3490		
05:00 PM	43	145	9	0	197	3	176	54	20	233	24	204	6	2	234	7	139	12	3	158	25	822	847		
05:15 PM	49	126	9	2	184	0	128	60	25	188	39	229	7	0	275	16	152	21	9	189	36	836	872		
05:30 PM	36	135	6	5	177	3	170	66	15	239	45	245	7	0	297	14	134	21	7	169	27	882	909		
05:45 PM	39	134	4	2	177	3	137	54	16	194	28	259	8	3	295	6	104	26	13	136	34	802	836		
<b>Total</b>	167	540	28	9	735	9	611	234	76	854	136	937	28	5	1101	43	529	80	32	652	122	3342	3464		
<b>Grand Total</b>	347	1075	65	23	1487	18	1257	461	156	1736	289	1853	51	12	2193	86	1058	144	59	1288	250	6704	6954		
<b>Approch %</b>	23.3	72.3	4.4			1	72.4	26.6			13.2	84.5	2.3			6.7	82.1	11.2							
<b>Total %</b>	5.2	16	1		22.2	0.3	18.8	6.9		25.9	4.3	27.6	0.8		32.7	1.3	15.8	2.1		19.2	3.6	96.4			
Passenger Vehicles	338	922	59		1342	18	1241	449		1861	275	1744	47		2077	84	1026	139		1306	0	0	6586		
% Passenger Vehicles	97.4	85.8	90.8	100	88.9	100	98.7	97.4	98.1	98.4	95.2	94.1	92.2	91.7	94.2	97.7	97	96.5	96.6	97	0	0	94.7		
Large 2 Axle Vehicles	4	19	2		25	0	9	7		16	9	18	1		28	2	25	1		28	0	0	97		
% Large 2 Axle Vehicles	1.2	1.8	3.1	0	1.7	0	0.7	1.5	0	0.8	3.1	1	2	0	1.3	2.3	2.4	0.7	0	2.1	0	0	1.4		
3 Axle Vehicles	0	6	0		6	0	2	0		2	0	11	0		11	0	0	3		5	0	0	24		
% 3 Axle Vehicles	0	0.6	0	0	0.4	0	0.2	0	0	0.1	0	0.6	0	0	0.5	0	0	2.1	3.4	0.4	0	0	0.3		
4+ Axle Trucks	5	128	4		137	0	5	5		13	5	80	3		89	0	7	1		8	0	0	247		
% 4+ Axle Trucks	1.4	11.9	6.2	0	9.1	0	0.4	1.1	1.9	0.7	1.7	4.3	5.9	8.3	4	0	0.7	0.7	0	0.6	0	0	3.6		

Start Time	US-395 Southbound						Main Street Westbound						US-395 Northbound						Phelan Road Eastbound						
	Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		
	Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total				
04:00 PM	47	144	11		202	1	164	52		217	31	209	10		250	8	137	22		167	37	836	873		
04:15 PM	46	132	9		187	3	180	68		251	47	230	6		283	9	140	12		161	34	882	916		
04:30 PM	42	142	6		190	1	144	57		202	38	225	2		265	15	138	19		172	27	829	856		
04:45 PM	45	117	11		173	4	158	50		212	37	252	5		294	11	114	11		136	30	815	845		
<b>Total</b>	180	535	37		752	9	646	227		882	153	916	23		1092	43	529	64		636	128	3362	3490		
05:00 PM	43	145	9		197	3	176	54		233	24	204	6		234	7	139	12		158	25	822	847		
05:15 PM	49	126	9		184	0	128	60		188	39	229	7		275	16	152	21		189	36	836	872		
05:30 PM	36	135	6		177	3	170	66		239	45	245	7		297	14	134	21		169	27	882	909		
05:45 PM	39	134	4		177	3	137	54		194	28	259	8		295	6	104	26		136	34	802	836		
<b>Total</b>	167	540	28		735	9	611	234		854	136	937	28		1101	43	529	80		652	122	3342	3464		
<b>Grand Total</b>	347	1075	65		1487	18	1257	461		1736	289	1853	51		2193	86	1058	144		1288	250	6704	6954		
<b>Approch %</b>	23.3	72.3	4.4			1	72.4	26.6			13.2	84.5	2.3			6.7	82.1	11.2							
<b>Total %</b>	5.2	16	1		22.2	0.3	18.8	6.9		25.9	4.3	27.6	0.8		32.7	1.3	15.8	2.1		19.2	3.6	96.4			
Passenger Vehicles	338	922	59		1342	18	1241	449		1861	275	1744	47		2077	84	1026	139		1306	0	0	6586		
% Passenger Vehicles	97.4	85.8	90.8	100	88.9	100	98.7	97.4	98.1	98.4	95.2	94.1	92.2	91.7	94.2	97.7	97	96.5	96.6	97	0	0	94.7		
Large 2 Axle Vehicles	4	19	2		25	0	9	7		16	9	18	1		28	2	25	1		28	0	0	97		
% Large 2 Axle Vehicles	1.2	1.8	3.1	0	1.7	0	0.7	1.5	0	0.8	3.1	1	2	0	1.3	2.3	2.4	0.7	0	2.1	0	0	1.4		
3 Axle Vehicles	0	6	0		6	0	2	0		2	0	11	0		11	0	0	3		5	0	0	24		
% 3 Axle Vehicles	0	0.6	0	0	0.4	0	0.2	0	0	0.1	0	0.6	0	0	0.5	0	0	2.1	3.4	0.4	0	0	0.3		
4+ Axle Trucks	5	128	4		137	0	5	5		13	5	80	3		89	0	7	1		8	0	0	247		
% 4+ Axle Trucks	1.4	11.9	6.2	0	9.1	0	0.4	1.1	1.9	0.7	1.7	4.3	5.9	8.3	4	0	0.7	0.7	0	0.6	0	0	3.6		

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

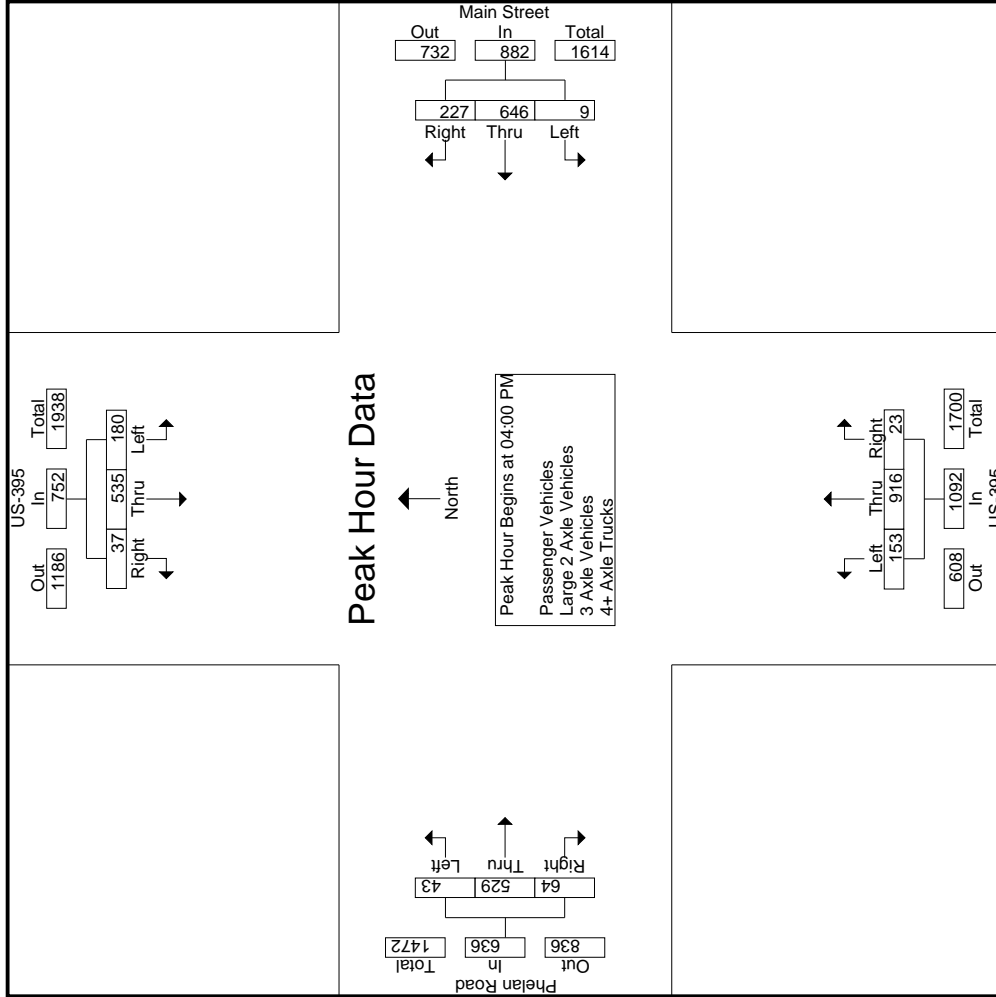
Peak Hour for Entire Intersection Begins at 04:00 PM

Start Time	US-395 Southbound						Main Street Westbound						US-395 Northbound						Phelan Road Eastbound						
	Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		
	Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total				
04:00 PM	47	144	11		202	1	164	52		217	31	209	10		250	8	137	22		167	37	836	873		
04:15 PM	46	132	9		187	3	180	68		251	47	230	6		283	9	140	12		161	34	882	916		
04:30 PM	42	142	6		190	1	144	57		202	38	225	2		265	15	138	19		172	27	829	856		
04:45 PM	45	117	11		173	4	158	50		212	37	252	5		294	11	114	11		136	30	815	845		
<b>Total</b>	180	535	37		752	9	646	227		882	153	916	23		1092	43	529	64		636	128	3362	3490		
% App. Total	23.9	71.1	4.9			1	73.2	25.7			14	83.9	2.1			6.8	83.2	10.1			10.1	92.4			
PHF	.957	.929	.841		.931	.563	.897	.835		.878	.814	.909	.575		.929	.717	.945	.727		.924	.727	.953			

Counts Unlimited  
 PO Box 1178  
 Corona, CA 92878  
 (951) 268-6268

City of Hesperia  
 N/S: US-395  
 E/W: Phelan Road/Main Street  
 Weather: Clear

File Name : 08\_HES\_US-395\_Main PM  
 Site Code : 05119658  
 Start Date : 9/28/2019  
 Page No : 2

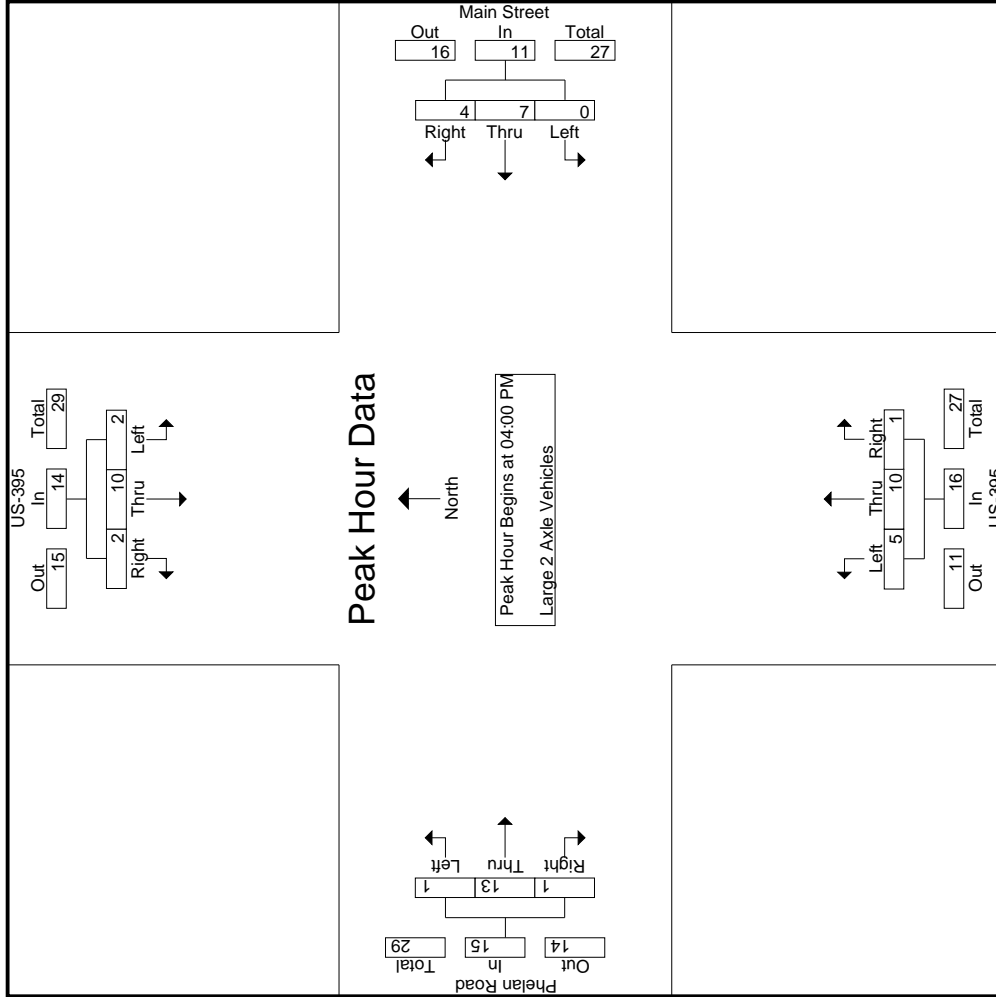


Groups Printed - Large 2 Axle Vehicles

Start Time	US-395 Southbound						Main Street Westbound						US-395 Northbound						Phelan Road Eastbound						
	Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		
04:00 PM	0	3	1	0	4	0	2	1	0	3	1	3	1	0	5	0	1	0	0	1	0	1	0	0	1
04:15 PM	1	2	0	0	3	0	2	2	0	4	1	4	0	0	5	0	1	0	0	1	0	1	0	0	1
04:30 PM	1	0	1	0	2	0	2	1	0	3	2	2	0	0	4	1	6	1	0	8	0	1	0	0	1
04:45 PM	0	5	0	0	5	0	1	0	0	1	1	1	0	0	2	0	5	0	0	5	0	5	0	0	5
<b>Total</b>	<b>2</b>	<b>10</b>	<b>2</b>	<b>0</b>	<b>14</b>	<b>0</b>	<b>7</b>	<b>4</b>	<b>0</b>	<b>11</b>	<b>5</b>	<b>10</b>	<b>1</b>	<b>0</b>	<b>16</b>	<b>1</b>	<b>13</b>	<b>1</b>	<b>0</b>	<b>15</b>	<b>0</b>	<b>15</b>	<b>0</b>	<b>0</b>	<b>15</b>
05:00 PM	0	4	0	0	4	0	2	1	0	3	0	2	0	0	2	0	5	0	0	5	0	5	0	0	5
05:15 PM	1	0	0	0	1	0	0	0	0	0	0	2	0	0	2	0	2	0	0	2	0	2	0	0	2
05:30 PM	1	3	0	0	4	0	0	0	0	0	1	4	0	0	5	1	4	0	0	5	0	5	0	0	5
05:45 PM	0	2	0	0	2	0	0	2	0	2	3	0	0	0	3	0	1	0	0	1	0	1	0	0	1
<b>Total</b>	<b>2</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>11</b>	<b>0</b>	<b>2</b>	<b>3</b>	<b>0</b>	<b>5</b>	<b>4</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>12</b>	<b>1</b>	<b>12</b>	<b>0</b>	<b>0</b>	<b>13</b>	<b>0</b>	<b>13</b>	<b>0</b>	<b>0</b>	<b>13</b>
<b>Grand Total</b>	<b>4</b>	<b>19</b>	<b>2</b>	<b>0</b>	<b>25</b>	<b>0</b>	<b>9</b>	<b>7</b>	<b>0</b>	<b>16</b>	<b>9</b>	<b>18</b>	<b>1</b>	<b>0</b>	<b>28</b>	<b>2</b>	<b>25</b>	<b>1</b>	<b>0</b>	<b>28</b>	<b>0</b>	<b>28</b>	<b>0</b>	<b>0</b>	<b>28</b>
Apprch %	16	76	8			0	56.2	43.8			32.1	64.3	3.6			7.1	89.3	3.6			0	100	0	0	100
Total %	4.1	19.6	2.1		25.8	0	9.3	7.2		16.5	9.3	18.6	1		28.9	2.1	25.8	1		28.9	0	100	0	0	100

Start Time	US-395 Southbound						Main Street Westbound						US-395 Northbound						Phelan Road Eastbound						
	Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		
04:00 PM	0	3	1	0	4	0	2	1	0	3	1	3	1	0	5	0	1	0	0	1	0	1	0	0	1
04:15 PM	1	2	0	0	3	0	2	2	0	4	1	4	0	0	5	0	1	0	0	1	0	1	0	0	1
04:30 PM	1	0	1	0	2	0	2	1	0	3	2	2	0	0	4	1	6	1	0	8	0	1	0	0	1
04:45 PM	0	5	0	0	5	0	1	0	0	1	1	1	0	0	2	0	5	0	0	5	0	5	0	0	5
<b>Total Volume</b>	<b>2</b>	<b>10</b>	<b>2</b>	<b>0</b>	<b>14</b>	<b>0</b>	<b>7</b>	<b>4</b>	<b>0</b>	<b>11</b>	<b>5</b>	<b>10</b>	<b>1</b>	<b>0</b>	<b>16</b>	<b>1</b>	<b>13</b>	<b>1</b>	<b>0</b>	<b>15</b>	<b>0</b>	<b>15</b>	<b>0</b>	<b>0</b>	<b>15</b>
% App. Total	14.3	71.4	14.3		14.3	0	63.6	36.4			31.2	62.5	6.2			6.7	86.7	6.7			0	100	0	0	100
PHF	.500	.500	.500		.700	.000	.875	.500		.688	.625	.625	.250		.800	.250	.542	.250		.469	.250	.250	.250		.824

Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1  
 Peak Hour for Entire Intersection Begins at 04:00 PM

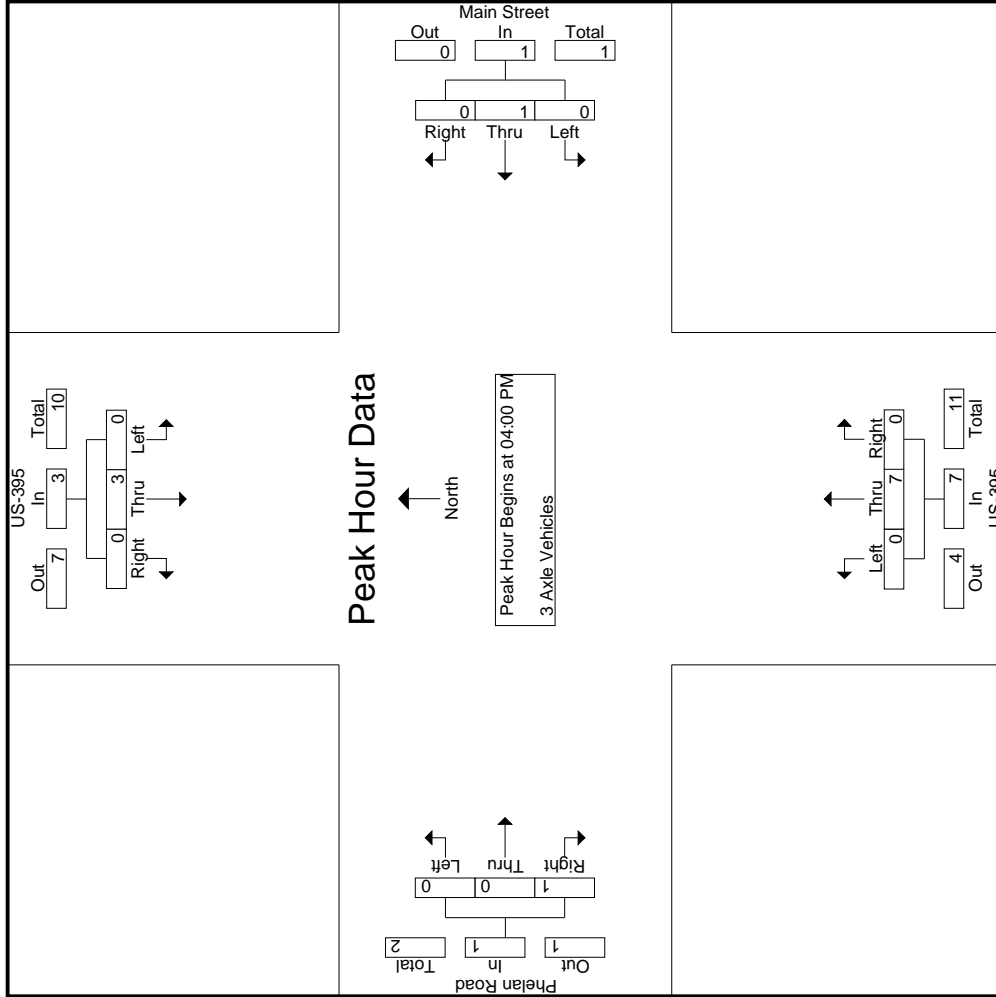


Groups Printed - 3 Axle Vehicles

Start Time	US-395 Southbound				Main Street Westbound				US-395 Northbound				Phelan Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	1	0	0	1	0	0	0	0	0	0	2	0	0	0	0	3	3
04:15 PM	0	0	0	0	0	0	1	0	0	1	0	4	0	0	0	0	5	5
04:30 PM	0	1	0	0	1	0	0	0	0	0	1	0	0	1	0	0	3	3
04:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
Total	0	3	0	0	3	0	1	0	0	1	0	7	0	0	1	0	12	12
05:00 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	2
05:15 PM	0	0	0	0	0	0	1	0	0	1	0	1	0	0	0	0	2	2
05:30 PM	0	1	0	0	1	0	0	0	0	0	2	0	0	1	1	1	4	5
05:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	2	3
Total	0	3	0	0	3	0	1	0	0	1	0	4	0	2	2	2	10	12
Grand Total	0	6	0	0	6	0	2	0	0	2	0	11	0	0	3	2	22	24
Approch %	0	100	0	0	0	0	100	0	0	0	100	0	0	100	0	8.3	91.7	
Total %	0	27.3	0	0	27.3	0	9.1	0	0	9.1	0	50	0	0	13.6			

Start Time	US-395 Southbound				Main Street Westbound				US-395 Northbound				Phelan Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	1	0	0	1	0	0	0	0	0	0	2	0	0	0	0	3	3
04:15 PM	0	0	0	0	0	0	1	0	0	1	0	4	0	0	0	0	5	5
04:30 PM	0	1	0	0	1	0	0	0	0	0	1	0	0	1	0	0	3	3
04:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
Total Volume	0	3	0	0	3	0	1	0	0	1	0	7	0	0	1	0	12	12
% App. Total	0	100	0	0	0	0	100	0	0	0	100	0	0	0	100	0	.250	.600
PHF	.000	.750	.000	.000	.750	.000	.250	.000	.000	.250	.000	.438	.000	.000	.438	.250	.250	.600

Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1  
 Peak Hour for Entire Intersection Begins at 04:00 PM



Counts Unlimited  
 PO Box 1178  
 Corona, CA 92878  
 (951) 268-6268

File Name : 08\_HES\_US-395\_Main PM  
 Site Code : 05119658  
 Start Date : 9/28/2019  
 Page No : 1

City of Hesperia  
 N/S: US-395  
 E/W: Phelan Road/Main Street  
 Weather: Clear

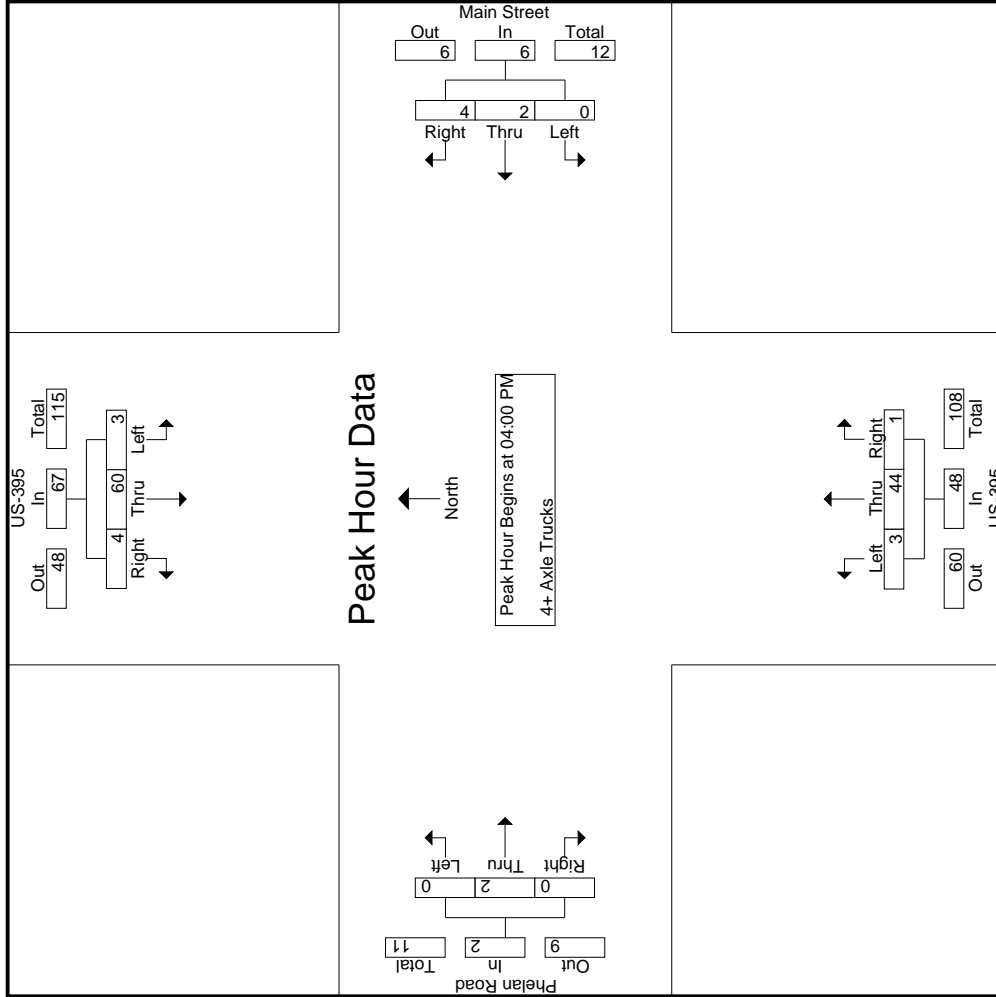
Groups Printed- 4+ Axle Trucks

Start Time	US-395 Southbound					Main Street Westbound					US-395 Northbound					Phelan Road Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	3	16	1	0	20	0	1	1	1	2	1	10	0	0	11	0	0	0	0	0	1	33	34
04:15 PM	0	14	2	0	16	0	0	1	0	1	0	13	1	0	14	0	0	0	0	0	0	31	31
04:30 PM	0	17	1	0	18	0	0	1	0	1	0	14	0	0	14	0	2	0	0	2	0	35	35
04:45 PM	0	13	0	0	13	0	1	1	1	2	2	7	0	0	9	0	0	0	0	0	1	24	25
<b>Total</b>	<b>3</b>	<b>60</b>	<b>4</b>	<b>0</b>	<b>67</b>	<b>0</b>	<b>2</b>	<b>4</b>	<b>2</b>	<b>6</b>	<b>3</b>	<b>44</b>	<b>1</b>	<b>0</b>	<b>48</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>123</b>	<b>125</b>
05:00 PM	1	17	0	0	18	0	2	0	0	2	0	9	0	0	9	0	0	0	0	0	0	29	29
05:15 PM	0	19	0	0	19	0	1	1	1	2	0	6	0	0	6	0	2	1	0	3	1	30	31
05:30 PM	0	16	0	0	16	0	0	0	0	0	0	14	0	0	14	0	0	0	0	0	0	30	30
05:45 PM	1	16	0	0	17	0	0	0	0	0	2	7	2	1	11	0	3	0	0	3	1	31	32
<b>Total</b>	<b>2</b>	<b>68</b>	<b>0</b>	<b>0</b>	<b>70</b>	<b>0</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>4</b>	<b>2</b>	<b>36</b>	<b>2</b>	<b>1</b>	<b>40</b>	<b>0</b>	<b>5</b>	<b>1</b>	<b>0</b>	<b>6</b>	<b>2</b>	<b>120</b>	<b>122</b>
<b>Grand Total</b>	<b>5</b>	<b>128</b>	<b>4</b>	<b>0</b>	<b>137</b>	<b>0</b>	<b>5</b>	<b>5</b>	<b>3</b>	<b>10</b>	<b>5</b>	<b>80</b>	<b>3</b>	<b>1</b>	<b>88</b>	<b>0</b>	<b>7</b>	<b>1</b>	<b>0</b>	<b>8</b>	<b>4</b>	<b>243</b>	<b>247</b>
Approch %	3.6	93.4	2.9			0	50	50			5.7	90.9	3.4			0	87.5	12.5		3.3	1.6	98.4	
Total %	2.1	52.7	1.6		56.4	0	2.1	2.1		4.1	2.1	32.9	1.2		36.2	0	2.9	0.4					

3.1-37

Start Time	US-395 Southbound					Main Street Westbound					US-395 Northbound					Phelan Road Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	3	16	1	0	20	0	1	1	1	2	1	10	0	0	11	0	0	0	0	0	1	33	34
04:15 PM	0	14	2	0	16	0	0	1	0	1	0	13	1	0	14	0	0	0	0	0	0	31	31
04:30 PM	0	17	1	0	18	0	0	1	0	1	0	14	0	0	14	0	2	0	0	2	0	35	35
04:45 PM	0	13	0	0	13	0	1	1	1	2	2	7	0	0	9	0	0	0	0	0	1	24	25
<b>Total Volume</b>	<b>3</b>	<b>60</b>	<b>4</b>	<b>0</b>	<b>67</b>	<b>0</b>	<b>2</b>	<b>4</b>	<b>2</b>	<b>6</b>	<b>3</b>	<b>44</b>	<b>1</b>	<b>0</b>	<b>48</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>123</b>	<b>125</b>
% App. Total	4.5	89.6	6			0	33.3	66.7			6.2	91.7	2.1			0	100	0					
PHF	.250	.882	.500		.838	.000	.500	1.00		.750	.375	.786	.250		.857	.000	.250	.000		.250	.000	.250	.879

Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1  
 Peak Hour for Entire Intersection Begins at 04:00 PM





Location: Hesperia  
 N/S: US-395  
 E/W: Phelan Road/Main Street



Date: 9/28/2019  
 Day: Saturday

PEDESTRIANS

	North Leg US-395	East Leg Phelan Road/Main Street	South Leg US-395	West Leg Phelan Road/Main Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg US-395	East Leg Phelan Road/Main Street	South Leg US-395	West Leg Phelan Road/Main Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	1	0	0	1
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	1	0	0	1

Location: Hesperia  
 N/S: US-395  
 E/W: Phelan Road/Main Street



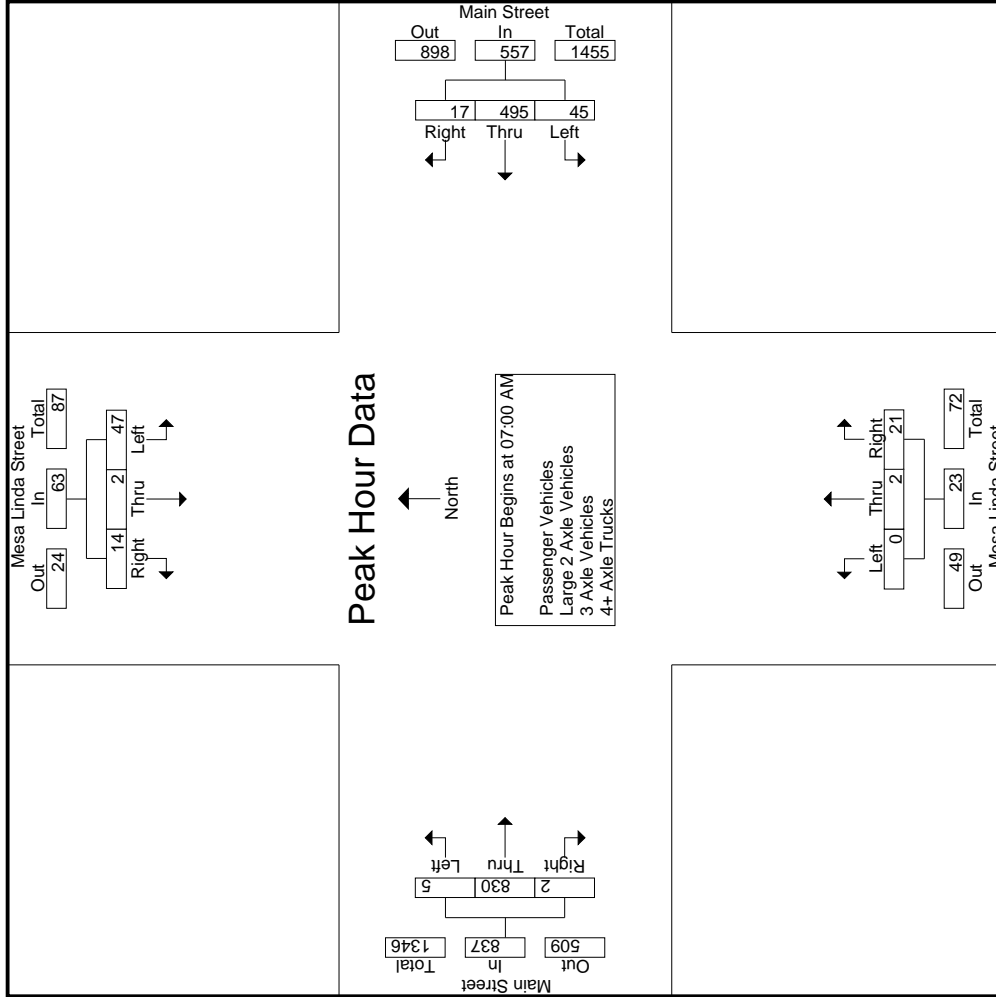
Date: 9/28/2019  
 Day: Saturday

BICYCLES

	Southbound US-395			Westbound Phelan Road/Main Street			Northbound US-395			Eastbound Phelan Road/Main Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

	Southbound US-395			Westbound Phelan Road/Main Street			Northbound US-395			Eastbound Phelan Road/Main Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	1	1	2





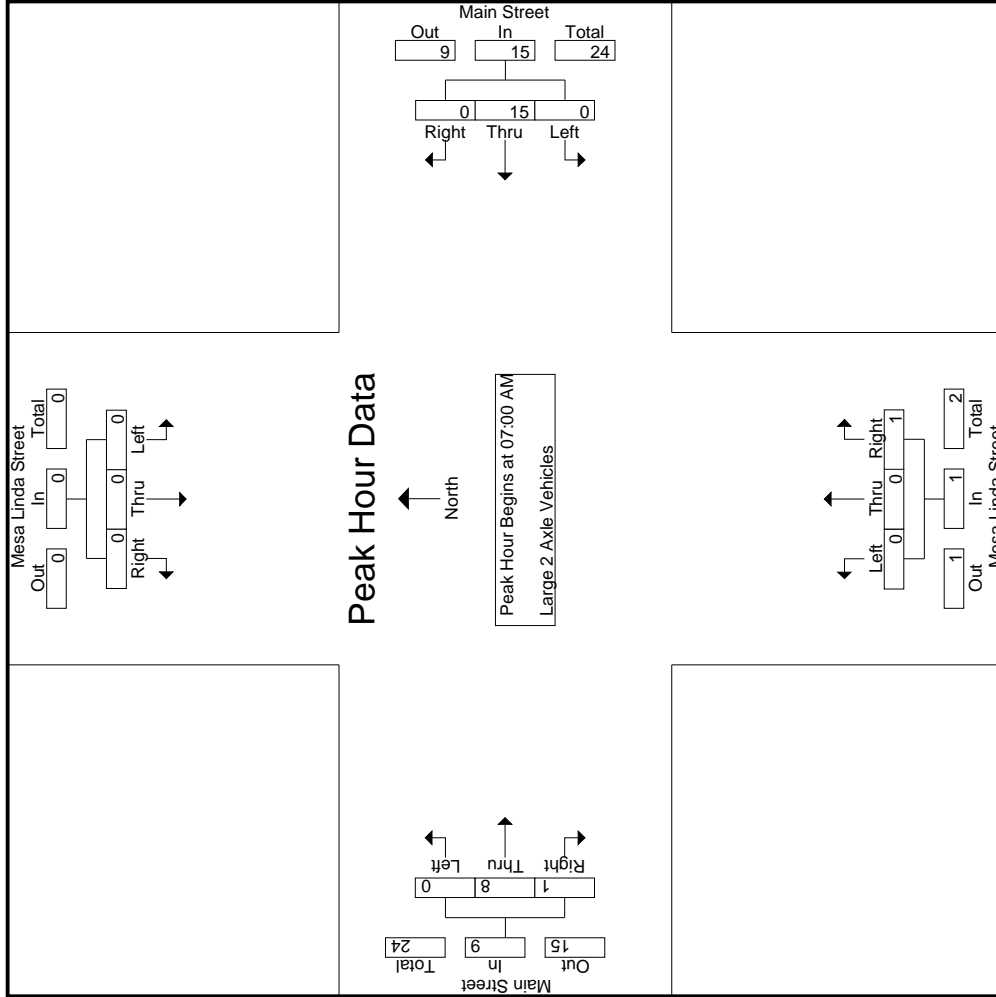
Groups Printed - Large 2 Axle Vehicles

Start Time	Mesa Linda Street Southbound				Main Street Westbound				Mesa Linda Street Northbound				Main Street Eastbound						
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
07:00 AM	0	0	0	0	0	4	0	0	0	4	0	0	0	0	0	1	0	0	5
07:15 AM	0	0	0	0	2	2	0	0	0	2	0	0	0	0	3	0	0	5	5
07:30 AM	0	0	0	0	5	5	0	0	1	5	0	0	0	0	1	1	1	7	8
07:45 AM	0	0	0	0	4	4	0	0	0	4	0	0	0	0	4	0	0	8	8
Total	0	0	0	0	15	0	0	0	1	15	0	0	0	0	9	1	25	26	
08:00 AM	0	0	0	0	2	2	0	0	1	2	0	0	0	0	4	1	7	8	
08:15 AM	0	0	0	0	1	4	1	1	0	6	0	0	0	0	0	1	6	7	
08:30 AM	0	0	0	0	5	5	0	1	1	5	0	0	0	0	5	1	11	12	
08:45 AM	0	0	0	0	2	2	0	0	1	4	0	0	0	0	2	1	7	8	
Total	0	0	0	0	12	4	12	1	3	17	0	0	0	0	11	4	31	35	
Grand Total	0	0	0	0	27	4	27	1	4	32	0	0	4	0	20	5	56	61	
Approch %	0	0	0	0	12.5	84.4	3.1		100	57.1	0	0	7.1	0	35.7	8.2	91.8		
Total %	0	0	0	0	7.1	48.2	1.8		7.1	57.1	0	0	7.1	0	33.9	1.8	91.8		

Start Time	Mesa Linda Street Southbound				Main Street Westbound				Mesa Linda Street Northbound				Main Street Eastbound						
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	2	0	0	0	2	0	0	0	0	3	0	0	3	5
07:30 AM	0	0	0	0	0	5	0	0	1	5	0	0	0	0	1	1	1	7	8
07:45 AM	0	0	0	0	4	4	0	0	0	4	0	0	0	0	4	0	0	8	8
Total	0	0	0	0	12	4	12	1	3	17	0	0	0	0	11	4	31	35	
Grand Total	0	0	0	0	27	4	27	1	4	32	0	0	4	0	20	5	56	61	
Approch %	0	0	0	0	12.5	84.4	3.1		100	57.1	0	0	7.1	0	35.7	8.2	91.8		
Total %	0	0	0	0	7.1	48.2	1.8		7.1	57.1	0	0	7.1	0	33.9	1.8	91.8		

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1  
 Peak Hour for Entire Intersection Begins at 07:00 AM

Start Time	Mesa Linda Street Southbound				Main Street Westbound				Mesa Linda Street Northbound				Main Street Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	4	0	0	0	4	0	0	0	0	1	0	1	5
07:15 AM	0	0	0	0	0	2	0	0	0	2	0	0	0	0	3	0	3	5
07:30 AM	0	0	0	0	0	5	0	0	1	5	0	0	0	0	1	1	7	8
07:45 AM	0	0	0	0	4	4	0	0	0	4	0	0	0	0	4	0	4	8
Total Volume	0	0	0	0	12	4	12	1	3	17	0	0	0	0	11	4	31	35
% App. Total	0	0	0	0	12.5	84.4	3.1		100	57.1	0	0	7.1	0	35.7	8.2	91.8	
PHF	.000	.000	.000	.000	.000	.750	.000	.250	.250	.750	.000	.000	.250	.250	.667	.250	.563	.781



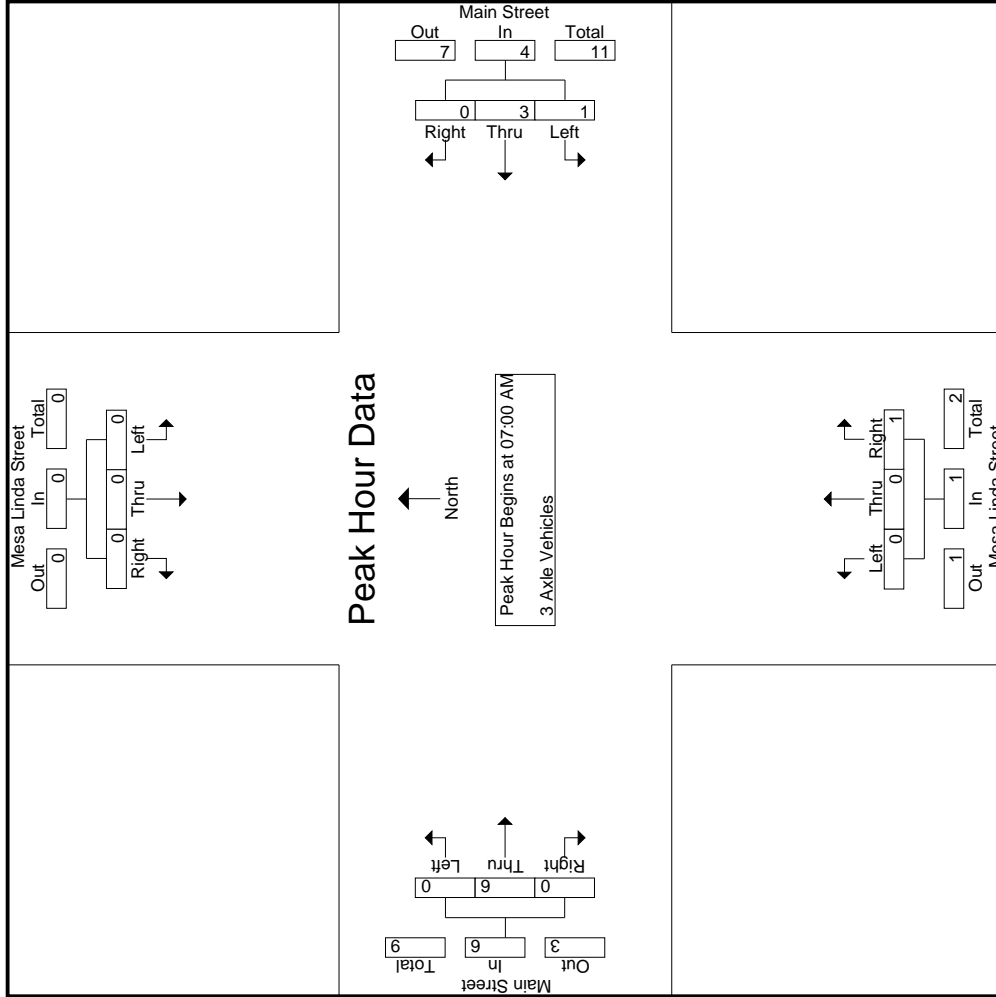
Groups Printed - 3 Axle Vehicles

Start Time	Mesa Linda Street Southbound				Main Street Westbound				Mesa Linda Street Northbound				Main Street Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	2	2
07:15 AM	0	0	0	0	0	0	0	1	1	1	0	1	0	0	1	1	2	3
07:30 AM	0	0	0	0	3	2	0	0	0	0	0	1	0	0	1	0	4	4
07:45 AM	0	0	0	0	1	1	0	0	0	0	0	2	0	0	2	0	3	3
Total	0	0	0	0	4	3	0	0	1	1	0	6	0	0	6	1	11	12
08:00 AM	1	0	0	0	1	1	1	0	0	0	0	1	0	0	1	0	4	4
08:15 AM	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	2	2
08:30 AM	0	0	0	0	1	1	0	0	0	0	1	0	0	0	1	0	2	2
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	1
Total	1	0	0	0	5	4	1	0	0	0	0	3	0	0	3	0	9	9
Grand Total	1	0	0	0	1	7	1	0	1	1	0	9	0	0	9	1	20	21
Approch %	100	0	0	0	11.1	77.8	11.1		100	5	0	100	0	0	45	4.8	95.2	
Total %	5	0	0	0	5	35	5		5	5	0	45	0	0	45			

3.145

Start Time	Mesa Linda Street Southbound				Main Street Westbound				Mesa Linda Street Northbound				Main Street Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
07:15 AM	0	0	0	0	0	0	0	1	1	1	0	1	0	0	1	0	1	2
07:30 AM	0	0	0	0	3	2	0	0	0	0	0	1	0	0	1	0	4	4
07:45 AM	0	0	0	0	1	1	0	0	0	0	0	2	0	0	2	0	3	3
Total Volume	0	0	0	0	4	3	0	0	1	1	0	6	0	0	6	0	11	11
% App. Total	0	0	0	0	0	25	75	0	100	0	0	100	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.333	.250	.375	.000	.250	.250	.000	.750	.000	.000	.750	.000	.750	.688

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1  
 Peak Hour for Entire Intersection Begins at 07:00 AM





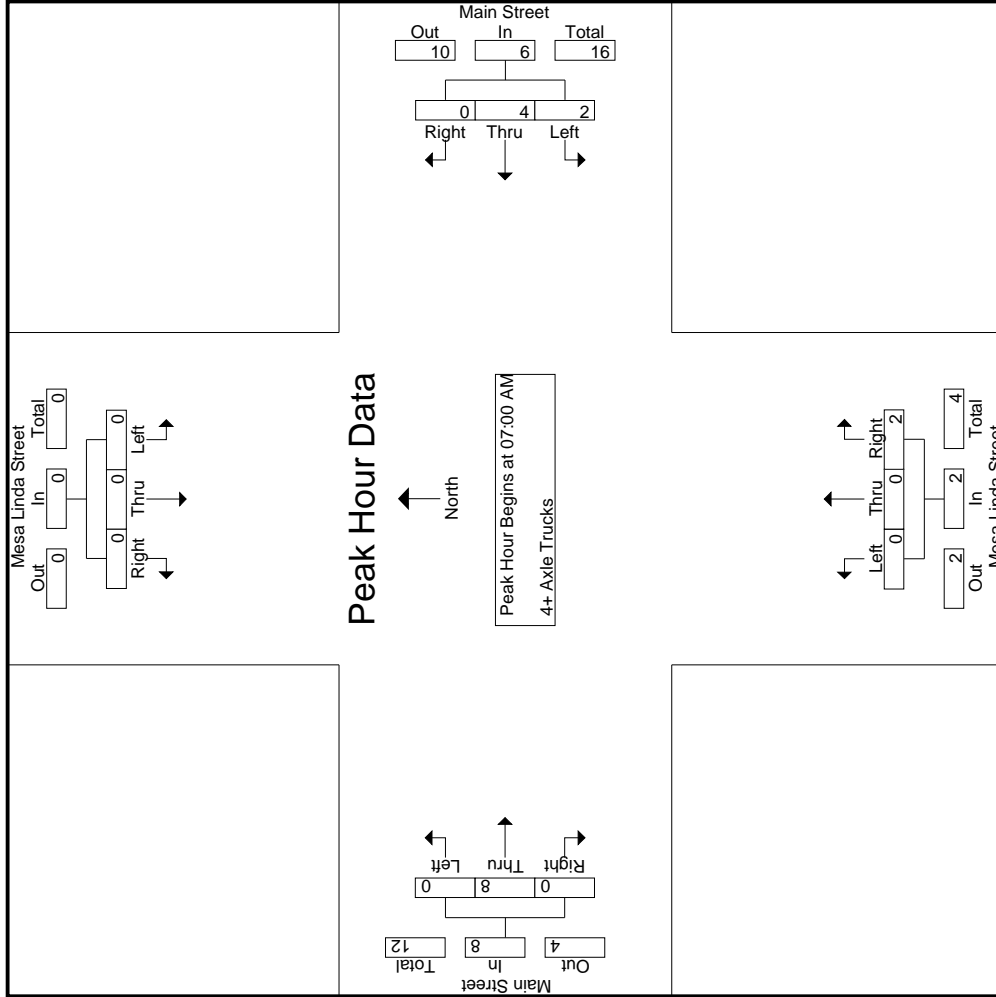
Groups Printed- 4+ Axle Trucks

Start Time	Mesa Linda Street Southbound				Main Street Westbound				Mesa Linda Street Northbound				Main Street Eastbound						
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
07:15 AM	0	0	0	0	3	0	0	1	0	1	0	0	0	0	0	0	0	0	4
07:30 AM	0	0	0	0	2	1	0	0	0	0	0	0	0	0	2	0	0	0	4
07:45 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	3	0	0	0	4
Total	0	0	0	0	6	2	4	0	0	2	0	0	0	0	8	0	0	0	16
08:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0	0	0	3
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
08:30 AM	0	0	0	0	2	0	0	0	0	0	0	0	0	0	1	0	0	0	3
08:45 AM	0	0	0	0	2	0	2	0	0	1	0	0	0	0	0	0	1	0	3
Total	0	0	0	0	5	0	4	0	0	1	0	0	0	0	4	0	0	0	11
Grand Total	0	0	0	0	11	3	8	0	0	3	1	0	12	0	0	1	1	26	27
Apprch %	0	0	0	0	27.3	72.7	0	0	0	100	0	0	100	0	0	3.7	0	96.3	
Total %	0	0	0	0	42.3	30.8	0	0	0	11.5	0	0	46.2	0	46.2	0	0	96.3	

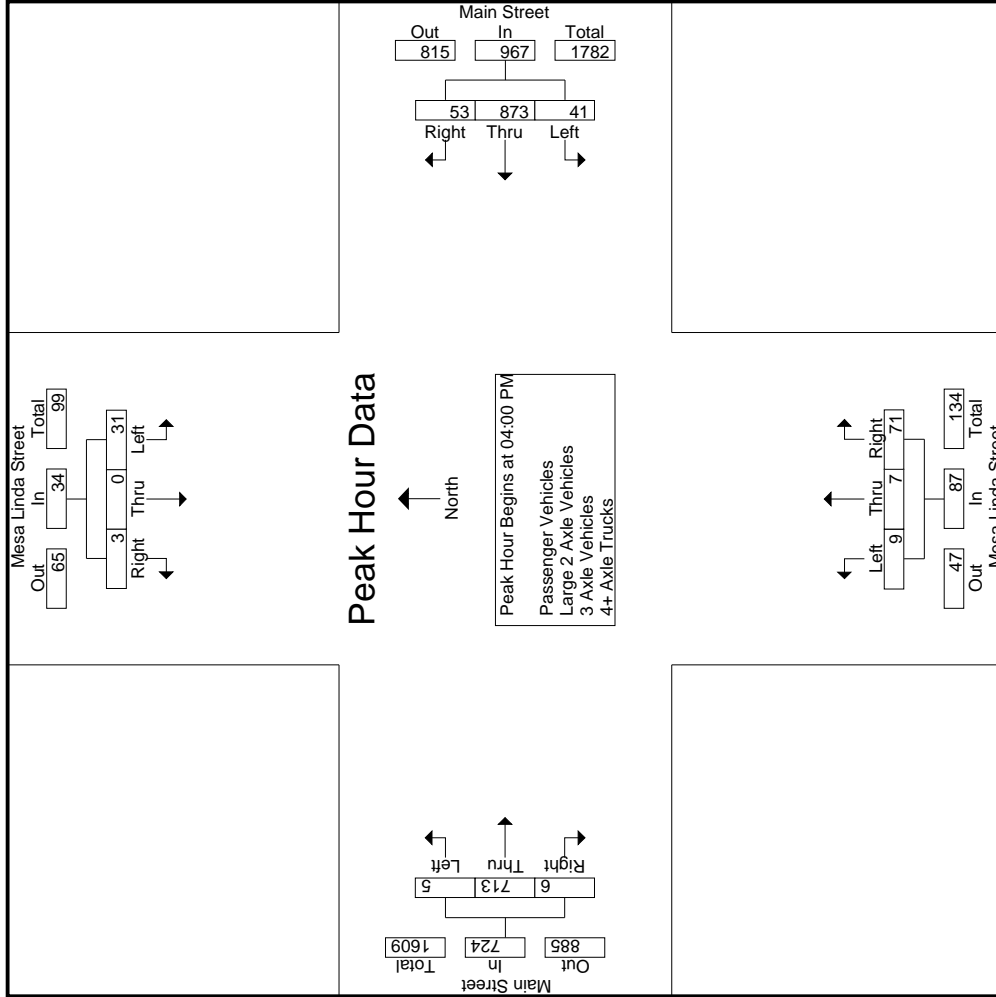
3.147

Start Time	Mesa Linda Street Southbound				Main Street Westbound				Mesa Linda Street Northbound				Main Street Eastbound						
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	2	4	0	0	6	0	0	2	0	8	0	0	0	16
% App. Total	0	0	0	0	33.3	66.7	0	0	0	100	0	0	100	0	100	0	0	0	100
PHF	.000	.000	.000	.000	.500	.500	.000	.000	.000	.500	.000	.000	.500	.000	.667	.000	.667	.000	1.00

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1  
 Peak Hour for Entire Intersection Begins at 07:00 AM





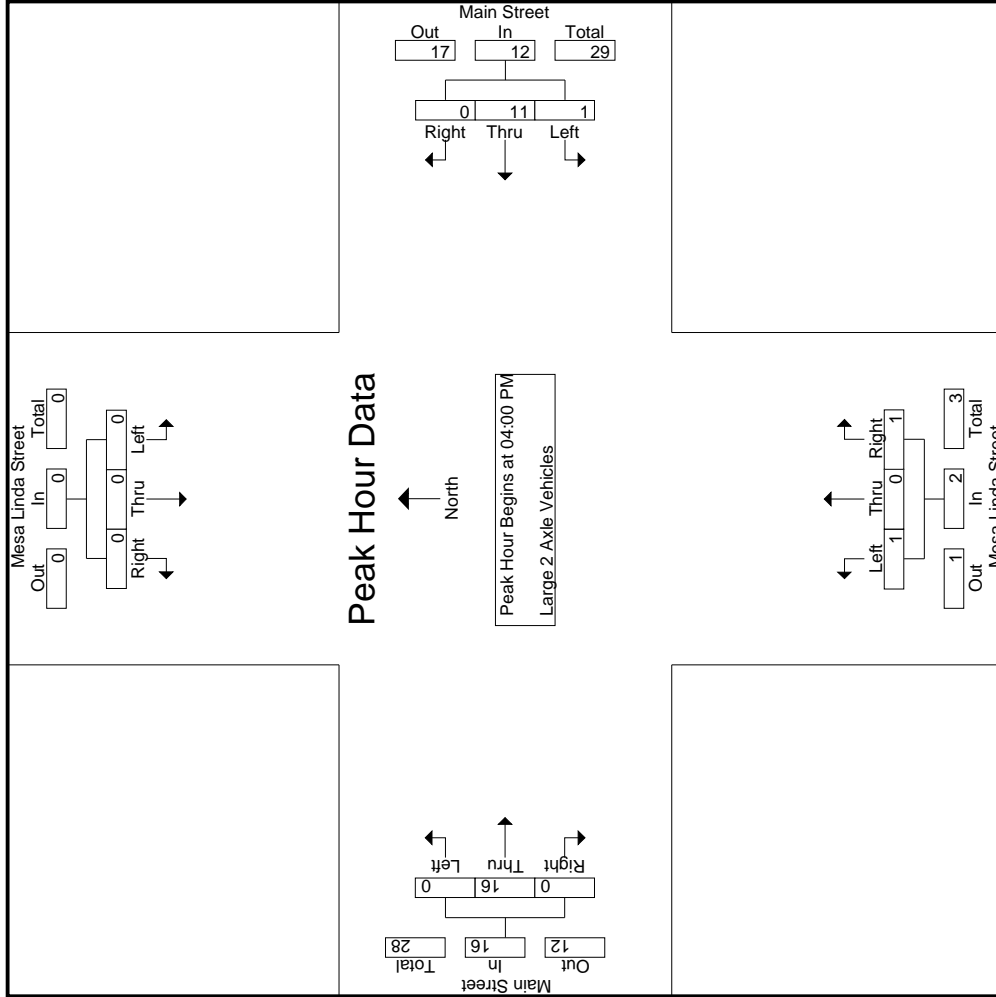


Groups Printed - Large 2 Axle Vehicles

Start Time	Mesa Linda Street Southbound				Main Street Westbound				Mesa Linda Street Northbound				Main Street Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	1	0	0	0	1	0	2	0	0	2	0	4	4
04:15 PM	0	0	0	0	4	4	0	1	1	1	0	3	0	0	3	1	8	9
04:30 PM	0	0	0	0	5	4	0	0	0	0	0	6	0	0	6	0	11	11
04:45 PM	0	0	0	0	2	2	0	0	0	0	0	5	0	0	5	0	7	7
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>12</b>	<b>11</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>16</b>	<b>0</b>	<b>0</b>	<b>16</b>	<b>1</b>	<b>30</b>	<b>31</b>
05:00 PM	0	0	0	0	3	2	1	0	0	0	0	6	0	0	6	0	9	9
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	3	3
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	5	5
05:45 PM	0	0	0	0	1	1	0	0	0	0	0	1	0	0	1	0	2	2
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>3</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>15</b>	<b>0</b>	<b>0</b>	<b>15</b>	<b>0</b>	<b>19</b>	<b>19</b>
<b>Grand Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>16</b>	<b>14</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>31</b>	<b>0</b>	<b>0</b>	<b>31</b>	<b>1</b>	<b>49</b>	<b>50</b>
Approch %	0	0	0	0	6.2	87.5	6.2	0	50	4.1	0	100	0	0	63.3	2	98	
Total %	0	0	0	0	32.7	28.6	2	0	2	4.1	0	63.3	0	0	63.3	2	98	

Start Time	Mesa Linda Street Southbound				Main Street Westbound				Mesa Linda Street Northbound				Main Street Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	2	2
04:15 PM	0	0	0	0	4	4	0	0	0	1	0	3	0	0	3	0	3	3
04:30 PM	0	0	0	0	5	4	0	0	0	0	0	6	0	0	6	0	11	11
04:45 PM	0	0	0	0	2	2	0	0	0	0	0	5	0	0	5	0	7	7
<b>Total Volume</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>12</b>	<b>11</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>16</b>	<b>0</b>	<b>0</b>	<b>16</b>	<b>1</b>	<b>30</b>	<b>31</b>
% App. Total	0	0	0	0	6.2	87.5	6.2	0	50	4.1	0	100	0	0	63.3	2	98	
PHF	.000	.000	.000	.000	.600	.250	.688	.000	.250	.250	.000	.667	.000	.000	.667	.000	.667	.682

Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1  
 Peak Hour for Entire Intersection Begins at 04:00 PM

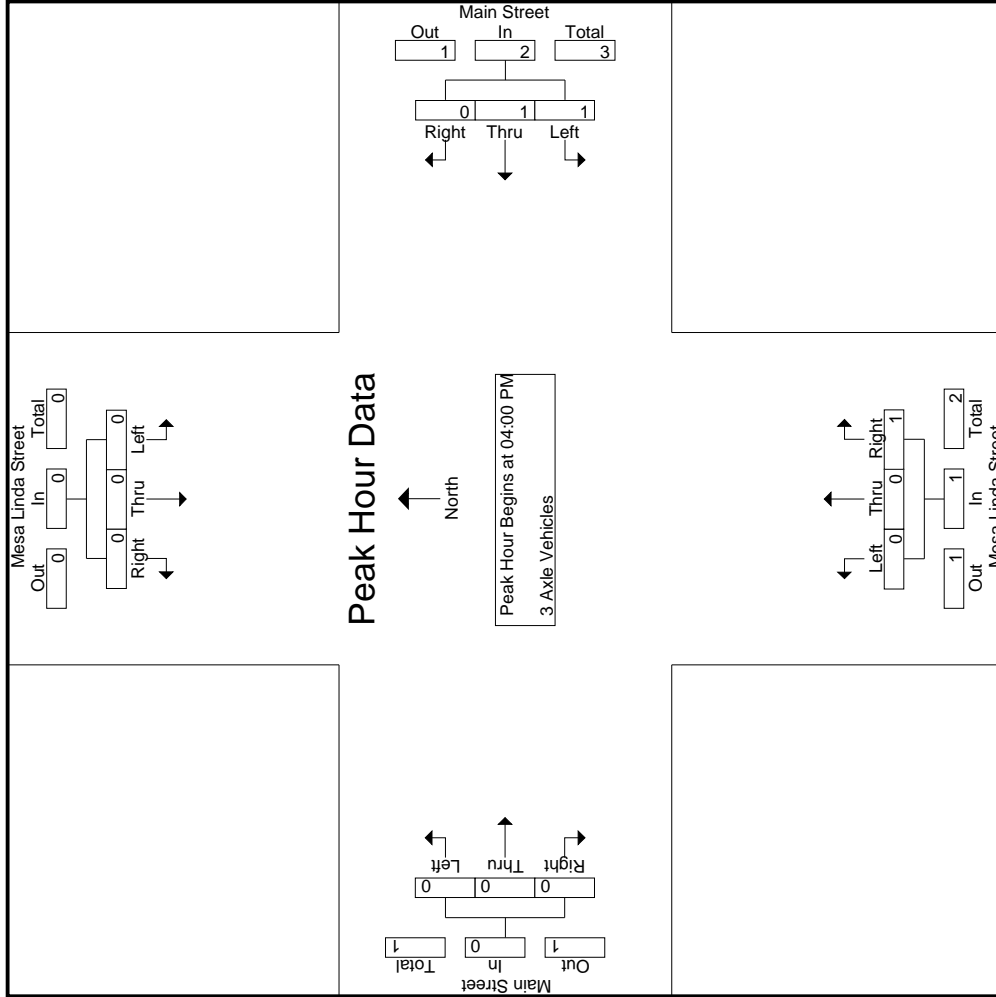


Groups Printed - 3 Axle Vehicles

Start Time	Mesa Linda Street Southbound				Main Street Westbound				Mesa Linda Street Northbound				Main Street Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2
04:15 PM	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	2	2
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	2	1	0	0	1	1	0	0	0	0	0	1	3	4
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	3	2	0	0	0	0	0	0	0	0	0	0	3	3
05:30 PM	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	1	1	2
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	3	2	0	0	1	1	0	0	0	0	0	1	4	5
Grand Total	0	0	0	0	5	3	0	0	2	2	0	0	0	0	0	2	7	9
Approch %	0	0	0	0	71.4	60	0	0	100	28.6	0	0	0	0	0	22.2	77.8	
Total %	0	0	0	0	28.6	42.9	0	0	28.6	28.6	0	0	0	0	0			

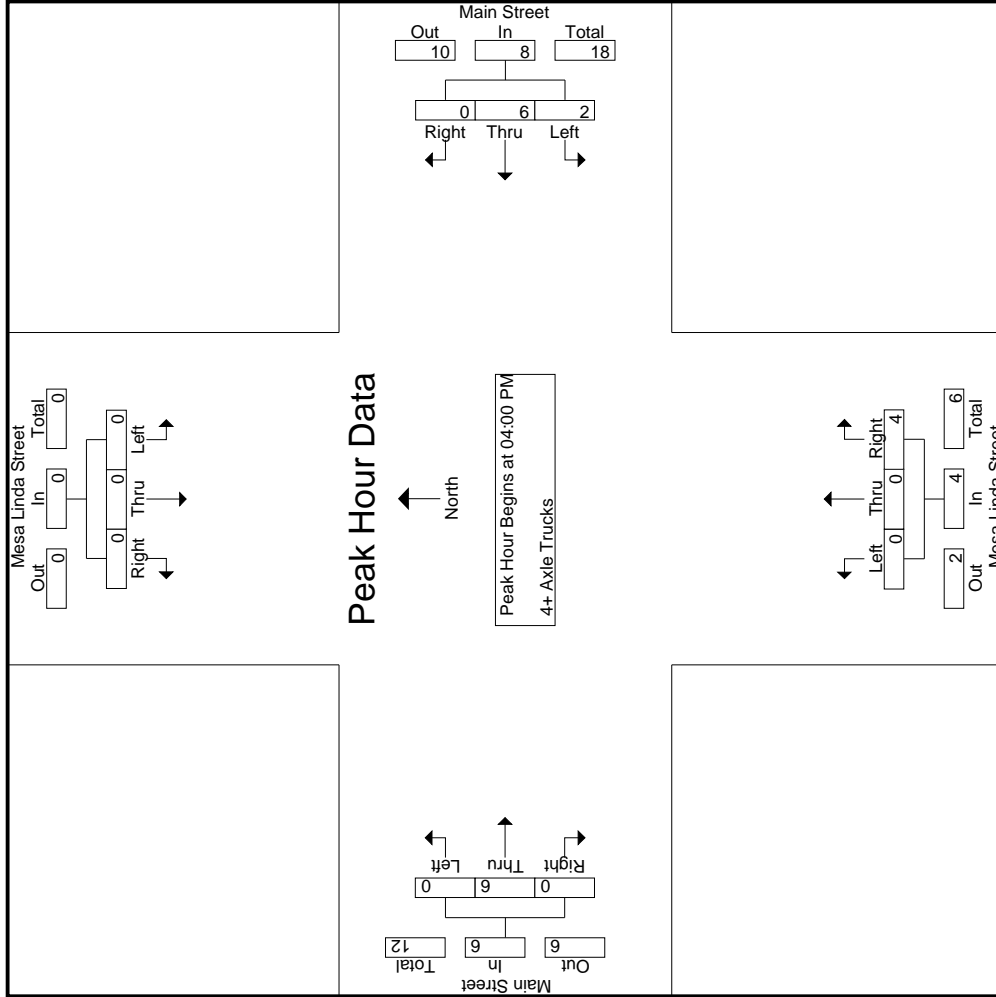
Start Time	Mesa Linda Street Southbound				Main Street Westbound				Mesa Linda Street Northbound				Main Street Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	50	50	0	0	100	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.250	.250	.000	.250	.250	.000	.000	.250	.000	.000	.000	.000	.375

Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1  
 Peak Hour for Entire Intersection Begins at 04:00 PM









Location: Hesperia  
 N/S: Mesa Linda Street  
 E/W: Main Street



Date: 9/28/2019  
 Day: Saturday

PEDESTRIANS

	North Leg Mesa Linda Street	East Leg Main Street	South Leg Mesa Linda Street	West Leg Main Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	1	0	0	1
8:30 AM	0	0	0	0	0
8:45 AM	0	1	1	0	2
TOTAL VOLUMES:	0	2	1	0	3

	North Leg Mesa Linda Street	East Leg Main Street	South Leg Mesa Linda Street	West Leg Main Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

Location: Hesperia  
 N/S: Mesa Linda Street  
 E/W: Main Street



Date: 9/28/2019  
 Day: Saturday

BICYCLES

	Southbound Mesa Linda Street			Westbound Main Street			Northbound Mesa Linda Street			Eastbound Main Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

	Southbound Mesa Linda Street			Westbound Main Street			Northbound Mesa Linda Street			Eastbound Main Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

Counts Unlimited  
 PO Box 1178  
 Corona, CA 92878  
 (951) 268-6268

City of Hesperia  
 N/S: Cataba Road  
 E/W: Main Street  
 Weather: Clear

File Name : 10\_HES\_Cataba\_Main AM  
 Site Code : 05119658  
 Start Date : 9/28/2019  
 Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Cataba Road Southbound						Main Street Westbound						Cataba Road Northbound						Main Street Eastbound					
	Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total	
	Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total			
07:00 AM	6	3	7	4	16	14	108	1	0	123	9	2	11	11	22	8	189	8	2	205	17	366	383	
07:15 AM	4	0	6	5	10	15	123	8	4	146	6	2	8	6	16	13	180	7	0	200	15	372	387	
07:30 AM	6	0	6	4	12	18	160	2	1	180	5	1	10	9	16	8	220	9	2	237	16	445	461	
07:45 AM	13	3	6	5	22	20	106	3	1	129	10	2	13	9	25	17	195	12	2	224	17	400	417	
<b>Total</b>	<b>29</b>	<b>6</b>	<b>25</b>	<b>18</b>	<b>60</b>	<b>67</b>	<b>497</b>	<b>14</b>	<b>6</b>	<b>578</b>	<b>30</b>	<b>7</b>	<b>42</b>	<b>35</b>	<b>79</b>	<b>46</b>	<b>784</b>	<b>36</b>	<b>6</b>	<b>866</b>	<b>65</b>	<b>1583</b>	<b>1648</b>	
08:00 AM	10	0	2	2	12	19	106	2	1	127	5	2	15	13	22	6	154	23	3	183	19	344	363	
08:15 AM	9	3	15	12	27	20	95	5	1	120	8	2	15	6	25	17	151	20	5	188	24	360	384	
08:30 AM	20	3	10	7	33	20	106	5	1	131	11	2	18	15	31	15	187	13	2	215	25	410	435	
08:45 AM	8	4	12	9	24	26	84	4	1	114	8	2	15	8	25	9	148	22	12	179	30	342	372	
<b>Total</b>	<b>47</b>	<b>10</b>	<b>39</b>	<b>30</b>	<b>96</b>	<b>85</b>	<b>391</b>	<b>16</b>	<b>4</b>	<b>492</b>	<b>32</b>	<b>8</b>	<b>63</b>	<b>42</b>	<b>103</b>	<b>47</b>	<b>640</b>	<b>78</b>	<b>22</b>	<b>765</b>	<b>98</b>	<b>1456</b>	<b>1554</b>	
<b>Grand Total</b>	<b>76</b>	<b>16</b>	<b>64</b>	<b>48</b>	<b>156</b>	<b>152</b>	<b>888</b>	<b>30</b>	<b>10</b>	<b>1070</b>	<b>62</b>	<b>15</b>	<b>105</b>	<b>77</b>	<b>182</b>	<b>93</b>	<b>1424</b>	<b>114</b>	<b>28</b>	<b>1631</b>	<b>163</b>	<b>3039</b>	<b>3202</b>	
<b>Approch %</b>	<b>48.7</b>	<b>10.3</b>	<b>41</b>			<b>14.2</b>	<b>83</b>	<b>2.8</b>			<b>34.1</b>	<b>8.2</b>	<b>57.7</b>			<b>5.7</b>	<b>87.3</b>	<b>7</b>			<b>5.1</b>	<b>94.9</b>		
<b>Total %</b>	<b>2.5</b>	<b>0.5</b>	<b>2.1</b>		<b>5.1</b>	<b>5</b>	<b>29.2</b>	<b>1</b>		<b>35.2</b>	<b>2</b>	<b>0.5</b>	<b>3.5</b>		<b>6</b>	<b>3.1</b>	<b>46.9</b>	<b>3.8</b>		<b>53.7</b>	<b>0</b>	<b>0</b>	<b>0</b>	
<b>Passenger Vehicles</b>	<b>64</b>	<b>16</b>	<b>61</b>		<b>187</b>	<b>148</b>	<b>829</b>	<b>26</b>		<b>1012</b>	<b>61</b>	<b>15</b>	<b>96</b>		<b>244</b>	<b>88</b>	<b>1377</b>	<b>114</b>		<b>1607</b>	<b>0</b>	<b>0</b>	<b>3050</b>	
<b>% 2 Axle Vehicles</b>	<b>84.2</b>	<b>100</b>	<b>95.3</b>		<b>91.7</b>	<b>97.4</b>	<b>93.4</b>	<b>86.7</b>		<b>93.7</b>	<b>98.4</b>	<b>100</b>	<b>91.4</b>		<b>93.5</b>	<b>94.6</b>	<b>96.7</b>	<b>100</b>		<b>96.9</b>	<b>0</b>	<b>0</b>	<b>95.3</b>	
<b>% 3 Axle Vehicles</b>	<b>11</b>	<b>0</b>	<b>3</b>		<b>16</b>	<b>3</b>	<b>38</b>	<b>3</b>		<b>45</b>	<b>1</b>	<b>0</b>	<b>3</b>		<b>5</b>	<b>2</b>	<b>25</b>	<b>0</b>		<b>27</b>	<b>0</b>	<b>0</b>	<b>93</b>	
<b>% 4+ Axle Trucks</b>	<b>14.5</b>	<b>0</b>	<b>4.7</b>		<b>7.8</b>	<b>2</b>	<b>4.3</b>	<b>10</b>		<b>4.2</b>	<b>1.6</b>	<b>0</b>	<b>2.9</b>		<b>1.9</b>	<b>2.2</b>	<b>1.8</b>	<b>0</b>		<b>1.6</b>	<b>0</b>	<b>0</b>	<b>2.9</b>	
<b>3 Axle Vehicles</b>	<b>1</b>	<b>0</b>	<b>0</b>		<b>1</b>	<b>0</b>	<b>8</b>	<b>0</b>		<b>8</b>	<b>0</b>	<b>0</b>	<b>2</b>		<b>3</b>	<b>2</b>	<b>7</b>	<b>0</b>		<b>9</b>	<b>0</b>	<b>0</b>	<b>21</b>	
<b>% 3 Axle Vehicles</b>	<b>1.3</b>	<b>0</b>	<b>0</b>		<b>0.5</b>	<b>0</b>	<b>0.9</b>	<b>0</b>		<b>0.7</b>	<b>0</b>	<b>0</b>	<b>1.9</b>		<b>1.3</b>	<b>2.2</b>	<b>0.5</b>	<b>0</b>		<b>0.5</b>	<b>0</b>	<b>0</b>	<b>0.7</b>	
<b>4+ Axle Trucks</b>	<b>0</b>	<b>0</b>	<b>0</b>		<b>0</b>	<b>1</b>	<b>13</b>	<b>1</b>		<b>15</b>	<b>0</b>	<b>0</b>	<b>4</b>		<b>7</b>	<b>1</b>	<b>15</b>	<b>0</b>		<b>16</b>	<b>0</b>	<b>0</b>	<b>38</b>	
<b>% 4+ Axle Trucks</b>	<b>0</b>	<b>0</b>	<b>0</b>		<b>0</b>	<b>0.7</b>	<b>1.5</b>	<b>3.3</b>		<b>1.4</b>	<b>0</b>	<b>0</b>	<b>3.8</b>		<b>2.7</b>	<b>1.1</b>	<b>1.1</b>	<b>0</b>		<b>1</b>	<b>0</b>	<b>0</b>	<b>1.2</b>	

Start Time	Cataba Road Southbound						Main Street Westbound						Cataba Road Northbound						Main Street Eastbound					
	Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total	
	Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total			
07:00 AM	6	3	7	4	16	14	108	1	0	123	9	2	11	11	22	8	189	8	2	205	17	366	383	
07:15 AM	4	0	6	5	10	15	123	8	4	146	6	2	8	6	16	13	180	7	0	200	15	372	387	
07:30 AM	6	0	6	4	12	18	160	2	1	180	5	1	10	9	16	8	220	9	2	237	16	445	461	
07:45 AM	13	3	6	5	22	20	106	3	1	129	10	2	13	9	25	17	195	12	2	224	17	400	417	
<b>Total</b>	<b>29</b>	<b>6</b>	<b>25</b>	<b>18</b>	<b>60</b>	<b>67</b>	<b>497</b>	<b>14</b>	<b>6</b>	<b>578</b>	<b>30</b>	<b>7</b>	<b>42</b>	<b>35</b>	<b>79</b>	<b>46</b>	<b>784</b>	<b>36</b>	<b>6</b>	<b>866</b>	<b>65</b>	<b>1583</b>	<b>1648</b>	
08:00 AM	10	0	2	2	12	19	106	2	1	127	5	2	15	13	22	6	154	23	3	183	19	344	363	
08:15 AM	9	3	15	12	27	20	95	5	1	120	8	2	15	6	25	17	151	20	5	188	24	360	384	
08:30 AM	20	3	10	7	33	20	106	5	1	131	11	2	18	15	31	15	187	13	2	215	25	410	435	
08:45 AM	8	4	12	9	24	26	84	4	1	114	8	2	15	8	25	9	148	22	12	179	30	342	372	
<b>Total</b>	<b>47</b>	<b>10</b>	<b>39</b>	<b>30</b>	<b>96</b>	<b>85</b>	<b>391</b>	<b>16</b>	<b>4</b>	<b>492</b>	<b>32</b>	<b>8</b>	<b>63</b>	<b>42</b>	<b>103</b>	<b>47</b>	<b>640</b>	<b>78</b>	<b>22</b>	<b>765</b>	<b>98</b>	<b>1456</b>	<b>1554</b>	
<b>Grand Total</b>	<b>76</b>	<b>16</b>	<b>64</b>	<b>48</b>	<b>156</b>	<b>152</b>	<b>888</b>	<b>30</b>	<b>10</b>	<b>1070</b>	<b>62</b>	<b>15</b>	<b>105</b>	<b>77</b>	<b>182</b>	<b>93</b>	<b>1424</b>	<b>114</b>	<b>28</b>	<b>1631</b>	<b>163</b>	<b>3039</b>	<b>3202</b>	
<b>Approch %</b>	<b>48.7</b>	<b>10.3</b>	<b>41</b>			<b>14.2</b>	<b>83</b>	<b>2.8</b>			<b>34.1</b>	<b>8.2</b>	<b>57.7</b>			<b>5.7</b>	<b>87.3</b>	<b>7</b>			<b>5.1</b>	<b>94.9</b>		
<b>Total %</b>	<b>2.5</b>	<b>0.5</b>	<b>2.1</b>		<b>5.1</b>	<b>5</b>	<b>29.2</b>	<b>1</b>		<b>35.2</b>	<b>2</b>	<b>0.5</b>	<b>3.5</b>		<b>6</b>	<b>3.1</b>	<b>46.9</b>	<b>3.8</b>		<b>53.7</b>	<b>0</b>	<b>0</b>	<b>0</b>	
<b>Passenger Vehicles</b>	<b>64</b>	<b>16</b>	<b>61</b>		<b>187</b>	<b>148</b>	<b>829</b>	<b>26</b>		<b>1012</b>	<b>61</b>	<b>15</b>	<b>96</b>		<b>244</b>	<b>88</b>	<b>1377</b>	<b>114</b>		<b>1607</b>	<b>0</b>	<b>0</b>	<b>3050</b>	
<b>% 2 Axle Vehicles</b>	<b>84.2</b>	<b>100</b>	<b>95.3</b>		<b>91.7</b>	<b>97.4</b>	<b>93.4</b>	<b>86.7</b>		<b>93.7</b>	<b>98.4</b>	<b>100</b>	<b>91.4</b>		<b>93.5</b>	<b>94.6</b>	<b>96.7</b>	<b>100</b>		<b>96.9</b>	<b>0</b>	<b>0</b>	<b>95.3</b>	
<b>% 3 Axle Vehicles</b>	<b>11</b>	<b>0</b>	<b>3</b>		<b>16</b>	<b>3</b>	<b>38</b>	<b>3</b>		<b>45</b>	<b>1</b>	<b>0</b>	<b>3</b>		<b>5</b>	<b>2</b>	<b>25</b>	<b>0</b>		<b>27</b>	<b>0</b>	<b>0</b>	<b>93</b>	
<b>% 4+ Axle Trucks</b>	<b>14.5</b>	<b>0</b>	<b>4.7</b>		<b>7.8</b>	<b>2</b>	<b>4.3</b>	<b>10</b>		<b>4.2</b>	<b>1.6</b>	<b>0</b>	<b>2.9</b>		<b>1.9</b>	<b>2.2</b>	<b>1.8</b>	<b>0</b>		<b>1.6</b>	<b>0</b>	<b>0</b>	<b>2.9</b>	
<b>3 Axle Vehicles</b>	<b>1</b>	<b>0</b>	<b>0</b>		<b>1</b>	<b>0</b>	<b>8</b>	<b>0</b>		<b>8</b>	<b>0</b>	<b>0</b>	<b>2</b>		<b>3</b>	<b>2</b>	<b>7</b>	<b>0</b>		<b>9</b>	<b>0</b>	<b>0</b>	<b>21</b>	
<b>% 3 Axle Vehicles</b>	<b>1.3</b>	<b>0</b>	<b>0</b>		<b>0.5</b>	<b>0</b>	<b>0.9</b>	<b>0</b>		<b>0.7</b>	<b>0</b>	<b>0</b>	<b>1.9</b>		<b>1.3</b>	<b>2.2</b>	<b>0.5</b>	<b>0</b>		<b>0.5</b>	<b>0</b>	<b>0</b>	<b>0.7</b>	
<b>4+ Axle Trucks</b>	<b>0</b>	<b>0</b>	<b>0</b>		<b>0</b>	<b>1</b>	<b>13</b>	<b>1</b>		<b>15</b>	<b>0</b>	<b>0</b>	<b>4</b>		<b>7</b>	<b>1</b>	<b>15</b>	<b>0</b>		<b>16</b>	<b>0</b>	<b>0</b>	<b>38</b>	
<b>% 4+ Axle Trucks</b>	<b>0</b>	<b>0</b>	<b>0</b>		<b>0</b>	<b>0.7</b>	<b>1.5</b>	<b>3.3</b>		<b>1.4</b>	<b>0</b>	<b>0</b>	<b>3.8</b>		<b>2.7</b>	<b>1.1</b>	<b>1.1</b>	<b>0</b>		<b>1</b>	<b>0</b>	<b>0</b>	<b>1.2</b>	

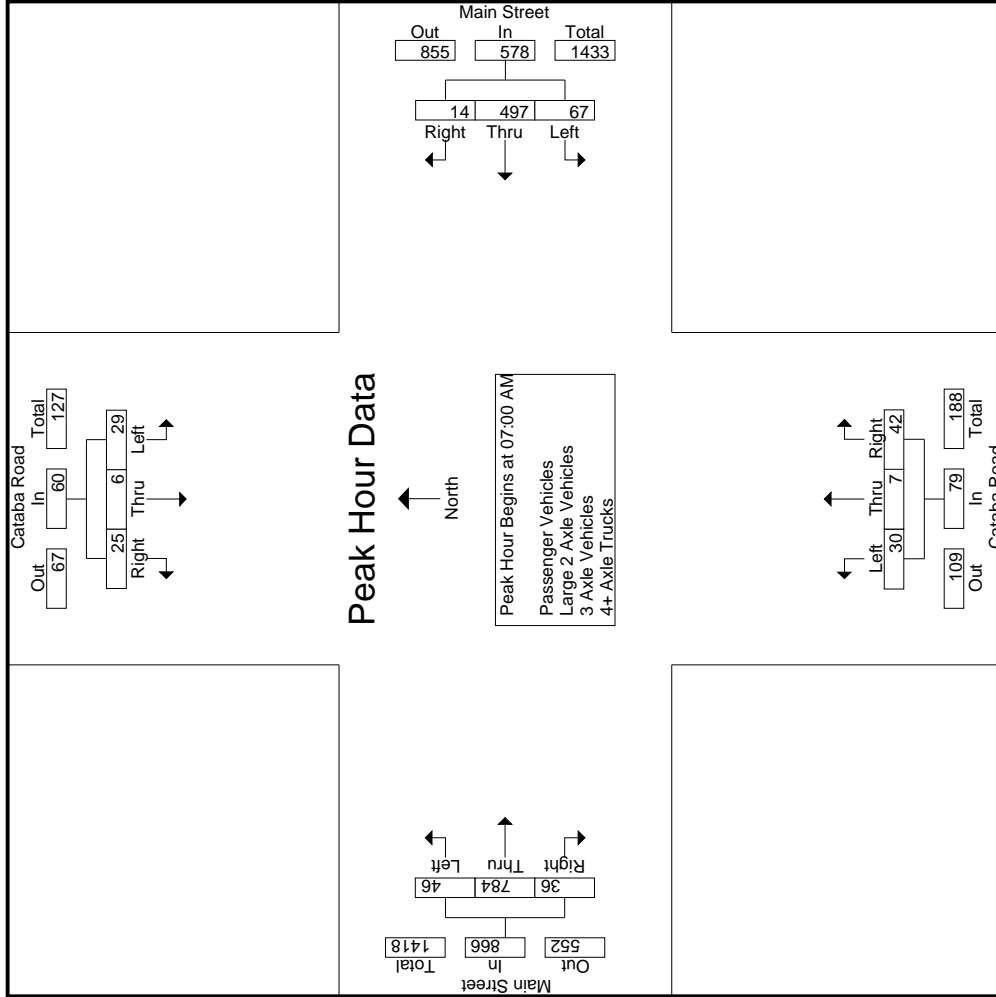
  

Start Time	Cataba Road Southbound						Main Street Westbound						Cataba Road Northbound						Main Street Eastbound					
	Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total	
	Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total			
07:00 AM	6	3	7	4	16	14	108	1	0	123	9	2	11	11	22	8	189	8	2	205	17	366	383	
07:15 AM	4	0	6	5	10	15	123	8	4	146	6	2	8	6	16	13	180	7	0	200	15	372	387	
07:30 AM	6	0	6	4	12	18	160	2	1	180	5	1	10	9	16	8	220	9	2	237	16	445	461	
07:45 AM	13	3	6	5	22	20	106	3	1	129	10	2	13	9	25	17	195	12	2	224	17	400	417	
<b>Total</b>	<b>29</b>	<b>6</b>	<b>25</b>	<b>18</b>	<b>60</b>	<b>67</b>	<b>497</b>	<b>14</b>	<b>6</b>	<b>578</b>	<b>30</b>	<b>7</b>	<b>42</b>	<b>35</b>	<b>79</b>	<b>46</b>	<b>784</b>	<b>36</b>	<b>6</b>	<b>866</b>	<b>65</b>	<b>1583</b>	<b>1648</b>	
08:00 AM	10	0	2	2	12	19	106	2	1	127	5	2	15	13	22	6	154	23	3	183	19	344</		

Counts Unlimited  
 PO Box 1178  
 Corona, CA 92878  
 (951) 268-6268

City of Hesperia  
 N/S: Cataba Road  
 E/W: Main Street  
 Weather: Clear

File Name : 10\_HES\_Cataba\_Main AM  
 Site Code : 05119658  
 Start Date : 9/28/2019  
 Page No : 2



Groups Printed - Large 2 Axle Vehicles

Start Time	Cataba Road Southbound				Main Street Westbound				Cataba Road Northbound				Main Street Eastbound							
	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Exclu. Total	Inclu. Total	Int. Total	
07:00 AM	3	0	1	1	1	5	1	0	7	0	0	0	0	2	0	0	2	1	13	14
07:15 AM	0	0	0	0	3	1	1	1	4	0	0	0	0	3	0	0	3	1	7	8
07:30 AM	1	0	0	0	6	0	0	0	7	0	0	0	0	2	0	0	2	0	10	10
07:45 AM	3	0	0	0	4	0	0	0	4	1	0	1	2	1	1	0	2	1	11	12
<b>Total</b>	<b>7</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>18</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>22</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>8</b>	<b>0</b>	<b>9</b>	<b>3</b>	<b>41</b>	<b>44</b>
08:00 AM	1	0	0	0	2	0	0	0	2	0	0	1	1	6	0	0	7	0	11	11
08:15 AM	1	0	1	1	4	0	0	0	4	0	0	0	0	1	0	0	1	1	7	8
08:30 AM	0	0	0	0	6	1	0	0	8	0	0	1	1	0	7	0	7	0	16	16
08:45 AM	2	0	1	0	8	0	0	0	8	0	0	0	0	3	0	0	3	0	14	14
<b>Total</b>	<b>4</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>20</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>22</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>17</b>	<b>0</b>	<b>18</b>	<b>1</b>	<b>48</b>	<b>49</b>
<b>Grand Total</b>	<b>11</b>	<b>0</b>	<b>3</b>	<b>2</b>	<b>38</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>44</b>	<b>1</b>	<b>0</b>	<b>3</b>	<b>4</b>	<b>2</b>	<b>25</b>	<b>0</b>	<b>27</b>	<b>4</b>	<b>89</b>	<b>93</b>
Approch %	78.6	0	21.4		6.8	86.4	6.8		49.4	25	0	75	4.5	7.4	92.6	0	30.3	4.3	95.7	
Total %	12.4	0	3.4		3.4	42.7	3.4		49.4	1.1	0	3.4	4.5	2.2	28.1	0				

Start Time	Cataba Road Southbound				Main Street Westbound				Cataba Road Northbound				Main Street Eastbound							
	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Exclu. Total	Inclu. Total	Int. Total	
07:00 AM	3	0	0	1	1	5	1	0	7	0	0	0	0	2	0	0	2	1	13	14
07:15 AM	0	0	0	0	3	1	1	1	4	0	0	0	0	3	0	0	3	1	7	8
07:30 AM	1	0	0	0	6	0	0	0	7	0	0	0	0	2	0	0	2	0	10	10
07:45 AM	3	0	0	0	4	0	0	0	4	1	0	1	2	1	1	0	2	1	11	12
<b>Total</b>	<b>7</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>18</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>22</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>8</b>	<b>0</b>	<b>9</b>	<b>3</b>	<b>41</b>	<b>44</b>
08:00 AM	1	0	0	0	2	0	0	0	2	0	0	1	1	6	0	0	7	0	11	11
08:15 AM	1	0	1	1	4	0	0	0	4	0	0	0	0	1	0	0	1	1	7	8
08:30 AM	0	0	0	0	6	1	0	0	8	0	0	1	1	0	7	0	7	0	16	16
08:45 AM	2	0	1	0	8	0	0	0	8	0	0	0	0	3	0	0	3	0	14	14
<b>Total</b>	<b>4</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>20</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>22</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>17</b>	<b>0</b>	<b>18</b>	<b>1</b>	<b>48</b>	<b>49</b>
<b>Grand Total</b>	<b>11</b>	<b>0</b>	<b>3</b>	<b>2</b>	<b>38</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>44</b>	<b>1</b>	<b>0</b>	<b>3</b>	<b>4</b>	<b>2</b>	<b>25</b>	<b>0</b>	<b>27</b>	<b>4</b>	<b>89</b>	<b>93</b>
Approch %	78.6	0	21.4		6.8	86.4	6.8		49.4	25	0	75	4.5	7.4	92.6	0	30.3	4.3	95.7	
Total %	12.4	0	3.4		3.4	42.7	3.4		49.4	1.1	0	3.4	4.5	2.2	28.1	0				

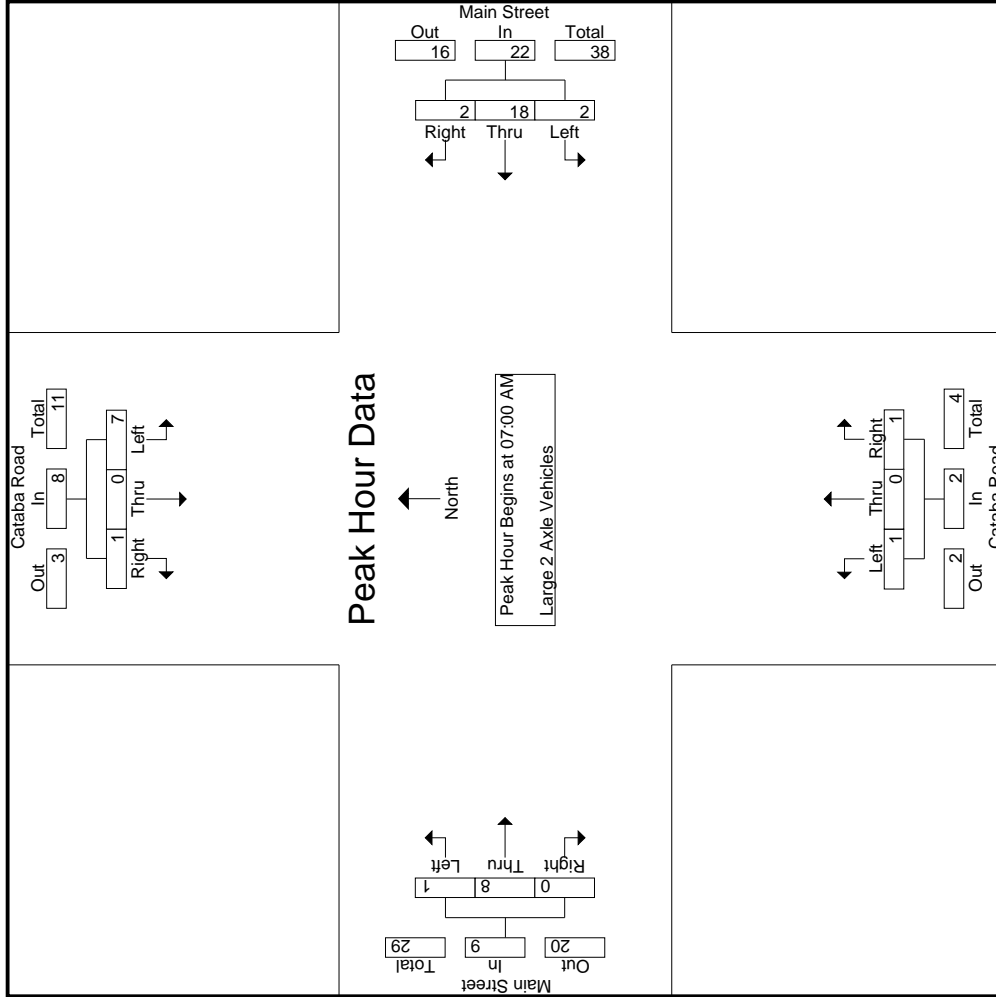
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1  
 Peak Hour for Entire Intersection Begins at 07:00 AM

Start Time	Cataba Road Southbound				Main Street Westbound				Cataba Road Northbound				Main Street Eastbound							
	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Exclu. Total	Inclu. Total	Int. Total	
07:00 AM	3	0	0	1	1	5	1	0	7	0	0	0	0	2	0	0	2	1	13	14
07:15 AM	0	0	0	0	3	1	1	1	4	0	0	0	0	3	0	0	3	1	7	8
07:30 AM	1	0	0	0	6	0	0	0	7	0	0	0	0	2	0	0	2	0	10	10
07:45 AM	3	0	0	0	4	0	0	0	4	1	0	1	2	1	1	0	2	1	11	12
<b>Total Volume</b>	<b>7</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>18</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>22</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>8</b>	<b>0</b>	<b>9</b>	<b>3</b>	<b>41</b>	<b>44</b>
% App. Total	87.5	0	12.5		9.1	81.8	9.1		49.4	25	0	75	4.5	7.4	92.6	0	30.3	4.3	95.7	
PHF	.583	.000	.250		.500	.750	.500		.786	.250	.000	.250	.250	.250	.667	.000	.750	.000	.788	

Counts Unlimited  
 PO Box 1178  
 Corona, CA 92878  
 (951) 268-6268

City of Hesperia  
 N/S: Cataba Road  
 E/W: Main Street  
 Weather: Clear

File Name : 10\_HES\_Cataba\_Main AM  
 Site Code : 05119658  
 Start Date : 9/28/2019  
 Page No : 2





Groups Printed - 3 Axle Vehicles

Start Time	Cataba Road Southbound			Main Street Westbound			Cataba Road Northbound			Main Street Eastbound			Exclu. Total	Inclu. Total	Int. Total	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right				App. Total
07:00 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	2
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	3
07:30 AM	0	0	0	3	0	0	0	0	0	0	1	0	1	0	4	4
07:45 AM	1	0	0	1	0	0	0	0	0	1	1	0	2	0	4	4
Total	1	0	0	4	0	0	1	1	1	1	5	0	6	1	12	13
08:00 AM	0	0	0	1	0	0	0	0	0	0	1	0	1	0	2	2
08:15 AM	0	0	0	2	0	0	1	0	1	0	0	0	0	0	3	3
08:30 AM	0	0	0	1	0	0	0	0	0	1	0	0	1	0	2	2
08:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	1
Total	0	0	0	4	0	0	1	1	1	1	2	0	3	0	8	8
Grand Total	1	0	0	8	0	0	2	1	2	2	7	0	9	1	20	21
Approch %	100	0	0	100	0	0	100	0	22.2	77.8	0	0	45	4.8	95.2	
Total %	5	0	0	40	0	0	10	0	10	35	0	0				

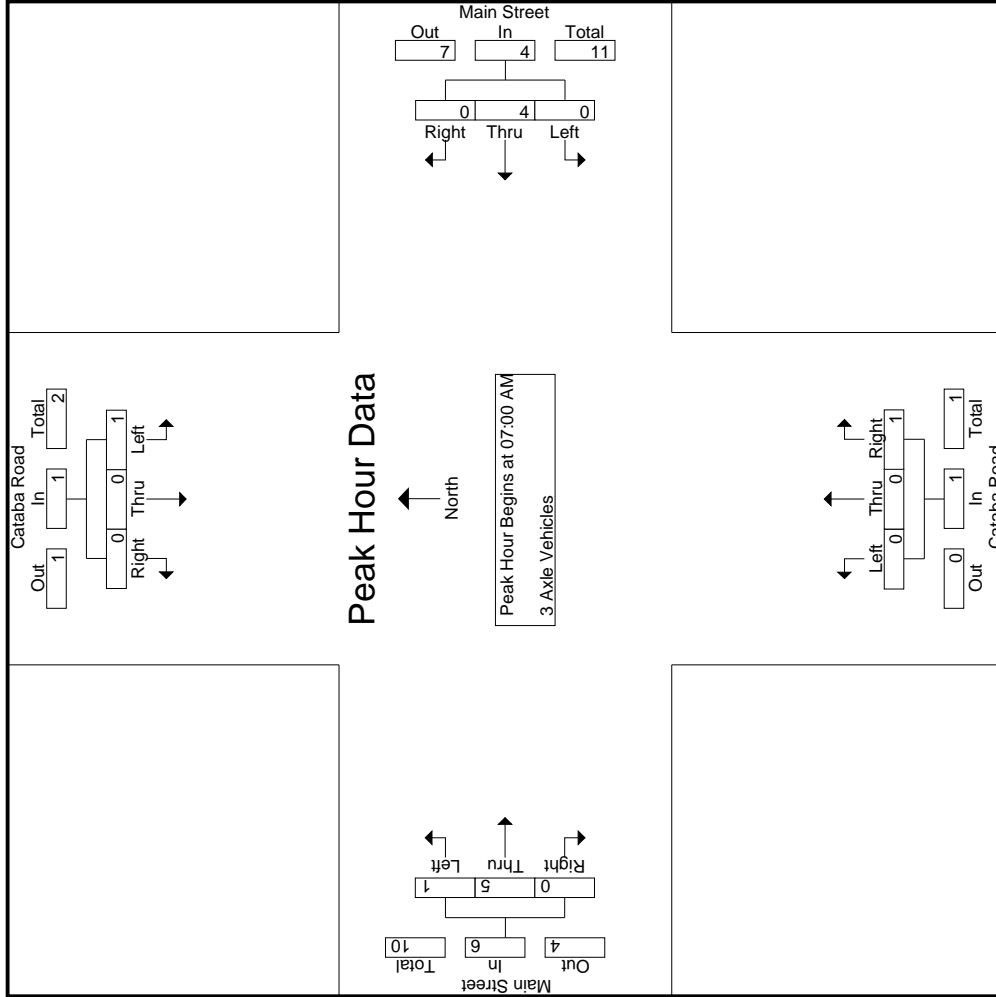
Start Time	Cataba Road Southbound			Main Street Westbound			Cataba Road Northbound			Main Street Eastbound			Exclu. Total	Inclu. Total	Int. Total	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right				App. Total
07:00 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	2
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	3
07:30 AM	0	0	0	3	0	0	0	0	0	0	1	0	1	0	4	4
07:45 AM	1	0	0	1	0	0	0	0	0	1	1	0	2	0	4	4
Total Volume	1	0	0	4	0	0	1	1	1	5	0	0	6	1	12	13
% App. Total	100	0	0	100	0	0	100	0	22.2	77.8	0	0	45	4.8	95.2	
PHF	.250	.000	.000	.333	.000	.000	.250	.000	.250	.417	.000	.500	.750			

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1  
 Peak Hour for Entire Intersection Begins at 07:00 AM

Counts Unlimited  
 PO Box 1178  
 Corona, CA 92878  
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City of Hesperia  
 N/S: Cataba Road  
 E/W: Main Street  
 Weather: Clear

File Name : 10\_HES\_Cataba\_Main AM  
 Site Code : 05119658  
 Start Date : 9/28/2019  
 Page No : 2



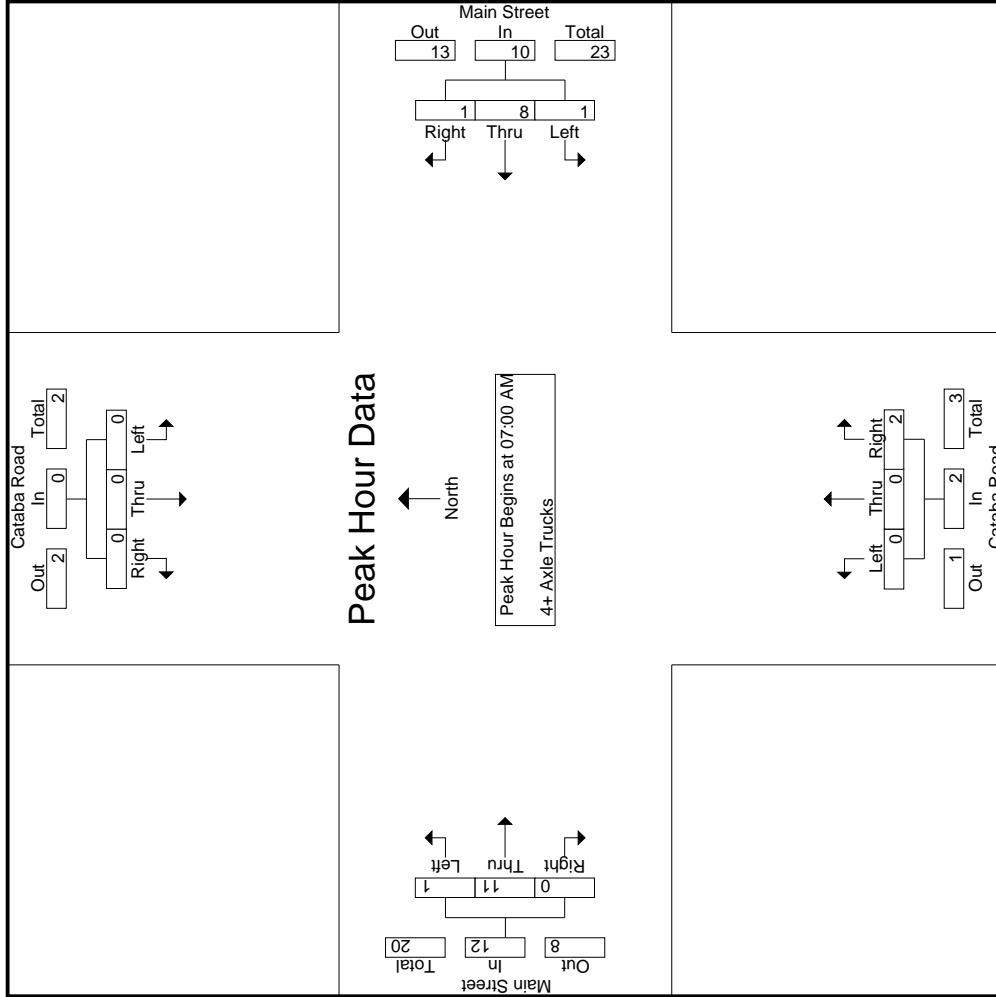
Groups Printed- 4+ Axle Trucks

Start Time	Cataba Road Southbound			Main Street Westbound			Cataba Road Northbound			Main Street Eastbound									
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
07:00 AM	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	5	0	8	8
07:15 AM	0	0	0	0	4	0	3	1	0	4	0	0	0	0	1	0	5	5	5
07:30 AM	0	0	0	0	2	0	2	0	2	2	0	2	0	0	2	2	6	6	8
07:45 AM	0	0	0	0	1	0	1	0	0	1	1	3	0	0	4	0	5	5	5
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>1</b>	<b>8</b>	<b>1</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>11</b>	<b>0</b>	<b>0</b>	<b>12</b>	<b>2</b>	<b>24</b>	<b>26</b>	<b>26</b>
08:00 AM	0	0	0	0	2	0	2	0	0	2	0	2	0	0	2	0	4	4	4
08:15 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	2	2	2
08:30 AM	0	0	0	0	1	0	1	0	1	1	0	1	0	0	1	1	3	3	4
08:45 AM	0	0	0	0	2	0	2	0	0	2	0	0	0	0	0	0	2	2	2
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>2</b>	<b>4</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>1</b>	<b>11</b>	<b>12</b>	<b>12</b>
<b>Grand Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>15</b>	<b>1</b>	<b>13</b>	<b>1</b>	<b>0</b>	<b>4</b>	<b>1</b>	<b>15</b>	<b>0</b>	<b>0</b>	<b>16</b>	<b>3</b>	<b>35</b>	<b>38</b>	<b>38</b>
Apprch %	0	0	0	0	42.9	6.7	86.7	6.7	2.9	11.4	6.2	93.8	0	0	45.7	7.9	92.1	92.1	92.1
Total %	0	0	0	0	42.9	37.1	86.7	2.9	11.4	11.4	2.9	42.9	0	0	45.7	7.9	92.1	92.1	92.1

Start Time	Cataba Road Southbound			Main Street Westbound			Cataba Road Northbound			Main Street Eastbound									
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
07:00 AM	0	0	0	0	0	1	2	0	0	3	0	0	0	0	5	0	8	8	8
07:15 AM	0	0	0	0	4	0	3	1	0	4	0	0	0	0	1	0	5	5	5
07:30 AM	0	0	0	0	2	0	2	0	2	2	0	2	0	0	2	2	6	6	8
07:45 AM	0	0	0	0	1	0	1	0	0	1	1	3	0	0	4	0	5	5	5
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>1</b>	<b>8</b>	<b>1</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>11</b>	<b>0</b>	<b>0</b>	<b>12</b>	<b>2</b>	<b>24</b>	<b>26</b>	<b>26</b>
08:00 AM	0	0	0	0	2	0	2	0	0	2	0	2	0	0	2	0	4	4	4
08:15 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	2	2	2
08:30 AM	0	0	0	0	1	0	1	0	1	1	0	1	0	0	1	1	3	3	4
08:45 AM	0	0	0	0	2	0	2	0	0	2	0	0	0	0	0	0	2	2	2
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>2</b>	<b>4</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>1</b>	<b>11</b>	<b>12</b>	<b>12</b>
<b>Grand Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>15</b>	<b>1</b>	<b>13</b>	<b>1</b>	<b>0</b>	<b>4</b>	<b>1</b>	<b>15</b>	<b>0</b>	<b>0</b>	<b>16</b>	<b>3</b>	<b>35</b>	<b>38</b>	<b>38</b>
Apprch %	0	0	0	0	42.9	6.7	86.7	6.7	2.9	11.4	6.2	93.8	0	0	45.7	7.9	92.1	92.1	92.1
Total %	0	0	0	0	42.9	37.1	86.7	2.9	11.4	11.4	2.9	42.9	0	0	45.7	7.9	92.1	92.1	92.1

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1  
 Peak Hour for Entire Intersection Begins at 07:00 AM

Start Time	Cataba Road Southbound			Main Street Westbound			Cataba Road Northbound			Main Street Eastbound									
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
07:00 AM	0	0	0	0	0	1	2	0	0	3	0	0	0	0	5	0	8	8	8
07:15 AM	0	0	0	0	4	0	3	1	0	4	0	0	0	0	1	0	5	5	5
07:30 AM	0	0	0	0	2	0	2	0	2	2	0	2	0	0	2	2	6	6	8
07:45 AM	0	0	0	0	1	0	1	0	0	1	1	3	0	0	4	0	5	5	5
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>1</b>	<b>8</b>	<b>1</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>11</b>	<b>0</b>	<b>0</b>	<b>12</b>	<b>2</b>	<b>24</b>	<b>26</b>	<b>26</b>
% App. Total	0	0	0	0	42.9	6.7	86.7	6.7	2.9	11.4	6.2	93.8	0	0	45.7	7.9	92.1	92.1	92.1
PHF	.000	.000	.000	.000	.625	.250	.667	.250	.250	.250	.250	.550	.000	.000	.600	.000	.750	.750	.750



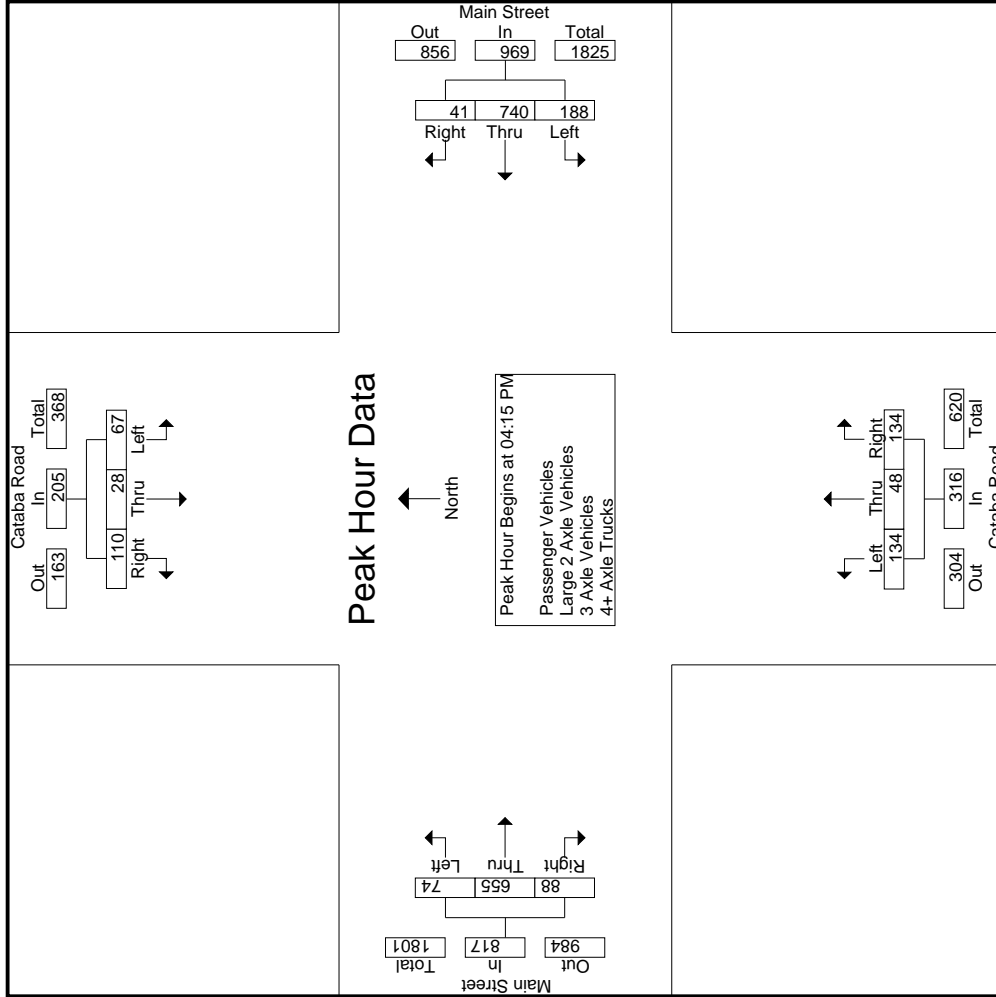
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Cataba Road Southbound						Main Street Westbound						Cataba Road Northbound						Main Street Eastbound						
	Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		
	Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total				
04:00 PM	10	9	26	20	45	39	189	5	2	233	30	5	31	24	66	29	161	26	11	216	57	560	617		
04:15 PM	13	5	28	22	46	36	190	7	4	233	40	9	36	29	85	19	172	22	8	213	63	577	640		
04:30 PM	19	10	29	28	58	37	174	10	2	221	27	18	36	23	81	18	164	29	12	211	65	571	636		
04:45 PM	16	6	23	18	45	59	187	14	4	260	34	11	29	25	74	19	157	15	7	191	54	570	624		
<b>Total</b>	<b>58</b>	<b>30</b>	<b>106</b>	<b>88</b>	<b>194</b>	<b>171</b>	<b>740</b>	<b>36</b>	<b>12</b>	<b>947</b>	<b>131</b>	<b>43</b>	<b>132</b>	<b>101</b>	<b>306</b>	<b>85</b>	<b>654</b>	<b>92</b>	<b>38</b>	<b>831</b>	<b>239</b>	<b>2278</b>	<b>2517</b>		
05:00 PM	19	7	30	13	56	56	189	10	3	255	33	10	33	26	76	18	162	22	13	202	55	589	644		
05:15 PM	10	6	19	11	35	35	171	10	2	216	32	11	35	25	78	25	165	26	6	216	44	545	589		
05:30 PM	14	10	21	15	45	35	192	10	2	237	35	9	28	25	72	13	162	25	14	200	56	554	610		
05:45 PM	13	8	25	23	46	26	186	11	4	223	21	9	34	30	64	16	136	28	12	180	69	513	582		
<b>Total</b>	<b>56</b>	<b>31</b>	<b>95</b>	<b>62</b>	<b>182</b>	<b>152</b>	<b>738</b>	<b>41</b>	<b>11</b>	<b>931</b>	<b>121</b>	<b>39</b>	<b>130</b>	<b>106</b>	<b>290</b>	<b>72</b>	<b>625</b>	<b>101</b>	<b>45</b>	<b>798</b>	<b>224</b>	<b>2201</b>	<b>2425</b>		
<b>Grand Total</b>	<b>114</b>	<b>61</b>	<b>201</b>	<b>150</b>	<b>376</b>	<b>323</b>	<b>1478</b>	<b>77</b>	<b>23</b>	<b>1878</b>	<b>252</b>	<b>82</b>	<b>262</b>	<b>207</b>	<b>596</b>	<b>157</b>	<b>1279</b>	<b>193</b>	<b>83</b>	<b>1629</b>	<b>463</b>	<b>4479</b>	<b>4942</b>		
<b>Approch %</b>	<b>30.3</b>	<b>16.2</b>	<b>53.5</b>			<b>17.2</b>	<b>78.7</b>	<b>4.1</b>		<b>41.9</b>	<b>42.3</b>	<b>13.8</b>	<b>44</b>		<b>13.3</b>	<b>9.6</b>	<b>78.5</b>	<b>11.8</b>		<b>36.4</b>	<b>9.4</b>	<b>90.6</b>			
<b>Total %</b>	<b>2.5</b>	<b>1.4</b>	<b>4.5</b>		<b>8.4</b>	<b>7.2</b>	<b>33</b>	<b>1.7</b>		<b>41.9</b>	<b>5.6</b>	<b>1.8</b>	<b>5.8</b>		<b>13.3</b>	<b>3.5</b>	<b>28.6</b>	<b>4.3</b>		<b>36.4</b>	<b>9.4</b>	<b>90.6</b>			
Passenger Vehicles	106	59	199	99.3	513	323	1445	75	100	1866	251	80	260	99.5	797	151	1231	192	98.8	1656	0	0	0	0	4832
% 2 Axle Vehicles	93	96.7	99	99.3	97.5	100	97.8	97.4	100	98.2	99.6	97.6	99.2	99.5	99.3	96.2	96.2	99.5	98.8	96.7	0	0	0	0	97.8
Large 2 Axle Vehicles	7	2	1	0	10	0	17	1	0	18	1	1	1	0.4	4	4	24	0	0	28	0	0	0	0	60
% Large 2 Axle Vehicles	6.1	3.3	0.5	0	1.9	0	1.2	1.3	0	0.9	0.4	1.2	0.4	0.5	0.5	2.5	1.9	0	0	1.6	0	0	0	0	1.2
3 Axle Vehicles	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	2	0	0	2	0	0	0	0	7
% 3 Axle Vehicles	0	0	0	0	0	0	0.3	0	0	0.3	0	0	0	0	0	0	0.2	0	0	0.1	0	0	0	0	0.1
4+ Axle Trucks	1	0	1	0	3	0	11	1	0	12	0	1	1	0.4	2	2	22	1	0.5	26	0	0	0	0	43
% 4+ Axle Trucks	0.9	0	0.5	0.7	0.6	0	0.7	1.3	0	0.6	0	1.2	0.4	0	0.2	1.3	1.7	0.5	1.2	1.5	0	0	0	0	0.9

Start Time	Cataba Road Southbound						Main Street Westbound						Cataba Road Northbound						Main Street Eastbound									
	Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total					
	Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total							
04:15 PM	13	5	28	29	28	46	36	190	7	233	40	9	36	29	85	19	172	22	8	213	22	213	22	8	213	57	560	617
04:30 PM	19	10	29	28	58	37	174	10	2	221	27	18	36	23	81	18	164	29	12	211	65	571	636					
04:45 PM	16	6	23	18	45	59	187	14	4	260	34	11	29	25	74	19	157	15	7	191	54	570	624					
<b>Total Volume</b>	<b>67</b>	<b>28</b>	<b>110</b>	<b>110</b>	<b>205</b>	<b>188</b>	<b>740</b>	<b>41</b>	<b>0</b>	<b>969</b>	<b>134</b>	<b>48</b>	<b>134</b>	<b>48</b>	<b>316</b>	<b>74</b>	<b>655</b>	<b>88</b>	<b>74</b>	<b>817</b>	<b>2307</b>							
<b>% App. Total</b>	<b>32.7</b>	<b>13.7</b>	<b>53.7</b>		<b>53.7</b>	<b>19.4</b>	<b>76.4</b>	<b>4.2</b>		<b>42.4</b>	<b>15.2</b>	<b>42.4</b>	<b>15.2</b>	<b>42.4</b>	<b>31.6</b>	<b>80.2</b>	<b>10.8</b>		<b>10.8</b>	<b>9.1</b>	<b>80.2</b>	<b>10.8</b>		<b>10.8</b>	<b>224</b>	<b>2201</b>	<b>2425</b>	
PHF	.882	.700	.917		.884	.797	.974	.732		.932	.838	.667	.931		.929	.974	.952	.759		.952	.959							

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1  
 Peak Hour for Entire Intersection Begins at 04:15 PM



Groups Printed - Large 2 Axle Vehicles

Start Time	Cataba Road Southbound			Main Street Westbound			Cataba Road Northbound			Main Street Eastbound							
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	1	0	0	0	2	0	0	0	0	1	3	0	0	4	0	7	7
04:15 PM	1	2	1	0	4	0	0	1	1	0	1	0	0	2	1	11	12
04:30 PM	1	0	0	0	3	0	0	0	0	0	0	0	0	7	0	12	12
04:45 PM	1	0	0	0	2	0	0	0	0	1	2	0	0	3	0	7	7
Total	4	2	1	0	11	0	0	1	1	3	14	0	0	16	1	37	38
05:00 PM	1	0	0	0	4	1	0	0	0	0	0	0	0	4	0	10	10
05:15 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	3	0	3	3
05:30 PM	2	0	0	0	0	0	0	0	0	0	3	0	0	4	0	6	6
05:45 PM	0	0	0	0	2	0	0	0	0	0	1	0	0	1	0	3	3
Total	3	0	0	0	6	1	0	0	0	0	10	0	0	12	0	22	22
Grand Total	7	2	1	0	17	1	0	1	1	3	24	0	0	28	1	59	60
Approch %	70	20	10	0	94.4	5.6		33.3	33.3	14.3	85.7	0	0	47.5	1.7	98.3	
Total %	11.9	3.4	1.7	0	28.8	1.7		1.7	1.7	6.8	40.7	0	0				

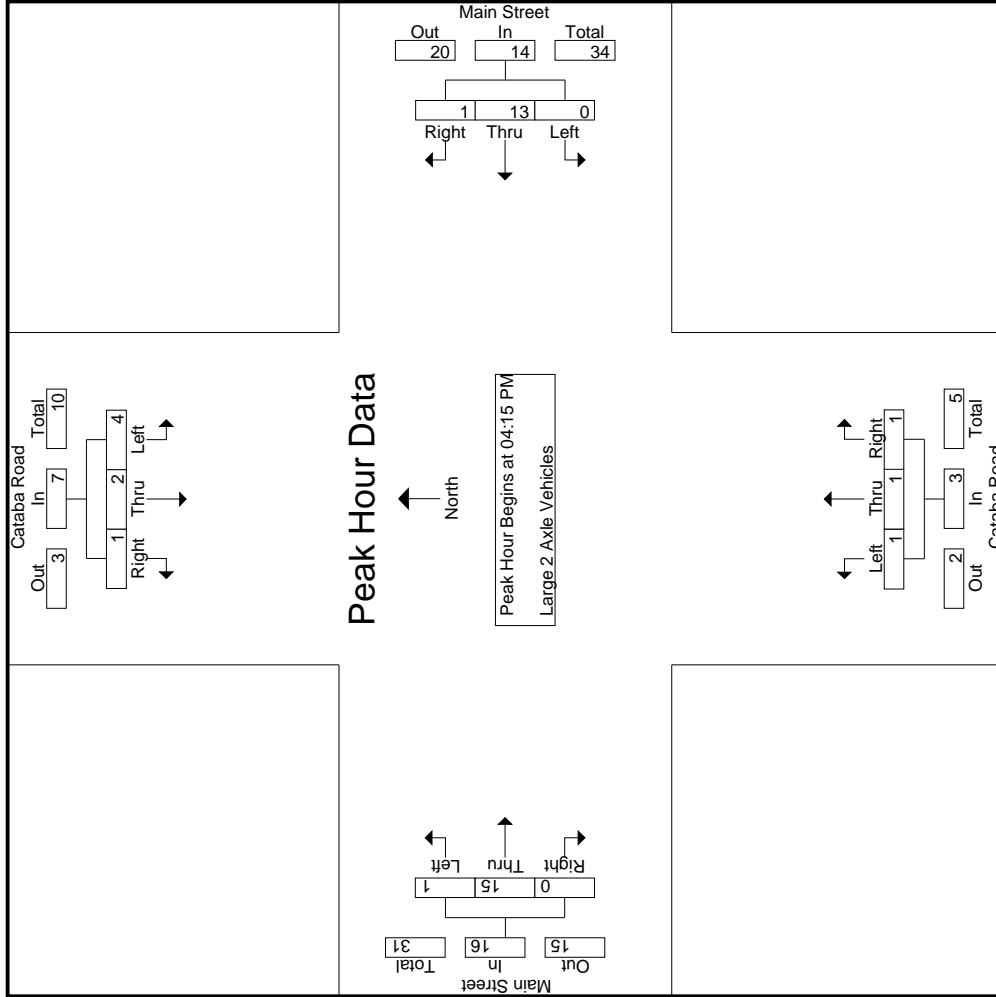
Start Time	Cataba Road Southbound			Main Street Westbound			Cataba Road Northbound			Main Street Eastbound							
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:15 PM	1	2	1	0	4	0	0	0	0	1	1	0	0	2	0	2	11
04:30 PM	1	0	0	0	3	0	0	1	0	0	0	0	0	7	0	7	12
04:45 PM	1	0	0	0	2	0	0	0	0	1	2	0	0	3	0	7	7
05:00 PM	1	0	0	0	4	1	0	0	0	0	4	0	0	4	0	4	10
Total Volume	4	2	1	0	13	1	0	1	1	3	15	0	0	16	0	40	40
% App. Total	57.1	28.6	14.3	0	92.9	7.1		33.3	33.3	6.2	93.8	0	0				
PHF	1.00	.250	.250	.000	.813	.250		.250	.250	.250	.536	.000	.000	.571	.000	.833	

Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1  
 Peak Hour for Entire Intersection Begins at 04:15 PM

Counts Unlimited  
 PO Box 1178  
 Corona, CA 92878  
 (951) 268-6268

City of Hesperia  
 N/S: Cataba Road  
 E/W: Main Street  
 Weather: Clear

File Name : 10\_HES\_Cataba\_Main PM  
 Site Code : 05119658  
 Start Date : 9/28/2019  
 Page No : 2





Groups Printed - 3 Axle Vehicles

Start Time	Cataba Road Southbound			Main Street Westbound			Cataba Road Northbound			Main Street Eastbound			Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
04:15 PM	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	2	0	0	0	0	0	0	0	0	1	0	3
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3
05:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	3	0	0	0	0	0	0	1	0	1	0	4
Grand Total	0	0	0	5	0	0	0	0	0	0	2	0	2	0	7
Approch %	0	0	0	100	0	0	0	0	0	100	0	0	0	0	100
Total %	0	0	0	71.4	0	0	0	0	0	28.6	0	0	28.6	0	100

3.1-71

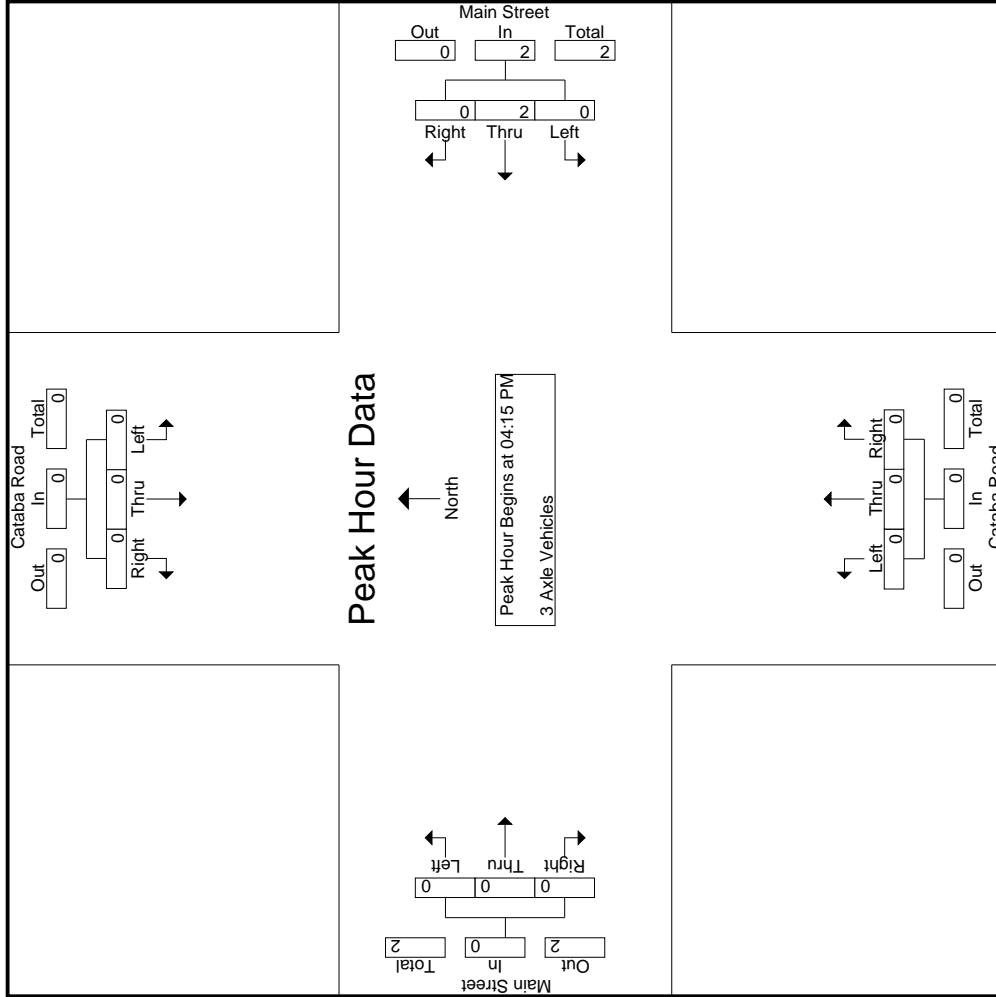
Start Time	Cataba Road Southbound			Main Street Westbound			Cataba Road Northbound			Main Street Eastbound			Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
04:15 PM	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
% App. Total	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100
PHF	.000	.000	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250

Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1  
 Peak Hour for Entire Intersection Begins at 04:15 PM

Counts Unlimited  
 PO Box 1178  
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 (951) 268-6268

City of Hesperia  
 N/S: Cataba Road  
 E/W: Main Street  
 Weather: Clear

File Name : 10\_HES\_Cataba\_Main PM  
 Site Code : 05119658  
 Start Date : 9/28/2019  
 Page No : 2



Groups Printed- 4+ Axle Trucks

Start Time	Cataba Road Southbound			Main Street Westbound			Cataba Road Northbound			Main Street Eastbound							
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	1	0	3	0	0	0	0	0	0	0	0	4	1	8	9
04:15 PM	0	0	0	0	3	0	0	1	0	2	0	5	0	5	0	10	10
04:30 PM	0	0	0	0	1	0	0	0	0	0	0	3	0	3	0	4	4
04:45 PM	0	0	0	0	1	0	0	0	0	0	0	2	0	2	0	3	3
<b>Total</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>8</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>13</b>	<b>0</b>	<b>14</b>	<b>1</b>	<b>25</b>	<b>26</b>
05:00 PM	0	0	0	0	2	1	0	0	0	0	0	1	0	2	0	5	5
05:15 PM	0	0	0	0	1	0	0	0	0	0	0	2	0	2	0	3	3
05:30 PM	1	0	0	0	0	0	0	0	0	0	0	1	1	2	1	3	4
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	5	0	5	0	5	5
<b>Total</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>9</b>	<b>1</b>	<b>11</b>	<b>1</b>	<b>16</b>	<b>17</b>
<b>Grand Total</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>11</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>22</b>	<b>1</b>	<b>25</b>	<b>2</b>	<b>41</b>	<b>43</b>
Approch %	50	0	50	0	91.7	8.3		50	50	4.9	8	88	4	61	4.7	95.3	
Total %	2.4	0	2.4	0	26.8	2.4		2.4	2.4	4.9	4.9	53.7	2.4				

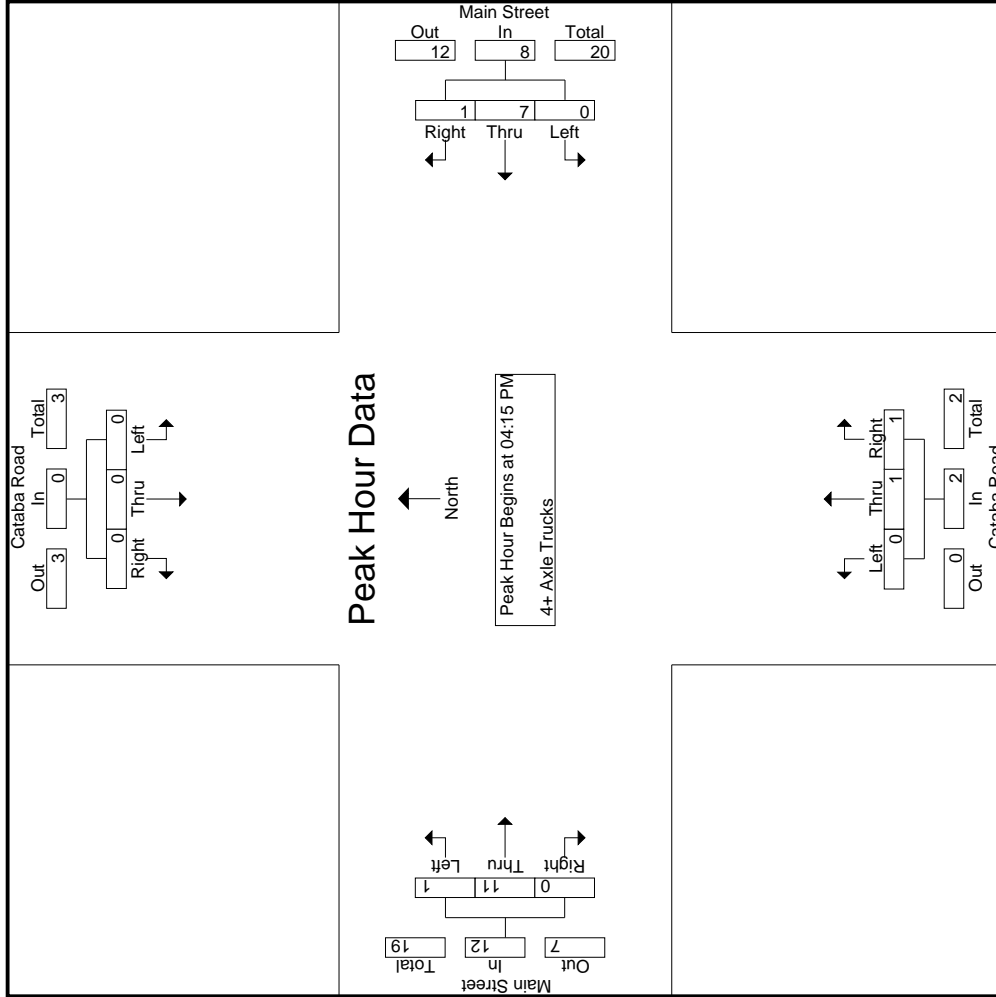
Start Time	Cataba Road Southbound			Main Street Westbound			Cataba Road Northbound			Main Street Eastbound							
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total Volume</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
% App. Total	0	0	0	0	87.5	12.5		50	50	4.9	8	88	4	61	4.7	95.3	
PHF	.000	.000	.000	.000	.583	.250		.000	.250	.667	.250	.250	.250	.600	.000	.600	.550

Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1  
 Peak Hour for Entire Intersection Begins at 04:15 PM

Counts Unlimited  
 PO Box 1178  
 Corona, CA 92878  
 (951) 268-6268

City of Hesperia  
 N/S: Cataba Road  
 E/W: Main Street  
 Weather: Clear

File Name : 10\_HES\_Cataba\_Main PM  
 Site Code : 05119658  
 Start Date : 9/28/2019  
 Page No : 2



Location: Hesperia  
 N/S: Cataba Road  
 E/W: Main Street



Date: 9/28/2019  
 Day: Saturday

PEDESTRIANS

	North Leg Cataba Road	East Leg Main Street	South Leg Cataba Road	West Leg Main Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	1	1
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	2	0	0	2
8:00 AM	0	0	1	0	1
8:15 AM	0	0	1	0	1
8:30 AM	0	0	0	0	0
8:45 AM	0	2	0	0	2
TOTAL VOLUMES:	0	4	2	1	7

	North Leg Cataba Road	East Leg Main Street	South Leg Cataba Road	West Leg Main Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	1	0	0	1
4:30 PM	2	4	0	0	6
4:45 PM	0	0	0	0	0
5:00 PM	0	3	0	0	3
5:15 PM	5	4	0	0	9
5:30 PM	0	4	0	0	4
5:45 PM	0	2	1	0	3
TOTAL VOLUMES:	7	18	1	0	26

Location: Hesperia  
 N/S: Cataba Road  
 E/W: Main Street



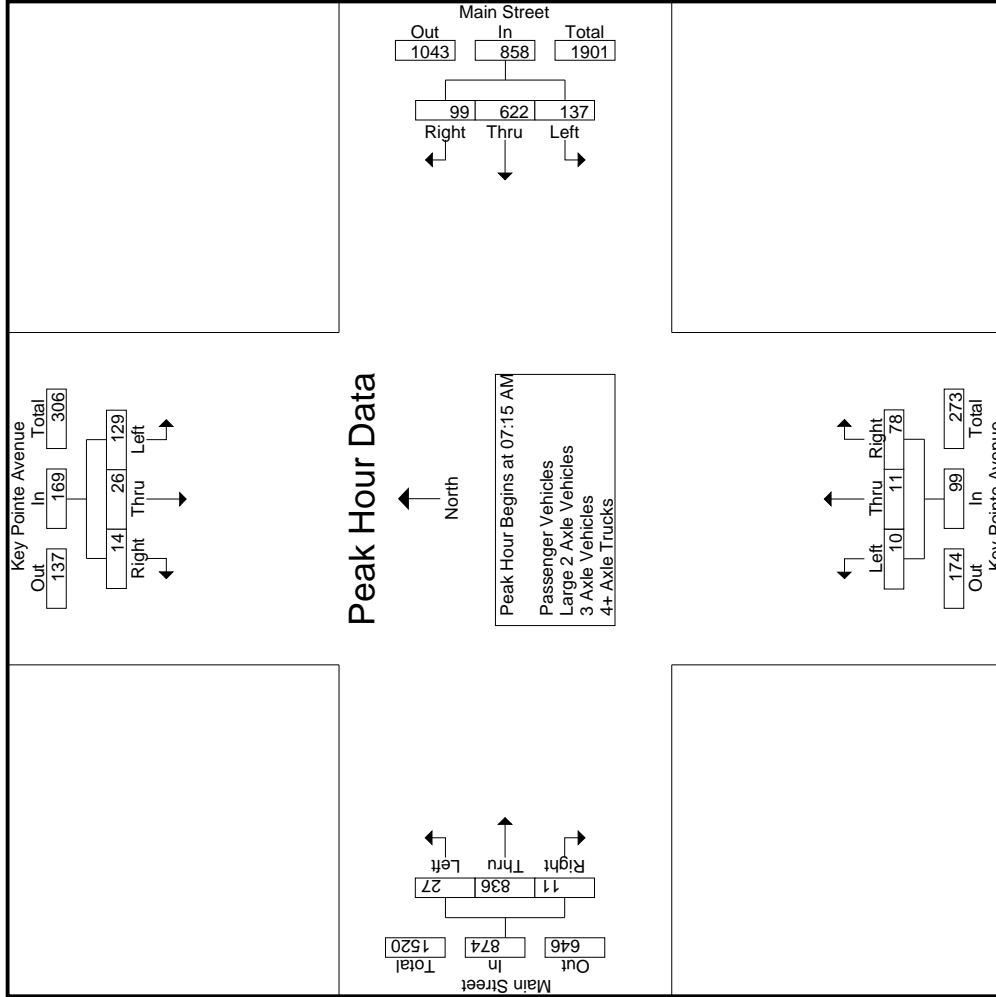
Date: 9/28/2019  
 Day: Saturday

BICYCLES

	Southbound Cataba Road			Westbound Main Street			Northbound Cataba Road			Eastbound Main Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	1	0	0	0	0	0	0	0	1

	Southbound Cataba Road			Westbound Main Street			Northbound Cataba Road			Eastbound Main Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0





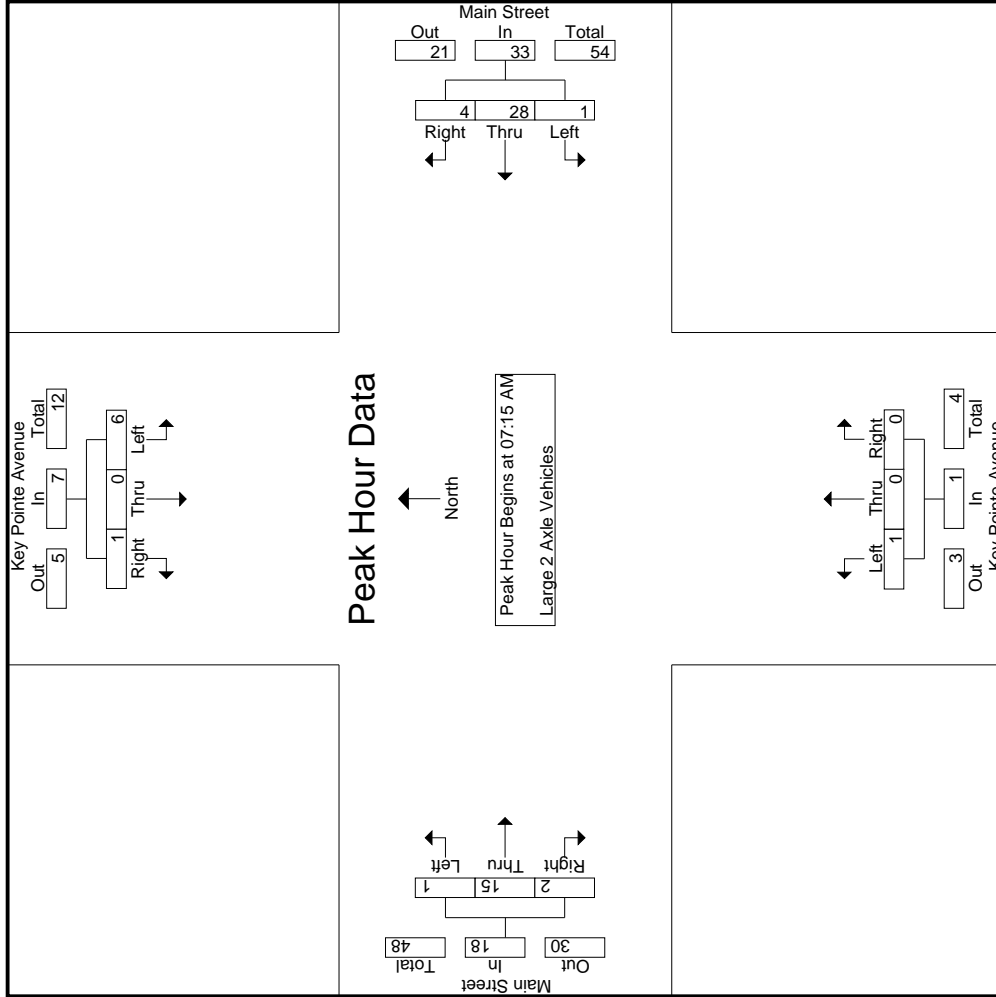


Groups Printed - Large 2 Axle Vehicles

Start Time	Key Pointe Avenue Southbound					Main Street Westbound					Key Pointe Avenue Northbound					Main Street Eastbound								
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
07:00 AM	3	0	0	0	3	1	5	3	0	9	0	0	0	0	0	0	5	0	0	0	5	0	17	17
07:15 AM	2	0	0	0	2	0	9	0	0	9	0	0	0	0	0	0	2	0	0	2	0	13	13	
07:30 AM	2	0	1	0	3	0	4	2	1	6	0	0	0	0	0	0	5	0	0	5	1	14	15	
07:45 AM	2	0	0	0	2	0	8	1	0	9	1	0	0	0	1	0	3	1	0	4	0	16	16	
Total	9	0	1	0	10	1	26	6	1	33	1	0	0	0	1	0	15	1	0	16	1	60	61	
08:00 AM	0	0	0	0	0	1	7	1	0	9	0	0	0	0	0	1	5	1	0	7	0	16	16	
08:15 AM	0	0	0	0	0	0	3	0	0	3	1	0	0	0	1	0	6	0	0	6	0	10	10	
08:30 AM	3	0	0	0	3	0	6	1	0	7	0	1	0	0	1	3	0	0	0	4	0	15	15	
08:45 AM	1	2	0	0	3	1	5	2	1	8	0	1	0	0	1	1	3	0	0	4	1	16	17	
Total	4	2	0	0	6	2	21	4	1	27	1	2	0	0	3	3	17	1	0	21	1	57	58	
Grand Total	13	2	1	0	16	3	47	10	2	60	2	2	0	0	4	3	32	2	0	37	2	117	119	
Approch %	81.2	12.5	6.2			5	78.3	16.7			50	50	0		8.1	86.5	5.4			31.6	1.7	98.3		
Total %	11.1	1.7	0.9		13.7	2.6	40.2	8.5		51.3	1.7	1.7	0		3.4	27.4	1.7							

Start Time	Key Pointe Avenue Southbound					Main Street Westbound					Key Pointe Avenue Northbound					Main Street Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:15 AM	2	0	0	0	2	0	9	0	0	9	0	0	0	0	0	0	2	0	0	2	0	2	2
07:30 AM	2	0	1	0	3	0	4	2	0	6	0	0	0	0	0	0	5	0	0	5	0	5	5
07:45 AM	2	0	0	0	2	0	8	1	0	9	1	0	0	0	1	0	3	1	0	4	1	16	16
08:00 AM	0	0	0	0	0	1	7	1	0	9	0	0	0	0	0	1	5	1	0	7	0	7	7
Total Volume	6	0	1		7	1	28	4		33	1	0	0		1	15	2			18	2	59	59
% App. Total	85.7	0	14.3			3	84.8	12.1			100	0	0		5.6	83.3	11.1						
PHF	.750	.000	.250		.583	.250	.778	.500		.917	.250	.000	.000		.250	.750	.500			.643			.922

Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1  
 Peak Hour for Entire Intersection Begins at 07:15 AM

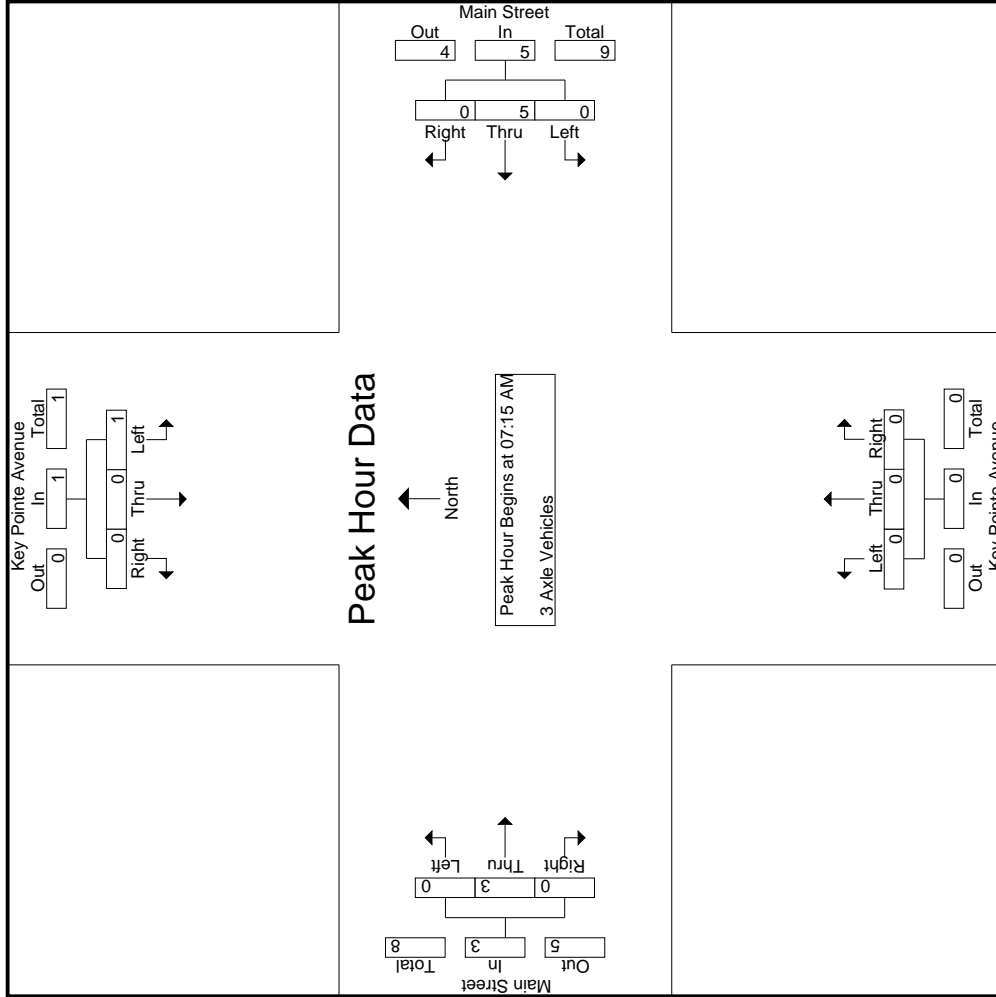


Groups Printed - 3 Axle Vehicles

Start Time	Key Pointe Avenue Southbound				Main Street Westbound				Key Pointe Avenue Northbound				Main Street Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
07:15 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	3
07:30 AM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
07:45 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2
Total	1	0	0	0	1	5	1	0	0	6	0	0	0	0	2	0	0	9
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
08:15 AM	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	2
08:30 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	3	0	0	0	3	0	0	0	0	2	0	0	5
Grand Total	1	0	0	0	1	8	1	0	0	9	0	0	0	0	4	0	0	14
Approch %	100	0	0	0	0	88.9	11.1	0	0	0	0	0	0	0	100	0	0	100
Total %	7.1	0	0	0	7.1	57.1	7.1	0	0	64.3	0	0	0	0	28.6	0	0	100

Start Time	Key Pointe Avenue Southbound				Main Street Westbound				Key Pointe Avenue Northbound				Main Street Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:15 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	.250	.000	.000	.000	.250	.000	.625	.000	.000	.625	.000	.000	.000	.000	.375	.000	.375	.750

Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1  
 Peak Hour for Entire Intersection Begins at 07:15 AM



Groups Printed- 4+ Axle Trucks

Start Time	Key Pointe Avenue Southbound				Main Street Westbound				Key Pointe Avenue Northbound				Main Street Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	1	3	0	4	0	0	0	0	4	0	8	8
07:15 AM	1	0	0	0	1	0	0	2	0	2	0	0	0	0	1	0	4	4
07:30 AM	1	0	0	0	1	0	2	0	0	2	0	0	0	0	2	0	5	5
07:45 AM	3	0	0	0	3	0	2	0	0	2	0	0	0	0	3	0	8	8
<b>Total</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>1</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>0</b>	<b>25</b>	<b>25</b>
08:00 AM	0	0	0	0	0	1	1	0	0	2	0	0	0	0	3	0	5	5
08:15 AM	2	0	0	0	2	1	5	1	1	7	0	1	0	0	4	1	14	15
08:30 AM	1	0	0	0	1	0	3	0	0	3	0	0	0	0	2	0	6	6
08:45 AM	2	0	0	0	2	0	1	0	0	1	0	1	0	0	1	1	5	6
<b>Total</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>1</b>	<b>10</b>	<b>2</b>	<b>1</b>	<b>13</b>	<b>0</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>2</b>	<b>30</b>	<b>32</b>
<b>Grand Total</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>1</b>	<b>15</b>	<b>7</b>	<b>1</b>	<b>23</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>20</b>	<b>2</b>	<b>55</b>	<b>57</b>
Approch %	100	0	0	0	18.2	4.3	65.2	30.4	0	41.8	0	50	1.8	0	36.4	3.5	96.5	
Total %	18.2	0	0	0	18.2	1.8	27.3	12.7	0	41.8	0	1.8	1.8	0	36.4	3.5	96.5	

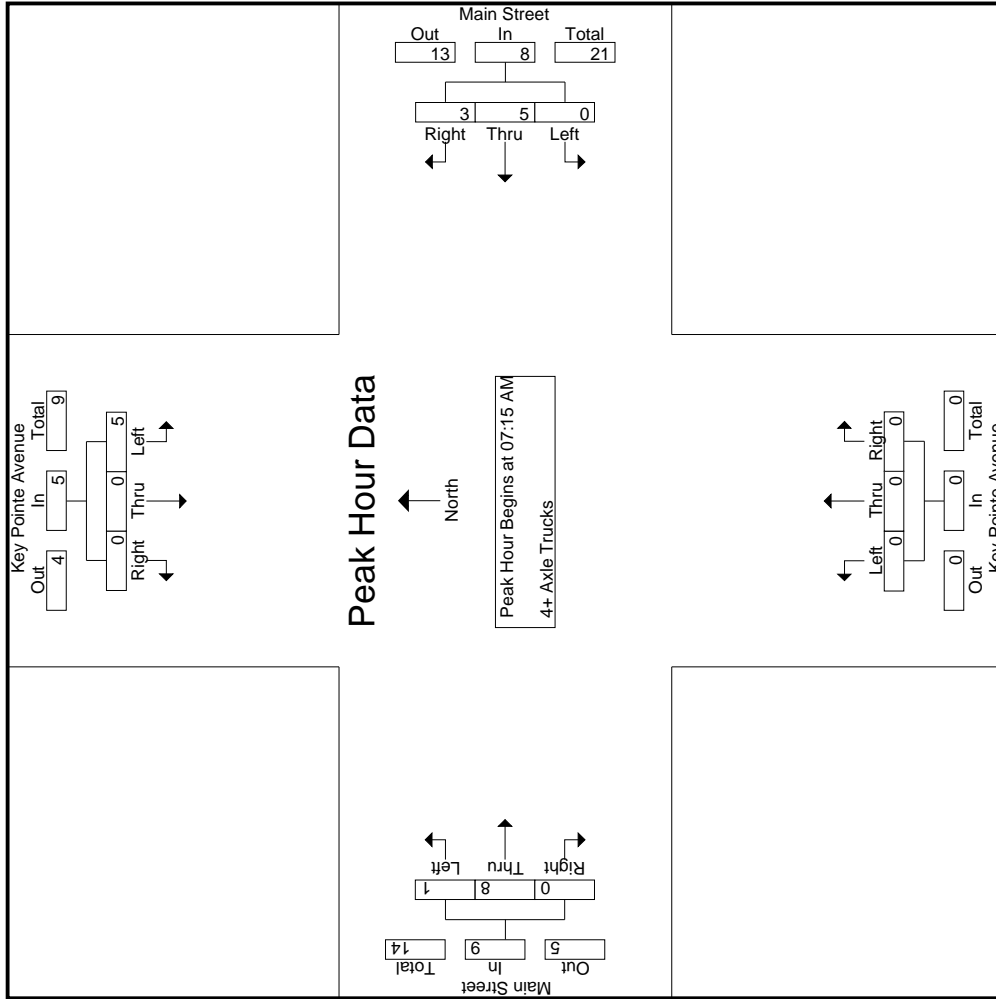
Start Time	Key Pointe Avenue Southbound				Main Street Westbound				Key Pointe Avenue Northbound				Main Street Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:15 AM	1	0	0	0	1	0	0	2	0	2	0	0	0	0	1	0	1	4
07:30 AM	1	0	0	0	1	0	0	2	0	2	0	0	0	0	1	0	2	5
07:45 AM	3	0	0	0	3	0	2	0	0	2	0	0	0	0	3	0	3	8
08:00 AM	0	0	0	0	0	0	1	1	0	2	0	0	0	0	3	0	3	5
<b>Total Volume</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>5</b>	<b>3</b>	<b>8</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>9</b>	<b>0</b>	<b>22</b>	
% App. Total	100	0	0	0	.417	0	62.5	37.5	0	.000	0	0	0	0	88.9	0	.688	
PHF	.417	.000	.000	.000	.417	.000	.625	.375	1.00	.000	.000	.000	.000	.250	.667	.000	.750	.688

Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1  
 Peak Hour for Entire Intersection Begins at 07:15 AM

Counts Unlimited  
 PO Box 1178  
 Corona, CA 92878  
 (951) 268-6268

City of Hesperia  
 N/S: Key Pointe Avenue  
 E/W: Main Street  
 Weather: Clear

File Name : 11\_HES\_Key Pointe\_Main AM  
 Site Code : 05119658  
 Start Date : 9/28/2019  
 Page No : 2



Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

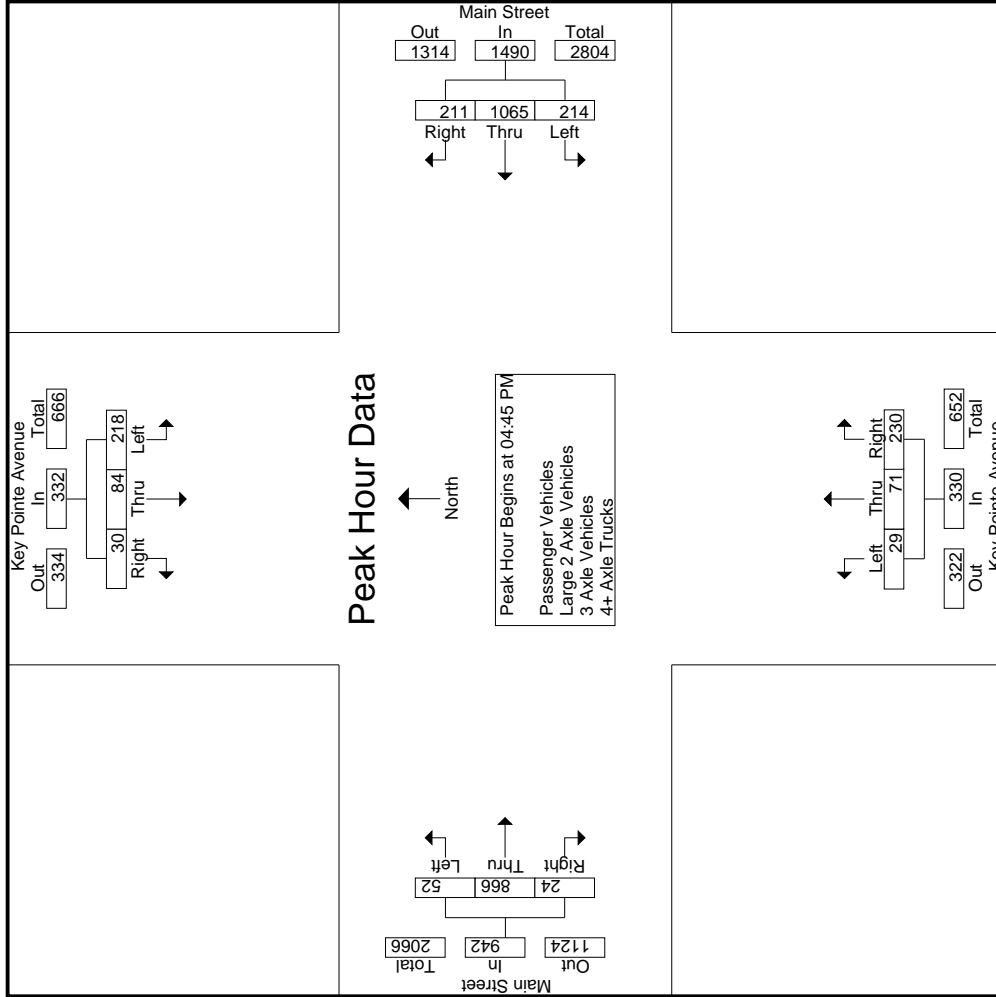
Start Time	Key Pointe Avenue Southbound						Main Street Westbound						Key Pointe Avenue Northbound						Main Street Eastbound							
	Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total			
	Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total					
04:00 PM	54	30	1	0	85	66	201	38	7	305	10	19	49	31	78	14	240	3	1	257	39	725	764			
04:15 PM	58	19	8	7	85	72	239	44	22	355	6	8	67	37	81	6	221	1	0	228	66	749	815			
04:30 PM	53	24	6	4	83	67	249	43	12	359	5	17	71	34	93	15	225	3	2	243	52	778	830			
04:45 PM	46	22	5	4	73	51	265	47	15	363	11	22	55	30	88	12	231	10	0	253	49	777	826			
<b>Total</b>	211	95	20	15	326	256	954	172	56	1382	32	66	242	132	340	47	917	17	3	981	206	3029	3235			
05:00 PM	57	15	9	7	81	44	264	52	13	360	7	18	57	41	82	16	215	4	1	235	62	758	820			
05:15 PM	63	19	9	4	91	63	261	54	16	378	5	16	55	28	76	12	210	4	1	226	49	771	820			
05:30 PM	52	28	7	6	87	56	275	58	30	389	6	15	63	39	84	12	210	6	2	228	77	788	865			
05:45 PM	62	19	5	1	86	76	242	55	10	373	11	14	57	30	82	14	205	5	1	224	42	765	807			
<b>Total</b>	234	81	30	18	345	239	1042	219	69	1500	29	63	232	138	324	54	840	19	5	913	230	3082	3312			
<b>Grand Total</b>	445	176	50	33	671	495	1996	391	125	2882	61	129	474	270	664	101	1757	36	8	1894	436	6111	6547			
Approch %	66.3	26.2	7.5			17.2	69.3	13.6			9.2	19.4	71.4			5.3	92.8	1.9			6.7	93.3				
Total %	7.3	2.9	0.8		11	8.1	32.7	6.4		47.2	1	2.1	7.8		10.9	1.7	28.8	0.6		31						
Passenger Vehicles	437	176	49		695	493	1948	378		2942	61	128	471		929	97	1688	35		1828	0	0	0		6394	
% 2 Axle Vehicles	98.2	100	98	100	98.7	99.6	97.6	96.7	98.4	97.8	100	99.2	99.4	99.6	99.5	96	96.1	97.2	100	96.1	0	0	0		97.7	
% 3 Axle Vehicles	0.7	0	2	0	0.6	0.4	1.1	2.3	1.6	1.1	0	0.8	0.6	0.4	0.5	3	2.4	2.8	0	2.5	0	0	0		1.4	
% 4+ Axle Trucks	0.4	0	0	0	0.3	0	0.2	0.3	0	0.2	0	0	0	0	0	0	0.4	0	0	0.4	0	0	0		0.2	
PHF	0.7	0	0	0	0.4	0	1.2	0.8	0	0.9	0	0	0	0	0	1	1.1	0	0	1.1	0	0	0		0.7	

Start Time	Key Pointe Avenue Southbound						Main Street Westbound						Key Pointe Avenue Northbound						Main Street Eastbound						
	Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		
	Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total				
04:45 PM	46	22	5		73	51	265	47		363	11	22	55		88	12	231	10		253					
05:00 PM	57	15	9		81	44	264	52		360	7	18	57		82	16	215	4		235					
05:15 PM	63	19	9		91	63	261	54		378	5	16	55		76	12	210	6		228					
05:30 PM	52	28	7		87	56	275	58		389	6	15	63		84	12	210	6		228					
05:45 PM	62	19	5		86	76	242	55		373	11	14	57		84	14	205	5		224					
<b>Total</b>	218	84	30		332	214	1065	211		1490	29	71	230		330	52	866	24		942					
% App. Total	65.7	25.3	9		833	14.4	71.5	14.2		69.7	8.8	21.5	69.7		2.5	5.5	91.9	2.5		931					
PHF	.865	.750	.833		.912	.849	.968	.909		.958	.659	.807	.913		.938	.813	.600	.937		.931					

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:45 PM



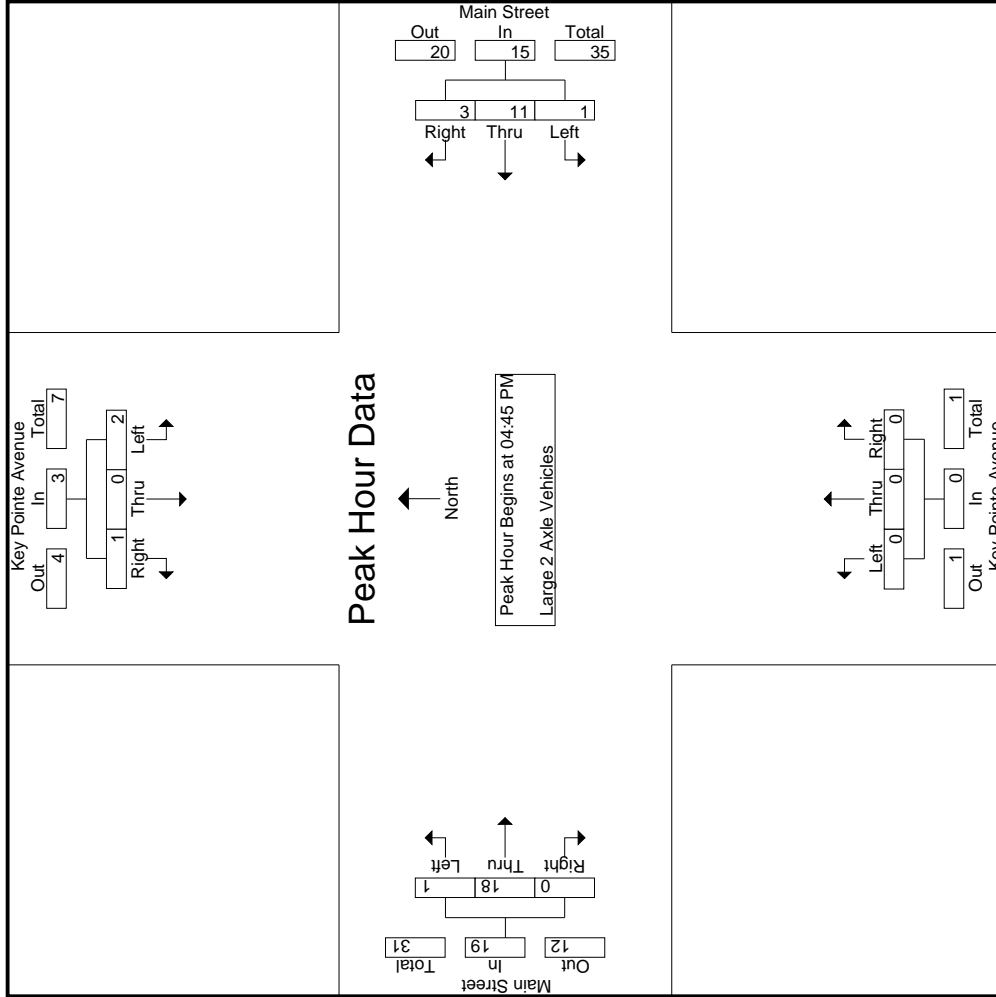


Groups Printed - Large 2 Axle Vehicles

Start Time	Key Pointe Avenue Southbound				Main Street Westbound				Key Pointe Avenue Northbound				Main Street Eastbound						
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
04:00 PM	1	0	0	0	1	1	2	3	1	6	0	1	0	0	1	12	1	20	21
04:15 PM	0	0	0	0	0	0	3	0	0	3	0	0	2	0	2	6	0	11	11
04:30 PM	0	0	0	0	0	2	1	0	0	3	0	0	1	0	1	5	1	9	10
04:45 PM	0	0	0	0	0	1	1	1	0	2	0	0	0	0	0	5	0	7	7
<b>Total</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>8</b>	<b>5</b>	<b>1</b>	<b>14</b>	<b>14</b>	<b>0</b>	<b>1</b>	<b>3</b>	<b>1</b>	<b>4</b>	<b>27</b>	<b>1</b>	<b>47</b>	<b>49</b>
05:00 PM	2	0	0	0	2	0	2	0	0	2	0	0	0	0	0	4	0	8	8
05:15 PM	0	0	1	0	1	0	3	2	0	5	0	0	0	0	0	5	0	11	11
05:30 PM	0	0	0	0	0	1	5	0	0	6	0	0	0	0	0	5	0	11	11
05:45 PM	0	0	0	0	0	3	2	1	5	0	0	0	0	0	0	5	1	10	11
<b>Total</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>3</b>	<b>13</b>	<b>4</b>	<b>1</b>	<b>18</b>	<b>18</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>19</b>	<b>1</b>	<b>40</b>	<b>41</b>	
<b>Grand Total</b>	<b>3</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>4</b>	<b>21</b>	<b>9</b>	<b>2</b>	<b>32</b>	<b>32</b>	<b>0</b>	<b>1</b>	<b>3</b>	<b>1</b>	<b>4</b>	<b>3</b>	<b>87</b>	<b>90</b>	
Approch %	75	0	25		6.2	65.6	28.1		36.8	4.6	6.4	91.5	2.1		54	3.3	96.7		
Total %	3.4	0	1.1		2.3	24.1	10.3		36.8	4.6	3.4	49.4	1.1		54	3.3	96.7		

Start Time	Key Pointe Avenue Southbound				Main Street Westbound				Key Pointe Avenue Northbound				Main Street Eastbound						
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
04:45 PM	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	5	7
05:00 PM	2	0	0	0	2	0	2	0	0	2	0	0	0	0	0	3	0	4	8
05:15 PM	0	0	0	0	0	0	3	2	0	5	0	0	0	0	0	5	0	5	11
05:30 PM	0	0	0	0	0	1	5	0	0	6	0	0	0	0	0	5	0	11	11
<b>Total Volume</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>11</b>	<b>3</b>	<b>15</b>	<b>15</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>18</b>	<b>0</b>	<b>19</b>	<b>37</b>	
% App. Total	66.7	0	33.3		6.7	73.3	20		36.8	4.6	6.4	94.7	0		94.7	0	96.7		
PHF	.250	.000	.250		.375	.250	.550	.375	.625	.000	.250	.900	.000		.950	.000	.841		

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1  
 Peak Hour for Entire Intersection Begins at 04:45 PM



Groups Printed - 3 Axle Vehicles

Start Time	Key Pointe Avenue Southbound					Main Street Westbound					Key Pointe Avenue Northbound					Main Street Eastbound								
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
04:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1
04:15 PM	1	0	0	0	1	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	4	4	4
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	2	2	2
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	1	1
<b>Total</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>3</b>	<b>1</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>8</b>	<b>8</b>	<b>8</b>
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	2	2	2
05:15 PM	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	3	3	3
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	1	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>6</b>	<b>6</b>	<b>6</b>
<b>Grand Total</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>4</b>	<b>1</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>7</b>	<b>0</b>	<b>14</b>	<b>14</b>	<b>14</b>
Approch %	100	0	0	0		0	80	20		0	0	0	0		0	100	0	0		0	0	100	100	100
Total %	14.3	0	0	0	14.3	0	28.6	7.1		35.7	0	0	0		0	50	0	0		50	0	100	100	100

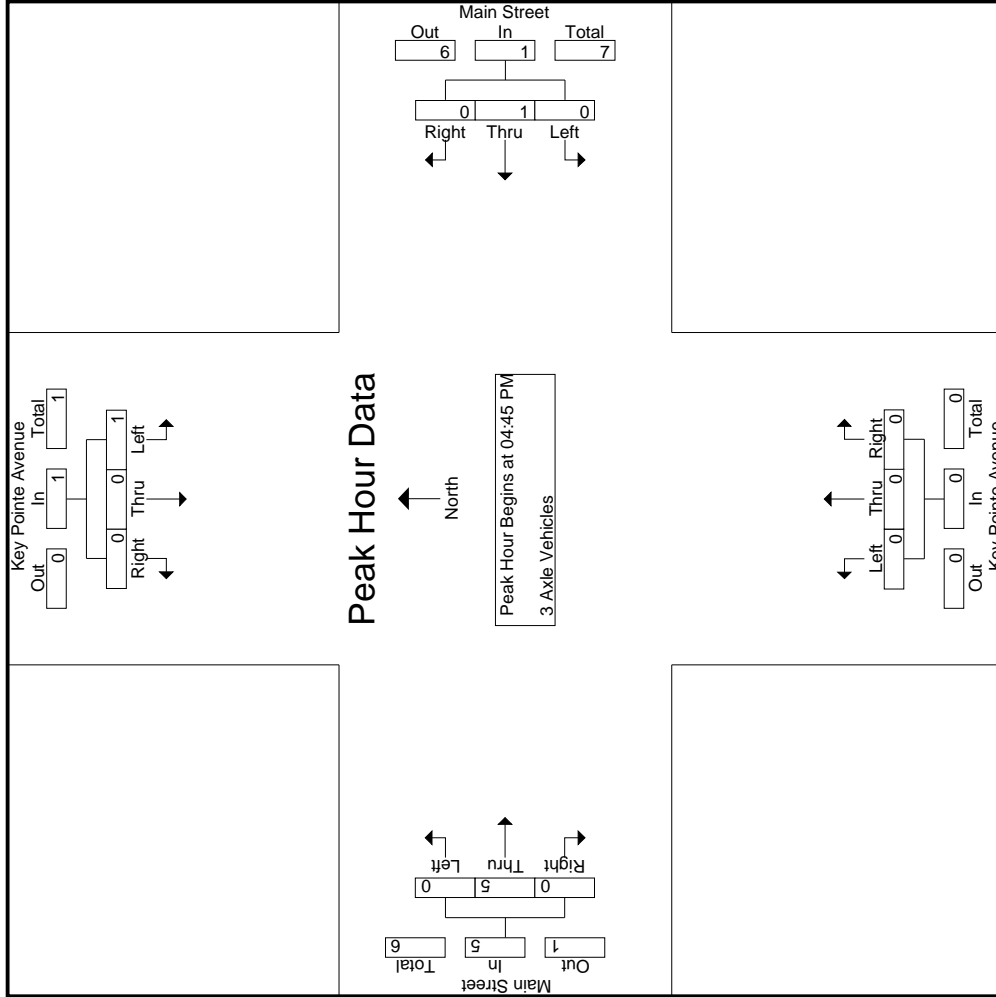
Start Time	Key Pointe Avenue Southbound					Main Street Westbound					Key Pointe Avenue Northbound					Main Street Eastbound								
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	2	2	2
05:15 PM	1	0	0	0	1	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1	0	3	3	3
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	1	1
<b>Total Volume</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>7</b>	<b>7</b>	<b>7</b>
% App. Total	100	0	0	0		0	0	100		0	0	0	0		0	100	0	0		0	0	100	100	100
PHF	.250	.000	.000	.000	.250	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.625	.000	.000	.625	.000	.625	.583	.583

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1  
 Peak Hour for Entire Intersection Begins at 04:45 PM

Counts Unlimited  
 PO Box 1178  
 Corona, CA 92878  
 (951) 268-6268

City of Hesperia  
 N/S: Key Pointe Avenue  
 E/W: Main Street  
 Weather: Clear

File Name : 11\_HES\_Key Pointe\_Main PM  
 Site Code : 05119658  
 Start Date : 9/28/2019  
 Page No : 2



Groups Printed- 4+ Axle Trucks

Start Time	Key Pointe Avenue Southbound					Main Street Westbound					Key Pointe Avenue Northbound					Main Street Eastbound								
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
04:00 PM	1	0	0	0	1	0	3	0	0	3	0	0	0	0	0	0	3	0	0	0	3	0	7	7
04:15 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	4	0	0	4	0	7	7	
04:30 PM	1	0	0	0	1	0	4	1	0	5	0	0	0	0	0	0	0	0	0	0	0	6	6	
04:45 PM	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	0	6	6	
<b>Total</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>12</b>	<b>1</b>	<b>0</b>	<b>13</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>0</b>	<b>26</b>	<b>26</b>	
05:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	3	0	0	4	0	5	5	
05:15 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	3	0	0	3	0	7	7	
05:30 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	2	0	0	0	2	0	5	5	
05:45 PM	0	0	0	0	0	0	3	2	0	5	0	0	0	0	0	0	1	0	0	1	0	6	6	
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>11</b>	<b>2</b>	<b>0</b>	<b>13</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>0</b>	<b>23</b>	<b>23</b>	
<b>Grand Total</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>23</b>	<b>3</b>	<b>0</b>	<b>26</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>19</b>	<b>0</b>	<b>0</b>	<b>20</b>	<b>0</b>	<b>49</b>	<b>49</b>	
Approch %	100	0	0	0	6.1	0	88.5	11.5	0	53.1	0	0	0	0	0	5	95	0	0	40.8	0	100	100	
Total %	6.1	0	0	0	6.1	0	46.9	6.1	0	53.1	0	0	0	0	0	2	38.8	0	0	40.8	0	100	100	

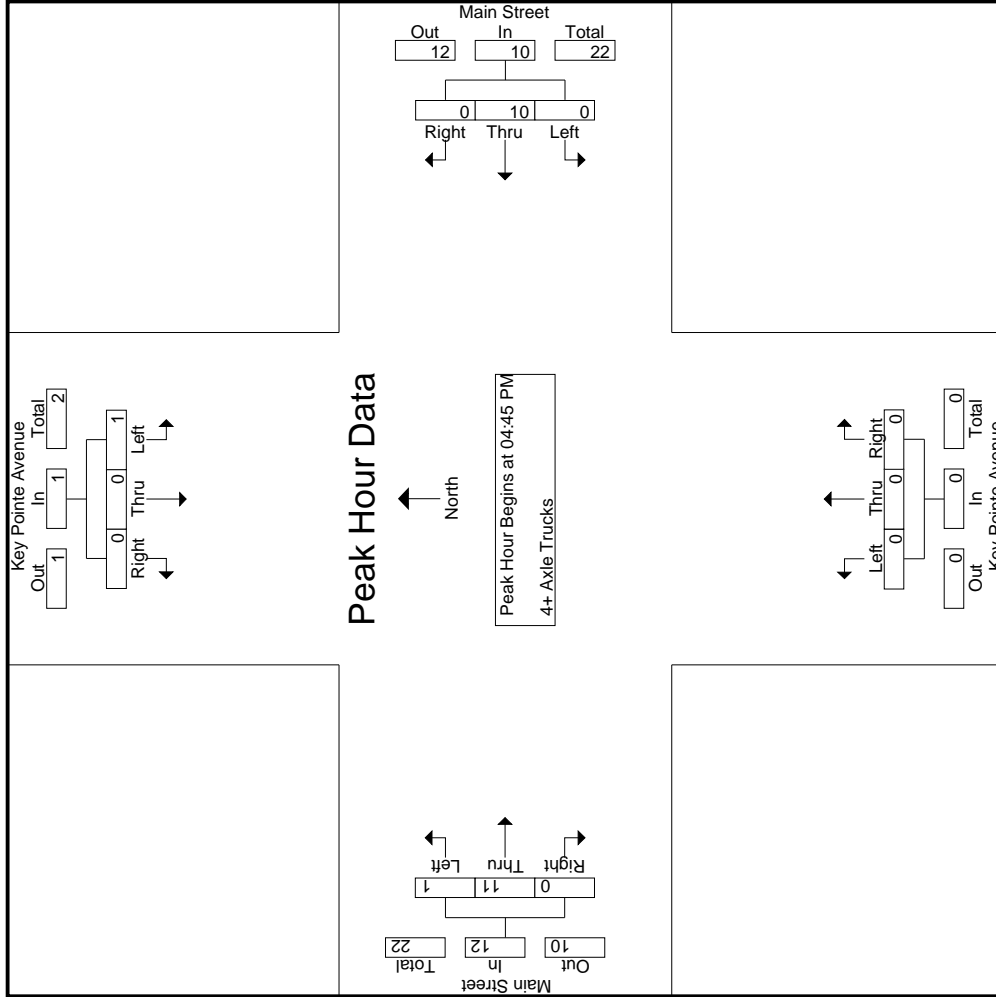
Start Time	Key Pointe Avenue Southbound					Main Street Westbound					Key Pointe Avenue Northbound					Main Street Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:45 PM	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	0	3	6
05:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	3	0	0	4	0	4	5
05:15 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	3	0	0	3	0	7	7
05:30 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	0	5	5
<b>Total Volume</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>11</b>	<b>0</b>	<b>0</b>	<b>12</b>	<b>0</b>	<b>23</b>	<b>23</b>
% App. Total	100	0	0	0	.250	0	100	0	0	.625	0	0	0	0	0	8.3	91.7	0	0	.917	0	.750	.821
PHF	.250	.000	.000	.000	.250	.000	.625	.000	.000	.625	.000	.000	.000	.000	.000	.250	.917	.000	.917	.000	.750	.821	

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1  
 Peak Hour for Entire Intersection Begins at 04:45 PM

Counts Unlimited  
 PO Box 1178  
 Corona, CA 92878  
 (951) 268-6268

City of Hesperia  
 N/S: Key Pointe Avenue  
 E/W: Main Street  
 Weather: Clear

File Name : 11\_HES\_Key Pointe\_Main PM  
 Site Code : 05119658  
 Start Date : 9/28/2019  
 Page No : 2



Location: Hesperia  
 N/S: Key Pointe Avenue  
 E/W: Main Street



Date: 9/28/2019  
 Day: Saturday

PEDESTRIANS

	North Leg Key Pointe Avenue	East Leg Main Street	South Leg Key Pointe Avenue	West Leg Main Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	1	1	0	2
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	2	0	0	0	2
8:30 AM	0	0	1	0	1
8:45 AM	2	0	1	0	3
TOTAL VOLUMES:	4	1	3	0	8

	North Leg Key Pointe Avenue	East Leg Main Street	South Leg Key Pointe Avenue	West Leg Main Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	1	0	0	2	3
4:30 PM	0	2	0	1	3
4:45 PM	1	0	0	1	2
5:00 PM	0	0	0	1	1
5:15 PM	0	0	0	1	1
5:30 PM	0	0	0	0	0
5:45 PM	1	0	0	2	3
TOTAL VOLUMES:	3	2	0	8	13

Location: Hesperia  
 N/S: Key Pointe Avenue  
 E/W: Main Street



Date: 9/28/2019  
 Day: Saturday

BICYCLES

	Southbound Key Pointe Avenue			Westbound Main Street			Northbound Key Pointe Avenue			Eastbound Main Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

	Southbound Key Pointe Avenue			Westbound Main Street			Northbound Key Pointe Avenue			Eastbound Main Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	1	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	2	0	0	0	2



City of Hesperia  
 N/S: I-15 Southbound Off Ramp  
 E/W: Main Street  
 Weather: Clear

File Name : 12\_HES\_15S Off Ramp\_Main AM  
 Site Code : 05119658  
 Start Date : 9/28/2019  
 Page No : 1

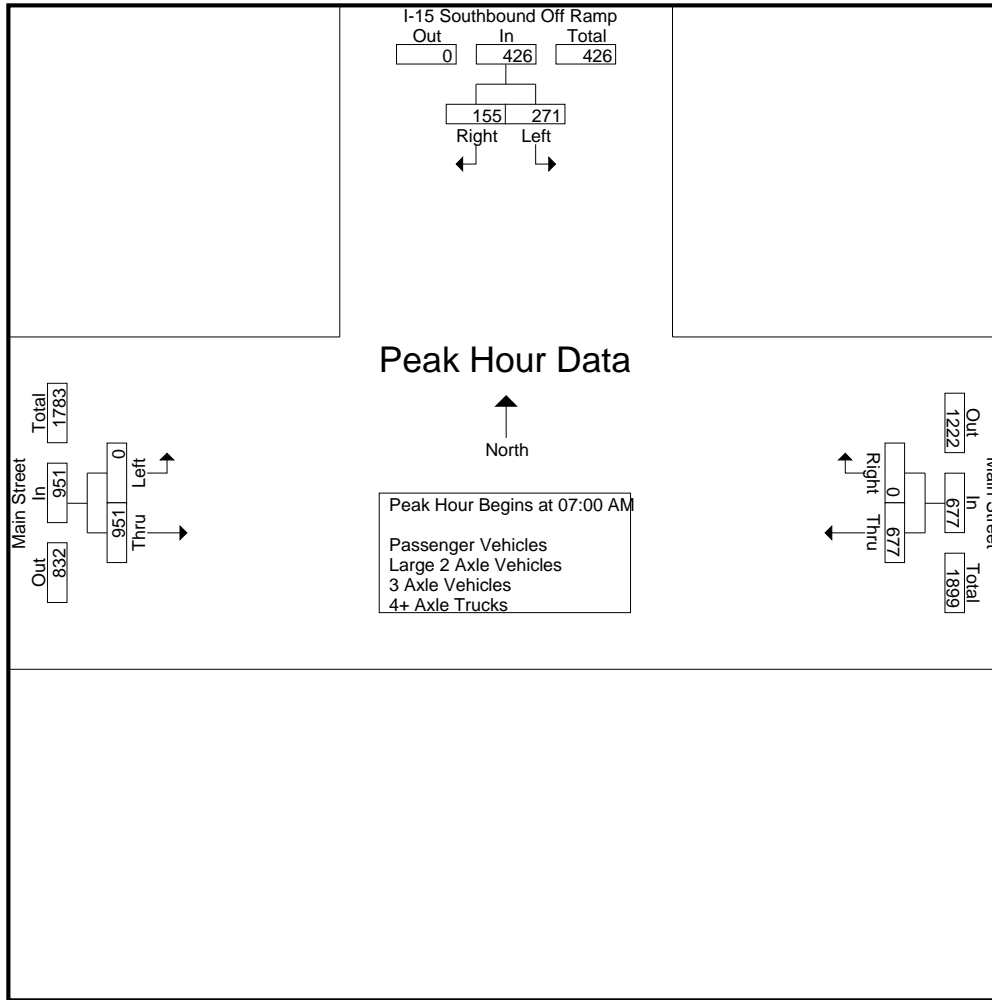
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	I-15 Southbound Off Ramp Southbound				Main Street Westbound				Main Street Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Right	RTOR	App. Total	Thru	Right	RTOR	App. Total	Left	Thru	RTOR	App. Total			
07:00 AM	97	29	10	126	128	0	0	128	0	242	0	242	10	496	506
07:15 AM	59	38	20	97	177	0	0	177	0	237	0	237	20	511	531
07:30 AM	47	46	29	93	196	0	0	196	0	218	0	218	29	507	536
07:45 AM	68	42	18	110	176	0	0	176	0	254	0	254	18	540	558
Total	271	155	77	426	677	0	0	677	0	951	0	951	77	2054	2131
08:00 AM	55	32	18	87	143	0	0	143	0	222	0	222	18	452	470
08:15 AM	42	48	23	90	166	0	0	166	0	221	0	221	23	477	500
08:30 AM	52	45	25	97	156	0	0	156	0	229	0	229	25	482	507
08:45 AM	63	54	27	117	157	0	0	157	0	213	0	213	27	487	514
Total	212	179	93	391	622	0	0	622	0	885	0	885	93	1898	1991
Grand Total	483	334	170	817	1299	0	0	1299	0	1836	0	1836	170	3952	4122
Apprch %	59.1	40.9			100	0			0	100					
Total %	12.2	8.5		20.7	32.9	0		32.9	0	46.5		46.5	4.1	95.9	
Passenger Vehicles	469	309		937	1223	0		1223	0	1776		1776	0	0	3936
% Passenger Vehicles	97.1	92.5	93.5	94.9	94.1	0	0	94.1	0	96.7	0	96.7	0	0	95.5
Large 2 Axle Vehicles	5	16		30	59	0		59	0	34		34	0	0	123
% Large 2 Axle Vehicles	1	4.8	5.3	3	4.5	0	0	4.5	0	1.9	0	1.9	0	0	3
3 Axle Vehicles	2	3		6	8	0		8	0	4		4	0	0	18
% 3 Axle Vehicles	0.4	0.9	0.6	0.6	0.6	0	0	0.6	0	0.2	0	0.2	0	0	0.4
4+ Axle Trucks	7	6		14	9	0		9	0	22		22	0	0	45
% 4+ Axle Trucks	1.4	1.8	0.6	1.4	0.7	0	0	0.7	0	1.2	0	1.2	0	0	1.1

Start Time	I-15 Southbound Off Ramp Southbound			Main Street Westbound			Main Street Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	97	29	126	128	0	128	0	242	242	496
07:15 AM	59	38	97	177	0	177	0	237	237	511
07:30 AM	47	46	93	196	0	196	0	218	218	507
07:45 AM	68	42	110	176	0	176	0	254	254	540
Total Volume	271	155	426	677	0	677	0	951	951	2054
% App. Total	63.6	36.4		100	0		0	100		
PHF	.698	.842	.845	.864	.000	.864	.000	.936	.936	.951

City of Hesperia  
 N/S: I-15 Southbound Off Ramp  
 E/W: Main Street  
 Weather: Clear

File Name : 12\_HES\_15S Off Ramp\_Main AM  
 Site Code : 05119658  
 Start Date : 9/28/2019  
 Page No : 2



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

	07:00 AM			07:15 AM			07:00 AM		
+0 mins.	<b>97</b>	29	<b>126</b>	177	0	177	0	242	242
+15 mins.	59	38	97	<b>196</b>	0	<b>196</b>	0	237	237
+30 mins.	47	<b>46</b>	93	176	0	176	0	218	218
+45 mins.	68	42	110	143	0	143	0	<b>254</b>	<b>254</b>
Total Volume	271	155	426	692	0	692	0	951	951
% App. Total	63.6	36.4		100	0		0	100	
PHF	.698	.842	.845	.883	.000	.883	.000	.936	.936

City of Hesperia  
 N/S: I-15 Southbound Off Ramp  
 E/W: Main Street  
 Weather: Clear

File Name : 12\_HES\_15S Off Ramp\_Main AM  
 Site Code : 05119658  
 Start Date : 9/28/2019  
 Page No : 1

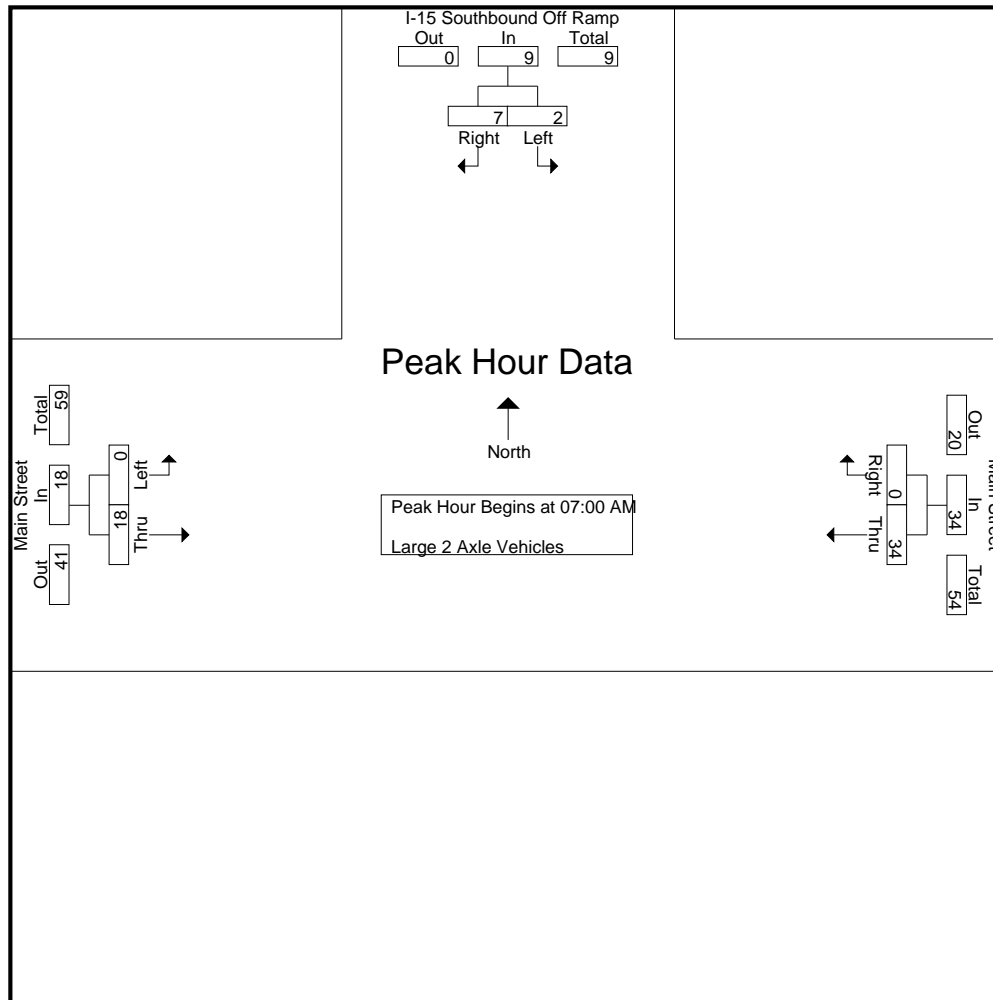
Groups Printed- Large 2 Axle Vehicles

Start Time	I-15 Southbound Off Ramp Southbound				Main Street Westbound				Main Street Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Right	RTOR	App. Total	Thru	Right	RTOR	App. Total	Left	Thru	RTOR	App. Total			
07:00 AM	1	0	0	1	10	0	0	10	0	6	0	6	0	17	17
07:15 AM	0	4	3	4	9	0	0	9	0	3	0	3	3	16	19
07:30 AM	1	1	1	2	5	0	0	5	0	4	0	4	1	11	12
07:45 AM	0	2	1	2	10	0	0	10	0	5	0	5	1	17	18
Total	2	7	5	9	34	0	0	34	0	18	0	18	5	61	66
08:00 AM	0	4	2	4	6	0	0	6	0	3	0	3	2	13	15
08:15 AM	0	0	0	0	6	0	0	6	0	5	0	5	0	11	11
08:30 AM	1	2	0	3	8	0	0	8	0	5	0	5	0	16	16
08:45 AM	2	3	2	5	5	0	0	5	0	3	0	3	2	13	15
Total	3	9	4	12	25	0	0	25	0	16	0	16	4	53	57
Grand Total	5	16	9	21	59	0	0	59	0	34	0	34	9	114	123
Apprch %	23.8	76.2			100	0			0	100					
Total %	4.4	14		18.4	51.8	0		51.8	0	29.8		29.8	7.3	92.7	

Start Time	I-15 Southbound Off Ramp Southbound			Main Street Westbound			Main Street Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	1	0	1	10	0	10	0	6	6	17
07:15 AM	0	4	4	9	0	9	0	3	3	16
07:30 AM	1	1	2	5	0	5	0	4	4	11
07:45 AM	0	2	2	10	0	10	0	5	5	17
Total Volume	2	7	9	34	0	34	0	18	18	61
% App. Total	22.2	77.8		100	0		0	100		
PHF	.500	.438	.563	.850	.000	.850	.000	.750	.750	.897

City of Hesperia  
 N/S: I-15 Southbound Off Ramp  
 E/W: Main Street  
 Weather: Clear

File Name : 12\_HES\_15S Off Ramp\_Main AM  
 Site Code : 05119658  
 Start Date : 9/28/2019  
 Page No : 2



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

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	1	0	1	10	0	10	0	6	6
+15 mins.	0	4	4	9	0	9	0	3	3
+30 mins.	1	1	2	5	0	5	0	4	4
+45 mins.	0	2	2	10	0	10	0	5	5
Total Volume	2	7	9	34	0	34	0	18	18
% App. Total	22.2	77.8		100	0		0	100	
PHF	.500	.438	.563	.850	.000	.850	.000	.750	.750

City of Hesperia  
 N/S: I-15 Southbound Off Ramp  
 E/W: Main Street  
 Weather: Clear

File Name : 12\_HES\_15S Off Ramp\_Main AM  
 Site Code : 05119658  
 Start Date : 9/28/2019  
 Page No : 1

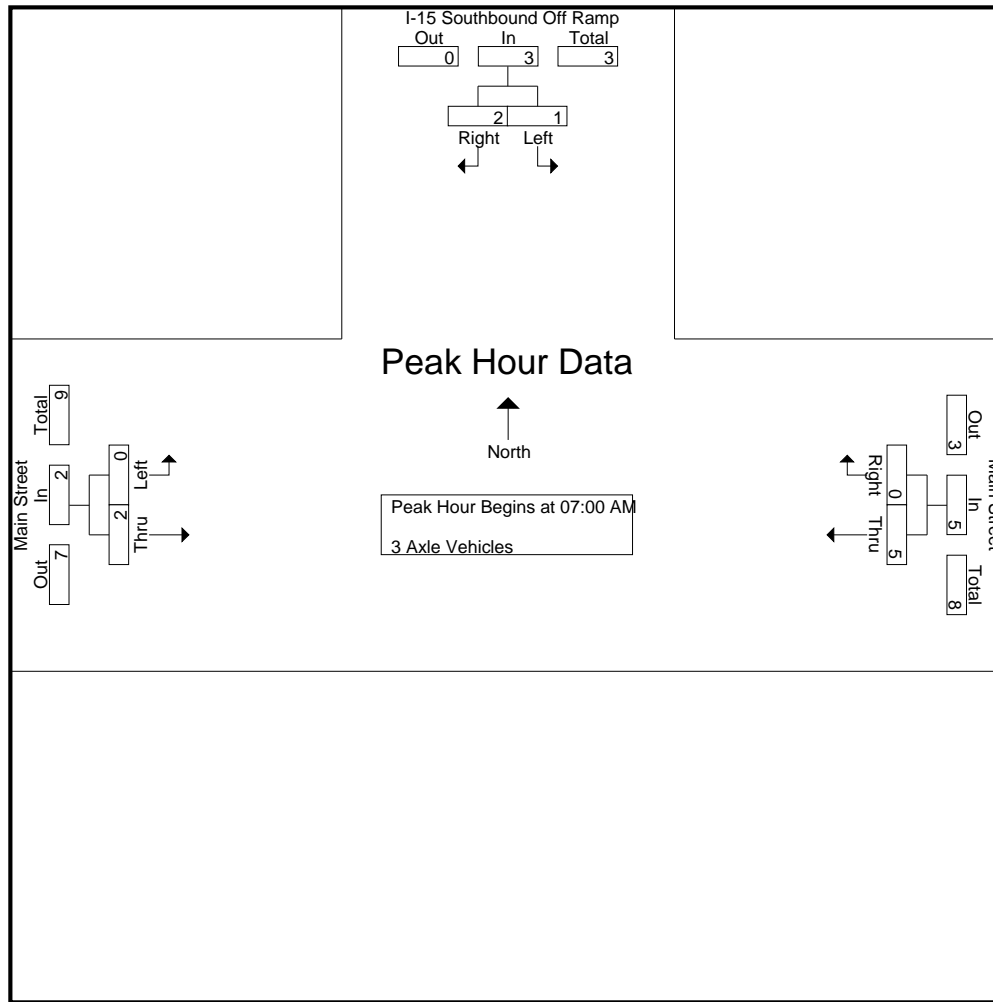
Groups Printed- 3 Axle Vehicles

Start Time	I-15 Southbound Off Ramp Southbound				Main Street Westbound				Main Street Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Right	RTOR	App. Total	Thru	Right	RTOR	App. Total	Left	Thru	RTOR	App. Total			
07:00 AM	0	0	0	0	1	0	0	1	0	1	0	1	0	2	2
07:15 AM	0	1	0	1	1	0	0	1	0	0	0	0	0	2	2
07:30 AM	1	1	1	2	2	0	0	2	0	0	0	0	1	4	5
07:45 AM	0	0	0	0	1	0	0	1	0	1	0	1	0	2	2
Total	1	2	1	3	5	0	0	5	0	2	0	2	1	10	11
08:00 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	1	1
08:15 AM	0	1	0	1	2	0	0	2	0	1	0	1	0	4	4
08:30 AM	0	0	0	0	1	0	0	1	0	0	0	0	0	1	1
08:45 AM	1	0	0	1	0	0	0	0	0	0	0	0	0	1	1
Total	1	1	0	2	3	0	0	3	0	2	0	2	0	7	7
Grand Total	2	3	1	5	8	0	0	8	0	4	0	4	1	17	18
Apprch %	40	60			100	0			0	100					
Total %	11.8	17.6		29.4	47.1	0		47.1	0	23.5		23.5	5.6	94.4	

Start Time	I-15 Southbound Off Ramp Southbound			Main Street Westbound			Main Street Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	0	0	1	0	1	0	1	1	2
07:15 AM	0	1	1	1	0	1	0	0	0	2
07:30 AM	1	1	2	2	0	2	0	0	0	4
07:45 AM	0	0	0	1	0	1	0	1	1	2
Total Volume	1	2	3	5	0	5	0	2	2	10
% App. Total	33.3	66.7		100	0		0	100		
PHF	.250	.500	.375	.625	.000	.625	.000	.500	.500	.625

City of Hesperia  
 N/S: I-15 Southbound Off Ramp  
 E/W: Main Street  
 Weather: Clear

File Name : 12\_HES\_15S Off Ramp\_Main AM  
 Site Code : 05119658  
 Start Date : 9/28/2019  
 Page No : 2



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

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	0	0	1	0	1	0	1	1
+15 mins.	0	1	1	1	0	1	0	0	0
+30 mins.	1	1	2	2	0	2	0	0	0
+45 mins.	0	0	0	1	0	1	0	1	1
Total Volume	1	2	3	5	0	5	0	2	2
% App. Total	33.3	66.7		100	0		0	100	
PHF	.250	.500	.375	.625	.000	.625	.000	.500	.500

City of Hesperia  
 N/S: I-15 Southbound Off Ramp  
 E/W: Main Street  
 Weather: Clear

File Name : 12\_HES\_15S Off Ramp\_Main AM  
 Site Code : 05119658  
 Start Date : 9/28/2019  
 Page No : 1

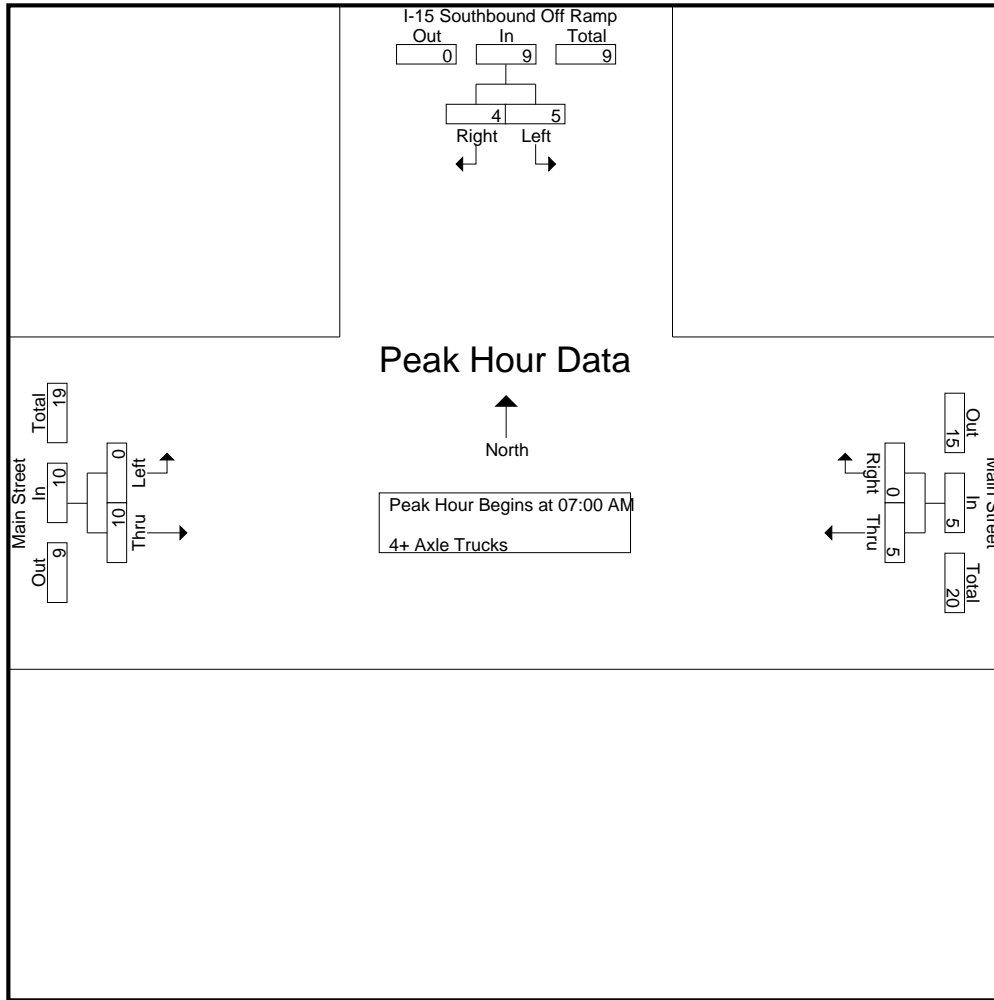
Groups Printed- 4+ Axle Trucks

Start Time	I-15 Southbound Off Ramp Southbound				Main Street Westbound				Main Street Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Right	RTOR	App. Total	Thru	Right	RTOR	App. Total	Left	Thru	RTOR	App. Total			
07:00 AM	1	3	0	4	1	0	0	1	0	4	0	4	0	9	9
07:15 AM	2	1	0	3	1	0	0	1	0	2	0	2	0	6	6
07:30 AM	0	0	0	0	1	0	0	1	0	1	0	1	0	2	2
07:45 AM	2	0	0	2	2	0	0	2	0	3	0	3	0	7	7
Total	5	4	0	9	5	0	0	5	0	10	0	10	0	24	24
08:00 AM	1	0	0	1	0	0	0	0	0	2	0	2	0	3	3
08:15 AM	0	1	1	1	3	0	0	3	0	6	0	6	1	10	11
08:30 AM	0	0	0	0	1	0	0	1	0	3	0	3	0	4	4
08:45 AM	1	1	0	2	0	0	0	0	0	1	0	1	0	3	3
Total	2	2	1	4	4	0	0	4	0	12	0	12	1	20	21
Grand Total	7	6	1	13	9	0	0	9	0	22	0	22	1	44	45
Apprch %	53.8	46.2			100	0			0	100					
Total %	15.9	13.6		29.5	20.5	0		20.5	0	50		50	2.2	97.8	

Start Time	I-15 Southbound Off Ramp Southbound			Main Street Westbound			Main Street Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	1	3	4	1	0	1	0	4	4	9
07:15 AM	2	1	3	1	0	1	0	2	2	6
07:30 AM	0	0	0	1	0	1	0	1	1	2
07:45 AM	2	0	2	2	0	2	0	3	3	7
Total Volume	5	4	9	5	0	5	0	10	10	24
% App. Total	55.6	44.4		100	0		0	100		
PHF	.625	.333	.563	.625	.000	.625	.000	.625	.625	.667

City of Hesperia  
 N/S: I-15 Southbound Off Ramp  
 E/W: Main Street  
 Weather: Clear

File Name : 12\_HES\_15S Off Ramp\_Main AM  
 Site Code : 05119658  
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Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1  
 Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	1	3	4	1	0	1	0	4	4
+15 mins.	2	1	3	1	0	1	0	2	2
+30 mins.	0	0	0	1	0	1	0	1	1
+45 mins.	2	0	2	2	0	2	0	3	3
Total Volume	5	4	9	5	0	5	0	10	10
% App. Total	55.6	44.4		100	0		0	100	
PHF	.625	.333	.563	.625	.000	.625	.000	.625	.625



City of Hesperia  
 N/S: I-15 Southbound Off Ramp  
 E/W: Main Street  
 Weather: Clear

File Name : 12\_HES\_15S Off Ramp\_Main PM  
 Site Code : 05119658  
 Start Date : 9/28/2019  
 Page No : 1

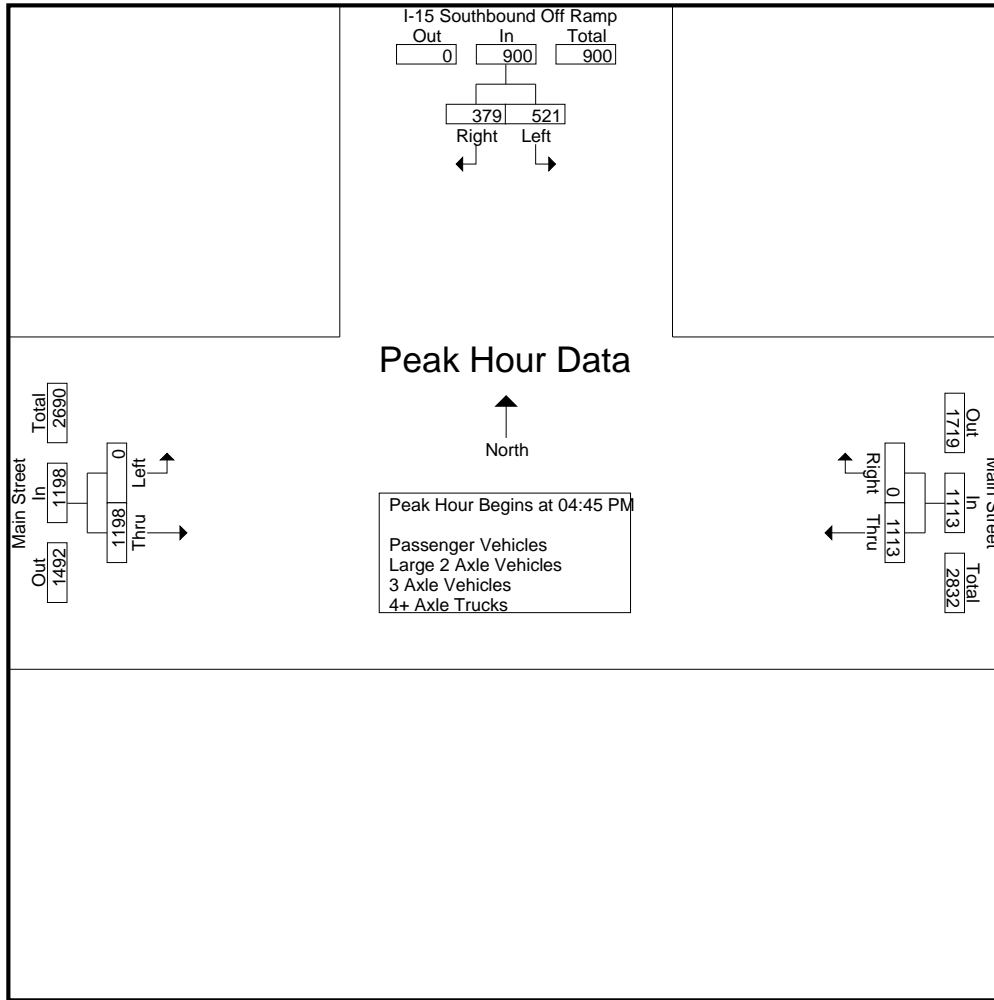
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	I-15 Southbound Off Ramp Southbound				Main Street Westbound				Main Street Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Right	RTOR	App. Total	Thru	Right	RTOR	App. Total	Left	Thru	RTOR	App. Total			
04:00 PM	94	68	30	162	242	0	0	242	0	329	0	329	30	733	763
04:15 PM	115	80	28	195	273	0	0	273	0	307	0	307	28	775	803
04:30 PM	88	91	32	179	274	0	0	274	0	310	0	310	32	763	795
04:45 PM	140	99	34	239	265	0	0	265	0	302	0	302	34	806	840
Total	437	338	124	775	1054	0	0	1054	0	1248	0	1248	124	3077	3201
05:00 PM	125	97	29	222	264	0	0	264	0	295	0	295	29	781	810
05:15 PM	146	91	25	237	288	0	0	288	0	269	0	269	25	794	819
05:30 PM	110	92	22	202	296	0	0	296	0	332	0	332	22	830	852
05:45 PM	95	89	26	184	282	0	0	282	0	286	0	286	26	752	778
Total	476	369	102	845	1130	0	0	1130	0	1182	0	1182	102	3157	3259
Grand Total	913	707	226	1620	2184	0	0	2184	0	2430	0	2430	226	6234	6460
Apprch %	56.4	43.6			100	0			0	100					
Total %	14.6	11.3		26	35	0		35	0	39		39	3.5	96.5	
Passenger Vehicles	894	683		1800	2145	0		2145	0	2374		2374	0	0	6319
% Passenger Vehicles	97.9	96.6	98.7	97.5	98.2	0	0	98.2	0	97.7	0	97.7	0	0	97.8
Large 2 Axle Vehicles	8	8		18	26	0		26	0	34		34	0	0	78
% Large 2 Axle Vehicles	0.9	1.1	0.9	1	1.2	0	0	1.2	0	1.4	0	1.4	0	0	1.2
3 Axle Vehicles	4	2		6	4	0		4	0	6		6	0	0	16
% 3 Axle Vehicles	0.4	0.3	0	0.3	0.2	0	0	0.2	0	0.2	0	0.2	0	0	0.2
4+ Axle Trucks	7	14		22	9	0		9	0	16		16	0	0	47
% 4+ Axle Trucks	0.8	2	0.4	1.2	0.4	0	0	0.4	0	0.7	0	0.7	0	0	0.7

Start Time	I-15 Southbound Off Ramp Southbound			Main Street Westbound			Main Street Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	140	99	239	265	0	265	0	302	302	806
05:00 PM	125	97	222	264	0	264	0	295	295	781
05:15 PM	146	91	237	288	0	288	0	269	269	794
05:30 PM	110	92	202	296	0	296	0	332	332	830
Total Volume	521	379	900	1113	0	1113	0	1198	1198	3211
% App. Total	57.9	42.1		100	0		0	100		
PHF	.892	.957	.941	.940	.000	.940	.000	.902	.902	.967

City of Hesperia  
 N/S: I-15 Southbound Off Ramp  
 E/W: Main Street  
 Weather: Clear

File Name : 12\_HES\_15S Off Ramp\_Main PM  
 Site Code : 05119658  
 Start Date : 9/28/2019  
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Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1  
 Peak Hour for Each Approach Begins at:

	04:45 PM			05:00 PM			04:00 PM		
+0 mins.	140	<b>99</b>	<b>239</b>	264	0	264	0	<b>329</b>	<b>329</b>
+15 mins.	125	97	222	288	0	288	0	307	307
+30 mins.	<b>146</b>	91	237	<b>296</b>	0	<b>296</b>	0	310	310
+45 mins.	110	92	202	282	0	282	0	302	302
Total Volume	521	379	900	1130	0	1130	0	1248	1248
% App. Total	57.9	42.1		100	0		0	100	
PHF	.892	.957	.941	.954	.000	.954	.000	.948	.948

City of Hesperia  
 N/S: I-15 Southbound Off Ramp  
 E/W: Main Street  
 Weather: Clear

File Name : 12\_HES\_15S Off Ramp\_Main PM  
 Site Code : 05119658  
 Start Date : 9/28/2019  
 Page No : 1

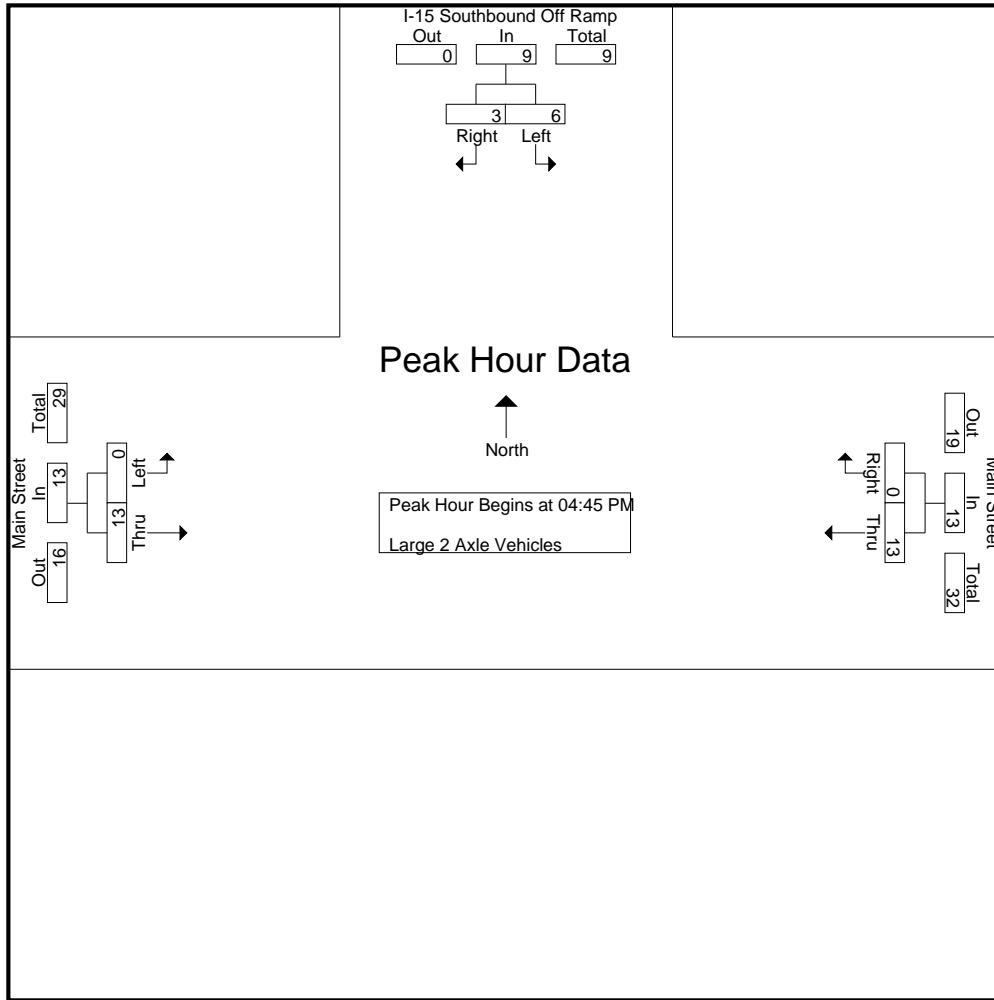
Groups Printed- Large 2 Axle Vehicles

Start Time	I-15 Southbound Off Ramp Southbound				Main Street Westbound				Main Street Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Right	RTOR	App. Total	Thru	Right	RTOR	App. Total	Left	Thru	RTOR	App. Total			
04:00 PM	0	1	1	1	4	0	0	4	0	9	0	9	1	14	15
04:15 PM	1	0	0	1	3	0	0	3	0	7	0	7	0	11	11
04:30 PM	1	1	0	2	4	0	0	4	0	5	0	5	0	11	11
04:45 PM	2	1	0	3	2	0	0	2	0	4	0	4	0	9	9
Total	4	3	1	7	13	0	0	13	0	25	0	25	1	45	46
05:00 PM	1	0	0	1	2	0	0	2	0	1	0	1	0	4	4
05:15 PM	3	2	0	5	2	0	0	2	0	4	0	4	0	11	11
05:30 PM	0	0	0	0	7	0	0	7	0	4	0	4	0	11	11
05:45 PM	0	3	1	3	2	0	0	2	0	0	0	0	1	5	6
Total	4	5	1	9	13	0	0	13	0	9	0	9	1	31	32
Grand Total	8	8	2	16	26	0	0	26	0	34	0	34	2	76	78
Apprch %	50	50			100	0			0	100					
Total %	10.5	10.5		21.1	34.2	0		34.2	0	44.7		44.7	2.6	97.4	

Start Time	I-15 Southbound Off Ramp Southbound			Main Street Westbound			Main Street Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	2	1	3	2	0	2	0	4	4	9
05:00 PM	1	0	1	2	0	2	0	1	1	4
05:15 PM	3	2	5	2	0	2	0	4	4	11
05:30 PM	0	0	0	7	0	7	0	4	4	11
Total Volume	6	3	9	13	0	13	0	13	13	35
% App. Total	66.7	33.3		100	0		0	100		
PHF	.500	.375	.450	.464	.000	.464	.000	.813	.813	.795

City of Hesperia  
 N/S: I-15 Southbound Off Ramp  
 E/W: Main Street  
 Weather: Clear

File Name : 12\_HES\_15S Off Ramp\_Main PM  
 Site Code : 05119658  
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Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1  
 Peak Hour for Each Approach Begins at:

	04:45 PM			04:45 PM			04:45 PM		
+0 mins.	2	1	3	2	0	2	0	4	4
+15 mins.	1	0	1	2	0	2	0	1	1
+30 mins.	3	2	5	2	0	2	0	4	4
+45 mins.	0	0	0	7	0	7	0	4	4
Total Volume	6	3	9	13	0	13	0	13	13
% App. Total	66.7	33.3		100	0		0	100	
PHF	.500	.375	.450	.464	.000	.464	.000	.813	.813

City of Hesperia  
 N/S: I-15 Southbound Off Ramp  
 E/W: Main Street  
 Weather: Clear

File Name : 12\_HES\_15S Off Ramp\_Main PM  
 Site Code : 05119658  
 Start Date : 9/28/2019  
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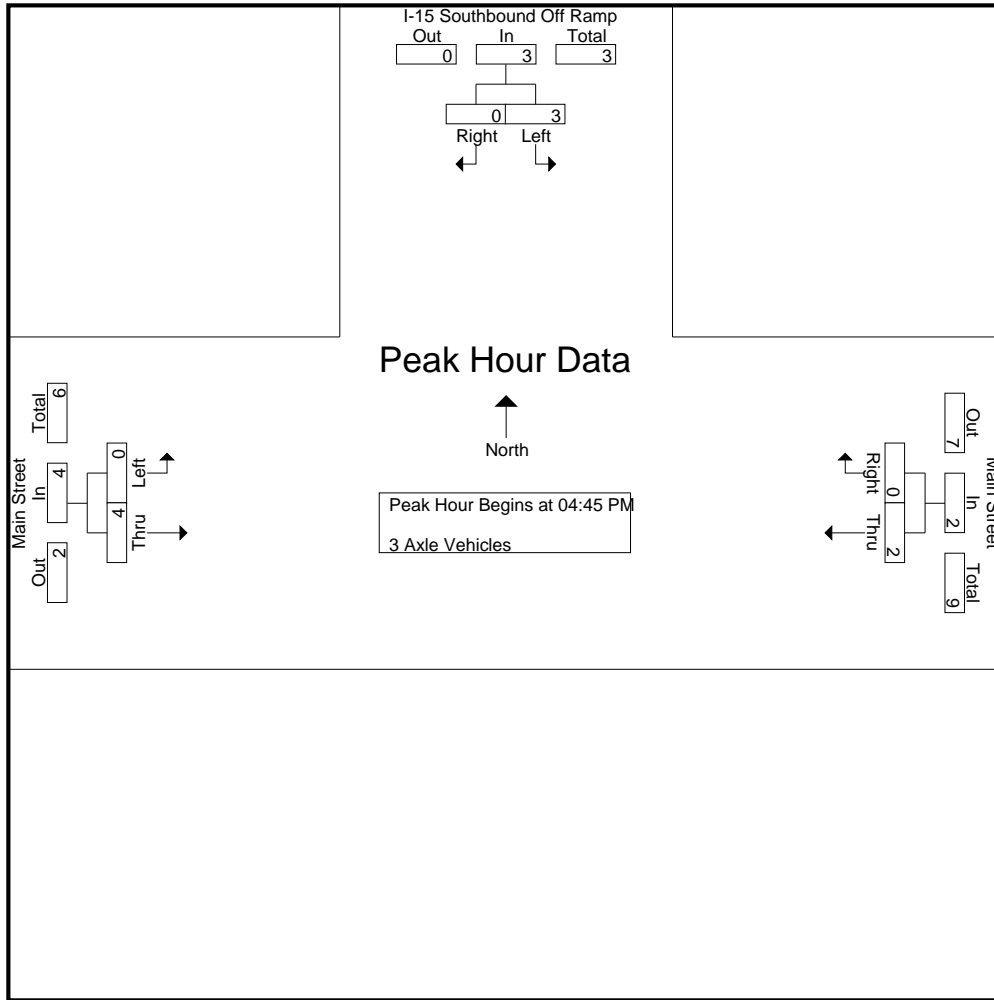
Groups Printed- 3 Axle Vehicles

Start Time	I-15 Southbound Off Ramp Southbound				Main Street Westbound				Main Street Eastbound				Exclu. Total	Inclu. Total	Int. Total	
	Left	Right	RTOR	App. Total	Thru	Right	RTOR	App. Total	Left	Thru	RTOR	App. Total				
04:00 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	1
04:15 PM	1	1	0	2	2	0	0	2	0	0	0	0	0	0	4	4
04:30 PM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	2	2
04:45 PM	1	0	0	1	1	0	0	1	0	1	0	1	0	0	3	3
Total	2	2	0	4	3	0	0	3	0	3	0	3	0	0	10	10
05:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	1
05:15 PM	0	0	0	0	1	0	0	1	0	1	0	1	0	0	2	2
05:30 PM	2	0	0	2	0	0	0	0	0	1	0	1	0	0	3	3
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	2	0	0	2	1	0	0	1	0	3	0	3	0	0	6	6
Grand Total	4	2	0	6	4	0	0	4	0	6	0	6	0	0	16	16
Apprch %	66.7	33.3			100	0			0	100						
Total %	25	12.5		37.5	25	0		25	0	37.5		37.5		0	100	

Start Time	I-15 Southbound Off Ramp Southbound			Main Street Westbound			Main Street Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	1	0	1	1	0	1	0	1	1	3
05:00 PM	0	0	0	0	0	0	0	1	1	1
05:15 PM	0	0	0	1	0	1	0	1	1	2
05:30 PM	2	0	2	0	0	0	0	1	1	3
Total Volume	3	0	3	2	0	2	0	4	4	9
% App. Total	100	0		100	0		0	100		
PHF	.375	.000	.375	.500	.000	.500	.000	1.00	1.00	.750

City of Hesperia  
 N/S: I-15 Southbound Off Ramp  
 E/W: Main Street  
 Weather: Clear

File Name : 12\_HES\_15S Off Ramp\_Main PM  
 Site Code : 05119658  
 Start Date : 9/28/2019  
 Page No : 2



Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1  
 Peak Hour for Each Approach Begins at:

	04:45 PM			04:45 PM			04:45 PM		
+0 mins.	1	0	1	1	0	1	0	1	1
+15 mins.	0	0	0	0	0	0	0	1	1
+30 mins.	0	0	0	1	0	1	0	1	1
+45 mins.	2	0	2	0	0	0	0	1	1
Total Volume	3	0	3	2	0	2	0	4	4
% App. Total	100	0		100	0		0	100	
PHF	.375	.000	.375	.500	.000	.500	.000	1.000	1.000

City of Hesperia  
 N/S: I-15 Southbound Off Ramp  
 E/W: Main Street  
 Weather: Clear

File Name : 12\_HES\_15S Off Ramp\_Main PM  
 Site Code : 05119658  
 Start Date : 9/28/2019  
 Page No : 1

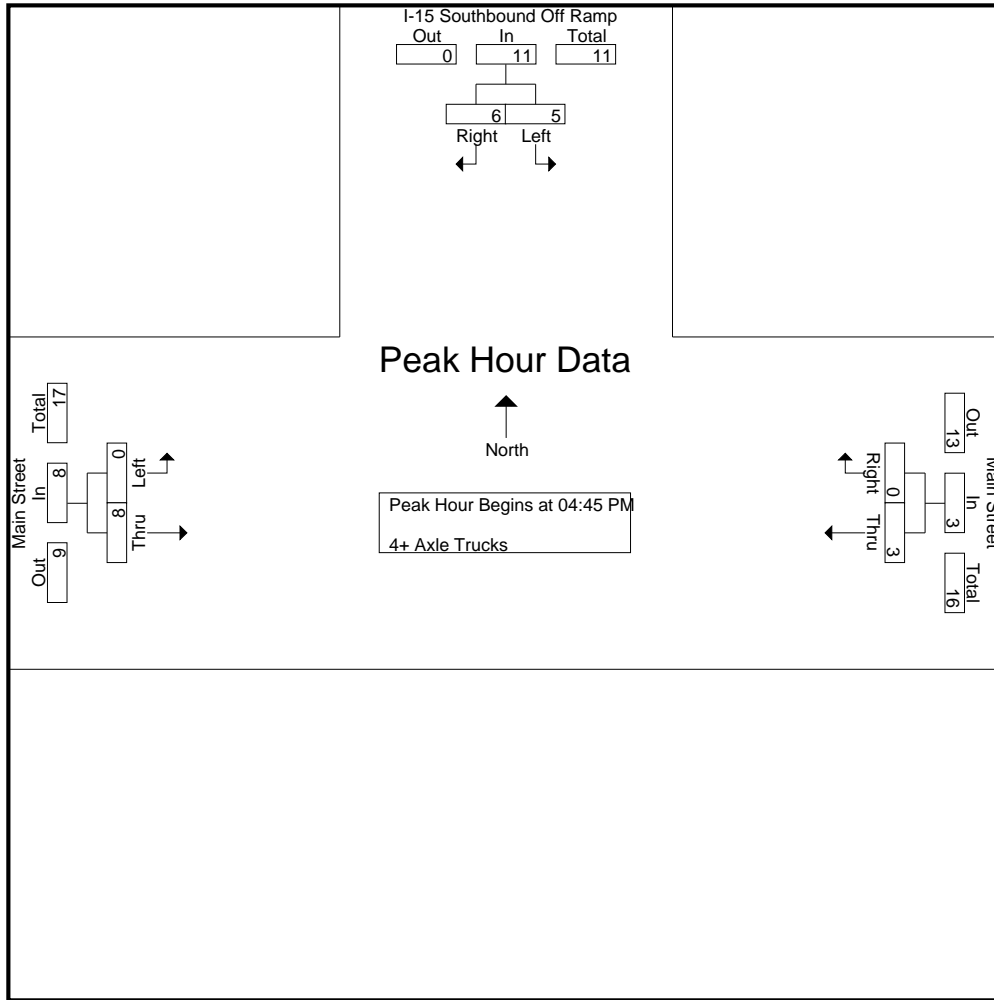
Groups Printed- 4+ Axle Trucks

Start Time	I-15 Southbound Off Ramp Southbound				Main Street Westbound				Main Street Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Right	RTOR	App. Total	Thru	Right	RTOR	App. Total	Left	Thru	RTOR	App. Total			
04:00 PM	0	3	0	3	1	0	0	1	0	4	0	4	0	8	8
04:15 PM	0	1	0	1	1	0	0	1	0	2	0	2	0	4	4
04:30 PM	2	3	1	5	1	0	0	1	0	1	0	1	1	7	8
04:45 PM	0	1	0	1	1	0	0	1	0	2	0	2	0	4	4
Total	2	8	1	10	4	0	0	4	0	9	0	9	1	23	24
05:00 PM	2	0	0	2	1	0	0	1	0	2	0	2	0	5	5
05:15 PM	1	3	0	4	0	0	0	0	0	2	0	2	0	6	6
05:30 PM	2	2	0	4	1	0	0	1	0	2	0	2	0	7	7
05:45 PM	0	1	0	1	3	0	0	3	0	1	0	1	0	5	5
Total	5	6	0	11	5	0	0	5	0	7	0	7	0	23	23
Grand Total	7	14	1	21	9	0	0	9	0	16	0	16	1	46	47
Apprch %	33.3	66.7			100	0			0	100					
Total %	15.2	30.4		45.7	19.6	0		19.6	0	34.8		34.8	2.1	97.9	

Start Time	I-15 Southbound Off Ramp Southbound			Main Street Westbound			Main Street Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	0	1	1	1	0	1	0	2	2	4
05:00 PM	2	0	2	1	0	1	0	2	2	5
05:15 PM	1	3	4	0	0	0	0	2	2	6
05:30 PM	2	2	4	1	0	1	0	2	2	7
Total Volume	5	6	11	3	0	3	0	8	8	22
% App. Total	45.5	54.5		100	0		0	100		
PHF	.625	.500	.688	.750	.000	.750	.000	1.00	1.00	.786

City of Hesperia  
 N/S: I-15 Southbound Off Ramp  
 E/W: Main Street  
 Weather: Clear

File Name : 12\_HES\_15S Off Ramp\_Main PM  
 Site Code : 05119658  
 Start Date : 9/28/2019  
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Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1  
 Peak Hour for Each Approach Begins at:

	04:45 PM			04:45 PM			04:45 PM		
+0 mins.	0	1	1	1	0	1	0	2	2
+15 mins.	2	0	2	1	0	1	0	2	2
+30 mins.	1	3	4	0	0	0	0	2	2
+45 mins.	2	2	4	1	0	1	0	2	2
Total Volume	5	6	11	3	0	3	0	8	8
% App. Total	45.5	54.5		100	0		0	100	
PHF	.625	.500	.688	.750	.000	.750	.000	1.000	1.000



Location: Hesperia  
 N/S: I-15 SB Off Ramp  
 E/W: Main Street



Date: 9/28/2019  
 Day: Saturday

PEDESTRIANS

	North Leg I-15 SB Off Ramp	East Leg Main Street	South Leg Dead End	West Leg Main Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg I-15 SB Off Ramp	East Leg Main Street	South Leg Dead End	West Leg Main Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	1	0	0	0	1
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	1	0	0	0	1

Location: Hesperia  
 N/S: I-15 SB Off Ramp  
 E/W: Main Street



Date: 9/28/2019  
 Day: Saturday

BICYCLES

	Southbound I-15 SB Off Ramp			Westbound Main Street			Northbound Dead End			Eastbound Main Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

	Southbound I-15 SB Off Ramp			Westbound Main Street			Northbound Dead End			Eastbound Main Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	I-15 Northbound On Ramp Southbound						Main Street Westbound						I-15 Northbound Off Ramp Northbound						Main Street Eastbound						
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		
	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	
07:00 AM	0	0	0	0	0	0	0	270	84	6	354	10	1	116	55	127	0	281	54	0	335	61	816	877	
07:15 AM	0	0	0	0	0	0	0	278	129	13	407	14	1	84	55	99	0	236	65	0	301	68	807	875	
07:30 AM	0	0	0	0	0	0	0	324	129	6	453	19	0	81	51	100	0	182	70	0	252	57	805	862	
07:45 AM	0	0	0	0	0	0	0	274	96	6	370	21	1	75	45	97	0	233	80	0	313	51	780	831	
Total	0	0	0	0	0	0	0	1146	438	31	1584	64	3	356	206	423	0	932	269	0	1201	237	3208	3445	
08:00 AM	0	0	0	0	0	0	0	277	96	1	373	4	2	65	49	71	0	208	57	0	265	50	709	759	
08:15 AM	0	0	0	0	0	0	0	278	83	16	361	12	0	56	41	68	0	189	69	0	258	57	687	744	
08:30 AM	0	0	0	0	0	0	0	251	94	14	345	11	0	65	36	76	0	205	65	0	270	50	691	741	
08:45 AM	0	0	0	0	0	0	0	273	82	11	355	22	0	67	37	89	0	209	56	0	265	48	709	757	
Total	0	0	0	0	0	0	0	1079	355	42	1434	49	2	253	163	304	0	811	247	0	1058	205	2796	3001	
Grand Total	0	0	0	0	0	0	0	2225	793	73	3018	113	5	609	369	727	0	1743	516	0	2259	442	6004	6446	
Approch %	0	0	0	0	0	0	0	73.7	26.3		15.5	0.7	83.8		0	77.2	22.8		0	29	8.6	37.6	6.9	93.1	
Total %	0	0	0	0	0	0	0	37.1	13.2		50.3	1.9	10.1		0	29	8.6		0	29	8.6	37.6	6.9	93.1	
% Passenger Vehicles	0	0	0	0	0	0	0	2118	766	93.2	2952	99	3	570	93.5	1017	0	1688	492	0	2180	0	0	6149	
% Large 2 Axle Vehicles	0	0	0	0	0	0	0	95.2	96.6		95.5	87.6	60	93.6	92.8	0	96.8	95.3	0	96.5	0	0	95.4		
% 3 Axle Vehicles	0	0	0	0	0	0	0	68	16		86	6	1	25	48	0	36	8	0	44	0	0	178		
% 4+ Axle Trucks	0	0	0	0	0	0	0	3.1	2		2.8	5.3	20	4.1	4.4	0	2.1	1.6	0	1.9	0	0	2.8		
% 3 Axle Vehicles	0	0	0	0	0	0	0	11	2		13	0	0	2	4	0	5	2	0	7	0	0	24		
% 4+ Axle Trucks	0	0	0	0	0	0	0	0.5	0.3		0.4	0	0	0.3	0.4	0	0.3	0.4	0	0.3	0	0	0.4		
% 4+ Axle Trucks	0	0	0	0	0	0	0	28	9		40	8	1	12	27	0	14	14	0	28	0	0	95		
% 4+ Axle Trucks	0	0	0	0	0	0	0	1.3	1.1		1.3	7.1	20	2	2.5	0	0.8	2.7	0	1.2	0	0	1.5		

Start Time	I-15 Northbound On Ramp Southbound						Main Street Westbound						I-15 Northbound Off Ramp Northbound						Main Street Eastbound						
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		
	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	
07:00 AM	0	0	0	0	0	0	0	270	84	6	354	10	1	116	55	127	0	281	54	0	335	61	816	877	
07:15 AM	0	0	0	0	0	0	0	278	129	13	407	14	1	84	55	99	0	236	65	0	301	68	807	875	
07:30 AM	0	0	0	0	0	0	0	324	129	6	453	19	0	81	51	100	0	182	70	0	252	57	805	862	
07:45 AM	0	0	0	0	0	0	0	274	96	6	370	21	1	75	45	97	0	233	80	0	313	51	780	831	
Total	0	0	0	0	0	0	0	1146	438	31	1584	64	3	356	206	423	0	932	269	0	1201	237	3208	3445	
08:00 AM	0	0	0	0	0	0	0	277	96	1	373	4	2	65	49	71	0	208	57	0	265	50	709	759	
08:15 AM	0	0	0	0	0	0	0	278	83	16	361	12	0	56	41	68	0	189	69	0	258	57	687	744	
08:30 AM	0	0	0	0	0	0	0	251	94	14	345	11	0	65	36	76	0	205	65	0	270	50	691	741	
08:45 AM	0	0	0	0	0	0	0	273	82	11	355	22	0	67	37	89	0	209	56	0	265	48	709	757	
Total	0	0	0	0	0	0	0	1079	355	42	1434	49	2	253	163	304	0	811	247	0	1058	205	2796	3001	
Grand Total	0	0	0	0	0	0	0	2225	793	73	3018	113	5	609	369	727	0	1743	516	0	2259	442	6004	6446	
Approch %	0	0	0	0	0	0	0	73.7	26.3		15.5	0.7	83.8		0	77.2	22.8		0	29	8.6	37.6	6.9	93.1	
Total %	0	0	0	0	0	0	0	37.1	13.2		50.3	1.9	10.1		0	29	8.6		0	29	8.6	37.6	6.9	93.1	
% Passenger Vehicles	0	0	0	0	0	0	0	2118	766	93.2	2952	99	3	570	93.5	1017	0	1688	492	0	2180	0	0	6149	
% Large 2 Axle Vehicles	0	0	0	0	0	0	0	95.2	96.6		95.5	87.6	60	93.6	92.8	0	96.8	95.3	0	96.5	0	0	95.4		
% 3 Axle Vehicles	0	0	0	0	0	0	0	68	16		86	6	1	25	48	0	36	8	0	44	0	0	178		
% 4+ Axle Trucks	0	0	0	0	0	0	0	3.1	2		2.8	5.3	20	4.1	4.4	0	2.1	1.6	0	1.9	0	0	2.8		
% 3 Axle Vehicles	0	0	0	0	0	0	0	11	2		13	0	0	2	4	0	5	2	0	7	0	0	24		
% 4+ Axle Trucks	0	0	0	0	0	0	0	0.5	0.3		0.4	0	0	0.3	0.4	0	0.3	0.4	0	0.3	0	0	0.4		
% 4+ Axle Trucks	0	0	0	0	0	0	0	28	9		40	8	1	12	27	0	14	14	0	28	0	0	95		
% 4+ Axle Trucks	0	0	0	0	0	0	0	1.3	1.1		1.3	7.1	20	2	2.5	0	0.8	2.7	0	1.2	0	0	1.5		

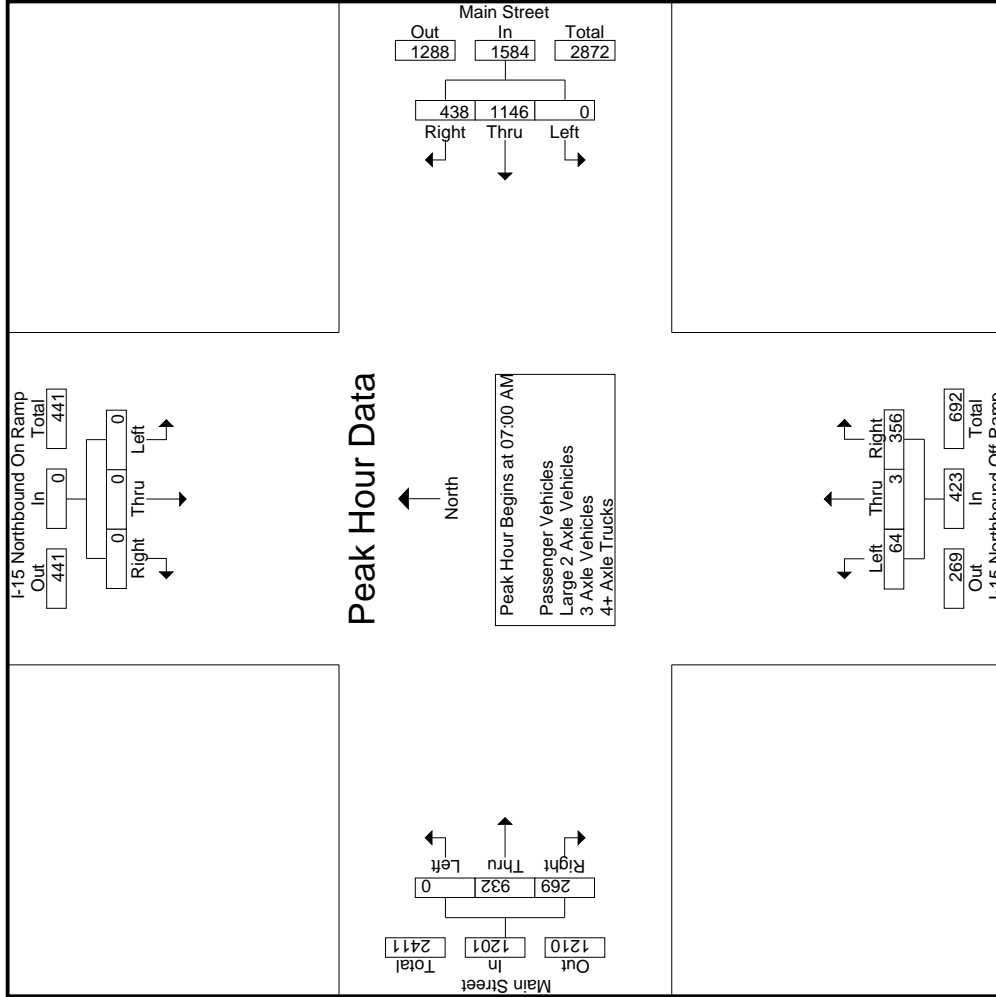
  

Start Time	I-15 Northbound On Ramp Southbound						Main Street Westbound						I-15 Northbound Off Ramp Northbound						Main Street Eastbound						
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		
	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	
07:00 AM	0	0	0	0	0	0	0	270	84	6	354	10	1	116	55	127	0	281	54	0	335	61	816	877	
07:15 AM	0	0	0	0	0	0	0	278	129	13	407	14	1	84	55	99	0	236	65	0	301	68	807	875	
07:30 AM	0	0	0	0	0	0	0	324	129	6	453	19	0	81	51	100	0	182	70	0	252	57	805	862	
07:45 AM	0	0	0	0	0	0	0	274	96	6	370	21	1	75	45	97	0	233	80	0	313	51	780	831	
Total	0	0	0	0	0	0	0	1146	438	31	1584	64	3	356	206	423	0	932	269	0	1201	237	3208	3445	
08:00 AM	0	0	0	0	0	0	0	277	96	1	373	4	2	65	49	71	0	208	57	0	265	50	709	759	
08:15 AM	0	0	0	0	0	0	0	278	83	16	361	12	0	56	41	68	0	189	69	0	258	57	687	744	
08:30 AM	0	0	0	0	0	0	0	251	94	14	345	11	0	65	36	76	0	205	65	0	270	50	691	741	
08:45 AM	0	0	0	0	0	0	0	273	82	11	355	22	0	67	37	89	0	209	56	0	265	48	709	757	
Total	0	0	0	0	0	0	0	1079	355	42	1434	49	2	253	163	304	0	811	247	0	1058	205	2796	3001	
Grand Total	0	0	0	0	0	0	0	2225	793	73	3018	113	5	609	369	727	0	1743	516	0	2259	442	6004	6446	
Approch %	0	0	0	0	0	0	0	73.7	26.3		15.5	0.7	83.8		0	77.2	22.8		0	29	8.6	37.6	6.9	93.1	
Total %	0	0	0	0	0	0	0	37.1	13.2		50.3	1.9	10.1		0	29	8.6		0	29	8.6	37.6	6.9	93.1	
% Passenger Vehicles	0	0	0	0	0	0	0	2118	766	93.2	2952	99	3	570	93.5	1017	0	1688	492	0	2180	0	0	6149	
% Large 2 Axle Vehicles	0	0	0	0	0	0	0	95.2	96.6		95.5	87.6	60	93.6	92.8	0	96.8	95.3	0	96.5	0	0	95.4		
% 3 Axle Vehicles	0	0	0	0	0	0	0	68	16																

Counts Unlimited  
 PO Box 1178  
 Corona, CA 92878  
 (951) 268-6268

City of Hesperia  
 N/S: I-15 Northbound Ramps  
 E/W: Main Street  
 Weather: Clear

File Name : 13\_HES\_15N\_Main AM  
 Site Code : 05119658  
 Start Date : 9/28/2019  
 Page No : 2



Groups Printed - Large 2 Axle Vehicles

Start Time	I-15 Northbound On Ramp Southbound					Main Street Westbound					I-15 Northbound Off Ramp Northbound					Main Street Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	7	0	0	7	2	1	3	1	6	0	6	2	0	8	1	21	22
07:15 AM	0	0	0	0	0	0	12	2	0	14	0	0	4	2	4	0	4	0	0	4	2	22	24
07:30 AM	0	0	0	0	0	0	7	2	0	9	0	0	4	3	4	0	6	0	0	6	3	19	22
07:45 AM	0	0	0	0	0	0	10	1	0	11	1	0	2	1	3	0	4	0	0	4	1	18	19
Total	0	0	0	0	0	0	36	5	0	41	3	1	13	7	17	0	20	2	0	22	7	80	87
08:00 AM	0	0	0	0	0	0	9	1	0	10	0	0	4	3	4	0	2	1	0	3	3	17	20
08:15 AM	0	0	0	0	0	0	5	2	1	7	0	0	3	2	3	0	5	2	0	7	3	17	20
08:30 AM	0	0	0	0	0	0	11	4	0	15	1	0	4	3	5	0	4	3	0	7	3	27	30
08:45 AM	0	0	0	0	0	0	7	4	1	11	2	0	1	1	3	0	5	0	0	5	2	19	21
Total	0	0	0	0	0	0	32	11	2	43	3	0	12	9	15	0	16	6	0	22	11	80	91
Grand Total	0	0	0	0	0	0	68	16	2	84	6	1	25	16	32	0	36	8	0	44	18	160	178
Apprch %	0	0	0	0	0	0	81	19		100	18.8	3.1	78.1		100	0	81.8	18.2		100			
Total %	0	0	0	0	0	0	42.5	10		52.5	3.8	0.6	15.6		20	0	22.5	5		27.5	10.1	89.9	

Start Time	I-15 Northbound On Ramp Southbound					Main Street Westbound					I-15 Northbound Off Ramp Northbound					Main Street Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	7	0	0	7	2	1	3	1	6	0	6	2	0	8	1	21	22
07:15 AM	0	0	0	0	0	0	12	2	0	14	0	0	4	2	4	0	4	0	0	4	2	22	24
07:30 AM	0	0	0	0	0	0	7	2	0	9	0	0	4	3	4	0	6	0	0	6	3	19	22
07:45 AM	0	0	0	0	0	0	10	1	0	11	1	0	2	1	3	0	4	0	0	4	1	18	19
Total	0	0	0	0	0	0	36	5	0	41	3	1	13	7	17	0	20	2	0	22	7	80	87
08:00 AM	0	0	0	0	0	0	9	1	0	10	0	0	4	3	4	0	2	1	0	3	3	17	20
08:15 AM	0	0	0	0	0	0	5	2	1	7	0	0	3	2	3	0	5	2	0	7	3	17	20
08:30 AM	0	0	0	0	0	0	11	4	0	15	1	0	4	3	5	0	4	3	0	7	3	27	30
08:45 AM	0	0	0	0	0	0	7	4	1	11	2	0	1	1	3	0	5	0	0	5	2	19	21
Total	0	0	0	0	0	0	32	11	2	43	3	0	12	9	15	0	16	6	0	22	11	80	91
Grand Total	0	0	0	0	0	0	68	16	2	84	6	1	25	16	32	0	36	8	0	44	18	160	178
Apprch %	0	0	0	0	0	0	81	19		100	18.8	3.1	78.1		100	0	81.8	18.2		100			
Total %	0	0	0	0	0	0	42.5	10		52.5	3.8	0.6	15.6		20	0	22.5	5		27.5	10.1	89.9	

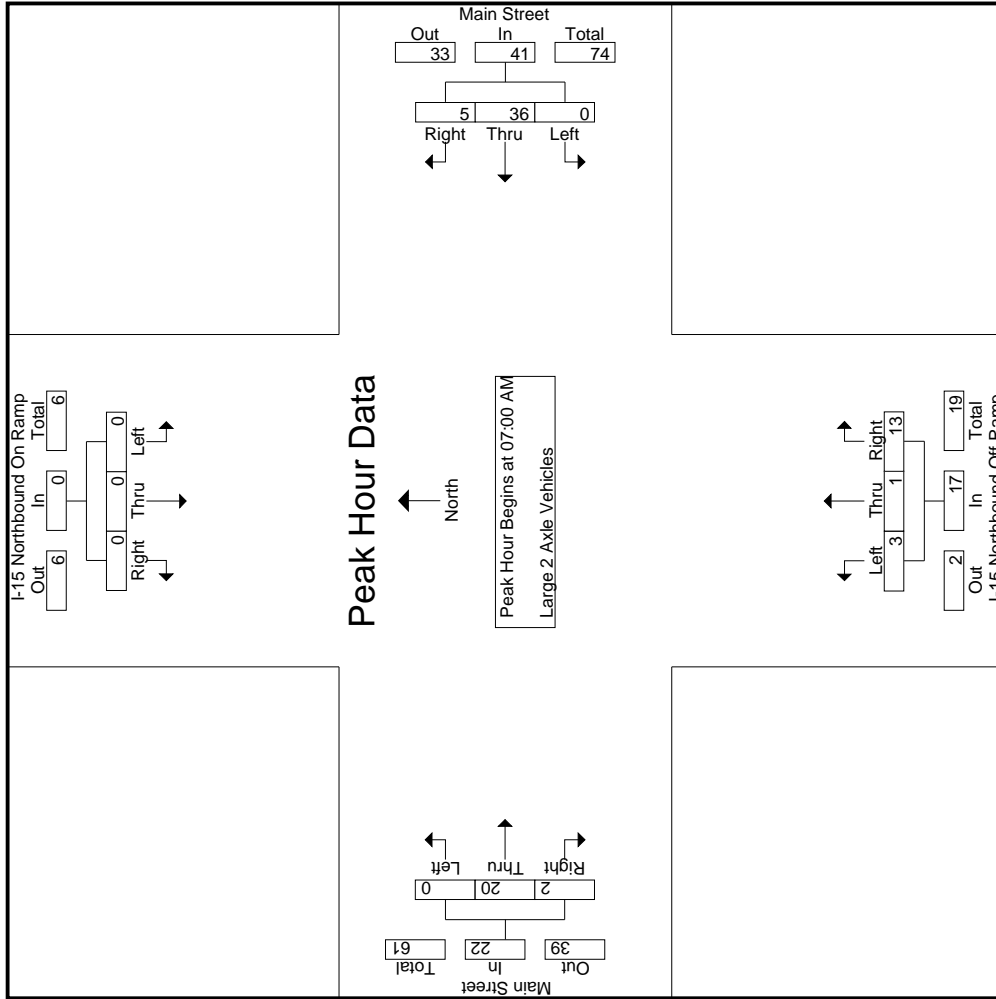
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1  
 Peak Hour for Entire Intersection Begins at 07:00 AM

Start Time	I-15 Northbound On Ramp Southbound					Main Street Westbound					I-15 Northbound Off Ramp Northbound					Main Street Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	7	0	0	7	2	1	3	1	6	0	6	2	0	8	1	21	22
07:15 AM	0	0	0	0	0	0	12	2	0	14	0	0	4	2	4	0	4	0	0	4	2	22	24
07:30 AM	0	0	0	0	0	0	7	2	0	9	0	0	4	3	4	0	6	0	0	6	3	19	22
07:45 AM	0	0	0	0	0	0	10	1	0	11	1	0	2	1	3	0	4	0	0	4	1	18	19
Total Volume	0	0	0	0	0	0	36	5	0	41	3	1	13	7	17	0	20	2	0	22	7	80	87
% App. Total	0	0	0	0	0	0	87.8	12.2		100	17.6	5.9	76.5		100	0	90.9	9.1		100			
PHF	.000	.000	.000	.000	.000	.000	.750	.625		.732	.375	.250	.813		.708	.000	.833	.250		.688			.909

Counts Unlimited  
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City of Hesperia  
 N/S: I-15 Northbound Ramps  
 E/W: Main Street  
 Weather: Clear

File Name : 13\_HES\_15N\_Main AM  
 Site Code : 05119658  
 Start Date : 9/28/2019  
 Page No : 2



Groups Printed - 3 Axle Vehicles

Start Time	I-15 Northbound On Ramp Southbound				Main Street Westbound				I-15 Northbound Off Ramp Northbound				Main Street Eastbound						
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
07:00 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	4	4	4
07:15 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	1	1
07:30 AM	0	0	0	0	0	3	1	0	0	4	0	0	0	0	1	0	5	5	5
07:45 AM	0	0	0	0	0	0	1	0	0	1	0	0	1	0	2	0	4	4	4
Total	0	0	0	0	0	7	2	0	0	9	0	0	1	0	4	0	14	14	14
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1
08:15 AM	0	0	0	0	0	2	0	0	0	2	0	0	0	0	1	0	3	3	3
08:30 AM	0	0	0	0	0	1	0	0	1	1	0	0	0	0	0	1	1	1	2
08:45 AM	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	1	3	4	4
Total	0	0	0	0	0	4	0	0	0	4	0	0	1	2	3	2	8	10	10
Grand Total	0	0	0	0	0	11	2	0	0	13	0	0	2	2	7	2	22	24	24
Approch %	0	0	0	0	0	84.6	15.4	0	0	100	0	0	0	0	71.4	28.6	0	0	0
Total %	0	0	0	0	0	50	9.1	0	0	59.1	0	0	9.1	0	31.8	8.3	91.7	91.7	91.7

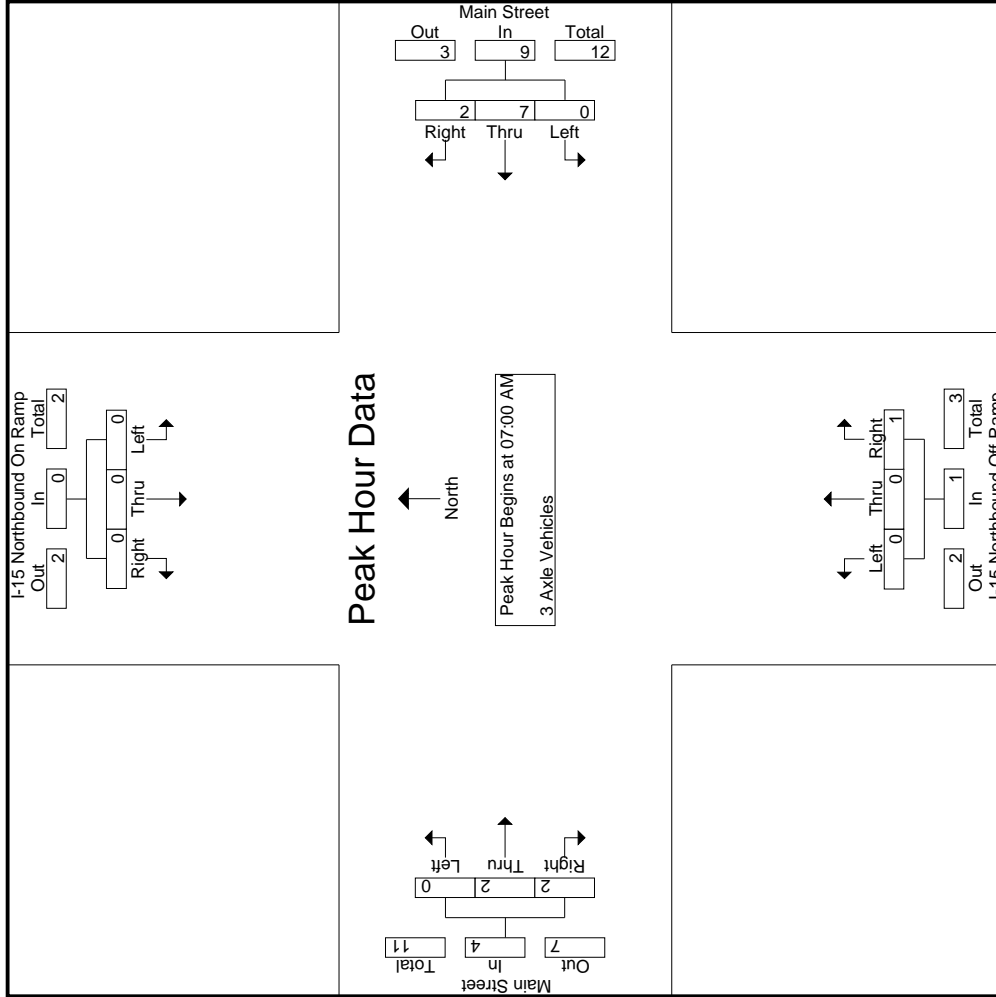
Start Time	I-15 Northbound On Ramp Southbound				Main Street Westbound				I-15 Northbound Off Ramp Northbound				Main Street Eastbound						
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
07:00 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	1	0	1	1	1
07:15 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	1	1
07:30 AM	0	0	0	0	0	3	1	0	0	4	0	0	0	0	1	0	5	5	5
07:45 AM	0	0	0	0	0	0	1	0	0	1	0	0	1	0	2	0	4	4	4
Total Volume	0	0	0	0	0	7	2	0	0	9	0	0	1	0	4	0	14	14	14
% App. Total	0	0	0	0	0	77.8	22.2	0	0	100	0	0	0	0	50	50	0	0	0
PHF	.000	.000	.000	.000	.000	.583	.500	.000	.000	.563	.000	.250	.000	.250	.500	.250	.500	.700	.700

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1  
 Peak Hour for Entire Intersection Begins at 07:00 AM

Counts Unlimited  
 PO Box 1178  
 Corona, CA 92878  
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City of Hesperia  
 N/S: I-15 Northbound Ramps  
 E/W: Main Street  
 Weather: Clear

File Name : 13\_HES\_15N\_Main AM  
 Site Code : 05119658  
 Start Date : 9/28/2019  
 Page No : 2





Groups Printed- 4+ Axle Trucks

Start Time	I-15 Northbound On Ramp Southbound					Main Street Westbound					I-15 Northbound Off Ramp Northbound					Main Street Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	1	1	1	1	0	2	1	3	0	2	3	0	5	2	9	11
07:15 AM	0	0	0	0	0	0	3	0	0	3	1	0	2	0	3	0	3	1	0	4	0	10	10
07:30 AM	0	0	0	0	0	0	4	2	1	6	2	0	2	1	4	0	0	1	0	1	2	11	13
07:45 AM	0	0	0	0	0	0	3	2	1	5	2	1	1	1	4	0	3	2	0	5	2	14	16
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>5</b>	<b>3</b>	<b>15</b>	<b>6</b>	<b>1</b>	<b>7</b>	<b>3</b>	<b>14</b>	<b>0</b>	<b>8</b>	<b>7</b>	<b>0</b>	<b>15</b>	<b>6</b>	<b>44</b>	<b>50</b>
08:00 AM	0	0	0	0	0	0	5	1	0	6	0	0	3	2	3	0	1	2	0	3	2	12	14
08:15 AM	0	0	0	0	0	0	8	1	0	9	2	0	0	0	2	0	2	3	0	5	0	16	16
08:30 AM	0	0	0	0	0	0	3	1	0	4	0	0	0	0	0	0	1	1	0	2	0	6	6
08:45 AM	0	0	0	0	0	0	2	1	0	3	0	0	2	1	2	0	2	1	0	3	1	8	9
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>18</b>	<b>4</b>	<b>0</b>	<b>22</b>	<b>2</b>	<b>0</b>	<b>5</b>	<b>3</b>	<b>7</b>	<b>0</b>	<b>6</b>	<b>7</b>	<b>0</b>	<b>13</b>	<b>3</b>	<b>42</b>	<b>45</b>
<b>Grand Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>28</b>	<b>9</b>	<b>3</b>	<b>37</b>	<b>8</b>	<b>1</b>	<b>12</b>	<b>6</b>	<b>21</b>	<b>0</b>	<b>14</b>	<b>14</b>	<b>0</b>	<b>28</b>	<b>9</b>	<b>86</b>	<b>95</b>
Apprch %	0	0	0	0	0	0	75.7	24.3		43	38.1	4.8	57.1		24.4	0	50	50		32.6	9.5	90.5	
Total %	0	0	0	0	0	0	32.6	10.5		43	9.3	1.2	14		24.4	0	16.3	16.3		32.6	9.5	90.5	

Start Time	I-15 Northbound On Ramp Southbound					Main Street Westbound					I-15 Northbound Off Ramp Northbound					Main Street Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	2	3	5
07:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	4	4
07:30 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	2	2
07:45 AM	0	0	0	0	0	0	0	0	0	0	2	1	1	1	4	0	3	2	0	5	2	14	16
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>1</b>	<b>7</b>	<b>3</b>	<b>14</b>	<b>0</b>	<b>8</b>	<b>7</b>	<b>0</b>	<b>15</b>	<b>6</b>	<b>44</b>	<b>50</b>
08:00 AM	0	0	0	0	0	0	5	1	0	6	0	0	3	2	3	0	1	2	0	3	2	12	14
08:15 AM	0	0	0	0	0	0	8	1	0	9	2	0	0	0	2	0	2	3	0	5	0	16	16
08:30 AM	0	0	0	0	0	0	3	1	0	4	0	0	0	0	0	0	1	1	0	2	0	6	6
08:45 AM	0	0	0	0	0	0	2	1	0	3	0	0	2	1	2	0	2	1	0	3	1	8	9
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>18</b>	<b>4</b>	<b>0</b>	<b>22</b>	<b>2</b>	<b>0</b>	<b>5</b>	<b>3</b>	<b>7</b>	<b>0</b>	<b>6</b>	<b>7</b>	<b>0</b>	<b>13</b>	<b>3</b>	<b>42</b>	<b>45</b>
<b>Grand Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>28</b>	<b>9</b>	<b>3</b>	<b>37</b>	<b>8</b>	<b>1</b>	<b>12</b>	<b>6</b>	<b>21</b>	<b>0</b>	<b>14</b>	<b>14</b>	<b>0</b>	<b>28</b>	<b>9</b>	<b>86</b>	<b>95</b>
Apprch %	0	0	0	0	0	0	75.7	24.3		43	38.1	4.8	57.1		24.4	0	50	50		32.6	9.5	90.5	
Total %	0	0	0	0	0	0	32.6	10.5		43	9.3	1.2	14		24.4	0	16.3	16.3		32.6	9.5	90.5	

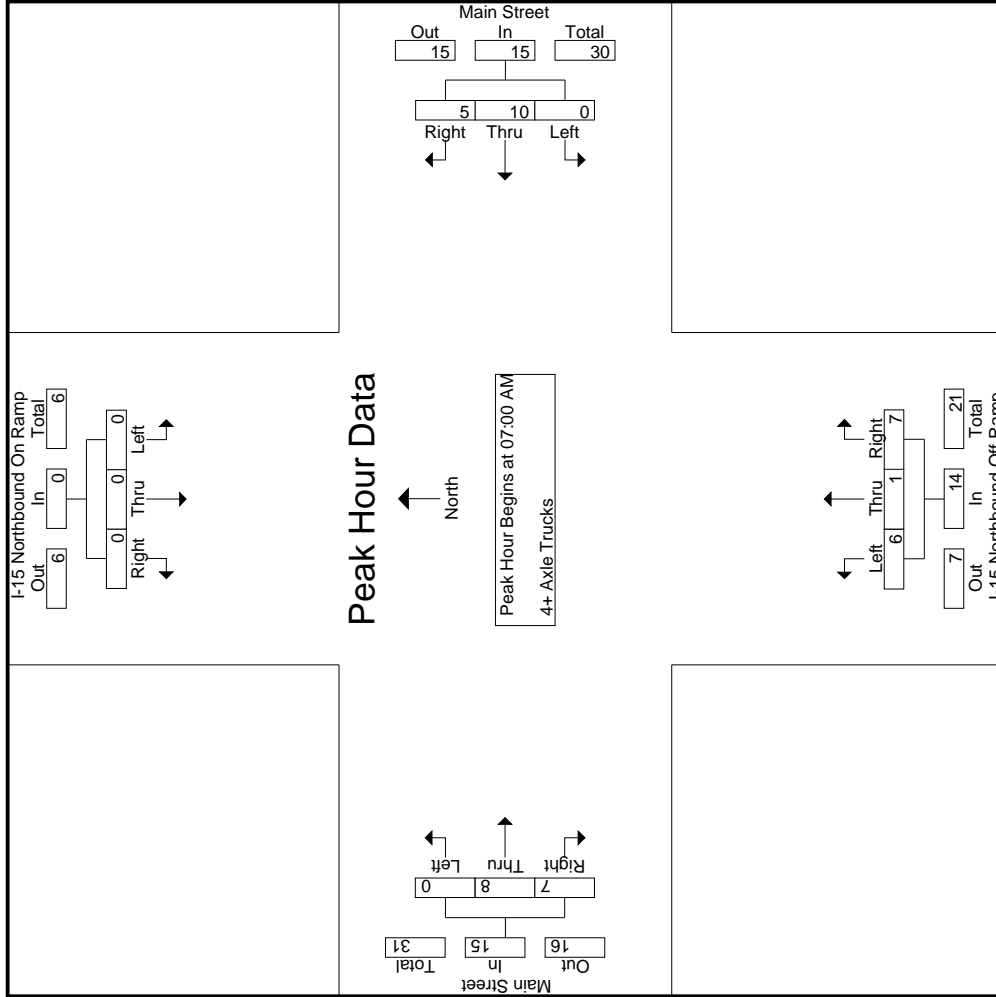
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1  
 Peak Hour for Entire Intersection Begins at 07:00 AM

Start Time	I-15 Northbound On Ramp Southbound					Main Street Westbound					I-15 Northbound Off Ramp Northbound					Main Street Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	2	3	5
07:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	4	4
07:30 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	1	1
07:45 AM	0	0	0	0	0	0	0	0	0	0	2	1	1	1	4	0	3	2	0	5	2	14	16
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>1</b>	<b>7</b>	<b>3</b>	<b>14</b>	<b>0</b>	<b>8</b>	<b>7</b>	<b>0</b>	<b>15</b>	<b>6</b>	<b>44</b>	<b>50</b>
% App. Total	0	0	0	0	0	0	66.7	33.3		43	42.9	7.1	50		53.3	0	53.3	46.7		46.7	46.7	750	786
PHF	.000	.000	.000	.000	.000	.000	.625	.625		.625	.750	.250	.875		.875	.000	.667	.583		.750	.583	.786	

Counts Unlimited  
 PO Box 1178  
 Corona, CA 92878  
 (951) 268-6268

City of Hesperia  
 N/S: I-15 Northbound Ramps  
 E/W: Main Street  
 Weather: Clear

File Name : 13\_HES\_15N\_Main AM  
 Site Code : 05119658  
 Start Date : 9/28/2019  
 Page No : 2



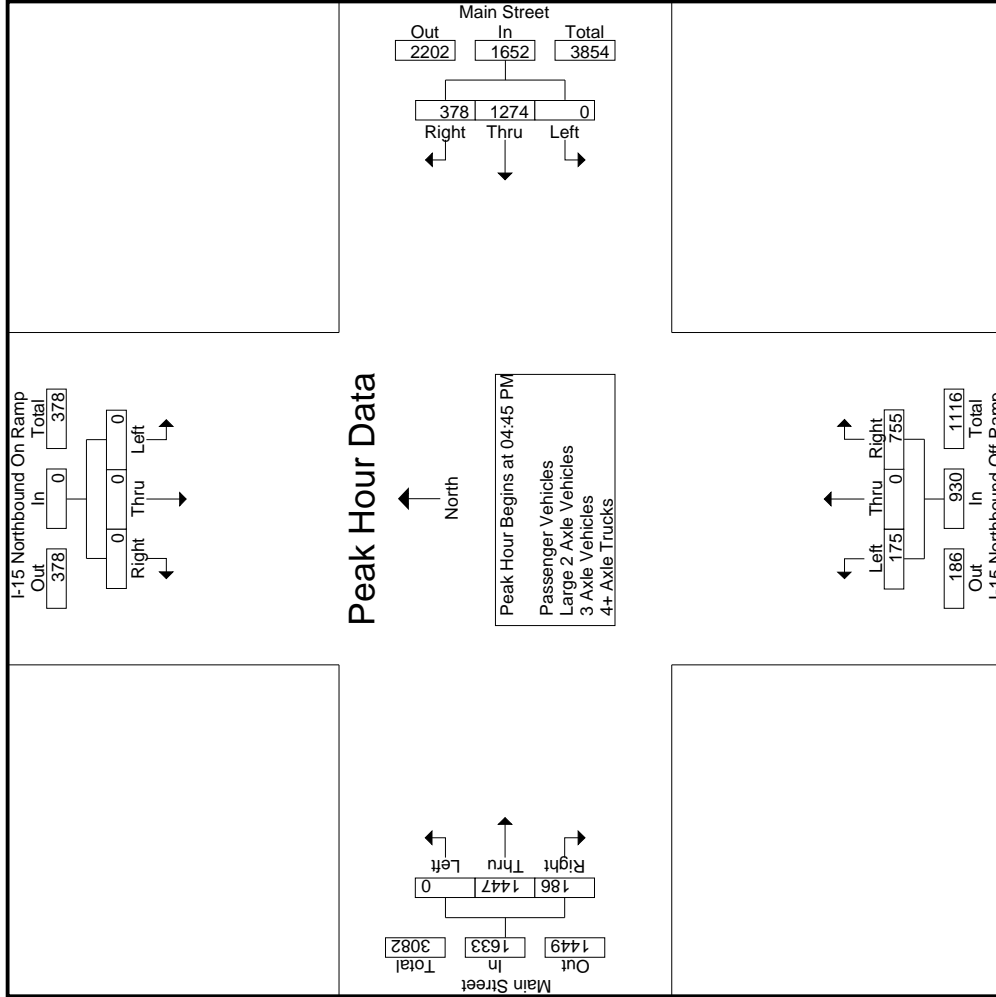
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	I-15 Northbound On Ramp Southbound						Main Street Westbound						I-15 Northbound Off Ramp Northbound						Main Street Eastbound									
	Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total					
04:00 PM	0	0	0	0	0		0	275	96	22	371		36	1	152	19	189		0	352	65	0	417		41	977	1018	
04:15 PM	0	0	0	0	0		0	350	86	25	436		38	1	161	28	200		0	366	56	0	422		53	1058	1111	
04:30 PM	0	0	0	0	0		0	334	83	24	417		38	0	232	38	270		0	347	42	0	389		62	1076	1138	
04:45 PM	0	0	0	0	0		0	316	85	28	401		52	0	213	38	265		0	384	38	0	422		66	1088	1154	
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>		<b>0</b>	<b>1275</b>	<b>350</b>	<b>99</b>	<b>1625</b>		<b>164</b>	<b>2</b>	<b>758</b>	<b>123</b>	<b>924</b>		<b>0</b>	<b>1449</b>	<b>201</b>	<b>0</b>	<b>1650</b>		<b>222</b>	<b>4199</b>	<b>4421</b>	
05:00 PM	0	0	0	0	0		0	288	90	20	378		32	0	155	54	187		0	363	40	0	403		74	968	1042	
05:15 PM	0	0	0	0	0		0	349	95	39	444		42	0	191	29	233		0	340	51	0	391		68	1068	1136	
05:30 PM	0	0	0	0	0		0	321	108	56	429		49	0	196	22	245		0	360	57	0	417		78	1091	1169	
05:45 PM	0	0	0	0	0		0	318	94	22	412		48	2	198	32	248		0	344	24	0	368		54	1028	1082	
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>		<b>0</b>	<b>1276</b>	<b>387</b>	<b>137</b>	<b>1663</b>		<b>171</b>	<b>2</b>	<b>740</b>	<b>137</b>	<b>913</b>		<b>0</b>	<b>1407</b>	<b>172</b>	<b>0</b>	<b>1579</b>		<b>274</b>	<b>4155</b>	<b>4429</b>	
<b>Grand Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>		<b>0</b>	<b>2551</b>	<b>737</b>	<b>236</b>	<b>3288</b>		<b>335</b>	<b>4</b>	<b>1498</b>	<b>260</b>	<b>1837</b>		<b>0</b>	<b>2856</b>	<b>373</b>	<b>0</b>	<b>3229</b>		<b>496</b>	<b>8354</b>	<b>8850</b>	
<b>Approach % Total %</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>		<b>0</b>	<b>77.6</b>	<b>22.4</b>	<b>0</b>	<b>39.4</b>		<b>18.2</b>	<b>0.2</b>	<b>81.5</b>	<b>22</b>	<b>2014</b>		<b>0</b>	<b>88.4</b>	<b>11.6</b>	<b>0</b>	<b>38.7</b>		<b>5.6</b>	<b>94.4</b>	<b>0</b>	
<b>% Passenger Vehicles</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>		<b>0</b>	<b>2486</b>	<b>717</b>	<b>97</b>	<b>3432</b>		<b>326</b>	<b>3</b>	<b>1437</b>	<b>95.4</b>	<b>96</b>		<b>0</b>	<b>2797</b>	<b>355</b>	<b>0</b>	<b>3152</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>8598</b>
<b>% 2 Axle Vehicles</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>		<b>0</b>	<b>97.5</b>	<b>97.3</b>	<b>97</b>	<b>97.4</b>		<b>97.3</b>	<b>75</b>	<b>95.9</b>	<b>95.4</b>	<b>96</b>		<b>0</b>	<b>97.9</b>	<b>95.2</b>	<b>0</b>	<b>97.6</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>97.2</b>
<b>% 3 Axle Vehicles</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>		<b>0</b>	<b>39</b>	<b>10</b>	<b>1.7</b>	<b>53</b>		<b>1</b>	<b>0</b>	<b>29</b>	<b>1.9</b>	<b>35</b>		<b>0</b>	<b>36</b>	<b>9</b>	<b>0</b>	<b>45</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>133</b>
<b>% 4+ Axle Trucks</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>		<b>0</b>	<b>1.5</b>	<b>1.4</b>	<b>0</b>	<b>1.5</b>		<b>0.3</b>	<b>0</b>	<b>1.9</b>	<b>1.9</b>	<b>1.7</b>		<b>0</b>	<b>1.3</b>	<b>2.4</b>	<b>0</b>	<b>1.4</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>1.5</b>
<b>% 3 Axle Vehicles</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>		<b>0</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>10</b>		<b>0</b>	<b>1</b>	<b>5</b>	<b>0</b>	<b>6</b>		<b>0</b>	<b>9</b>	<b>1</b>	<b>0</b>	<b>10</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>26</b>
<b>% 4+ Axle Trucks</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>		<b>0</b>	<b>0.4</b>	<b>0</b>	<b>0</b>	<b>0.3</b>		<b>0</b>	<b>25</b>	<b>0.3</b>	<b>0</b>	<b>0.3</b>		<b>0</b>	<b>0.3</b>	<b>0.3</b>	<b>0</b>	<b>0.3</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0.3</b>
<b>% 4+ Axle Trucks</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>		<b>0</b>	<b>16</b>	<b>10</b>	<b>1.3</b>	<b>29</b>		<b>8</b>	<b>0</b>	<b>27</b>	<b>42</b>	<b>42</b>		<b>0</b>	<b>14</b>	<b>8</b>	<b>0</b>	<b>22</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>93</b>
<b>% 4+ Axle Trucks</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>		<b>0</b>	<b>0.6</b>	<b>1.4</b>	<b>0.8</b>	<b>0.8</b>		<b>2.4</b>	<b>0</b>	<b>1.8</b>	<b>2.7</b>	<b>2</b>		<b>0</b>	<b>0.5</b>	<b>2.1</b>	<b>0</b>	<b>0.7</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>1.1</b>

Start Time	I-15 Northbound On Ramp Southbound						Main Street Westbound						I-15 Northbound Off Ramp Northbound						Main Street Eastbound									
	Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total					
04:45 PM	0	0	0	0	0		0	0	0	0	0		52	0	213	0	213		0	384	38	0	422		38	422	1088	
05:00 PM	0	0	0	0	0		0	288	90	0	378		32	0	155	0	155		0	363	40	0	403		40	403	968	
05:15 PM	0	0	0	0	0		0	349	95	0	444		42	0	191	0	191		0	340	51	0	391		51	391	1068	
05:30 PM	0	0	0	0	0		0	321	108	0	429		49	0	196	0	196		0	360	57	0	417		57	417	1091	
05:45 PM	0	0	0	0	0		0	318	94	0	412		48	2	198	0	248		0	344	24	0	368		54	1028	1082	
<b>Total Volume</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>		<b>0</b>	<b>1274</b>	<b>378</b>	<b>0</b>	<b>1652</b>		<b>175</b>	<b>0</b>	<b>755</b>	<b>0</b>	<b>755</b>		<b>0</b>	<b>1447</b>	<b>186</b>	<b>0</b>	<b>1633</b>		<b>1633</b>	<b>4215</b>	<b>4215</b>	
<b>% App. Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>		<b>0</b>	<b>77.1</b>	<b>22.9</b>	<b>0</b>	<b>22.9</b>		<b>18.8</b>	<b>0</b>	<b>81.2</b>	<b>0</b>	<b>81.2</b>		<b>0</b>	<b>88.6</b>	<b>11.4</b>	<b>0</b>	<b>96.7</b>		<b>96.7</b>	<b>966</b>	<b>966</b>	
<b>PHF</b>	<b>.000</b>	<b>.000</b>	<b>.000</b>	<b>.000</b>	<b>.000</b>		<b>.000</b>	<b>.913</b>	<b>.875</b>	<b>.930</b>	<b>.877</b>		<b>.841</b>	<b>.000</b>	<b>.886</b>	<b>.000</b>	<b>.886</b>		<b>.000</b>	<b>.942</b>	<b>.816</b>	<b>.000</b>	<b>.967</b>		<b>.967</b>	<b>.966</b>	<b>.966</b>	

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



Groups Printed - Large 2 Axle Vehicles

Start Time	I-15 Northbound On Ramp Southbound				Main Street Westbound				I-15 Northbound Off Ramp Northbound				Main Street Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	5	0	0	5	1	0	4	4	0	0	14	14
04:15 PM	0	0	0	0	0	4	1	0	0	5	4	0	5	0	0	0	14	14
04:30 PM	0	0	0	0	0	7	1	0	0	8	4	0	6	2	0	1	20	21
04:45 PM	0	0	0	0	0	3	0	0	0	3	5	0	7	1	0	0	16	16
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>21</b>	<b>19</b>	<b>2</b>	<b>0</b>	<b>13</b>	<b>14</b>	<b>0</b>	<b>22</b>	<b>7</b>	<b>0</b>	<b>29</b>	<b>1</b>	<b>64</b>	<b>65</b>
05:00 PM	0	0	0	0	0	3	1	0	0	4	5	0	4	0	0	3	13	16
05:15 PM	0	0	0	0	0	7	4	2	1	11	5	0	4	1	0	3	21	24
05:30 PM	0	0	0	0	0	6	3	2	0	9	3	0	5	1	0	2	18	20
05:45 PM	0	0	0	0	0	4	0	0	0	4	3	0	1	0	0	0	8	8
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>28</b>	<b>20</b>	<b>8</b>	<b>4</b>	<b>16</b>	<b>16</b>	<b>0</b>	<b>14</b>	<b>2</b>	<b>0</b>	<b>16</b>	<b>8</b>	<b>60</b>	<b>68</b>
<b>Grand Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>49</b>	<b>39</b>	<b>10</b>	<b>4</b>	<b>5</b>	<b>30</b>	<b>0</b>	<b>36</b>	<b>9</b>	<b>0</b>	<b>45</b>	<b>9</b>	<b>124</b>	<b>133</b>
Approch %	0	0	0	0	3.3	0	96.7	0	0	24.2	0	80	20	0	36.3	6.8	93.2	
Total %	0	0	0	0	39.5	31.5	8.1	0	23.4	24.2	0	29	7.3	0				

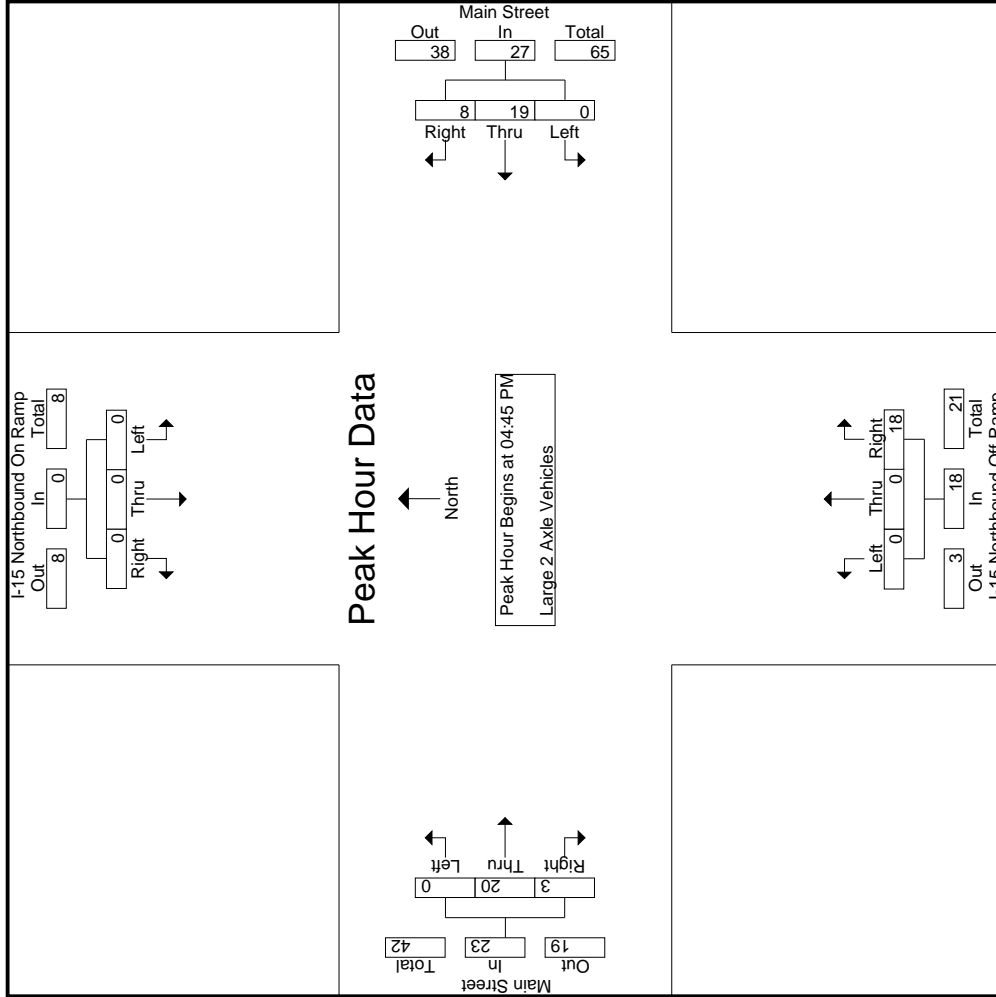
Start Time	I-15 Northbound On Ramp Southbound				Main Street Westbound				I-15 Northbound Off Ramp Northbound				Main Street Eastbound				
	Left	Thru	Right	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:45 PM	0	0	0	0	0	3	0	0	0	3	0	5	0	0	1	8	16
05:00 PM	0	0	0	0	0	3	1	4	0	4	0	5	0	0	0	4	13
05:15 PM	0	0	0	0	0	7	4	11	0	5	0	5	0	0	1	5	21
05:30 PM	0	0	0	0	0	6	3	9	0	3	0	3	0	0	0	6	18
<b>Total Volume</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>19</b>	<b>8</b>	<b>27</b>	<b>18</b>	<b>0</b>	<b>100</b>	<b>0</b>	<b>87</b>	<b>13</b>	<b>0</b>	<b>23</b>	<b>68</b>	<b>68</b>
<b>% App. Total</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>.679</b>	<b>.500</b>	<b>.614</b>	<b>.900</b>	<b>.000</b>	<b>.900</b>	<b>.000</b>	<b>.714</b>	<b>.750</b>	<b>.719</b>	<b>.810</b>	<b>.810</b>	<b>.810</b>

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1  
 Peak Hour for Entire Intersection Begins at 04:45 PM

Counts Unlimited  
 PO Box 1178  
 Corona, CA 92878  
 (951) 268-6268

City of Hesperia  
 N/S: I-15 Northbound Ramps  
 E/W: Main Street  
 Weather: Clear

File Name : 13\_HES\_15N\_Main PM  
 Site Code : 05119658  
 Start Date : 9/28/2019  
 Page No : 2



Groups Printed - 3 Axle Vehicles

Start Time	I-15 Northbound On Ramp Southbound				Main Street Westbound				I-15 Northbound Off Ramp Northbound				Main Street Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1
04:15 PM	0	0	0	0	2	2	0	0	0	2	0	1	0	0	1	0	5	5
04:30 PM	0	0	0	0	1	0	0	2	0	2	0	1	1	0	2	0	5	5
04:45 PM	0	0	0	0	2	0	0	0	0	0	0	2	0	0	2	0	4	4
Total	0	0	0	0	6	6	0	1	3	4	0	4	1	0	5	0	15	15
05:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	2	2
05:15 PM	0	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0	2	2
05:30 PM	0	0	0	0	2	0	0	0	0	0	0	3	0	0	3	0	5	5
05:45 PM	0	0	0	0	1	0	0	1	0	1	0	0	0	0	0	0	2	2
Total	0	0	0	0	4	4	0	2	0	2	0	5	0	0	5	0	11	11
Grand Total	0	0	0	0	10	10	0	1	5	6	0	9	1	0	10	0	26	26
Approch %	0	0	0	0	100	0	0	16.7	83.3	0	0	90	10	0	38.5	0	100	0
Total %	0	0	0	0	38.5	0	0	3.8	19.2	23.1	0	34.6	3.8	0	38.5	0	100	0

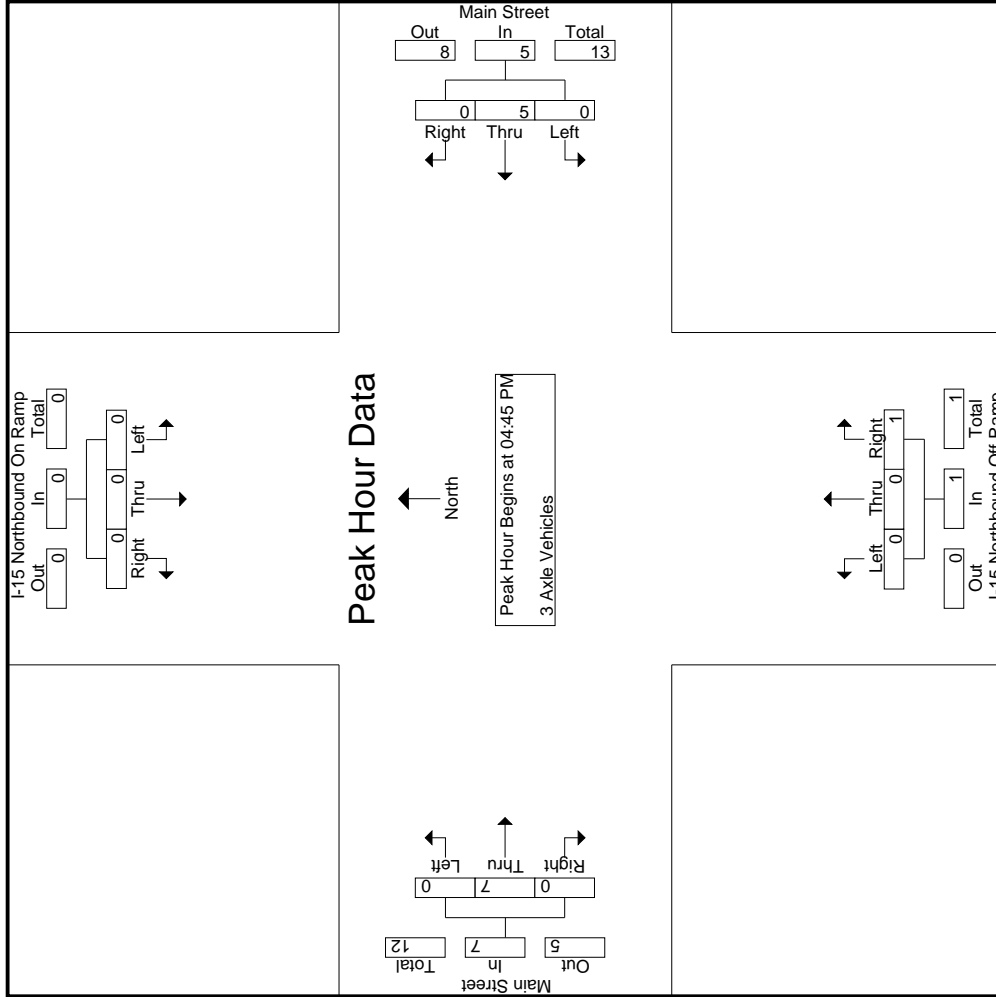
Start Time	I-15 Northbound On Ramp Southbound				Main Street Westbound				I-15 Northbound Off Ramp Northbound				Main Street Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.625	.000	.250	.250	.250	.000	.583	.000	.000	.583	.000	.650	.650

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1  
 Peak Hour for Entire Intersection Begins at 04:45 PM

Counts Unlimited  
 PO Box 1178  
 Corona, CA 92878  
 (951) 268-6268

City of Hesperia  
 N/S: I-15 Northbound Ramps  
 E/W: Main Street  
 Weather: Clear

File Name : 13\_HES\_15N\_Main PM  
 Site Code : 05119658  
 Start Date : 9/28/2019  
 Page No : 2





Groups Printed- 4+ Axle Trucks

Start Time	I-15 Northbound On Ramp Southbound				Main Street Westbound				I-15 Northbound Off Ramp Northbound				Main Street Eastbound						
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
04:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	3	1	0	4	1	8	9
04:15 PM	0	0	0	0	3	0	1	0	2	0	3	1	0	2	0	2	0	8	8
04:30 PM	0	0	0	0	3	0	3	0	0	3	0	0	2	1	0	3	1	9	10
04:45 PM	0	0	0	0	7	0	4	3	1	9	0	0	0	2	0	2	2	18	20
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>13</b>	<b>0</b>	<b>8</b>	<b>5</b>	<b>1</b>	<b>13</b>	<b>5</b>	<b>0</b>	<b>14</b>	<b>3</b>	<b>19</b>	<b>4</b>	<b>43</b>	<b>47</b>	
05:00 PM	0	0	0	0	3	0	2	1	0	3	0	0	7	3	7	4	3	14	17
05:15 PM	0	0	0	0	4	0	1	3	1	4	0	0	3	1	0	3	2	10	12
05:30 PM	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	3	0	5	5
05:45 PM	0	0	0	0	4	0	3	1	1	4	3	0	3	0	6	1	1	11	12
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>13</b>	<b>0</b>	<b>8</b>	<b>5</b>	<b>2</b>	<b>13</b>	<b>3</b>	<b>0</b>	<b>13</b>	<b>4</b>	<b>16</b>	<b>6</b>	<b>40</b>	<b>46</b>	
<b>Grand Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>26</b>	<b>0</b>	<b>16</b>	<b>10</b>	<b>3</b>	<b>26</b>	<b>8</b>	<b>0</b>	<b>27</b>	<b>7</b>	<b>35</b>	<b>10</b>	<b>83</b>	<b>93</b>	
Approch %	0	0	0	0	61.5	0	19.3	38.5	12	31.3	22.9	0	77.1	0	42.2	0	63.6	36.4	0
Total %	0	0	0	0	31.3	0	9.6	32.5	0	42.2	0	0	16.9	9.6	26.5	10.8	89.2	0	0

3.1-127

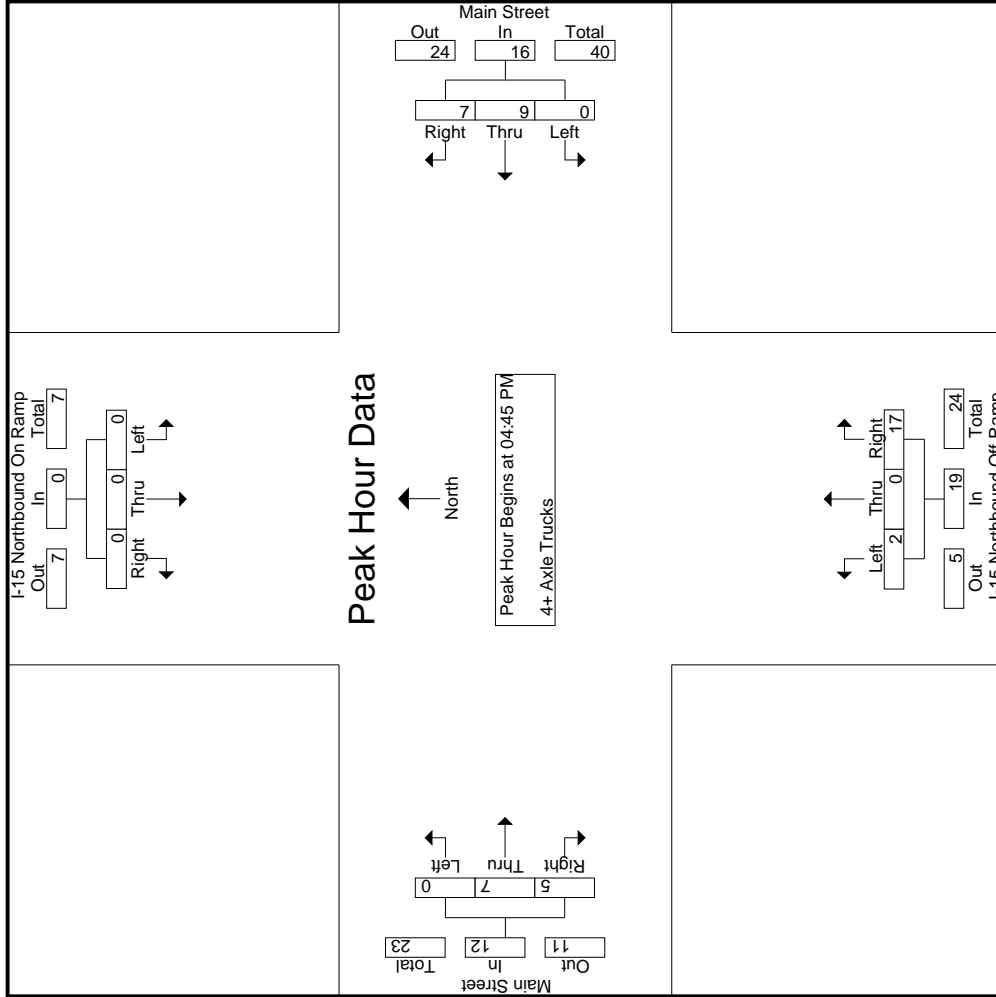
Start Time	I-15 Northbound On Ramp Southbound				Main Street Westbound				I-15 Northbound Off Ramp Northbound				Main Street Eastbound						
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
04:45 PM	0	0	0	0	0	0	0	0	0	0	2	0	7	0	9	0	2	2	18
05:00 PM	0	0	0	0	3	0	2	1	0	3	0	0	7	0	7	3	1	4	14
05:15 PM	0	0	0	0	4	0	0	1	0	4	0	0	3	0	3	2	1	3	10
05:30 PM	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	2	1	3	5
<b>Total Volume</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>9</b>	<b>0</b>	<b>16</b>	<b>2</b>	<b>0</b>	<b>17</b>	<b>0</b>	<b>19</b>	<b>7</b>	<b>5</b>	<b>12</b>	<b>47</b>
% App. Total	0	0	0	0	56.2	0	56.2	43.8	0	89.5	10.5	0	89.5	0	41.7	58.3	41.7	0	0
PHF	.000	.000	.000	.000	.571	.000	.563	.583	.000	.607	.250	.000	.528	.000	.583	.625	.750	.000	.653

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1  
 Peak Hour for Entire Intersection Begins at 04:45 PM

Counts Unlimited  
 PO Box 1178  
 Corona, CA 92878  
 (951) 268-6268

City of Hesperia  
 N/S: I-15 Northbound Ramps  
 E/W: Main Street  
 Weather: Clear

File Name : 13\_HES\_15N\_Main PM  
 Site Code : 05119658  
 Start Date : 9/28/2019  
 Page No : 2



Location: Hesperia  
 N/S: I-15 Northbound Ramps  
 E/W: Main Street



Date: 9/28/2019  
 Day: Saturday

PEDESTRIANS

	North Leg I-15 Northbound Ramps	East Leg Main Street	South Leg I-15 Northbound Ramps	West Leg Main Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg I-15 Northbound Ramps	East Leg Main Street	South Leg I-15 Northbound Ramps	West Leg Main Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	2	0	2
TOTAL VOLUMES:	0	0	2	0	2

Location: Hesperia  
 N/S: I-15 Northbound Ramps  
 E/W: Main Street



Date: 9/28/2019  
 Day: Saturday

BICYCLES

	Southbound I-15 Northbound Ramps			Westbound Main Street			Northbound I-15 Northbound Ramps			Eastbound Main Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

	Southbound I-15 Northbound Ramps			Westbound Main Street			Northbound I-15 Northbound Ramps			Eastbound Main Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

# Counts Unlimited, Inc.

PO Box 1178  
 Corona, CA 92878  
 Phone: (951) 268-6268  
 email: counts@countsunlimited.com

City of Victorville  
 Main Street  
 W/ Key Pointe Avenue  
 24 Hour Directional Classification Count

VIC003  
 Site Code: 051-19658

## Eastbound, Westbound

Start Time	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
09/26/19	0	56	0	12	0	0	0	0	0	4	0	0	259
01:00	1	22	0	3	2	0	2	0	0	5	0	0	194
02:00	4	38	1	11	0	0	2	2	0	6	0	0	188
03:00	2	48	2	14	0	0	9	2	0	15	0	0	283
04:00	9	106	8	25	5	1	9	10	2	8	0	1	529
05:00	3	152	10	82	8	2	8	10	1	10	0	0	769
06:00	7	240	7	84	14	0	31	11	3	4	0	0	1256
07:00	19	341	14	129	22	3	46	7	5	1	0	3	1848
08:00	10	345	12	155	18	1	36	8	5	2	2	1	1653
09:00	12	350	10	119	19	5	31	14	7	4	0	0	1576
10:00	11	339	10	114	17	0	37	13	5	2	0	1	1646
11:00	17	337	23	107	17	3	39	10	4	10	1	1	1814
12 PM	15	413	14	142	15	3	42	17	5	4	0	4	1956
13:00	18	389	12	127	26	2	60	22	14	7	3	2	1940
14:00	31	385	6	170	29	4	68	18	6	10	1	1	2184
15:00	21	429	20	165	20	2	52	11	8	9	4	0	2179
16:00	23	449	21	166	24	3	58	8	7	2	0	2	2300
17:00	19	443	10	149	21	3	57	7	7	7	1	2	2215
18:00	24	418	8	148	17	2	38	2	6	3	3	2	2073
19:00	13	275	6	109	11	1	31	2	1	2	1	0	1520
20:00	9	235	6	81	14	1	15	2	4	3	0	0	1207
21:00	7	164	10	52	9	1	9	6	0	2	0	0	919
22:00	2	109	7	38	6	0	7	5	1	2	0	0	646
23:00	5	70	0	12	8	0	2	0	0	2	0	0	376
<b>Total</b>	282	6153	217	2214	322	37	689	187	91	124	16	20	31530
<b>Percent</b>	0.9%	19.5%	0.7%	7.0%	1.0%	0.1%	2.2%	0.6%	0.3%	0.4%	0.1%	0.1%	
<b>AM Peak</b>	07:00	09:00	11:00	08:00	07:00	09:00	07:00	09:00	09:00	03:00	08:00	07:00	07:00
<b>Vol.</b>	19	350	23	155	22	5	46	14	7	15	2	3	1848
<b>PM Peak</b>	14:00	16:00	16:00	14:00	14:00	14:00	14:00	13:00	13:00	14:00	15:00	12:00	16:00
<b>Vol.</b>	31	449	21	170	29	4	68	22	14	10	4	4	2300
<b>Grand Total</b>	282	6153	217	2214	322	37	689	187	91	124	16	20	31530
<b>Percent</b>	0.9%	19.5%	0.7%	7.0%	1.0%	0.1%	2.2%	0.6%	0.3%	0.4%	0.1%	0.1%	

# Counts Unlimited, Inc.

PO Box 1178  
 Corona, CA 92878  
 Phone: (951) 268-6268  
 email: counts@countsunlimited.com

VIC001  
 Site Code: 051-19658

City of Victorville  
 Phelan Road  
 W/ United States 395  
 24 Hour Directional Classification Count

## Eastbound, Westbound

Start Time	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
09/26/19	75	16	0	5	0	0	0	2	0	1	0	0	99
01:00	64	17	1	3	0	0	0	1	0	0	0	0	88
02:00	63	18	0	3	0	0	0	4	0	1	0	0	89
03:00	102	36	1	10	2	0	1	4	0	1	0	0	158
04:00	208	65	2	38	5	0	3	6	0	0	0	0	332
05:00	302	107	5	40	1	0	1	9	0	0	0	0	468
06:00	510	140	9	57	2	0	8	12	0	1	0	0	745
07:00	849	213	9	82	5	1	19	9	0	1	0	0	1195
08:00	741	237	11	81	4	0	16	2	0	0	0	0	1094
09:00	639	214	10	84	4	1	10	10	0	0	0	0	973
10:00	636	192	5	55	4	0	12	6	1	0	0	0	913
11:00	749	243	8	77	3	0	9	8	0	1	0	1	1109
12 PM	800	243	9	68	5	0	17	10	0	2	0	0	1157
13:00	902	281	10	85	12	0	19	15	0	2	0	1	1331
14:00	983	283	6	92	5	0	12	10	1	3	0	0	1399
15:00	976	269	8	115	4	0	9	7	1	3	0	0	1397
16:00	1027	284	5	101	5	0	22	7	2	0	0	0	1467
17:00	998	288	4	95	3	0	13	6	1	4	0	0	1420
18:00	837	209	3	70	1	0	8	6	1	0	0	1	1145
19:00	652	144	4	64	1	0	6	5	0	0	0	0	877
20:00	480	112	2	32	1	0	3	1	0	0	0	0	633
21:00	340	73	4	16	1	0	3	5	0	0	0	0	442
22:00	220	43	1	18	1	0	2	3	0	0	0	0	291
23:00	128	26	0	6	0	0	0	2	0	0	0	0	163
<b>Total</b>	93	3753	117	1297	69	2	193	150	7	20	0	3	18985
<b>Percent</b>	0.5%	19.8%	0.6%	6.8%	0.4%	0.0%	1.0%	0.8%	0.0%	0.1%	0.0%	0.0%	
<b>AM Peak</b>	11:00	07:00	08:00	09:00	04:00	07:00	07:00	06:00	10:00	00:00		11:00	07:00
<b>Vol.</b>	10	849	11	84	5	1	19	12	1	1	1	1	1195
<b>PM Peak</b>	16:00	17:00	13:00	15:00	13:00		16:00	13:00	16:00	17:00		13:00	16:00
<b>Vol.</b>	14	1027	10	115	12		22	15	2	4		1	1467
<b>Grand Total</b>	93	3753	117	1297	69	2	193	150	7	20	0	3	18985
<b>Percent</b>	0.5%	19.8%	0.6%	6.8%	0.4%	0.0%	1.0%	0.8%	0.0%	0.1%	0.0%	0.0%	

# Counts Unlimited, Inc.

PO Box 1178  
 Corona, CA 92878  
 Phone: (951) 268-6268  
 email: counts@countsunlimited.com

City of Victorville  
 United States 395  
 N/ Main Street  
 24 Hour Directional Classification Count

VIC002  
 Site Code: 051-19658

Northbound, Southbound		Cars & Trailers		2 Axle Long		Buses		2 Axle 6 Tire		3 Axle Single		4 Axle Single		<5 Axl Double		5 Axle Double		>6 Axl Double		<6 Axl Multi		6 Axle Multi		>6 Axl Multi		Total	
Start Time	Bikes	Trailers		Long		Buses		6 Tire		Single		Single		Double		Double		Double		Multi		Multi		Multi		Multi	Total
09/26/19	5	309		67		5		15		11		0		2		42		0		5		1		0		0	462
01:00	6	239		47		5		20		7		0		7		32		0		8		3		0		0	374
02:00	9	286		48		6		25		17		0		4		39		1		7		2		0		0	444
03:00	5	541		114		6		42		10		0		7		34		0		7		3		0		0	769
04:00	7	973		214		10		108		10		0		9		54		1		6		3		0		0	1395
05:00	11	1078		291		17		130		13		0		15		65		1		10		2		1		1	1634
06:00	30	1164		292		21		94		24		0		20		83		2		11		0		0		0	1741
07:00	13	1211		353		17		104		8		1		10		105		0		12		0		0		0	1834
08:00	23	940		279		21		103		16		0		19		98		0		6		0		0		0	1505
09:00	9	821		264		17		96		25		3		29		101		0		7		2		0		0	1374
10:00	13	800		256		26		97		14		3		28		119		2		8		1		0		0	1367
11:00	15	892		276		33		109		21		0		33		105		0		14		3		0		0	1501
12 PM	13	937		257		20		125		25		0		27		110		1		7		1		0		0	1523
13:00	13	1071		349		28		137		21		0		27		114		2		12		3		0		0	1777
14:00	9	1247		356		27		134		22		5		30		97		2		10		4		0		0	1943
15:00	14	1303		361		21		148		23		1		13		112		2		12		1		0		0	2011
16:00	11	1315		393		24		126		16		0		17		80		1		9		1		1		1	1994
17:00	9	1373		374		14		112		14		0		19		85		2		4		1		0		0	2007
18:00	7	1305		305		11		96		6		0		16		78		1		5		1		0		0	1831
19:00	10	1150		289		9		70		11		0		13		78		1		0		0		0		0	1631
20:00	17	911		239		7		71		18		0		9		72		0		4		1		1		1	1350
21:00	6	741		159		13		57		7		0		8		77		0		9		5		0		0	1082
22:00	6	580		111		3		25		15		0		7		65		0		12		3		0		0	827
23:00	5	416		67		2		19		8		0		4		61		0		6		2		0		0	590
Total	266	21603		5761		363		2063		362		13		373		1906		19		191		43		3		3	32966
Percent	0.8%	65.5%		17.5%		1.1%		6.3%		1.1%		0.0%		1.1%		5.8%		0.1%		0.6%		0.1%		0.0%		0.0%	
AM Peak	06:00	07:00		07:00		11:00		05:00		09:00		09:00		11:00		10:00		06:00		11:00		01:00		05:00		05:00	07:00
Vol.	30	1211		353		33		130		25		3		33		119		2		14		3		1		1	1834
PM Peak	20:00	17:00		16:00		13:00		15:00		12:00		14:00		14:00		13:00		13:00		13:00		21:00		16:00		16:00	15:00
Vol.	17	1373		393		28		148		25		5		30		114		2		12		5		1		1	2011
Grand Total	266	21603		5761		363		2063		362		13		373		1906		19		191		43		3		3	32966
Percent	0.8%	65.5%		17.5%		1.1%		6.3%		1.1%		0.0%		1.1%		5.8%		0.1%		0.6%		0.1%		0.0%		0.0%	

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**APPENDIX 3.2:**

**EXISTING (2020) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS**

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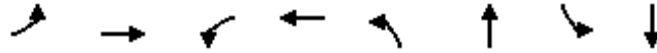
Intersection												
Int Delay, s/veh	0											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	1	0	0	0	3	988	0	0	1199	0
Future Vol, veh/h	0	0	1	0	0	0	3	988	0	0	1199	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	0	1	0	0	0	3	1098	0	0	1332	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2436	2436	1332	2437	2436	1098	1332	0	0	1098	0	0
Stage 1	1332	1332	-	1104	1104	-	-	-	-	-	-	-
Stage 2	1104	1104	-	1333	1332	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	22	32	191	22	32	261	525	-	-	643	-	-
Stage 1	192	225	-	258	289	-	-	-	-	-	-	-
Stage 2	258	289	-	192	225	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	22	32	191	22	32	261	525	-	-	643	-	-
Mov Cap-2 Maneuver	22	32	-	22	32	-	-	-	-	-	-	-
Stage 1	189	225	-	254	285	-	-	-	-	-	-	-
Stage 2	254	285	-	191	225	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	24	0	0	0
HCM LOS	C	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	525	-	-	191	-	643	-
HCM Lane V/C Ratio	0.006	-	-	0.006	-	-	-
HCM Control Delay (s)	11.9	0	-	24	0	0	-
HCM Lane LOS	B	A	-	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-	0	-

Timings  
3: US-395 & Phelan Rd./Main St.

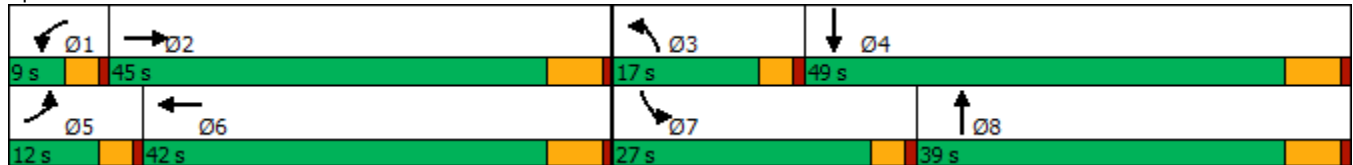


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↙	↕	↙	↕	↙	↕	↙	↕
Traffic Volume (vph)	48	665	4	324	93	722	210	958
Future Volume (vph)	48	665	4	324	93	722	210	958
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	5	2	1	6	3	8	7	4
Permitted Phases								
Detector Phase	5	2	1	6	3	8	7	4
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.0	17.0	9.0	16.0	9.0	16.0	9.0	16.0
Total Split (s)	12.0	45.0	9.0	42.0	17.0	39.0	27.0	49.0
Total Split (%)	10.0%	37.5%	7.5%	35.0%	14.2%	32.5%	22.5%	40.8%
Yellow Time (s)	3.0	5.0	3.0	5.0	3.0	5.0	3.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 93.2  
 Natural Cycle: 70  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 3: US-395 & Phelan Rd./Main St.



HCM 6th Signalized Intersection Summary  
 3: US-395 & Phelan Rd./Main St.

Hesperia US Cold Storage (JN 13201)

07/09/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (veh/h)	48	665	108	4	324	221	93	722	9	210	958	32
Future Volume (veh/h)	48	665	108	4	324	221	93	722	9	210	958	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	49	686	67	4	334	149	96	744	9	216	988	29
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	69	880	86	9	561	246	120	1009	12	256	1274	37
Arrive On Green	0.04	0.28	0.28	0.01	0.24	0.24	0.07	0.29	0.29	0.16	0.38	0.38
Sat Flow, veh/h	1619	3148	307	1619	2315	1013	1619	3461	42	1619	3392	100
Grp Volume(v), veh/h	49	372	381	4	245	238	96	368	385	216	498	519
Grp Sat Flow(s),veh/h/ln	1619	1710	1745	1619	1710	1618	1619	1710	1792	1619	1710	1782
Q Serve(g_s), s	2.3	15.1	15.2	0.2	9.6	9.9	4.4	14.6	14.6	9.8	19.4	19.4
Cycle Q Clear(g_c), s	2.3	15.1	15.2	0.2	9.6	9.9	4.4	14.6	14.6	9.8	19.4	19.4
Prop In Lane	1.00		0.18	1.00		0.63	1.00		0.02	1.00		0.06
Lane Grp Cap(c), veh/h	69	478	488	9	415	392	120	499	523	256	642	669
V/C Ratio(X)	0.71	0.78	0.78	0.46	0.59	0.61	0.80	0.74	0.74	0.84	0.78	0.78
Avail Cap(c_a), veh/h	172	884	902	107	816	772	279	748	784	494	975	1016
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.7	25.0	25.0	37.4	25.3	25.4	34.4	24.1	24.1	30.8	20.7	20.7
Incr Delay (d2), s/veh	9.6	2.8	2.7	26.1	1.3	1.5	8.7	2.6	2.5	5.6	2.6	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	5.6	5.8	0.1	3.5	3.5	1.9	5.4	5.7	3.8	6.8	7.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.3	27.8	27.8	63.5	26.6	26.9	43.0	26.7	26.6	36.4	23.4	23.3
LnGrp LOS	D	C	C	E	C	C	D	C	C	D	C	C
Approach Vol, veh/h		802			487			849			1233	
Approach Delay, s/veh		28.9			27.0			28.5			25.6	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	4.4	27.1	9.6	34.3	7.2	24.3	15.9	28.0				
Change Period (Y+Rc), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0				
Max Green Setting (Gmax), s	5.0	39.0	13.0	43.0	8.0	36.0	23.0	33.0				
Max Q Clear Time (g_c+I1), s	2.2	17.2	6.4	21.4	4.3	11.9	11.8	16.6				
Green Ext Time (p_c), s	0.0	3.9	0.1	7.0	0.0	2.5	0.3	4.3				

Intersection Summary

HCM 6th Ctrl Delay	27.3
HCM 6th LOS	C

Timings  
6: Mesa Linda St. & Main St.

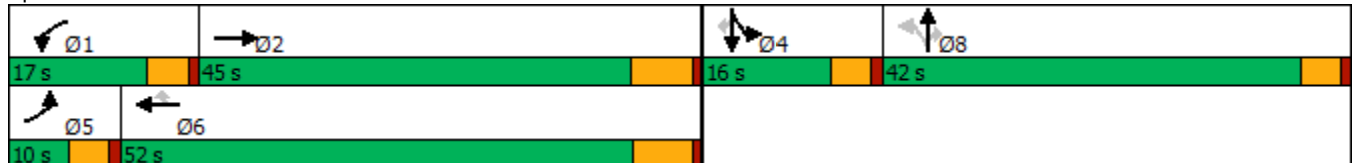


Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Configurations	↙	↕↕↕	↙	↕↕↕	↙	↕	↙	↕	↙
Traffic Volume (vph)	5	873	51	524	17	2	128	2	14
Future Volume (vph)	5	873	51	524	17	2	128	2	14
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	NA	Perm
Protected Phases	5	2	1	6		8		4	
Permitted Phases					6		8		4
Detector Phase	5	2	1	6	6	8	8	4	4
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	16.5	9.6	23.2	23.2	40.6	40.6	14.6	14.6
Total Split (s)	10.0	45.0	17.0	52.0	52.0	42.0	42.0	16.0	16.0
Total Split (%)	8.3%	37.5%	14.2%	43.3%	43.3%	35.0%	35.0%	13.3%	13.3%
Yellow Time (s)	3.6	5.5	3.6	5.2	5.2	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.2	6.2	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	Max	None	Max	Max	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 88.9  
 Natural Cycle: 90  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 6: Mesa Linda St. & Main St.



HCM 6th Signalized Intersection Summary  
6: Mesa Linda St. & Main St.

Hesperia US Cold Storage (JN 13201)  
07/09/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↖	↑↑↑	↗		↖	↗		↖	↗
Traffic Volume (veh/h)	5	873	3	51	524	17	0	2	128	48	2	14
Future Volume (veh/h)	5	873	3	51	524	17	0	2	128	48	2	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	6	1027	4	60	616	12	0	2	130	56	2	2
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	13	2569	10	74	2685	834	0	205	174	149	5	137
Arrive On Green	0.01	0.51	0.51	0.05	0.55	0.55	0.00	0.11	0.11	0.09	0.09	0.09
Sat Flow, veh/h	1619	5053	20	1619	4914	1525	0	1800	1525	1658	59	1525
Grp Volume(v), veh/h	6	666	365	60	616	12	0	2	130	58	0	2
Grp Sat Flow(s),veh/h/ln	1619	1638	1796	1619	1638	1525	0	1800	1525	1717	0	1525
Q Serve(g_s), s	0.3	10.5	10.5	3.1	5.4	0.3	0.0	0.1	6.9	2.7	0.0	0.1
Cycle Q Clear(g_c), s	0.3	10.5	10.5	3.1	5.4	0.3	0.0	0.1	6.9	2.7	0.0	0.1
Prop In Lane	1.00		0.01	1.00		1.00	0.00		1.00	0.97		1.00
Lane Grp Cap(c), veh/h	13	1666	913	74	2685	834	0	205	174	154	0	137
V/C Ratio(X)	0.48	0.40	0.40	0.81	0.23	0.01	0.00	0.01	0.75	0.38	0.00	0.01
Avail Cap(c_a), veh/h	104	1666	913	240	2685	834	0	803	681	234	0	207
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	41.4	12.7	12.7	39.6	9.9	8.7	0.0	32.9	36.0	35.9	0.0	34.8
Incr Delay (d2), s/veh	10.0	0.7	1.3	7.6	0.2	0.0	0.0	0.0	6.3	1.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	3.3	3.7	1.3	1.6	0.1	0.0	0.0	2.9	1.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.4	13.4	14.0	47.2	10.1	8.7	0.0	33.0	42.3	37.4	0.0	34.8
LnGrp LOS	D	B	B	D	B	A	A	C	D	D	A	C
Approach Vol, veh/h		1037			688			132				60
Approach Delay, s/veh		13.9			13.3			42.2				37.4
Approach LOS		B			B			D				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.4	49.1		12.1	5.3	52.3		14.1				
Change Period (Y+Rc), s	4.6	6.5		4.6	4.6	* 6.5		4.6				
Max Green Setting (Gmax), s	12.4	38.5		11.4	5.4	* 46		37.4				
Max Q Clear Time (g_c+I1), s	5.1	12.5		4.7	2.3	7.4		8.9				
Green Ext Time (p_c), s	0.0	6.2		0.1	0.0	4.1		0.4				

Intersection Summary

HCM 6th Ctrl Delay	16.3
HCM 6th LOS	B

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings  
7: Cataba Av. & Main St.

Hesperia US Cold Storage (JN 13201)

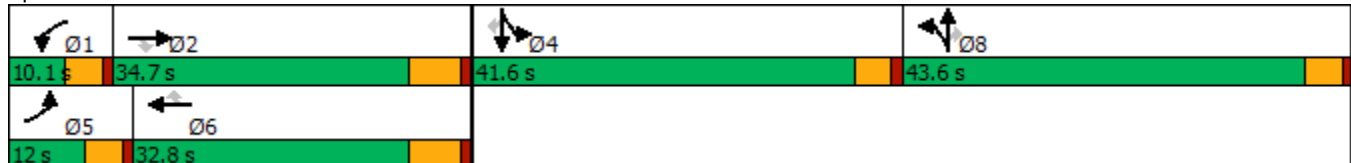
07/09/2020

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	831	37	71	537	17	31	7	48	34	6	26
Future Volume (vph)	50	831	37	71	537	17	31	7	48	34	6	26
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	32.2	32.2	9.6	32.2	32.2	43.6	43.6	43.6	41.6	41.6	41.6
Total Split (s)	12.0	34.7	34.7	10.1	32.8	32.8	43.6	43.6	43.6	41.6	41.6	41.6
Total Split (%)	9.2%	26.7%	26.7%	7.8%	25.2%	25.2%	33.5%	33.5%	33.5%	32.0%	32.0%	32.0%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (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
Lost Time Adjust (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
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None	None

Intersection Summary

Cycle Length: 130  
 Actuated Cycle Length: 77.4  
 Natural Cycle: 130  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 7: Cataba Av. & Main St.





HCM 6th Signalized Intersection Summary  
7: Cataba Av. & Main St.

Hesperia US Cold Storage (JN 13201)  
07/09/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘↗	↑↑↑	↗	↘	↗	↗	↘	↑	↗
Traffic Volume (veh/h)	50	831	37	71	537	17	31	7	48	34	6	26
Future Volume (veh/h)	50	831	37	71	537	17	31	7	48	34	6	26
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	56	934	35	80	603	12	41	0	34	38	7	0
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	79	2132	661	184	2180	676	382	0	180	138	153	130
Arrive On Green	0.05	0.43	0.43	0.06	0.44	0.44	0.12	0.00	0.12	0.09	0.09	0.00
Sat Flow, veh/h	1619	4914	1524	3141	4914	1524	3238	0	1522	1619	1800	1525
Grp Volume(v), veh/h	56	934	35	80	603	12	41	0	34	38	7	0
Grp Sat Flow(s),veh/h/ln	1619	1638	1524	1570	1638	1524	1619	0	1522	1619	1800	1525
Q Serve(g_s), s	2.2	8.7	0.9	1.6	5.1	0.3	0.7	0.0	1.3	1.4	0.2	0.0
Cycle Q Clear(g_c), s	2.2	8.7	0.9	1.6	5.1	0.3	0.7	0.0	1.3	1.4	0.2	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	79	2132	661	184	2180	676	382	0	180	138	153	130
V/C Ratio(X)	0.71	0.44	0.05	0.44	0.28	0.02	0.11	0.00	0.19	0.28	0.05	0.00
Avail Cap(c_a), veh/h	182	2132	661	263	2180	676	1923	0	904	912	1014	859
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	30.8	13.0	10.8	29.9	11.6	10.2	25.9	0.0	26.1	28.1	27.6	0.0
Incr Delay (d2), s/veh	4.3	0.7	0.2	0.6	0.3	0.0	0.1	0.0	0.5	1.1	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	2.6	0.3	0.6	1.5	0.1	0.3	0.0	0.5	0.6	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.1	13.7	10.9	30.5	11.9	10.3	26.0	0.0	26.6	29.2	27.7	0.0
LnGrp LOS	D	B	B	C	B	B	C	A	C	C	C	A
Approach Vol, veh/h		1025			695			75			45	
Approach Delay, s/veh		14.7			14.0			26.3			29.0	
Approach LOS		B			B			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.4	34.7		10.2	7.8	35.3		12.3				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	5.5	28.5		37.0	7.4	26.6		39.0				
Max Q Clear Time (g_c+I1), s	3.6	10.7		3.4	4.2	7.1		3.3				
Green Ext Time (p_c), s	0.0	5.4		0.1	0.0	3.5		0.2				

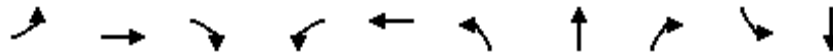
Intersection Summary

HCM 6th Ctrl Delay	15.3
HCM 6th LOS	B

Notes

- User approved pedestrian interval to be less than phase max green.
- User approved volume balancing among the lanes for turning movement.

Timings  
8: Key Point Av. & Main St.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↙	↑↑↑	↗	↙	↑↑↑	↙	↑	↗	↙	↘
Traffic Volume (vph)	30	880	12	140	664	11	11	80	146	27
Future Volume (vph)	30	880	12	140	664	11	11	80	146	27
Turn Type	Prot	NA	Perm	Prot	NA	Perm	NA	Perm	Perm	NA
Protected Phases	5	2		1	6		8			4
Permitted Phases			2			8		8	4	
Detector Phase	5	2	2	1	6	8	8	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	29.2	29.2	9.6	30.2	38.6	38.6	38.6	41.6	41.6
Total Split (s)	14.0	45.0	45.0	29.0	60.0	46.0	46.0	46.0	46.0	46.0
Total Split (%)	11.7%	37.5%	37.5%	24.2%	50.0%	38.3%	38.3%	38.3%	38.3%	38.3%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	Max	Max	None	Max	None	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 90.7  
 Natural Cycle: 85  
 Control Type: Actuated-Uncoordinated

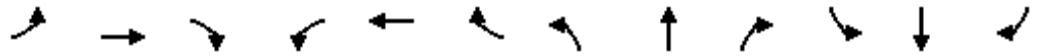
Splits and Phases: 8: Key Point Av. & Main St.



HCM 6th Signalized Intersection Summary  
8: Key Point Av. & Main St.

Hesperia US Cold Storage (JN 13201)

07/09/2020

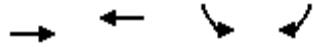


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑		↘	↑	↗	↘	↗	
Traffic Volume (veh/h)	30	880	12	140	664	109	11	11	80	146	27	15
Future Volume (veh/h)	30	880	12	140	664	109	11	11	80	146	27	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	31	898	9	143	678	77	11	11	22	149	28	10
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	50	2755	854	175	2858	322	256	268	227	275	189	67
Arrive On Green	0.03	0.56	0.56	0.11	0.64	0.64	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	1619	4914	1524	1619	4481	504	1314	1800	1522	1318	1266	452
Grp Volume(v), veh/h	31	898	9	143	494	261	11	11	22	149	0	38
Grp Sat Flow(s),veh/h/ln	1619	1638	1524	1619	1638	1709	1314	1800	1522	1318	0	1719
Q Serve(g_s), s	1.6	8.3	0.2	7.3	5.4	5.5	0.6	0.4	1.1	9.2	0.0	1.6
Cycle Q Clear(g_c), s	1.6	8.3	0.2	7.3	5.4	5.5	2.2	0.4	1.1	9.7	0.0	1.6
Prop In Lane	1.00		1.00	1.00		0.30	1.00		1.00	1.00		0.26
Lane Grp Cap(c), veh/h	50	2755	854	175	2089	1090	256	268	227	275	0	256
V/C Ratio(X)	0.63	0.33	0.01	0.82	0.24	0.24	0.04	0.04	0.10	0.54	0.00	0.15
Avail Cap(c_a), veh/h	180	2755	854	468	2089	1090	705	883	747	725	0	843
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.4	10.0	8.2	36.8	6.5	6.5	32.2	30.7	31.0	34.9	0.0	31.2
Incr Delay (d2), s/veh	4.7	0.3	0.0	3.6	0.3	0.5	0.1	0.1	0.2	1.7	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	2.5	0.1	2.9	1.4	1.6	0.2	0.2	0.4	3.0	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.1	10.3	8.2	40.4	6.8	7.0	32.3	30.8	31.2	36.5	0.0	31.5
LnGrp LOS	D	B	A	D	A	A	C	C	C	D	A	C
Approach Vol, veh/h		938			898			44				187
Approach Delay, s/veh		11.4			12.2			31.4				35.5
Approach LOS		B			B			C				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.7	53.5		17.2	7.2	60.0		17.2				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	24.4	38.8		41.4	9.4	53.8		41.4				
Max Q Clear Time (g_c+1), s	9.3	10.3		11.7	3.6	7.5		4.2				
Green Ext Time (p_c), s	0.1	6.1		0.7	0.0	4.8		0.1				

Intersection Summary

HCM 6th Ctrl Delay	14.4
HCM 6th LOS	B

Timings  
9: I-15 SB Ramps & Main St.

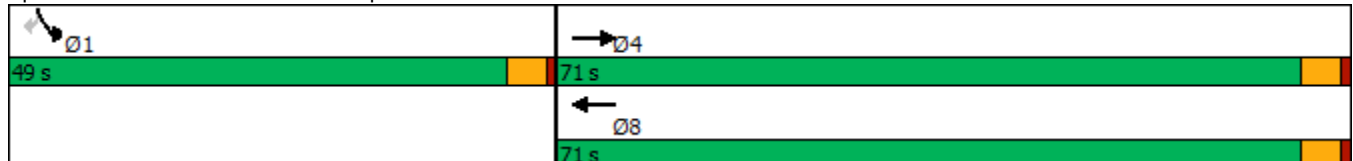


Lane Group	EBT	WBT	SBL	SBR
Lane Configurations	↑↑↑	↑↑↑	↔↔	↔
Traffic Volume (vph)	1002	723	313	176
Future Volume (vph)	1002	723	313	176
Turn Type	NA	NA	Prot	Perm
Protected Phases	4	8	1	
Permitted Phases				1
Detector Phase	4	8	1	1
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.6	9.6	9.6
Total Split (s)	71.0	71.0	49.0	49.0
Total Split (%)	59.2%	59.2%	40.8%	40.8%
Yellow Time (s)	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 35.6  
 Natural Cycle: 40  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 9: I-15 SB Ramps & Main St.



HCM 6th Signalized Intersection Summary  
 9: I-15 SB Ramps & Main St.

Hesperia US Cold Storage (JN 13201)

07/09/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑					↑↑		↑
Traffic Volume (veh/h)	0	1002	0	0	723	0	0	0	0	313	0	176
Future Volume (veh/h)	0	1002	0	0	723	0	0	0	0	313	0	176
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1800	0	0	1800	0				1700	0	1800
Adj Flow Rate, veh/h	0	1055	0	0	761	0				329	0	104
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	2376		0	2376					653	0	317
Arrive On Green	0.00	0.48	0.00	0.00	0.48	0.00				0.21	0.00	0.21
Sat Flow, veh/h	0	5238	0	0	5238	0				3141	0	1525
Grp Volume(v), veh/h	0	1055	0	0	761	0				329	0	104
Grp Sat Flow(s),veh/h/ln	0	1638	0	0	1638	0				1570	0	1525
Q Serve(g_s), s	0.0	4.2	0.0	0.0	2.8	0.0				2.8	0.0	1.7
Cycle Q Clear(g_c), s	0.0	4.2	0.0	0.0	2.8	0.0				2.8	0.0	1.7
Prop In Lane	0.00		0.00	0.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2376		0	2376					653	0	317
V/C Ratio(X)	0.00	0.44		0.00	0.32					0.50	0.00	0.33
Avail Cap(c_a), veh/h	0	10939		0	10939					4675	0	2271
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	5.1	0.0	0.0	4.7	0.0				10.4	0.0	10.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.1	0.0				0.6	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.3	0.0	0.0	0.2	0.0				0.8	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	5.2	0.0	0.0	4.8	0.0				11.1	0.0	10.6
LnGrp LOS	A	A		A	A					B	A	B
Approach Vol, veh/h		1055	A		761	A					433	
Approach Delay, s/veh		5.2			4.8						11.0	
Approach LOS		A			A						B	
Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				19.0		10.8		19.0				
Change Period (Y+Rc), s				4.6		4.6		4.6				
Max Green Setting (Gmax), s				66.4		44.4		66.4				
Max Q Clear Time (g_c+I1), s				6.2		4.8		4.8				
Green Ext Time (p_c), s				8.2		1.6		5.3				

Intersection Summary

HCM 6th Ctrl Delay	6.2
HCM 6th LOS	A

Notes

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

Timings  
10: I-15 NB Ramps & Main St.



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR
Lane Configurations	↑↑↑↑	↑	↑↑↑↑	↑	↑	↑	↑
Traffic Volume (vph)	1018	297	1215	462	79	6	395
Future Volume (vph)	1018	297	1215	462	79	6	395
Turn Type	NA	Perm	NA	Perm	Split	NA	Perm
Protected Phases	2		6		8	8	
Permitted Phases		2		6			8
Detector Phase	2	2	6	6	8	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.6	22.6	22.6	22.6	9.6	9.6	9.6
Total Split (s)	78.0	78.0	78.0	78.0	42.0	42.0	42.0
Total Split (%)	65.0%	65.0%	65.0%	65.0%	35.0%	35.0%	35.0%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	None	None	None	None	Min	Min	Min

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 45  
 Natural Cycle: 40  
 Control Type: Actuated-Uncoordinated













Splits and Phases: 10: I-15 NB Ramps & Main St.



HCM 6th Signalized Intersection Summary  
 10: I-15 NB Ramps & Main St.

Hesperia US Cold Storage (JN 13201)

07/09/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑↑	↗	↗	↗	↗			
Traffic Volume (veh/h)	0	1018	297	0	1215	462	79	6	395	0	0	0
Future Volume (veh/h)	0	1018	297	0	1215	462	79	6	395	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1800	1800	0	1800	1800	1700	1800	1800			
Adj Flow Rate, veh/h	0	1039	0	0	1240	439	81	0	197			
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	0	2949		0	2949	916	233	0	439			
Arrive On Green	0.00	0.60	0.00	0.00	0.60	0.60	0.14	0.00	0.14			
Sat Flow, veh/h	0	5076	1525	0	5076	1525	1619	0	3051			
Grp Volume(v), veh/h	0	1039	0	0	1240	439	81	0	197			
Grp Sat Flow(s),veh/h/ln	0	1638	1525	0	1638	1525	1619	0	1525			
Q Serve(g_s), s	0.0	3.9	0.0	0.0	4.9	5.8	1.6	0.0	2.1			
Cycle Q Clear(g_c), s	0.0	3.9	0.0	0.0	4.9	5.8	1.6	0.0	2.1			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	2949		0	2949	916	233	0	439			
V/C Ratio(X)	0.00	0.35		0.00	0.42	0.48	0.35	0.00	0.45			
Avail Cap(c_a), veh/h	0	10031		0	10031	3114	1684	0	3173			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	3.6	0.0	0.0	3.8	4.0	13.9	0.0	14.1			
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.1	0.4	0.9	0.0	0.7			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	0.1	0.0	0.0	0.1	0.2	0.6	0.0	0.7			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	3.7	0.0	0.0	3.9	4.4	14.8	0.0	14.8			
LnGrp LOS	A	A		A	A	A	B	A	B			
Approach Vol, veh/h		1039	A		1679			278				
Approach Delay, s/veh		3.7			4.1			14.8				
Approach LOS		A			A			B				
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		26.2				26.2		9.8				
Change Period (Y+Rc), s		4.6				4.6		4.6				
Max Green Setting (Gmax), s		73.4				73.4		37.4				
Max Q Clear Time (g_c+I1), s		5.9				7.8		4.1				
Green Ext Time (p_c), s		8.1				13.8		1.1				

Intersection Summary

HCM 6th Ctrl Delay	4.9
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.  
 Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Intersection												
Int Delay, s/veh	0.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	0	4	0	0	0	8	1404	0	0	1026	4
Future Vol, veh/h	3	0	4	0	0	0	8	1404	0	0	1026	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	3	0	4	0	0	0	8	1463	0	0	1069	4

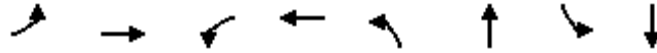
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2551	2551	1072	2552	2553	1463	1074	0	0	1463	0	0
Stage 1	1072	1072	-	1479	1479	-	-	-	-	-	-	-
Stage 2	1479	1479	-	1073	1074	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	18	27	270	18	27	159	657	-	-	468	-	-
Stage 1	269	299	-	158	191	-	-	-	-	-	-	-
Stage 2	158	191	-	269	299	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	17	25	270	17	25	159	656	-	-	468	-	-
Mov Cap-2 Maneuver	17	25	-	17	25	-	-	-	-	-	-	-
Stage 1	251	299	-	148	179	-	-	-	-	-	-	-
Stage 2	148	179	-	265	299	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	124.8	0	0.1	0
HCM LOS	F	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	656	-	-	37	-	468	-
HCM Lane V/C Ratio	0.013	-	-	0.197	-	-	-
HCM Control Delay (s)	10.6	0	-	124.8	0	0	-
HCM Lane LOS	B	A	-	F	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.6	-	0	-



Timings  
3: US-395 & Phelan Rd./Main St.

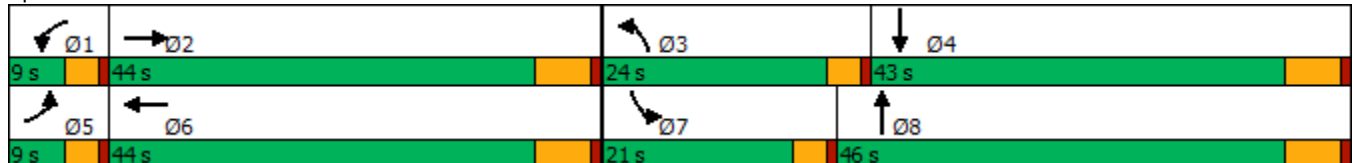


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↙	↕	↙	↕	↙	↕	↙	↕
Traffic Volume (vph)	45	568	9	668	165	1107	191	793
Future Volume (vph)	45	568	9	668	165	1107	191	793
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	5	2	1	6	3	8	7	4
Permitted Phases								
Detector Phase	5	2	1	6	3	8	7	4
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.0	16.0	9.0	16.0	9.0	16.0	9.0	16.0
Total Split (s)	9.0	44.0	9.0	44.0	24.0	46.0	21.0	43.0
Total Split (%)	7.5%	36.7%	7.5%	36.7%	20.0%	38.3%	17.5%	35.8%
Yellow Time (s)	3.0	5.0	3.0	5.0	3.0	5.0	3.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 115.7  
 Natural Cycle: 100  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 3: US-395 & Phelan Rd./Main St.



HCM 6th Signalized Intersection Summary  
 3: US-395 & Phelan Rd./Main St.

Hesperia US Cold Storage (JN 13201)

07/09/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (veh/h)	45	568	69	9	668	260	165	1107	26	191	793	47
Future Volume (veh/h)	45	568	69	9	668	260	165	1107	26	191	793	47
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	47	598	45	9	703	190	174	1165	20	201	835	34
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	58	1034	78	18	788	213	201	1211	21	226	1232	50
Arrive On Green	0.04	0.32	0.32	0.01	0.30	0.30	0.12	0.35	0.35	0.14	0.37	0.37
Sat Flow, veh/h	1619	3221	242	1619	2661	719	1619	3440	59	1619	3349	136
Grp Volume(v), veh/h	47	317	326	9	452	441	174	579	606	201	426	443
Grp Sat Flow(s),veh/h/ln	1619	1710	1753	1619	1710	1671	1619	1710	1789	1619	1710	1775
Q Serve(g_s), s	3.3	17.5	17.6	0.6	28.6	28.7	12.0	37.6	37.6	13.8	23.8	23.8
Cycle Q Clear(g_c), s	3.3	17.5	17.6	0.6	28.6	28.7	12.0	37.6	37.6	13.8	23.8	23.8
Prop In Lane	1.00		0.14	1.00		0.43	1.00		0.03	1.00		0.08
Lane Grp Cap(c), veh/h	58	549	563	18	506	494	201	602	630	226	629	653
V/C Ratio(X)	0.81	0.58	0.58	0.51	0.89	0.89	0.87	0.96	0.96	0.89	0.68	0.68
Avail Cap(c_a), veh/h	71	573	588	71	573	560	286	603	631	243	629	653
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.3	32.1	32.1	55.8	38.2	38.2	48.7	36.0	36.0	47.9	30.2	30.2
Incr Delay (d2), s/veh	38.5	1.3	1.3	15.9	15.0	15.4	15.9	27.4	26.7	28.7	3.1	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	7.0	7.2	0.3	13.3	13.0	5.5	18.9	19.7	7.1	9.6	9.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	92.8	33.4	33.4	71.7	53.2	53.5	64.6	63.3	62.6	76.5	33.3	33.2
LnGrp LOS	F	C	C	E	D	D	E	E	E	E	C	C
Approach Vol, veh/h		690			902			1359			1070	
Approach Delay, s/veh		37.5			53.6			63.2			41.3	
Approach LOS		D			D			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.2	42.4	18.0	47.7	8.1	39.5	19.8	45.9				
Change Period (Y+Rc), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0				
Max Green Setting (Gmax), s	5.0	38.0	20.0	37.0	5.0	38.0	17.0	40.0				
Max Q Clear Time (g_c+I1), s	2.6	19.6	14.0	25.8	5.3	30.7	15.8	39.6				
Green Ext Time (p_c), s	0.0	3.1	0.2	4.2	0.0	2.9	0.0	0.3				

Intersection Summary

HCM 6th Ctrl Delay	50.8
HCM 6th LOS	D

Timings  
6: Mesa Linda St. & Main St.

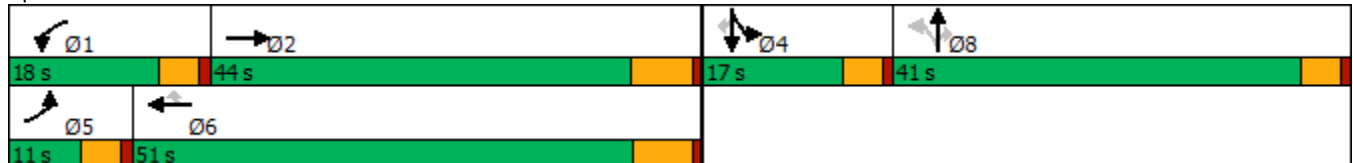


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBT	SBR
Lane Configurations	↙	↕↕↕	↙	↕↕↕	↙		↕	↙	↕	↙
Traffic Volume (vph)	5	774	47	924	55	10	7	82	0	3
Future Volume (vph)	5	774	47	924	55	10	7	82	0	3
Turn Type	Prot	NA	Prot	NA	Perm	Perm	NA	Perm	NA	Perm
Protected Phases	5	2	1	6			8		4	
Permitted Phases					6	8		8		4
Detector Phase	5	2	1	6	6	8	8	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	16.5	9.6	23.2	23.2	40.6	40.6	40.6	14.6	14.6
Total Split (s)	11.0	44.0	18.0	51.0	51.0	41.0	41.0	41.0	17.0	17.0
Total Split (%)	9.2%	36.7%	15.0%	42.5%	42.5%	34.2%	34.2%	34.2%	14.2%	14.2%
Yellow Time (s)	3.6	5.5	3.6	5.2	5.2	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.2	6.2		4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	Max	None	Max	Max	None	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 83.8  
 Natural Cycle: 90  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 6: Mesa Linda St. & Main St.



HCM 6th Signalized Intersection Summary  
6: Mesa Linda St. & Main St.

Hesperia US Cold Storage (JN 13201)

07/09/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑	↖		↖	↖		↖	↖
Traffic Volume (veh/h)	5	774	6	47	924	55	10	7	82	32	0	3
Future Volume (veh/h)	5	774	6	47	924	55	10	7	82	32	0	3
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	5	806	5	49	962	49	10	7	26	33	0	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	11	2761	17	68	2868	890	80	56	119	115	0	102
Arrive On Green	0.01	0.55	0.55	0.04	0.58	0.58	0.08	0.08	0.08	0.07	0.00	0.07
Sat Flow, veh/h	1619	5039	31	1619	4914	1525	1029	720	1525	1714	0	1525
Grp Volume(v), veh/h	5	524	287	49	962	49	17	0	26	33	0	1
Grp Sat Flow(s),veh/h/ln	1619	1638	1794	1619	1638	1525	1749	0	1525	1714	0	1525
Q Serve(g_s), s	0.2	6.6	6.6	2.3	7.8	1.1	0.7	0.0	1.2	1.4	0.0	0.0
Cycle Q Clear(g_c), s	0.2	6.6	6.6	2.3	7.8	1.1	0.7	0.0	1.2	1.4	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	0.59		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	11	1795	983	68	2868	890	137	0	119	115	0	102
V/C Ratio(X)	0.47	0.29	0.29	0.72	0.34	0.06	0.12	0.00	0.22	0.29	0.00	0.01
Avail Cap(c_a), veh/h	135	1795	983	283	2868	890	829	0	723	277	0	246
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.0	9.3	9.3	36.3	8.3	6.9	32.9	0.0	33.2	34.1	0.0	33.4
Incr Delay (d2), s/veh	11.4	0.4	0.8	5.1	0.3	0.1	0.4	0.0	0.9	1.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	1.9	2.1	0.9	2.1	0.3	0.3	0.0	0.5	0.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.4	9.7	10.1	41.4	8.6	7.0	33.3	0.0	34.1	35.4	0.0	33.5
LnGrp LOS	D	A	B	D	A	A	C	A	C	D	A	C
Approach Vol, veh/h		816			1060			43				34
Approach Delay, s/veh		10.1			10.0			33.8				35.3
Approach LOS		B			B			C				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.8	48.6		9.8	5.1	51.3		10.6				
Change Period (Y+Rc), s	4.6	6.5		4.6	4.6	* 6.5		4.6				
Max Green Setting (Gmax), s	13.4	37.5		12.4	6.4	* 45		36.4				
Max Q Clear Time (g_c+1), s	4.3	8.6		3.4	2.2	9.8		3.2				
Green Ext Time (p_c), s	0.0	4.8		0.1	0.0	7.1		0.1				

Intersection Summary

HCM 6th Ctrl Delay	11.0
HCM 6th LOS	B

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

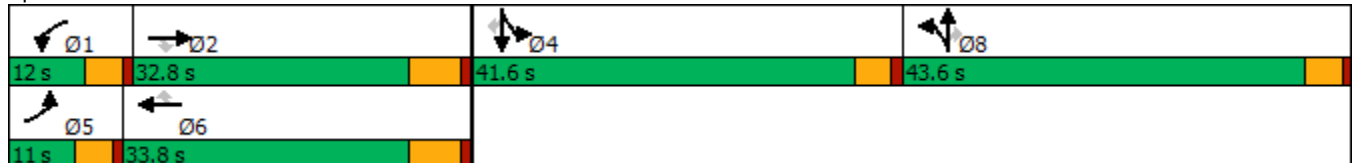
Timings  
7: Cataba Av. & Main St.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	78	698	90	192	778	44	137	52	139	70	30	113
Future Volume (vph)	78	698	90	192	778	44	137	52	139	70	30	113
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	32.2	32.2	9.6	32.2	32.2	43.6	43.6	43.6	41.6	41.6	41.6
Total Split (s)	11.0	32.8	32.8	12.0	33.8	33.8	43.6	43.6	43.6	41.6	41.6	41.6
Total Split (%)	8.5%	25.2%	25.2%	9.2%	26.0%	26.0%	33.5%	33.5%	33.5%	32.0%	32.0%	32.0%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (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
Lost Time Adjust (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
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None	None

Intersection Summary

Cycle Length: 130  
 Actuated Cycle Length: 85.5  
 Natural Cycle: 130  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 7: Cataba Av. & Main St.



HCM 6th Signalized Intersection Summary  
7: Cataba Av. & Main St.

Hesperia US Cold Storage (JN 13201)  
07/09/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘↗	↑↑↑	↗	↘	↗	↗	↘	↑	↗
Traffic Volume (veh/h)	78	698	90	192	778	44	137	52	139	70	30	113
Future Volume (veh/h)	78	698	90	192	778	44	137	52	139	70	30	113
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	80	712	53	196	794	33	96	114	39	71	31	25
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	99	1774	551	273	1900	589	251	279	234	203	226	192
Arrive On Green	0.06	0.36	0.36	0.09	0.39	0.39	0.15	0.15	0.15	0.13	0.13	0.13
Sat Flow, veh/h	1619	4914	1525	3141	4914	1523	1619	1800	1511	1619	1800	1525
Grp Volume(v), veh/h	80	712	53	196	794	33	96	114	39	71	31	25
Grp Sat Flow(s),veh/h/ln	1619	1638	1525	1570	1638	1523	1619	1800	1511	1619	1800	1525
Q Serve(g_s), s	3.6	8.0	1.7	4.5	8.7	1.0	3.9	4.2	1.6	3.0	1.1	1.1
Cycle Q Clear(g_c), s	3.6	8.0	1.7	4.5	8.7	1.0	3.9	4.2	1.6	3.0	1.1	1.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	99	1774	551	273	1900	589	251	279	234	203	226	192
V/C Ratio(X)	0.81	0.40	0.10	0.72	0.42	0.06	0.38	0.41	0.17	0.35	0.14	0.13
Avail Cap(c_a), veh/h	141	1774	551	316	1900	589	857	953	800	813	904	766
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.1	17.6	15.6	32.8	16.5	14.2	28.0	28.1	27.0	29.4	28.7	28.6
Incr Delay (d2), s/veh	13.6	0.7	0.3	4.9	0.7	0.2	1.0	1.0	0.3	1.0	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	2.6	0.5	1.7	2.9	0.3	1.6	1.9	0.6	1.2	0.5	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.7	18.3	15.9	37.7	17.2	14.3	28.9	29.0	27.3	30.5	28.9	28.9
LnGrp LOS	D	B	B	D	B	B	C	C	C	C	C	C
Approach Vol, veh/h		845			1023			249			127	
Approach Delay, s/veh		20.9			21.0			28.7			29.8	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.0	32.8		13.9	9.1	34.7		16.0				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	7.4	26.6		37.0	6.4	27.6		39.0				
Max Q Clear Time (g_c+I1), s	6.5	10.0		5.0	5.6	10.7		6.2				
Green Ext Time (p_c), s	0.0	4.0		0.4	0.0	4.6		1.1				

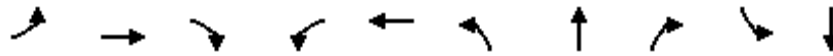
Intersection Summary

HCM 6th Ctrl Delay	22.3
HCM 6th LOS	C

Notes

- User approved pedestrian interval to be less than phase max green.
- User approved volume balancing among the lanes for turning movement.

Timings  
8: Key Point Av. & Main St.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↙	↑↑↑	↗	↙	↑↑↑	↙	↑	↗	↙	↘
Traffic Volume (vph)	56	920	24	219	1113	30	72	235	226	86
Future Volume (vph)	56	920	24	219	1113	30	72	235	226	86
Turn Type	Prot	NA	Perm	Prot	NA	Perm	NA	Perm	Perm	NA
Protected Phases	5	2		1	6		8			4
Permitted Phases			2			8		8	4	
Detector Phase	5	2	2	1	6	8	8	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	29.2	29.2	9.6	30.2	38.6	38.6	38.6	41.6	41.6
Total Split (s)	16.0	42.0	42.0	34.0	60.0	44.0	44.0	44.0	44.0	44.0
Total Split (%)	13.3%	35.0%	35.0%	28.3%	50.0%	36.7%	36.7%	36.7%	36.7%	36.7%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	Max	Max	None	Max	None	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 100.6  
 Natural Cycle: 85  
 Control Type: Actuated-Uncoordinated




























Splits and Phases: 8: Key Point Av. & Main St.



HCM 6th Signalized Intersection Summary  
8: Key Point Av. & Main St.

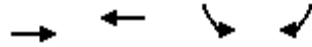
Hesperia US Cold Storage (JN 13201)

07/09/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  							
Traffic Volume (veh/h)	56	920	24	219	1113	217	30	72	235	226	86	31
Future Volume (veh/h)	56	920	24	219	1113	217	30	72	235	226	86	31
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	57	939	20	223	1136	145	31	73	99	231	88	11
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	71	2090	649	254	2374	303	345	475	396	342	414	52
Arrive On Green	0.04	0.43	0.43	0.16	0.54	0.54	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	1619	4914	1525	1619	4411	563	1239	1800	1501	1162	1568	196
Grp Volume(v), veh/h	57	939	20	223	843	438	31	73	99	231	0	99
Grp Sat Flow(s),veh/h/ln	1619	1638	1525	1619	1638	1698	1239	1800	1501	1162	0	1764
Q Serve(g_s), s	3.5	13.6	0.8	13.5	16.0	16.0	2.0	3.1	5.2	19.0	0.0	4.4
Cycle Q Clear(g_c), s	3.5	13.6	0.8	13.5	16.0	16.0	6.4	3.1	5.2	22.1	0.0	4.4
Prop In Lane	1.00		1.00	1.00		0.33	1.00		1.00	1.00		0.11
Lane Grp Cap(c), veh/h	71	2090	649	254	1763	914	345	475	396	342	0	465
V/C Ratio(X)	0.80	0.45	0.03	0.88	0.48	0.48	0.09	0.15	0.25	0.67	0.00	0.21
Avail Cap(c_a), veh/h	185	2090	649	476	1763	914	506	710	592	494	0	695
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	47.4	20.4	16.7	41.2	14.4	14.4	31.2	28.2	29.0	36.7	0.0	28.7
Incr Delay (d2), s/veh	7.7	0.7	0.1	3.9	0.9	1.8	0.1	0.1	0.3	2.3	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	4.8	0.3	5.3	5.4	5.8	0.6	1.4	1.9	5.6	0.0	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.1	21.1	16.8	45.1	15.3	16.1	31.3	28.4	29.3	39.0	0.0	28.9
LnGrp LOS	E	C	B	D	B	B	C	C	C	D	A	C
Approach Vol, veh/h		1016			1504			203				330
Approach Delay, s/veh		22.9			20.0			29.3				36.0
Approach LOS		C			B			C				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	20.3	48.7		31.0	9.0	60.0		31.0				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	29.4	35.8		39.4	11.4	53.8		39.4				
Max Q Clear Time (g_c+I1), s	15.5	15.6		24.1	5.5	18.0		8.4				
Green Ext Time (p_c), s	0.2	5.9		1.3	0.0	9.5		0.9				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				23.3								
HCM 6th LOS				C								



Timings  
9: I-15 SB Ramps & Main St.

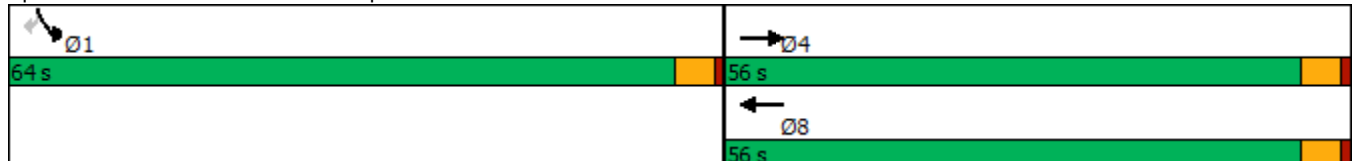


Lane Group	EBT	WBT	SBL	SBR
Lane Configurations	↑↑↑	↑↑↑	↘↘	↗
Traffic Volume (vph)	1249	1150	551	400
Future Volume (vph)	1249	1150	551	400
Turn Type	NA	NA	Prot	Perm
Protected Phases	4	8	1	
Permitted Phases				1
Detector Phase	4	8	1	1
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.6	9.6	9.6
Total Split (s)	56.0	56.0	64.0	64.0
Total Split (%)	46.7%	46.7%	53.3%	53.3%
Yellow Time (s)	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 59.8  
 Natural Cycle: 40  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 9: I-15 SB Ramps & Main St.



HCM 6th Signalized Intersection Summary  
 9: I-15 SB Ramps & Main St.

Hesperia US Cold Storage (JN 13201)

07/09/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑					↑↑		↑
Traffic Volume (veh/h)	0	1249	0	0	1150	0	0	0	0	551	0	400
Future Volume (veh/h)	0	1249	0	0	1150	0	0	0	0	551	0	400
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1800	0	0	1800	0				1700	0	1800
Adj Flow Rate, veh/h	0	1288	0	0	1186	0				568	0	299
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97				0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	2365		0	2365					947	0	460
Arrive On Green	0.00	0.48	0.00	0.00	0.48	0.00				0.30	0.00	0.30
Sat Flow, veh/h	0	5238	0	0	5238	0				3141	0	1525
Grp Volume(v), veh/h	0	1288	0	0	1186	0				568	0	299
Grp Sat Flow(s),veh/h/ln	0	1638	0	0	1638	0				1570	0	1525
Q Serve(g_s), s	0.0	7.8	0.0	0.0	7.0	0.0				6.5	0.0	7.2
Cycle Q Clear(g_c), s	0.0	7.8	0.0	0.0	7.0	0.0				6.5	0.0	7.2
Prop In Lane	0.00		0.00	0.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2365		0	2365					947	0	460
V/C Ratio(X)	0.00	0.54		0.00	0.50					0.60	0.00	0.65
Avail Cap(c_a), veh/h	0	5964		0	5964					4406	0	2140
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	7.7	0.0	0.0	7.5	0.0				12.6	0.0	12.9
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.2	0.0				0.6	0.0	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.4	0.0	0.0	1.2	0.0				2.0	0.0	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	7.9	0.0	0.0	7.7	0.0				13.2	0.0	14.4
LnGrp LOS	A	A		A	A					B	A	B
Approach Vol, veh/h		1288	A		1186	A					867	
Approach Delay, s/veh		7.9			7.7						13.6	
Approach LOS		A			A						B	
Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				25.0		17.4		25.0				
Change Period (Y+Rc), s				4.6		4.6		4.6				
Max Green Setting (Gmax), s				51.4		59.4		51.4				
Max Q Clear Time (g_c+I1), s				9.8		9.2		9.0				
Green Ext Time (p_c), s				10.6		3.6		9.4				

Intersection Summary

HCM 6th Ctrl Delay	9.3
HCM 6th LOS	A

Notes

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

Timings  
10: I-15 NB Ramps & Main St.

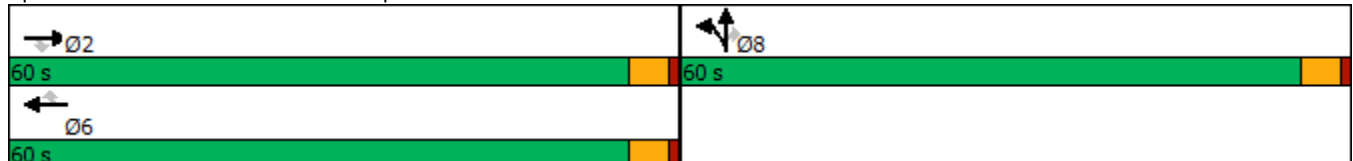


Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR
Lane Configurations	↑↑↑	↑	↑↑↑	↑	↑	↑	↑
Traffic Volume (vph)	1575	225	1333	404	183	0	847
Future Volume (vph)	1575	225	1333	404	183	0	847
Turn Type	NA	Perm	NA	Perm	Split	NA	Perm
Protected Phases	2		6		8	8	
Permitted Phases		2		6			8
Detector Phase	2	2	6	6	8	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.6	22.6	22.6	22.6	9.6	9.6	9.6
Total Split (s)	60.0	60.0	60.0	60.0	60.0	60.0	60.0
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	None	None	None	None	Min	Min	Min

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 89.5  
 Natural Cycle: 45  
 Control Type: Actuated-Uncoordinated













Splits and Phases: 10: I-15 NB Ramps & Main St.



HCM 6th Signalized Intersection Summary  
 10: I-15 NB Ramps & Main St.

Hesperia US Cold Storage (JN 13201)

07/09/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑↑	↗	↘	↔	↗			
Traffic Volume (veh/h)	0	1575	225	0	1333	404	183	0	847	0	0	0
Future Volume (veh/h)	0	1575	225	0	1333	404	183	0	847	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1800	1800	0	1800	1800	1700	1800	1800			
Adj Flow Rate, veh/h	0	1624	0	0	1374	269	189	0	726			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	0	2573		0	2573	799	516	0	973			
Arrive On Green	0.00	0.52	0.00	0.00	0.52	0.52	0.32	0.00	0.32			
Sat Flow, veh/h	0	5076	1525	0	5076	1525	1619	0	3051			
Grp Volume(v), veh/h	0	1624	0	0	1374	269	189	0	726			
Grp Sat Flow(s),veh/h/ln	0	1638	1525	0	1638	1525	1619	0	1525			
Q Serve(g_s), s	0.0	13.7	0.0	0.0	10.8	6.0	5.3	0.0	12.4			
Cycle Q Clear(g_c), s	0.0	13.7	0.0	0.0	10.8	6.0	5.3	0.0	12.4			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	2573		0	2573	799	516	0	973			
V/C Ratio(X)	0.00	0.63		0.00	0.53	0.34	0.37	0.00	0.75			
Avail Cap(c_a), veh/h	0	4661		0	4661	1447	1536	0	2894			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	9.9	0.0	0.0	9.2	8.0	15.3	0.0	17.8			
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	0.2	0.2	0.4	0.0	1.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	3.2	0.0	0.0	2.5	1.3	1.9	0.0	4.2			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	10.2	0.0	0.0	9.4	8.3	15.8	0.0	18.9			
LnGrp LOS	A	B		A	A	A	B	A	B			
Approach Vol, veh/h		1624	A		1643			915				
Approach Delay, s/veh		10.2			9.2			18.3				
Approach LOS		B			A			B				
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		35.2				35.2		23.2				
Change Period (Y+Rc), s		4.6				4.6		4.6				
Max Green Setting (Gmax), s		55.4				55.4		55.4				
Max Q Clear Time (g_c+I1), s		15.7				12.8		14.4				
Green Ext Time (p_c), s		14.9				13.4		4.2				

Intersection Summary

HCM 6th Ctrl Delay	11.6
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.  
 Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

**APPENDIX 3.3:**

**EXISTING (2020) CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS**

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### Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = Existing (2020) Conditions - Weekday PM Peak Hour

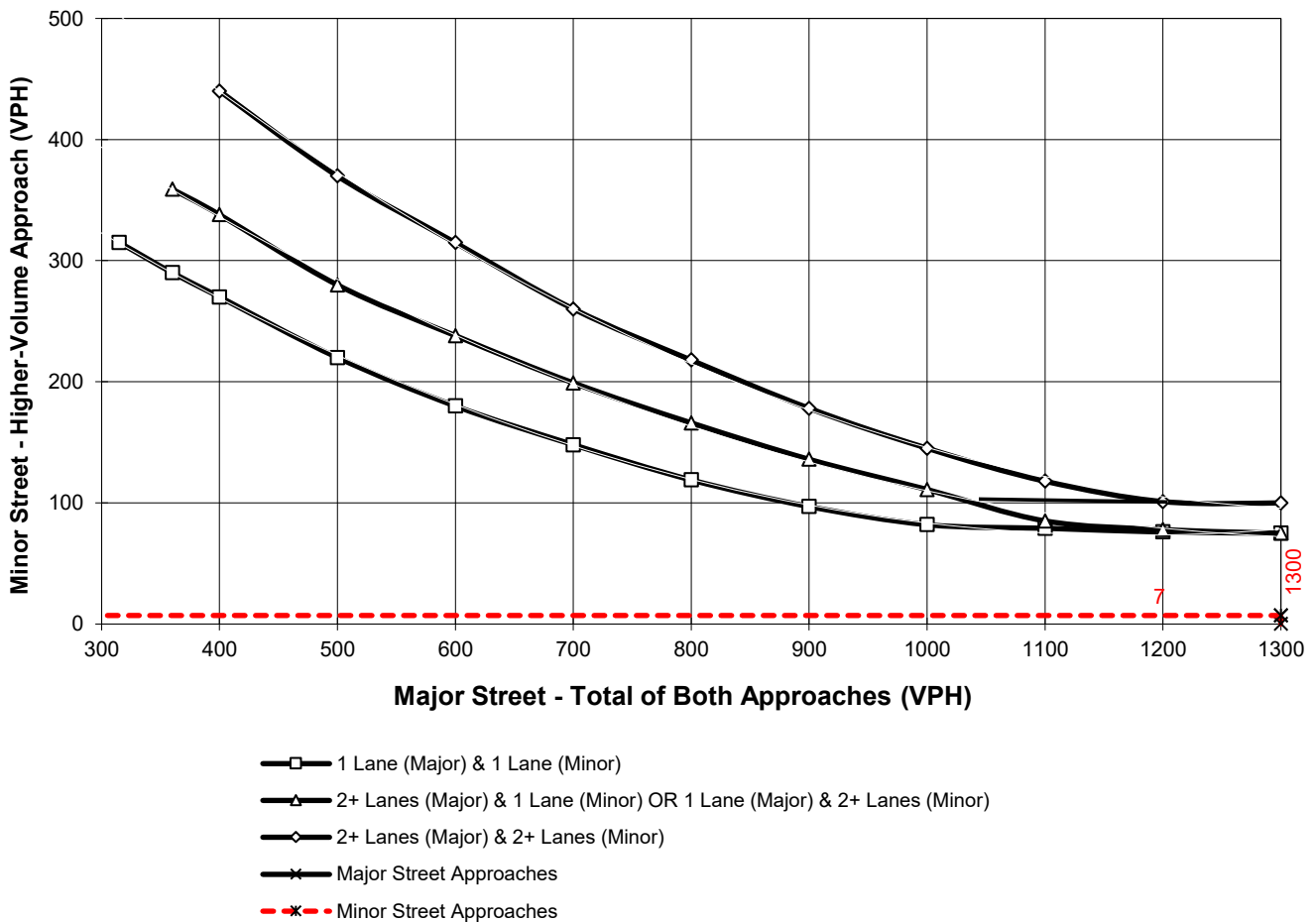
Major Street Name = US Highway 395

Total of Both Approaches (VPH) = 2442  
 Number of Approach Lanes Major Street = 1

Minor Street Name = Yucca Terrace Drive

High Volume Approach (VPH) = 7  
 Number of Approach Lanes Minor Street = 1

**SIGNAL WARRANT NOT SATISFIED**



\*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

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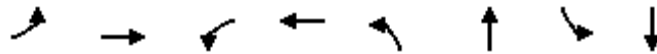


**APPENDIX 3.4:**

**EXISTING (2020) CONDITIONS QUEUING ANALYSIS WORKSHEETS**

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Queues  
3: US-395 & Phelan Rd./Main St.



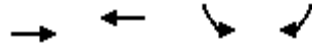
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	49	797	4	562	96	753	216	1021
v/c Ratio	0.40	0.74	0.04	0.64	0.54	0.74	0.72	0.73
Control Delay	57.3	33.7	52.8	28.5	56.5	36.2	52.7	29.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.3	33.7	52.8	28.5	56.5	36.2	52.7	29.8
Queue Length 50th (ft)	28	216	2	125	55	208	122	275
Queue Length 95th (ft)	79	355	15	197	130	361	#249	466
Internal Link Dist (ft)		3796		1443		1039		2603
Turn Bay Length (ft)	340		250		330		250	
Base Capacity (vph)	145	1482	91	1389	236	1278	419	1652
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.54	0.04	0.40	0.41	0.59	0.52	0.62

Intersection Summary

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

Queues

9: I-15 SB Ramps & Main St.



Lane Group	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	1055	761	329	185
v/c Ratio	0.47	0.34	0.37	0.33
Control Delay	7.6	6.8	12.3	4.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	7.6	6.8	12.3	4.6
Queue Length 50th (ft)	43	29	24	1
Queue Length 95th (ft)	82	57	57	32
Internal Link Dist (ft)	464	836		
Turn Bay Length (ft)			1000	540
Base Capacity (vph)	4914	4914	3133	1530
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.21	0.15	0.11	0.12

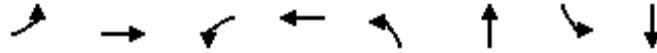
Intersection Summary

Queues  
10: I-15 NB Ramps & Main St.



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	1039	303	1240	471	81	203	206
v/c Ratio	0.38	0.31	0.46	0.45	0.22	0.48	0.49
Control Delay	6.3	1.8	6.7	2.2	17.7	12.7	12.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.3	1.8	6.7	2.2	17.7	12.7	12.9
Queue Length 50th (ft)	42	0	54	0	16	18	18
Queue Length 95th (ft)	93	26	116	32	56	82	84
Internal Link Dist (ft)	836		1724			589	
Turn Bay Length (ft)		250			1000		615
Base Capacity (vph)	4914	1530	4914	1530	1351	1240	1235
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.20	0.25	0.31	0.06	0.16	0.17

Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	47	671	9	977	174	1192	201	884
v/c Ratio	0.67	0.56	0.13	0.93	0.76	1.00	0.89	0.75
Control Delay	98.6	31.6	59.7	51.7	69.9	65.7	87.0	39.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	98.6	31.6	59.7	51.7	69.9	65.7	87.0	39.6
Queue Length 50th (ft)	37	201	7	365	130	~528	155	324
Queue Length 95th (ft)	#104	294	25	#492	206	#667	#293	418
Internal Link Dist (ft)		3796		1443		1039		2603
Turn Bay Length (ft)	340		250		330		250	
Base Capacity (vph)	70	1269	70	1116	281	1188	238	1182
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.53	0.13	0.88	0.62	1.00	0.84	0.75

**Intersection Summary**

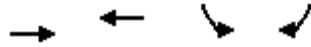
~ Volume exceeds capacity, queue is theoretically infinite.  
Queue shown is maximum after two cycles.

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

Queues

9: I-15 SB Ramps & Main St.

07/09/2020



Lane Group	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	1288	1186	568	412
v/c Ratio	0.61	0.56	0.45	0.66
Control Delay	15.3	14.7	14.7	19.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	15.3	14.7	14.7	19.9
Queue Length 50th (ft)	116	104	69	101
Queue Length 95th (ft)	236	213	143	244
Internal Link Dist (ft)	464	836		
Turn Bay Length (ft)			1000	540
Base Capacity (vph)	4181	4181	2856	1397
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.31	0.28	0.20	0.29

Intersection Summary

Queues  
10: I-15 NB Ramps & Main St.



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	1624	232	1374	416	189	437	436
v/c Ratio	0.69	0.27	0.59	0.44	0.28	0.72	0.72
Control Delay	21.3	3.3	19.3	3.4	19.8	29.7	29.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.3	3.3	19.3	3.4	19.8	29.7	29.6
Queue Length 50th (ft)	250	0	196	0	68	201	201
Queue Length 95th (ft)	419	44	333	55	139	382	381
Internal Link Dist (ft)	836		1724			589	
Turn Bay Length (ft)		250			1000		615
Base Capacity (vph)	3285	1099	3285	1160	1079	977	977
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.21	0.42	0.36	0.18	0.45	0.45

Intersection Summary



**APPENDIX 3.5:**

**EXISTING (2020) CONDITIONS FREEWAY FACILITY ANALYSIS WORKSHEETS**

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# HCS7 Freeway Facilities Report

## Project Information

Analyst	JB	Date	7/9/2020
Agency	Urban Crossroads, Inc.	Analysis Year	Existing (2020)
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	US Cold Storage (JN 13201) - I-15 SB at Main		

## Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15

## Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-15 SB, North of Main St.	16360	3
2	Diverge	Diverge	I-15 SB, Off-Ramp at Main St.	1500	3
3	Basic	Basic	I-15 SB, Between Off and Loop On-Ramp	975	3
4	Merge	Merge	I-15 SB, Loop On-Ramp at Main St.	1500	3
5	Basic	Basic	I-15 SB, Between Loop On-Ramp and On-Ramp	1415	3
6	Merge	Merge	I-15 SB, On-Ramp at Main St.	1500	3
7	Basic	Basic	I-15 SB, South of Main St.	5900	3

## Facility Segment Data

### Segment 1: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.962		4182		7146		0.59		68.0		20.5		C

### Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.962	0.885	4182	492	7200	2100	0.58	0.23	64.6	60.4	21.6	27.6	C

### Segment 3: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.971		3695		7146		0.52		68.2		18.1		C

### Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.971	0.971	4255	560	7200	351900	0.59	0.29	62.0	59.8	22.9	24.4	C

### Segment 5: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.971		4255		7146		0.60		67.9		20.9		C

### Segment 6: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.971	0.917	4358	103	7200	2100	0.61	0.05	62.6	60.8	23.2	22.8	C

### Segment 7: Basic

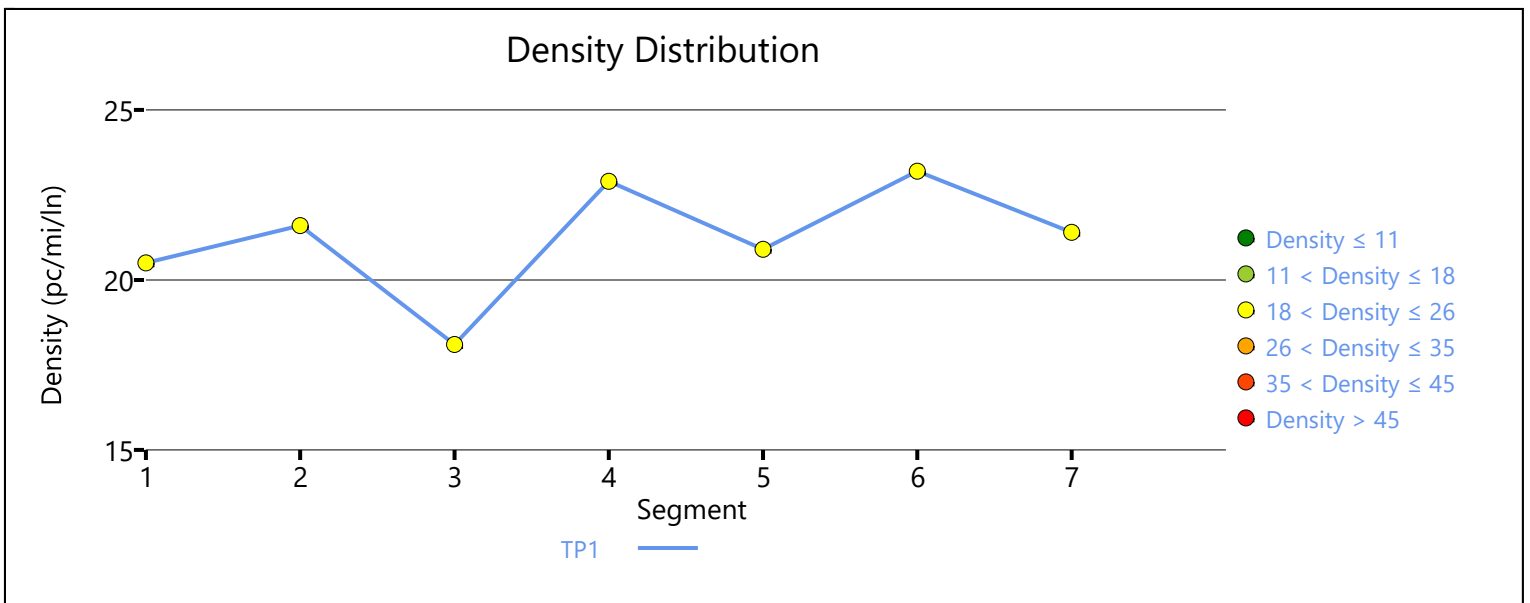
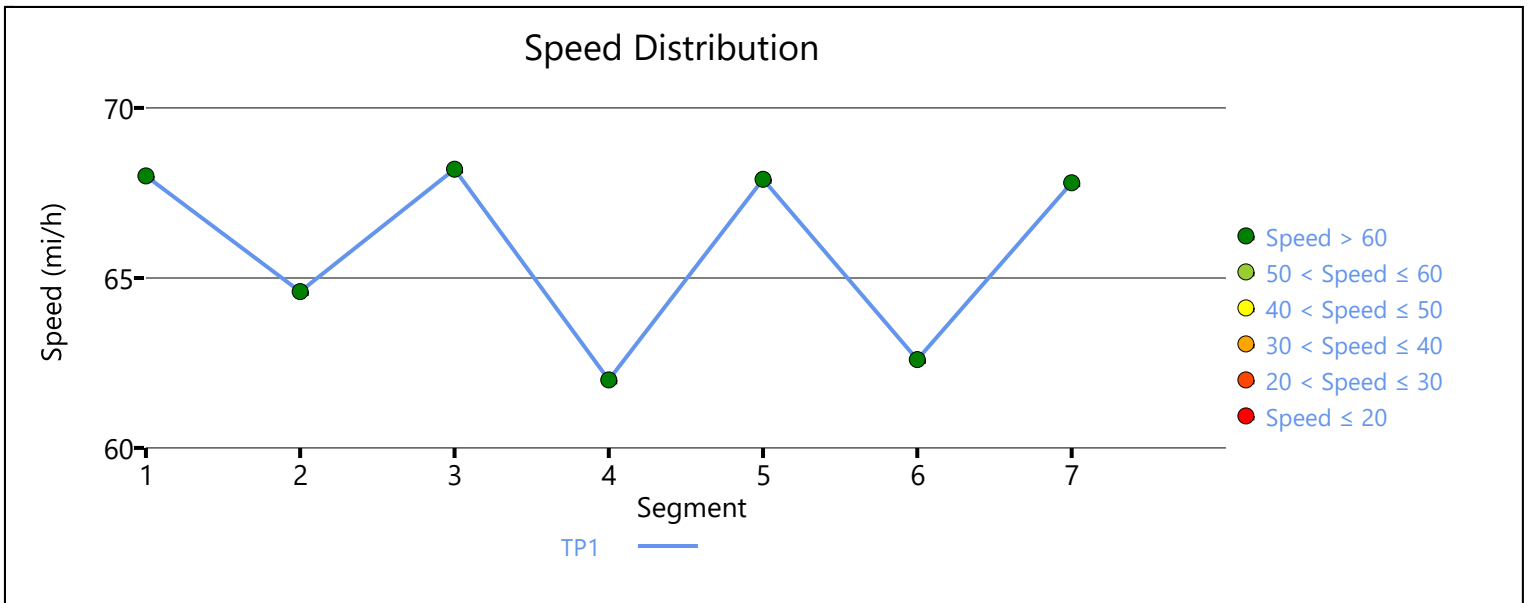
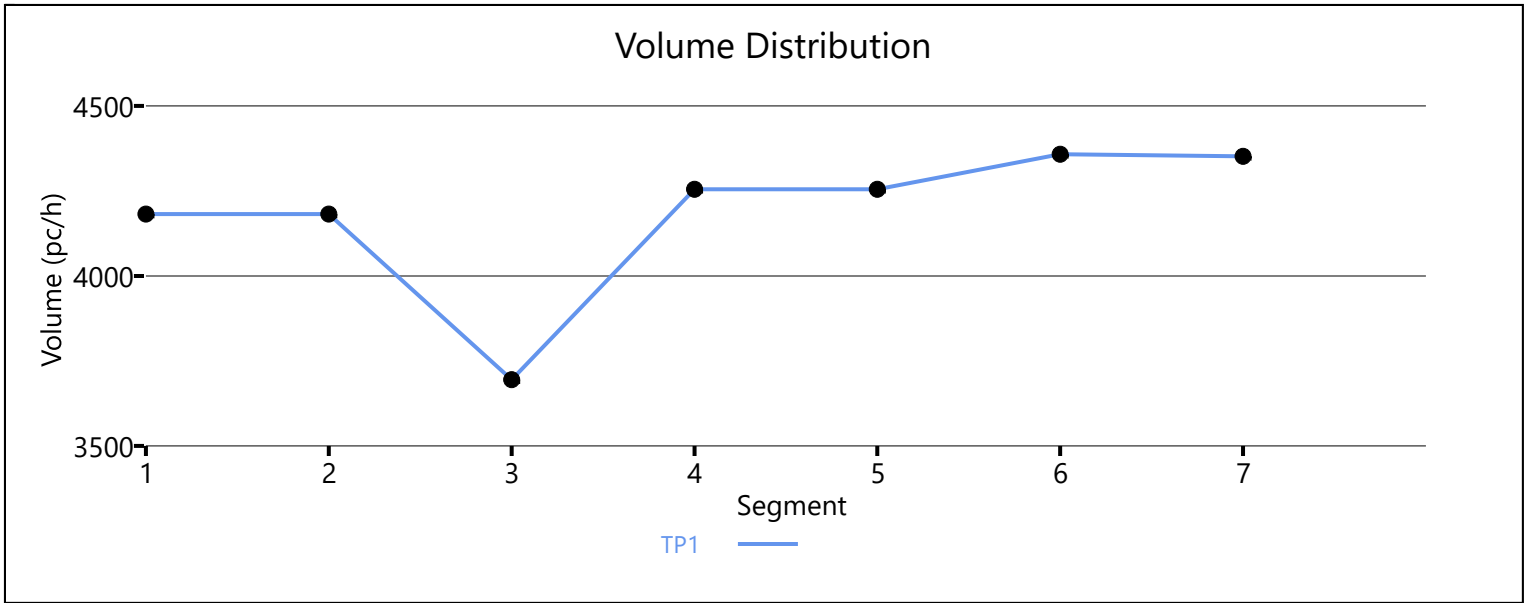
Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.971		4352		7146		0.61		67.8		21.4		C

### Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	67.1	20.9	20.2	4.9	C

### Facility Overall Results

Space Mean Speed, mi/h	67.1	Density, veh/mi/ln	20.2
Average Travel Time, min	4.9	Density, pc/mi/ln	20.9



# HCS7 Freeway Facilities Report

## Project Information

Analyst	JB	Date	7/9/2020
Agency	Urban Crossroads, Inc.	Analysis Year	Existing (2020)
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	US Cold Storage (JN 13201) - I-15 NB at Main		

## Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15

## Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-15 NB, South of Main St.	6140	3
2	Diverge	Diverge	I-15 NB, Off-Ramp at Main St.	1500	3
3	Basic	Basic	I-15 NB, Between Off-Ramp and Loop On-Ramp	1125	3
4	Merge	Merge	I-15 NB, Loop On-Ramp at Main St.	1500	3
5	Basic	Basic	I-15 NB, Between Loop On-Ramp and On-Ramp	1215	3
6	Merge	Merge	I-15 NB, On-Ramp at Main St.	1500	3
7	Basic	Basic	I-15 NB, North of Main St.	16370	3

## Facility Segment Data

### Segment 1: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.92		0.971		3487		7146		0.49		68.2		17.0		B

### Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.971	0.909	3487	515	7200	2100	0.48	0.25	64.5	60.4	18.0	24.0	C

### Segment 3: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.92		0.980		2977		7146		0.42		68.2		14.5		B

### Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.980	0.962	3292	315	7200	354 1900	0.46	0.17	63.1	60.8	17.4	18.5	B

### Segment 5: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.92		0.971		3317		7146		0.46		68.2		16.2		B

### Segment 6: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.971	0.971	3821	504	7200	2100	0.53	0.24	62.8	60.7	20.3	22.0	C

### Segment 7: Basic

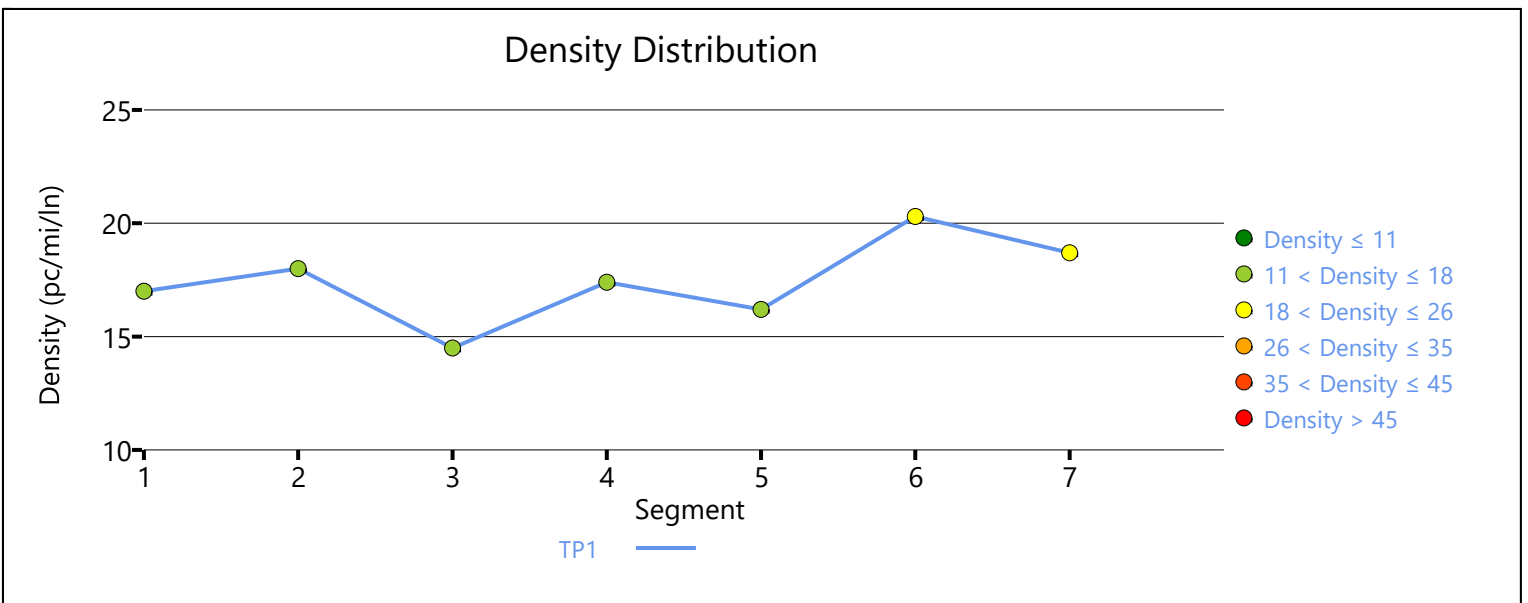
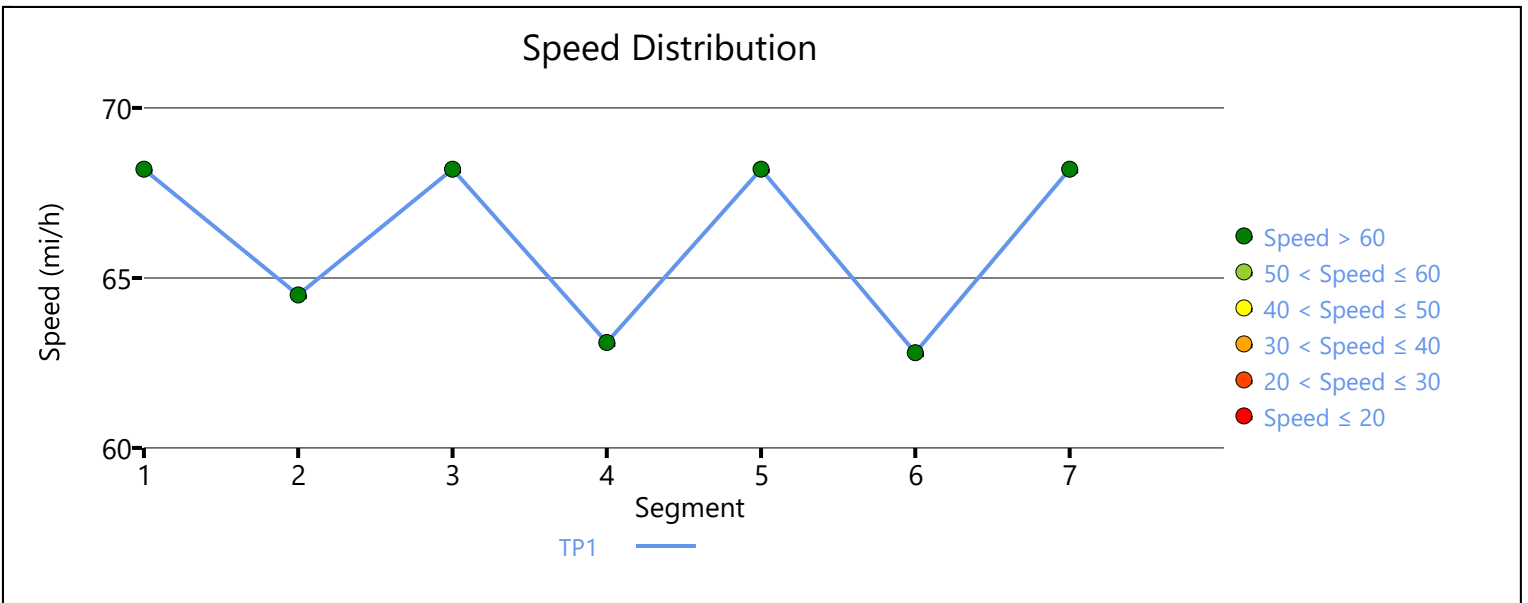
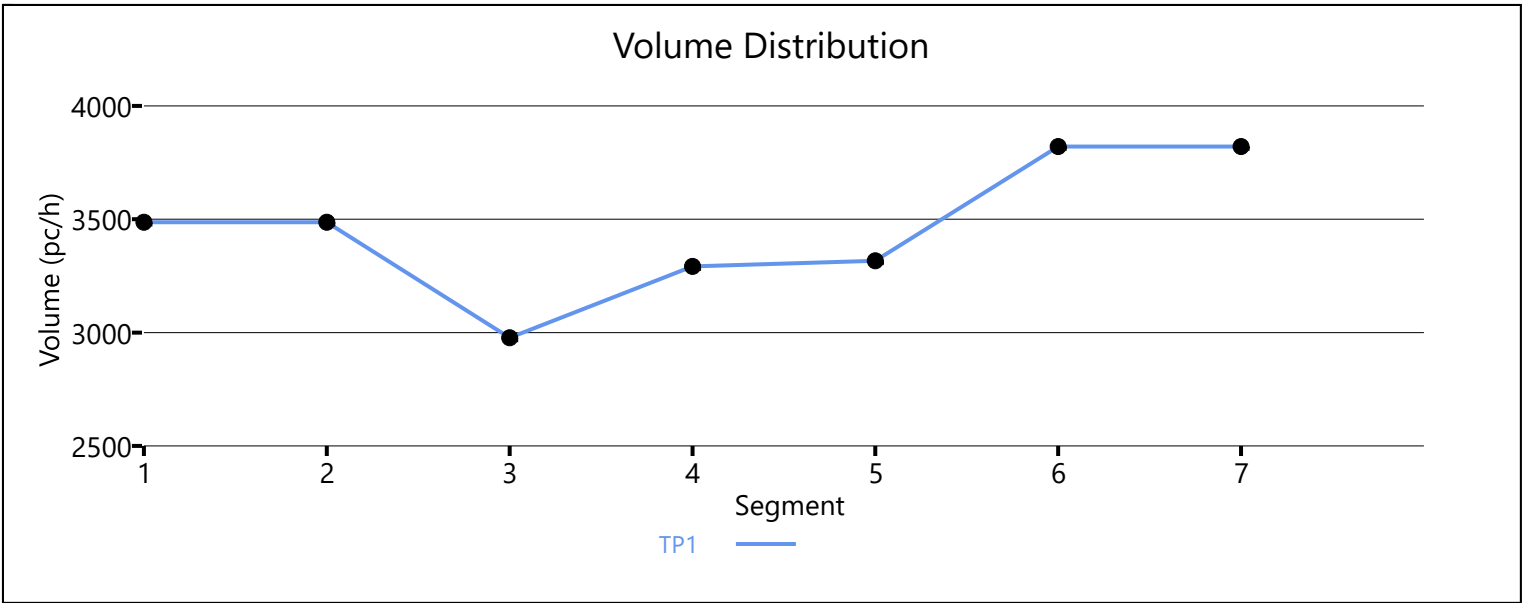
Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.92		0.971		3821		7146		0.53		68.2		18.7		C

### Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	67.5	18.1	17.6	4.9	C

### Facility Overall Results

Space Mean Speed, mi/h	67.5	Density, veh/mi/ln	17.6
Average Travel Time, min	4.9	Density, pc/mi/ln	18.1





# HCS7 Freeway Facilities Report

## Project Information

Analyst	JB	Date	7/9/2020
Agency	Urban Crossroads, Inc.	Analysis Year	Existing (2020)
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	US Cold Storage (JN 13201)) - I-15 SB at Main		

## Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15

## Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-15 SB, North of Main St.	16360	3
2	Diverge	Diverge	I-15 SB, Off-Ramp at Main St.	1500	3
3	Basic	Basic	I-15 SB, Between Off and Loop On-Ramp	975	3
4	Merge	Merge	I-15 SB, Loop On-Ramp at Main St.	1500	3
5	Basic	Basic	I-15 SB, Between Loop On-Ramp and On-Ramp	1415	3
6	Merge	Merge	I-15 SB, On-Ramp at Main St.	1500	3
7	Basic	Basic	I-15 SB, South of Main St.	5900	3

## Facility Segment Data

### Segment 1: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.962		4542		7146		0.64		67.5		22.4		C

### Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.962	0.971	4542	945	7200	2100	0.63	0.45	63.5	59.3	23.8	30.0	D

### Segment 3: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.962		3587		7146		0.50		68.2		17.5		B

### Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.962	0.952	3947	360	7200	3571900	0.55	0.19	62.4	60.2	21.1	22.4	C

### Segment 5: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.962		3944		7146		0.55		68.2		19.3		C

### Segment 6: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.962	0.901	4075	131	7200	2100	0.57	0.06	62.9	61.0	21.6	21.6	C

### Segment 7: Basic

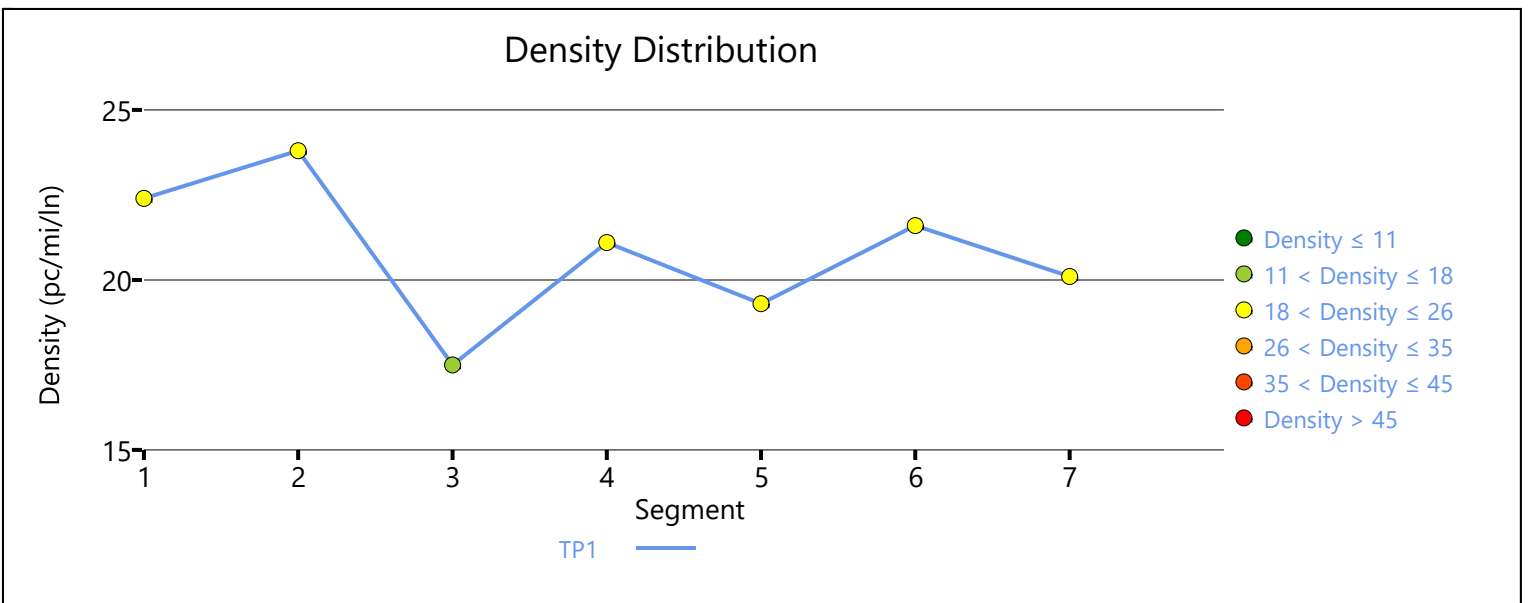
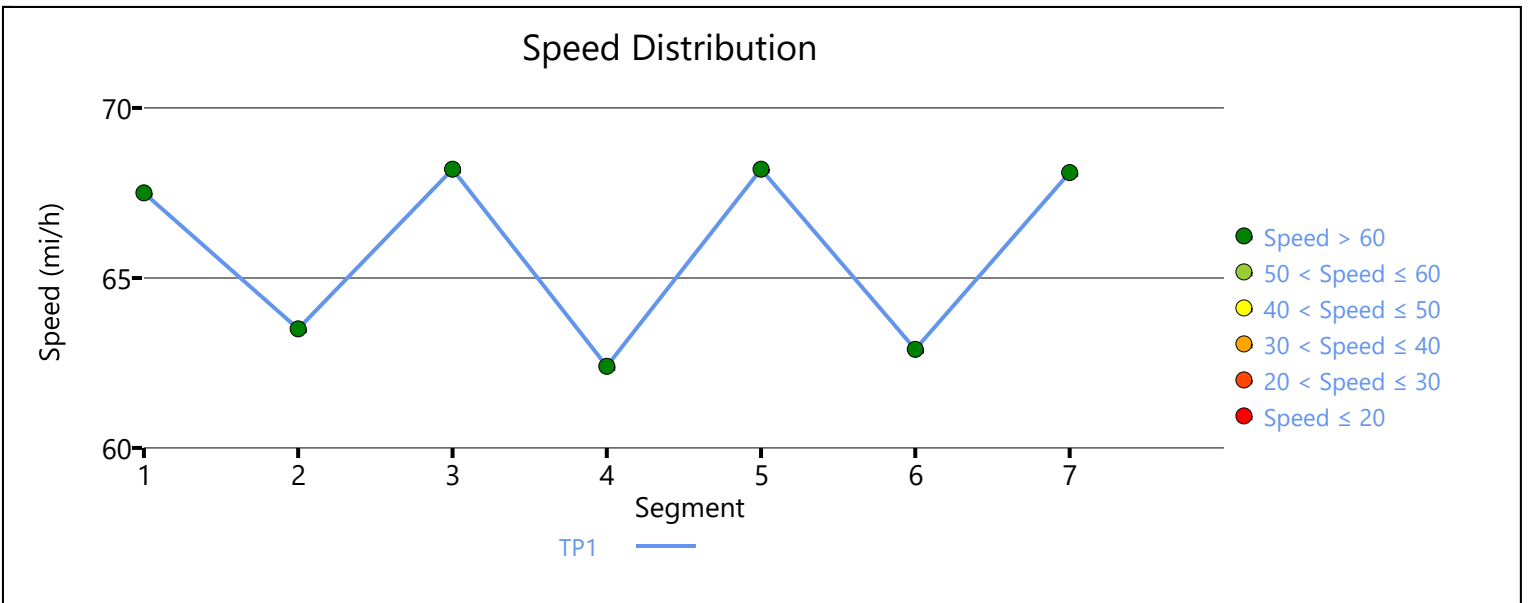
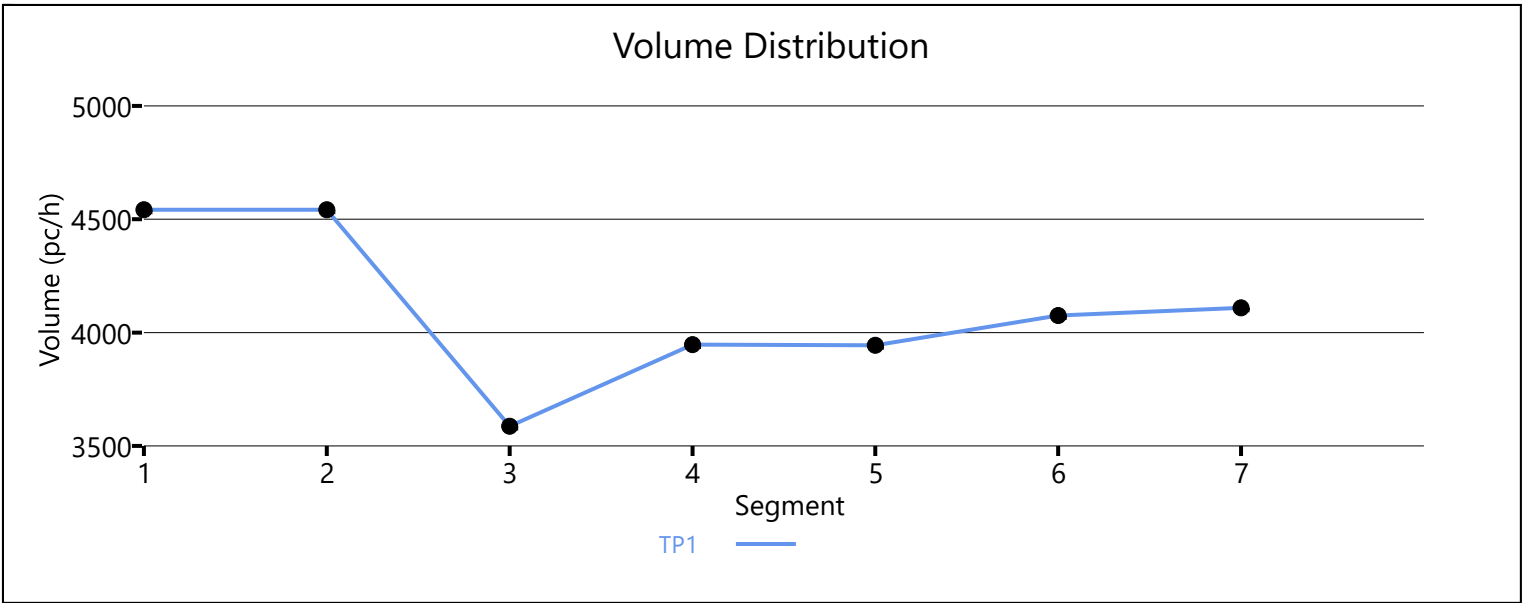
Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.952		4109		7146		0.58		68.1		20.1		C

### Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	66.9	21.6	20.7	4.9	C

### Facility Overall Results

Space Mean Speed, mi/h	66.9	Density, veh/mi/ln	20.7
Average Travel Time, min	4.9	Density, pc/mi/ln	21.6



# HCS7 Freeway Facilities Report

## Project Information

Analyst	JB	Date	7/9/2020
Agency	Urban Crossroads, Inc.	Analysis Year	Existing (2020)
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	US Cold Storage (JN 13201) - I-15 NB at Main		

## Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15

## Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-15 NB, South of Main St.	6140	3
2	Diverge	Diverge	I-15 NB, Off-Ramp at Main St.	1500	3
3	Basic	Basic	I-15 NB, Between Off-Ramp and Loop On-Ramp	1125	3
4	Merge	Merge	I-15 NB, Loop On-Ramp at Main St.	1500	3
5	Basic	Basic	I-15 NB, Between Loop On-Ramp and On-Ramp	1215	3
6	Merge	Merge	I-15 NB, On-Ramp at Main St.	1500	3
7	Basic	Basic	I-15 NB, North of Main St.	16370	3

## Facility Segment Data

### Segment 1: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.92		0.971		6683		7146		0.94		56.9		39.2		E

### Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.971	0.926	6683	1119	7200	2100	0.93	0.53	62.8	58.8	35.5	38.5	E

### Segment 3: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.92		0.980		5565		7146		0.78		64.0		29.0		D

### Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.980	0.962	5806	241	7200	1900	0.81	0.13	60.1	58.0	32.2	29.9	D

### Segment 5: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.980	5801	7146	0.81	62.8	30.8	D

### Segment 6: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.980	0.962	6237	436	7200	2100	0.87	0.21	59.1	56.9	35.2	32.9	D

### Segment 7: Basic

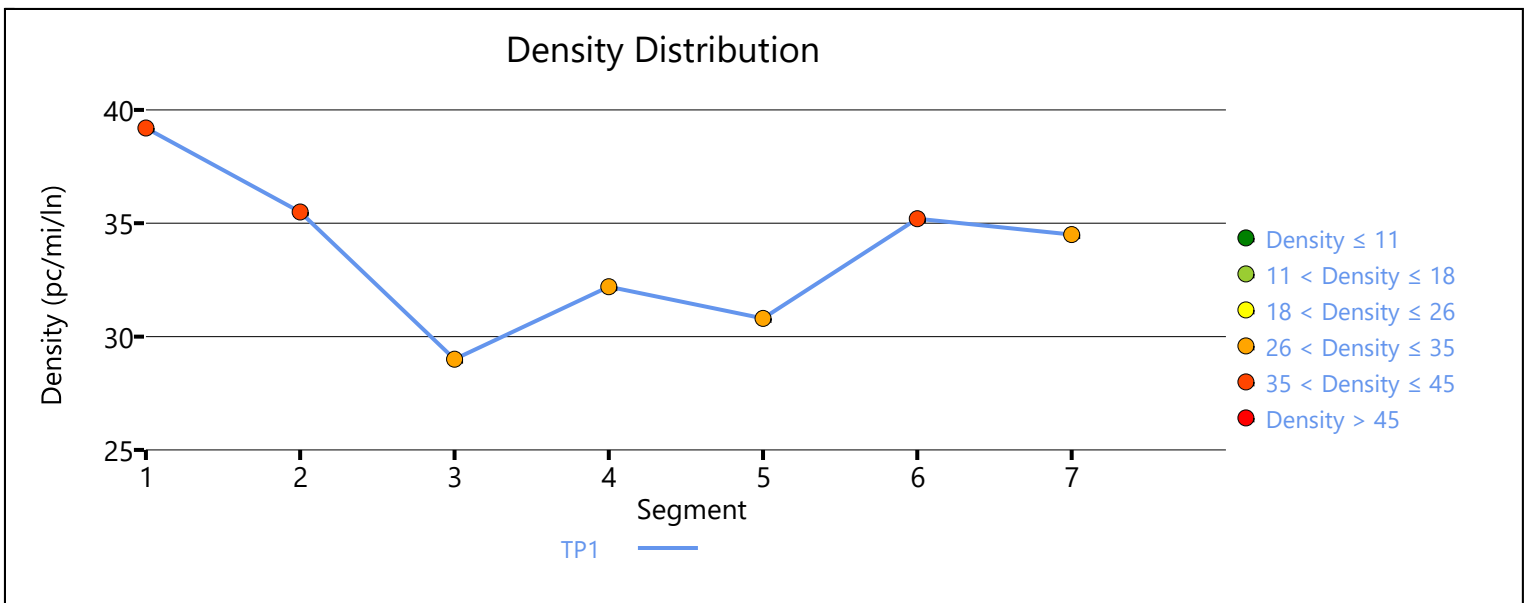
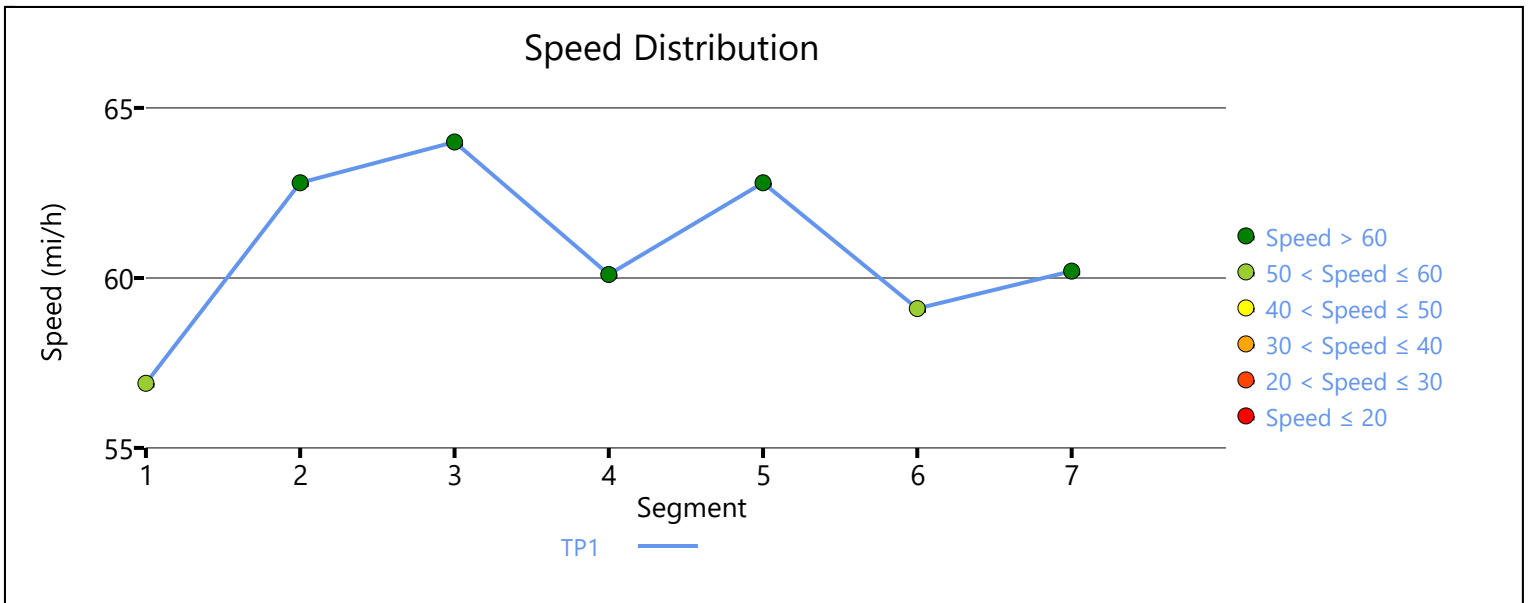
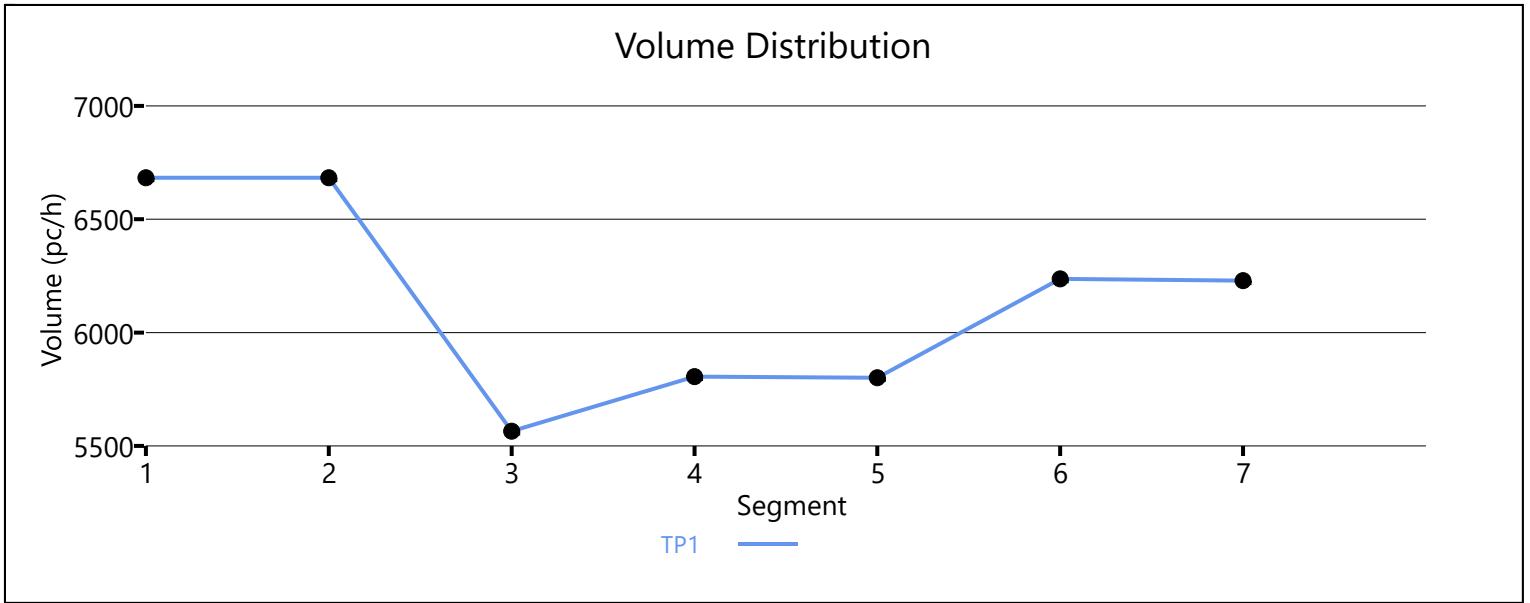
Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.980	6229	7146	0.87	60.2	34.5	D

### Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	59.7	35.1	34.3	5.6	E

### Facility Overall Results

Space Mean Speed, mi/h	59.7	Density, veh/mi/ln	34.3
Average Travel Time, min	5.6	Density, pc/mi/ln	35.1



**APPENDIX 3.6:**

**EXISTING (2020) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS  
WITH IMPROVEMENTS**

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Intersection												
Int Delay, s/veh	0											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	0	0	1	0	0	0	3	988	0	0	1199	0
Future Vol, veh/h	0	0	1	0	0	0	3	988	0	0	1199	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	200	-	-	200	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	0	1	0	0	0	3	1098	0	0	1332	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1887	2436	666	1770	2436	549	1332	0	0	1098	0	0
Stage 1	1332	1332	-	1104	1104	-	-	-	-	-	-	-
Stage 2	555	1104	-	666	1332	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	44	32	407	54	32	485	525	-	-	643	-	-
Stage 1	166	225	-	229	289	-	-	-	-	-	-	-
Stage 2	489	289	-	420	225	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	44	32	407	54	32	485	525	-	-	643	-	-
Mov Cap-2 Maneuver	127	129	-	157	129	-	-	-	-	-	-	-
Stage 1	165	225	-	228	287	-	-	-	-	-	-	-
Stage 2	486	287	-	419	225	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.9	0	0	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	525	-	-	407	-	643	-
HCM Lane V/C Ratio	0.006	-	-	0.003	-	-	-
HCM Control Delay (s)	11.9	-	-	13.9	0	0	-
HCM Lane LOS	B	-	-	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-	0	-

Intersection												
Int Delay, s/veh	0.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	3	0	4	0	0	0	8	1404	0	0	1026	4
Future Vol, veh/h	3	0	4	0	0	0	8	1404	0	0	1026	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	200	-	-	200	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	3	0	4	0	0	0	8	1463	0	0	1069	4

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1820	2551	538	2014	2553	732	1074	0	0	1463	0	0
Stage 1	1072	1072	-	1479	1479	-	-	-	-	-	-	-
Stage 2	748	1479	-	535	1074	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	49	27	493	35	27	368	657	-	-	468	-	-
Stage 1	239	299	-	134	191	-	-	-	-	-	-	-
Stage 2	375	191	-	502	299	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	49	27	493	34	27	368	656	-	-	468	-	-
Mov Cap-2 Maneuver	153	117	-	105	116	-	-	-	-	-	-	-
Stage 1	236	299	-	132	189	-	-	-	-	-	-	-
Stage 2	370	189	-	498	299	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	19.7	0	0.1	0
HCM LOS	C	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	656	-	-	253	-	468	-
HCM Lane V/C Ratio	0.013	-	-	0.029	-	-	-
HCM Control Delay (s)	10.6	-	-	19.7	0	0	-
HCM Lane LOS	B	-	-	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	-	0	-

**APPENDIX 4.1:**  
**POST PROCESSING WORKSHEETS**

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Project: US Cold Storage (JN:13201)  
 Scenario: Horizon Year (2040) Without Project

Job #: 13201  
 Analyst: CP  
 Date: 7/9/20

LOCATION: Key Point Av./I-15 SB On-Ramp & Main St.  
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE
NORTH BOUND	Left	11	6	-5	-44%	30	11	-19	-63%
	Through	11	12	1	7%	72	89	17	23%
	Right	80	86	6	8%	235	244	9	4%
	<b>NB Total</b>	<b>101</b>	<b>104</b>	<b>3</b>	<b>2%</b>	<b>337</b>	<b>344</b>	<b>7</b>	<b>2%</b>
SOUTH BOUND	Left	146	533	387	265%	226	482	256	113%
	Through	27	32	5	21%	86	82	-4	-4%
	Right	15	26	11	76%	31	24	-7	-23%
	<b>SB Total</b>	<b>187</b>	<b>591</b>	<b>404</b>	<b>216%</b>	<b>343</b>	<b>588</b>	<b>245</b>	<b>71%</b>
EAST BOUND	Left	30	22	-8	-27%	56	84	28	51%
	Through	880	651	-229	-26%	920	1,184	264	29%
	Right	12	3	-9	-75%	24	14	-10	-43%
	<b>EB Total</b>	<b>922</b>	<b>676</b>	<b>-246</b>	<b>-27%</b>	<b>1,000</b>	<b>1,282</b>	<b>282</b>	<b>28%</b>
WEST BOUND	Left	140	135	-5	-4%	219	234	15	7%
	Through	664	939	275	41%	1,113	945	-168	-15%
	Right	109	316	207	190%	217	607	390	180%
	<b>WB Total</b>	<b>913</b>	<b>1,390</b>	<b>477</b>	<b>52%</b>	<b>1,549</b>	<b>1,786</b>	<b>237</b>	<b>15%</b>
<b>TOTAL ENTERING VOLUME</b>		<b>2,124</b>	<b>2,761</b>	<b>636.85</b>	<b>30%</b>	<b>3,229</b>	<b>4,000</b>	<b>771</b>	<b>24%</b>

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	591	588			
North Leg	Outbound	350	780			
<b>North Leg</b>	<b>TOTAL</b>	<b>941</b>	<b>1,368</b>	<b>6%</b>	<b>9%</b>	<b>14,701</b>
South Leg	Inbound	104	344			
South Leg	Outbound	170	330			
<b>South Leg</b>	<b>TOTAL</b>	<b>274</b>	<b>674</b>	<b>6%</b>	<b>14%</b>	<b>4,707</b>
East Leg	Inbound	1,390	1,786			
East Leg	Outbound	1,270	1,910			
<b>East Leg</b>	<b>TOTAL</b>	<b>2,660</b>	<b>3,696</b>	<b>8%</b>	<b>11%</b>	<b>32,628</b>
West Leg	Inbound	676	1,282			
West Leg	Outbound	971	980			
<b>West Leg</b>	<b>TOTAL</b>	<b>1,647</b>	<b>2,262</b>	<b>9%</b>	<b>13%</b>	<b>18,016</b>
<b>OVERALL TOTAL</b>		<b>5,522</b>	<b>8,000</b>	<b>8%</b>	<b>11%</b>	<b>70,052</b>

U:\UcJobs\_13100-13500\_13200\13201\Post Processing\[7\_Key Point & Main.xls]Output (3)

Project: US Cold Storage (JN:13201)  
 Scenario: Horizon Year (2040) Without Project

Job #: 13201  
 Analyst: CP  
 Date: 7/9/20

LOCATION: I-15 SB Ramps & Main St.  
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE
NORTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	<b>NB Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>#DIV/0!</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>#DIV/0!</b>
SOUTH BOUND	Left	313	335	22	7%	551	618	67	12%
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	176	236	60	34%	400	423	23	6%
	<b>SB Total</b>	<b>489</b>	<b>571</b>	<b>82</b>	<b>17%</b>	<b>951</b>	<b>1,041</b>	<b>90</b>	<b>9%</b>
EAST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	1,002	1,155	153	15%	1,249	1,782	533	43%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	<b>EB Total</b>	<b>1,002</b>	<b>1,155</b>	<b>153</b>	<b>15%</b>	<b>1,249</b>	<b>1,782</b>	<b>533</b>	<b>43%</b>
WEST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	723	1,164	441	61%	1,150	1,397	247	21%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	<b>WB Total</b>	<b>723</b>	<b>1,164</b>	<b>441</b>	<b>61%</b>	<b>1,150</b>	<b>1,397</b>	<b>247</b>	<b>21%</b>
<b>TOTAL ENTERING VOLUME</b>		<b>2,214</b>	<b>2,890</b>	<b>676.09</b>	<b>31%</b>	<b>3,350</b>	<b>4,220</b>	<b>870</b>	<b>26%</b>

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	571	1,041			
North Leg	Outbound	0	0			
<b>North Leg</b>	<b>TOTAL</b>	<b>571</b>	<b>1,041</b>	<b>9%</b>	<b>17%</b>	<b>6,039</b>
South Leg	Inbound	0	0			
South Leg	Outbound	0	0			
<b>South Leg</b>	<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>#DIV/0!</b>	<b>#DIV/0!</b>	<b>-</b>
East Leg	Inbound	1,164	1,397			
East Leg	Outbound	1,490	2,400			
<b>East Leg</b>	<b>TOTAL</b>	<b>2,654</b>	<b>3,797</b>	<b>8%</b>	<b>12%</b>	<b>32,137</b>
West Leg	Inbound	1,155	1,782			
West Leg	Outbound	1,400	1,820			
<b>West Leg</b>	<b>TOTAL</b>	<b>2,555</b>	<b>3,602</b>	<b>8%</b>	<b>11%</b>	<b>32,628</b>
<b>OVERALL TOTAL</b>		<b>5,780</b>	<b>8,440</b>	<b>8%</b>	<b>12%</b>	<b>70,804</b>

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Project: US Cold Storage (JN:13201)  
 Scenario: Horizon Year (2040) Without Project

Job #: 13201  
 Analyst: CP  
 Date: 7/9/20

LOCATION: I-15 NB Ramps & Main St.  
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE
NORTH BOUND	Left	79	122	43	54%	183	214	31	17%
	Through	6	8	2	43%	0	0	0	#DIV/0!
	Right	395	414	19	5%	847	719	-128	-15%
	<b>NB Total</b>	<b>479</b>	<b>544</b>	<b>65</b>	<b>13%</b>	<b>1,030</b>	<b>933</b>	<b>-97</b>	<b>-9%</b>
SOUTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	<b>SB Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>#DIV/0!</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>#DIV/0!</b>
EAST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	1,018	1,214	196	19%	1,575	2,151	576	37%
	Right	297	301	4	1%	225	221	-4	-2%
	<b>EB Total</b>	<b>1,315</b>	<b>1,515</b>	<b>200</b>	<b>15%</b>	<b>1,800</b>	<b>2,372</b>	<b>572</b>	<b>32%</b>
WEST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	1,215	1,647	432	36%	1,333	1,563	230	17%
	Right	462	565	103	22%	404	542	138	34%
	<b>WB Total</b>	<b>1,676</b>	<b>2,212</b>	<b>536</b>	<b>32%</b>	<b>1,737</b>	<b>2,105</b>	<b>368</b>	<b>21%</b>
<b>TOTAL ENTERING VOLUME</b>		<b>3,471</b>	<b>4,271</b>	<b>800.45</b>	<b>23%</b>	<b>4,566</b>	<b>5,410</b>	<b>844</b>	<b>18%</b>

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	0	0			
North Leg	Outbound	573	542			
<b>North Leg</b>	<b>TOTAL</b>	<b>573</b>	<b>542</b>	<b>10%</b>	<b>9%</b>	<b>5,983</b>
South Leg	Inbound	544	933			
South Leg	Outbound	301	221			
<b>South Leg</b>	<b>TOTAL</b>	<b>845</b>	<b>1,154</b>	<b>7%</b>	<b>10%</b>	<b>11,734</b>
East Leg	Inbound	2,212	2,105			
East Leg	Outbound	1,628	2,870			
<b>East Leg</b>	<b>TOTAL</b>	<b>3,840</b>	<b>4,975</b>	<b>8%</b>	<b>11%</b>	<b>46,819</b>
West Leg	Inbound	1,515	2,372			
West Leg	Outbound	1,769	1,777			
<b>West Leg</b>	<b>TOTAL</b>	<b>3,284</b>	<b>4,149</b>	<b>9%</b>	<b>11%</b>	<b>38,459</b>
<b>OVERALL TOTAL</b>		<b>8,542</b>	<b>10,820</b>	<b>8%</b>	<b>11%</b>	<b>102,995</b>

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**APPENDIX 5.1:**

**E+P CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS**

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Timings  
1: US-395 & Avenal St.

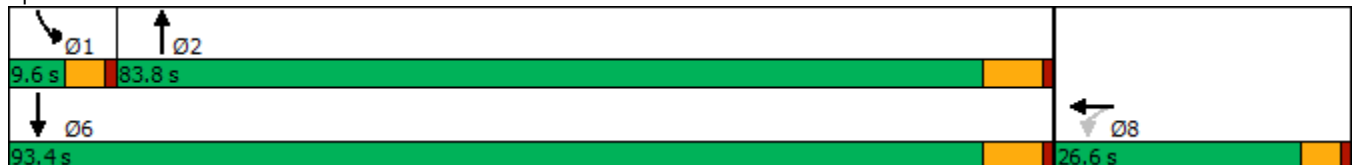


Lane Group	WBT	NBT	SBL	SBT
Lane Configurations	↔	↑	↘	↑
Traffic Volume (vph)	0	989	3	1205
Future Volume (vph)	0	989	3	1205
Turn Type	NA	NA	Prot	NA
Protected Phases	8	2	1	6
Permitted Phases				
Detector Phase	8	2	1	6
Switch Phase				
Minimum Initial (s)	10.0	10.0	5.0	10.0
Minimum Split (s)	26.6	23.5	9.6	16.5
Total Split (s)	26.6	83.8	9.6	93.4
Total Split (%)	22.2%	69.8%	8.0%	77.8%
Yellow Time (s)	3.6	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.5
Lead/Lag		Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	
Recall Mode	None	Min	None	Min

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 107.8  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 1: US-395 & Avenal St.



HCM 6th Signalized Intersection Summary  
 1: US-395 & Avenal St.

Hesperia US Cold Storage (JN 13201)

01/18/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔			↔		↔	↔	
Traffic Volume (veh/h)	0	0	0	26	0	2	0	989	29	3	1205	0
Future Volume (veh/h)	0	0	0	26	0	2	0	989	29	3	1205	0
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1700	1800	1800	0	1800	1800	1700	1800	0
Adj Flow Rate, veh/h				28	0	2	0	1075	32	3	1310	0
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				98	0	7	0	1267	38	7	1427	0
Arrive On Green				0.06	0.00	0.06	0.00	0.73	0.73	0.00	0.79	0.00
Sat Flow, veh/h				1587	0	113	0	1739	52	1619	1800	0
Grp Volume(v), veh/h				30	0	0	0	0	1107	3	1310	0
Grp Sat Flow(s),veh/h/ln				1700	0	0	0	0	1791	1619	1800	0
Q Serve(g_s), s				1.3	0.0	0.0	0.0	0.0	33.5	0.1	42.3	0.0
Cycle Q Clear(g_c), s				1.3	0.0	0.0	0.0	0.0	33.5	0.1	42.3	0.0
Prop In Lane				0.93		0.07	0.00		0.03	1.00		0.00
Lane Grp Cap(c), veh/h				105	0	0	0	0	1305	7	1427	0
V/C Ratio(X)				0.29	0.00	0.00	0.00	0.00	0.85	0.46	0.92	0.00
Avail Cap(c_a), veh/h				490	0	0	0	0	1813	106	2049	0
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh				34.2	0.0	0.0	0.0	0.0	7.4	37.9	6.0	0.0
Incr Delay (d2), s/veh				1.5	0.0	0.0	0.0	0.0	2.9	17.5	5.3	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.6	0.0	0.0	0.0	0.0	6.1	0.1	4.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				35.7	0.0	0.0	0.0	0.0	10.2	55.4	11.4	0.0
LnGrp LOS				D	A	A	A	A	B	E	B	A
Approach Vol, veh/h					30			1107			1313	
Approach Delay, s/veh					35.7			10.2			11.5	
Approach LOS					D			B			B	
Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	4.9	62.1				67.0		9.3				
Change Period (Y+Rc), s	4.6	6.5				6.5		4.6				
Max Green Setting (Gmax), s	5.0	77.3				86.9		22.0				
Max Q Clear Time (g_c+I1), s	2.1	35.5				44.3		3.3				
Green Ext Time (p_c), s	0.0	10.7				16.3		0.1				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay											11.2	
HCM 6th LOS											B	

Timings  
2: US-395 & Yucca Terrace Dr.



Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↕		↕	↙	↘	↙	↘
Traffic Volume (vph)	0	9	0	3	1017	6	1225
Future Volume (vph)	0	9	0	3	1017	6	1225
Turn Type	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases	4		8	5	2	1	6
Permitted Phases		8					
Detector Phase	4	8	8	5	2	1	6
Switch Phase							
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	26.6	26.6	26.6	9.6	23.5	9.6	23.5
Total Split (s)	26.6	26.6	26.6	9.6	83.8	9.6	83.8
Total Split (%)	22.2%	22.2%	22.2%	8.0%	69.8%	8.0%	69.8%
Yellow Time (s)	3.6	3.6	3.6	3.6	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6		4.6	4.6	6.5	4.6	6.5
Lead/Lag				Lead	Lag	Lead	Lag
Lead-Lag Optimize?				Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 106  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 2: US-395 & Yucca Terrace Dr.



HCM 6th Signalized Intersection Summary  
2: US-395 & Yucca Terrace Dr.

Hesperia US Cold Storage (JN 13201)  
01/18/2021



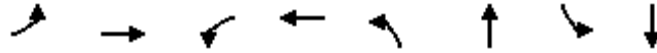
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Volume (veh/h)	0	0	1	9	0	1	3	1017	82	6	1225	0
Future Volume (veh/h)	0	0	1	9	0	1	3	1017	82	6	1225	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	0	0	1	10	0	1	3	1130	91	7	1361	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	0	0	44	114	0	4	7	1293	104	14	1425	0
Arrive On Green	0.00	0.00	0.03	0.03	0.00	0.03	0.00	0.79	0.79	0.01	0.79	0.00
Sat Flow, veh/h	0	0	1525	1286	0	129	1619	1644	132	1619	1800	0
Grp Volume(v), veh/h	0	0	1	11	0	0	3	0	1221	7	1361	0
Grp Sat Flow(s),veh/h/ln	0	0	1525	1414	0	0	1619	0	1776	1619	1800	0
Q Serve(g_s), s	0.0	0.0	0.1	0.7	0.0	0.0	0.2	0.0	42.0	0.4	57.8	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.1	0.7	0.0	0.0	0.2	0.0	42.0	0.4	57.8	0.0
Prop In Lane	0.00		1.00	0.91		0.09	1.00		0.07	1.00		0.00
Lane Grp Cap(c), veh/h	0	0	44	118	0	0	7	0	1397	14	1425	0
V/C Ratio(X)	0.00	0.00	0.02	0.09	0.00	0.00	0.46	0.00	0.87	0.48	0.96	0.00
Avail Cap(c_a), veh/h	0	0	375	432	0	0	91	0	1536	91	1557	0
HCM 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
Upstream Filter(I)	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	42.2	42.5	0.0	0.0	44.4	0.0	6.5	44.1	8.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.2	0.3	0.0	0.0	17.7	0.0	5.5	9.0	13.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.2	0.0	0.0	0.1	0.0	7.2	0.2	11.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	42.4	42.9	0.0	0.0	62.2	0.0	12.0	53.1	21.1	0.0
LnGrp LOS	A	A	D	D	A	A	E	A	B	D	C	A
Approach Vol, veh/h		1			11			1224			1368	
Approach Delay, s/veh		42.4			42.9			12.2			21.2	
Approach LOS		D			D			B			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.4	76.8		7.2	5.0	77.3		7.2				
Change Period (Y+Rc), s	4.6	6.5		4.6	4.6	6.5		4.6				
Max Green Setting (Gmax), s	5.0	77.3		22.0	5.0	77.3		22.0				
Max Q Clear Time (g_c+I1), s	2.4	44.0		2.1	2.2	59.8		2.7				
Green Ext Time (p_c), s	0.0	12.7		0.0	0.0	11.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay	17.1
HCM 6th LOS	B



Timings  
3: US-395 & Phelan Rd./Main St.

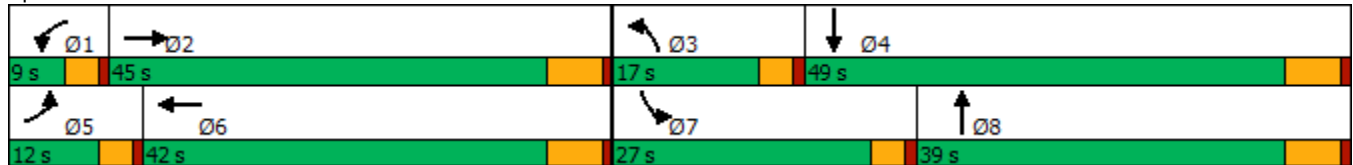


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↙	↕↘	↙	↕↘	↙	↕↘	↙	↕↘
Traffic Volume (vph)	54	665	4	324	93	735	238	962
Future Volume (vph)	54	665	4	324	93	735	238	962
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	5	2	1	6	3	8	7	4
Permitted Phases								
Detector Phase	5	2	1	6	3	8	7	4
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.0	17.0	9.0	16.0	9.0	16.0	9.0	16.0
Total Split (s)	12.0	45.0	9.0	42.0	17.0	39.0	27.0	49.0
Total Split (%)	10.0%	37.5%	7.5%	35.0%	14.2%	32.5%	22.5%	40.8%
Yellow Time (s)	3.0	5.0	3.0	5.0	3.0	5.0	3.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 96.1  
 Natural Cycle: 75  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 3: US-395 & Phelan Rd./Main St.



HCM 6th Signalized Intersection Summary  
 3: US-395 & Phelan Rd./Main St.

Hesperia US Cold Storage (JN 13201)

07/09/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕		↖	↕	
Traffic Volume (veh/h)	54	665	108	4	324	311	93	735	9	238	962	34
Future Volume (veh/h)	54	665	108	4	324	311	93	735	9	238	962	34
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	56	686	67	4	334	242	96	758	9	245	992	31
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	73	875	85	9	455	323	120	978	12	285	1301	41
Arrive On Green	0.05	0.28	0.28	0.01	0.24	0.24	0.07	0.28	0.28	0.18	0.38	0.38
Sat Flow, veh/h	1619	3148	307	1619	1910	1356	1619	3462	41	1619	3385	106
Grp Volume(v), veh/h	56	372	381	4	298	278	96	374	393	245	501	522
Grp Sat Flow(s),veh/h/ln	1619	1710	1745	1619	1710	1556	1619	1710	1793	1619	1710	1781
Q Serve(g_s), s	2.6	15.6	15.6	0.2	12.5	12.8	4.5	15.6	15.6	11.4	19.8	19.8
Cycle Q Clear(g_c), s	2.6	15.6	15.6	0.2	12.5	12.8	4.5	15.6	15.6	11.4	19.8	19.8
Prop In Lane	1.00		0.18	1.00		0.87	1.00		0.02	1.00		0.06
Lane Grp Cap(c), veh/h	73	475	485	9	407	370	120	483	506	285	657	684
V/C Ratio(X)	0.77	0.78	0.78	0.46	0.73	0.75	0.80	0.78	0.78	0.86	0.76	0.76
Avail Cap(c_a), veh/h	167	861	879	105	795	723	272	729	764	481	949	989
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.6	25.8	25.8	38.4	27.2	27.4	35.3	25.5	25.5	31.0	20.8	20.8
Incr Delay (d2), s/veh	11.6	2.9	2.8	26.2	2.6	3.1	8.7	3.5	3.3	6.2	2.6	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	5.9	6.0	0.1	4.8	4.5	1.9	5.9	6.2	4.5	7.0	7.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.1	28.7	28.7	64.6	29.8	30.4	44.0	29.0	28.9	37.2	23.4	23.3
LnGrp LOS	D	C	C	E	C	C	D	C	C	D	C	C
Approach Vol, veh/h		809			580			863			1268	
Approach Delay, s/veh		30.0			30.3			30.6			26.0	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	4.4	27.5	9.7	35.8	7.5	24.4	17.6	27.9				
Change Period (Y+Rc), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0				
Max Green Setting (Gmax), s	5.0	39.0	13.0	43.0	8.0	36.0	23.0	33.0				
Max Q Clear Time (g_c+I1), s	2.2	17.6	6.5	21.8	4.6	14.8	13.4	17.6				
Green Ext Time (p_c), s	0.0	3.9	0.1	7.0	0.0	3.0	0.3	4.3				

Intersection Summary

HCM 6th Ctrl Delay	28.8
HCM 6th LOS	C

Intersection						
Int Delay, s/veh	3.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	0	33	0	0	28	0
Future Vol, veh/h	0	33	0	0	28	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	36	0	0	30	0

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	0	36	19
Stage 1	-	-	-	18
Stage 2	-	-	-	1
Critical Hdwy	-	-	4.1	6.4
Critical Hdwy Stg 1	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	3.5
Pot Cap-1 Maneuver	-	-	1588	1004
Stage 1	-	-	-	1010
Stage 2	-	-	-	1028
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	1588	1004
Mov Cap-2 Maneuver	-	-	-	1004
Stage 1	-	-	-	1010
Stage 2	-	-	-	1028

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1004	-	-	1588	-
HCM Lane V/C Ratio	0.03	-	-	-	-
HCM Control Delay (s)	8.7	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection						
Int Delay, s/veh	7.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	89	0	0	0	0	10
Future Vol, veh/h	89	0	0	0	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	97	0	0	0	0	11

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1	0	-	0	195
Stage 1	-	-	-	-	1
Stage 2	-	-	-	-	194
Critical Hdwy	4.1	-	-	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	2.2	-	-	-	3.5
Pot Cap-1 Maneuver	1635	-	-	-	798
Stage 1	-	-	-	-	1028
Stage 2	-	-	-	-	844
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1635	-	-	-	751
Mov Cap-2 Maneuver	-	-	-	-	751
Stage 1	-	-	-	-	967
Stage 2	-	-	-	-	844

Approach	EB	WB	SB
HCM Control Delay, s	7.3	0	8.3
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1635	-	-	-	1090
HCM Lane V/C Ratio	0.059	-	-	-	0.01
HCM Control Delay (s)	7.3	0	-	-	8.3
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.2	-	-	-	0

Timings  
6: Mesa Linda St. & Main St.

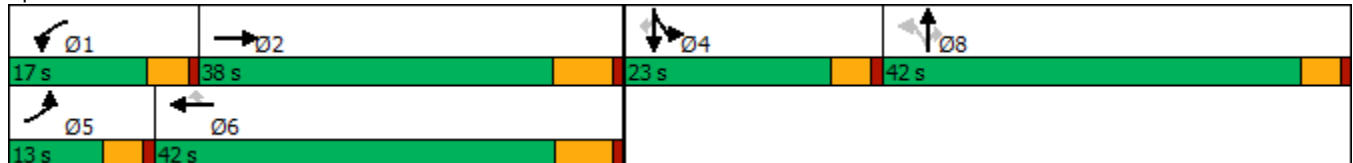


Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	5	901	51	614	17	2	128	2	14
Future Volume (vph)	5	901	51	614	17	2	128	2	14
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	NA	Perm
Protected Phases	5	2	1	6		8		4	
Permitted Phases					6		8		4
Detector Phase	5	2	1	6	6	8	8	4	4
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	16.5	9.6	23.2	23.2	40.6	40.6	14.6	14.6
Total Split (s)	13.0	38.0	17.0	42.0	42.0	42.0	42.0	23.0	23.0
Total Split (%)	10.8%	31.7%	14.2%	35.0%	35.0%	35.0%	35.0%	19.2%	19.2%
Yellow Time (s)	3.6	5.5	3.6	5.2	5.2	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.2	6.2	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	Max	None	Max	Max	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 81.3  
 Natural Cycle: 90  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 6: Mesa Linda St. & Main St.



HCM 6th Signalized Intersection Summary  
6: Mesa Linda St. & Main St.

Hesperia US Cold Storage (JN 13201)  
07/09/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↖	↑↑↑	↗		↖	↗		↖	↗
Traffic Volume (veh/h)	5	901	3	51	614	17	0	2	128	48	2	14
Future Volume (veh/h)	5	901	3	51	614	17	0	2	128	48	2	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	6	1060	4	60	722	12	0	2	130	56	2	2
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	13	2274	9	78	2409	748	0	230	195	160	6	147
Arrive On Green	0.01	0.45	0.45	0.05	0.49	0.49	0.00	0.13	0.13	0.10	0.10	0.10
Sat Flow, veh/h	1619	5053	19	1619	4914	1525	0	1800	1525	1658	59	1525
Grp Volume(v), veh/h	6	687	377	60	722	12	0	2	130	58	0	2
Grp Sat Flow(s),veh/h/ln	1619	1638	1797	1619	1638	1525	0	1800	1525	1717	0	1525
Q Serve(g_s), s	0.3	10.7	10.7	2.7	6.4	0.3	0.0	0.1	5.9	2.3	0.0	0.1
Cycle Q Clear(g_c), s	0.3	10.7	10.7	2.7	6.4	0.3	0.0	0.1	5.9	2.3	0.0	0.1
Prop In Lane	1.00		0.01	1.00		1.00	0.00		1.00	0.97		1.00
Lane Grp Cap(c), veh/h	13	1474	808	78	2409	748	0	230	195	166	0	147
V/C Ratio(X)	0.47	0.47	0.47	0.77	0.30	0.02	0.00	0.01	0.67	0.35	0.00	0.01
Avail Cap(c_a), veh/h	186	1474	808	275	2409	748	0	922	781	433	0	384
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.1	14.0	14.0	34.4	11.1	9.6	0.0	27.8	30.4	30.9	0.0	29.9
Incr Delay (d2), s/veh	9.8	1.1	1.9	5.8	0.3	0.0	0.0	0.0	3.9	1.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	3.3	3.8	1.1	1.9	0.1	0.0	0.0	2.3	1.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.8	15.0	15.9	40.2	11.4	9.6	0.0	27.8	34.3	32.1	0.0	29.9
LnGrp LOS	D	B	B	D	B	A	A	C	C	C	A	C
Approach Vol, veh/h		1070			794			132				60
Approach Delay, s/veh		15.5			13.6			34.2				32.0
Approach LOS		B			B			C				C
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.1	39.4		11.6	5.2	42.3		13.9				
Change Period (Y+Rc), s	4.6	6.5		4.6	4.6	* 6.5		4.6				
Max Green Setting (Gmax), s	12.4	31.5		18.4	8.4	* 36		37.4				
Max Q Clear Time (g_c+I1), s	4.7	12.7		4.3	2.3	8.4		7.9				
Green Ext Time (p_c), s	0.0	5.9		0.2	0.0	4.7		0.4				

Intersection Summary

HCM 6th Ctrl Delay	16.5
HCM 6th LOS	B

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

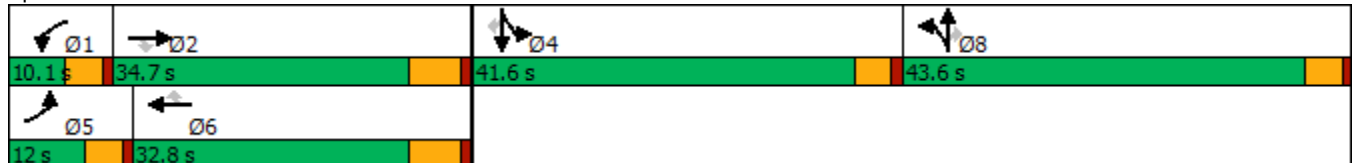
Timings  
7: Cataba Av. & Main St.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	859	37	71	627	17	31	7	48	34	6	26
Future Volume (vph)	50	859	37	71	627	17	31	7	48	34	6	26
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	32.2	32.2	9.6	32.2	32.2	43.6	43.6	43.6	41.6	41.6	41.6
Total Split (s)	12.0	34.7	34.7	10.1	32.8	32.8	43.6	43.6	43.6	41.6	41.6	41.6
Total Split (%)	9.2%	26.7%	26.7%	7.8%	25.2%	25.2%	33.5%	33.5%	33.5%	32.0%	32.0%	32.0%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (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
Lost Time Adjust (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
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None	None

Intersection Summary

Cycle Length: 130  
 Actuated Cycle Length: 77.4  
 Natural Cycle: 130  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 7: Cataba Av. & Main St.



HCM 6th Signalized Intersection Summary  
7: Cataba Av. & Main St.

Hesperia US Cold Storage (JN 13201)  
07/09/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘↗	↑↑↑	↗	↘	↗	↗	↘	↑	↗
Traffic Volume (veh/h)	50	859	37	71	627	17	31	7	48	34	6	26
Future Volume (veh/h)	50	859	37	71	627	17	31	7	48	34	6	26
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	56	965	35	80	704	12	41	0	34	38	7	0
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	79	2132	661	184	2180	676	382	0	180	138	153	130
Arrive On Green	0.05	0.43	0.43	0.06	0.44	0.44	0.12	0.00	0.12	0.09	0.09	0.00
Sat Flow, veh/h	1619	4914	1524	3141	4914	1524	3238	0	1522	1619	1800	1525
Grp Volume(v), veh/h	56	965	35	80	704	12	41	0	34	38	7	0
Grp Sat Flow(s),veh/h/ln	1619	1638	1524	1570	1638	1524	1619	0	1522	1619	1800	1525
Q Serve(g_s), s	2.2	9.1	0.9	1.6	6.1	0.3	0.7	0.0	1.3	1.4	0.2	0.0
Cycle Q Clear(g_c), s	2.2	9.1	0.9	1.6	6.1	0.3	0.7	0.0	1.3	1.4	0.2	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	79	2132	661	184	2180	676	382	0	180	138	153	130
V/C Ratio(X)	0.71	0.45	0.05	0.44	0.32	0.02	0.11	0.00	0.19	0.28	0.05	0.00
Avail Cap(c_a), veh/h	182	2132	661	263	2180	676	1923	0	904	912	1014	859
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	30.8	13.1	10.8	29.9	11.9	10.2	25.9	0.0	26.1	28.1	27.6	0.0
Incr Delay (d2), s/veh	4.3	0.7	0.2	0.6	0.4	0.0	0.1	0.0	0.5	1.1	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	2.7	0.3	0.6	1.8	0.1	0.3	0.0	0.5	0.6	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.1	13.8	10.9	30.5	12.3	10.3	26.0	0.0	26.6	29.2	27.7	0.0
LnGrp LOS	D	B	B	C	B	B	C	A	C	C	C	A
Approach Vol, veh/h		1056			796			75				45
Approach Delay, s/veh		14.8			14.1			26.3				29.0
Approach LOS		B			B			C				C
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.4	34.7		10.2	7.8	35.3		12.3				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	5.5	28.5		37.0	7.4	26.6		39.0				
Max Q Clear Time (g_c+I1), s	3.6	11.1		3.4	4.2	8.1		3.3				
Green Ext Time (p_c), s	0.0	5.6		0.1	0.0	4.1		0.2				

Intersection Summary

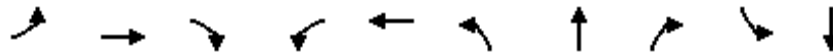
HCM 6th Ctrl Delay	15.3
HCM 6th LOS	B

Notes

- User approved pedestrian interval to be less than phase max green.
- User approved volume balancing among the lanes for turning movement.



Timings  
8: Key Point Av. & Main St.

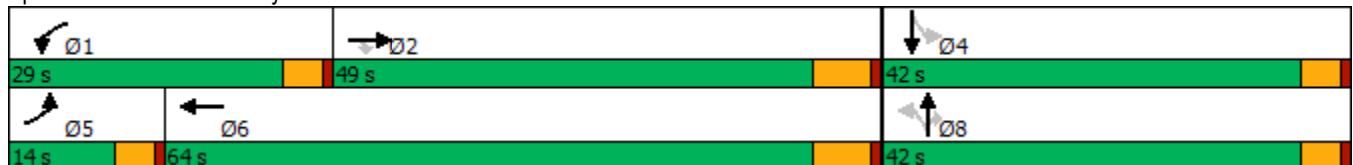


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↑↑↑	↗	↖	↑↑↑	↖	↑	↗	↖	↗
Traffic Volume (vph)	30	908	12	140	754	11	11	80	146	27
Future Volume (vph)	30	908	12	140	754	11	11	80	146	27
Turn Type	Prot	NA	Perm	Prot	NA	Perm	NA	Perm	Perm	NA
Protected Phases	5	2		1	6		8			4
Permitted Phases			2			8		8	4	
Detector Phase	5	2	2	1	6	8	8	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	29.2	29.2	9.6	30.2	38.6	38.6	38.6	41.6	41.6
Total Split (s)	14.0	49.0	49.0	29.0	64.0	42.0	42.0	42.0	42.0	42.0
Total Split (%)	11.7%	40.8%	40.8%	24.2%	53.3%	35.0%	35.0%	35.0%	35.0%	35.0%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	Max	Max	None	Max	None	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 95  
 Natural Cycle: 85  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 8: Key Point Av. & Main St.



HCM 6th Signalized Intersection Summary  
8: Key Point Av. & Main St.

Hesperia US Cold Storage (JN 13201)

07/09/2020

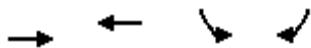


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑		↘	↑	↗	↘	↗	
Traffic Volume (veh/h)	30	908	12	140	754	109	11	11	80	146	27	15
Future Volume (veh/h)	30	908	12	140	754	109	11	11	80	146	27	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	31	927	9	143	769	77	11	11	22	149	28	10
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	49	2812	872	174	2950	294	249	265	224	268	187	67
Arrive On Green	0.03	0.57	0.57	0.11	0.65	0.65	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	1619	4914	1524	1619	4542	452	1314	1800	1522	1318	1266	452
Grp Volume(v), veh/h	31	927	9	143	553	293	11	11	22	149	0	38
Grp Sat Flow(s),veh/h/ln	1619	1638	1524	1619	1638	1719	1314	1800	1522	1318	0	1719
Q Serve(g_s), s	1.7	8.8	0.2	7.7	6.3	6.4	0.7	0.5	1.1	9.7	0.0	1.7
Cycle Q Clear(g_c), s	1.7	8.8	0.2	7.7	6.3	6.4	2.4	0.5	1.1	10.2	0.0	1.7
Prop In Lane	1.00		1.00	1.00		0.26	1.00		1.00	1.00		0.26
Lane Grp Cap(c), veh/h	49	2812	872	174	2128	1116	249	265	224	268	0	253
V/C Ratio(X)	0.64	0.33	0.01	0.82	0.26	0.26	0.04	0.04	0.10	0.56	0.00	0.15
Avail Cap(c_a), veh/h	171	2812	872	444	2128	1116	608	756	640	628	0	722
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	42.7	10.0	8.2	38.9	6.6	6.6	34.1	32.5	32.8	36.9	0.0	33.1
Incr Delay (d2), s/veh	5.0	0.3	0.0	3.7	0.3	0.6	0.1	0.1	0.2	1.8	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	2.7	0.1	3.0	1.7	1.9	0.2	0.2	0.4	3.3	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.7	10.3	8.2	42.6	6.9	7.2	34.2	32.6	33.0	38.7	0.0	33.3
LnGrp LOS	D	B	A	D	A	A	C	C	C	D	A	C
Approach Vol, veh/h		967			989			44				187
Approach Delay, s/veh		11.5			12.1			33.2				37.6
Approach LOS		B			B			C				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.1	57.1		17.7	7.3	64.0		17.7				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	24.4	42.8		37.4	9.4	57.8		37.4				
Max Q Clear Time (g_c+1), s	9.7	10.8		12.2	3.7	8.4		4.4				
Green Ext Time (p_c), s	0.1	6.5		0.7	0.0	5.6		0.1				

Intersection Summary

HCM 6th Ctrl Delay	14.5
HCM 6th LOS	B

Timings  
9: I-15 SB Ramps & Main St.

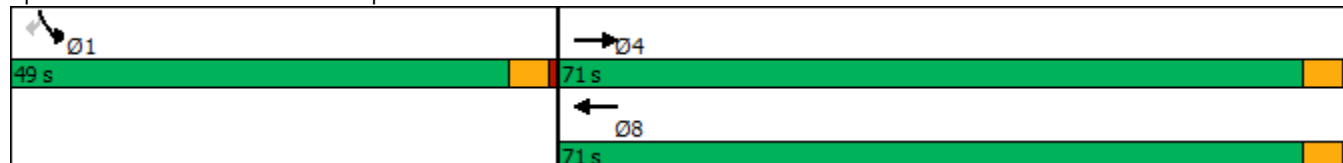


Lane Group	EBT	WBT	SBL	SBR
Lane Configurations	↑↑↑	↑↑↑	↘↘	↗
Traffic Volume (vph)	1016	773	313	217
Future Volume (vph)	1016	773	313	217
Turn Type	NA	NA	Prot	Perm
Protected Phases	4	8	1	
Permitted Phases				1
Detector Phase	4	8	1	1
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.6	9.6	9.6
Total Split (s)	71.0	71.0	49.0	49.0
Total Split (%)	59.2%	59.2%	40.8%	40.8%
Yellow Time (s)	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 35.8  
 Natural Cycle: 40  
 Control Type: Actuated-Uncoordinated

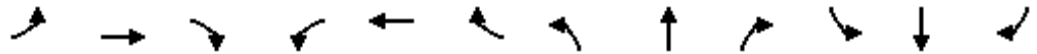
Splits and Phases: 9: I-15 SB Ramps & Main St.



HCM 6th Signalized Intersection Summary  
 9: I-15 SB Ramps & Main St.

Hesperia US Cold Storage (JN 13201)

07/09/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑					↑↑		↑
Traffic Volume (veh/h)	0	1016	0	0	773	0	0	0	0	313	0	217
Future Volume (veh/h)	0	1016	0	0	773	0	0	0	0	313	0	217
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1800	0	0	1800	0				1700	0	1800
Adj Flow Rate, veh/h	0	1069	0	0	814	0				329	0	147
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	2381		0	2381					668	0	325
Arrive On Green	0.00	0.48	0.00	0.00	0.48	0.00				0.21	0.00	0.21
Sat Flow, veh/h	0	5238	0	0	5238	0				3141	0	1525
Grp Volume(v), veh/h	0	1069	0	0	814	0				329	0	147
Grp Sat Flow(s),veh/h/ln	0	1638	0	0	1638	0				1570	0	1525
Q Serve(g_s), s	0.0	4.4	0.0	0.0	3.1	0.0				2.8	0.0	2.6
Cycle Q Clear(g_c), s	0.0	4.4	0.0	0.0	3.1	0.0				2.8	0.0	2.6
Prop In Lane	0.00		0.00	0.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2381		0	2381					668	0	325
V/C Ratio(X)	0.00	0.45		0.00	0.34					0.49	0.00	0.45
Avail Cap(c_a), veh/h	0	10738		0	10738					4590	0	2229
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	5.2	0.0	0.0	4.8	0.0				10.5	0.0	10.4
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.1	0.0				0.6	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.3	0.0	0.0	0.2	0.0				0.8	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	5.3	0.0	0.0	4.9	0.0				11.1	0.0	11.4
LnGrp LOS	A	A		A	A					B	A	B
Approach Vol, veh/h		1069	A		814	A					476	
Approach Delay, s/veh		5.3			4.9						11.2	
Approach LOS		A			A						B	
Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				19.3		11.1		19.3				
Change Period (Y+Rc), s				4.6		4.6		4.6				
Max Green Setting (Gmax), s				66.4		44.4		66.4				
Max Q Clear Time (g_c+I1), s				6.4		4.8		5.1				
Green Ext Time (p_c), s				8.4		1.8		5.8				

Intersection Summary

HCM 6th Ctrl Delay	6.4
HCM 6th LOS	A

Notes

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

Timings  
10: I-15 NB Ramps & Main St.

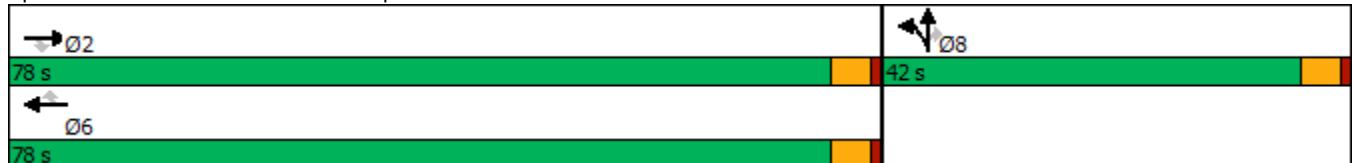


Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR
Lane Configurations	↑↑↑↑	↑↑	↑↑↑↑	↑↑	↑↑	↑	↑↑
Traffic Volume (vph)	1020	309	1221	462	122	6	395
Future Volume (vph)	1020	309	1221	462	122	6	395
Turn Type	NA	Perm	NA	Perm	Split	NA	Perm
Protected Phases	2		6		8	8	
Permitted Phases		2		6			8
Detector Phase	2	2	6	6	8	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.6	22.6	22.6	22.6	9.6	9.6	9.6
Total Split (s)	78.0	78.0	78.0	78.0	42.0	42.0	42.0
Total Split (%)	65.0%	65.0%	65.0%	65.0%	35.0%	35.0%	35.0%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	None	None	None	None	Min	Min	Min

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 45.7  
 Natural Cycle: 40  
 Control Type: Actuated-Uncoordinated













Splits and Phases: 10: I-15 NB Ramps & Main St.



HCM 6th Signalized Intersection Summary  
 10: I-15 NB Ramps & Main St.

Hesperia US Cold Storage (JN 13201)

07/09/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑↑	↗	↘	↗	↗			
Traffic Volume (veh/h)	0	1020	309	0	1221	462	122	6	395	0	0	0
Future Volume (veh/h)	0	1020	309	0	1221	462	122	6	395	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1800	1800	0	1800	1800	1700	1800	1800			
Adj Flow Rate, veh/h	0	1041	0	0	1246	439	124	0	197			
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	0	2920		0	2920	906	253	0	477			
Arrive On Green	0.00	0.59	0.00	0.00	0.59	0.59	0.16	0.00	0.16			
Sat Flow, veh/h	0	5076	1525	0	5076	1525	1619	0	3051			
Grp Volume(v), veh/h	0	1041	0	0	1246	439	124	0	197			
Grp Sat Flow(s),veh/h/ln	0	1638	1525	0	1638	1525	1619	0	1525			
Q Serve(g_s), s	0.0	4.0	0.0	0.0	5.1	6.0	2.6	0.0	2.1			
Cycle Q Clear(g_c), s	0.0	4.0	0.0	0.0	5.1	6.0	2.6	0.0	2.1			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	2920		0	2920	906	253	0	477			
V/C Ratio(X)	0.00	0.36		0.00	0.43	0.48	0.49	0.00	0.41			
Avail Cap(c_a), veh/h	0	9780		0	9780	3036	1642	0	3094			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	3.9	0.0	0.0	4.1	4.3	14.2	0.0	14.0			
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.1	0.4	1.5	0.0	0.6			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	0.2	0.0	0.0	0.2	0.3	0.9	0.0	0.7			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	3.9	0.0	0.0	4.2	4.7	15.7	0.0	14.6			
LnGrp LOS	A	A		A	A	A	B	A	B			
Approach Vol, veh/h		1041	A		1685			321				
Approach Delay, s/veh		3.9			4.3			15.0				
Approach LOS		A			A			B				
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		26.5				26.5		10.4				
Change Period (Y+Rc), s		4.6				4.6		4.6				
Max Green Setting (Gmax), s		73.4				73.4		37.4				
Max Q Clear Time (g_c+I1), s		6.0				8.0		4.6				
Green Ext Time (p_c), s		8.1				13.9		1.2				

Intersection Summary

HCM 6th Ctrl Delay	5.3
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.  
 Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Timings  
1: US-395 & Avenal St.

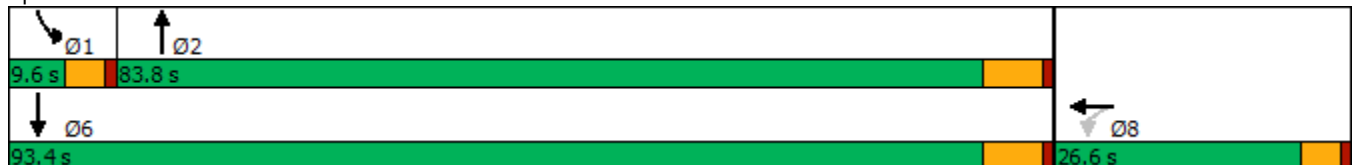


Lane Group	WBT	NBT	SBL	SBT
Lane Configurations	↔	↑	↘	↓
Traffic Volume (vph)	0	1411	1	1032
Future Volume (vph)	0	1411	1	1032
Turn Type	NA	NA	Prot	NA
Protected Phases	8	2	1	6
Permitted Phases				
Detector Phase	8	2	1	6
Switch Phase				
Minimum Initial (s)	10.0	10.0	5.0	10.0
Minimum Split (s)	26.6	23.5	9.6	16.5
Total Split (s)	26.6	83.8	9.6	93.4
Total Split (%)	22.2%	69.8%	8.0%	77.8%
Yellow Time (s)	3.6	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.5
Lead/Lag		Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	
Recall Mode	None	Min	None	Min

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 111.1  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated

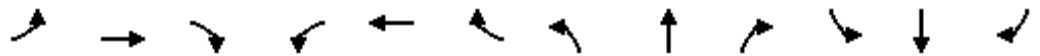
Splits and Phases: 1: US-395 & Avenal St.



HCM 6th Signalized Intersection Summary  
1: US-395 & Avenal St.

Hesperia US Cold Storage (JN 13201)

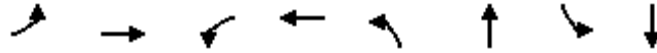
01/18/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔			↔		↔	↔	
Traffic Volume (veh/h)	0	0	0	79	0	6	0	1411	12	1	1032	0
Future Volume (veh/h)	0	0	0	79	0	6	0	1411	12	1	1032	0
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No		No		No		No		No
Adj Sat Flow, veh/h/ln				1700	1800	1800	0	1800	1800	1700	1800	0
Adj Flow Rate, veh/h				86	0	7	0	1534	13	1	1122	0
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				142	0	12	0	1345	11	2	1442	0
Arrive On Green				0.09	0.00	0.09	0.00	0.75	0.75	0.00	0.80	0.00
Sat Flow, veh/h				1571	0	128	0	1782	15	1619	1800	0
Grp Volume(v), veh/h				93	0	0	0	0	1547	1	1122	0
Grp Sat Flow(s),veh/h/ln				1698	0	0	0	0	1797	1619	1800	0
Q Serve(g_s), s				5.4	0.0	0.0	0.0	0.0	77.3	0.1	33.7	0.0
Cycle Q Clear(g_c), s				5.4	0.0	0.0	0.0	0.0	77.3	0.1	33.7	0.0
Prop In Lane				0.92		0.08	0.00		0.01	1.00		0.00
Lane Grp Cap(c), veh/h				154	0	0	0	0	1356	2	1442	0
V/C Ratio(X)				0.60	0.00	0.00	0.00	0.00	1.14	0.45	0.78	0.00
Avail Cap(c_a), veh/h				365	0	0	0	0	1356	79	1527	0
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh				44.8	0.0	0.0	0.0	0.0	12.6	51.1	5.4	0.0
Incr Delay (d2), s/veh				3.8	0.0	0.0	0.0	0.0	72.6	45.2	2.5	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				2.4	0.0	0.0	0.0	0.0	43.9	0.1	5.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				48.6	0.0	0.0	0.0	0.0	85.2	96.3	7.9	0.0
LnGrp LOS				D	A	A	A	A	F	F	A	A
Approach Vol, veh/h					93			1547			1123	
Approach Delay, s/veh					48.6			85.2			8.0	
Approach LOS					D			F			A	
Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	4.7	83.8				88.5		13.9				
Change Period (Y+Rc), s	4.6	6.5				6.5		4.6				
Max Green Setting (Gmax), s	5.0	77.3				86.9		22.0				
Max Q Clear Time (g_c+I1), s	2.1	79.3				35.7		7.4				
Green Ext Time (p_c), s	0.0	0.0				11.3		0.3				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay											52.6	
HCM 6th LOS											D	



Timings  
2: US-395 & Yucca Terrace Dr.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕	↗	↖	↗	↖
Traffic Volume (vph)	3	0	32	0	8	1416	2	1105
Future Volume (vph)	3	0	32	0	8	1416	2	1105
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	26.6	26.6	26.6	26.6	9.6	24.5	9.6	24.5
Total Split (s)	26.6	26.6	26.6	26.6	9.6	83.8	9.6	83.8
Total Split (%)	22.2%	22.2%	22.2%	22.2%	8.0%	69.8%	8.0%	69.8%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.6		4.6	4.6	6.5	4.6	6.5
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 108.2  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 2: US-395 & Yucca Terrace Dr.

9.6 s	83.8 s	26.6 s
9.6 s	83.8 s	26.6 s

HCM 6th Signalized Intersection Summary  
 2: US-395 & Yucca Terrace Dr.

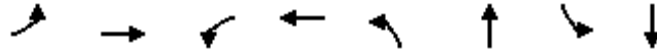
Hesperia US Cold Storage (JN 13201)

01/18/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↘		↗	↘	
Traffic Volume (veh/h)	3	0	4	32	0	4	8	1416	30	2	1105	4
Future Volume (veh/h)	3	0	4	32	0	4	8	1416	30	2	1105	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	3	0	4	33	0	4	8	1475	31	2	1151	4
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	82	16	62	156	4	11	16	1353	28	4	1368	5
Arrive On Green	0.07	0.00	0.07	0.07	0.00	0.07	0.01	0.77	0.77	0.00	0.76	0.76
Sat Flow, veh/h	431	227	878	1249	54	158	1619	1756	37	1619	1793	6
Grp Volume(v), veh/h	7	0	0	37	0	0	8	0	1506	2	0	1155
Grp Sat Flow(s),veh/h/ln	1536	0	0	1461	0	0	1619	0	1793	1619	0	1799
Q Serve(g_s), s	0.0	0.0	0.0	2.0	0.0	0.0	0.5	0.0	77.3	0.1	0.0	42.6
Cycle Q Clear(g_c), s	0.4	0.0	0.0	2.4	0.0	0.0	0.5	0.0	77.3	0.1	0.0	42.6
Prop In Lane	0.43		0.57	0.89		0.11	1.00		0.02	1.00		0.00
Lane Grp Cap(c), veh/h	159	0	0	171	0	0	16	0	1382	4	0	1373
V/C Ratio(X)	0.04	0.00	0.00	0.22	0.00	0.00	0.50	0.00	1.09	0.46	0.00	0.84
Avail Cap(c_a), veh/h	380	0	0	386	0	0	81	0	1382	81	0	1386
HCM 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
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	43.5	0.0	0.0	44.4	0.0	0.0	49.4	0.0	11.5	50.0	0.0	7.9
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.6	0.0	0.0	8.5	0.0	52.7	25.2	0.0	4.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.0	0.9	0.0	0.0	0.2	0.0	34.7	0.1	0.0	10.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.7	0.0	0.0	45.0	0.0	0.0	57.9	0.0	64.2	75.2	0.0	12.7
LnGrp LOS	D	A	A	D	A	A	E	A	F	E	A	B
Approach Vol, veh/h		7			37			1514				1157
Approach Delay, s/veh		43.7			45.0			64.1				12.8
Approach LOS		D			D			E				B
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.9	83.8		11.7	5.6	83.1		11.7				
Change Period (Y+Rc), s	4.6	6.5		4.6	4.6	6.5		4.6				
Max Green Setting (Gmax), s	5.0	77.3		22.0	5.0	77.3		22.0				
Max Q Clear Time (g_c+I1), s	2.1	79.3		2.4	2.5	44.6		4.4				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	11.0		0.1				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				41.9								
HCM 6th LOS				D								

Timings  
3: US-395 & Phelan Rd./Main St.

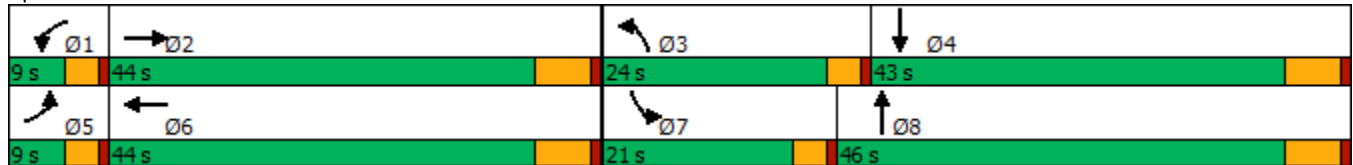


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↙	↕	↙	↕	↙	↕	↙	↕
Traffic Volume (vph)	48	568	9	668	165	1112	277	807
Future Volume (vph)	48	568	9	668	165	1112	277	807
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	5	2	1	6	3	8	7	4
Permitted Phases								
Detector Phase	5	2	1	6	3	8	7	4
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.0	16.0	9.0	16.0	9.0	16.0	9.0	16.0
Total Split (s)	9.0	44.0	9.0	44.0	24.0	46.0	21.0	43.0
Total Split (%)	7.5%	36.7%	7.5%	36.7%	20.0%	38.3%	17.5%	35.8%
Yellow Time (s)	3.0	5.0	3.0	5.0	3.0	5.0	3.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 116.9  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 3: US-395 & Phelan Rd./Main St.



HCM 6th Signalized Intersection Summary  
 3: US-395 & Phelan Rd./Main St.

Hesperia US Cold Storage (JN 13201)

07/09/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↕		↖	↕		↗	↕		↖	↕	
Traffic Volume (veh/h)	48	568	69	9	668	292	165	1112	26	277	807	54
Future Volume (veh/h)	48	568	69	9	668	292	165	1112	26	277	807	54
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	51	598	45	9	703	223	174	1171	20	292	849	42
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	63	1063	80	18	771	244	200	1178	20	236	1209	60
Arrive On Green	0.04	0.33	0.33	0.01	0.30	0.30	0.12	0.34	0.34	0.15	0.36	0.36
Sat Flow, veh/h	1619	3221	242	1619	2554	810	1619	3441	59	1619	3316	164
Grp Volume(v), veh/h	51	317	326	9	471	455	174	582	609	292	438	453
Grp Sat Flow(s),veh/h/ln	1619	1710	1753	1619	1710	1654	1619	1710	1789	1619	1710	1770
Q Serve(g_s), s	3.7	17.8	17.9	0.6	31.0	31.0	12.3	39.6	39.6	17.0	25.5	25.6
Cycle Q Clear(g_c), s	3.7	17.8	17.9	0.6	31.0	31.0	12.3	39.6	39.6	17.0	25.5	25.6
Prop In Lane	1.00		0.14	1.00		0.49	1.00		0.03	1.00		0.09
Lane Grp Cap(c), veh/h	63	564	579	18	516	499	200	585	613	236	623	645
V/C Ratio(X)	0.81	0.56	0.56	0.51	0.91	0.91	0.87	0.99	0.99	1.24	0.70	0.70
Avail Cap(c_a), veh/h	69	564	579	69	556	538	277	585	613	236	623	645
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.7	32.2	32.2	57.5	39.3	39.3	50.3	38.3	38.3	49.9	31.7	31.7
Incr Delay (d2), s/veh	43.6	1.3	1.3	16.1	18.7	19.2	17.5	35.6	34.8	138.5	3.7	3.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	7.1	7.3	0.3	14.8	14.4	5.7	21.1	21.9	15.6	10.4	10.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	99.3	33.5	33.5	73.6	57.9	58.4	67.7	73.9	73.1	188.4	35.4	35.3
LnGrp LOS	F	C	C	E	E	E	E	E	E	F	D	D
Approach Vol, veh/h		694			935			1365			1183	
Approach Delay, s/veh		38.3			58.3			72.7			73.1	
Approach LOS		D			E			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.3	44.6	18.4	48.6	8.6	41.3	21.0	46.0				
Change Period (Y+Rc), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0				
Max Green Setting (Gmax), s	5.0	38.0	20.0	37.0	5.0	38.0	17.0	40.0				
Max Q Clear Time (g_c+I1), s	2.6	19.9	14.3	27.6	5.7	33.0	19.0	41.6				
Green Ext Time (p_c), s	0.0	3.1	0.1	3.9	0.0	2.3	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	63.9
HCM 6th LOS	E

Intersection						
Int Delay, s/veh	7.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Vol, veh/h	0	13	0	0	86	0
Future Vol, veh/h	0	13	0	0	86	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	14	0	0	93	0

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	14	0	8
Stage 1	-	-	-	-	7
Stage 2	-	-	-	-	1
Critical Hdwy	-	-	4.1	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	1617	-	1018
Stage 1	-	-	-	-	1021
Stage 2	-	-	-	-	1028
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1617	-	1018
Mov Cap-2 Maneuver	-	-	-	-	1018
Stage 1	-	-	-	-	1021
Stage 2	-	-	-	-	1028

Approach	EB	WB	NB
HCM Control Delay, s	0	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1018	-	-	1617	-
HCM Lane V/C Ratio	0.092	-	-	-	-
HCM Control Delay (s)	8.9	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Intersection						
Int Delay, s/veh	7.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	32	0	0	0	0	36
Future Vol, veh/h	32	0	0	0	0	36
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	35	0	0	0	0	39

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1	0	-	0	71
Stage 1	-	-	-	-	1
Stage 2	-	-	-	-	70
Critical Hdwy	4.1	-	-	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	2.2	-	-	-	3.5
Pot Cap-1 Maneuver	1635	-	-	-	938
Stage 1	-	-	-	-	1028
Stage 2	-	-	-	-	958
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1635	-	-	-	918
Mov Cap-2 Maneuver	-	-	-	-	918
Stage 1	-	-	-	-	1006
Stage 2	-	-	-	-	958

Approach	EB	WB	SB
HCM Control Delay, s	7.3	0	8.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1635	-	-	-	1090
HCM Lane V/C Ratio	0.021	-	-	-	0.036
HCM Control Delay (s)	7.2	0	-	-	8.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Timings  
6: Mesa Linda St. & Main St.

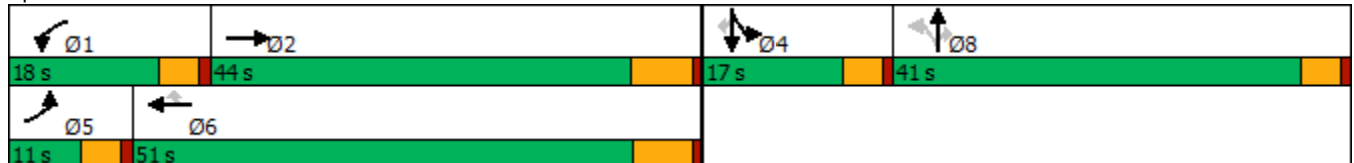


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBT	SBR
Lane Configurations	↙	↑↑↑	↙	↑↑↑	↗		↖	↗	↖	↗
Traffic Volume (vph)	5	860	47	956	55	10	7	82	0	3
Future Volume (vph)	5	860	47	956	55	10	7	82	0	3
Turn Type	Prot	NA	Prot	NA	Perm	Perm	NA	Perm	NA	Perm
Protected Phases	5	2	1	6			8		4	
Permitted Phases					6	8		8		4
Detector Phase	5	2	1	6	6	8	8	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	16.5	9.6	23.2	23.2	40.6	40.6	40.6	14.6	14.6
Total Split (s)	11.0	44.0	18.0	51.0	51.0	41.0	41.0	41.0	17.0	17.0
Total Split (%)	9.2%	36.7%	15.0%	42.5%	42.5%	34.2%	34.2%	34.2%	14.2%	14.2%
Yellow Time (s)	3.6	5.5	3.6	5.2	5.2	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.2	6.2		4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	Max	None	Max	Max	None	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 83.8  
 Natural Cycle: 90  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 6: Mesa Linda St. & Main St.



HCM 6th Signalized Intersection Summary  
6: Mesa Linda St. & Main St.

Hesperia US Cold Storage (JN 13201)

07/09/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↖	↑↑↑	↗		↑	↗		↖	↗
Traffic Volume (veh/h)	5	860	6	47	956	55	10	7	82	32	0	3
Future Volume (veh/h)	5	860	6	47	956	55	10	7	82	32	0	3
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	5	896	5	49	996	49	10	7	26	33	0	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	11	2763	15	68	2868	890	80	56	119	115	0	102
Arrive On Green	0.01	0.55	0.55	0.04	0.58	0.58	0.08	0.08	0.08	0.07	0.00	0.07
Sat Flow, veh/h	1619	5043	28	1619	4914	1525	1029	720	1525	1714	0	1525
Grp Volume(v), veh/h	5	582	319	49	996	49	17	0	26	33	0	1
Grp Sat Flow(s),veh/h/ln	1619	1638	1795	1619	1638	1525	1749	0	1525	1714	0	1525
Q Serve(g_s), s	0.2	7.5	7.5	2.3	8.1	1.1	0.7	0.0	1.2	1.4	0.0	0.0
Cycle Q Clear(g_c), s	0.2	7.5	7.5	2.3	8.1	1.1	0.7	0.0	1.2	1.4	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	0.59		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	11	1795	984	68	2868	890	137	0	119	115	0	102
V/C Ratio(X)	0.47	0.32	0.32	0.72	0.35	0.06	0.12	0.00	0.22	0.29	0.00	0.01
Avail Cap(c_a), veh/h	135	1795	984	283	2868	890	829	0	723	277	0	246
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.0	9.5	9.5	36.3	8.3	6.9	32.9	0.0	33.2	34.1	0.0	33.4
Incr Delay (d2), s/veh	11.4	0.5	0.9	5.1	0.3	0.1	0.4	0.0	0.9	1.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	2.1	2.4	0.9	2.2	0.3	0.3	0.0	0.5	0.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.4	10.0	10.4	41.4	8.7	7.0	33.3	0.0	34.1	35.4	0.0	33.5
LnGrp LOS	D	B	B	D	A	A	C	A	C	D	A	C
Approach Vol, veh/h		906			1094			43				34
Approach Delay, s/veh		10.4			10.1			33.8				35.3
Approach LOS		B			B			C				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.8	48.6		9.8	5.1	51.3		10.6				
Change Period (Y+Rc), s	4.6	6.5		4.6	4.6	* 6.5		4.6				
Max Green Setting (Gmax), s	13.4	37.5		12.4	6.4	* 45		36.4				
Max Q Clear Time (g_c+I1), s	4.3	9.5		3.4	2.2	10.1		3.2				
Green Ext Time (p_c), s	0.0	5.4		0.1	0.0	7.4		0.1				

Intersection Summary

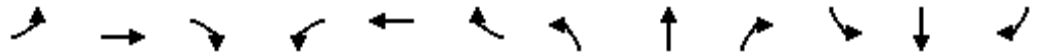
HCM 6th Ctrl Delay	11.1
HCM 6th LOS	B

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Timings  
7: Cataba Av. & Main St.

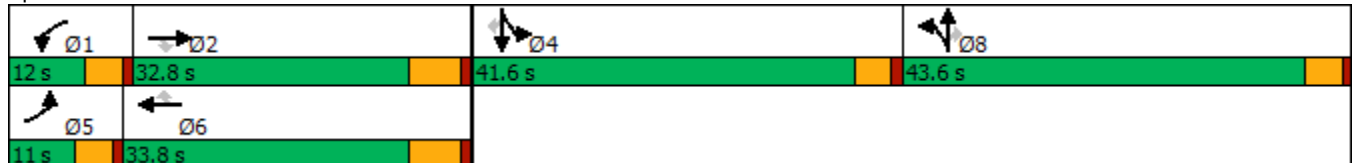


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘↗	↑↑↑	↗	↘	↗	↗	↘	↑	↗
Traffic Volume (vph)	78	784	90	192	810	44	137	52	139	70	30	113
Future Volume (vph)	78	784	90	192	810	44	137	52	139	70	30	113
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	32.2	32.2	9.6	32.2	32.2	43.6	43.6	43.6	41.6	41.6	41.6
Total Split (s)	11.0	32.8	32.8	12.0	33.8	33.8	43.6	43.6	43.6	41.6	41.6	41.6
Total Split (%)	8.5%	25.2%	25.2%	9.2%	26.0%	26.0%	33.5%	33.5%	33.5%	32.0%	32.0%	32.0%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (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
Lost Time Adjust (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
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None	None

Intersection Summary

Cycle Length: 130  
 Actuated Cycle Length: 85.5  
 Natural Cycle: 130  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 7: Cataba Av. & Main St.



HCM 6th Signalized Intersection Summary  
7: Cataba Av. & Main St.

Hesperia US Cold Storage (JN 13201)  
07/09/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘↗	↑↑↑	↗	↘	↗	↗	↘	↑	↗
Traffic Volume (veh/h)	78	784	90	192	810	44	137	52	139	70	30	113
Future Volume (veh/h)	78	784	90	192	810	44	137	52	139	70	30	113
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	80	800	53	196	827	33	96	114	39	71	31	25
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	99	1774	551	273	1900	589	251	279	234	203	226	192
Arrive On Green	0.06	0.36	0.36	0.09	0.39	0.39	0.15	0.15	0.15	0.13	0.13	0.13
Sat Flow, veh/h	1619	4914	1525	3141	4914	1523	1619	1800	1511	1619	1800	1525
Grp Volume(v), veh/h	80	800	53	196	827	33	96	114	39	71	31	25
Grp Sat Flow(s),veh/h/ln	1619	1638	1525	1570	1638	1523	1619	1800	1511	1619	1800	1525
Q Serve(g_s), s	3.6	9.2	1.7	4.5	9.1	1.0	3.9	4.2	1.6	3.0	1.1	1.1
Cycle Q Clear(g_c), s	3.6	9.2	1.7	4.5	9.1	1.0	3.9	4.2	1.6	3.0	1.1	1.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	99	1774	551	273	1900	589	251	279	234	203	226	192
V/C Ratio(X)	0.81	0.45	0.10	0.72	0.44	0.06	0.38	0.41	0.17	0.35	0.14	0.13
Avail Cap(c_a), veh/h	141	1774	551	316	1900	589	857	953	800	813	904	766
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.1	18.0	15.6	32.8	16.7	14.2	28.0	28.1	27.0	29.4	28.7	28.6
Incr Delay (d2), s/veh	13.6	0.8	0.3	4.9	0.7	0.2	1.0	1.0	0.3	1.0	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	3.0	0.5	1.7	3.0	0.3	1.6	1.9	0.6	1.2	0.5	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.7	18.8	15.9	37.7	17.4	14.3	28.9	29.0	27.3	30.5	28.9	28.9
LnGrp LOS	D	B	B	D	B	B	C	C	C	C	C	C
Approach Vol, veh/h		933			1056			249			127	
Approach Delay, s/veh		21.1			21.1			28.7			29.8	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.0	32.8		13.9	9.1	34.7		16.0				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	7.4	26.6		37.0	6.4	27.6		39.0				
Max Q Clear Time (g_c+I1), s	6.5	11.2		5.0	5.6	11.1		6.2				
Green Ext Time (p_c), s	0.0	4.4		0.4	0.0	4.7		1.1				

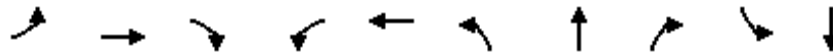
Intersection Summary

HCM 6th Ctrl Delay	22.4
HCM 6th LOS	C

Notes

- User approved pedestrian interval to be less than phase max green.
- User approved volume balancing among the lanes for turning movement.

Timings  
8: Key Point Av. & Main St.

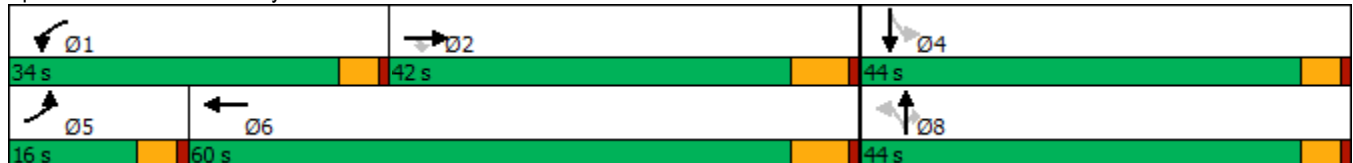


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↘	↑	↗	↘	↗
Traffic Volume (vph)	56	1006	24	219	1145	30	72	235	226	86
Future Volume (vph)	56	1006	24	219	1145	30	72	235	226	86
Turn Type	Prot	NA	Perm	Prot	NA	Perm	NA	Perm	Perm	NA
Protected Phases	5	2		1	6		8			4
Permitted Phases			2			8		8	4	
Detector Phase	5	2	2	1	6	8	8	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	29.2	29.2	9.6	30.2	38.6	38.6	38.6	41.6	41.6
Total Split (s)	16.0	42.0	42.0	34.0	60.0	44.0	44.0	44.0	44.0	44.0
Total Split (%)	13.3%	35.0%	35.0%	28.3%	50.0%	36.7%	36.7%	36.7%	36.7%	36.7%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	Max	Max	None	Max	None	None	None	None	None

Intersection Summary




























Cycle Length: 120  
 Actuated Cycle Length: 100.6  
 Natural Cycle: 85  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 8: Key Point Av. & Main St.

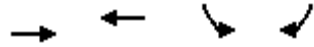


HCM 6th Signalized Intersection Summary  
8: Key Point Av. & Main St.

Hesperia US Cold Storage (JN 13201)  
07/09/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  							
Traffic Volume (veh/h)	56	1006	24	219	1145	217	30	72	235	226	86	31
Future Volume (veh/h)	56	1006	24	219	1145	217	30	72	235	226	86	31
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	57	1027	20	223	1168	145	31	73	99	231	88	11
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	71	2090	649	254	2383	296	345	475	396	342	414	52
Arrive On Green	0.04	0.43	0.43	0.16	0.54	0.54	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	1619	4914	1525	1619	4427	549	1239	1800	1501	1162	1568	196
Grp Volume(v), veh/h	57	1027	20	223	864	449	31	73	99	231	0	99
Grp Sat Flow(s),veh/h/ln	1619	1638	1525	1619	1638	1700	1239	1800	1501	1162	0	1764
Q Serve(g_s), s	3.5	15.2	0.8	13.5	16.5	16.5	2.0	3.1	5.2	19.0	0.0	4.4
Cycle Q Clear(g_c), s	3.5	15.2	0.8	13.5	16.5	16.5	6.4	3.1	5.2	22.1	0.0	4.4
Prop In Lane	1.00		1.00	1.00		0.32	1.00		1.00	1.00		0.11
Lane Grp Cap(c), veh/h	71	2090	649	254	1763	915	345	475	396	342	0	465
V/C Ratio(X)	0.80	0.49	0.03	0.88	0.49	0.49	0.09	0.15	0.25	0.67	0.00	0.21
Avail Cap(c_a), veh/h	185	2090	649	476	1763	915	506	710	592	494	0	695
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	47.4	20.9	16.7	41.2	14.5	14.5	31.2	28.2	29.0	36.7	0.0	28.7
Incr Delay (d2), s/veh	7.7	0.8	0.1	3.9	1.0	1.9	0.1	0.1	0.3	2.3	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	5.4	0.3	5.3	5.5	6.0	0.6	1.4	1.9	5.6	0.0	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.1	21.7	16.8	45.1	15.5	16.4	31.3	28.4	29.3	39.0	0.0	28.9
LnGrp LOS	E	C	B	D	B	B	C	C	C	D	A	C
Approach Vol, veh/h		1104			1536			203			330	
Approach Delay, s/veh		23.3			20.0			29.3			36.0	
Approach LOS		C			C			C			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	20.3	48.7		31.0	9.0	60.0		31.0				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	29.4	35.8		39.4	11.4	53.8		39.4				
Max Q Clear Time (g_c+I1), s	15.5	17.2		24.1	5.5	18.5		8.4				
Green Ext Time (p_c), s	0.2	6.3		1.3	0.0	9.8		0.9				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				23.4								
HCM 6th LOS				C								

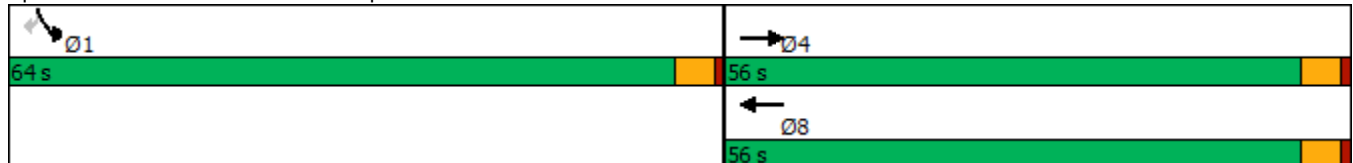
Timings  
 9: I-15 SB Ramps & Main St.



Lane Group	EBT	WBT	SBL	SBR
Lane Configurations	↑↑↑	↑↑↑	↘↘	↗
Traffic Volume (vph)	1294	1168	551	414
Future Volume (vph)	1294	1168	551	414
Turn Type	NA	NA	Prot	Perm
Protected Phases	4	8	1	
Permitted Phases				1
Detector Phase	4	8	1	1
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.6	9.6	9.6
Total Split (s)	56.0	56.0	64.0	64.0
Total Split (%)	46.7%	46.7%	53.3%	53.3%
Yellow Time (s)	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	None	None

**Intersection Summary**  
 Cycle Length: 120  
 Actuated Cycle Length: 63.6  
 Natural Cycle: 40  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 9: I-15 SB Ramps & Main St.



HCM 6th Signalized Intersection Summary  
 9: I-15 SB Ramps & Main St.

Hesperia US Cold Storage (JN 13201)

07/09/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑					↑↑		↑
Traffic Volume (veh/h)	0	1294	0	0	1168	0	0	0	0	551	0	414
Future Volume (veh/h)	0	1294	0	0	1168	0	0	0	0	551	0	414
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1800	0	0	1800	0				1700	0	1800
Adj Flow Rate, veh/h	0	1334	0	0	1204	0				568	0	314
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97				0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	2390		0	2390					963	0	467
Arrive On Green	0.00	0.49	0.00	0.00	0.49	0.00				0.31	0.00	0.31
Sat Flow, veh/h	0	5238	0	0	5238	0				3141	0	1525
Grp Volume(v), veh/h	0	1334	0	0	1204	0				568	0	314
Grp Sat Flow(s),veh/h/ln	0	1638	0	0	1638	0				1570	0	1525
Q Serve(g_s), s	0.0	8.5	0.0	0.0	7.4	0.0				6.8	0.0	8.0
Cycle Q Clear(g_c), s	0.0	8.5	0.0	0.0	7.4	0.0				6.8	0.0	8.0
Prop In Lane	0.00		0.00	0.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2390		0	2390					963	0	467
V/C Ratio(X)	0.00	0.56		0.00	0.50					0.59	0.00	0.67
Avail Cap(c_a), veh/h	0	5686		0	5686					4200	0	2040
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	8.0	0.0	0.0	7.8	0.0				13.0	0.0	13.5
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.2	0.0				0.6	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.6	0.0	0.0	1.4	0.0				2.1	0.0	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	8.2	0.0	0.0	7.9	0.0				13.6	0.0	15.1
LnGrp LOS	A	A		A	A					B	A	B
Approach Vol, veh/h		1334	A		1204	A					882	
Approach Delay, s/veh		8.2			7.9						14.2	
Approach LOS		A			A						B	
Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				26.2		18.2		26.2				
Change Period (Y+Rc), s				4.6		4.6		4.6				
Max Green Setting (Gmax), s				51.4		59.4		51.4				
Max Q Clear Time (g_c+I1), s				10.5		10.0		9.4				
Green Ext Time (p_c), s				11.1		3.6		9.6				

Intersection Summary

HCM 6th Ctrl Delay	9.7
HCM 6th LOS	A

Notes

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

Timings  
10: I-15 NB Ramps & Main St.

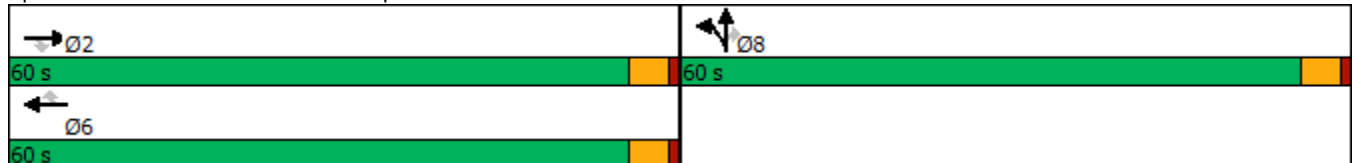


Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR
Lane Configurations	↑↑↑	↑	↑↑↑	↑	↑	↑	↑
Traffic Volume (vph)	1582	264	1336	404	198	0	847
Future Volume (vph)	1582	264	1336	404	198	0	847
Turn Type	NA	Perm	NA	Perm	Split	NA	Perm
Protected Phases	2		6		8	8	
Permitted Phases		2		6			8
Detector Phase	2	2	6	6	8	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.6	22.6	22.6	22.6	9.6	9.6	9.6
Total Split (s)	60.0	60.0	60.0	60.0	60.0	60.0	60.0
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	None	None	None	None	Min	Min	Min

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 90.1  
 Natural Cycle: 45  
 Control Type: Actuated-Uncoordinated













Splits and Phases: 10: I-15 NB Ramps & Main St.



HCM 6th Signalized Intersection Summary  
 10: I-15 NB Ramps & Main St.

Hesperia US Cold Storage (JN 13201)

07/09/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑↑	↗	↘	↔	↗			
Traffic Volume (veh/h)	0	1582	264	0	1336	404	198	0	847	0	0	0
Future Volume (veh/h)	0	1582	264	0	1336	404	198	0	847	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1800	1800	0	1800	1800	1700	1800	1800			
Adj Flow Rate, veh/h	0	1631	0	0	1377	269	204	0	726			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	0	2577		0	2577	800	517	0	973			
Arrive On Green	0.00	0.52	0.00	0.00	0.52	0.52	0.32	0.00	0.32			
Sat Flow, veh/h	0	5076	1525	0	5076	1525	1619	0	3051			
Grp Volume(v), veh/h	0	1631	0	0	1377	269	204	0	726			
Grp Sat Flow(s),veh/h/ln	0	1638	1525	0	1638	1525	1619	0	1525			
Q Serve(g_s), s	0.0	13.9	0.0	0.0	10.9	6.0	5.8	0.0	12.5			
Cycle Q Clear(g_c), s	0.0	13.9	0.0	0.0	10.9	6.0	5.8	0.0	12.5			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	2577		0	2577	800	517	0	973			
V/C Ratio(X)	0.00	0.63		0.00	0.53	0.34	0.39	0.00	0.75			
Avail Cap(c_a), veh/h	0	4631		0	4631	1438	1526	0	2875			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	10.0	0.0	0.0	9.2	8.1	15.6	0.0	17.9			
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	0.2	0.2	0.5	0.0	1.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	3.3	0.0	0.0	2.6	1.4	2.0	0.0	4.2			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	10.2	0.0	0.0	9.4	8.3	16.1	0.0	19.0			
LnGrp LOS	A	B		A	A	A	B	A	B			
Approach Vol, veh/h		1631	A		1646			930				
Approach Delay, s/veh		10.2			9.2			18.4				
Approach LOS		B			A			B				
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		35.4				35.4		23.4				
Change Period (Y+Rc), s		4.6				4.6		4.6				
Max Green Setting (Gmax), s		55.4				55.4		55.4				
Max Q Clear Time (g_c+I1), s		15.9				12.9		14.5				
Green Ext Time (p_c), s		14.9				13.5		4.3				

Intersection Summary

HCM 6th Ctrl Delay	11.6
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.  
 Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



**APPENDIX 5.2:**

**E+P CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS**

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### Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **E+P Conditions - Weekday PM Peak Hour**

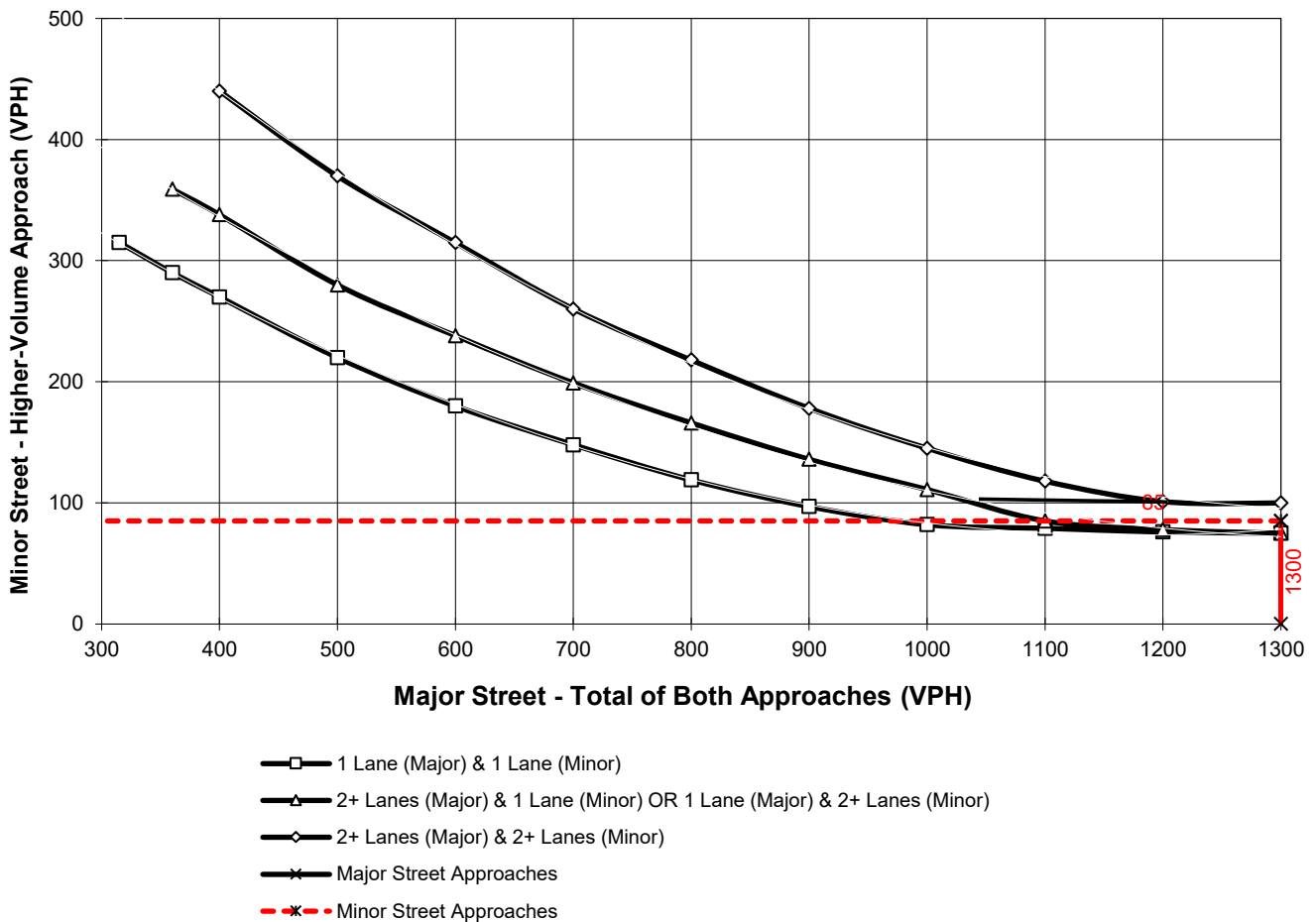
Major Street Name = **US Highway 395**

Total of Both Approaches (VPH) = **2456**  
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Avenal St.**

High Volume Approach (VPH) = **85**  
 Number of Approach Lanes Minor Street = **1**

WARRANTED FOR A SIGNAL



\*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

### Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **E+P Conditions - Weekday PM Peak Hour**

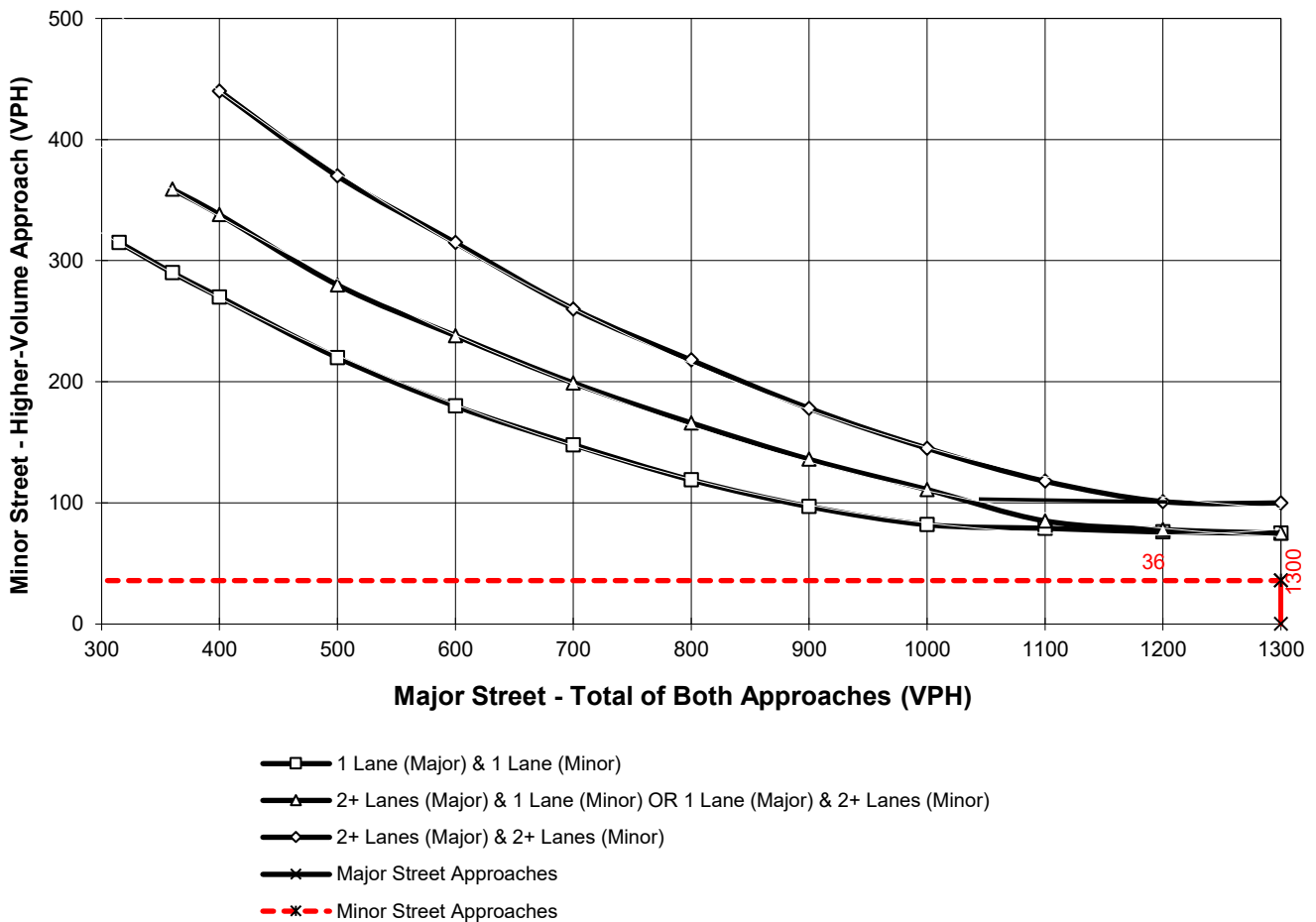
Major Street Name = **US Highway 395**

Total of Both Approaches (VPH) = **2565**  
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Yucca Terrace Drive**

High Volume Approach (VPH) = **36**  
 Number of Approach Lanes Minor Street = **1**

**SIGNAL WARRANT NOT SATISFIED**



\*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	CALC <u>CS</u>	TRAFFIC CONDITIONS	<u>E+P</u>
Jurisdiction: <u>City of Hesperia</u>				CHK <u>CS</u>		DATE <u>07/08/20</u>
Major Street: <u>Avenal St.</u>					Critical Approach Speed (Major)	<u>25</u> mph
Minor Street: <u>Driveway 1</u>					Critical Approach Speed (Minor)	<u>25</u> mph
Major Street Approach Lanes =			<u>1</u>	lane	Minor Street Approach Lanes:	<u>1</u> lane
Major Street Future ADT =			<u>821</u>	vpd	Minor Street Future ADT =	<u>821</u> vpd
Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....						<input type="checkbox"/>
						or
In built up area of isolated community of < 10,000 population .....						<input type="checkbox"/>

**URBAN (U)**

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements EADT			
<b>XX</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<b>CONDITION A - Minimum Vehicular Volume</b>					
<u>Satisfied</u>	<u>Not Satisfied</u>				
	<b>XX</b>				
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
1 <b>821</b>	1 <b>821</b>	8,000	5,600	2,400	1,680
2 +	1	9,600	6,720	2,400	1,680
2 +	2 +	9,600	6,720	3,200	2,240
1	2 +	8,000	5,600	3,200	2,240
<b>CONDITION B - Interruption of Continuous Traffic</b>					
<u>Satisfied</u>	<u>Not Satisfied</u>				
	<b>XX</b>				
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
1 <b>821</b>	1 <b>821</b>	12,000	8,400	1,200	850
2 +	1	14,400	10,080	1,200	850
2 +	2 +	14,400	10,080	1,600	1,120
1	2 +	12,000	8,400	1,600	1,120
<b>Combination of CONDITIONS A + B</b>					
<u>Satisfied</u>	<u>Not Satisfied</u>				
	<b>XX</b>				
No one condition satisfied, but following conditions fulfilled 80% of more .....					
	<u>A</u>	<u>B</u>			
	<b>10%</b>	<b>7%</b>	2 CONDITIONS 80%	2 CONDITIONS 80%	

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	CALC <u>CS</u>	TRAFFIC CONDITIONS	E+P
Jurisdiction: <u>City of Hesperia</u>				CHK <u>CS</u>		DATE <u>07/08/20</u>
Major Street: <u>Yucca Terrace Dr.</u>					Critical Approach Speed (Major)	<u>25</u> mph
Minor Street: <u>Driveway 2</u>					Critical Approach Speed (Minor)	<u>25</u> mph
Major Street Approach Lanes =			<u>1</u>	lane	Minor Street Approach Lanes:	<u>1</u> lane
Major Street Future ADT =			<u>822</u>	vpd	Minor Street Future ADT =	<u>822</u> vpd
Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....						<input type="checkbox"/>
						or
In built up area of isolated community of < 10,000 population .....						<input type="checkbox"/>

**URBAN (U)**

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements EADT			
<b>XX</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<b>CONDITION A - Minimum Vehicular Volume</b>	<b>Not Satisfied</b>				
<u>Satisfied</u>	<b>XX</b>				
Number of lanes for moving traffic on each approach		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<u>Major Street</u>	<u>Minor Street</u>				
1 <b>822</b>	1 <b>822</b>	8,000	5,600	2,400	1,680
2 +	1	9,600	6,720	2,400	1,680
2 +	2 +	9,600	6,720	3,200	2,240
1	2 +	8,000	5,600	3,200	2,240
<b>CONDITION B - Interruption of Continuous Traffic</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<b>XX</b>				
Number of lanes for moving traffic on each approach		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<u>Major Street</u>	<u>Minor Street</u>				
1 <b>822</b>	1 <b>822</b>	12,000	8,400	1,200	850
2 +	1	14,400	10,080	1,200	850
2 +	2 +	14,400	10,080	1,600	1,120
1	2 +	12,000	8,400	1,600	1,120
<b>Combination of CONDITIONS A + B</b>		2 CONDITIONS 80%		2 CONDITIONS 80%	
<u>Satisfied</u>	<b>XX</b>				
No one condition satisfied, but following conditions fulfilled 80% of more .....					
	<u>A</u>				
	<b>10%</b>				
	<u>B</u>				
	<b>7%</b>				

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.



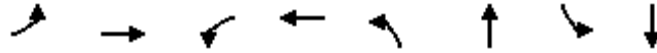
**APPENDIX 5.3:**

**E+P CONDITIONS QUEUING ANALYSIS WORKSHEETS**

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Queues  
3: US-395 & Phelan Rd./Main St.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	56	797	4	655	96	767	245	1027
v/c Ratio	0.46	0.73	0.05	0.70	0.56	0.78	0.76	0.73
Control Delay	61.6	33.8	53.5	27.8	58.7	39.2	55.6	30.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.6	33.8	53.5	27.8	58.7	39.2	55.6	30.3
Queue Length 50th (ft)	35	228	3	145	60	234	148	293
Queue Length 95th (ft)	#92	355	15	218	130	370	#310	470
Internal Link Dist (ft)		3796		1443		1039		2603
Turn Bay Length (ft)	340		250		330		250	
Base Capacity (vph)	140	1429	87	1366	228	1225	404	1593
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.56	0.05	0.48	0.42	0.63	0.61	0.64

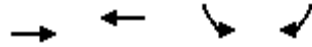
Intersection Summary

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

Queues

9: I-15 SB Ramps & Main St.

07/09/2020



Lane Group	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	1069	814	329	228
v/c Ratio	0.48	0.36	0.38	0.42
Control Delay	7.6	6.9	12.3	7.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	7.6	6.9	12.3	7.2
Queue Length 50th (ft)	44	31	25	10
Queue Length 95th (ft)	83	61	58	51
Internal Link Dist (ft)	464	836		
Turn Bay Length (ft)			1000	540
Base Capacity (vph)	4914	4914	3129	1528
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.22	0.17	0.11	0.15

Intersection Summary

Queues

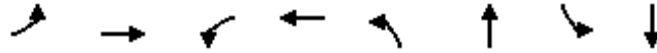
10: I-15 NB Ramps & Main St.

07/09/2020



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	1041	315	1246	471	124	203	206
v/c Ratio	0.39	0.32	0.46	0.45	0.33	0.47	0.48
Control Delay	6.4	1.8	6.9	2.2	19.0	12.4	12.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.4	1.8	6.9	2.2	19.0	12.4	12.7
Queue Length 50th (ft)	44	0	56	0	25	18	18
Queue Length 95th (ft)	94	27	116	32	79	82	84
Internal Link Dist (ft)	836		1724			589	
Turn Bay Length (ft)		250			1000		615
Base Capacity (vph)	4914	1530	4914	1530	1345	1235	1230
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.21	0.25	0.31	0.09	0.16	0.17

Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	51	671	9	1010	174	1198	292	906
v/c Ratio	0.74	0.55	0.13	0.95	0.77	1.02	1.24	0.77
Control Delay	109.0	31.8	59.8	55.1	70.6	70.9	182.4	40.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	109.0	31.8	59.8	55.1	70.6	70.9	182.4	40.4
Queue Length 50th (ft)	40	201	7	380	130	~533	~286	335
Queue Length 95th (ft)	#113	294	25	#516	206	#672	#462	#437
Internal Link Dist (ft)		3796		1443		1039		2603
Turn Bay Length (ft)	340		250		330		250	
Base Capacity (vph)	69	1254	69	1104	277	1171	235	1184
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.74	0.54	0.13	0.91	0.63	1.02	1.24	0.77

**Intersection Summary**

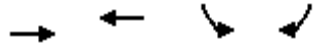
~ Volume exceeds capacity, queue is theoretically infinite.  
Queue shown is maximum after two cycles.

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

Queues

9: I-15 SB Ramps & Main St.

07/09/2020



Lane Group	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	1334	1204	568	427
v/c Ratio	0.62	0.56	0.45	0.67
Control Delay	16.2	15.4	15.2	21.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	16.2	15.4	15.2	21.1
Queue Length 50th (ft)	134	116	75	117
Queue Length 95th (ft)	259	227	148	266
Internal Link Dist (ft)	464	836		
Turn Bay Length (ft)			1000	540
Base Capacity (vph)	4018	4018	2773	1357
Starvation Cap Reductn	8	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.33	0.30	0.20	0.31

Intersection Summary

Queues  
10: I-15 NB Ramps & Main St.



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	1631	272	1377	416	204	437	436
v/c Ratio	0.69	0.31	0.59	0.44	0.31	0.72	0.72
Control Delay	21.3	3.2	19.3	3.4	20.3	30.1	30.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.3	3.2	19.3	3.4	20.3	30.1	30.0
Queue Length 50th (ft)	254	0	199	0	76	206	206
Queue Length 95th (ft)	422	47	334	55	150	382	381
Internal Link Dist (ft)	836		1724			589	
Turn Bay Length (ft)		250			1000		615
Base Capacity (vph)	3267	1108	3267	1156	1074	971	971
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.25	0.42	0.36	0.19	0.45	0.45

Intersection Summary

**APPENDIX 5.4:**

**E+P CONDITIONS FREEWAY FACILITY ANALYSIS WORKSHEETS**

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# HCS7 Freeway Facilities Report

## Project Information

Analyst	JB	Date	7/9/2020
Agency	Urban Crossroads, Inc.	Analysis Year	E+P
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	US Cold Storage (JN 13201) - I-15 SB at Main		

## Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15

## Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-15 SB, North of Main St.	16360	3
2	Diverge	Diverge	I-15 SB, Off-Ramp at Main St.	1500	3
3	Basic	Basic	I-15 SB, Between Off and Loop On-Ramp	975	3
4	Merge	Merge	I-15 SB, Loop On-Ramp at Main St.	1500	3
5	Basic	Basic	I-15 SB, Between Loop On-Ramp and On-Ramp	1415	3
6	Merge	Merge	I-15 SB, On-Ramp at Main St.	1500	3
7	Basic	Basic	I-15 SB, South of Main St.	5900	3

## Facility Segment Data

### Segment 1: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.962		4210		7146		0.59		68.0		20.6		C

### Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.962	0.870	4210	531	7200	2100	0.58	0.25	64.5	60.3	21.8	27.8	C

### Segment 3: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.971		3695		7146		0.52		68.2		18.1		C

### Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.971	0.971	4255	560	7200	541 1900	0.59	0.29	62.0	59.8	22.9	24.4	C

### Segment 5: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.971		4255		7146		0.60		67.9		20.9		C

### Segment 6: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.971	0.893	4369	114	7200	2100	0.61	0.05	62.6	60.8	23.3	22.9	C

### Segment 7: Basic

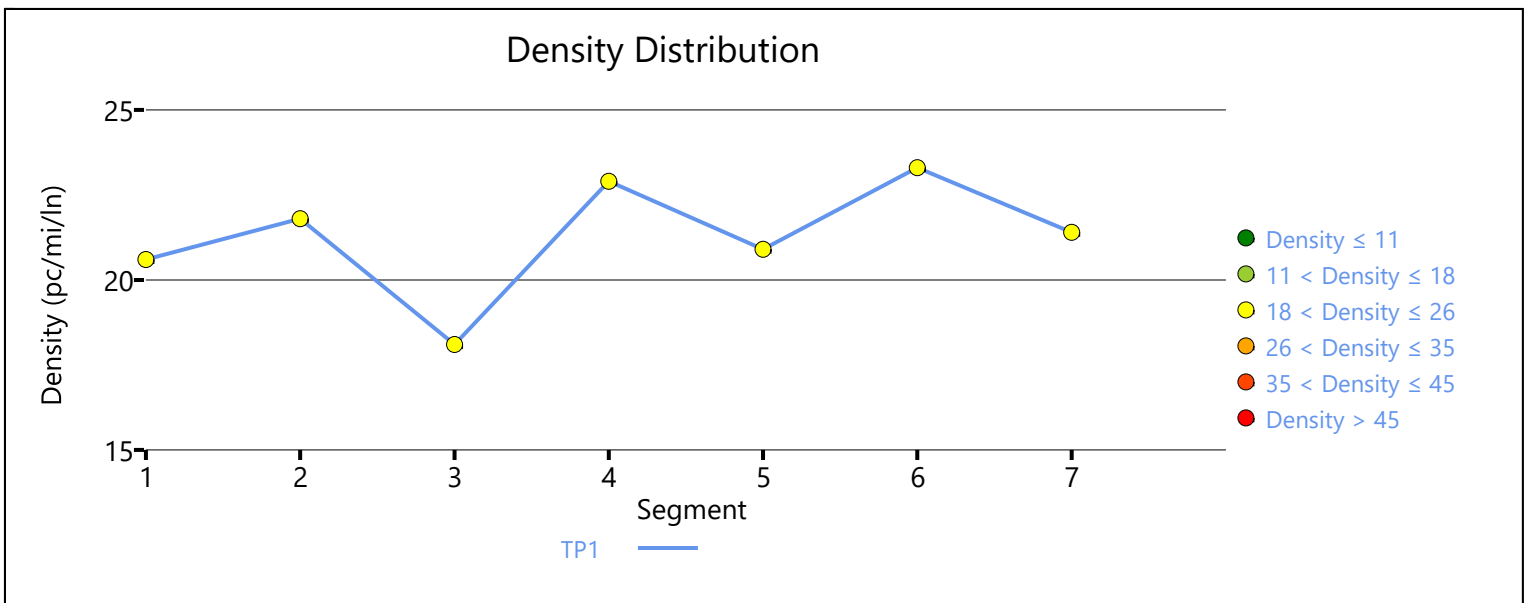
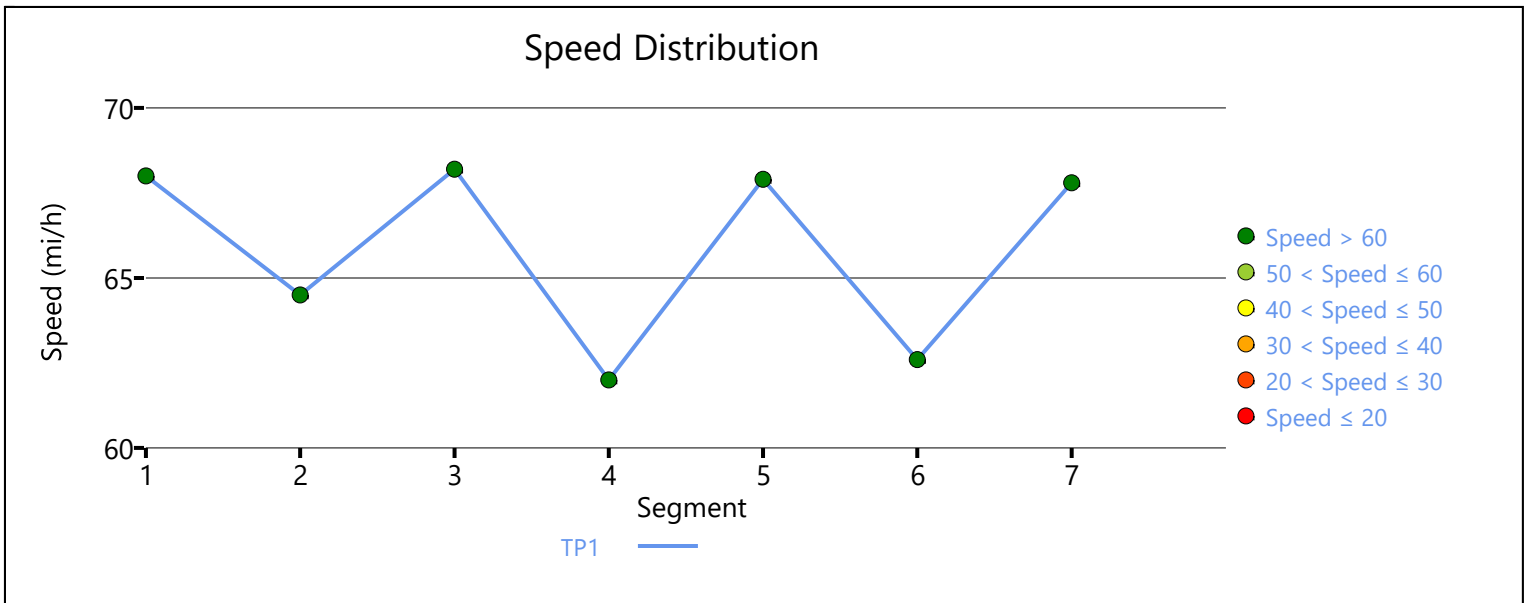
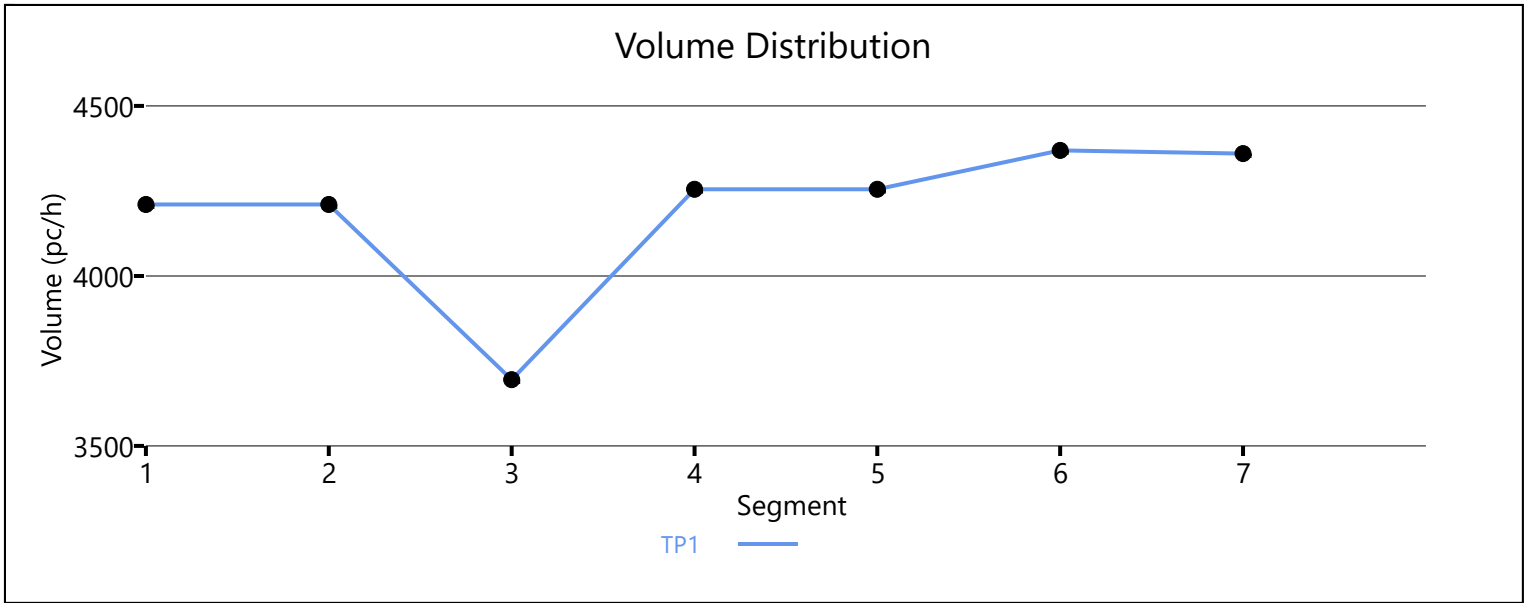
Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.971		4360		7146		0.61		67.8		21.4		C

### Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	67.1	21.0	20.3	4.9	C

### Facility Overall Results

Space Mean Speed, mi/h	67.1	Density, veh/mi/ln	20.3
Average Travel Time, min	4.9	Density, pc/mi/ln	21.0



# HCS7 Freeway Facilities Report

## Project Information

Analyst	JB	Date	7/9/2020
Agency	Urban Crossroads, Inc.	Analysis Year	E+P
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	US Cold Storage (JN 13201) - I-15 NB at Main		

## Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15

## Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-15 NB, South of Main St.	6140	3
2	Diverge	Diverge	I-15 NB, Off-Ramp at Main St.	1500	3
3	Basic	Basic	I-15 NB, Between Off-Ramp and Loop On-Ramp	1125	3
4	Merge	Merge	I-15 NB, Loop On-Ramp at Main St.	1500	3
5	Basic	Basic	I-15 NB, Between Loop On-Ramp and On-Ramp	1215	3
6	Merge	Merge	I-15 NB, On-Ramp at Main St.	1500	3
7	Basic	Basic	I-15 NB, North of Main St.	16370	3

## Facility Segment Data

### Segment 1: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.92		0.962		3551		7146		0.50		68.2		17.4		B

### Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.962	0.893	3551	559	7200	2100	0.49	0.27	64.4	60.3	18.4	24.4	C

### Segment 3: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.92		0.980		2977		7146		0.42		68.2		14.5		B

### Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.980	0.952	3305	328	7200	544 1900	0.46	0.17	63.1	60.8	17.5	18.6	B

### Segment 5: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.92		0.971		3326		7146		0.47		68.2		16.3		B

### Segment 6: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.971	0.971	3830	504	7200	2100	0.53	0.24	62.8	60.7	20.3	22.0	C

### Segment 7: Basic

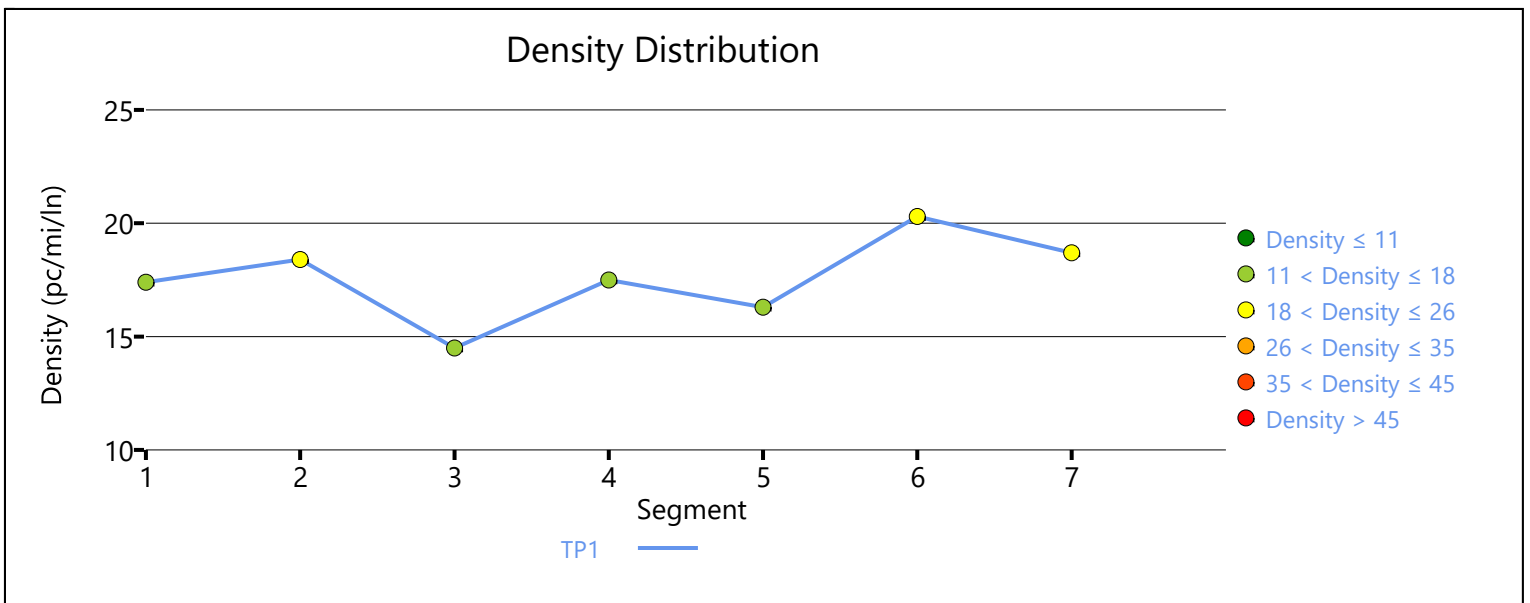
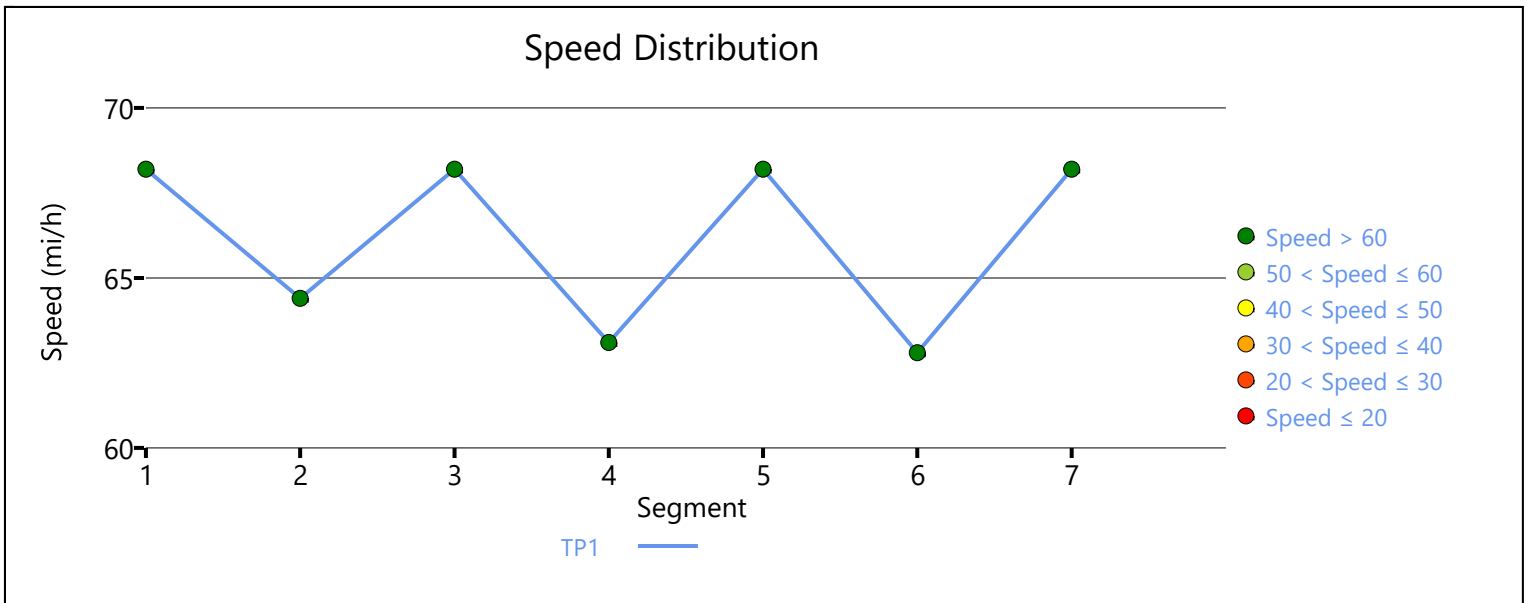
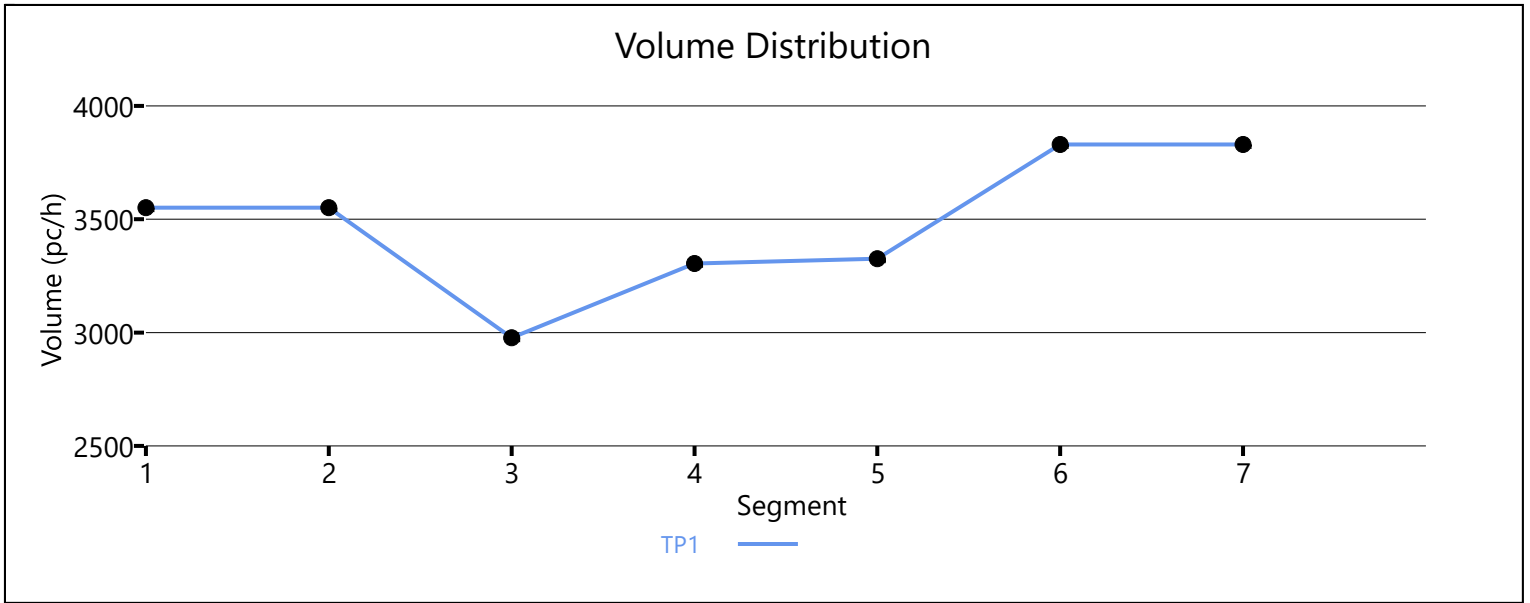
Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.92		0.971		3830		7146		0.54		68.2		18.7		C

### Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	67.4	18.2	17.6	4.9	C

### Facility Overall Results

Space Mean Speed, mi/h	67.4	Density, veh/mi/ln	17.6
Average Travel Time, min	4.9	Density, pc/mi/ln	18.2



# HCS7 Freeway Facilities Report

## Project Information

Analyst	JB	Date	7/9/2020
Agency	Urban Crossroads, Inc.	Analysis Year	E+P
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	US Cold Storage (JN 13201)) - I-15 SB at Main		

## Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15

## Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-15 SB, North of Main St.	16360	3
2	Diverge	Diverge	I-15 SB, Off-Ramp at Main St.	1500	3
3	Basic	Basic	I-15 SB, Between Off and Loop On-Ramp	975	3
4	Merge	Merge	I-15 SB, Loop On-Ramp at Main St.	1500	3
5	Basic	Basic	I-15 SB, Between Loop On-Ramp and On-Ramp	1415	3
6	Merge	Merge	I-15 SB, On-Ramp at Main St.	1500	3
7	Basic	Basic	I-15 SB, South of Main St.	5900	3

## Facility Segment Data

### Segment 1: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.962		4552		7146		0.64		67.5		22.5		C

### Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.962	0.971	4552	956	7200	2100	0.63	0.46	63.4	59.2	23.9	30.1	D

### Segment 3: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.962		3587		7146		0.50		68.2		17.5		B

### Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.962	0.952	3947	360	7200	1900	0.55	0.19	62.4	60.2	21.1	22.4	C

### Segment 5: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.962		3944		7146		0.55		68.2		19.3		C

### Segment 6: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.962	0.862	4112	168	7200	2100	0.57	0.08	62.8	60.9	21.8	21.9	C

### Segment 7: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.952		4138		7146		0.58		68.1		20.2		C

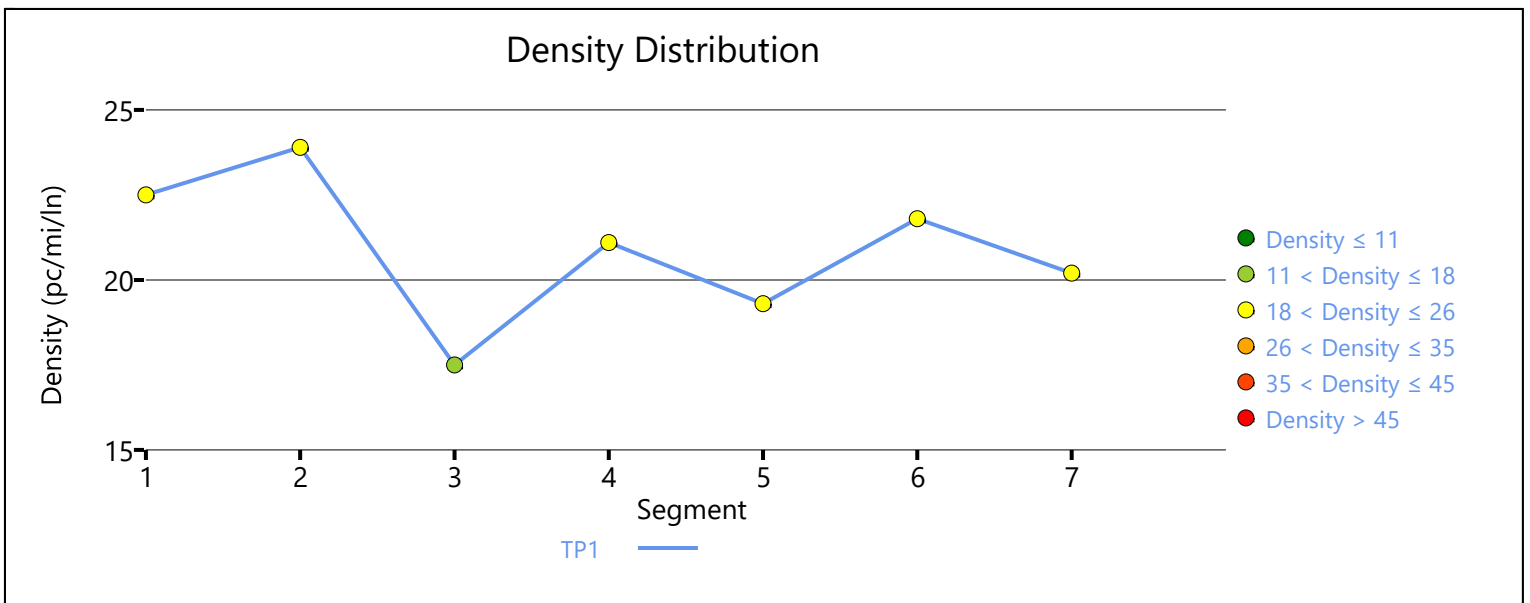
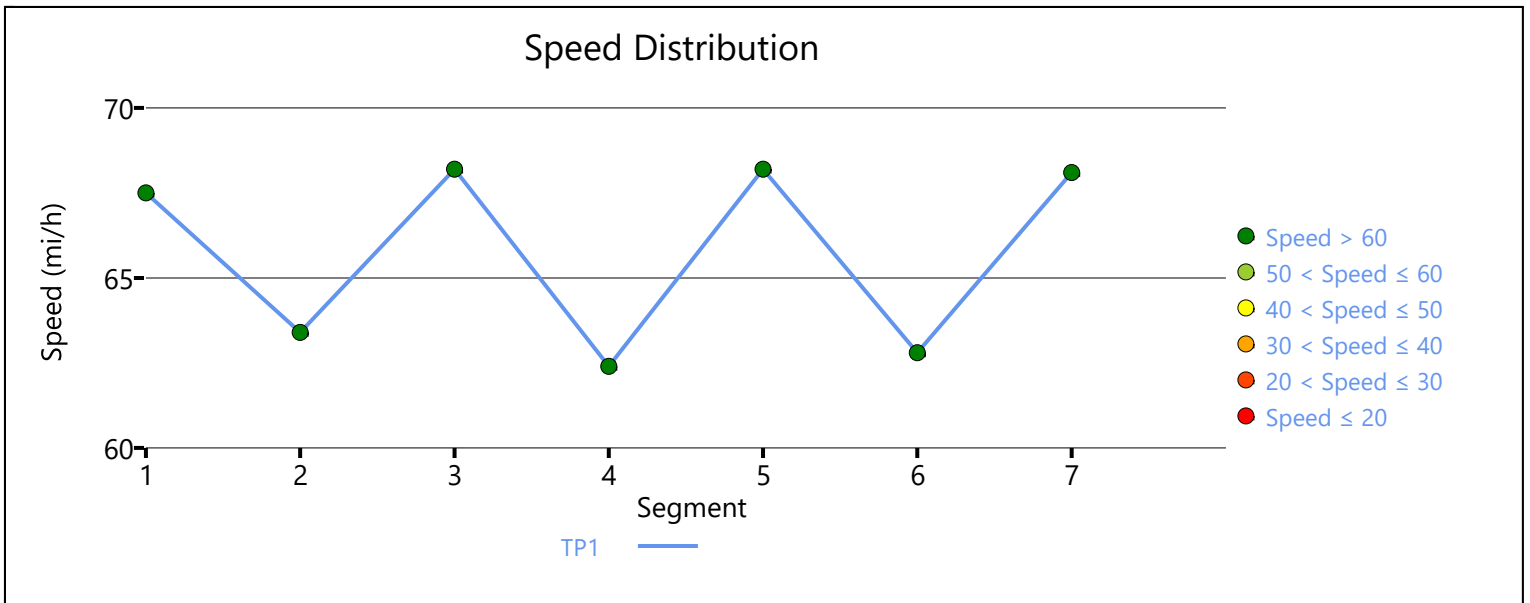
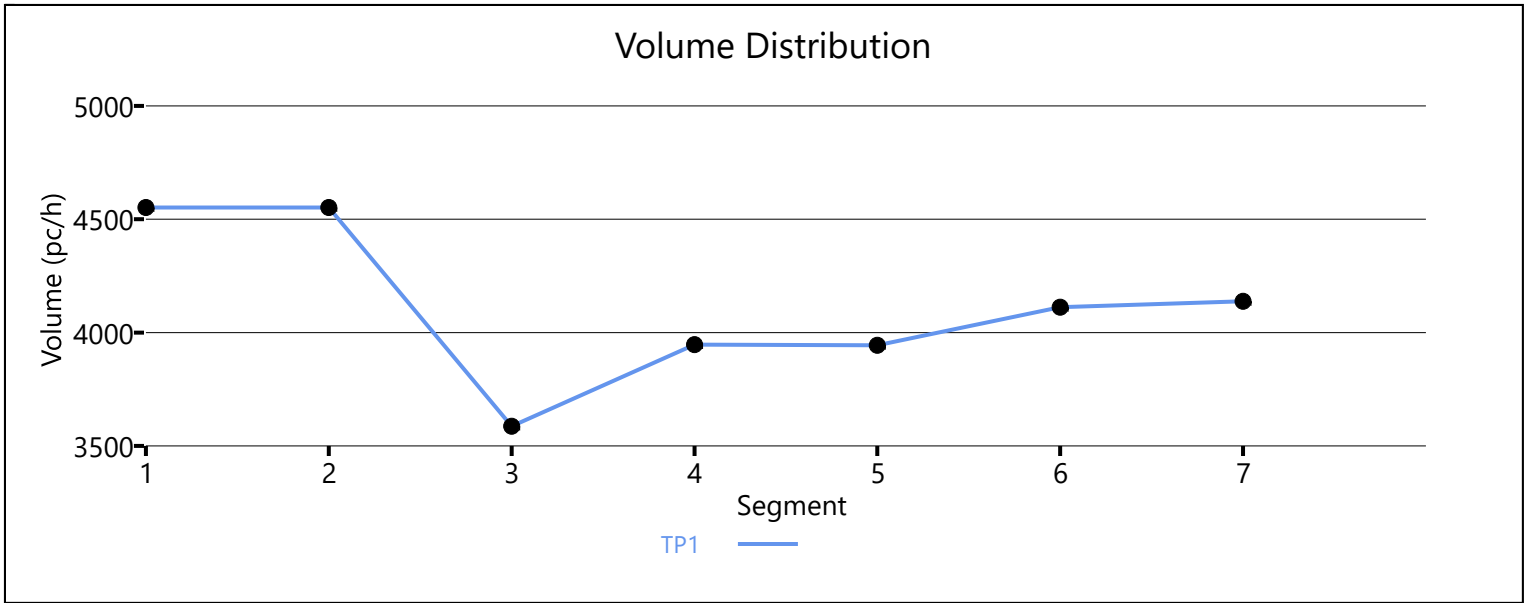
### Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	66.9	21.7	20.8	4.9	C

### Facility Overall Results

Space Mean Speed, mi/h	66.9	Density, veh/mi/ln	20.8
Average Travel Time, min	4.9	Density, pc/mi/ln	21.7





# HCS7 Freeway Facilities Report

## Project Information

Analyst	JB	Date	7/9/2020
Agency	Urban Crossroads, Inc.	Analysis Year	E+P
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	US Cold Storage (JN 13201) - I-15 NB at Main		

## Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15

## Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-15 NB, South of Main St.	6140	3
2	Diverge	Diverge	I-15 NB, Off-Ramp at Main St.	1500	3
3	Basic	Basic	I-15 NB, Between Off-Ramp and Loop On-Ramp	1125	3
4	Merge	Merge	I-15 NB, Loop On-Ramp at Main St.	1500	3
5	Basic	Basic	I-15 NB, Between Loop On-Ramp and On-Ramp	1215	3
6	Merge	Merge	I-15 NB, On-Ramp at Main St.	1500	3
7	Basic	Basic	I-15 NB, North of Main St.	16370	3

## Facility Segment Data

### Segment 1: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.92		0.971		6694		7146		0.94		56.8		39.3		E

### Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.971	0.926	6694	1130	7200	2100	0.93	0.54	62.8	58.8	35.5	38.6	E

### Segment 3: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.92		0.980		5565		7146		0.78		64.0		29.0		D

### Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.980	0.935	5843	278	7200	1900	0.81	0.15	59.9	57.8	32.5	30.1	D

### Segment 5: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.980	5830	7146	0.82	62.6	31.0	D

### Segment 6: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.980	0.962	6266	436	7200	2100	0.87	0.21	59.0	56.8	35.4	33.0	D

### Segment 7: Basic

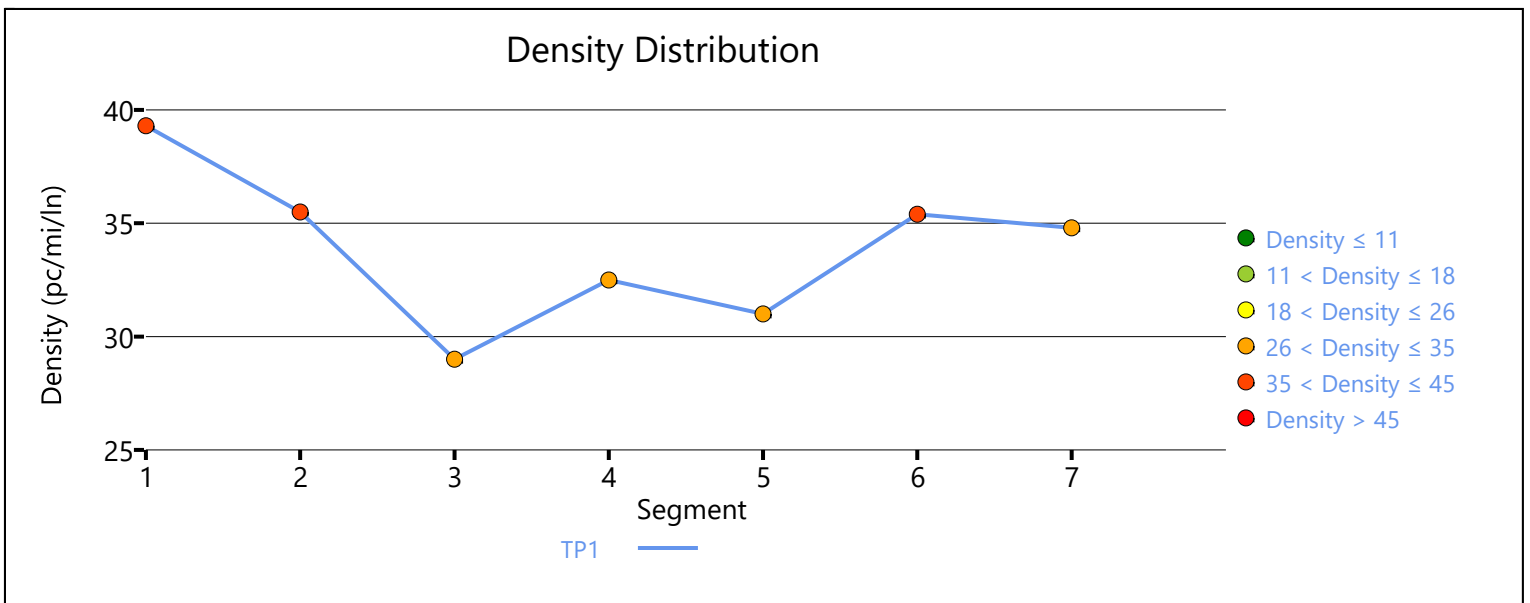
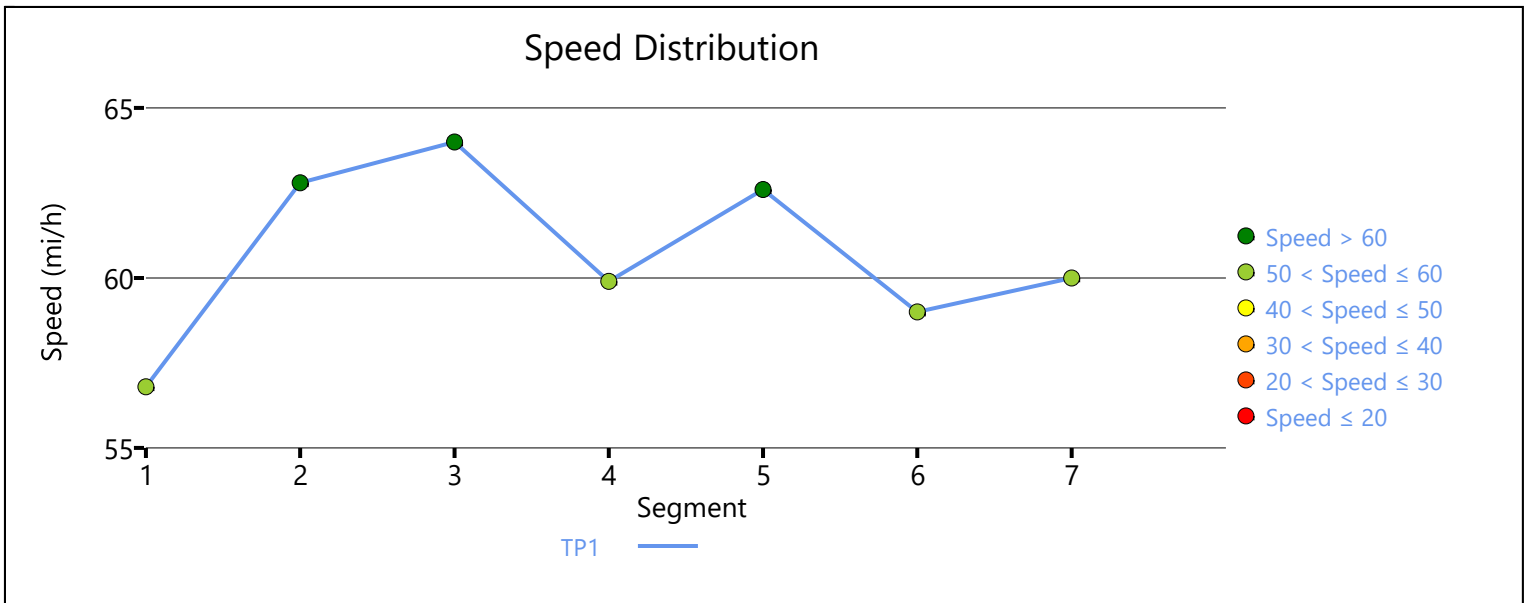
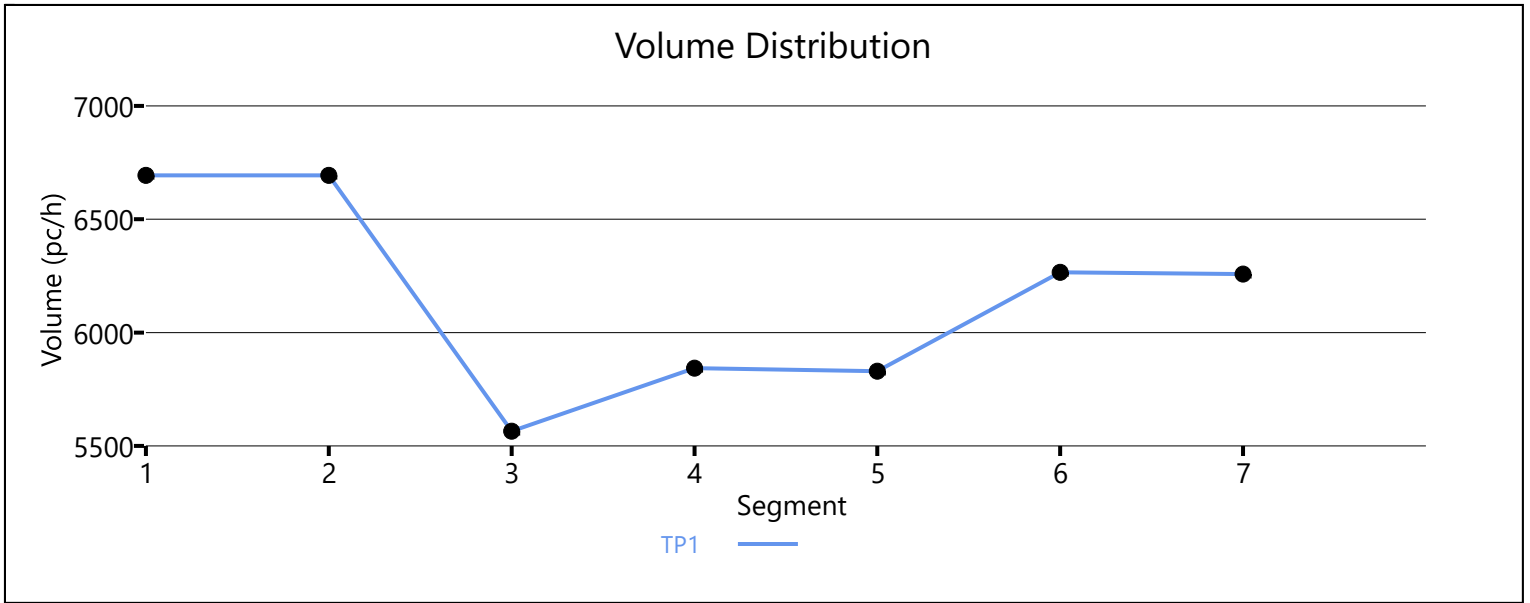
Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.980	6258	7146	0.88	60.0	34.8	D

### Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	59.6	35.3	34.5	5.6	E

### Facility Overall Results

Space Mean Speed, mi/h	59.6	Density, veh/mi/ln	34.5
Average Travel Time, min	5.6	Density, pc/mi/ln	35.3

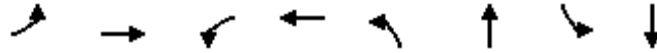


**APPENDIX 5.5:**

**E+P CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS WITH  
IMPROVEMENTS**

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Timings  
3: US-395 & Phelan Rd./Main St.

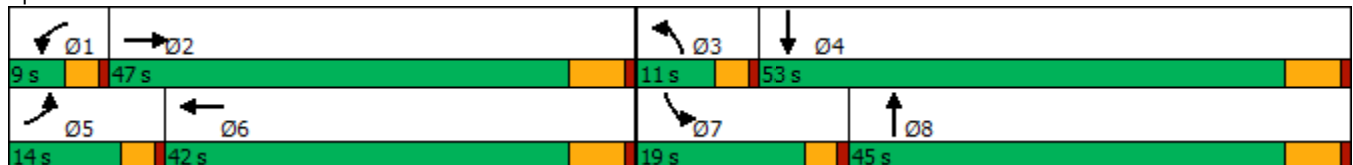


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↖	↗	↖	↗	↖	↗	↘	↘
Traffic Volume (vph)	54	665	4	324	93	735	238	962
Future Volume (vph)	54	665	4	324	93	735	238	962
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	5	2	1	6	3	8	7	4
Permitted Phases								
Detector Phase	5	2	1	6	3	8	7	4
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.0	17.0	9.0	16.0	9.0	16.0	9.0	16.0
Total Split (s)	14.0	47.0	9.0	42.0	11.0	45.0	19.0	53.0
Total Split (%)	11.7%	39.2%	7.5%	35.0%	9.2%	37.5%	15.8%	44.2%
Yellow Time (s)	3.0	5.0	3.0	5.0	3.0	5.0	3.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 90.9  
 Natural Cycle: 75  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 3: US-395 & Phelan Rd./Main St.



HCM 6th Signalized Intersection Summary  
 3: US-395 & Phelan Rd./Main St.

Hesperia US Cold Storage (JN 13201)

07/09/2020



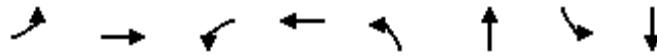
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (veh/h)	54	665	108	4	324	311	93	735	9	238	962	34
Future Volume (veh/h)	54	665	108	4	324	311	93	735	9	238	962	34
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	56	686	67	4	334	242	96	758	9	245	992	31
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	75	887	87	9	460	327	183	1162	14	335	1300	41
Arrive On Green	0.05	0.28	0.28	0.01	0.24	0.24	0.06	0.34	0.34	0.11	0.38	0.38
Sat Flow, veh/h	1619	3148	307	1619	1910	1356	3141	3462	41	3141	3385	106
Grp Volume(v), veh/h	56	372	381	4	298	278	96	374	393	245	501	522
Grp Sat Flow(s),veh/h/ln	1619	1710	1745	1619	1710	1556	1570	1710	1793	1570	1710	1781
Q Serve(g_s), s	2.5	14.8	14.8	0.2	11.9	12.2	2.2	13.8	13.8	5.6	18.9	18.9
Cycle Q Clear(g_c), s	2.5	14.8	14.8	0.2	11.9	12.2	2.2	13.8	13.8	5.6	18.9	18.9
Prop In Lane	1.00		0.18	1.00		0.87	1.00		0.02	1.00		0.06
Lane Grp Cap(c), veh/h	75	482	492	9	412	375	183	574	602	335	657	684
V/C Ratio(X)	0.75	0.77	0.77	0.46	0.72	0.74	0.53	0.65	0.65	0.73	0.76	0.76
Avail Cap(c_a), veh/h	219	948	968	109	833	758	297	902	946	637	1087	1132
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.8	24.4	24.4	36.7	25.8	25.9	33.8	20.9	20.9	32.0	19.8	19.8
Incr Delay (d2), s/veh	10.5	2.7	2.6	26.0	2.4	2.9	1.7	1.5	1.5	2.3	2.3	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	5.5	5.6	0.1	4.5	4.2	0.8	4.9	5.1	2.0	6.5	6.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.3	27.0	27.0	62.7	28.2	28.8	35.6	22.4	22.3	34.3	22.1	22.0
LnGrp LOS	D	C	C	E	C	C	D	C	C	C	C	C
Approach Vol, veh/h		809			580			863			1268	
Approach Delay, s/veh		28.3			28.7			23.8			24.4	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	4.4	26.8	8.3	34.4	7.4	23.8	11.9	30.8				
Change Period (Y+Rc), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0				
Max Green Setting (Gmax), s	5.0	41.0	7.0	47.0	10.0	36.0	15.0	39.0				
Max Q Clear Time (g_c+I1), s	2.2	16.8	4.2	20.9	4.5	14.2	7.6	15.8				
Green Ext Time (p_c), s	0.0	4.0	0.0	7.5	0.0	3.0	0.3	5.0				

Intersection Summary

HCM 6th Ctrl Delay			25.9									
HCM 6th LOS			C									



Timings  
3: US-395 & Phelan Rd./Main St.

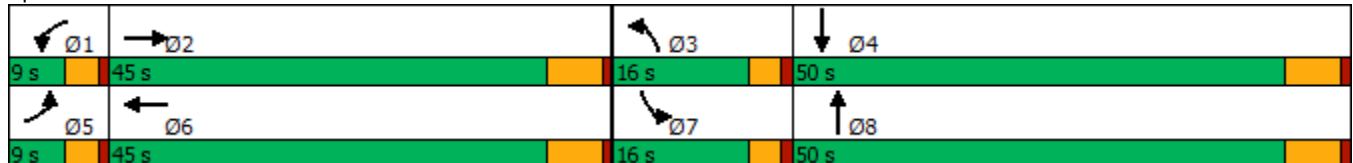


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↙	↕	↙	↕	↙	↕	↙	↕
Traffic Volume (vph)	48	568	9	668	165	1112	277	807
Future Volume (vph)	48	568	9	668	165	1112	277	807
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	5	2	1	6	3	8	7	4
Permitted Phases								
Detector Phase	5	2	1	6	3	8	7	4
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.0	16.0	9.0	16.0	9.0	16.0	9.0	16.0
Total Split (s)	9.0	45.0	9.0	45.0	16.0	50.0	16.0	50.0
Total Split (%)	7.5%	37.5%	7.5%	37.5%	13.3%	41.7%	13.3%	41.7%
Yellow Time (s)	3.0	5.0	3.0	5.0	3.0	5.0	3.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 115.3  
 Natural Cycle: 90  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 3: US-395 & Phelan Rd./Main St.



HCM 6th Signalized Intersection Summary  
 3: US-395 & Phelan Rd./Main St.

Hesperia US Cold Storage (JN 13201)

07/09/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕		↖	↕	
Traffic Volume (veh/h)	48	568	69	9	668	292	165	1112	26	277	807	54
Future Volume (veh/h)	48	568	69	9	668	292	165	1112	26	277	807	54
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	51	598	45	9	703	223	174	1171	20	292	849	42
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	63	1080	81	18	784	249	229	1277	22	333	1341	66
Arrive On Green	0.04	0.34	0.34	0.01	0.31	0.31	0.07	0.37	0.37	0.11	0.40	0.40
Sat Flow, veh/h	1619	3221	242	1619	2554	810	3141	3441	59	3141	3316	164
Grp Volume(v), veh/h	51	317	326	9	471	455	174	582	609	292	438	453
Grp Sat Flow(s),veh/h/ln	1619	1710	1753	1619	1710	1654	1570	1710	1789	1570	1710	1770
Q Serve(g_s), s	3.5	17.1	17.2	0.6	29.8	29.8	6.2	36.7	36.7	10.4	23.2	23.2
Cycle Q Clear(g_c), s	3.5	17.1	17.2	0.6	29.8	29.8	6.2	36.7	36.7	10.4	23.2	23.2
Prop In Lane	1.00		0.14	1.00		0.49	1.00		0.03	1.00		0.09
Lane Grp Cap(c), veh/h	63	573	588	18	525	508	229	635	664	333	691	716
V/C Ratio(X)	0.81	0.55	0.55	0.51	0.90	0.90	0.76	0.92	0.92	0.88	0.63	0.63
Avail Cap(c_a), veh/h	71	589	604	71	589	570	333	665	695	333	691	716
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.0	30.7	30.7	55.7	37.5	37.5	51.5	33.9	33.9	49.9	27.0	27.0
Incr Delay (d2), s/veh	41.5	1.1	1.1	15.9	15.3	15.7	4.7	17.4	16.8	21.9	2.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	6.7	6.9	0.3	13.8	13.4	2.5	17.0	17.7	4.9	9.0	9.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	95.5	31.8	31.8	71.6	52.8	53.2	56.3	51.3	50.8	71.8	29.0	29.0
LnGrp LOS	F	C	C	E	D	D	E	D	D	E	C	C
Approach Vol, veh/h		694			935			1365			1183	
Approach Delay, s/veh		36.5			53.2			51.7			39.6	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.2	44.0	12.3	51.8	8.4	40.8	16.0	48.0				
Change Period (Y+Rc), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0				
Max Green Setting (Gmax), s	5.0	39.0	12.0	44.0	5.0	39.0	12.0	44.0				
Max Q Clear Time (g_c+I1), s	2.6	19.2	8.2	25.2	5.5	31.8	12.4	38.7				
Green Ext Time (p_c), s	0.0	3.2	0.1	5.6	0.0	3.0	0.0	3.3				

Intersection Summary

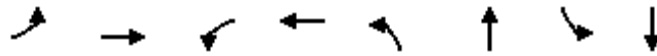
HCM 6th Ctrl Delay	46.1
HCM 6th LOS	D

**APPENDIX 5.6:**

**E+P CONDITIONS QUEUING ANALYSIS WORKSHEETS WITH IMPROVEMENTS**

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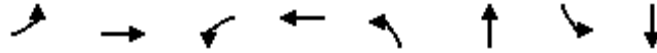
Queues  
3: US-395 & Phelan Rd./Main St.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	56	797	4	655	96	767	245	1027
v/c Ratio	0.39	0.68	0.04	0.68	0.40	0.70	0.58	0.74
Control Delay	54.0	29.5	52.0	25.8	52.1	32.4	46.7	28.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.0	29.5	52.0	25.8	52.1	32.4	46.7	28.6
Queue Length 50th (ft)	31	197	2	128	27	201	70	268
Queue Length 95th (ft)	86	345	15	218	67	342	138	443
Internal Link Dist (ft)		3796		1443		1039		2603
Turn Bay Length (ft)	340		250		330		250	
Base Capacity (vph)	188	1606	94	1448	255	1550	547	1863
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.50	0.04	0.45	0.38	0.49	0.45	0.55

Intersection Summary

Queues  
3: US-395 & Phelan Rd./Main St.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	51	671	9	1010	174	1198	292	906
v/c Ratio	0.73	0.54	0.13	0.92	0.61	0.94	0.89	0.69
Control Delay	106.4	30.4	59.6	50.1	60.8	50.9	80.8	34.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	106.4	30.4	59.6	50.1	60.8	50.9	80.8	34.0
Queue Length 50th (ft)	40	198	7	375	67	471	117	311
Queue Length 95th (ft)	#113	290	25	#504	105	#623	#203	391
Internal Link Dist (ft)		3796		1443		1039		2603
Turn Bay Length (ft)	340		250		330		250	
Base Capacity (vph)	70	1304	70	1152	328	1312	328	1320
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.73	0.51	0.13	0.88	0.53	0.91	0.89	0.69

Intersection Summary

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

**APPENDIX 6.1:**

**OPENING YEAR CUMULATIVE (2022) WITHOUT PROJECT CONDITIONS INTERSECTION  
OPERATIONS ANALYSIS WORKSHEETS**

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Intersection												
Int Delay, s/veh	6.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	19	0	74	0	0	0	324	1153	0	0	1399	111
Future Vol, veh/h	19	0	74	0	0	0	324	1153	0	0	1399	111
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	21	0	82	0	0	0	360	1281	0	0	1554	123

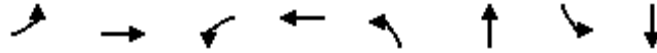
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	3617	3617	1616	3658	3678	1281	1677	0	0	1281	0	0
Stage 1	1616	1616	-	2001	2001	-	-	-	-	-	-	-
Stage 2	2001	2001	-	1657	1677	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	~ 3	5	129	3	5	204	387	-	-	549	-	-
Stage 1	132	164	-	79	106	-	-	-	-	-	-	-
Stage 2	79	106	-	125	153	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	-	0	129	-	0	204	387	-	-	549	-	-
Mov Cap-2 Maneuver	-	0	-	-	0	-	-	-	-	-	-	-
Stage 1	132	164	-	79	0	-	-	-	-	-	-	-
Stage 2	-	0	-	45	153	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s		0	13.8	0
HCM LOS	-	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	387	-	-	-	549	-	-
HCM Lane V/C Ratio	0.93	-	-	-	-	-	-
HCM Control Delay (s)	63	0	-	0	0	-	-
HCM Lane LOS	F	A	-	A	A	-	-
HCM 95th %tile Q(veh)	10.1	-	-	-	0	-	-

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

Timings  
3: US-395 & Phelan Rd./Main St.

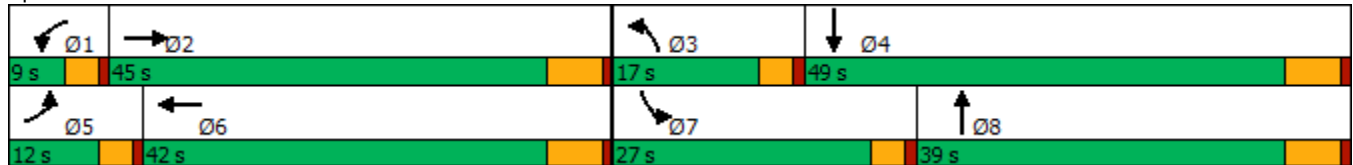


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↙	↕	↙	↕	↙	↕	↙	↕
Traffic Volume (vph)	89	861	21	1141	225	883	322	1078
Future Volume (vph)	89	861	21	1141	225	883	322	1078
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	5	2	1	6	3	8	7	4
Permitted Phases								
Detector Phase	5	2	1	6	3	8	7	4
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.0	17.0	9.0	16.0	9.0	16.0	9.0	16.0
Total Split (s)	12.0	45.0	9.0	42.0	17.0	39.0	27.0	49.0
Total Split (%)	10.0%	37.5%	7.5%	35.0%	14.2%	32.5%	22.5%	40.8%
Yellow Time (s)	3.0	5.0	3.0	5.0	3.0	5.0	3.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 3: US-395 & Phelan Rd./Main St.



HCM 6th Signalized Intersection Summary  
 3: US-395 & Phelan Rd./Main St.

Hesperia US Cold Storage (JN 13201)

07/09/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕		↖	↕	
Traffic Volume (veh/h)	89	861	172	21	1141	505	225	883	24	322	1078	73
Future Volume (veh/h)	89	861	172	21	1141	505	225	883	24	322	1078	73
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	92	888	133	22	1176	442	232	910	25	332	1111	71
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	108	1029	154	35	736	269	175	935	26	310	1170	75
Arrive On Green	0.07	0.35	0.35	0.02	0.30	0.30	0.11	0.28	0.28	0.19	0.36	0.36
Sat Flow, veh/h	1619	2983	447	1619	2452	896	1619	3400	93	1619	3264	208
Grp Volume(v), veh/h	92	509	512	22	810	808	232	458	477	332	582	600
Grp Sat Flow(s),veh/h/ln	1619	1710	1720	1619	1710	1639	1619	1710	1783	1619	1710	1762
Q Serve(g_s), s	6.7	33.3	33.3	1.6	36.0	36.0	13.0	31.8	31.8	23.0	39.7	39.8
Cycle Q Clear(g_c), s	6.7	33.3	33.3	1.6	36.0	36.0	13.0	31.8	31.8	23.0	39.7	39.8
Prop In Lane	1.00		0.26	1.00		0.55	1.00		0.05	1.00		0.12
Lane Grp Cap(c), veh/h	108	590	593	35	513	492	175	470	490	310	613	632
V/C Ratio(X)	0.85	0.86	0.86	0.63	1.58	1.64	1.32	0.97	0.97	1.07	0.95	0.95
Avail Cap(c_a), veh/h	108	590	593	67	513	492	175	470	490	310	613	632
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.4	36.7	36.7	58.2	42.0	42.0	53.5	43.1	43.1	48.5	37.4	37.5
Incr Delay (d2), s/veh	43.7	12.5	12.5	12.9	269.8	298.7	179.3	34.6	33.8	70.9	24.6	24.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	15.0	15.1	0.8	52.6	54.4	13.8	17.1	17.7	14.9	19.5	20.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	99.1	49.2	49.1	71.1	311.8	340.7	232.8	77.6	76.8	119.4	62.0	61.7
LnGrp LOS	F	D	D	E	F	F	F	E	E	F	E	E
Approach Vol, veh/h		1113			1640			1167			1514	
Approach Delay, s/veh		53.3			322.8			108.1			74.5	
Approach LOS		D			F			F			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.6	47.4	17.0	49.0	12.0	42.0	27.0	39.0				
Change Period (Y+Rc), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0				
Max Green Setting (Gmax), s	5.0	39.0	13.0	43.0	8.0	36.0	23.0	33.0				
Max Q Clear Time (g_c+I1), s	3.6	35.3	15.0	41.8	8.7	38.0	25.0	33.8				
Green Ext Time (p_c), s	0.0	1.9	0.0	0.9	0.0	0.0	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	152.3
HCM 6th LOS	F

Timings  
6: Mesa Linda St. & Main St.

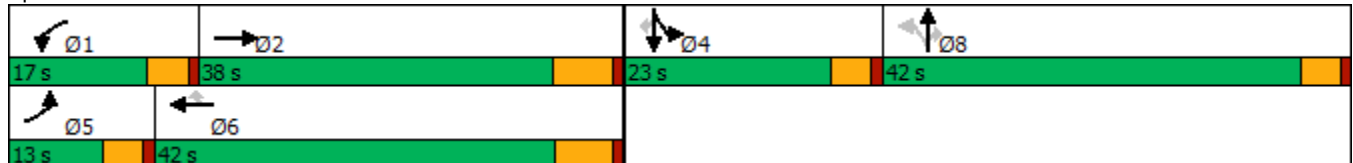


Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	5	901	51	614	17	2	128	2	14
Future Volume (vph)	5	901	51	614	17	2	128	2	14
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	NA	Perm
Protected Phases	5	2	1	6		8		4	
Permitted Phases					6		8		4
Detector Phase	5	2	1	6	6	8	8	4	4
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	16.5	9.6	23.2	23.2	40.6	40.6	14.6	14.6
Total Split (s)	13.0	38.0	17.0	42.0	42.0	42.0	42.0	23.0	23.0
Total Split (%)	10.8%	31.7%	14.2%	35.0%	35.0%	35.0%	35.0%	19.2%	19.2%
Yellow Time (s)	3.6	5.5	3.6	5.2	5.2	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.2	6.2	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	Max	None	Max	Max	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 81.3  
 Natural Cycle: 90  
 Control Type: Actuated-Uncoordinated

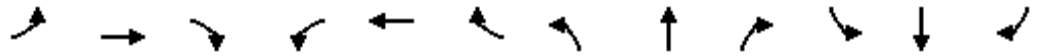
Splits and Phases: 6: Mesa Linda St. & Main St.



HCM 6th Signalized Intersection Summary  
6: Mesa Linda St. & Main St.

Hesperia US Cold Storage (JN 13201)

07/09/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑	↖		↖	↖		↖	↖
Traffic Volume (veh/h)	5	901	3	51	614	17	0	2	128	48	2	14
Future Volume (veh/h)	5	901	3	51	614	17	0	2	128	48	2	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	6	1060	4	60	722	12	0	2	130	56	2	2
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	13	2274	9	78	2409	748	0	230	195	160	6	147
Arrive On Green	0.01	0.45	0.45	0.05	0.49	0.49	0.00	0.13	0.13	0.10	0.10	0.10
Sat Flow, veh/h	1619	5053	19	1619	4914	1525	0	1800	1525	1658	59	1525
Grp Volume(v), veh/h	6	687	377	60	722	12	0	2	130	58	0	2
Grp Sat Flow(s),veh/h/ln	1619	1638	1797	1619	1638	1525	0	1800	1525	1717	0	1525
Q Serve(g_s), s	0.3	10.7	10.7	2.7	6.4	0.3	0.0	0.1	5.9	2.3	0.0	0.1
Cycle Q Clear(g_c), s	0.3	10.7	10.7	2.7	6.4	0.3	0.0	0.1	5.9	2.3	0.0	0.1
Prop In Lane	1.00		0.01	1.00		1.00	0.00		1.00	0.97		1.00
Lane Grp Cap(c), veh/h	13	1474	808	78	2409	748	0	230	195	166	0	147
V/C Ratio(X)	0.47	0.47	0.47	0.77	0.30	0.02	0.00	0.01	0.67	0.35	0.00	0.01
Avail Cap(c_a), veh/h	186	1474	808	275	2409	748	0	922	781	433	0	384
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.1	14.0	14.0	34.4	11.1	9.6	0.0	27.8	30.4	30.9	0.0	29.9
Incr Delay (d2), s/veh	9.8	1.1	1.9	5.8	0.3	0.0	0.0	0.0	3.9	1.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	3.3	3.8	1.1	1.9	0.1	0.0	0.0	2.3	1.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.8	15.0	15.9	40.2	11.4	9.6	0.0	27.8	34.3	32.1	0.0	29.9
LnGrp LOS	D	B	B	D	B	A	A	C	C	C	A	C
Approach Vol, veh/h		1070			794			132				60
Approach Delay, s/veh		15.5			13.6			34.2				32.0
Approach LOS		B			B			C				C
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.1	39.4		11.6	5.2	42.3		13.9				
Change Period (Y+Rc), s	4.6	6.5		4.6	4.6	* 6.5		4.6				
Max Green Setting (Gmax), s	12.4	31.5		18.4	8.4	* 36		37.4				
Max Q Clear Time (g_c+I1), s	4.7	12.7		4.3	2.3	8.4		7.9				
Green Ext Time (p_c), s	0.0	5.9		0.2	0.0	4.7		0.4				

Intersection Summary

HCM 6th Ctrl Delay	16.5
HCM 6th LOS	B

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings  
7: Cataba Av. & Main St.

Hesperia US Cold Storage (JN 13201)

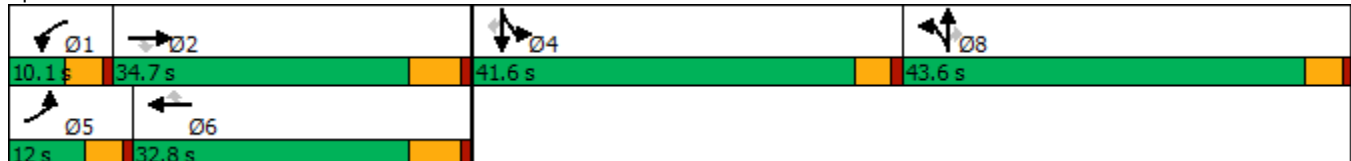
07/09/2020

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	72	1101	79	259	1538	19	163	13	141	36	13	27
Future Volume (vph)	72	1101	79	259	1538	19	163	13	141	36	13	27
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	32.2	32.2	9.6	32.2	32.2	43.6	43.6	43.6	41.6	41.6	41.6
Total Split (s)	12.0	34.7	34.7	10.1	32.8	32.8	43.6	43.6	43.6	41.6	41.6	41.6
Total Split (%)	9.2%	26.7%	26.7%	7.8%	25.2%	25.2%	33.5%	33.5%	33.5%	32.0%	32.0%	32.0%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (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
Lost Time Adjust (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
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None	None

Intersection Summary

Cycle Length: 130  
 Actuated Cycle Length: 82.8  
 Natural Cycle: 130  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 7: Cataba Av. & Main St.



HCM 6th Signalized Intersection Summary  
7: Cataba Av. & Main St.

Hesperia US Cold Storage (JN 13201)  
07/09/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘↗	↑↑↑	↗	↘	↗	↗	↘	↑	↗
Traffic Volume (veh/h)	72	1101	79	259	1538	19	163	13	141	36	13	27
Future Volume (veh/h)	72	1101	79	259	1538	19	163	13	141	36	13	27
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	81	1237	82	291	1728	14	194	0	138	40	15	1
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	100	1974	612	243	2050	636	469	0	220	153	170	144
Arrive On Green	0.06	0.40	0.40	0.08	0.42	0.42	0.14	0.00	0.14	0.09	0.09	0.09
Sat Flow, veh/h	1619	4914	1524	3141	4914	1524	3238	0	1522	1619	1800	1525
Grp Volume(v), veh/h	81	1237	82	291	1728	14	194	0	138	40	15	1
Grp Sat Flow(s),veh/h/ln	1619	1638	1524	1570	1638	1524	1619	0	1522	1619	1800	1525
Q Serve(g_s), s	3.5	14.3	2.4	5.5	22.4	0.4	3.9	0.0	6.0	1.6	0.5	0.0
Cycle Q Clear(g_c), s	3.5	14.3	2.4	5.5	22.4	0.4	3.9	0.0	6.0	1.6	0.5	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	100	1974	612	243	2050	636	469	0	220	153	170	144
V/C Ratio(X)	0.81	0.63	0.13	1.20	0.84	0.02	0.41	0.00	0.63	0.26	0.09	0.01
Avail Cap(c_a), veh/h	169	1974	612	243	2050	636	1780	0	837	844	939	795
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.9	17.0	13.4	32.7	18.6	12.2	27.6	0.0	28.5	29.8	29.4	29.1
Incr Delay (d2), s/veh	5.6	1.5	0.5	120.8	4.4	0.1	0.6	0.0	2.9	0.9	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	4.6	0.7	6.0	7.7	0.1	1.5	0.0	2.3	0.7	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.5	18.5	13.9	153.5	23.0	12.2	28.2	0.0	31.4	30.8	29.6	29.1
LnGrp LOS	D	B	B	F	C	B	C	A	C	C	C	C
Approach Vol, veh/h		1400			2033			332				56
Approach Delay, s/veh		19.4			41.6			29.5				30.4
Approach LOS		B			D			C				C
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.1	34.7		11.3	9.0	35.8		14.9				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	5.5	28.5		37.0	7.4	26.6		39.0				
Max Q Clear Time (g_c+I1), s	7.5	16.3		3.6	5.5	24.4		8.0				
Green Ext Time (p_c), s	0.0	6.1		0.2	0.0	1.8		1.2				

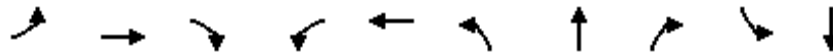
Intersection Summary

HCM 6th Ctrl Delay	32.3
HCM 6th LOS	C

Notes

- User approved pedestrian interval to be less than phase max green.
- User approved volume balancing among the lanes for turning movement.

Timings  
8: Key Point Av. & Main St.

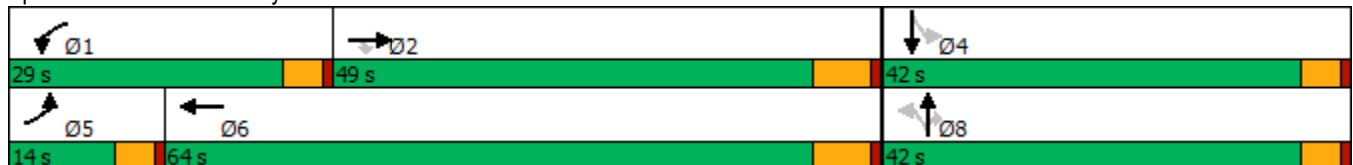


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↙	↑↑↑	↘	↙	↑↑↑	↙	↑	↘	↙	↘
Traffic Volume (vph)	31	1243	13	147	1857	11	12	83	152	28
Future Volume (vph)	31	1243	13	147	1857	11	12	83	152	28
Turn Type	Prot	NA	Perm	Prot	NA	Perm	NA	Perm	Perm	NA
Protected Phases	5	2		1	6		8			4
Permitted Phases			2			8		8	4	
Detector Phase	5	2	2	1	6	8	8	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	29.2	29.2	9.6	30.2	38.6	38.6	38.6	41.6	41.6
Total Split (s)	14.0	49.0	49.0	29.0	64.0	42.0	42.0	42.0	42.0	42.0
Total Split (%)	11.7%	40.8%	40.8%	24.2%	53.3%	35.0%	35.0%	35.0%	35.0%	35.0%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	Max	Max	None	Max	None	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 95.4  
 Natural Cycle: 95  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 8: Key Point Av. & Main St.

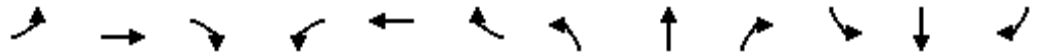




HCM 6th Signalized Intersection Summary  
8: Key Point Av. & Main St.

Hesperia US Cold Storage (JN 13201)

07/09/2020

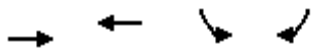


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑	↖	↗	↑↑↑		↖	↑	↖	↖	↖	↖
Traffic Volume (veh/h)	31	1243	13	147	1857	114	11	12	83	152	28	15
Future Volume (veh/h)	31	1243	13	147	1857	114	11	12	83	152	28	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	32	1268	10	150	1895	82	11	12	25	155	29	10
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	50	2770	859	181	3114	135	255	275	233	273	195	67
Arrive On Green	0.03	0.56	0.56	0.11	0.64	0.64	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	1619	4914	1524	1619	4830	209	1313	1800	1522	1313	1279	441
Grp Volume(v), veh/h	32	1268	10	150	1284	693	11	12	25	155	0	39
Grp Sat Flow(s),veh/h/ln	1619	1638	1524	1619	1638	1762	1313	1800	1522	1313	0	1721
Q Serve(g_s), s	1.8	13.6	0.3	8.1	20.5	20.6	0.7	0.5	1.3	10.2	0.0	1.8
Cycle Q Clear(g_c), s	1.8	13.6	0.3	8.1	20.5	20.6	2.4	0.5	1.3	10.7	0.0	1.8
Prop In Lane	1.00		1.00	1.00		0.12	1.00		1.00	1.00		0.26
Lane Grp Cap(c), veh/h	50	2770	859	181	2112	1136	255	275	233	273	0	263
V/C Ratio(X)	0.65	0.46	0.01	0.83	0.61	0.61	0.04	0.04	0.11	0.57	0.00	0.15
Avail Cap(c_a), veh/h	170	2770	859	441	2112	1136	602	751	635	621	0	718
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	43.0	11.5	8.6	39.0	9.3	9.3	34.0	32.4	32.7	37.0	0.0	32.9
Incr Delay (d2), s/veh	5.1	0.5	0.0	3.7	1.3	2.4	0.1	0.1	0.2	1.8	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	4.2	0.1	3.2	5.7	6.5	0.2	0.2	0.5	3.4	0.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.1	12.1	8.6	42.6	10.6	11.8	34.0	32.5	32.9	38.8	0.0	33.2
LnGrp LOS	D	B	A	D	B	B	C	C	C	D	A	C
Approach Vol, veh/h		1310			2127			48				194
Approach Delay, s/veh		12.9			13.2			33.1				37.7
Approach LOS		B			B			C				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.6	56.7		18.3	7.3	64.0		18.3				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	24.4	42.8		37.4	9.4	57.8		37.4				
Max Q Clear Time (g_c+I1), s	10.1	15.6		12.7	3.8	22.6		4.4				
Green Ext Time (p_c), s	0.1	9.3		0.7	0.0	17.8		0.1				

Intersection Summary

HCM 6th Ctrl Delay	14.7
HCM 6th LOS	B

Timings  
9: I-15 SB Ramps & Main St.

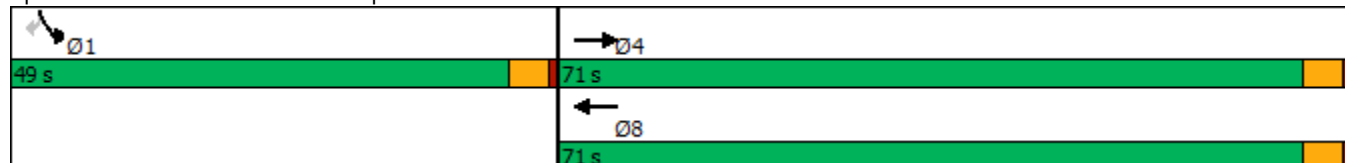


Lane Group	EBT	WBT	SBL	SBR
Lane Configurations	↑↑↑	↑↑↑	↘↘	↘
Traffic Volume (vph)	1271	1434	365	668
Future Volume (vph)	1271	1434	365	668
Turn Type	NA	NA	Prot	Perm
Protected Phases	4	8	1	
Permitted Phases				1
Detector Phase	4	8	1	1
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.6	9.6	9.6
Total Split (s)	71.0	71.0	49.0	49.0
Total Split (%)	59.2%	59.2%	40.8%	40.8%
Yellow Time (s)	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 91.8  
 Natural Cycle: 50  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 9: I-15 SB Ramps & Main St.



HCM 6th Signalized Intersection Summary  
 9: I-15 SB Ramps & Main St.

Hesperia US Cold Storage (JN 13201)

07/09/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑					↑↑		↑
Traffic Volume (veh/h)	0	1271	0	0	1434	0	0	0	0	365	0	668
Future Volume (veh/h)	0	1271	0	0	1434	0	0	0	0	365	0	668
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1800	0	0	1800	0				1700	0	1800
Adj Flow Rate, veh/h	0	1338	0	0	1509	0				384	0	622
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	2164		0	2164					1403	0	681
Arrive On Green	0.00	0.44	0.00	0.00	0.44	0.00				0.45	0.00	0.45
Sat Flow, veh/h	0	5238	0	0	5238	0				3141	0	1525
Grp Volume(v), veh/h	0	1338	0	0	1509	0				384	0	622
Grp Sat Flow(s),veh/h/ln	0	1638	0	0	1638	0				1570	0	1525
Q Serve(g_s), s	0.0	17.0	0.0	0.0	20.2	0.0				6.3	0.0	31.0
Cycle Q Clear(g_c), s	0.0	17.0	0.0	0.0	20.2	0.0				6.3	0.0	31.0
Prop In Lane	0.00		0.00	0.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2164		0	2164					1403	0	681
V/C Ratio(X)	0.00	0.62		0.00	0.70					0.27	0.00	0.91
Avail Cap(c_a), veh/h	0	4011		0	4011					1714	0	833
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	17.5	0.0	0.0	18.4	0.0				14.2	0.0	21.0
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	0.4	0.0				0.1	0.0	12.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.5	0.0	0.0	6.5	0.0				2.2	0.0	12.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	17.8	0.0	0.0	18.8	0.0				14.3	0.0	33.7
LnGrp LOS	A	B		A	B					B	A	C
Approach Vol, veh/h		1338	A		1509	A					1006	
Approach Delay, s/veh		17.8			18.8						26.3	
Approach LOS		B			B						C	
Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				40.4		40.9		40.4				
Change Period (Y+Rc), s				4.6		4.6		4.6				
Max Green Setting (Gmax), s				66.4		44.4		66.4				
Max Q Clear Time (g_c+I1), s				19.0		33.0		22.2				
Green Ext Time (p_c), s				11.5		3.3		13.6				

Intersection Summary

HCM 6th Ctrl Delay	20.4
HCM 6th LOS	C

Notes

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

Timings  
10: I-15 NB Ramps & Main St.

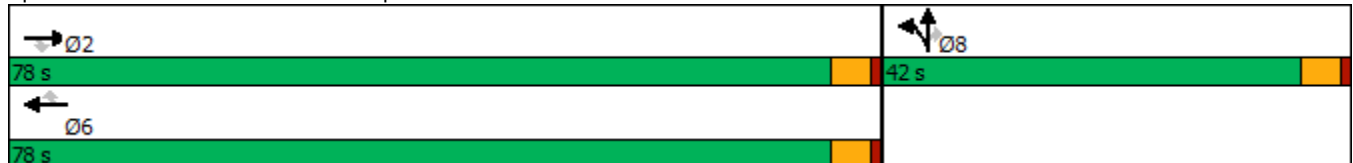


Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR
Lane Configurations	↑↑↑↑	↑	↑↑↑↑	↑	↑	↑	↑
Traffic Volume (vph)	1214	423	1480	501	569	6	450
Future Volume (vph)	1214	423	1480	501	569	6	450
Turn Type	NA	Perm	NA	Perm	Split	NA	Perm
Protected Phases	2		6		8	8	
Permitted Phases		2		6			8
Detector Phase	2	2	6	6	8	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.6	22.6	22.6	22.6	9.6	9.6	9.6
Total Split (s)	78.0	78.0	78.0	78.0	42.0	42.0	42.0
Total Split (%)	65.0%	65.0%	65.0%	65.0%	35.0%	35.0%	35.0%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	None	None	None	None	Min	Min	Min

Intersection Summary













Cycle Length: 120  
 Actuated Cycle Length: 90.8  
 Natural Cycle: 45  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 10: I-15 NB Ramps & Main St.



HCM 6th Signalized Intersection Summary  
 10: I-15 NB Ramps & Main St.

Hesperia US Cold Storage (JN 13201)  
 07/09/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑↑	↗	↗	↗	↗			
Traffic Volume (veh/h)	0	1214	423	0	1480	501	569	6	450	0	0	0
Future Volume (veh/h)	0	1214	423	0	1480	501	569	6	450	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1800	1800	0	1800	1800	1700	1800	1800			
Adj Flow Rate, veh/h	0	1239	0	0	1510	479	581	0	253			
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	0	2410		0	2410	748	637	0	1199			
Arrive On Green	0.00	0.49	0.00	0.00	0.49	0.49	0.39	0.00	0.39			
Sat Flow, veh/h	0	5076	1525	0	5076	1525	1619	0	3051			
Grp Volume(v), veh/h	0	1239	0	0	1510	479	581	0	253			
Grp Sat Flow(s),veh/h/ln	0	1638	1525	0	1638	1525	1619	0	1525			
Q Serve(g_s), s	0.0	13.6	0.0	0.0	17.9	18.4	26.9	0.0	4.3			
Cycle Q Clear(g_c), s	0.0	13.6	0.0	0.0	17.9	18.4	26.9	0.0	4.3			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	2410		0	2410	748	637	0	1199			
V/C Ratio(X)	0.00	0.51		0.00	0.63	0.64	0.91	0.00	0.21			
Avail Cap(c_a), veh/h	0	4562		0	4562	1416	766	0	1443			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	13.7	0.0	0.0	14.8	15.0	22.7	0.0	15.9			
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.3	0.9	13.6	0.0	0.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	4.1	0.0	0.0	5.4	5.4	12.1	0.0	1.5			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	13.9	0.0	0.0	15.1	15.9	36.4	0.0	16.0			
LnGrp LOS	A	B		A	B	B	D	A	B			
Approach Vol, veh/h		1239	A		1989			834				
Approach Delay, s/veh		13.9			15.3			30.2				
Approach LOS		B			B			C				
Timer - Assigned Phs		2			6			8				
Phs Duration (G+Y+Rc), s		43.4			43.4			35.7				
Change Period (Y+Rc), s		4.6			4.6			4.6				
Max Green Setting (Gmax), s		73.4			73.4			37.4				
Max Q Clear Time (g_c+I1), s		15.6			20.4			28.9				
Green Ext Time (p_c), s		10.4			18.3			2.2				

Intersection Summary

HCM 6th Ctrl Delay	17.9
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.  
 Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Intersection												
Int Delay, s/veh	0.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	110	0	413	0	0	0	71	1616	0	0	1226	27
Future Vol, veh/h	110	0	413	0	0	0	71	1616	0	0	1226	27
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	115	0	430	0	0	0	74	1683	0	0	1277	28

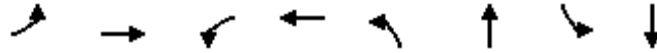
Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	3123	3123	1292	3337	3137	1683	1306	0	0	1683	0	0
Stage 1	1292	1292	-	1831	1831	-	-	-	-	-	-	-
Stage 2	1831	1831	-	1506	1306	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	~ 7	11	~ 201	5	11	118	537	-	-	385	-	-
Stage 1	202	236	-	99	128	-	-	-	-	-	-	-
Stage 2	~ 99	128	-	153	232	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	-	0	~ 201	-	0	118	536	-	-	385	-	-
Mov Cap-2 Maneuver	-	0	-	-	0	-	-	-	-	-	-	-
Stage 1	202	236	-	99	0	-	-	-	-	-	-	-
Stage 2	-	0	-	-	232	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s			0		0.5		0	
HCM LOS			A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	536	-	-	-	-	385	-	-
HCM Lane V/C Ratio	0.138	-	-	-	-	-	-	-
HCM Control Delay (s)	12.8	0	-	-	0	0	-	-
HCM Lane LOS	B	A	-	-	A	A	-	-
HCM 95th %tile Q(veh)	0.5	-	-	-	-	0	-	-

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

Timings  
3: US-395 & Phelan Rd./Main St.

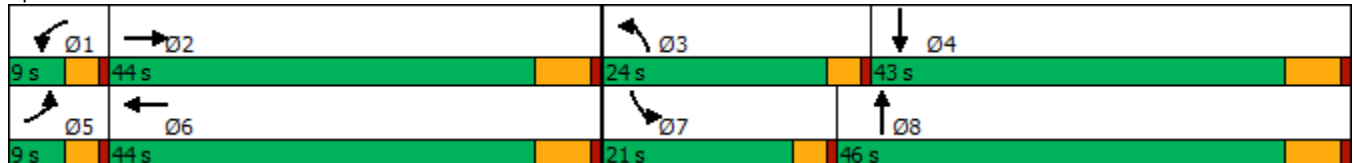


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↙	↕	↙	↕	↙	↕	↙	↕
Traffic Volume (vph)	88	1255	25	909	241	1246	563	982
Future Volume (vph)	88	1255	25	909	241	1246	563	982
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	5	2	1	6	3	8	7	4
Permitted Phases								
Detector Phase	5	2	1	6	3	8	7	4
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.0	16.0	9.0	16.0	9.0	16.0	9.0	16.0
Total Split (s)	9.0	44.0	9.0	44.0	24.0	46.0	21.0	43.0
Total Split (%)	7.5%	36.7%	7.5%	36.7%	20.0%	38.3%	17.5%	35.8%
Yellow Time (s)	3.0	5.0	3.0	5.0	3.0	5.0	3.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 3: US-395 & Phelan Rd./Main St.



HCM 6th Signalized Intersection Summary  
 3: US-395 & Phelan Rd./Main St.

Hesperia US Cold Storage (JN 13201)

07/09/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕		↖	↕	
Traffic Volume (veh/h)	88	1255	200	25	909	352	241	1246	47	563	982	93
Future Volume (veh/h)	88	1255	200	25	909	352	241	1246	47	563	982	93
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	93	1321	183	26	957	287	254	1312	42	593	1034	83
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	67	1007	139	39	822	245	270	1127	36	229	989	79
Arrive On Green	0.04	0.33	0.33	0.02	0.32	0.32	0.17	0.33	0.33	0.14	0.31	0.31
Sat Flow, veh/h	1619	3015	414	1619	2595	775	1619	3382	108	1619	3206	257
Grp Volume(v), veh/h	93	745	759	26	629	615	254	663	691	593	551	566
Grp Sat Flow(s),veh/h/ln	1619	1710	1719	1619	1710	1660	1619	1710	1781	1619	1710	1754
Q Serve(g_s), s	5.0	40.1	40.1	1.9	38.0	38.0	18.6	40.0	40.0	17.0	37.0	37.0
Cycle Q Clear(g_c), s	5.0	40.1	40.1	1.9	38.0	38.0	18.6	40.0	40.0	17.0	37.0	37.0
Prop In Lane	1.00		0.24	1.00		0.47	1.00		0.06	1.00		0.15
Lane Grp Cap(c), veh/h	67	571	574	39	542	526	270	570	594	229	527	541
V/C Ratio(X)	1.38	1.30	1.32	0.66	1.16	1.17	0.94	1.16	1.16	2.59	1.05	1.05
Avail Cap(c_a), veh/h	67	571	574	67	542	526	270	570	594	229	527	541
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.5	39.9	39.9	58.1	41.0	41.0	49.4	40.0	40.0	51.5	41.5	41.5
Incr Delay (d2), s/veh	239.5	149.0	156.5	13.4	91.9	95.0	39.0	91.3	91.5	726.0	51.6	51.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.5	39.2	40.7	0.9	28.7	28.3	10.1	30.0	31.3	52.8	22.1	22.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	297.0	189.0	196.4	71.5	132.9	136.0	88.4	131.3	131.5	777.5	93.1	92.8
LnGrp LOS	F	F	F	E	F	F	F	F	F	F	F	F
Approach Vol, veh/h		1597			1270			1608			1710	
Approach Delay, s/veh		198.8			133.1			124.6			330.4	
Approach LOS		F			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.9	46.1	24.0	43.0	9.0	44.0	21.0	46.0				
Change Period (Y+Rc), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0				
Max Green Setting (Gmax), s	5.0	38.0	20.0	37.0	5.0	38.0	17.0	40.0				
Max Q Clear Time (g_c+I1), s	3.9	42.1	20.6	39.0	7.0	40.0	19.0	42.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	202.4
HCM 6th LOS	F



Timings  
6: Mesa Linda St. & Main St.

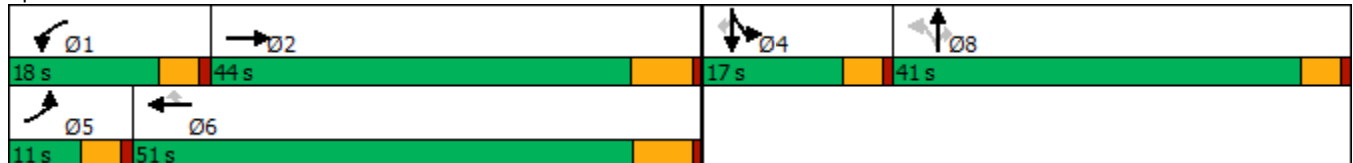


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBT	SBR
Lane Configurations	↙	↕↕↕	↙	↕↕↕	↙		↕	↙	↕	↙
Traffic Volume (vph)	5	860	47	956	55	10	7	82	0	3
Future Volume (vph)	5	860	47	956	55	10	7	82	0	3
Turn Type	Prot	NA	Prot	NA	Perm	Perm	NA	Perm	NA	Perm
Protected Phases	5	2	1	6			8		4	
Permitted Phases					6	8		8		4
Detector Phase	5	2	1	6	6	8	8	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	16.5	9.6	23.2	23.2	40.6	40.6	40.6	14.6	14.6
Total Split (s)	11.0	44.0	18.0	51.0	51.0	41.0	41.0	41.0	17.0	17.0
Total Split (%)	9.2%	36.7%	15.0%	42.5%	42.5%	34.2%	34.2%	34.2%	14.2%	14.2%
Yellow Time (s)	3.6	5.5	3.6	5.2	5.2	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.2	6.2		4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	Max	None	Max	Max	None	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 83.8  
 Natural Cycle: 90  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 6: Mesa Linda St. & Main St.



HCM 6th Signalized Intersection Summary  
6: Mesa Linda St. & Main St.

Hesperia US Cold Storage (JN 13201)  
07/09/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑	↖		↖	↖		↖	↖
Traffic Volume (veh/h)	5	860	6	47	956	55	10	7	82	32	0	3
Future Volume (veh/h)	5	860	6	47	956	55	10	7	82	32	0	3
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	5	896	5	49	996	49	10	7	26	33	0	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	11	2763	15	68	2868	890	80	56	119	115	0	102
Arrive On Green	0.01	0.55	0.55	0.04	0.58	0.58	0.08	0.08	0.08	0.07	0.00	0.07
Sat Flow, veh/h	1619	5043	28	1619	4914	1525	1029	720	1525	1714	0	1525
Grp Volume(v), veh/h	5	582	319	49	996	49	17	0	26	33	0	1
Grp Sat Flow(s),veh/h/ln	1619	1638	1795	1619	1638	1525	1749	0	1525	1714	0	1525
Q Serve(g_s), s	0.2	7.5	7.5	2.3	8.1	1.1	0.7	0.0	1.2	1.4	0.0	0.0
Cycle Q Clear(g_c), s	0.2	7.5	7.5	2.3	8.1	1.1	0.7	0.0	1.2	1.4	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	0.59		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	11	1795	984	68	2868	890	137	0	119	115	0	102
V/C Ratio(X)	0.47	0.32	0.32	0.72	0.35	0.06	0.12	0.00	0.22	0.29	0.00	0.01
Avail Cap(c_a), veh/h	135	1795	984	283	2868	890	829	0	723	277	0	246
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.0	9.5	9.5	36.3	8.3	6.9	32.9	0.0	33.2	34.1	0.0	33.4
Incr Delay (d2), s/veh	11.4	0.5	0.9	5.1	0.3	0.1	0.4	0.0	0.9	1.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	2.1	2.4	0.9	2.2	0.3	0.3	0.0	0.5	0.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.4	10.0	10.4	41.4	8.7	7.0	33.3	0.0	34.1	35.4	0.0	33.5
LnGrp LOS	D	B	B	D	A	A	C	A	C	D	A	C
Approach Vol, veh/h		906			1094			43				34
Approach Delay, s/veh		10.4			10.1			33.8				35.3
Approach LOS		B			B			C				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.8	48.6		9.8	5.1	51.3		10.6				
Change Period (Y+Rc), s	4.6	6.5		4.6	4.6	* 6.5		4.6				
Max Green Setting (Gmax), s	13.4	37.5		12.4	6.4	* 45		36.4				
Max Q Clear Time (g_c+I1), s	4.3	9.5		3.4	2.2	10.1		3.2				
Green Ext Time (p_c), s	0.0	5.4		0.1	0.0	7.4		0.1				

Intersection Summary

HCM 6th Ctrl Delay	11.1
HCM 6th LOS	B

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

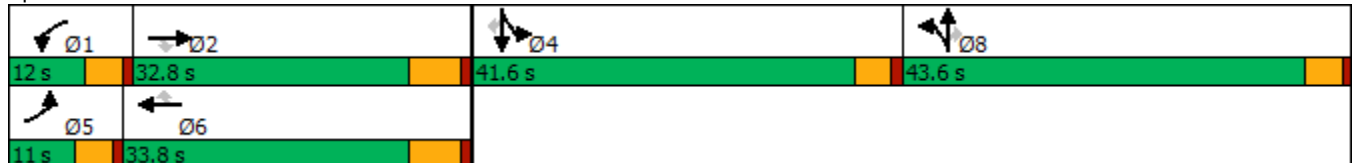
Timings  
7: Cataba Av. & Main St.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	92	1774	100	299	1078	47	201	57	191	74	34	117
Future Volume (vph)	92	1774	100	299	1078	47	201	57	191	74	34	117
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	32.2	32.2	9.6	32.2	32.2	43.6	43.6	43.6	41.6	41.6	41.6
Total Split (s)	11.0	32.8	32.8	12.0	33.8	33.8	43.6	43.6	43.6	41.6	41.6	41.6
Total Split (%)	8.5%	25.2%	25.2%	9.2%	26.0%	26.0%	33.5%	33.5%	33.5%	32.0%	32.0%	32.0%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (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
Lost Time Adjust (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
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None	None

Intersection Summary

Cycle Length: 130  
 Actuated Cycle Length: 86.7  
 Natural Cycle: 130  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 7: Cataba Av. & Main St.



HCM 6th Signalized Intersection Summary  
7: Cataba Av. & Main St.

Hesperia US Cold Storage (JN 13201)  
07/09/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘↗	↑↑↑	↗	↘	↗	↗	↘	↑	↗
Traffic Volume (veh/h)	92	1774	100	299	1078	47	201	57	191	74	34	117
Future Volume (veh/h)	92	1774	100	299	1078	47	201	57	191	74	34	117
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	94	1810	63	305	1100	36	132	161	92	76	35	29
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	117	1744	541	310	1875	581	248	276	232	204	227	192
Arrive On Green	0.07	0.35	0.35	0.10	0.38	0.38	0.15	0.15	0.15	0.13	0.13	0.13
Sat Flow, veh/h	1619	4914	1525	3141	4914	1523	1619	1800	1511	1619	1800	1525
Grp Volume(v), veh/h	94	1810	63	305	1100	36	132	161	92	76	35	29
Grp Sat Flow(s),veh/h/ln	1619	1638	1525	1570	1638	1523	1619	1800	1511	1619	1800	1525
Q Serve(g_s), s	4.3	26.6	2.1	7.3	13.4	1.1	5.6	6.2	4.1	3.2	1.3	1.3
Cycle Q Clear(g_c), s	4.3	26.6	2.1	7.3	13.4	1.1	5.6	6.2	4.1	3.2	1.3	1.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	117	1744	541	310	1875	581	248	276	232	204	227	192
V/C Ratio(X)	0.81	1.04	0.12	0.98	0.59	0.06	0.53	0.58	0.40	0.37	0.15	0.15
Avail Cap(c_a), veh/h	138	1744	541	310	1875	581	842	937	786	799	889	753
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.3	24.2	16.3	33.7	18.5	14.7	29.2	29.5	28.6	30.0	29.2	29.2
Incr Delay (d2), s/veh	21.2	32.1	0.4	46.4	1.4	0.2	1.8	2.0	1.1	1.1	0.3	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	13.7	0.7	4.5	4.5	0.4	2.3	2.8	1.5	1.3	0.6	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.5	56.3	16.7	80.1	19.8	14.9	31.0	31.5	29.7	31.1	29.5	29.5
LnGrp LOS	E	F	B	F	B	B	C	C	C	C	C	C
Approach Vol, veh/h		1967			1441			385			140	
Approach Delay, s/veh		55.0			32.4			30.9			30.4	
Approach LOS		D			C			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.0	32.8		14.1	10.0	34.8		16.1				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	7.4	26.6		37.0	6.4	27.6		39.0				
Max Q Clear Time (g_c+I1), s	9.3	28.6		5.2	6.3	15.4		8.2				
Green Ext Time (p_c), s	0.0	0.0		0.5	0.0	5.5		1.7				

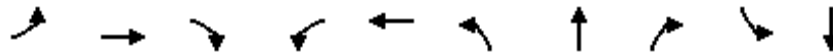
Intersection Summary

HCM 6th Ctrl Delay	43.5
HCM 6th LOS	D

Notes

- User approved pedestrian interval to be less than phase max green.
- User approved volume balancing among the lanes for turning movement.

Timings  
8: Key Point Av. & Main St.

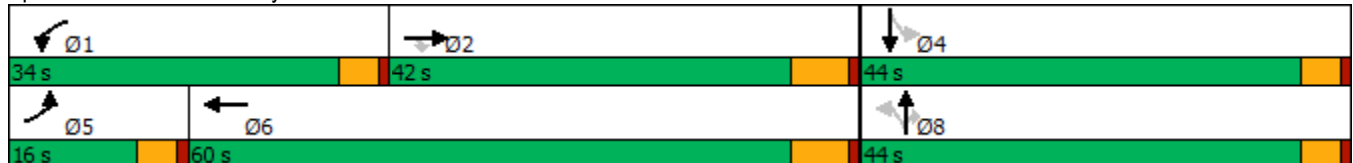


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↘	↑	↗	↘	↗
Traffic Volume (vph)	58	2078	25	229	1549	31	75	245	236	89
Future Volume (vph)	58	2078	25	229	1549	31	75	245	236	89
Turn Type	Prot	NA	Perm	Prot	NA	Perm	NA	Perm	Perm	NA
Protected Phases	5	2		1	6		8			4
Permitted Phases			2			8		8	4	
Detector Phase	5	2	2	1	6	8	8	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	29.2	29.2	9.6	30.2	38.6	38.6	38.6	41.6	41.6
Total Split (s)	16.0	42.0	42.0	34.0	60.0	44.0	44.0	44.0	44.0	44.0
Total Split (%)	13.3%	35.0%	35.0%	28.3%	50.0%	36.7%	36.7%	36.7%	36.7%	36.7%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	Max	Max	None	Max	None	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 101.8  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated




























Splits and Phases: 8: Key Point Av. & Main St.



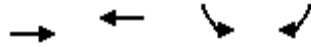
HCM 6th Signalized Intersection Summary  
8: Key Point Av. & Main St.

Hesperia US Cold Storage (JN 13201)

07/09/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  							
Traffic Volume (veh/h)	58	2078	25	229	1549	226	31	75	245	236	89	32
Future Volume (veh/h)	58	2078	25	229	1549	226	31	75	245	236	89	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	59	2120	22	234	1581	155	32	77	109	241	91	12
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	73	2019	627	264	2405	236	354	494	412	349	427	56
Arrive On Green	0.05	0.41	0.41	0.16	0.53	0.53	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	1619	4914	1525	1619	4550	446	1235	1800	1501	1147	1557	205
Grp Volume(v), veh/h	59	2120	22	234	1138	598	32	77	109	241	0	103
Grp Sat Flow(s),veh/h/ln	1619	1638	1525	1619	1638	1719	1235	1800	1501	1147	0	1762
Q Serve(g_s), s	3.7	41.8	0.9	14.4	25.5	25.6	2.1	3.3	5.8	20.5	0.0	4.6
Cycle Q Clear(g_c), s	3.7	41.8	0.9	14.4	25.5	25.6	6.7	3.3	5.8	23.8	0.0	4.6
Prop In Lane	1.00		1.00	1.00		0.26	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	73	2019	627	264	1732	909	354	494	412	349	0	484
V/C Ratio(X)	0.80	1.05	0.04	0.89	0.66	0.66	0.09	0.16	0.26	0.69	0.00	0.21
Avail Cap(c_a), veh/h	181	2019	627	468	1732	909	493	697	581	478	0	682
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.1	30.0	17.9	41.6	17.3	17.3	31.0	28.0	28.9	37.0	0.0	28.4
Incr Delay (d2), s/veh	7.4	34.6	0.1	4.0	2.0	3.7	0.1	0.1	0.3	2.5	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	21.2	0.3	5.7	8.8	9.7	0.6	1.5	2.1	6.0	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.5	64.6	18.0	45.6	19.3	21.0	31.1	28.1	29.2	39.5	0.0	28.7
LnGrp LOS	E	F	B	D	B	C	C	C	C	D	A	C
Approach Vol, veh/h		2201			1970			218			344	
Approach Delay, s/veh		63.9			22.9			29.1			36.3	
Approach LOS		E			C			C			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	21.2	48.0		32.5	9.2	60.0		32.5				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	29.4	35.8		39.4	11.4	53.8		39.4				
Max Q Clear Time (g_c+1), s	16.4	43.8		25.8	5.7	27.6		8.7				
Green Ext Time (p_c), s	0.2	0.0		1.3	0.0	13.0		0.9				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				43.2								
HCM 6th LOS				D								

Timings  
9: I-15 SB Ramps & Main St.

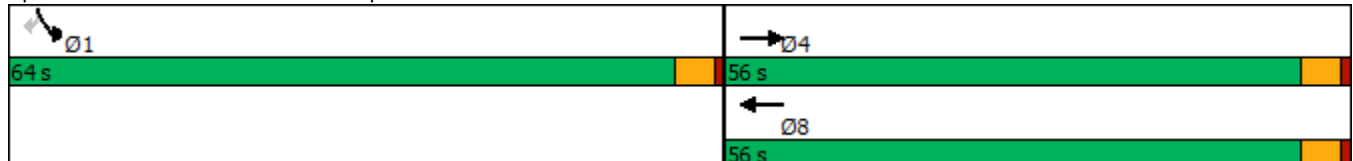


Lane Group	EBT	WBT	SBL	SBR
Lane Configurations	↑↑↑	↑↑↑	↙↘	↗
Traffic Volume (vph)	1938	1438	598	544
Future Volume (vph)	1938	1438	598	544
Turn Type	NA	NA	Prot	Perm
Protected Phases	4	8	1	
Permitted Phases				1
Detector Phase	4	8	1	1
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.6	9.6	9.6
Total Split (s)	56.0	56.0	64.0	64.0
Total Split (%)	46.7%	46.7%	53.3%	53.3%
Yellow Time (s)	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 101.6  
 Natural Cycle: 50  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 9: I-15 SB Ramps & Main St.



HCM 6th Signalized Intersection Summary  
 9: I-15 SB Ramps & Main St.

Hesperia US Cold Storage (JN 13201)

07/09/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑					↑↑		↑
Traffic Volume (veh/h)	0	1938	0	0	1438	0	0	0	0	598	0	544
Future Volume (veh/h)	0	1938	0	0	1438	0	0	0	0	598	0	544
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1800	0	0	1800	0				1700	0	1800
Adj Flow Rate, veh/h	0	1998	0	0	1482	0				616	0	448
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97				0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	2623		0	2623					1104	0	536
Arrive On Green	0.00	0.53	0.00	0.00	0.53	0.00				0.35	0.00	0.35
Sat Flow, veh/h	0	5238	0	0	5238	0				3141	0	1525
Grp Volume(v), veh/h	0	1998	0	0	1482	0				616	0	448
Grp Sat Flow(s),veh/h/ln	0	1638	0	0	1638	0				1570	0	1525
Q Serve(g_s), s	0.0	25.6	0.0	0.0	16.1	0.0				12.7	0.0	21.6
Cycle Q Clear(g_c), s	0.0	25.6	0.0	0.0	16.1	0.0				12.7	0.0	21.6
Prop In Lane	0.00		0.00	0.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2623		0	2623					1104	0	536
V/C Ratio(X)	0.00	0.76		0.00	0.57					0.56	0.00	0.84
Avail Cap(c_a), veh/h	0	3149		0	3149					2326	0	1130
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	14.7	0.0	0.0	12.5	0.0				21.0	0.0	23.9
Incr Delay (d2), s/veh	0.0	0.9	0.0	0.0	0.2	0.0				0.4	0.0	3.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	7.6	0.0	0.0	4.7	0.0				4.6	0.0	8.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	15.6	0.0	0.0	12.7	0.0				21.4	0.0	27.4
LnGrp LOS	A	B		A	B					C	A	C
Approach Vol, veh/h		1998	A		1482	A					1064	
Approach Delay, s/veh		15.6			12.7						23.9	
Approach LOS		B			B						C	
Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				47.4		32.8		47.4				
Change Period (Y+Rc), s				4.6		4.6		4.6				
Max Green Setting (Gmax), s				51.4		59.4		51.4				
Max Q Clear Time (g_c+I1), s				27.6		23.6		18.1				
Green Ext Time (p_c), s				15.2		4.6		12.2				

Intersection Summary

HCM 6th Ctrl Delay	16.6
HCM 6th LOS	B

Notes

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



Timings  
10: I-15 NB Ramps & Main St.

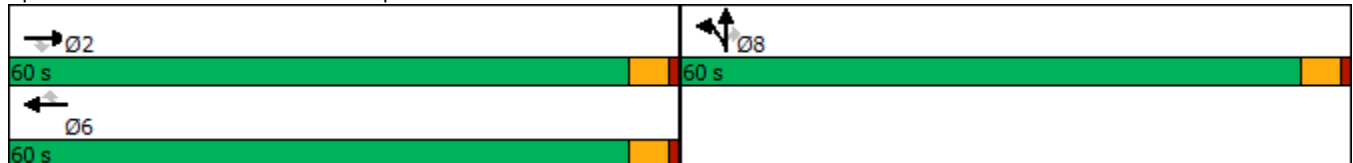


Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR
Lane Configurations	↑↑↑	↑	↑↑↑	↑	↑	↑	↑
Traffic Volume (vph)	1850	687	1557	462	301	0	906
Future Volume (vph)	1850	687	1557	462	301	0	906
Turn Type	NA	Perm	NA	Perm	Split	NA	Perm
Protected Phases	2		6		8	8	
Permitted Phases		2		6			8
Detector Phase	2	2	6	6	8	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.6	22.6	22.6	22.6	9.6	9.6	9.6
Total Split (s)	60.0	60.0	60.0	60.0	60.0	60.0	60.0
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	None	None	None	None	Min	Min	Min

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 105.6  
 Natural Cycle: 55  
 Control Type: Actuated-Uncoordinated













Splits and Phases: 10: I-15 NB Ramps & Main St.



HCM 6th Signalized Intersection Summary  
 10: I-15 NB Ramps & Main St.

Hesperia US Cold Storage (JN 13201)

07/09/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑↑	↗	↗	↗	↗			
Traffic Volume (veh/h)	0	1850	687	0	1557	462	301	0	906	0	0	0
Future Volume (veh/h)	0	1850	687	0	1557	462	301	0	906	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1800	1800	0	1800	1800	1700	1800	1800			
Adj Flow Rate, veh/h	0	1907	0	0	1605	329	310	0	787			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	0	2686		0	2686	834	533	0	1004			
Arrive On Green	0.00	0.55	0.00	0.00	0.55	0.55	0.33	0.00	0.33			
Sat Flow, veh/h	0	5076	1525	0	5076	1525	1619	0	3051			
Grp Volume(v), veh/h	0	1907	0	0	1605	329	310	0	787			
Grp Sat Flow(s),veh/h/ln	0	1638	1525	0	1638	1525	1619	0	1525			
Q Serve(g_s), s	0.0	21.3	0.0	0.0	16.3	9.2	11.8	0.0	17.3			
Cycle Q Clear(g_c), s	0.0	21.3	0.0	0.0	16.3	9.2	11.8	0.0	17.3			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	2686		0	2686	834	533	0	1004			
V/C Ratio(X)	0.00	0.71		0.00	0.60	0.39	0.58	0.00	0.78			
Avail Cap(c_a), veh/h	0	3678		0	3678	1142	1212	0	2283			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	12.4	0.0	0.0	11.3	9.7	20.6	0.0	22.5			
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.0	0.2	0.3	1.0	0.0	1.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	5.8	0.0	0.0	4.5	2.4	4.4	0.0	6.1			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	12.8	0.0	0.0	11.5	10.0	21.6	0.0	23.8			
LnGrp LOS	A	B		A	B	B	C	A	C			
Approach Vol, veh/h		1907	A		1934			1097				
Approach Delay, s/veh		12.8			11.3			23.2				
Approach LOS		B			B			C				
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		45.1				45.1		29.0				
Change Period (Y+Rc), s		4.6				4.6		4.6				
Max Green Setting (Gmax), s		55.4				55.4		55.4				
Max Q Clear Time (g_c+I1), s		23.3				18.3		19.3				
Green Ext Time (p_c), s		17.2				16.4		5.1				

Intersection Summary

HCM 6th Ctrl Delay	14.5
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.  
 Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

**APPENDIX 6.2:**

**OPENING YEAR CUMULATIVE (2022) WITH PROJECT CONDITIONS INTERSECTION  
OPERATIONS ANALYSIS WORKSHEETS**

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Timings  
1: US-395 & Avenal St.

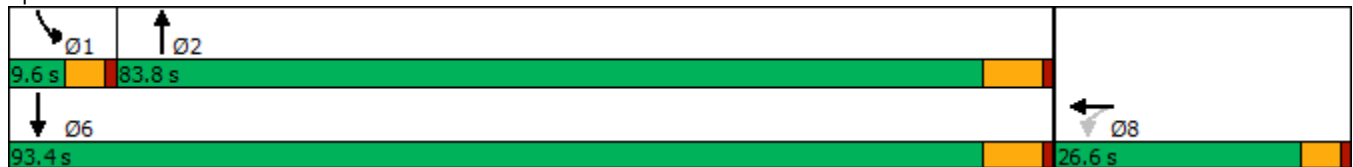


Lane Group	WBT	NBT	SBL	SBT
Lane Configurations	↔	↗	↘	↕
Traffic Volume (vph)	0	1172	3	1515
Future Volume (vph)	0	1172	3	1515
Turn Type	NA	NA	Prot	NA
Protected Phases	8	2	1	6
Permitted Phases				
Detector Phase	8	2	1	6
Switch Phase				
Minimum Initial (s)	10.0	10.0	5.0	10.0
Minimum Split (s)	26.6	23.5	9.6	16.5
Total Split (s)	26.6	83.8	9.6	93.4
Total Split (%)	22.2%	69.8%	8.0%	77.8%
Yellow Time (s)	3.6	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.5
Lead/Lag		Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	
Recall Mode	None	Min	None	Min

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 115.4  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 1: US-395 & Avenal St.



HCM 6th Signalized Intersection Summary  
 1: US-395 & Avenal St.

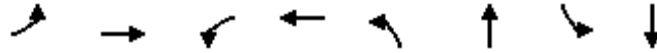
Hesperia US Cold Storage (JN 13201)

01/18/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔			↔		↔	↔	
Traffic Volume (veh/h)	0	0	0	26	0	2	0	1172	29	3	1515	0
Future Volume (veh/h)	0	0	0	26	0	2	0	1172	29	3	1515	0
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No		No		No		No		No
Adj Sat Flow, veh/h/ln				1700	1800	1800	0	1800	1800	1700	1800	0
Adj Flow Rate, veh/h				28	0	2	0	1274	32	3	1647	0
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				89	0	6	0	1379	35	6	1507	0
Arrive On Green				0.06	0.00	0.06	0.00	0.79	0.79	0.00	0.84	0.00
Sat Flow, veh/h				1587	0	113	0	1748	44	1619	1800	0
Grp Volume(v), veh/h				30	0	0	0	0	1306	3	1647	0
Grp Sat Flow(s),veh/h/ln				1700	0	0	0	0	1792	1619	1800	0
Q Serve(g_s), s				1.8	0.0	0.0	0.0	0.0	58.8	0.2	86.9	0.0
Cycle Q Clear(g_c), s				1.8	0.0	0.0	0.0	0.0	58.8	0.2	86.9	0.0
Prop In Lane				0.93		0.07	0.00		0.02	1.00		0.00
Lane Grp Cap(c), veh/h				95	0	0	0	0	1414	6	1507	0
V/C Ratio(X)				0.32	0.00	0.00	0.00	0.00	0.92	0.46	1.09	0.00
Avail Cap(c_a), veh/h				360	0	0	0	0	1414	78	1507	0
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh				47.1	0.0	0.0	0.0	0.0	8.5	51.6	8.4	0.0
Incr Delay (d2), s/veh				1.9	0.0	0.0	0.0	0.0	10.4	18.0	52.9	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.8	0.0	0.0	0.0	0.0	14.2	0.1	28.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				49.0	0.0	0.0	0.0	0.0	18.9	69.6	61.3	0.0
LnGrp LOS				D	A	A	A	A	B	E	F	A
Approach Vol, veh/h					30			1306			1650	
Approach Delay, s/veh					49.0			18.9			61.3	
Approach LOS					D			B			E	
Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	5.0	88.4				93.4		10.4				
Change Period (Y+Rc), s	4.6	6.5				6.5		4.6				
Max Green Setting (Gmax), s	5.0	77.3				86.9		22.0				
Max Q Clear Time (g_c+I1), s	2.2	60.8				88.9		3.8				
Green Ext Time (p_c), s	0.0	9.8				0.0		0.1				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay											42.7	
HCM 6th LOS											D	

Timings  
2: US-395 & Yucca Terrace Dr.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕	↗	↖	↗	↖
Traffic Volume (vph)	19	0	9	0	324	1181	6	1424
Future Volume (vph)	19	0	9	0	324	1181	6	1424
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	26.6	26.6	26.6	26.6	9.6	23.5	9.6	23.5
Total Split (s)	26.6	26.6	26.6	26.6	9.6	83.8	9.6	83.8
Total Split (%)	22.2%	22.2%	22.2%	22.2%	8.0%	69.8%	8.0%	69.8%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.6		4.6	4.6	6.5	4.6	6.5
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 110.4  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated

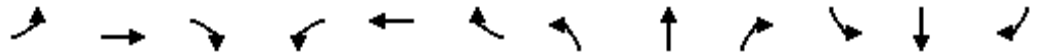
Splits and Phases: 2: US-395 & Yucca Terrace Dr.

9.6 s	83.8 s	26.6 s
9.6 s	83.8 s	26.6 s

HCM 6th Signalized Intersection Summary  
 2: US-395 & Yucca Terrace Dr.

Hesperia US Cold Storage (JN 13201)

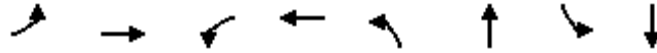
01/18/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↘		↗	↘	
Traffic Volume (veh/h)	19	0	74	9	0	1	324	1181	81	6	1424	111
Future Volume (veh/h)	19	0	74	9	0	1	324	1181	81	6	1424	111
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	21	0	82	10	0	1	360	1312	90	7	1582	123
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	59	9	109	157	3	10	75	1258	86	14	1184	92
Arrive On Green	0.09	0.00	0.09	0.09	0.00	0.09	0.05	0.76	0.76	0.01	0.72	0.72
Sat Flow, veh/h	209	103	1217	1032	33	107	1619	1665	114	1619	1649	128
Grp Volume(v), veh/h	103	0	0	11	0	0	360	0	1402	7	0	1705
Grp Sat Flow(s),veh/h/ln	1528	0	0	1172	0	0	1619	0	1779	1619	0	1777
Q Serve(g_s), s	4.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	81.4	0.5	0.0	77.3
Cycle Q Clear(g_c), s	7.0	0.0	0.0	0.9	0.0	0.0	5.0	0.0	81.4	0.5	0.0	77.3
Prop In Lane	0.20		0.80	0.91		0.09	1.00		0.06	1.00		0.07
Lane Grp Cap(c), veh/h	178	0	0	169	0	0	75	0	1345	14	0	1276
V/C Ratio(X)	0.58	0.00	0.00	0.07	0.00	0.00	4.79	0.00	1.04	0.49	0.00	1.34
Avail Cap(c_a), veh/h	350	0	0	324	0	0	75	0	1345	75	0	1276
HCM 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
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	47.8	0.0	0.0	45.0	0.0	0.0	51.3	0.0	13.2	53.1	0.0	15.2
Incr Delay (d2), s/veh	3.0	0.0	0.0	0.2	0.0	0.0	1734.4	0.0	36.5	9.5	0.0	156.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	0.0	0.3	0.0	0.0	38.2	0.0	31.9	0.2	0.0	75.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.7	0.0	0.0	45.1	0.0	0.0	1785.7	0.0	49.6	62.6	0.0	172.0
LnGrp LOS	D	A	A	D	A	A	F	A	F	E	A	F
Approach Vol, veh/h		103			11			1762				1712
Approach Delay, s/veh		50.7			45.1			404.3				171.6
Approach LOS		D			D			F				F
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.5	87.9		14.3	9.6	83.8		14.3				
Change Period (Y+Rc), s	4.6	6.5		4.6	4.6	6.5		4.6				
Max Green Setting (Gmax), s	5.0	77.3		22.0	5.0	77.3		22.0				
Max Q Clear Time (g_c+1), s	2.5	83.4		9.0	7.0	79.3		2.9				
Green Ext Time (p_c), s	0.0	0.0		0.4	0.0	0.0		0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			282.0									
HCM 6th LOS			F									



Timings  
3: US-395 & Phelan Rd./Main St.

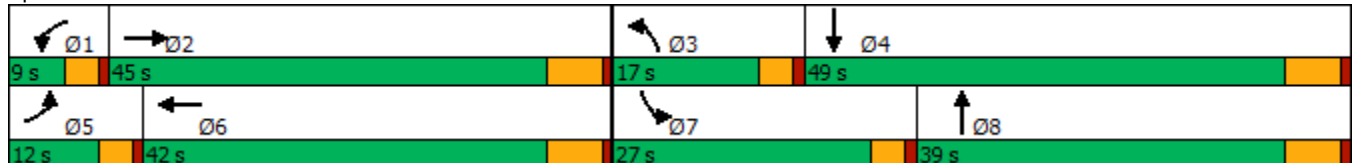


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↙	↕↗	↙	↕↗	↙	↕↗	↙	↕↗
Traffic Volume (vph)	95	861	21	1141	225	896	350	1082
Future Volume (vph)	95	861	21	1141	225	896	350	1082
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	5	2	1	6	3	8	7	4
Permitted Phases								
Detector Phase	5	2	1	6	3	8	7	4
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.0	17.0	9.0	16.0	9.0	16.0	9.0	16.0
Total Split (s)	12.0	45.0	9.0	42.0	17.0	39.0	27.0	49.0
Total Split (%)	10.0%	37.5%	7.5%	35.0%	14.2%	32.5%	22.5%	40.8%
Yellow Time (s)	3.0	5.0	3.0	5.0	3.0	5.0	3.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 3: US-395 & Phelan Rd./Main St.



HCM 6th Signalized Intersection Summary  
 3: US-395 & Phelan Rd./Main St.

Hesperia US Cold Storage (JN 13201)

07/09/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕		↖	↕	
Traffic Volume (veh/h)	95	861	172	21	1141	595	225	896	24	350	1082	75
Future Volume (veh/h)	95	861	172	21	1141	595	225	896	24	350	1082	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	98	888	133	22	1176	534	232	924	25	361	1115	73
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	108	1029	154	35	696	303	175	935	25	310	1168	76
Arrive On Green	0.07	0.35	0.35	0.02	0.30	0.30	0.11	0.28	0.28	0.19	0.36	0.36
Sat Flow, veh/h	1619	2983	447	1619	2320	1009	1619	3401	92	1619	3258	213
Grp Volume(v), veh/h	98	509	512	22	853	857	232	465	484	361	585	603
Grp Sat Flow(s),veh/h/ln	1619	1710	1720	1619	1710	1618	1619	1710	1783	1619	1710	1762
Q Serve(g_s), s	7.2	33.3	33.3	1.6	36.0	36.0	13.0	32.4	32.4	23.0	40.0	40.1
Cycle Q Clear(g_c), s	7.2	33.3	33.3	1.6	36.0	36.0	13.0	32.4	32.4	23.0	40.0	40.1
Prop In Lane	1.00		0.26	1.00		0.62	1.00		0.05	1.00		0.12
Lane Grp Cap(c), veh/h	108	590	593	35	513	486	175	470	490	310	613	631
V/C Ratio(X)	0.91	0.86	0.86	0.63	1.66	1.76	1.32	0.99	0.99	1.16	0.95	0.96
Avail Cap(c_a), veh/h	108	590	593	67	513	486	175	470	490	310	613	631
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.6	36.7	36.7	58.2	42.0	42.0	53.5	43.3	43.3	48.5	37.5	37.6
Incr Delay (d2), s/veh	58.0	12.5	12.5	12.9	306.8	352.6	179.3	38.2	37.4	103.0	25.6	25.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	15.0	15.1	0.8	57.9	60.9	13.8	17.8	18.5	17.7	19.8	20.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	113.6	49.2	49.1	71.1	348.8	394.6	232.8	81.5	80.7	151.5	63.1	62.8
LnGrp LOS	F	D	D	E	F	F	F	F	F	F	E	E
Approach Vol, veh/h		1119			1732			1181			1549	
Approach Delay, s/veh		54.8			367.9			110.9			83.6	
Approach LOS		D			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.6	47.4	17.0	49.0	12.0	42.0	27.0	39.0				
Change Period (Y+Rc), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0				
Max Green Setting (Gmax), s	5.0	39.0	13.0	43.0	8.0	36.0	23.0	33.0				
Max Q Clear Time (g_c+I1), s	3.6	35.3	15.0	42.1	9.2	38.0	25.0	34.4				
Green Ext Time (p_c), s	0.0	1.9	0.0	0.7	0.0	0.0	0.0	0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay	171.8											
HCM 6th LOS	F											

Intersection						
Int Delay, s/veh	3.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	0	33	0	0	28	0
Future Vol, veh/h	0	33	0	0	28	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	36	0	0	30	0

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	36	0	19
Stage 1	-	-	-	-	18
Stage 2	-	-	-	-	1
Critical Hdwy	-	-	4.1	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	1588	-	1004
Stage 1	-	-	-	-	1010
Stage 2	-	-	-	-	1028
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1588	-	1004
Mov Cap-2 Maneuver	-	-	-	-	1004
Stage 1	-	-	-	-	1010
Stage 2	-	-	-	-	1028

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1004	-	-	1588	-
HCM Lane V/C Ratio	0.03	-	-	-	-
HCM Control Delay (s)	8.7	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection						
Int Delay, s/veh	7.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	↷
Traffic Vol, veh/h	89	0	0	0	0	10
Future Vol, veh/h	89	0	0	0	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	97	0	0	0	0	11

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1	0	-	0	195
Stage 1	-	-	-	-	1
Stage 2	-	-	-	-	194
Critical Hdwy	4.1	-	-	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	2.2	-	-	-	3.5
Pot Cap-1 Maneuver	1635	-	-	-	798
Stage 1	-	-	-	-	1028
Stage 2	-	-	-	-	844
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1635	-	-	-	751
Mov Cap-2 Maneuver	-	-	-	-	751
Stage 1	-	-	-	-	967
Stage 2	-	-	-	-	844

Approach	EB	WB	SB
HCM Control Delay, s	7.3	0	8.3
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1635	-	-	-	1090
HCM Lane V/C Ratio	0.059	-	-	-	0.01
HCM Control Delay (s)	7.3	0	-	-	8.3
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.2	-	-	-	0

Timings  
6: Mesa Linda St. & Main St.

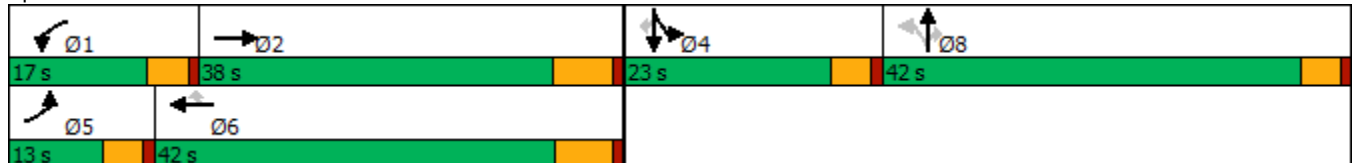


Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Configurations	↙	↑↑↑	↙	↑↑↑	↗	↕	↗	↕	↗
Traffic Volume (vph)	5	1196	111	1640	18	2	133	2	15
Future Volume (vph)	5	1196	111	1640	18	2	133	2	15
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	NA	Perm
Protected Phases	5	2	1	6		8		4	
Permitted Phases					6		8		4
Detector Phase	5	2	1	6	6	8	8	4	4
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	16.5	9.6	23.2	23.2	40.6	40.6	14.6	14.6
Total Split (s)	13.0	38.0	17.0	42.0	42.0	42.0	42.0	23.0	23.0
Total Split (%)	10.8%	31.7%	14.2%	35.0%	35.0%	35.0%	35.0%	19.2%	19.2%
Yellow Time (s)	3.6	5.5	3.6	5.2	5.2	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.2	6.2	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	Max	None	Max	Max	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 85.6  
 Natural Cycle: 110  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 6: Mesa Linda St. & Main St.



HCM 6th Signalized Intersection Summary  
6: Mesa Linda St. & Main St.

Hesperia US Cold Storage (JN 13201)

07/09/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	1196	3	111	1640	18	0	2	133	50	2	15
Future Volume (veh/h)	5	1196	3	111	1640	18	0	2	133	50	2	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	6	1407	4	131	1929	13	0	2	135	59	2	4
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	13	2088	6	161	2479	769	0	223	189	163	6	149
Arrive On Green	0.01	0.41	0.41	0.10	0.50	0.50	0.00	0.12	0.12	0.10	0.10	0.10
Sat Flow, veh/h	1619	5059	14	1619	4914	1525	0	1800	1525	1661	56	1525
Grp Volume(v), veh/h	6	911	500	131	1929	13	0	2	135	61	0	4
Grp Sat Flow(s),veh/h/ln	1619	1638	1797	1619	1638	1525	0	1800	1525	1717	0	1525
Q Serve(g_s), s	0.3	17.3	17.3	6.1	24.4	0.3	0.0	0.1	6.5	2.5	0.0	0.2
Cycle Q Clear(g_c), s	0.3	17.3	17.3	6.1	24.4	0.3	0.0	0.1	6.5	2.5	0.0	0.2
Prop In Lane	1.00		0.01	1.00		1.00	0.00		1.00	0.97		1.00
Lane Grp Cap(c), veh/h	13	1352	742	161	2479	769	0	223	189	168	0	149
V/C Ratio(X)	0.47	0.67	0.67	0.81	0.78	0.02	0.00	0.01	0.71	0.36	0.00	0.03
Avail Cap(c_a), veh/h	178	1352	742	263	2479	769	0	882	747	414	0	368
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.7	18.2	18.2	33.7	15.4	9.5	0.0	29.3	32.1	32.2	0.0	31.1
Incr Delay (d2), s/veh	9.8	2.7	4.9	3.7	2.5	0.0	0.0	0.0	5.0	1.3	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	5.8	6.8	2.3	7.7	0.1	0.0	0.0	2.6	1.1	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.6	20.9	23.1	37.4	17.9	9.5	0.0	29.3	37.1	33.5	0.0	31.2
LnGrp LOS	D	C	C	D	B	A	A	C	D	C	A	C
Approach Vol, veh/h		1417			2073			137				65
Approach Delay, s/veh		21.8			19.1			37.0				33.4
Approach LOS		C			B			D				C
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.2	38.0		12.1	5.2	45.0		14.1				
Change Period (Y+Rc), s	4.6	6.5		4.6	4.6	* 6.5		4.6				
Max Green Setting (Gmax), s	12.4	31.5		18.4	8.4	* 36		37.4				
Max Q Clear Time (g_c+I1), s	8.1	19.3		4.5	2.3	26.4		8.5				
Green Ext Time (p_c), s	0.1	6.4		0.2	0.0	7.2		0.4				

Intersection Summary

HCM 6th Ctrl Delay	21.1
HCM 6th LOS	C

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

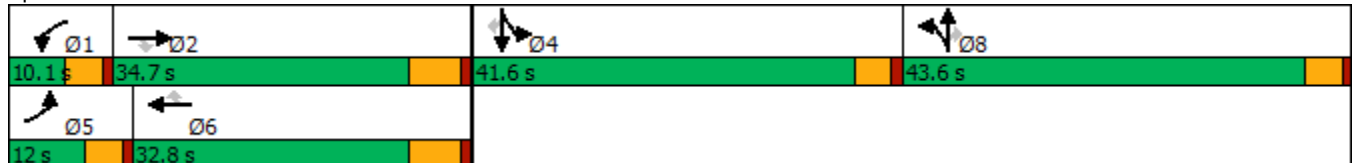
Timings  
7: Cataba Av. & Main St.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	72	1129	79	259	1628	19	163	13	141	36	13	27
Future Volume (vph)	72	1129	79	259	1628	19	163	13	141	36	13	27
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	32.2	32.2	9.6	32.2	32.2	43.6	43.6	43.6	41.6	41.6	41.6
Total Split (s)	12.0	34.7	34.7	10.1	32.8	32.8	43.6	43.6	43.6	41.6	41.6	41.6
Total Split (%)	9.2%	26.7%	26.7%	7.8%	25.2%	25.2%	33.5%	33.5%	33.5%	32.0%	32.0%	32.0%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (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
Lost Time Adjust (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
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None	None

Intersection Summary

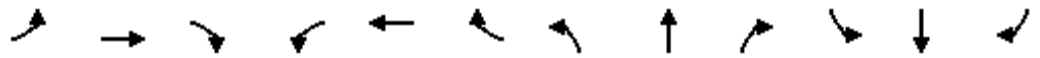
Cycle Length: 130  
 Actuated Cycle Length: 82.8  
 Natural Cycle: 130  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 7: Cataba Av. & Main St.



HCM 6th Signalized Intersection Summary  
7: Cataba Av. & Main St.

Hesperia US Cold Storage (JN 13201)  
07/09/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘↗	↑↑↑	↗	↘	↗	↗	↘	↑	↗
Traffic Volume (veh/h)	72	1129	79	259	1628	19	163	13	141	36	13	27
Future Volume (veh/h)	72	1129	79	259	1628	19	163	13	141	36	13	27
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	81	1269	82	291	1829	14	194	0	138	40	15	1
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	100	1974	612	243	2050	636	469	0	220	153	170	144
Arrive On Green	0.06	0.40	0.40	0.08	0.42	0.42	0.14	0.00	0.14	0.09	0.09	0.09
Sat Flow, veh/h	1619	4914	1524	3141	4914	1524	3238	0	1522	1619	1800	1525
Grp Volume(v), veh/h	81	1269	82	291	1829	14	194	0	138	40	15	1
Grp Sat Flow(s),veh/h/ln	1619	1638	1524	1570	1638	1524	1619	0	1522	1619	1800	1525
Q Serve(g_s), s	3.5	14.8	2.4	5.5	24.5	0.4	3.9	0.0	6.0	1.6	0.5	0.0
Cycle Q Clear(g_c), s	3.5	14.8	2.4	5.5	24.5	0.4	3.9	0.0	6.0	1.6	0.5	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	100	1974	612	243	2050	636	469	0	220	153	170	144
V/C Ratio(X)	0.81	0.64	0.13	1.20	0.89	0.02	0.41	0.00	0.63	0.26	0.09	0.01
Avail Cap(c_a), veh/h	169	1974	612	243	2050	636	1780	0	837	844	939	795
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.9	17.1	13.4	32.7	19.2	12.2	27.6	0.0	28.5	29.8	29.4	29.1
Incr Delay (d2), s/veh	5.6	1.6	0.5	120.8	6.4	0.1	0.6	0.0	2.9	0.9	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	4.7	0.7	6.0	8.7	0.1	1.5	0.0	2.3	0.7	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.5	18.8	13.9	153.5	25.6	12.2	28.2	0.0	31.4	30.8	29.6	29.1
LnGrp LOS	D	B	B	F	C	B	C	A	C	C	C	C
Approach Vol, veh/h		1432			2134			332				56
Approach Delay, s/veh		19.6			43.0			29.5				30.4
Approach LOS		B			D			C				C
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.1	34.7		11.3	9.0	35.8		14.9				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	5.5	28.5		37.0	7.4	26.6		39.0				
Max Q Clear Time (g_c+I1), s	7.5	16.8		3.6	5.5	26.5		8.0				
Green Ext Time (p_c), s	0.0	6.1		0.2	0.0	0.1		1.2				

Intersection Summary

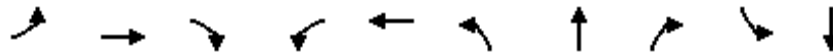
HCM 6th Ctrl Delay	33.2
HCM 6th LOS	C

Notes

- User approved pedestrian interval to be less than phase max green.
- User approved volume balancing among the lanes for turning movement.



Timings  
8: Key Point Av. & Main St.

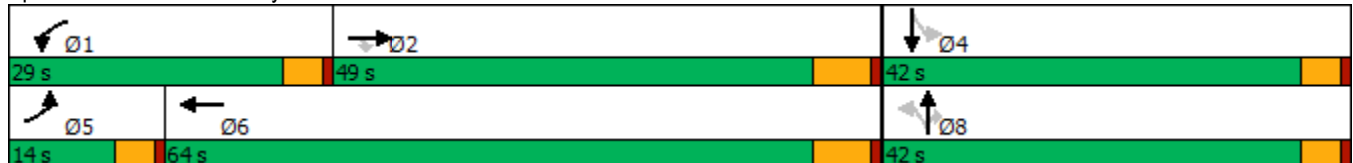


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↙	↑↑↑	↘	↙	↑↑↑	↙	↑	↘	↙	↘
Traffic Volume (vph)	31	1271	13	147	1947	11	12	83	152	28
Future Volume (vph)	31	1271	13	147	1947	11	12	83	152	28
Turn Type	Prot	NA	Perm	Prot	NA	Perm	NA	Perm	Perm	NA
Protected Phases	5	2		1	6		8			4
Permitted Phases			2			8		8	4	
Detector Phase	5	2	2	1	6	8	8	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	29.2	29.2	9.6	30.2	38.6	38.6	38.6	41.6	41.6
Total Split (s)	14.0	49.0	49.0	29.0	64.0	42.0	42.0	42.0	42.0	42.0
Total Split (%)	11.7%	40.8%	40.8%	24.2%	53.3%	35.0%	35.0%	35.0%	35.0%	35.0%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	Max	Max	None	Max	None	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 95.4  
 Natural Cycle: 95  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 8: Key Point Av. & Main St.



HCM 6th Signalized Intersection Summary  
8: Key Point Av. & Main St.

Hesperia US Cold Storage (JN 13201)

07/09/2020

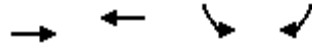


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑	↘	↖	↑↑↑		↖	↑	↘	↖	↗	
Traffic Volume (veh/h)	31	1271	13	147	1947	114	11	12	83	152	28	15
Future Volume (veh/h)	31	1271	13	147	1947	114	11	12	83	152	28	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	32	1297	10	150	1987	82	11	12	25	155	29	10
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	50	2770	859	181	3121	129	255	275	233	273	195	67
Arrive On Green	0.03	0.56	0.56	0.11	0.64	0.64	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	1619	4914	1524	1619	4841	199	1313	1800	1522	1313	1279	441
Grp Volume(v), veh/h	32	1297	10	150	1343	726	11	12	25	155	0	39
Grp Sat Flow(s),veh/h/ln	1619	1638	1524	1619	1638	1764	1313	1800	1522	1313	0	1721
Q Serve(g_s), s	1.8	14.0	0.3	8.1	22.1	22.3	0.7	0.5	1.3	10.2	0.0	1.8
Cycle Q Clear(g_c), s	1.8	14.0	0.3	8.1	22.1	22.3	2.4	0.5	1.3	10.7	0.0	1.8
Prop In Lane	1.00		1.00	1.00		0.11	1.00		1.00	1.00		0.26
Lane Grp Cap(c), veh/h	50	2770	859	181	2112	1138	255	275	233	273	0	263
V/C Ratio(X)	0.65	0.47	0.01	0.83	0.64	0.64	0.04	0.04	0.11	0.57	0.00	0.15
Avail Cap(c_a), veh/h	170	2770	859	441	2112	1138	602	751	635	621	0	718
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	43.0	11.6	8.6	39.0	9.6	9.6	34.0	32.4	32.7	37.0	0.0	32.9
Incr Delay (d2), s/veh	5.1	0.6	0.0	3.7	1.5	2.7	0.1	0.1	0.2	1.8	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	4.3	0.1	3.2	6.2	7.1	0.2	0.2	0.5	3.4	0.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.1	12.2	8.6	42.6	11.1	12.3	34.0	32.5	32.9	38.8	0.0	33.2
LnGrp LOS	D	B	A	D	B	B	C	C	C	D	A	C
Approach Vol, veh/h		1339			2219			48				194
Approach Delay, s/veh		13.0			13.6			33.1				37.7
Approach LOS		B			B			C				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.6	56.7		18.3	7.3	64.0		18.3				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	24.4	42.8		37.4	9.4	57.8		37.4				
Max Q Clear Time (g_c+I1), s	10.1	16.0		12.7	3.8	24.3		4.4				
Green Ext Time (p_c), s	0.1	9.5		0.7	0.0	18.5		0.1				

Intersection Summary

HCM 6th Ctrl Delay	14.9
HCM 6th LOS	B

Timings  
 9: I-15 SB Ramps & Main St.

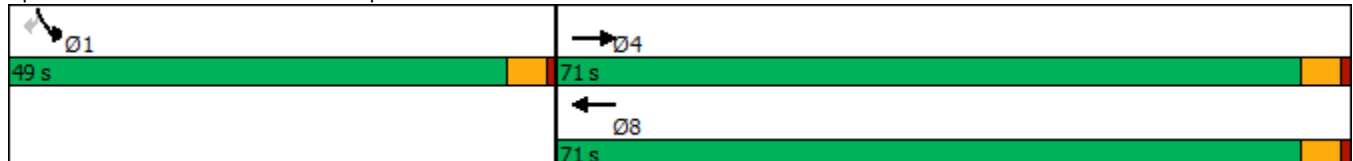


Lane Group	EBT	WBT	SBL	SBR
Lane Configurations	↑↑↑	↑↑↑	↘↘	↙
Traffic Volume (vph)	1285	1484	365	709
Future Volume (vph)	1285	1484	365	709
Turn Type	NA	NA	Prot	Perm
Protected Phases	4	8	1	
Permitted Phases				1
Detector Phase	4	8	1	1
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.6	9.6	9.6
Total Split (s)	71.0	71.0	49.0	49.0
Total Split (%)	59.2%	59.2%	40.8%	40.8%
Yellow Time (s)	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 93.9  
 Natural Cycle: 50  
 Control Type: Actuated-Uncoordinated

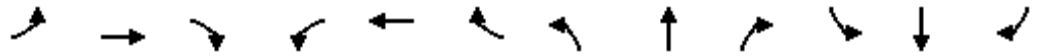
Splits and Phases: 9: I-15 SB Ramps & Main St.



HCM 6th Signalized Intersection Summary  
 9: I-15 SB Ramps & Main St.

Hesperia US Cold Storage (JN 13201)

07/09/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑					↑↑		↑
Traffic Volume (veh/h)	0	1285	0	0	1484	0	0	0	0	365	0	709
Future Volume (veh/h)	0	1285	0	0	1484	0	0	0	0	365	0	709
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1800	0	0	1800	0				1700	0	1800
Adj Flow Rate, veh/h	0	1353	0	0	1562	0				384	0	665
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	2155		0	2155					1446	0	702
Arrive On Green	0.00	0.44	0.00	0.00	0.44	0.00				0.46	0.00	0.46
Sat Flow, veh/h	0	5238	0	0	5238	0				3141	0	1525
Grp Volume(v), veh/h	0	1353	0	0	1562	0				384	0	665
Grp Sat Flow(s),veh/h/ln	0	1638	0	0	1638	0				1570	0	1525
Q Serve(g_s), s	0.0	19.4	0.0	0.0	23.8	0.0				6.8	0.0	37.9
Cycle Q Clear(g_c), s	0.0	19.4	0.0	0.0	23.8	0.0				6.8	0.0	37.9
Prop In Lane	0.00		0.00	0.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2155		0	2155					1446	0	702
V/C Ratio(X)	0.00	0.63		0.00	0.72					0.27	0.00	0.95
Avail Cap(c_a), veh/h	0	3588		0	3588					1533	0	745
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	19.8	0.0	0.0	21.0	0.0				15.1	0.0	23.5
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	0.5	0.0				0.1	0.0	20.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	6.5	0.0	0.0	8.0	0.0				2.4	0.0	16.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	20.1	0.0	0.0	21.5	0.0				15.2	0.0	44.0
LnGrp LOS	A	C		A	C					B	A	D
Approach Vol, veh/h		1353	A		1562	A					1049	
Approach Delay, s/veh		20.1			21.5						33.4	
Approach LOS		C			C						C	
Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				44.5		46.5		44.5				
Change Period (Y+Rc), s				4.6		4.6		4.6				
Max Green Setting (Gmax), s				66.4		44.4		66.4				
Max Q Clear Time (g_c+I1), s				21.4		39.9		25.8				
Green Ext Time (p_c), s				11.6		1.9		14.1				

Intersection Summary

HCM 6th Ctrl Delay	24.2
HCM 6th LOS	C

Notes

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

Timings  
10: I-15 NB Ramps & Main St.

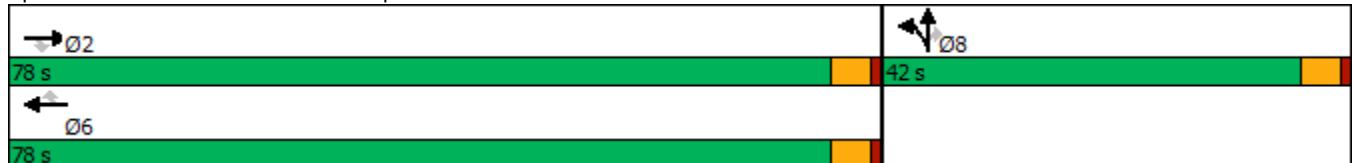


Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR
Lane Configurations	↑↑↑↑	↑	↑↑↑↑	↑	↑	↑	↑
Traffic Volume (vph)	1216	435	1486	501	612	6	450
Future Volume (vph)	1216	435	1486	501	612	6	450
Turn Type	NA	Perm	NA	Perm	Split	NA	Perm
Protected Phases	2		6		8	8	
Permitted Phases		2		6			8
Detector Phase	2	2	6	6	8	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.6	22.6	22.6	22.6	9.6	9.6	9.6
Total Split (s)	78.0	78.0	78.0	78.0	42.0	42.0	42.0
Total Split (%)	65.0%	65.0%	65.0%	65.0%	35.0%	35.0%	35.0%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	None	None	None	None	Min	Min	Min

Intersection Summary













Cycle Length: 120  
 Actuated Cycle Length: 91  
 Natural Cycle: 50  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 10: I-15 NB Ramps & Main St.



HCM 6th Signalized Intersection Summary  
 10: I-15 NB Ramps & Main St.

Hesperia US Cold Storage (JN 13201)  
 07/09/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑↑	↗	↘	↗	↗			
Traffic Volume (veh/h)	0	1216	435	0	1486	501	612	6	450	0	0	0
Future Volume (veh/h)	0	1216	435	0	1486	501	612	6	450	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1800	1800	0	1800	1800	1700	1800	1800			
Adj Flow Rate, veh/h	0	1241	0	0	1516	479	624	0	253			
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	0	2357		0	2357	732	666	0	1254			
Arrive On Green	0.00	0.48	0.00	0.00	0.48	0.48	0.41	0.00	0.41			
Sat Flow, veh/h	0	5076	1525	0	5076	1525	1619	0	3051			
Grp Volume(v), veh/h	0	1241	0	0	1516	479	624	0	253			
Grp Sat Flow(s),veh/h/ln	0	1638	1525	0	1638	1525	1619	0	1525			
Q Serve(g_s), s	0.0	14.8	0.0	0.0	19.5	20.0	31.1	0.0	4.5			
Cycle Q Clear(g_c), s	0.0	14.8	0.0	0.0	19.5	20.0	31.1	0.0	4.5			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	2357		0	2357	732	666	0	1254			
V/C Ratio(X)	0.00	0.53		0.00	0.64	0.65	0.94	0.00	0.20			
Avail Cap(c_a), veh/h	0	4288		0	4288	1331	720	0	1356			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	15.2	0.0	0.0	16.5	16.6	23.7	0.0	15.9			
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.3	1.0	19.1	0.0	0.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	4.7	0.0	0.0	6.2	6.0	14.8	0.0	1.5			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	15.4	0.0	0.0	16.8	17.6	42.9	0.0	16.0			
LnGrp LOS	A	B		A	B	B	D	A	B			
Approach Vol, veh/h		1241	A		1995			877				
Approach Delay, s/veh		15.4			17.0			35.1				
Approach LOS		B			B			D				
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		44.9				44.9		39.2				
Change Period (Y+Rc), s		4.6				4.6		4.6				
Max Green Setting (Gmax), s		73.4				73.4		37.4				
Max Q Clear Time (g_c+I1), s		16.8				22.0		33.1				
Green Ext Time (p_c), s		10.4				18.3		1.5				

Intersection Summary

HCM 6th Ctrl Delay	20.4
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.  
 Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Timings  
1: US-395 & Avenal St.



Lane Group	WBT	NBT	SBL	SBT
Lane Configurations	↔	↑	↙	↑
Traffic Volume (vph)	0	1728	1	1252
Future Volume (vph)	0	1728	1	1252
Turn Type	NA	NA	Prot	NA
Protected Phases	8	2	1	6
Permitted Phases				
Detector Phase	8	2	1	6
Switch Phase				
Minimum Initial (s)	10.0	10.0	5.0	10.0
Minimum Split (s)	26.6	23.5	9.6	16.5
Total Split (s)	26.6	83.8	9.6	93.4
Total Split (%)	22.2%	69.8%	8.0%	77.8%
Yellow Time (s)	3.6	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.5
Lead/Lag		Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	
Recall Mode	None	Min	None	Min

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 117.6  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 1: US-395 & Avenal St.



HCM 6th Signalized Intersection Summary  
1: US-395 & Avenal St.

Hesperia US Cold Storage (JN 13201)

01/18/2021



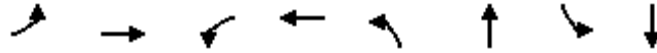
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔			↔		↔	↔	
Traffic Volume (veh/h)	0	0	0	79	0	6	0	1728	12	1	1252	0
Future Volume (veh/h)	0	0	0	79	0	6	0	1728	12	1	1252	0
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1700	1800	1800	0	1800	1800	1700	1800	0
Adj Flow Rate, veh/h				86	0	7	0	1878	13	1	1361	0
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				142	0	12	0	1347	9	2	1442	0
Arrive On Green				0.09	0.00	0.09	0.00	0.75	0.75	0.00	0.80	0.00
Sat Flow, veh/h				1571	0	128	0	1785	12	1619	1800	0
Grp Volume(v), veh/h				93	0	0	0	0	1891	1	1361	0
Grp Sat Flow(s),veh/h/ln				1698	0	0	0	0	1798	1619	1800	0
Q Serve(g_s), s				5.4	0.0	0.0	0.0	0.0	77.3	0.1	63.2	0.0
Cycle Q Clear(g_c), s				5.4	0.0	0.0	0.0	0.0	77.3	0.1	63.2	0.0
Prop In Lane				0.92		0.08	0.00		0.01	1.00		0.00
Lane Grp Cap(c), veh/h				154	0	0	0	0	1357	2	1442	0
V/C Ratio(X)				0.60	0.00	0.00	0.00	0.00	1.39	0.45	0.94	0.00
Avail Cap(c_a), veh/h				365	0	0	0	0	1357	79	1527	0
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh				44.8	0.0	0.0	0.0	0.0	12.6	51.1	8.3	0.0
Incr Delay (d2), s/veh				3.8	0.0	0.0	0.0	0.0	181.8	45.2	11.9	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				2.4	0.0	0.0	0.0	0.0	85.1	0.1	14.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				48.6	0.0	0.0	0.0	0.0	194.4	96.3	20.2	0.0
LnGrp LOS				D	A	A	A	A	F	F	C	A
Approach Vol, veh/h					93			1891			1362	
Approach Delay, s/veh					48.6			194.4			20.3	
Approach LOS					D			F			C	
Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	4.7	83.8				88.5		13.9				
Change Period (Y+Rc), s	4.6	6.5				6.5		4.6				
Max Green Setting (Gmax), s	5.0	77.3				86.9		22.0				
Max Q Clear Time (g_c+I1), s	2.1	79.3				65.2		7.4				
Green Ext Time (p_c), s	0.0	0.0				12.7		0.3				

Intersection Summary

HCM 6th Ctrl Delay	119.4
HCM 6th LOS	F



Timings  
2: US-395 & Yucca Terrace Dr.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕	↗	↖	↗	↖
Traffic Volume (vph)	110	0	31	0	71	1627	2	1302
Future Volume (vph)	110	0	31	0	71	1627	2	1302
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	26.6	26.6	26.6	26.6	9.6	24.5	9.6	24.5
Total Split (s)	26.6	26.6	26.6	26.6	9.6	83.8	9.6	83.8
Total Split (%)	22.2%	22.2%	22.2%	22.2%	8.0%	69.8%	8.0%	69.8%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.6		4.6	4.6	6.5	4.6	6.5
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 2: US-395 & Yucca Terrace Dr.

Ø1	Ø2	Ø4
9.6 s	83.8 s	26.6 s
Ø5	Ø6	Ø8
9.6 s	83.8 s	26.6 s

HCM 6th Signalized Intersection Summary  
2: US-395 & Yucca Terrace Dr.

Hesperia US Cold Storage (JN 13201)  
01/18/2021

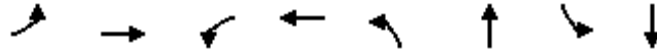


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↘		↗	↘	
Traffic Volume (veh/h)	110	0	413	31	0	3	71	1627	28	2	1302	27
Future Volume (veh/h)	110	0	413	31	0	3	71	1627	28	2	1302	27
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	115	0	430	32	0	3	74	1695	29	2	1356	28
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	95	3	228	146	3	9	67	1205	21	4	1132	23
Arrive On Green	0.18	0.00	0.18	0.18	0.00	0.18	0.04	0.68	0.68	0.00	0.64	0.64
Sat Flow, veh/h	318	15	1243	482	14	46	1619	1764	30	1619	1757	36
Grp Volume(v), veh/h	545	0	0	35	0	0	74	0	1724	2	0	1384
Grp Sat Flow(s),veh/h/ln	1576	0	0	542	0	0	1619	0	1795	1619	0	1793
Q Serve(g_s), s	15.6	0.0	0.0	0.0	0.0	0.0	5.0	0.0	82.0	0.1	0.0	77.3
Cycle Q Clear(g_c), s	22.0	0.0	0.0	6.4	0.0	0.0	5.0	0.0	82.0	0.1	0.0	77.3
Prop In Lane	0.21		0.79	0.91		0.09	1.00		0.02	1.00		0.02
Lane Grp Cap(c), veh/h	325	0	0	157	0	0	67	0	1226	4	0	1155
V/C Ratio(X)	1.68	0.00	0.00	0.22	0.00	0.00	1.10	0.00	1.41	0.46	0.00	1.20
Avail Cap(c_a), veh/h	325	0	0	157	0	0	67	0	1226	67	0	1155
HCM 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
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	49.9	0.0	0.0	42.5	0.0	0.0	57.5	0.0	19.0	59.8	0.0	21.4
Incr Delay (d2), s/veh	317.3	0.0	0.0	0.7	0.0	0.0	138.6	0.0	187.8	25.6	0.0	97.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	38.6	0.0	0.0	0.9	0.0	0.0	4.6	0.0	89.3	0.1	0.0	56.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	367.2	0.0	0.0	43.2	0.0	0.0	196.1	0.0	206.8	85.3	0.0	119.0
LnGrp LOS	F	A	A	D	A	A	F	A	F	F	A	F
Approach Vol, veh/h		545			35			1798				1386
Approach Delay, s/veh		367.2			43.2			206.3				119.0
Approach LOS		F			D			F				F
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.9	88.5		26.6	9.6	83.8		26.6				
Change Period (Y+Rc), s	4.6	6.5		4.6	4.6	6.5		4.6				
Max Green Setting (Gmax), s	5.0	77.3		22.0	5.0	77.3		22.0				
Max Q Clear Time (g_c+I1), s	2.1	84.0		24.0	7.0	79.3		8.4				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.1				

Intersection Summary

HCM 6th Ctrl Delay	196.0
HCM 6th LOS	F

Timings  
3: US-395 & Phelan Rd./Main St.

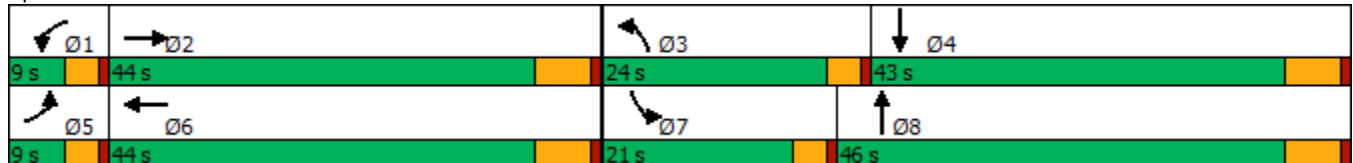


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↙	↕	↙	↕	↙	↕	↙	↕
Traffic Volume (vph)	91	1255	25	909	241	1251	649	996
Future Volume (vph)	91	1255	25	909	241	1251	649	996
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	5	2	1	6	3	8	7	4
Permitted Phases								
Detector Phase	5	2	1	6	3	8	7	4
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.0	16.0	9.0	16.0	9.0	16.0	9.0	16.0
Total Split (s)	9.0	44.0	9.0	44.0	24.0	46.0	21.0	43.0
Total Split (%)	7.5%	36.7%	7.5%	36.7%	20.0%	38.3%	17.5%	35.8%
Yellow Time (s)	3.0	5.0	3.0	5.0	3.0	5.0	3.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 3: US-395 & Phelan Rd./Main St.



HCM 6th Signalized Intersection Summary  
 3: US-395 & Phelan Rd./Main St.

Hesperia US Cold Storage (JN 13201)

07/09/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕		↖	↕	
Traffic Volume (veh/h)	91	1255	200	25	909	384	241	1251	47	649	996	100
Future Volume (veh/h)	91	1255	200	25	909	384	241	1251	47	649	996	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	96	1321	183	26	957	320	254	1317	42	683	1048	90
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	67	1007	139	39	798	265	270	1128	36	229	983	84
Arrive On Green	0.04	0.33	0.33	0.02	0.32	0.32	0.17	0.33	0.33	0.14	0.31	0.31
Sat Flow, veh/h	1619	3015	414	1619	2521	838	1619	3383	108	1619	3187	274
Grp Volume(v), veh/h	96	745	759	26	647	630	254	665	694	683	562	576
Grp Sat Flow(s),veh/h/ln	1619	1710	1719	1619	1710	1649	1619	1710	1781	1619	1710	1751
Q Serve(g_s), s	5.0	40.1	40.1	1.9	38.0	38.0	18.6	40.0	40.0	17.0	37.0	37.0
Cycle Q Clear(g_c), s	5.0	40.1	40.1	1.9	38.0	38.0	18.6	40.0	40.0	17.0	37.0	37.0
Prop In Lane	1.00		0.24	1.00		0.51	1.00		0.06	1.00		0.16
Lane Grp Cap(c), veh/h	67	571	574	39	542	522	270	570	594	229	527	540
V/C Ratio(X)	1.42	1.30	1.32	0.66	1.20	1.21	0.94	1.17	1.17	2.98	1.07	1.07
Avail Cap(c_a), veh/h	67	571	574	67	542	522	270	570	594	229	527	540
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.5	39.9	39.9	58.1	41.0	41.0	49.4	40.0	40.0	51.5	41.5	41.5
Incr Delay (d2), s/veh	256.9	149.0	156.5	13.4	105.1	109.6	39.0	93.0	93.2	901.7	58.0	57.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.8	39.2	40.7	0.9	30.7	30.2	10.1	30.3	31.6	64.0	23.0	23.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	314.4	189.0	196.4	71.5	146.1	150.6	88.4	133.0	133.2	953.2	99.5	99.3
LnGrp LOS	F	F	F	E	F	F	F	F	F	F	F	F
Approach Vol, veh/h		1600			1303			1613			1821	
Approach Delay, s/veh		200.0			146.7			126.0			419.6	
Approach LOS		F			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.9	46.1	24.0	43.0	9.0	44.0	21.0	46.0				
Change Period (Y+Rc), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0				
Max Green Setting (Gmax), s	5.0	38.0	20.0	37.0	5.0	38.0	17.0	40.0				
Max Q Clear Time (g_c+I1), s	3.9	42.1	20.6	39.0	7.0	40.0	19.0	42.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			233.3									
HCM 6th LOS			F									

Intersection						
Int Delay, s/veh	7.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Vol, veh/h	0	13	0	0	86	0
Future Vol, veh/h	0	13	0	0	86	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	14	0	0	93	0

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	14	0	8
Stage 1	-	-	-	-	7
Stage 2	-	-	-	-	1
Critical Hdwy	-	-	4.1	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	1617	-	1018
Stage 1	-	-	-	-	1021
Stage 2	-	-	-	-	1028
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1617	-	1018
Mov Cap-2 Maneuver	-	-	-	-	1018
Stage 1	-	-	-	-	1021
Stage 2	-	-	-	-	1028

Approach	EB	WB	NB
HCM Control Delay, s	0	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1018	-	-	1617	-
HCM Lane V/C Ratio	0.092	-	-	-	-
HCM Control Delay (s)	8.9	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Intersection						
Int Delay, s/veh	7.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	32	0	0	0	0	36
Future Vol, veh/h	32	0	0	0	0	36
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	35	0	0	0	0	39

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1	0	-	0	71
Stage 1	-	-	-	-	1
Stage 2	-	-	-	-	70
Critical Hdwy	4.1	-	-	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	2.2	-	-	-	3.5
Pot Cap-1 Maneuver	1635	-	-	-	938
Stage 1	-	-	-	-	1028
Stage 2	-	-	-	-	958
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1635	-	-	-	918
Mov Cap-2 Maneuver	-	-	-	-	918
Stage 1	-	-	-	-	1006
Stage 2	-	-	-	-	958

Approach	EB	WB	SB
HCM Control Delay, s	7.3	0	8.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1635	-	-	-	1090
HCM Lane V/C Ratio	0.021	-	-	-	0.036
HCM Control Delay (s)	7.2	0	-	-	8.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Timings  
6: Mesa Linda St. & Main St.

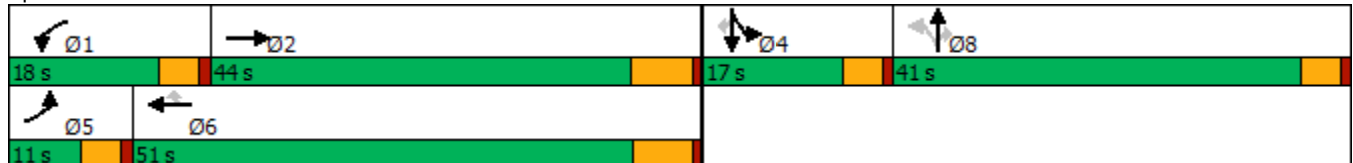


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBT	SBR
Lane Configurations	↘	↗↗↗	↘	↗↗↗	↗		↖	↗	↖	↗
Traffic Volume (vph)	5	1855	90	1272	57	10	7	85	0	3
Future Volume (vph)	5	1855	90	1272	57	10	7	85	0	3
Turn Type	Prot	NA	Prot	NA	Perm	Perm	NA	Perm	NA	Perm
Protected Phases	5	2	1	6			8		4	
Permitted Phases					6	8		8		4
Detector Phase	5	2	1	6	6	8	8	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	16.5	9.6	23.2	23.2	40.6	40.6	40.6	14.6	14.6
Total Split (s)	11.0	44.0	18.0	51.0	51.0	41.0	41.0	41.0	17.0	17.0
Total Split (%)	9.2%	36.7%	15.0%	42.5%	42.5%	34.2%	34.2%	34.2%	14.2%	14.2%
Yellow Time (s)	3.6	5.5	3.6	5.2	5.2	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.2	6.2		4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	Max	None	Max	Max	None	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 85.6  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 6: Mesa Linda St. & Main St.



HCM 6th Signalized Intersection Summary  
6: Mesa Linda St. & Main St.

Hesperia US Cold Storage (JN 13201)  
07/09/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑	↖		↖	↖		↖	↖
Traffic Volume (veh/h)	5	1855	6	90	1272	57	10	7	85	33	0	3
Future Volume (veh/h)	5	1855	6	90	1272	57	10	7	85	33	0	3
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	5	1932	5	94	1325	51	10	7	30	34	0	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	11	2601	7	117	2850	885	85	59	125	117	0	104
Arrive On Green	0.01	0.51	0.51	0.07	0.58	0.58	0.08	0.08	0.08	0.07	0.00	0.07
Sat Flow, veh/h	1619	5061	13	1619	4914	1525	1029	720	1525	1714	0	1525
Grp Volume(v), veh/h	5	1251	686	94	1325	51	17	0	30	34	0	1
Grp Sat Flow(s),veh/h/ln	1619	1638	1798	1619	1638	1525	1749	0	1525	1714	0	1525
Q Serve(g_s), s	0.2	23.2	23.2	4.4	12.0	1.1	0.7	0.0	1.4	1.5	0.0	0.0
Cycle Q Clear(g_c), s	0.2	23.2	23.2	4.4	12.0	1.1	0.7	0.0	1.4	1.5	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.59		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	11	1684	924	117	2850	885	144	0	125	117	0	104
V/C Ratio(X)	0.47	0.74	0.74	0.80	0.46	0.06	0.12	0.00	0.24	0.29	0.00	0.01
Avail Cap(c_a), veh/h	134	1684	924	281	2850	885	824	0	719	275	0	245
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.2	14.8	14.8	35.3	9.3	7.0	32.8	0.0	33.2	34.2	0.0	33.5
Incr Delay (d2), s/veh	11.4	3.0	5.4	4.7	0.5	0.1	0.4	0.0	1.0	1.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	7.2	8.5	1.8	3.3	0.3	0.3	0.0	0.6	0.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.7	17.8	20.1	40.0	9.9	7.2	33.2	0.0	34.2	35.5	0.0	33.6
LnGrp LOS	D	B	C	D	A	A	C	A	C	D	A	C
Approach Vol, veh/h		1942			1470			47				35
Approach Delay, s/veh		18.7			11.7			33.8				35.5
Approach LOS		B			B			C				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.2	46.2		9.9	5.1	51.3		11.0				
Change Period (Y+Rc), s	4.6	6.5		4.6	4.6	* 6.5		4.6				
Max Green Setting (Gmax), s	13.4	37.5		12.4	6.4	* 45		36.4				
Max Q Clear Time (g_c+1), s	6.4	25.2		3.5	2.2	14.0		3.4				
Green Ext Time (p_c), s	0.0	8.6		0.1	0.0	10.5		0.2				

Intersection Summary

HCM 6th Ctrl Delay	16.1
HCM 6th LOS	B

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



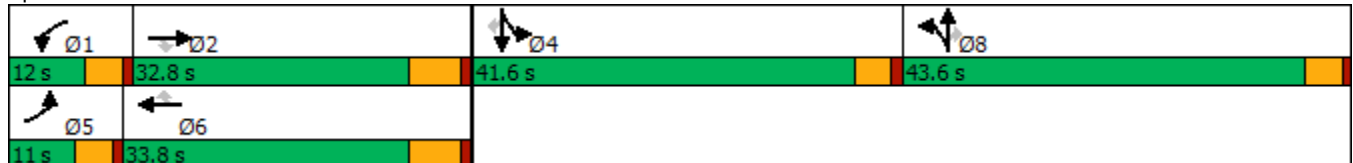
Timings  
7: Cataba Av. & Main St.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	92	1860	100	299	1110	47	201	57	191	74	34	117
Future Volume (vph)	92	1860	100	299	1110	47	201	57	191	74	34	117
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	32.2	32.2	9.6	32.2	32.2	43.6	43.6	43.6	41.6	41.6	41.6
Total Split (s)	11.0	32.8	32.8	12.0	33.8	33.8	43.6	43.6	43.6	41.6	41.6	41.6
Total Split (%)	8.5%	25.2%	25.2%	9.2%	26.0%	26.0%	33.5%	33.5%	33.5%	32.0%	32.0%	32.0%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (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
Lost Time Adjust (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
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None	None

Intersection Summary

Cycle Length: 130  
 Actuated Cycle Length: 86.7  
 Natural Cycle: 130  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 7: Cataba Av. & Main St.



HCM 6th Signalized Intersection Summary  
7: Cataba Av. & Main St.

Hesperia US Cold Storage (JN 13201)  
07/09/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘↗	↑↑↑	↗	↘	↗	↗	↘	↑	↗
Traffic Volume (veh/h)	92	1860	100	299	1110	47	201	57	191	74	34	117
Future Volume (veh/h)	92	1860	100	299	1110	47	201	57	191	74	34	117
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	94	1898	63	305	1133	36	132	161	92	76	35	29
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	117	1744	541	310	1875	581	248	276	232	204	227	192
Arrive On Green	0.07	0.35	0.35	0.10	0.38	0.38	0.15	0.15	0.15	0.13	0.13	0.13
Sat Flow, veh/h	1619	4914	1525	3141	4914	1523	1619	1800	1511	1619	1800	1525
Grp Volume(v), veh/h	94	1898	63	305	1133	36	132	161	92	76	35	29
Grp Sat Flow(s),veh/h/ln	1619	1638	1525	1570	1638	1523	1619	1800	1511	1619	1800	1525
Q Serve(g_s), s	4.3	26.6	2.1	7.3	13.9	1.1	5.6	6.2	4.1	3.2	1.3	1.3
Cycle Q Clear(g_c), s	4.3	26.6	2.1	7.3	13.9	1.1	5.6	6.2	4.1	3.2	1.3	1.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	117	1744	541	310	1875	581	248	276	232	204	227	192
V/C Ratio(X)	0.81	1.09	0.12	0.98	0.60	0.06	0.53	0.58	0.40	0.37	0.15	0.15
Avail Cap(c_a), veh/h	138	1744	541	310	1875	581	842	937	786	799	889	753
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.3	24.2	16.3	33.7	18.6	14.7	29.2	29.5	28.6	30.0	29.2	29.2
Incr Delay (d2), s/veh	21.2	49.9	0.4	46.4	1.5	0.2	1.8	2.0	1.1	1.1	0.3	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	16.6	0.7	4.5	4.7	0.4	2.3	2.8	1.5	1.3	0.6	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.5	74.1	16.7	80.1	20.1	14.9	31.0	31.5	29.7	31.1	29.5	29.5
LnGrp LOS	E	F	B	F	C	B	C	C	C	C	C	C
Approach Vol, veh/h		2055			1474			385			140	
Approach Delay, s/veh		71.5			32.4			30.9			30.4	
Approach LOS		E			C			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.0	32.8		14.1	10.0	34.8		16.1				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	7.4	26.6		37.0	6.4	27.6		39.0				
Max Q Clear Time (g_c+I1), s	9.3	28.6		5.2	6.3	15.9		8.2				
Green Ext Time (p_c), s	0.0	0.0		0.5	0.0	5.5		1.7				

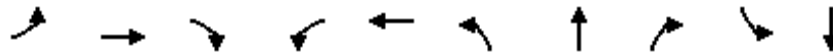
Intersection Summary

HCM 6th Ctrl Delay	52.0
HCM 6th LOS	D

Notes

- User approved pedestrian interval to be less than phase max green.
- User approved volume balancing among the lanes for turning movement.

Timings  
8: Key Point Av. & Main St.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↘	↑	↗	↘	↗
Traffic Volume (vph)	58	2164	25	229	1581	31	75	245	236	89
Future Volume (vph)	58	2164	25	229	1581	31	75	245	236	89
Turn Type	Prot	NA	Perm	Prot	NA	Perm	NA	Perm	Perm	NA
Protected Phases	5	2		1	6		8			4
Permitted Phases			2			8		8	4	
Detector Phase	5	2	2	1	6	8	8	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	29.2	29.2	9.6	30.2	38.6	38.6	38.6	41.6	41.6
Total Split (s)	16.0	42.0	42.0	34.0	60.0	44.0	44.0	44.0	44.0	44.0
Total Split (%)	13.3%	35.0%	35.0%	28.3%	50.0%	36.7%	36.7%	36.7%	36.7%	36.7%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	Max	Max	None	Max	None	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 101.8  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated




























Splits and Phases: 8: Key Point Av. & Main St.



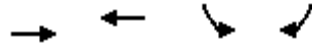
HCM 6th Signalized Intersection Summary  
8: Key Point Av. & Main St.

Hesperia US Cold Storage (JN 13201)

07/09/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  							
Traffic Volume (veh/h)	58	2164	25	229	1581	226	31	75	245	236	89	32
Future Volume (veh/h)	58	2164	25	229	1581	226	31	75	245	236	89	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	59	2208	22	234	1613	155	32	77	109	241	91	12
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	73	2019	627	264	2411	231	354	494	412	349	427	56
Arrive On Green	0.05	0.41	0.41	0.16	0.53	0.53	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	1619	4914	1525	1619	4559	437	1235	1800	1501	1147	1557	205
Grp Volume(v), veh/h	59	2208	22	234	1158	610	32	77	109	241	0	103
Grp Sat Flow(s),veh/h/ln	1619	1638	1525	1619	1638	1721	1235	1800	1501	1147	0	1762
Q Serve(g_s), s	3.7	41.8	0.9	14.4	26.2	26.3	2.1	3.3	5.8	20.5	0.0	4.6
Cycle Q Clear(g_c), s	3.7	41.8	0.9	14.4	26.2	26.3	6.7	3.3	5.8	23.8	0.0	4.6
Prop In Lane	1.00		1.00	1.00		0.25	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	73	2019	627	264	1732	910	354	494	412	349	0	484
V/C Ratio(X)	0.80	1.09	0.04	0.89	0.67	0.67	0.09	0.16	0.26	0.69	0.00	0.21
Avail Cap(c_a), veh/h	181	2019	627	468	1732	910	493	697	581	478	0	682
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.1	30.0	17.9	41.6	17.5	17.5	31.0	28.0	28.9	37.0	0.0	28.4
Incr Delay (d2), s/veh	7.4	50.7	0.1	4.0	2.1	3.9	0.1	0.1	0.3	2.5	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	24.2	0.3	5.7	9.0	10.0	0.6	1.5	2.1	6.0	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.5	80.7	18.0	45.6	19.6	21.4	31.1	28.1	29.2	39.5	0.0	28.7
LnGrp LOS	E	F	B	D	B	C	C	C	C	D	A	C
Approach Vol, veh/h		2289			2002			218			344	
Approach Delay, s/veh		79.4			23.2			29.1			36.3	
Approach LOS		E			C			C			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	21.2	48.0		32.5	9.2	60.0		32.5				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	29.4	35.8		39.4	11.4	53.8		39.4				
Max Q Clear Time (g_c+I1), s	16.4	43.8		25.8	5.7	28.3		8.7				
Green Ext Time (p_c), s	0.2	0.0		1.3	0.0	13.1		0.9				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				50.9								
HCM 6th LOS				D								

Timings  
9: I-15 SB Ramps & Main St.

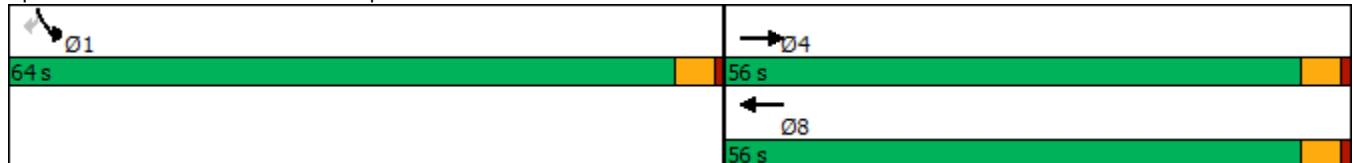


Lane Group	EBT	WBT	SBL	SBR
Lane Configurations	↑↑↑	↑↑↑	↘↘	↗
Traffic Volume (vph)	1983	1456	598	558
Future Volume (vph)	1983	1456	598	558
Turn Type	NA	NA	Prot	Perm
Protected Phases	4	8	1	
Permitted Phases				1
Detector Phase	4	8	1	1
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.6	9.6	9.6
Total Split (s)	56.0	56.0	64.0	64.0
Total Split (%)	46.7%	46.7%	53.3%	53.3%
Yellow Time (s)	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 103.4  
 Natural Cycle: 50  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 9: I-15 SB Ramps & Main St.



HCM 6th Signalized Intersection Summary  
 9: I-15 SB Ramps & Main St.

Hesperia US Cold Storage (JN 13201)

07/09/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑					↑↑		↑
Traffic Volume (veh/h)	0	1983	0	0	1456	0	0	0	0	598	0	558
Future Volume (veh/h)	0	1983	0	0	1456	0	0	0	0	598	0	558
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1800	0	0	1800	0				1700	0	1800
Adj Flow Rate, veh/h	0	2044	0	0	1501	0				616	0	462
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97				0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	2612		0	2612					1125	0	546
Arrive On Green	0.00	0.53	0.00	0.00	0.53	0.00				0.36	0.00	0.36
Sat Flow, veh/h	0	5238	0	0	5238	0				3141	0	1525
Grp Volume(v), veh/h	0	2044	0	0	1501	0				616	0	462
Grp Sat Flow(s),veh/h/ln	0	1638	0	0	1638	0				1570	0	1525
Q Serve(g_s), s	0.0	27.9	0.0	0.0	17.2	0.0				13.1	0.0	23.3
Cycle Q Clear(g_c), s	0.0	27.9	0.0	0.0	17.2	0.0				13.1	0.0	23.3
Prop In Lane	0.00		0.00	0.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2612		0	2612					1125	0	546
V/C Ratio(X)	0.00	0.78		0.00	0.57					0.55	0.00	0.85
Avail Cap(c_a), veh/h	0	3024		0	3024					2233	0	1085
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	15.7	0.0	0.0	13.2	0.0				21.4	0.0	24.7
Incr Delay (d2), s/veh	0.0	1.2	0.0	0.0	0.2	0.0				0.4	0.0	3.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	8.6	0.0	0.0	5.1	0.0				4.8	0.0	8.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	16.9	0.0	0.0	13.4	0.0				21.8	0.0	28.4
LnGrp LOS	A	B		A	B					C	A	C
Approach Vol, veh/h		2044	A		1501	A					1078	
Approach Delay, s/veh		16.9			13.4						24.6	
Approach LOS		B			B						C	
Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				49.0		34.5		49.0				
Change Period (Y+Rc), s				4.6		4.6		4.6				
Max Green Setting (Gmax), s				51.4		59.4		51.4				
Max Q Clear Time (g_c+1), s				29.9		25.3		19.2				
Green Ext Time (p_c), s				14.5		4.6		12.3				

Intersection Summary

HCM 6th Ctrl Delay	17.6
HCM 6th LOS	B

Notes

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

Timings  
10: I-15 NB Ramps & Main St.

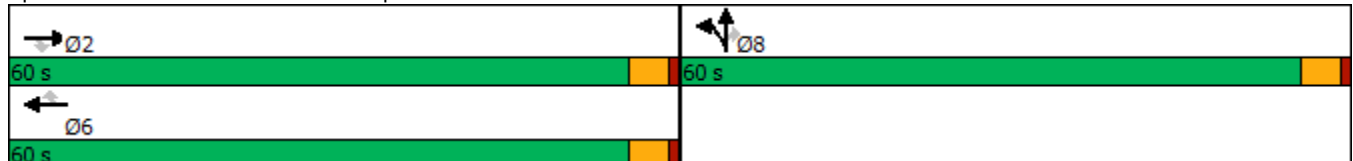


Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR
Lane Configurations	↑↑↑	↑	↑↑↑	↑	↑	↑	↑
Traffic Volume (vph)	1857	726	1560	462	316	0	906
Future Volume (vph)	1857	726	1560	462	316	0	906
Turn Type	NA	Perm	NA	Perm	Split	NA	Perm
Protected Phases	2		6		8	8	
Permitted Phases		2		6			8
Detector Phase	2	2	6	6	8	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.6	22.6	22.6	22.6	9.6	9.6	9.6
Total Split (s)	60.0	60.0	60.0	60.0	60.0	60.0	60.0
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	None	None	None	None	Min	Min	Min

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 106.3  
 Natural Cycle: 55  
 Control Type: Actuated-Uncoordinated













Splits and Phases: 10: I-15 NB Ramps & Main St.



HCM 6th Signalized Intersection Summary  
 10: I-15 NB Ramps & Main St.

Hesperia US Cold Storage (JN 13201)

07/09/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑↑	↗	↘	↗	↗			
Traffic Volume (veh/h)	0	1857	726	0	1560	462	316	0	906	0	0	0
Future Volume (veh/h)	0	1857	726	0	1560	462	316	0	906	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1800	1800	0	1800	1800	1700	1800	1800			
Adj Flow Rate, veh/h	0	1914	0	0	1608	329	326	0	787			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	0	2688		0	2688	834	533	0	1005			
Arrive On Green	0.00	0.55	0.00	0.00	0.55	0.55	0.33	0.00	0.33			
Sat Flow, veh/h	0	5076	1525	0	5076	1525	1619	0	3051			
Grp Volume(v), veh/h	0	1914	0	0	1608	329	326	0	787			
Grp Sat Flow(s),veh/h/ln	0	1638	1525	0	1638	1525	1619	0	1525			
Q Serve(g_s), s	0.0	21.5	0.0	0.0	16.4	9.3	12.6	0.0	17.4			
Cycle Q Clear(g_c), s	0.0	21.5	0.0	0.0	16.4	9.3	12.6	0.0	17.4			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	2688		0	2688	834	533	0	1005			
V/C Ratio(X)	0.00	0.71		0.00	0.60	0.39	0.61	0.00	0.78			
Avail Cap(c_a), veh/h	0	3658		0	3658	1135	1205	0	2271			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	12.5	0.0	0.0	11.4	9.7	21.0	0.0	22.6			
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.0	0.2	0.3	1.1	0.0	1.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	5.9	0.0	0.0	4.5	2.4	4.7	0.0	6.1			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	12.9	0.0	0.0	11.6	10.0	22.1	0.0	23.9			
LnGrp LOS	A	B		A	B	B	C	A	C			
Approach Vol, veh/h		1914	A		1937			1113				
Approach Delay, s/veh		12.9			11.3			23.4				
Approach LOS		B			B			C				
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		45.3				45.3		29.1				
Change Period (Y+Rc), s		4.6				4.6		4.6				
Max Green Setting (Gmax), s		55.4				55.4		55.4				
Max Q Clear Time (g_c+I1), s		23.5				18.4		19.4				
Green Ext Time (p_c), s		17.2				16.5		5.2				

Intersection Summary

HCM 6th Ctrl Delay	14.6
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.  
 Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



**APPENDIX 6.3:**

**OPENING YEAR CUMULATIVE (2022) WITHOUT PROJECT CONDITIONS TRAFFIC  
SIGNAL WARRANT ANALYSIS WORKSHEETS**

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### Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **2022 Without Project Conditions - Weekday PM Peak Hour**

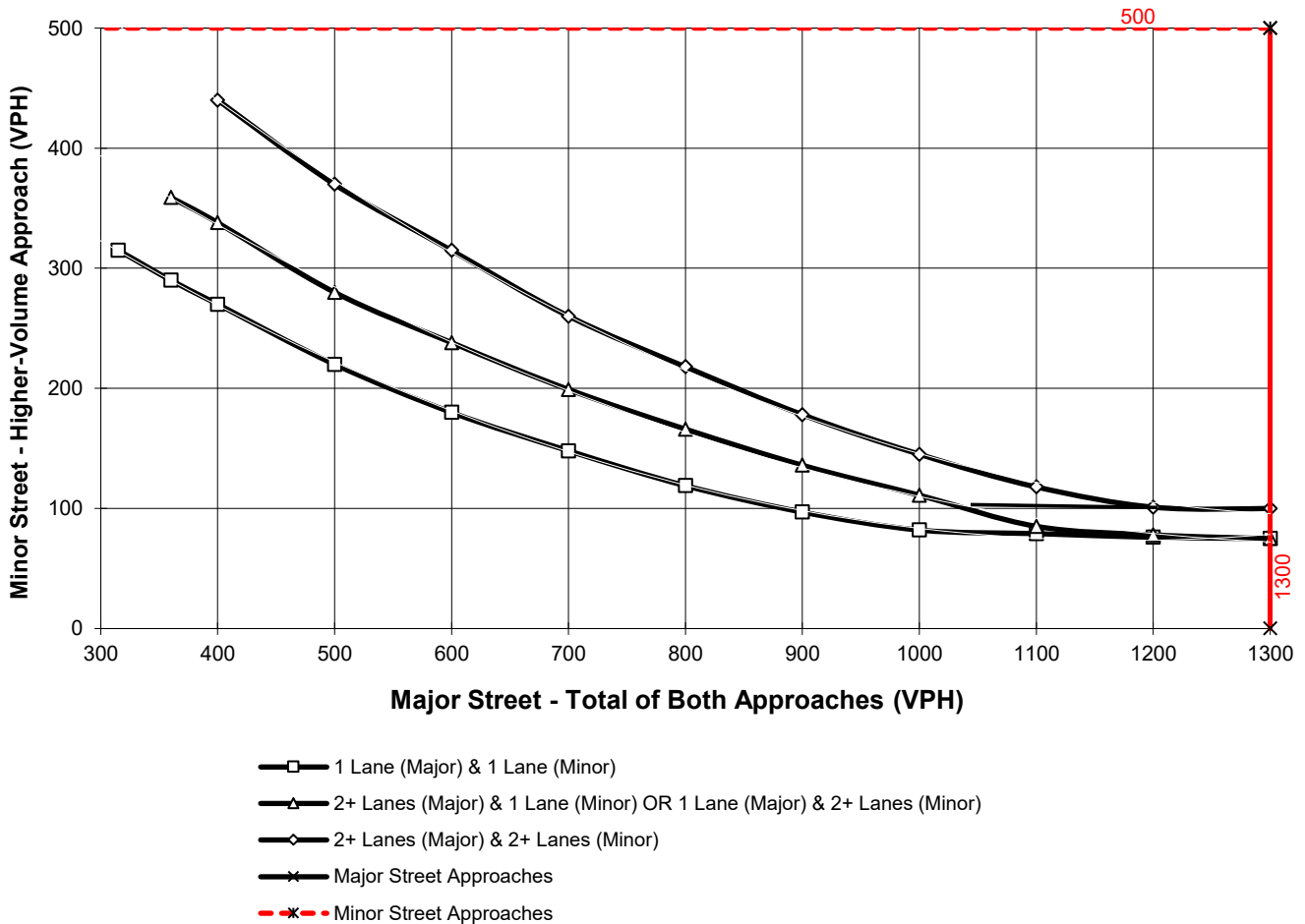
Major Street Name = **US Highway 395**

Total of Both Approaches (VPH) = **2940**  
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Yucca Terrace Drive**

High Volume Approach (VPH) = **523**  
 Number of Approach Lanes Minor Street = **1**

**WARRANTED FOR A SIGNAL**



\*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

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**APPENDIX 6.4:**

**OPENING YEAR CUMULATIVE (2022) WITH PROJECT CONDITIONS TRAFFIC SIGNAL  
WARRANT ANALYSIS WORKSHEETS**

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### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	CALC <u>CS</u>	TRAFFIC CONDITIONS	<b>2022 WP</b>	
Jurisdiction: <u>City of Hesperia</u>				CHK <u>CS</u>	DATE <u>07/08/20</u>	DATE <u>07/08/20</u>	
Major Street: <u>Avenal St.</u>					Critical Approach Speed (Major) <u>25</u> mph		
Minor Street: <u>Driveway 1</u>					Critical Approach Speed (Minor) <u>25</u> mph		
Major Street Approach Lanes =			<u>1</u>	lane	Minor Street Approach Lanes:	<u>1</u> lane	
Major Street Future ADT =			<u>821</u>	vpd	Minor Street Future ADT =	<u>821</u> vpd	
Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....						<input type="checkbox"/>	
						or	<b>URBAN (U)</b>
In built up area of isolated community of < 10,000 population .....						<input type="checkbox"/>	

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements EADT			
<b>XX</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<b>CONDITION A - Minimum Vehicular Volume</b>					
<u>Satisfied</u>	<u>Not Satisfied</u>				
	<b>XX</b>				
Number of lanes for moving traffic on each approach		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<u>Major Street</u>	<u>Minor Street</u>				
1 <b>821</b>	1 <b>821</b>	8,000	5,600	2,400	1,680
2 +	1	9,600	6,720	2,400	1,680
2 +	2 +	9,600	6,720	3,200	2,240
1	2 +	8,000	5,600	3,200	2,240
<b>CONDITION B - Interruption of Continuous Traffic</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	<b>XX</b>				
Number of lanes for moving traffic on each approach		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<u>Major Street</u>	<u>Minor Street</u>				
1 <b>821</b>	1 <b>821</b>	12,000	8,400	1,200	850
2 +	1	14,400	10,080	1,200	850
2 +	2 +	14,400	10,080	1,600	1,120
1	2 +	12,000	8,400	1,600	1,120
<b>Combination of CONDITIONS A + B</b>		2 CONDITIONS		2 CONDITIONS	
<u>Satisfied</u>	<u>Not Satisfied</u>	80%		80%	
	<b>XX</b>				
No one condition satisfied, but following conditions fulfilled 80% of more .....					
	<u>A</u>				
	<b>10%</b>				
	<u>B</u>				
	<b>7%</b>				

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	CALC <u>CS</u>	TRAFFIC CONDITIONS	2022 WP
Jurisdiction: <u>City of Hesperia</u>				CHK <u>CS</u>		DATE <u>07/08/20</u>
Major Street: <u>Yucca Terrace Dr.</u>					Critical Approach Speed (Major)	<u>25</u> mph
Minor Street: <u>Driveway 2</u>					Critical Approach Speed (Minor)	<u>25</u> mph
Major Street Approach Lanes =		<u>1</u>	lane	Minor Street Approach Lanes:	<u>1</u>	lane
Major Street Future ADT =		<u>822</u>	vpd	Minor Street Future ADT =	<u>822</u>	vpd
Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....						
						or
In built up area of isolated community of < 10,000 population .....						
<b>URBAN (U)</b>						

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements EADT			
<b>XX</b>					
<b>CONDITION A - Minimum Vehicular Volume</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	<b>XX</b>				
Number of lanes for moving traffic on each approach		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<u>Major Street</u>	<u>Minor Street</u>				
1 <b>822</b>	1 <b>822</b>	8,000	5,600	2,400	1,680
2 +	1	9,600	6,720	2,400	1,680
2 +	2 +	9,600	6,720	3,200	2,240
1	2 +	8,000	5,600	3,200	2,240
<b>CONDITION B - Interruption of Continuous Traffic</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	<b>XX</b>				
Number of lanes for moving traffic on each approach		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<u>Major Street</u>	<u>Minor Street</u>				
1 <b>822</b>	1 <b>822</b>	12,000	8,400	1,200	850
2 +	1	14,400	10,080	1,200	850
2 +	2 +	14,400	10,080	1,600	1,120
1	2 +	12,000	8,400	1,600	1,120
<b>Combination of CONDITIONS A + B</b>		2 CONDITIONS 80%		2 CONDITIONS 80%	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	<b>XX</b>				
No one condition satisfied, but following conditions fulfilled 80% of more .....					
	<u>A</u>				
	<b>10%</b>				
	<u>B</u>				
	<b>7%</b>				

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

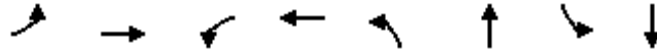


**APPENDIX 6.5:**

**OPENING YEAR CUMULATIVE (2022) WITHOUT PROJECT CONDITIONS QUEUING  
ANALYSIS WORKSHEETS**

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Queues  
3: US-395 & Phelan Rd./Main St.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	92	1065	22	1697	232	935	332	1186
v/c Ratio	0.86	0.89	0.33	1.66	1.33	1.00	1.07	0.97
Control Delay	111.1	47.1	69.1	331.7	225.2	72.2	118.5	58.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	111.1	47.1	69.1	331.7	225.2	72.2	118.5	58.3
Queue Length 50th (ft)	72	420	17	~997	~233	381	~286	471
Queue Length 95th (ft)	#171	#567	46	#1139	#394	#528	#469	#625
Internal Link Dist (ft)		3796		1443		1039		2603
Turn Bay Length (ft)	340		250		330		250	
Base Capacity (vph)	107	1196	67	1020	174	938	309	1218
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.86	0.89	0.33	1.66	1.33	1.00	1.07	0.97

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

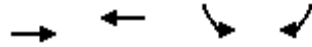
# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

## Queues

## 9: I-15 SB Ramps &amp; Main St.

07/09/2020



Lane Group	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	1338	1509	384	703
v/c Ratio	0.66	0.74	0.25	0.93
Control Delay	23.2	25.1	15.5	43.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	23.2	25.1	15.5	43.4
Queue Length 50th (ft)	222	263	63	350
Queue Length 95th (ft)	268	315	114	#710
Internal Link Dist (ft)	464	836		
Turn Bay Length (ft)			1000	540
Base Capacity (vph)	3574	3574	1523	758
Starvation Cap Reductn	94	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.38	0.42	0.25	0.93

## Intersection Summary

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

Queues  
10: I-15 NB Ramps & Main St.

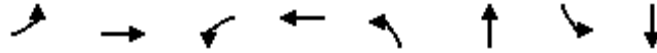


Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	1239	432	1510	511	581	231	234
v/c Ratio	0.53	0.45	0.64	0.51	0.86	0.35	0.36
Control Delay	16.8	2.8	18.6	3.0	41.6	16.1	16.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.8	2.8	18.6	3.0	41.6	16.1	16.3
Queue Length 50th (ft)	171	0	225	0	293	60	61
Queue Length 95th (ft)	205	42	266	44	#649	158	161
Internal Link Dist (ft)	836		1724			589	
Turn Bay Length (ft)		250			1000		615
Base Capacity (vph)	4025	1331	4025	1345	674	652	649
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.32	0.38	0.38	0.86	0.35	0.36

Intersection Summary

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

Queues  
3: US-395 & Phelan Rd./Main St.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	93	1532	26	1328	254	1361	593	1132
v/c Ratio	1.39	1.31	0.39	1.24	0.95	1.20	2.60	1.08
Control Delay	285.5	179.4	72.8	150.8	93.4	133.9	754.8	90.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	285.5	179.4	72.8	150.8	93.4	133.9	754.8	90.9
Queue Length 50th (ft)	~96	~847	20	~661	197	~674	~771	~514
Queue Length 95th (ft)	#207	#990	51	#800	#360	#815	#994	#652
Internal Link Dist (ft)		3796		1443		1039		2603
Turn Bay Length (ft)	340		250		330		250	
Base Capacity (vph)	67	1169	67	1071	269	1136	228	1050
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.39	1.31	0.39	1.24	0.94	1.20	2.60	1.08

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

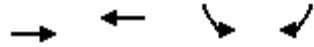
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Queues

9: I-15 SB Ramps & Main St.



Lane Group	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	1998	1482	616	561
v/c Ratio	0.84	0.62	0.47	0.86
Control Delay	28.4	22.2	22.1	39.8
Queue Delay	1.1	0.0	0.0	0.0
Total Delay	29.5	22.2	22.1	39.8
Queue Length 50th (ft)	395	249	150	326
Queue Length 95th (ft)	#654	394	194	474
Internal Link Dist (ft)	464	836		
Turn Bay Length (ft)			1000	540
Base Capacity (vph)	2549	2549	1878	923
Starvation Cap Reductn	306	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.89	0.58	0.33	0.61

Intersection Summary

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

Queues

10: I-15 NB Ramps & Main St.

07/09/2020



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	1907	708	1605	476	310	467	467
v/c Ratio	0.77	0.66	0.65	0.47	0.47	0.78	0.78
Control Delay	25.5	6.5	22.3	3.4	25.4	36.1	36.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.5	6.5	22.3	3.4	25.4	36.1	36.1
Queue Length 50th (ft)	383	31	293	0	156	284	284
Queue Length 95th (ft)	533	156	412	58	233	421	421
Internal Link Dist (ft)	836		1724			589	
Turn Bay Length (ft)		250			1000		615
Base Capacity (vph)	2649	1111	2649	1044	870	791	791
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.72	0.64	0.61	0.46	0.36	0.59	0.59

Intersection Summary

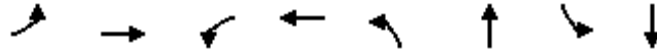


**APPENDIX 6.6:**

**OPENING YEAR CUMULATIVE (2022) WITH PROJECT CONDITIONS QUEUING  
ANALYSIS WORKSHEETS**

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Queues  
3: US-395 & Phelan Rd./Main St.



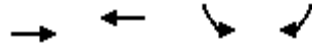
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	98	1065	22	1789	232	949	361	1192
v/c Ratio	0.92	0.89	0.33	1.74	1.33	1.01	1.17	0.98
Control Delay	122.7	47.1	69.1	363.9	225.2	75.6	148.0	59.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	122.7	47.1	69.1	363.9	225.2	75.6	148.0	59.5
Queue Length 50th (ft)	77	420	17	~1067	~233	~395	~332	474
Queue Length 95th (ft)	#184	#567	46	#1208	#394	#540	#523	#631
Internal Link Dist (ft)		3796		1443		1039		2603
Turn Bay Length (ft)	340		250		330		250	
Base Capacity (vph)	107	1196	67	1029	174	938	309	1217
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.92	0.89	0.33	1.74	1.33	1.01	1.17	0.98

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.  
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

Queues

9: I-15 SB Ramps & Main St.



Lane Group	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	1353	1562	384	746
v/c Ratio	0.65	0.75	0.26	1.01
Control Delay	22.7	24.9	16.5	61.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	22.7	24.9	16.5	61.7
Queue Length 50th (ft)	226	277	67	~424
Queue Length 95th (ft)	270	328	119	#804
Internal Link Dist (ft)	464	836		
Turn Bay Length (ft)			1000	540
Base Capacity (vph)	3496	3496	1490	740
Starvation Cap Reductn	119	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.40	0.45	0.26	1.01

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Queues

10: I-15 NB Ramps & Main St.

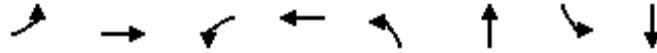
07/09/2020



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	1241	444	1516	511	624	231	234
v/c Ratio	0.53	0.46	0.64	0.51	0.93	0.35	0.36
Control Delay	16.8	2.8	18.6	3.0	49.9	16.2	16.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.8	2.8	18.6	3.0	49.9	16.2	16.4
Queue Length 50th (ft)	171	0	226	0	330	60	62
Queue Length 95th (ft)	206	42	267	44	#718	158	162
Internal Link Dist (ft)	836		1724			589	
Turn Bay Length (ft)		250			1000		615
Base Capacity (vph)	4018	1332	4018	1344	673	651	648
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.33	0.38	0.38	0.93	0.35	0.36

Intersection Summary

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



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	96	1532	26	1361	254	1366	683	1153
v/c Ratio	1.43	1.31	0.39	1.27	0.95	1.20	3.00	1.10
Control Delay	301.8	179.4	72.8	162.4	93.4	135.7	928.8	98.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	301.8	179.4	72.8	162.4	93.4	135.7	928.8	98.4
Queue Length 50th (ft)	~101	~847	20	~686	197	~679	~916	~533
Queue Length 95th (ft)	#213	#990	51	#826	#360	#820	#1147	#671
Internal Link Dist (ft)		3796		1443		1039		2603
Turn Bay Length (ft)	340		250		330		250	
Base Capacity (vph)	67	1169	67	1073	269	1136	228	1048
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.43	1.31	0.39	1.27	0.94	1.20	3.00	1.10

**Intersection Summary**

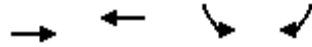
~ Volume exceeds capacity, queue is theoretically infinite.  
Queue shown is maximum after two cycles.

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

Queues

9: I-15 SB Ramps & Main St.

07/09/2020



Lane Group	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	2044	1501	616	575
v/c Ratio	0.86	0.63	0.46	0.87
Control Delay	29.9	22.8	22.1	41.5
Queue Delay	2.1	0.0	0.0	0.0
Total Delay	32.0	22.8	22.1	41.5
Queue Length 50th (ft)	424	262	150	339
Queue Length 95th (ft)	#680	401	194	493
Internal Link Dist (ft)	464	836		
Turn Bay Length (ft)			1000	540
Base Capacity (vph)	2490	2490	1835	902
Starvation Cap Reductn	298	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.93	0.60	0.34	0.64

Intersection Summary

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

Queues

10: I-15 NB Ramps & Main St.

07/09/2020



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	1914	748	1608	476	326	467	467
v/c Ratio	0.77	0.68	0.65	0.47	0.49	0.78	0.78
Control Delay	25.8	6.9	22.5	3.4	25.9	36.0	36.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.8	6.9	22.5	3.4	25.9	36.0	36.0
Queue Length 50th (ft)	386	34	294	0	166	284	284
Queue Length 95th (ft)	536	171	413	58	246	421	421
Internal Link Dist (ft)	836		1724			589	
Turn Bay Length (ft)		250			1000		615
Base Capacity (vph)	2621	1121	2621	1038	861	782	782
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.73	0.67	0.61	0.46	0.38	0.60	0.60

Intersection Summary



**APPENDIX 6.7:**

**OPENING YEAR CUMULATIVE (2022) WITHOUT PROJECT CONDITIONS FREEWAY  
FACILITY ANALYSIS WORKSHEETS**

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# HCS7 Freeway Facilities Report

## Project Information

Analyst	JB	Date	7/9/2020
Agency	Urban Crossroads, Inc.	Analysis Year	OYC (2022) NP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	US Cold Storage (JN 13201) - I-15 SB at Main		

## Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15

## Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-15 SB, North of Main St.	16360	3
2	Diverge	Diverge	I-15 SB, Off-Ramp at Main St.	1500	3
3	Basic	Basic	I-15 SB, Between Off and Loop On-Ramp	975	3
4	Merge	Merge	I-15 SB, Loop On-Ramp at Main St.	1500	3
5	Basic	Basic	I-15 SB, Between Loop On-Ramp and On-Ramp	1415	3
6	Merge	Merge	I-15 SB, On-Ramp at Main St.	1500	3
7	Basic	Basic	I-15 SB, South of Main St.	5900	3

## Facility Segment Data

### Segment 1: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.962		4895		7146		0.68		66.6		24.5		C

### Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.962	0.935	4895	1044	7200	2100	0.68	0.50	63.2	59.0	25.8	31.8	D

### Segment 3: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.971		3844		7146		0.54		68.2		18.8		C

### Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.971	0.971	4449	605	7200	1900	0.62	0.32	61.8	59.6	24.0	25.4	C

### Segment 5: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.971	4449	7146	0.62	67.6	21.9	C

### Segment 6: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.971	0.943	4656	207	7200	2100	0.65	0.10	62.2	60.4	25.0	24.5	C

### Segment 7: Basic

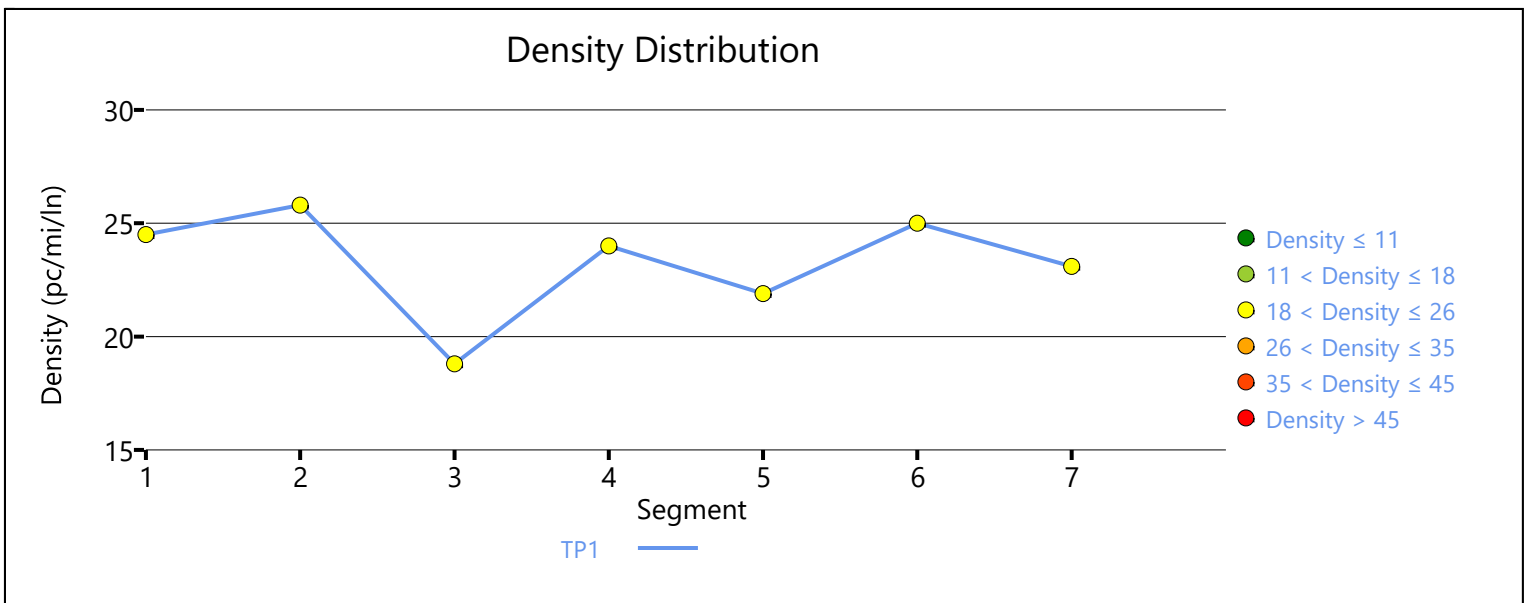
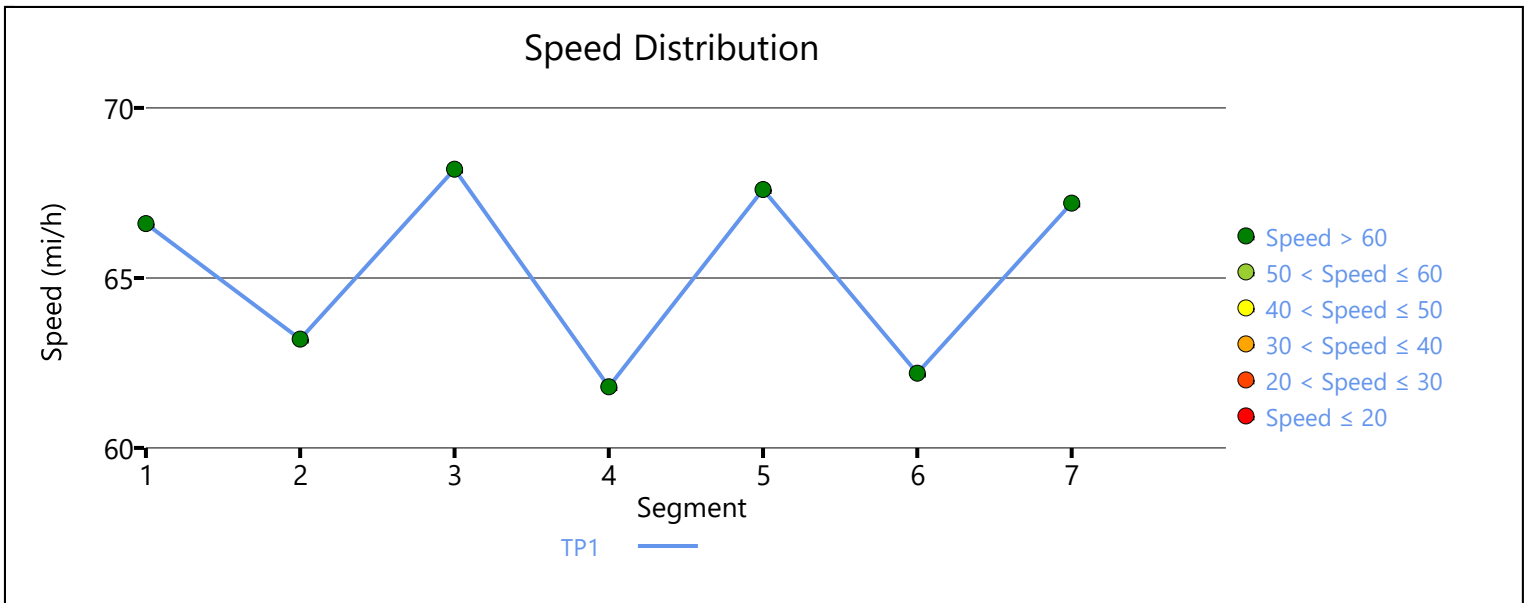
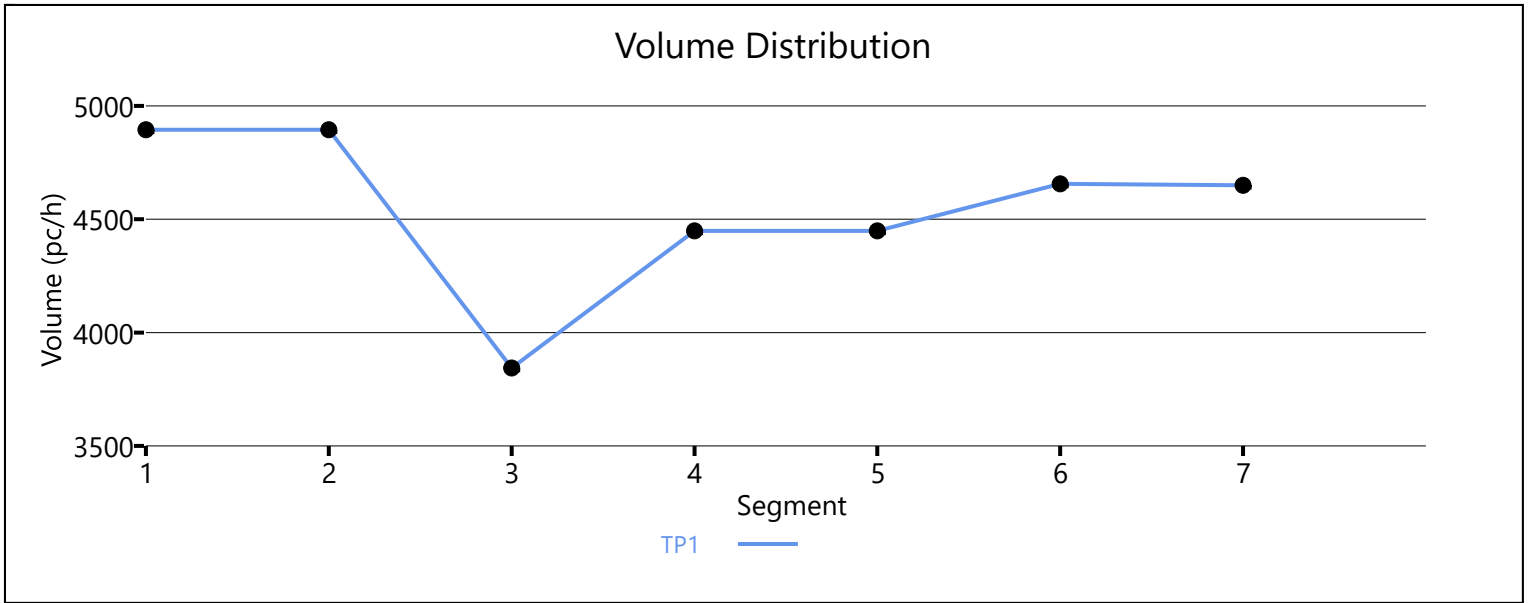
Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.971	4650	7146	0.65	67.2	23.1	C

### Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	66.1	24.0	23.2	5.0	C

### Facility Overall Results

Space Mean Speed, mi/h	66.1	Density, veh/mi/ln	23.2
Average Travel Time, min	5.0	Density, pc/mi/ln	24.0



# HCS7 Freeway Facilities Report

## Project Information

Analyst	JB	Date	7/9/2020
Agency	Urban Crossroads, Inc.	Analysis Year	OYC (2022) NP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	US Cold Storage (JN 13201) - I-15 NB at Main		

## Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15

## Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-15 NB, South of Main St.	6140	3
2	Diverge	Diverge	I-15 NB, Off-Ramp at Main St.	1500	3
3	Basic	Basic	I-15 NB, Between Off-Ramp and Loop On-Ramp	1125	3
4	Merge	Merge	I-15 NB, Loop On-Ramp at Main St.	1500	3
5	Basic	Basic	I-15 NB, Between Loop On-Ramp and On-Ramp	1215	3
6	Merge	Merge	I-15 NB, On-Ramp at Main St.	1500	3
7	Basic	Basic	I-15 NB, North of Main St.	16370	3

## Facility Segment Data

### Segment 1: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.92		0.962		4256		7146		0.60		67.9		20.9		C

### Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.962	0.943	4256	1124	7200	2100	0.59	0.54	62.9	58.8	22.6	28.9	D

### Segment 3: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.92		0.980		3097		7146		0.43		68.2		15.1		B

### Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.980	0.962	3555	458	7200	674 1900	0.49	0.24	62.8	60.6	18.9	20.1	C

### Segment 5: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.971	3579	7146	0.50	68.2	17.5	B

### Segment 6: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.971	0.971	4126	547	7200	2100	0.57	0.26	62.5	60.5	22.0	23.5	C

### Segment 7: Basic

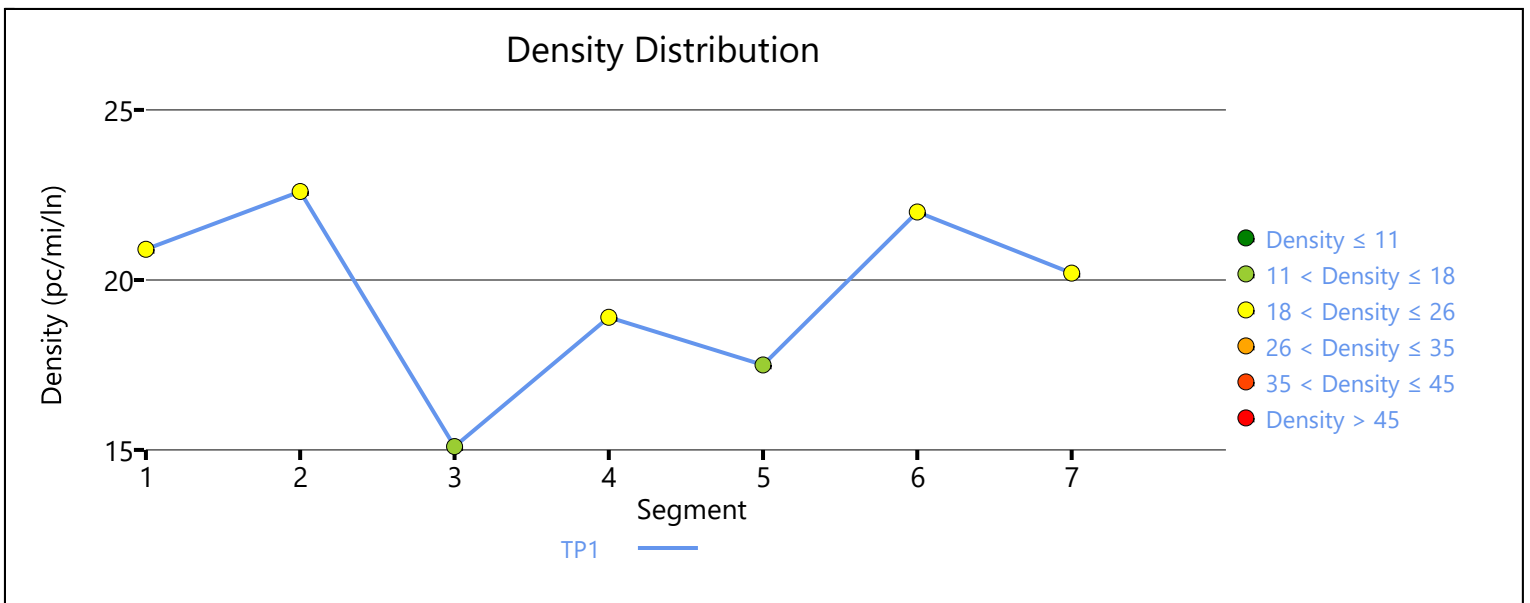
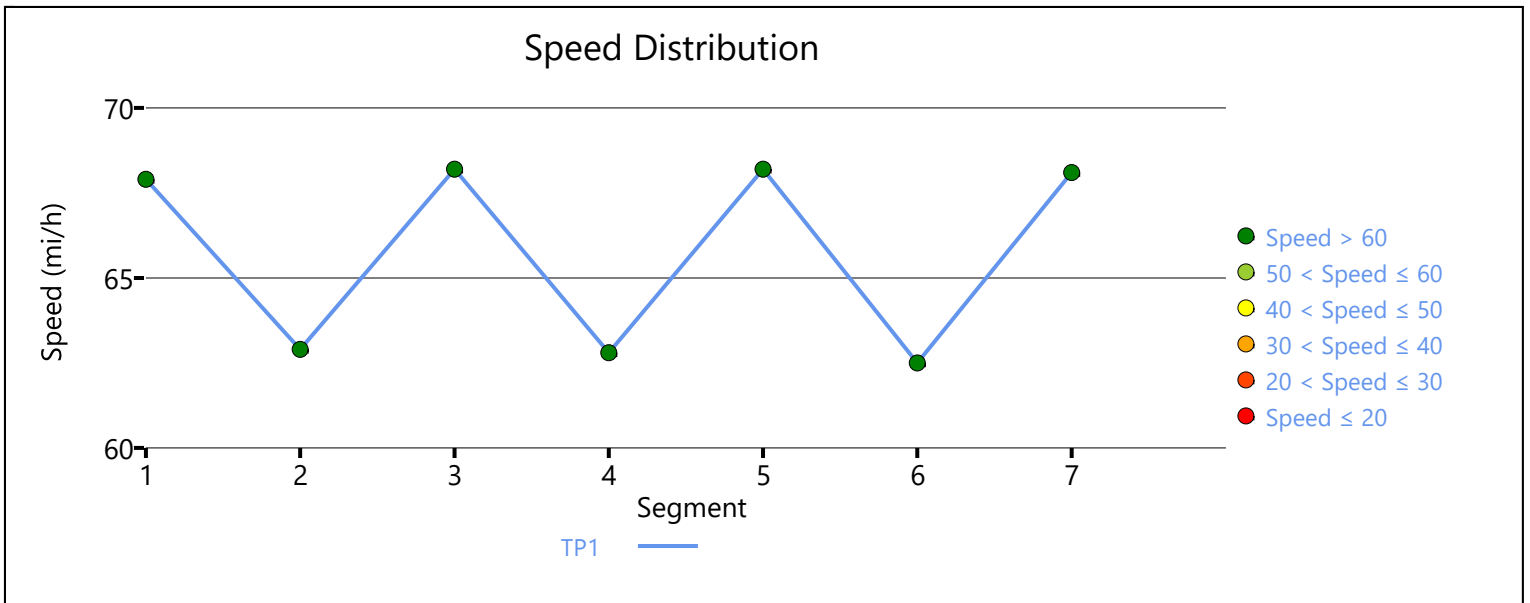
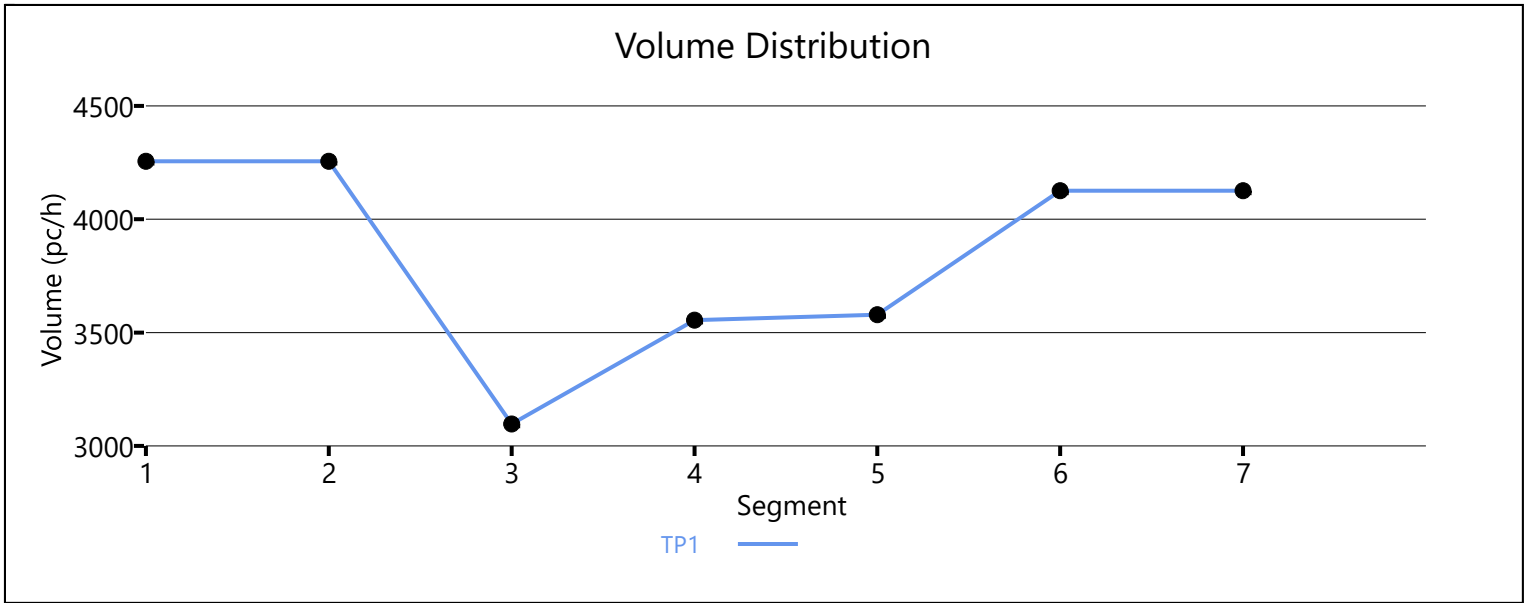
Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.971	4126	7146	0.58	68.1	20.2	C

### Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	67.2	20.2	19.6	5.0	C

### Facility Overall Results

Space Mean Speed, mi/h	67.2	Density, veh/mi/ln	19.6
Average Travel Time, min	5.0	Density, pc/mi/ln	20.2





# HCS7 Freeway Facilities Report

## Project Information

Analyst	JB	Date	7/9/2020
Agency	Urban Crossroads, Inc.	Analysis Year	OYC (2022) NP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	US Cold Storage (JN 13201)) - I-15 SB at Main		

## Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15

## Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-15 SB, North of Main St.	16360	3
2	Diverge	Diverge	I-15 SB, Off-Ramp at Main St.	1500	3
3	Basic	Basic	I-15 SB, Between Off and Loop On-Ramp	975	3
4	Merge	Merge	I-15 SB, Loop On-Ramp at Main St.	1500	3
5	Basic	Basic	I-15 SB, Between Loop On-Ramp and On-Ramp	1415	3
6	Merge	Merge	I-15 SB, On-Ramp at Main St.	1500	3
7	Basic	Basic	I-15 SB, South of Main St.	5900	3

## Facility Segment Data

### Segment 1: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.962		4883		7146		0.68		66.6		24.4		C

### Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.962	0.971	4883	1140	7200	2100	0.68	0.54	63.0	58.8	25.8	31.9	D

### Segment 3: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.962		3732		7146		0.52		68.2		18.2		C

### Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.962	0.952	4151	419	7200	6719	0.58	0.22	62.2	60.0	22.2	23.5	C

### Segment 5: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.962	4147	7146	0.58	68.1	20.3	C

### Segment 6: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.962	0.962	4750	603	7200	2100	0.66	0.29	61.8	59.9	25.6	26.0	C

### Segment 7: Basic

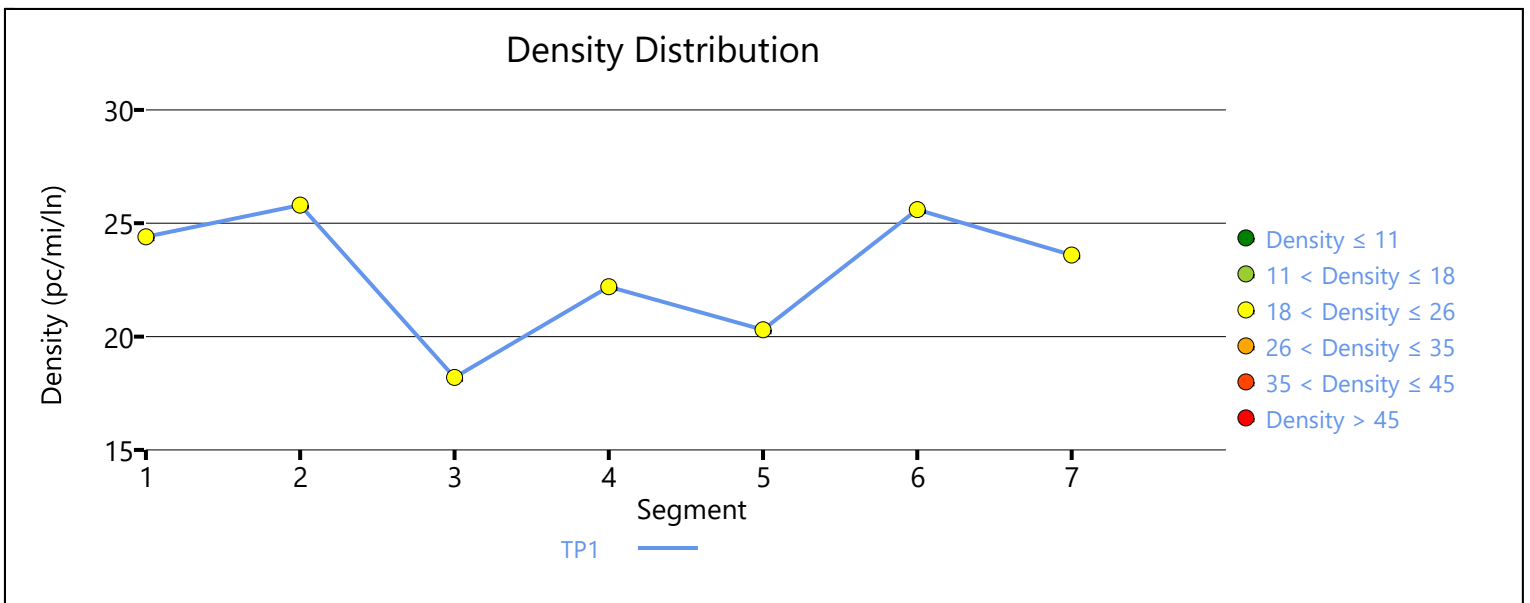
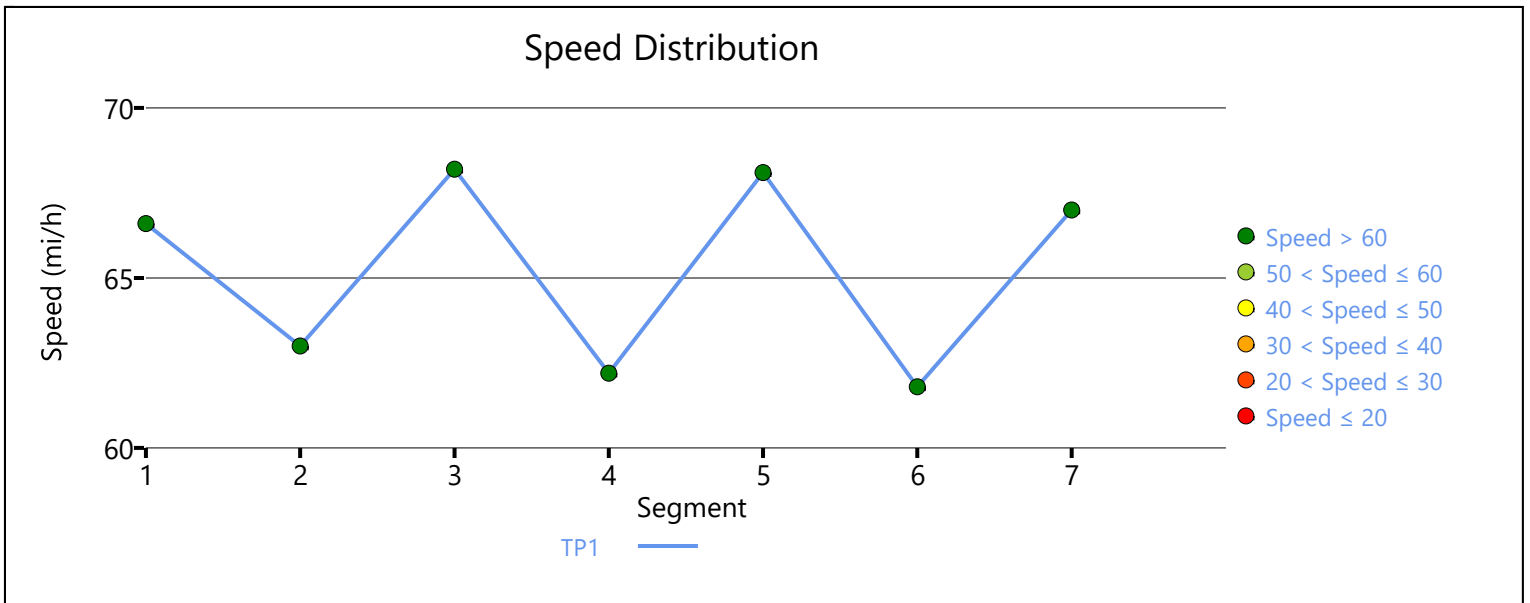
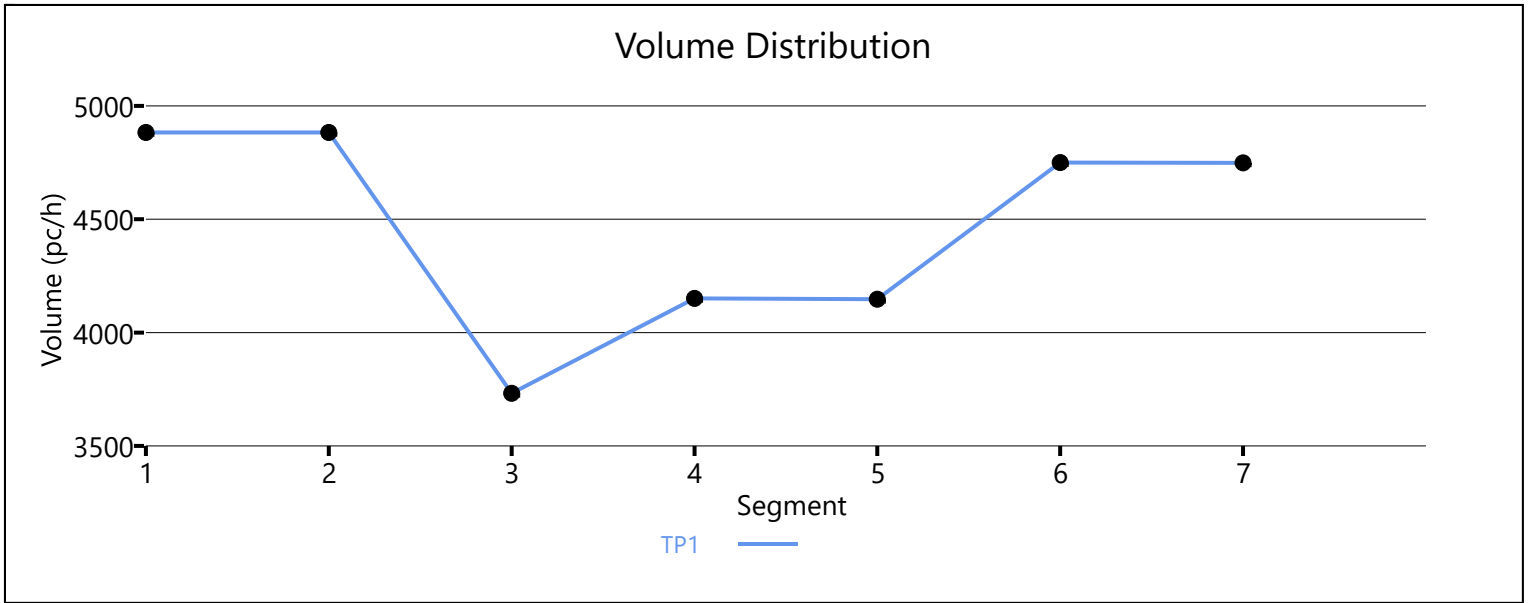
Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.962	4749	7146	0.66	67.0	23.6	C

### Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	66.1	23.9	23.0	5.0	C

### Facility Overall Results

Space Mean Speed, mi/h	66.1	Density, veh/mi/ln	23.0
Average Travel Time, min	5.0	Density, pc/mi/ln	23.9



# HCS7 Freeway Facilities Report

## Project Information

Analyst	JB	Date	7/9/2020
Agency	Urban Crossroads, Inc.	Analysis Year	OYC (2022) NP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	US Cold Storage (JN 13201) - I-15 NB at Main		

## Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15

## Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-15 NB, South of Main St.	6140	3
2	Diverge	Diverge	I-15 NB, Off-Ramp at Main St.	1500	3
3	Basic	Basic	I-15 NB, Between Off-Ramp and Loop On-Ramp	1125	3
4	Merge	Merge	I-15 NB, Loop On-Ramp at Main St.	1500	3
5	Basic	Basic	I-15 NB, Between Loop On-Ramp and On-Ramp	1215	3
6	Merge	Merge	I-15 NB, On-Ramp at Main St.	1500	3
7	Basic	Basic	I-15 NB, North of Main St.	16370	3

## Facility Segment Data

### Segment 1: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.92		0.971		7105		7146		0.99		53.3		44.4		E

### Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.971	0.935	7105	1310	7200	2100	0.99	0.62	62.4	58.4	38.0	40.9	E

### Segment 3: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.92		0.980		5790		7146		0.81		62.8		30.7		D

### Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.980	0.971	6546	756	7200	1900	0.91	0.40	57.3	54.5	38.1	34.7	D

### Segment 5: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.92		0.980		6538		7146		0.91		58.0		37.6		E

### Segment 6: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.980	0.962	7039	501	7200	2100	0.98	0.24	56.2	53.5	41.7	36.8	E

### Segment 7: Basic

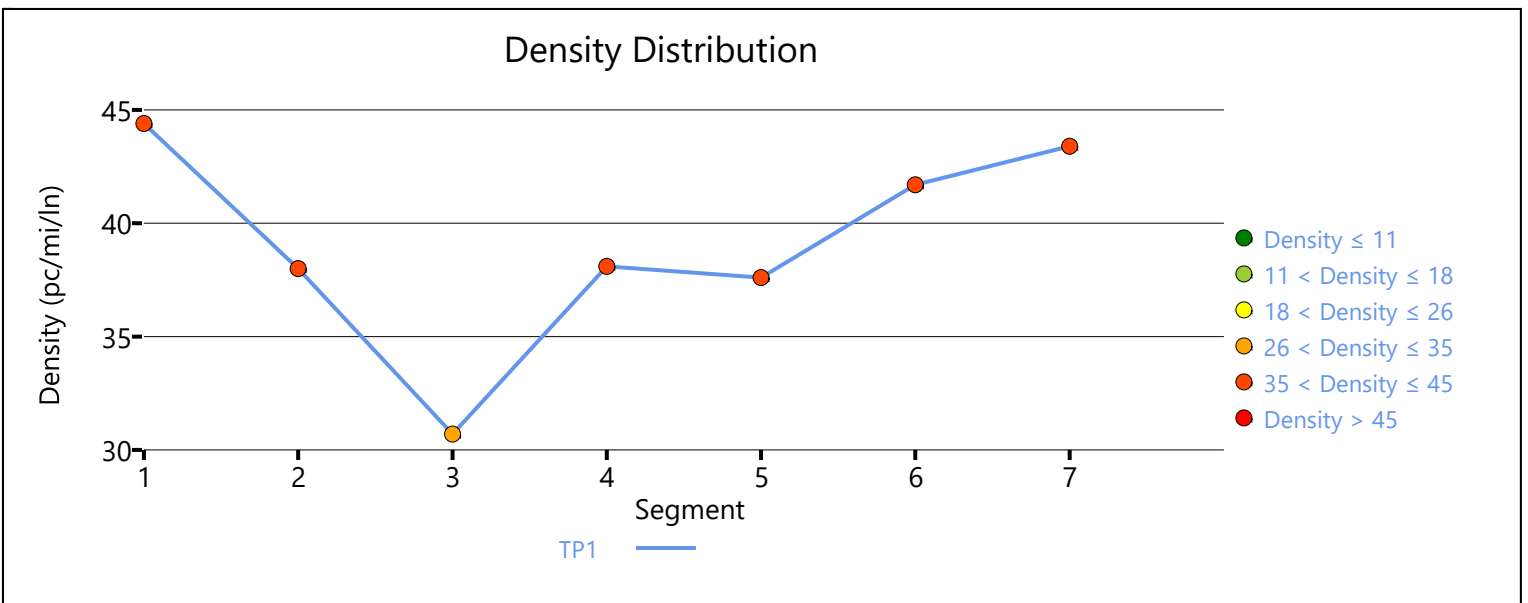
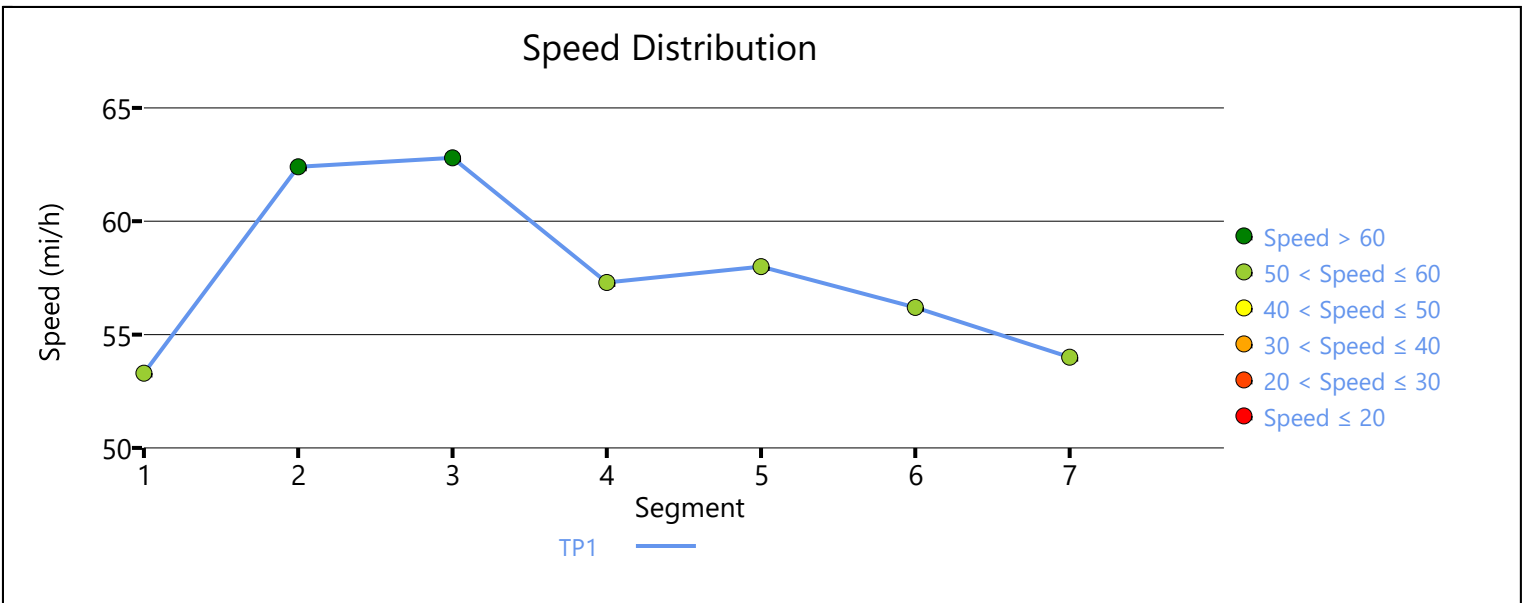
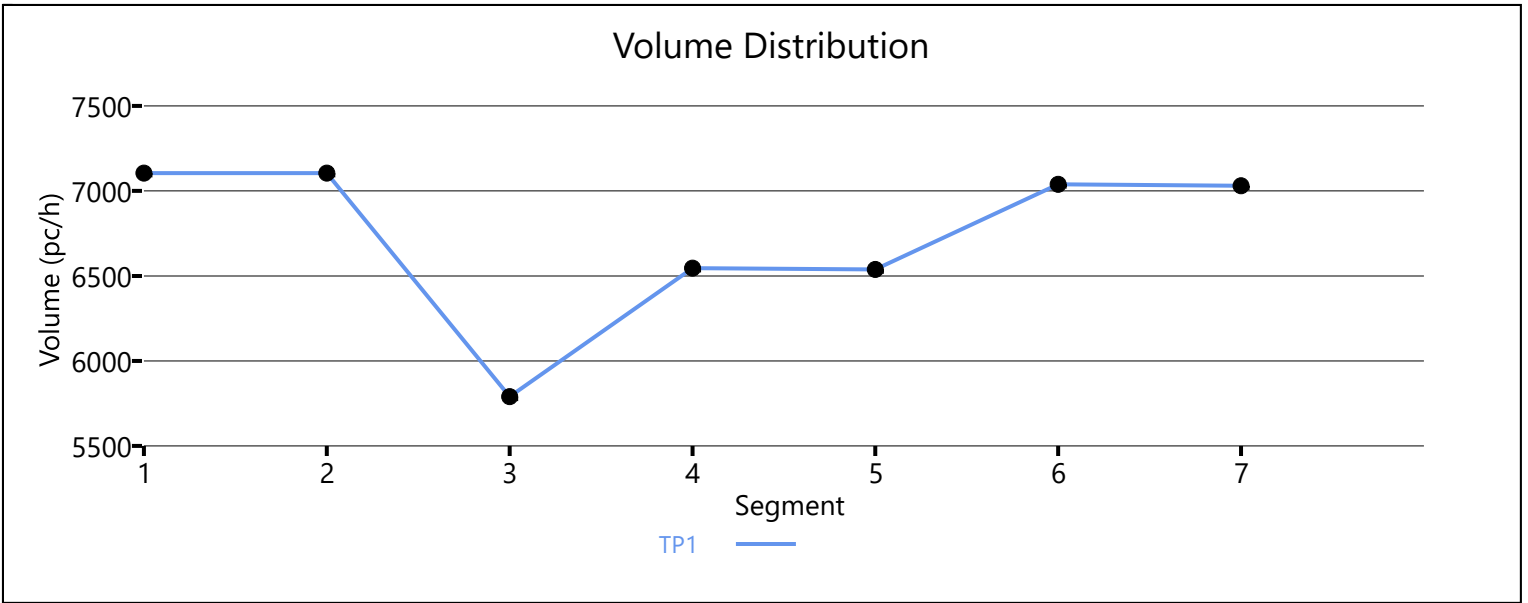
Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.92		0.980		7030		7146		0.98		54.0		43.4		E

### Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	54.9	42.3	41.3	6.1	E

### Facility Overall Results

Space Mean Speed, mi/h	54.9	Density, veh/mi/ln	41.3
Average Travel Time, min	6.1	Density, pc/mi/ln	42.3



**APPENDIX 6.8:**

**OPENING YEAR CUMULATIVE (2022) WITH PROJECT CONDITIONS FREEWAY FACILITY  
ANALYSIS WORKSHEETS**

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# HCS7 Freeway Facilities Report

## Project Information

Analyst	JB	Date	7/9/2020
Agency	Urban Crossroads, Inc.	Analysis Year	OYC (2022) WP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	US Cold Storage (JN 13201) - I-15 SB at Main		

## Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15

## Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-15 SB, North of Main St.	16360	3
2	Diverge	Diverge	I-15 SB, Off-Ramp at Main St.	1500	3
3	Basic	Basic	I-15 SB, Between Off and Loop On-Ramp	975	3
4	Merge	Merge	I-15 SB, Loop On-Ramp at Main St.	1500	3
5	Basic	Basic	I-15 SB, Between Loop On-Ramp and On-Ramp	1415	3
6	Merge	Merge	I-15 SB, On-Ramp at Main St.	1500	3
7	Basic	Basic	I-15 SB, South of Main St.	5900	3

## Facility Segment Data

### Segment 1: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.962		4923		7146		0.69		66.5		24.7		C

### Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.962	0.926	4923	1083	7200	2100	0.68	0.52	63.2	58.9	26.0	32.0	D

### Segment 3: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.971		3844		7146		0.54		68.2		18.8		C

### Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.971	0.971	4449	605	7200	6.81 1900	0.62	0.32	61.8	59.6	24.0	25.4	C

### Segment 5: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.971	4449	7146	0.62	67.6	21.9	C

### Segment 6: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.971	0.926	4668	219	7200	2100	0.65	0.10	62.2	60.4	25.0	24.6	C

### Segment 7: Basic

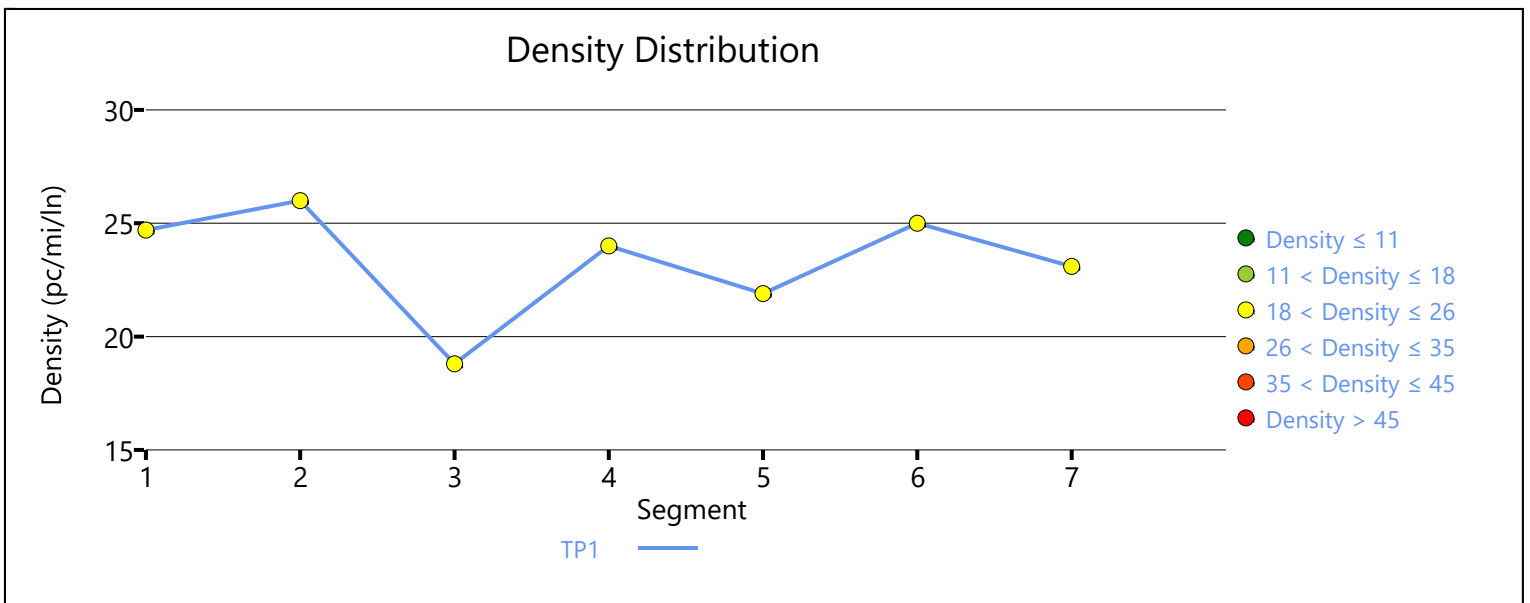
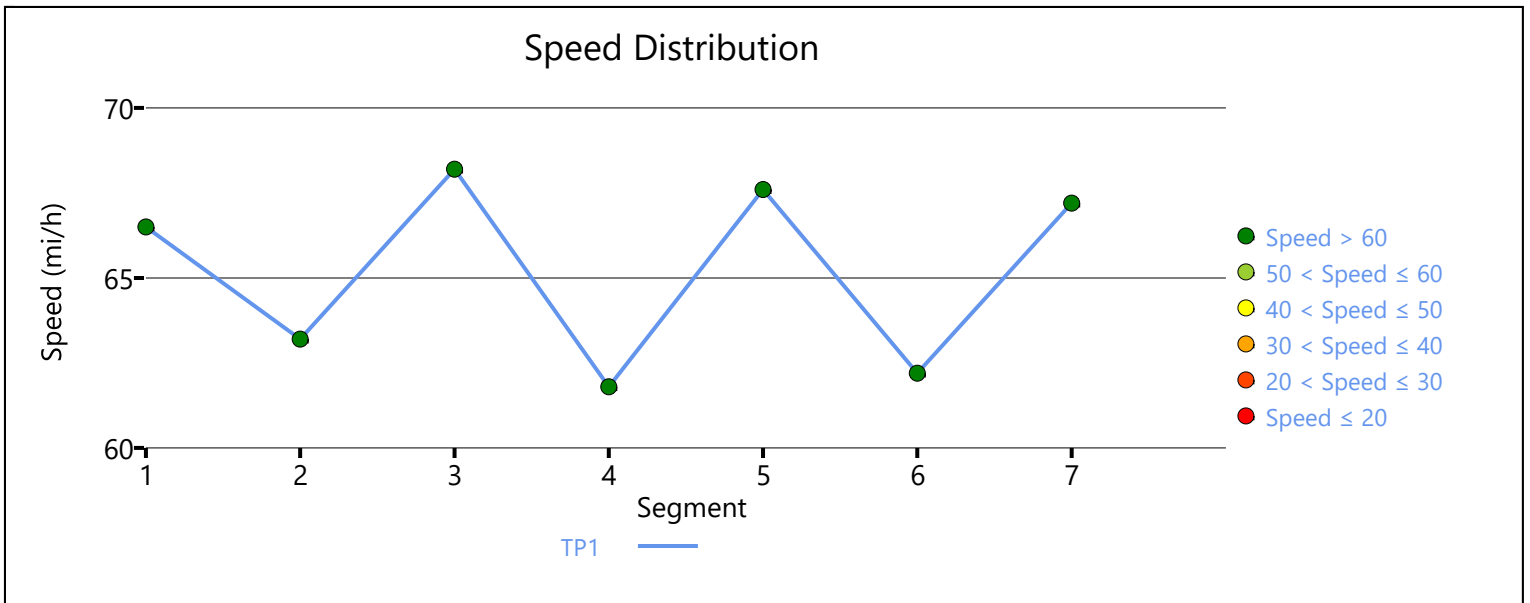
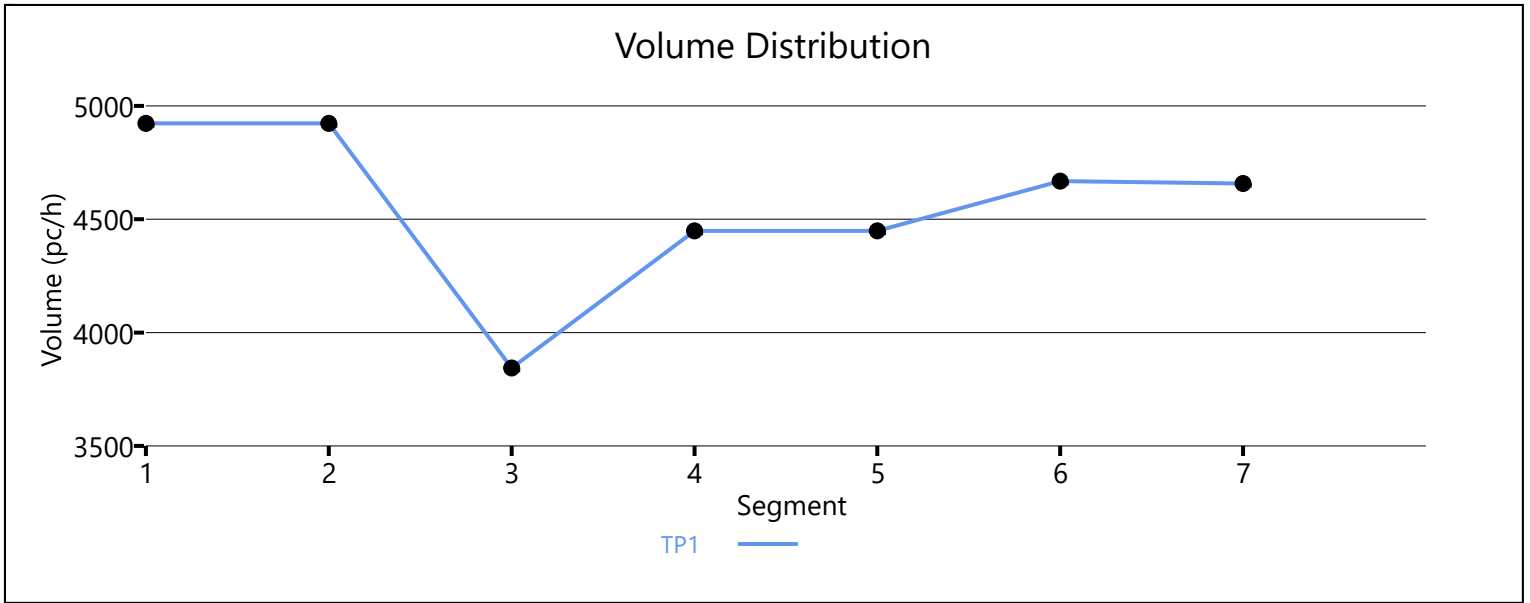
Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.971	4658	7146	0.65	67.2	23.1	C

### Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	66.1	24.1	23.3	5.0	C

### Facility Overall Results

Space Mean Speed, mi/h	66.1	Density, veh/mi/ln	23.3
Average Travel Time, min	5.0	Density, pc/mi/ln	24.1



# HCS7 Freeway Facilities Report

## Project Information

Analyst	JB	Date	7/9/2020
Agency	Urban Crossroads, Inc.	Analysis Year	OYC (2022) WP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	US Cold Storage (JN 13201) - I-15 NB at Main		

## Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15

## Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-15 NB, South of Main St.	6140	3
2	Diverge	Diverge	I-15 NB, Off-Ramp at Main St.	1500	3
3	Basic	Basic	I-15 NB, Between Off-Ramp and Loop On-Ramp	1125	3
4	Merge	Merge	I-15 NB, Loop On-Ramp at Main St.	1500	3
5	Basic	Basic	I-15 NB, Between Loop On-Ramp and On-Ramp	1215	3
6	Merge	Merge	I-15 NB, On-Ramp at Main St.	1500	3
7	Basic	Basic	I-15 NB, North of Main St.	16370	3

## Facility Segment Data

### Segment 1: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.92		0.962		4288		7146		0.60		67.9		21.0		C

### Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.962	0.935	4288	1166	7200	2100	0.60	0.56	62.8	58.7	22.8	29.1	D

### Segment 3: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.92		0.980		3097		7146		0.43		68.2		15.1		B

### Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS	
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp		
1	0.92	0.92	0.980	0.962	3564	467	7200	684	1900	0.50	0.25	62.8	60.6	18.9	20.1	C

### Segment 5: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.971	3588	7146	0.50	68.2	17.5	B

### Segment 6: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.971	0.971	4135	547	7200	2100	0.57	0.26	62.5	60.5	22.1	23.5	C

### Segment 7: Basic

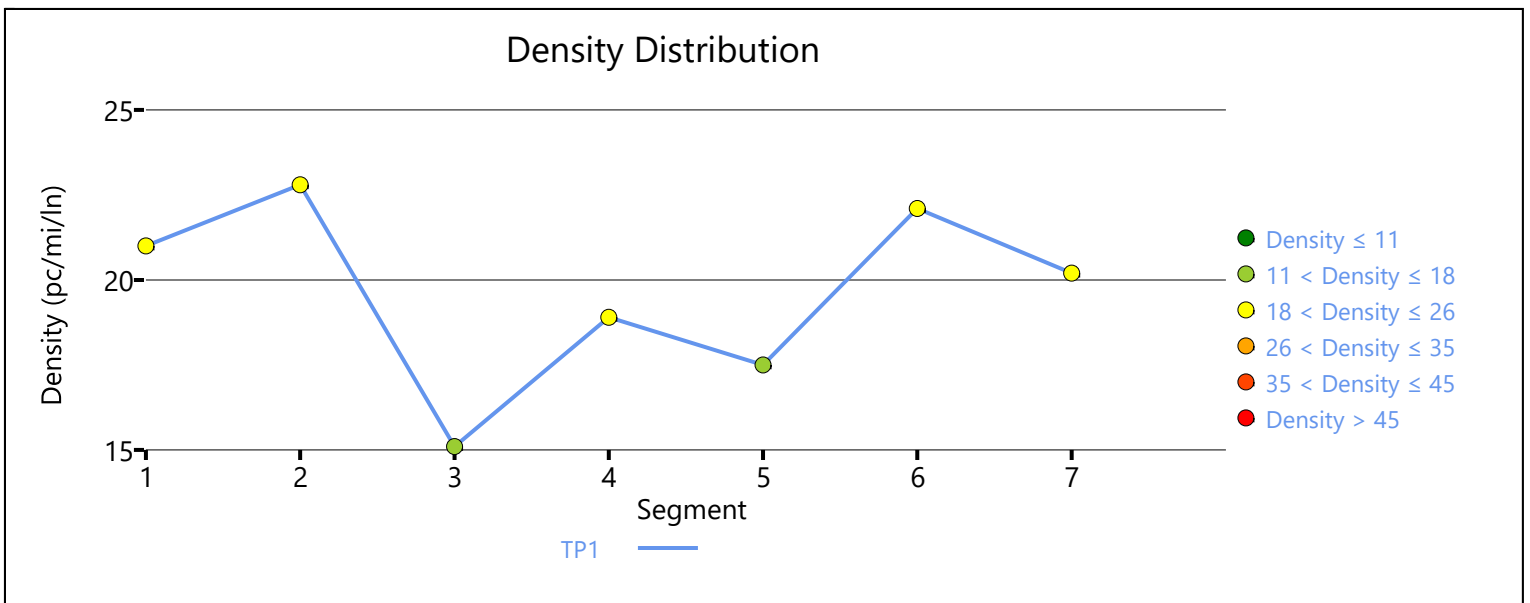
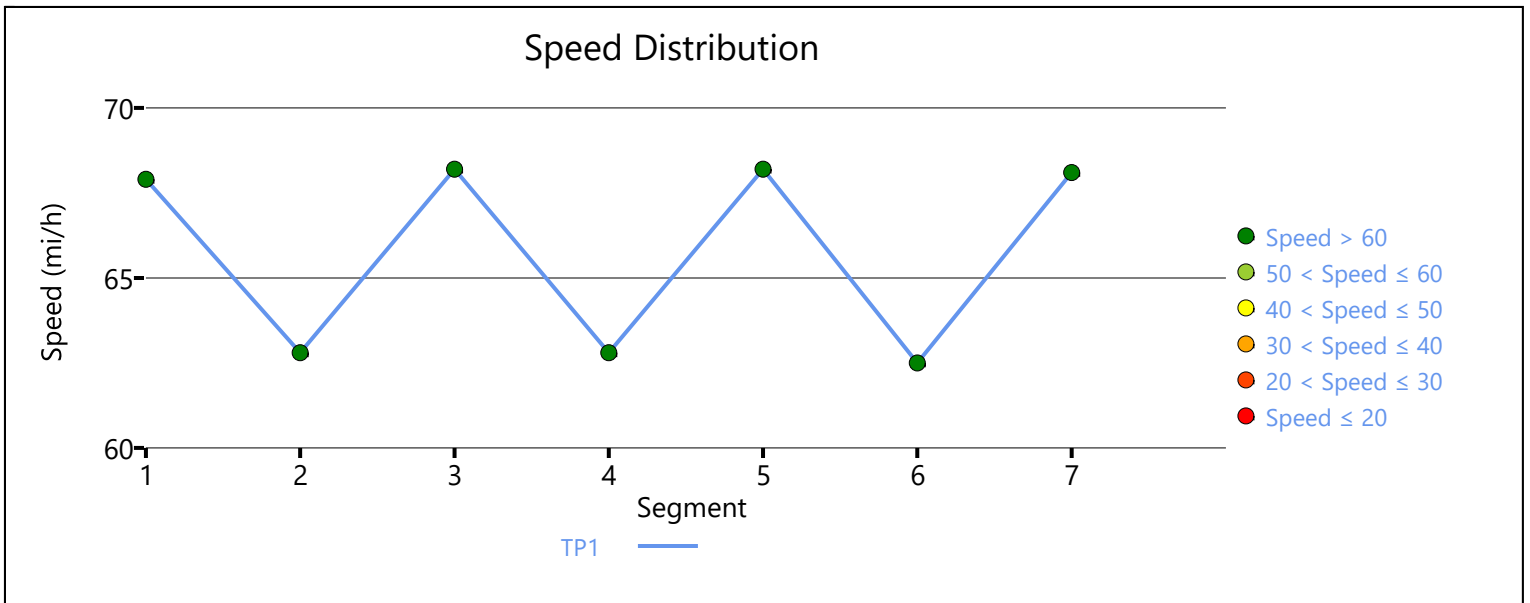
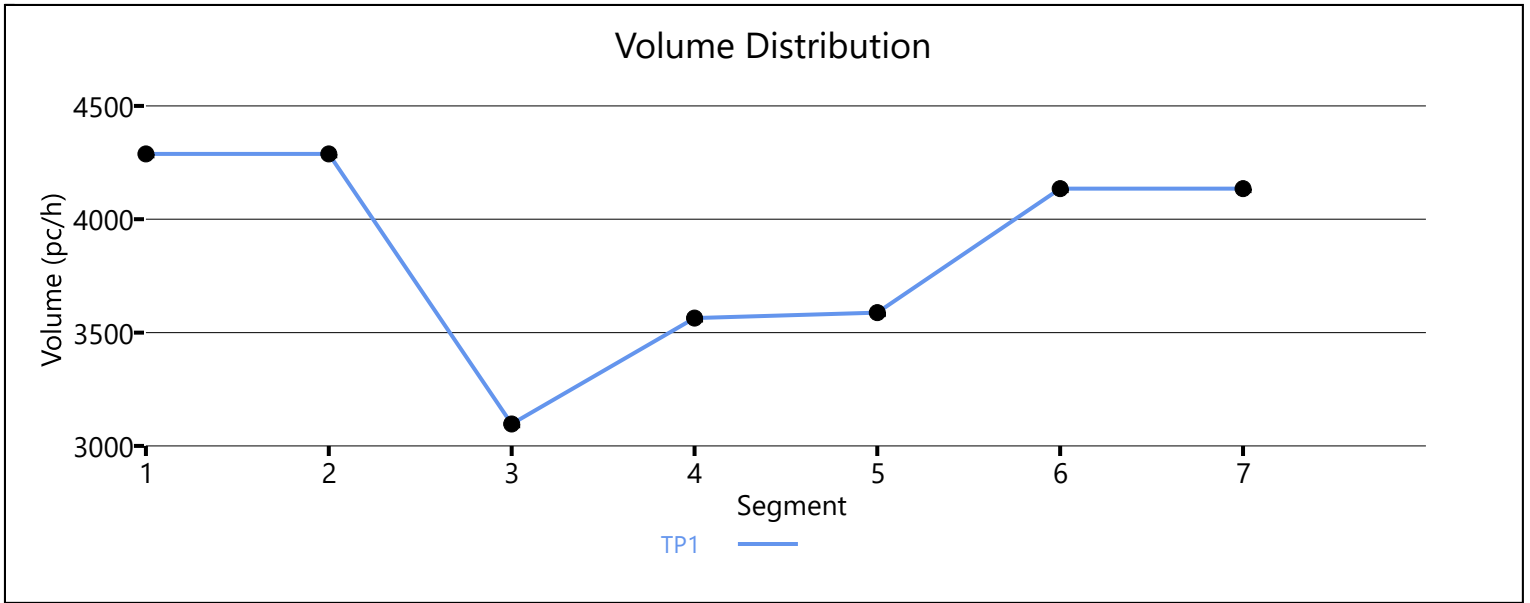
Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.971	4135	7146	0.58	68.1	20.2	C

### Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	67.2	20.2	19.6	5.0	C

### Facility Overall Results

Space Mean Speed, mi/h	67.2	Density, veh/mi/ln	19.6
Average Travel Time, min	5.0	Density, pc/mi/ln	20.2



# HCS7 Freeway Facilities Report

## Project Information

Analyst	JB	Date	7/9/2020
Agency	Urban Crossroads, Inc.	Analysis Year	OYC (2022) WP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	US Cold Storage (JN 13201)) - I-15 SB at Main		

## Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15

## Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-15 SB, North of Main St.	16360	3
2	Diverge	Diverge	I-15 SB, Off-Ramp at Main St.	1500	3
3	Basic	Basic	I-15 SB, Between Off and Loop On-Ramp	975	3
4	Merge	Merge	I-15 SB, Loop On-Ramp at Main St.	1500	3
5	Basic	Basic	I-15 SB, Between Loop On-Ramp and On-Ramp	1415	3
6	Merge	Merge	I-15 SB, On-Ramp at Main St.	1500	3
7	Basic	Basic	I-15 SB, South of Main St.	5900	3

## Facility Segment Data

### Segment 1: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.962		4893		7146		0.68		66.6		24.5		C

### Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.962	0.971	4893	1150	7200	2100	0.68	0.55	63.0	58.7	25.9	32.0	D

### Segment 3: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.962		3732		7146		0.52		68.2		18.2		C

### Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.962	0.952	4151	419	7200	687 1900	0.58	0.22	62.2	60.0	22.2	23.5	C

### Segment 5: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.962	4147	7146	0.58	68.1	20.3	C

### Segment 6: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.962	0.943	4791	644	7200	2100	0.67	0.31	61.8	59.9	25.8	26.3	C

### Segment 7: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.962	4778	7146	0.67	66.9	23.8	C

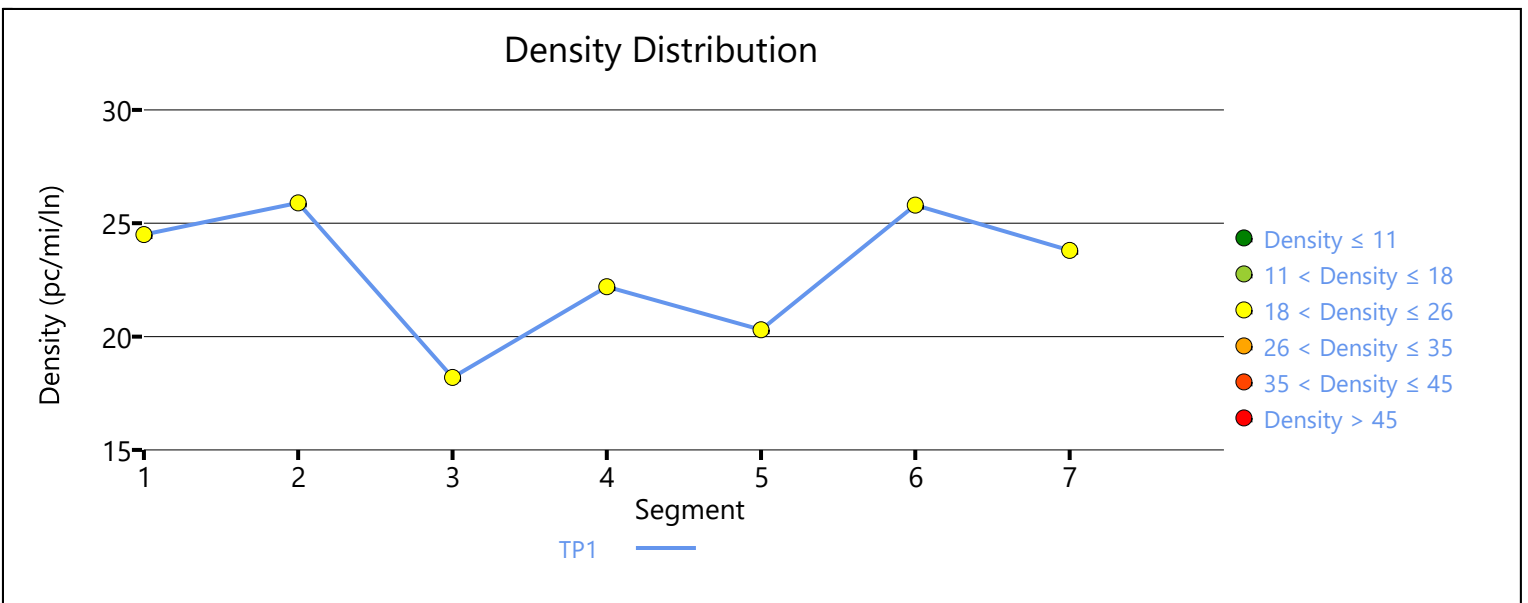
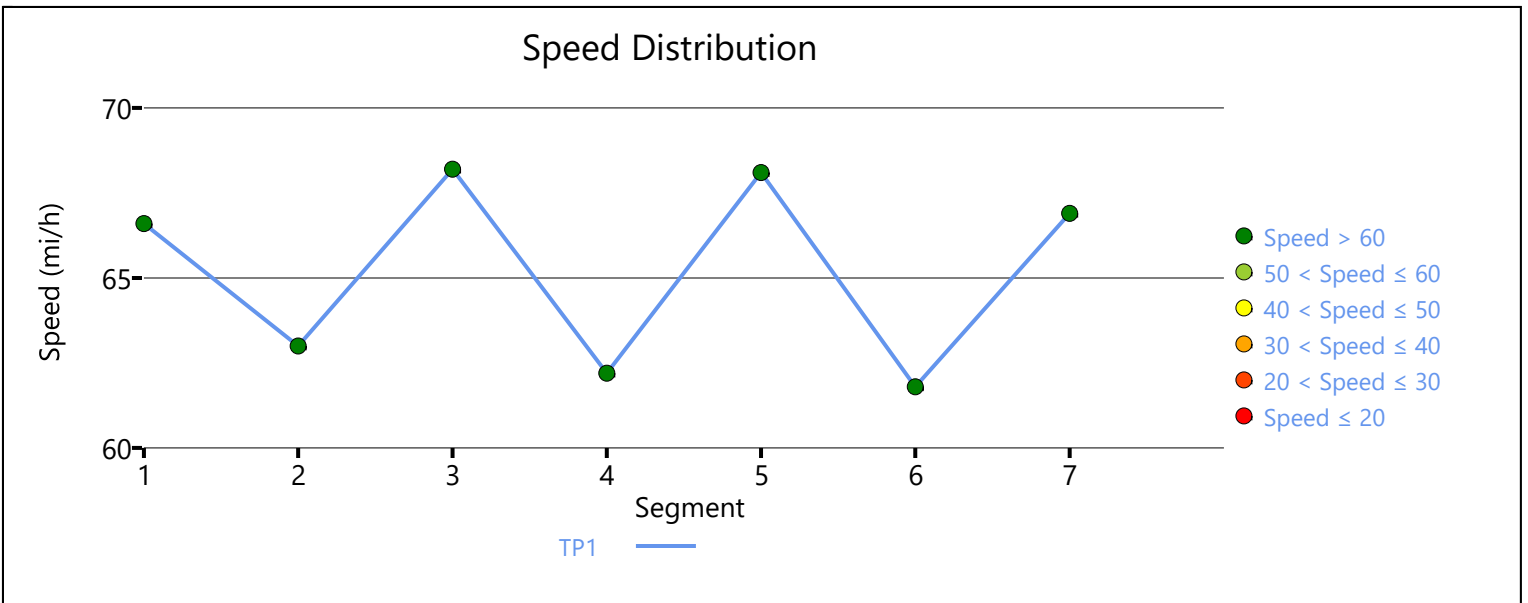
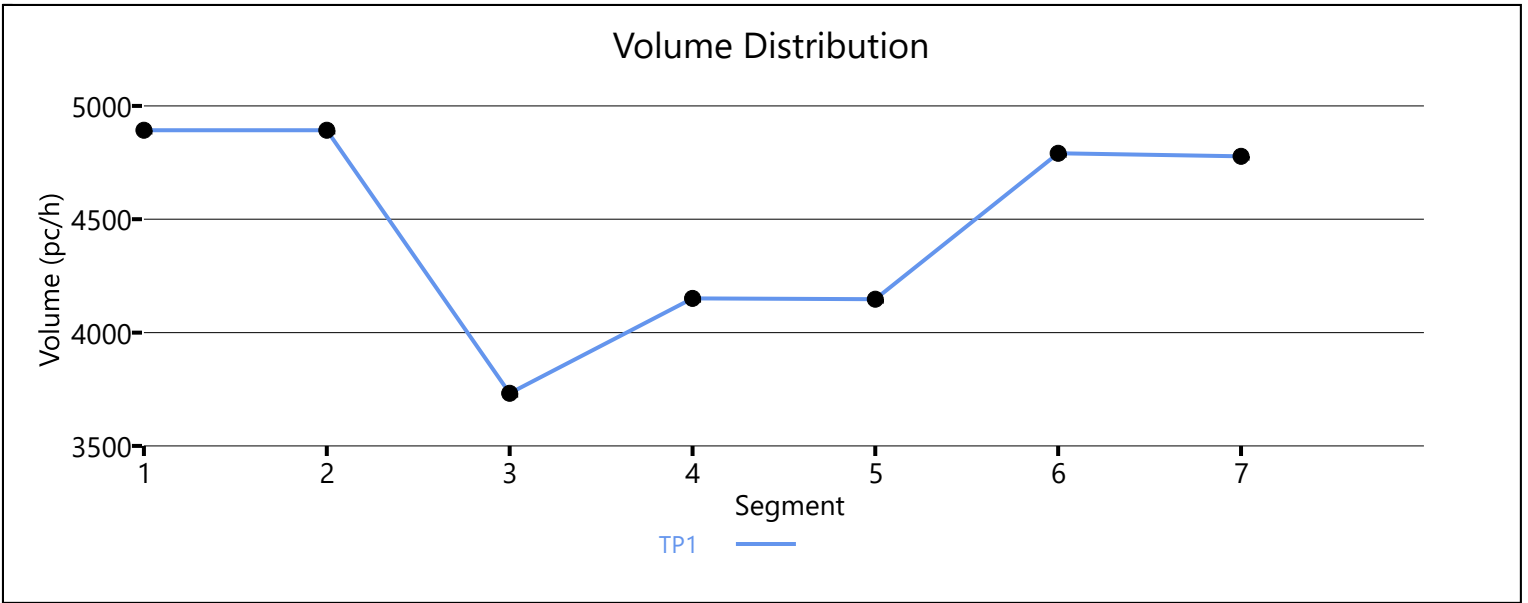
### Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	66.1	24.0	23.1	5.0	C

### Facility Overall Results

Space Mean Speed, mi/h	66.1	Density, veh/mi/ln	23.1
Average Travel Time, min	5.0	Density, pc/mi/ln	24.0





# HCS7 Freeway Facilities Report

## Project Information

Analyst	JB	Date	7/9/2020
Agency	Urban Crossroads, Inc.	Analysis Year	OYC (2022) WP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	US Cold Storage (JN 13201) - I-15 NB at Main		

## Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15

## Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-15 NB, South of Main St.	6140	3
2	Diverge	Diverge	I-15 NB, Off-Ramp at Main St.	1500	3
3	Basic	Basic	I-15 NB, Between Off-Ramp and Loop On-Ramp	1125	3
4	Merge	Merge	I-15 NB, Loop On-Ramp at Main St.	1500	3
5	Basic	Basic	I-15 NB, Between Loop On-Ramp and On-Ramp	1215	3
6	Merge	Merge	I-15 NB, On-Ramp at Main St.	1500	3
7	Basic	Basic	I-15 NB, North of Main St.	16370	3

## Facility Segment Data

### Segment 1: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.92		0.971		7116		7146		1.00		53.2		44.6		E

### Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.971	0.935	7116	1322	7200	2100	0.99	0.63	62.3	58.3	38.1	41.0	E

### Segment 3: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.92		0.980		5790		7146		0.81		62.8		30.7		D

### Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.980	0.962	6582	792	7200	1900	0.91	0.42	57.2	54.3	38.4	35.0	D

### Segment 5: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.92		0.980		6567		7146		0.92		57.8		37.9		E

### Segment 6: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.980	0.962	7068	501	7200	2100	0.98	0.24	56.1	53.4	42.0	36.9	E

### Segment 7: Basic

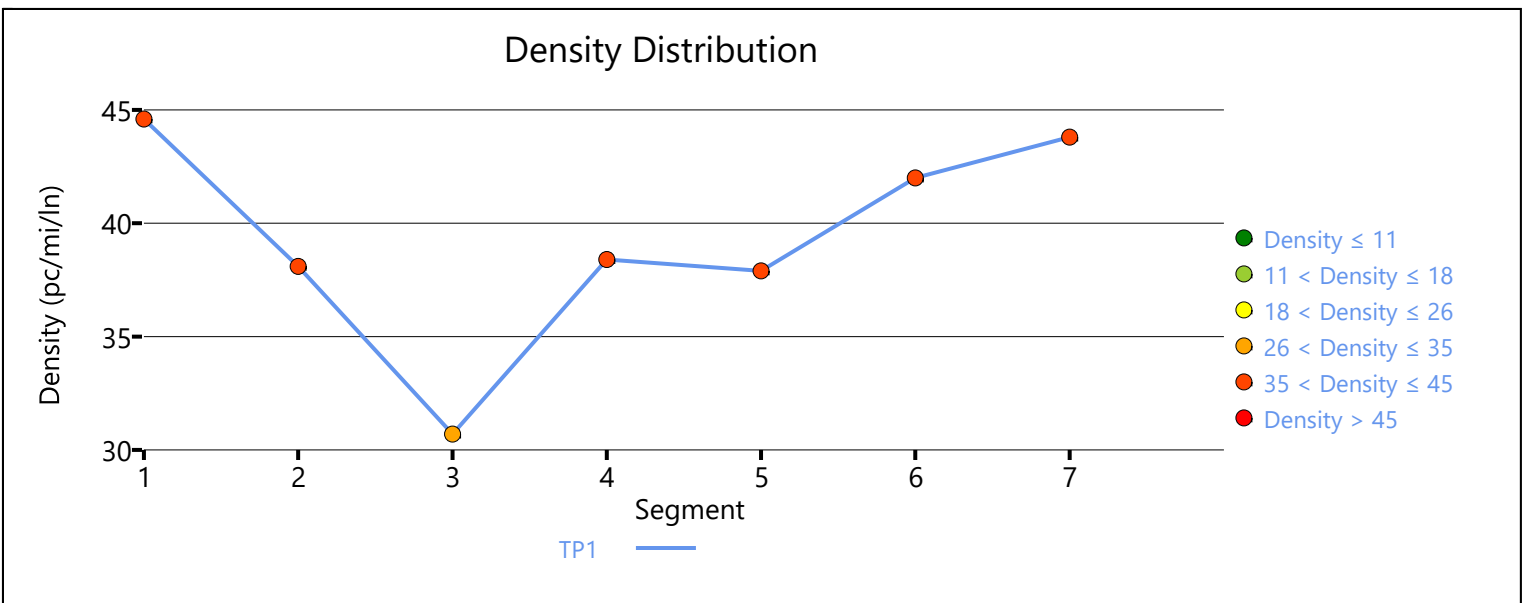
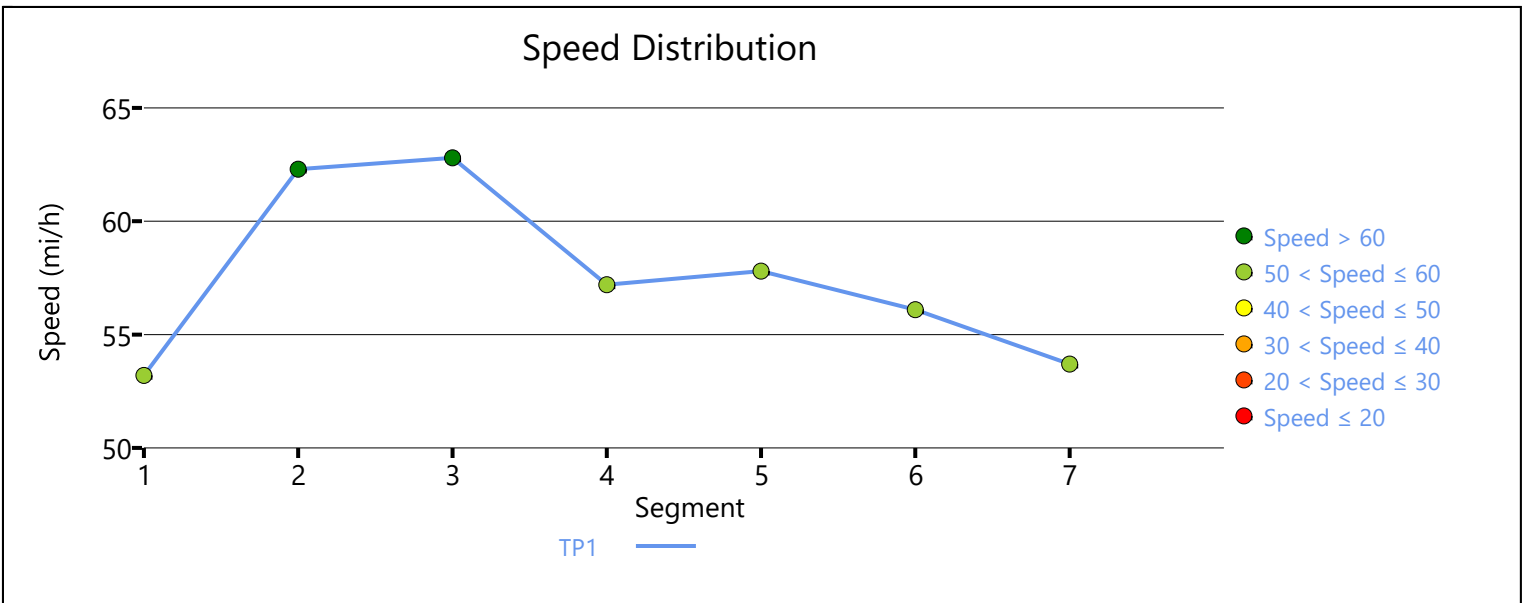
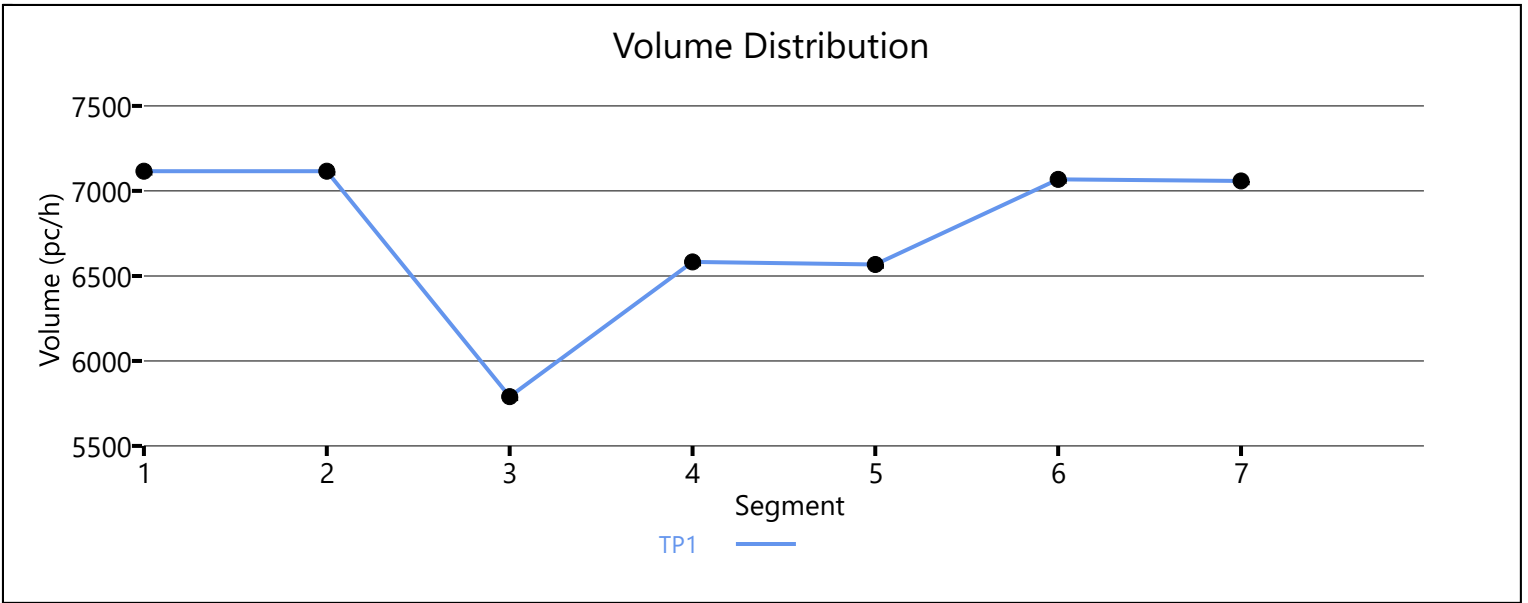
Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.92		0.980		7059		7146		0.99		53.7		43.8		E

### Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	54.7	42.6	41.6	6.1	E

### Facility Overall Results

Space Mean Speed, mi/h	54.7	Density, veh/mi/ln	41.6
Average Travel Time, min	6.1	Density, pc/mi/ln	42.6



**APPENDIX 6.9:**

**OPENING YEAR CUMULATIVE (2022) WITHOUT PROJECT INTERSECTION OPERATIONS  
ANALYSIS WORKSHEETS WITH IMPROVEMENTS**

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Timings  
2: US-395 & Yucca Terrace Dr.



Lane Group	EBL	EBT	NBL	NBT	SBT	Ø1	Ø8
Lane Configurations							
Traffic Volume (vph)	19	0	324	1153	1399		
Future Volume (vph)	19	0	324	1153	1399		
Turn Type	Perm	NA	Prot	NA	NA		
Protected Phases		4	5	2	6	1	8
Permitted Phases	4						
Detector Phase	4	4	5	2	6		
Switch Phase							
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	26.6	26.6	9.6	24.5	24.5	9.6	26.6
Total Split (s)	26.6	26.6	31.0	83.8	62.4	9.6	26.6
Total Split (%)	22.2%	22.2%	25.8%	69.8%	52.0%	8%	22%
Yellow Time (s)	3.6	3.6	3.6	5.5	5.5	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	4.6	4.6	4.6	6.5	6.5		
Lead/Lag			Lead	Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	Min	Min	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 107.5  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated

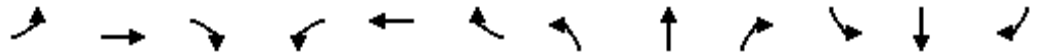
Splits and Phases: 2: US-395 & Yucca Terrace Dr.



HCM 6th Signalized Intersection Summary  
2: US-395 & Yucca Terrace Dr.

Hesperia US Cold Storage (JN 13201)

07/09/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕		↖	↗	
Traffic Volume (veh/h)	19	0	74	0	0	0	324	1153	0	0	1399	111
Future Volume (veh/h)	19	0	74	0	0	0	324	1153	0	0	1399	111
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	21	0	82	0	0	0	360	1281	0	0	1554	123
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	217	0	139	69	164	0	386	2744	0	2	1671	131
Arrive On Green	0.09	0.00	0.09	0.00	0.00	0.00	0.24	0.80	0.00	0.00	0.52	0.52
Sat Flow, veh/h	1619	0	1525	1263	1800	0	1619	3510	0	1619	3212	252
Grp Volume(v), veh/h	21	0	82	0	0	0	360	1281	0	0	822	855
Grp Sat Flow(s),veh/h/ln	1619	0	1525	1263	1800	0	1619	1710	0	1619	1710	1755
Q Serve(g_s), s	1.2	0.0	5.4	0.0	0.0	0.0	22.7	12.3	0.0	0.0	46.3	47.5
Cycle Q Clear(g_c), s	1.2	0.0	5.4	0.0	0.0	0.0	22.7	12.3	0.0	0.0	46.3	47.5
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.00	1.00		0.14
Lane Grp Cap(c), veh/h	217	0	139	69	164	0	386	2744	0	2	889	913
V/C Ratio(X)	0.10	0.00	0.59	0.00	0.00	0.00	0.93	0.47	0.00	0.00	0.92	0.94
Avail Cap(c_a), veh/h	411	0	322	221	380	0	410	2744	0	78	917	941
HCM 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
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	43.6	0.0	45.5	0.0	0.0	0.0	38.9	3.3	0.0	0.0	23.1	23.4
Incr Delay (d2), s/veh	0.2	0.0	3.9	0.0	0.0	0.0	26.9	0.1	0.0	0.0	14.5	16.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	2.2	0.0	0.0	0.0	11.2	1.8	0.0	0.0	19.3	20.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.8	0.0	49.4	0.0	0.0	0.0	65.7	3.4	0.0	0.0	37.6	39.4
LnGrp LOS	D	A	D	A	A	A	E	A	A	A	D	D
Approach Vol, veh/h		103			0			1641			1677	
Approach Delay, s/veh		48.3			0.0			17.1			38.5	
Approach LOS		D						B			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	90.1		14.1	29.4	60.7		14.1				
Change Period (Y+Rc), s	4.6	6.5		4.6	4.6	6.5		4.6				
Max Green Setting (Gmax), s	5.0	77.3		22.0	26.4	55.9		22.0				
Max Q Clear Time (g_c+1), s	0.0	14.3		7.4	24.7	49.5		0.0				
Green Ext Time (p_c), s	0.0	11.1		0.4	0.1	4.7		0.0				

Intersection Summary

HCM 6th Ctrl Delay	28.5
HCM 6th LOS	C



Timings  
3: US-395 & Phelan Rd./Main St.

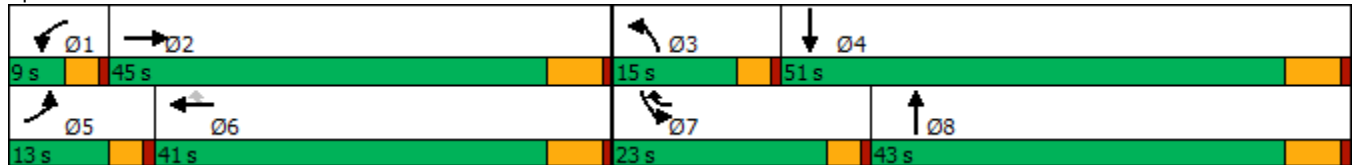


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↘	↑↑↑	↘	↑↑↑	↗	↘↘	↑↑	↘↘	↑↑
Traffic Volume (vph)	89	861	21	1141	505	225	883	322	1078
Future Volume (vph)	89	861	21	1141	505	225	883	322	1078
Turn Type	Prot	NA	Prot	NA	pm+ov	Prot	NA	Prot	NA
Protected Phases	5	2	1	6	7	3	8	7	4
Permitted Phases						6			
Detector Phase	5	2	1	6	7	3	8	7	4
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.0	17.0	9.0	16.0	9.0	9.0	16.0	9.0	16.0
Total Split (s)	13.0	45.0	9.0	41.0	23.0	15.0	43.0	23.0	51.0
Total Split (%)	10.8%	37.5%	7.5%	34.2%	19.2%	12.5%	35.8%	19.2%	42.5%
Yellow Time (s)	3.0	5.0	3.0	5.0	3.0	3.0	5.0	3.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	4.0	6.0	4.0	4.0	6.0	4.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 113.4  
 Natural Cycle: 75  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 3: US-395 & Phelan Rd./Main St.



HCM 6th Signalized Intersection Summary  
 3: US-395 & Phelan Rd./Main St.

Hesperia US Cold Storage (JN 13201)

07/09/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑	↖	↖↖	↑↑		↖↖	↑↑	
Traffic Volume (veh/h)	89	861	172	21	1141	505	225	883	24	322	1078	73
Future Volume (veh/h)	89	861	172	21	1141	505	225	883	24	322	1078	73
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	92	888	133	22	1176	442	232	910	25	332	1111	71
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	117	1529	228	41	1522	659	296	1221	34	406	1279	82
Arrive On Green	0.06	0.34	0.34	0.02	0.29	0.29	0.08	0.34	0.34	0.12	0.37	0.37
Sat Flow, veh/h	1810	4556	679	1810	5187	1610	3510	3589	99	3510	3445	220
Grp Volume(v), veh/h	92	673	348	22	1176	442	232	458	477	332	582	600
Grp Sat Flow(s),veh/h/ln	1810	1729	1778	1810	1729	1610	1755	1805	1882	1755	1805	1860
Q Serve(g_s), s	5.4	17.2	17.4	1.3	22.2	24.0	7.0	24.1	24.1	9.9	32.1	32.1
Cycle Q Clear(g_c), s	5.4	17.2	17.4	1.3	22.2	24.0	7.0	24.1	24.1	9.9	32.1	32.1
Prop In Lane	1.00		0.38	1.00		1.00	1.00		0.05	1.00		0.12
Lane Grp Cap(c), veh/h	117	1160	596	41	1522	659	296	614	640	406	670	691
V/C Ratio(X)	0.79	0.58	0.58	0.54	0.77	0.67	0.78	0.75	0.75	0.82	0.87	0.87
Avail Cap(c_a), veh/h	152	1256	646	84	1691	711	360	622	649	621	757	780
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.5	29.4	29.5	51.9	34.7	25.8	48.2	31.3	31.3	46.4	31.3	31.3
Incr Delay (d2), s/veh	16.6	0.6	1.2	8.1	2.1	2.2	8.2	5.0	4.8	4.1	10.0	9.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	6.7	7.0	0.7	8.9	8.7	3.2	10.5	10.9	4.3	14.5	14.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.1	30.0	30.6	60.0	36.7	28.1	56.3	36.3	36.1	50.5	41.3	41.1
LnGrp LOS	E	C	C	E	D	C	E	D	D	D	D	D
Approach Vol, veh/h		1113			1640			1167			1514	
Approach Delay, s/veh		33.2			34.7			40.2			43.2	
Approach LOS		C			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.4	42.0	13.1	45.9	10.9	37.5	16.4	42.5				
Change Period (Y+Rc), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0				
Max Green Setting (Gmax), s	5.0	39.0	11.0	45.0	9.0	35.0	19.0	37.0				
Max Q Clear Time (g_c+1), s	3.3	19.4	9.0	34.1	7.4	26.0	11.9	26.1				
Green Ext Time (p_c), s	0.0	5.8	0.1	5.7	0.0	5.5	0.5	4.5				

Intersection Summary

HCM 6th Ctrl Delay	37.9
HCM 6th LOS	D

Timings  
2: US-395 & Yucca Terrace Dr.



Lane Group	EBL	EBT	NBL	NBT	SBT	Ø1	Ø8
Lane Configurations							
Traffic Volume (vph)	110	0	71	1616	1226		
Future Volume (vph)	110	0	71	1616	1226		
Turn Type	Perm	NA	Prot	NA	NA		
Protected Phases		4	5	2	6	1	8
Permitted Phases	4						
Detector Phase	4	4	5	2	6		
Switch Phase							
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	26.6	26.6	9.6	24.5	24.5	9.6	26.6
Total Split (s)	36.4	36.4	16.1	74.0	67.5	9.6	36.4
Total Split (%)	30.3%	30.3%	13.4%	61.7%	56.3%	8%	30%
Yellow Time (s)	3.6	3.6	3.6	5.5	5.5	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	4.6	4.6	4.6	6.5	6.5		
Lead/Lag			Lead	Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	Min	Min	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 95.2  
 Natural Cycle: 90  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 2: US-395 & Yucca Terrace Dr.



HCM 6th Signalized Intersection Summary  
2: US-395 & Yucca Terrace Dr.

Hesperia US Cold Storage (JN 13201)  
07/09/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕		↖	↗	
Traffic Volume (veh/h)	110	0	413	0	0	0	71	1616	0	0	1226	27
Future Volume (veh/h)	110	0	413	0	0	0	71	1616	0	0	1226	27
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	115	0	430	0	0	0	74	1683	0	0	1277	28
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	573	0	468	76	552	0	92	1969	0	2	1609	35
Arrive On Green	0.31	0.00	0.31	0.00	0.00	0.00	0.06	0.58	0.00	0.00	0.47	0.47
Sat Flow, veh/h	1619	0	1525	919	1800	0	1619	3510	0	1619	3421	75
Grp Volume(v), veh/h	115	0	430	0	0	0	74	1683	0	0	638	667
Grp Sat Flow(s),veh/h/ln	1619	0	1525	919	1800	0	1619	1710	0	1619	1710	1786
Q Serve(g_s), s	5.0	0.0	25.7	0.0	0.0	0.0	4.3	38.9	0.0	0.0	29.8	29.9
Cycle Q Clear(g_c), s	5.0	0.0	25.7	0.0	0.0	0.0	4.3	38.9	0.0	0.0	29.8	29.9
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.00	1.00		0.04
Lane Grp Cap(c), veh/h	573	0	468	76	552	0	92	1969	0	2	804	840
V/C Ratio(X)	0.20	0.00	0.92	0.00	0.00	0.00	0.80	0.85	0.00	0.00	0.79	0.79
Avail Cap(c_a), veh/h	620	0	513	103	605	0	197	2439	0	86	1102	1152
HCM 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
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	24.5	0.0	31.7	0.0	0.0	0.0	44.1	16.8	0.0	0.0	21.2	21.2
Incr Delay (d2), s/veh	0.2	0.0	20.7	0.0	0.0	0.0	5.9	2.7	0.0	0.0	2.8	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	12.0	0.0	0.0	0.0	1.8	12.6	0.0	0.0	10.7	11.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.6	0.0	52.4	0.0	0.0	0.0	50.0	19.4	0.0	0.0	24.0	23.9
LnGrp LOS	C	A	D	A	A	A	D	B	A	A	C	C
Approach Vol, veh/h		545			0			1757			1305	
Approach Delay, s/veh		46.5			0.0			20.7			24.0	
Approach LOS		D						C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	61.0		33.6	10.0	51.0		33.6				
Change Period (Y+Rc), s	4.6	6.5		4.6	4.6	6.5		4.6				
Max Green Setting (Gmax), s	5.0	67.5		31.8	11.5	61.0		31.8				
Max Q Clear Time (g_c+I1), s	0.0	40.9		27.7	6.3	31.9		0.0				
Green Ext Time (p_c), s	0.0	13.6		1.3	0.0	8.8		0.0				

Intersection Summary

HCM 6th Ctrl Delay	25.8
HCM 6th LOS	C

Timings  
3: US-395 & Phelan Rd./Main St.

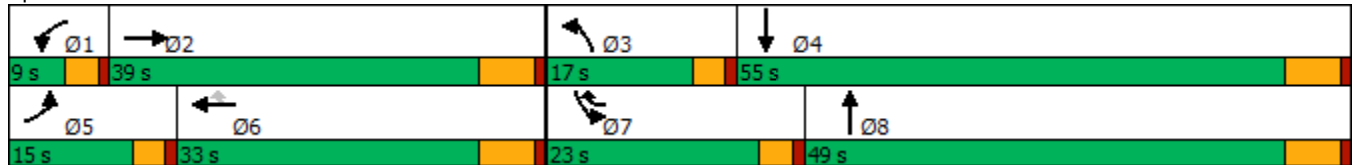


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↘	↑↑↑	↘	↑↑↑	↗	↘↘	↑↑	↘↘	↑↑
Traffic Volume (vph)	88	1255	25	909	352	241	1246	563	982
Future Volume (vph)	88	1255	25	909	352	241	1246	563	982
Turn Type	Prot	NA	Prot	NA	pm+ov	Prot	NA	Prot	NA
Protected Phases	5	2	1	6	7	3	8	7	4
Permitted Phases	6								
Detector Phase	5	2	1	6	7	3	8	7	4
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.0	16.0	9.0	16.0	9.0	9.0	16.0	9.0	16.0
Total Split (s)	15.0	39.0	9.0	33.0	23.0	17.0	49.0	23.0	55.0
Total Split (%)	12.5%	32.5%	7.5%	27.5%	19.2%	14.2%	40.8%	19.2%	45.8%
Yellow Time (s)	3.0	5.0	3.0	5.0	3.0	3.0	5.0	3.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	4.0	6.0	4.0	4.0	6.0	4.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 117.2  
 Natural Cycle: 110  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 3: US-395 & Phelan Rd./Main St.



HCM 6th Signalized Intersection Summary  
 3: US-395 & Phelan Rd./Main St.

Hesperia US Cold Storage (JN 13201)

07/09/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	88	1255	200	25	909	352	241	1246	47	563	982	93
Future Volume (veh/h)	88	1255	200	25	909	352	241	1246	47	563	982	93
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	93	1321	77	26	957	182	254	1312	42	593	1034	41
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	117	1462	85	44	1334	638	317	1347	43	588	1607	64
Arrive On Green	0.06	0.27	0.27	0.02	0.23	0.23	0.09	0.37	0.37	0.16	0.44	0.44
Sat Flow, veh/h	1810	5329	311	1810	5700	1610	3619	3662	117	3619	3630	144
Grp Volume(v), veh/h	93	942	456	26	957	182	254	680	674	593	541	534
Grp Sat Flow(s),veh/h/ln	1810	1900	1839	1810	1900	1610	1810	1900	1879	1810	1900	1874
Q Serve(g_s), s	5.9	28.0	28.0	1.7	18.1	9.0	8.1	41.2	41.3	19.0	25.9	26.0
Cycle Q Clear(g_c), s	5.9	28.0	28.0	1.7	18.1	9.0	8.1	41.2	41.3	19.0	25.9	26.0
Prop In Lane	1.00		0.17	1.00		1.00	1.00		0.06	1.00		0.08
Lane Grp Cap(c), veh/h	117	1042	505	44	1334	638	317	699	691	588	841	830
V/C Ratio(X)	0.79	0.90	0.90	0.59	0.72	0.29	0.80	0.97	0.98	1.01	0.64	0.64
Avail Cap(c_a), veh/h	170	1072	519	77	1334	638	402	699	691	588	841	830
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.9	40.9	40.9	56.5	41.2	24.0	52.4	36.4	36.4	49.0	25.4	25.4
Incr Delay (d2), s/veh	12.4	10.5	18.9	8.9	1.9	0.2	8.0	27.5	28.1	39.2	1.8	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	13.8	14.5	0.8	8.2	3.2	3.8	22.9	22.8	11.3	11.1	10.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.3	51.5	59.8	65.4	43.1	24.3	60.4	63.9	64.5	88.2	27.2	27.2
LnGrp LOS	E	D	E	E	D	C	E	E	E	F	C	C
Approach Vol, veh/h		1491			1165			1608			1668	
Approach Delay, s/veh		55.0			40.7			63.6			48.9	
Approach LOS		D			D			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.9	38.1	14.2	57.8	11.6	33.4	23.0	49.0				
Change Period (Y+Rc), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0				
Max Green Setting (Gmax), s	5.0	33.0	13.0	49.0	11.0	27.0	19.0	43.0				
Max Q Clear Time (g_c+I1), s	3.7	30.0	10.1	28.0	7.9	20.1	21.0	43.3				
Green Ext Time (p_c), s	0.0	2.1	0.2	7.4	0.0	3.5	0.0	0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			52.8									
HCM 6th LOS			D									

**APPENDIX 6.10:**

**OPENING YEAR CUMULATIVE (2022) WITH PROJECT INTERSECTION OPERATIONS  
ANALYSIS WORKSHEETS WITH IMPROVEMENTS**

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Timings  
1: US-395 & Avenal St.



Lane Group	WBT	NBT	SBL	SBT
Lane Configurations	↔	↕	↗	↖
Traffic Volume (vph)	0	1172	3	1515
Future Volume (vph)	0	1172	3	1515
Turn Type	NA	NA	Prot	NA
Protected Phases	8	2	1	6
Permitted Phases				
Detector Phase	8	2	1	6
Switch Phase				
Minimum Initial (s)	10.0	10.0	5.0	10.0
Minimum Split (s)	26.6	28.5	9.6	24.5
Total Split (s)	27.0	81.0	12.0	93.0
Total Split (%)	22.5%	67.5%	10.0%	77.5%
Yellow Time (s)	3.6	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.5
Lead/Lag		Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	
Recall Mode	None	Min	None	Min

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 66.1  
 Natural Cycle: 75  
 Control Type: Actuated-Uncoordinated

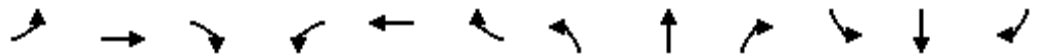
Splits and Phases: 1: US-395 & Avenal St.



HCM 6th Signalized Intersection Summary  
 1: US-395 & Avenal St.

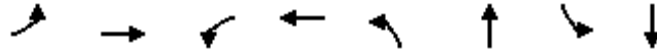
Hesperia US Cold Storage (JN 13201)

01/18/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔			↕		↙	↕	
Traffic Volume (veh/h)	0	0	0	26	0	2	0	1172	29	3	1515	0
Future Volume (veh/h)	0	0	0	26	0	2	0	1172	29	3	1515	0
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No		No		No		No		No
Adj Sat Flow, veh/h/ln				1700	1800	1800	0	1800	1800	1700	1800	0
Adj Flow Rate, veh/h				28	0	2	0	1274	32	3	1647	0
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				109	0	8	0	2040	51	7	2390	0
Arrive On Green				0.07	0.00	0.07	0.00	0.60	0.60	0.00	0.70	0.00
Sat Flow, veh/h				1587	0	113	0	3499	86	1619	3510	0
Grp Volume(v), veh/h				30	0	0	0	639	667	3	1647	0
Grp Sat Flow(s),veh/h/ln				1700	0	0	0	1710	1785	1619	1710	0
Q Serve(g_s), s				0.8	0.0	0.0	0.0	11.4	11.5	0.1	13.4	0.0
Cycle Q Clear(g_c), s				0.8	0.0	0.0	0.0	11.4	11.5	0.1	13.4	0.0
Prop In Lane				0.93		0.07	0.00		0.05	1.00		0.00
Lane Grp Cap(c), veh/h				117	0	0	0	1023	1068	7	2390	0
V/C Ratio(X)				0.26	0.00	0.00	0.00	0.62	0.62	0.45	0.69	0.00
Avail Cap(c_a), veh/h				798	0	0	0	2668	2784	251	6195	0
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh				21.1	0.0	0.0	0.0	6.1	6.2	23.7	4.2	0.0
Incr Delay (d2), s/veh				1.1	0.0	0.0	0.0	0.6	0.6	17.0	0.4	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.3	0.0	0.0	0.0	1.5	1.6	0.1	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				22.2	0.0	0.0	0.0	6.8	6.8	40.7	4.5	0.0
LnGrp LOS				C	A	A	A	A	A	D	A	A
Approach Vol, veh/h					30			1306			1650	
Approach Delay, s/veh					22.2			6.8			4.6	
Approach LOS					C			A			A	
Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	4.8	35.1				39.9		7.9				
Change Period (Y+Rc), s	4.6	6.5				6.5		4.6				
Max Green Setting (Gmax), s	7.4	74.5				86.5		22.4				
Max Q Clear Time (g_c+I1), s	2.1	13.5				15.4		2.8				
Green Ext Time (p_c), s	0.0	9.9				18.0		0.1				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				5.7								
HCM 6th LOS				A								

Timings  
2: US-395 & Yucca Terrace Dr.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↖	↗	↖	↗	↖	↕	↖	↕
Traffic Volume (vph)	19	0	9	0	324	1181	6	1424
Future Volume (vph)	19	0	9	0	324	1181	6	1424
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	26.6	26.6	26.6	26.6	9.6	24.5	9.6	24.5
Total Split (s)	26.6	26.6	26.6	26.6	31.0	83.8	9.6	62.4
Total Split (%)	22.2%	22.2%	22.2%	22.2%	25.8%	69.8%	8.0%	52.0%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	6.5	4.6	6.5
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 107.5  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 2: US-395 & Yucca Terrace Dr.



HCM 6th Signalized Intersection Summary  
 2: US-395 & Yucca Terrace Dr.

Hesperia US Cold Storage (JN 13201)

01/18/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕		↖	↗	
Traffic Volume (veh/h)	19	0	74	9	0	1	324	1181	81	6	1424	111
Future Volume (veh/h)	19	0	74	9	0	1	324	1181	81	6	1424	111
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	21	0	82	10	0	1	360	1312	90	7	1582	123
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	192	0	140	119	0	140	385	2438	167	14	1678	129
Arrive On Green	0.09	0.00	0.09	0.09	0.00	0.09	0.24	0.75	0.75	0.01	0.52	0.52
Sat Flow, veh/h	1359	0	1525	1263	0	1525	1619	3248	222	1619	3217	248
Grp Volume(v), veh/h	21	0	82	10	0	1	360	689	713	7	835	870
Grp Sat Flow(s),veh/h/ln	1359	0	1525	1263	0	1525	1619	1710	1760	1619	1710	1755
Q Serve(g_s), s	1.5	0.0	5.4	0.8	0.0	0.1	22.9	17.7	17.9	0.5	48.1	49.5
Cycle Q Clear(g_c), s	1.6	0.0	5.4	6.2	0.0	0.1	22.9	17.7	17.9	0.5	48.1	49.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.13	1.00		0.14
Lane Grp Cap(c), veh/h	192	0	140	119	0	140	385	1283	1321	14	892	915
V/C Ratio(X)	0.11	0.00	0.59	0.08	0.00	0.01	0.93	0.54	0.54	0.49	0.94	0.95
Avail Cap(c_a), veh/h	351	0	319	267	0	319	406	1283	1321	77	908	932
HCM 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
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.2	0.0	45.9	48.9	0.0	43.5	39.3	5.5	5.5	52.0	23.6	23.9
Incr Delay (d2), s/veh	0.2	0.0	3.9	0.3	0.0	0.0	27.4	0.4	0.4	9.4	16.5	18.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	2.2	0.3	0.0	0.0	11.4	4.0	4.1	0.2	20.4	21.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.4	0.0	49.8	49.2	0.0	43.5	66.8	5.9	5.9	61.4	40.1	42.3
LnGrp LOS	D	A	D	D	A	D	E	A	A	E	D	D
Approach Vol, veh/h		103			11			1762			1712	
Approach Delay, s/veh		48.7			48.7			18.4			41.3	
Approach LOS		D			D			B			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.5	85.5		14.2	29.6	61.4		14.2				
Change Period (Y+Rc), s	4.6	6.5		4.6	4.6	6.5		4.6				
Max Green Setting (Gmax), s	5.0	77.3		22.0	26.4	55.9		22.0				
Max Q Clear Time (g_c+I1), s	2.5	19.9		7.4	24.9	51.5		8.2				
Green Ext Time (p_c), s	0.0	11.3		0.4	0.1	3.4		0.0				

Intersection Summary

HCM 6th Ctrl Delay	30.3
HCM 6th LOS	C

Timings  
3: US-395 & Phelan Rd./Main St.

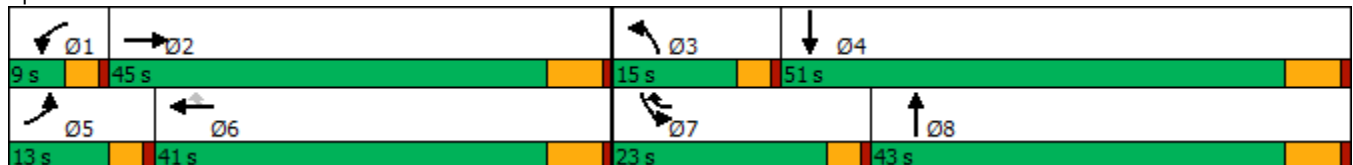


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↙	↕↕↕	↙	↕↕↕	↙	↙↙	↕↕	↙↙	↕↕
Traffic Volume (vph)	95	861	21	1141	595	225	896	350	1082
Future Volume (vph)	95	861	21	1141	595	225	896	350	1082
Turn Type	Prot	NA	Prot	NA	pm+ov	Prot	NA	Prot	NA
Protected Phases	5	2	1	6	7	3	8	7	4
Permitted Phases	6								
Detector Phase	5	2	1	6	7	3	8	7	4
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.0	17.0	9.0	16.0	9.0	9.0	16.0	9.0	16.0
Total Split (s)	13.0	45.0	9.0	41.0	23.0	15.0	43.0	23.0	51.0
Total Split (%)	10.8%	37.5%	7.5%	34.2%	19.2%	12.5%	35.8%	19.2%	42.5%
Yellow Time (s)	3.0	5.0	3.0	5.0	3.0	3.0	5.0	3.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	4.0	6.0	4.0	4.0	6.0	4.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 113.7  
 Natural Cycle: 80  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 3: US-395 & Phelan Rd./Main St.



HCM 6th Signalized Intersection Summary  
 3: US-395 & Phelan Rd./Main St.

Hesperia US Cold Storage (JN 13201)

07/09/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↖	↑↑↑	↗	↖↖	↑↑		↖↖	↑↑	
Traffic Volume (veh/h)	95	861	172	21	1141	595	225	896	24	350	1082	75
Future Volume (veh/h)	95	861	172	21	1141	595	225	896	24	350	1082	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	98	888	133	22	1176	534	232	924	25	361	1115	73
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	123	1609	240	40	1594	692	292	1170	32	430	1255	82
Arrive On Green	0.07	0.35	0.35	0.02	0.31	0.31	0.08	0.33	0.33	0.12	0.36	0.36
Sat Flow, veh/h	1810	4556	679	1810	5187	1610	3510	3590	97	3510	3439	225
Grp Volume(v), veh/h	98	673	348	22	1176	534	232	465	484	361	585	603
Grp Sat Flow(s),veh/h/ln	1810	1729	1778	1810	1729	1610	1755	1805	1883	1755	1805	1859
Q Serve(g_s), s	6.0	17.7	17.8	1.4	23.0	32.1	7.3	26.5	26.5	11.4	34.5	34.5
Cycle Q Clear(g_c), s	6.0	17.7	17.8	1.4	23.0	32.1	7.3	26.5	26.5	11.4	34.5	34.5
Prop In Lane	1.00		0.38	1.00		1.00	1.00		0.05	1.00		0.12
Lane Grp Cap(c), veh/h	123	1221	628	40	1594	692	292	588	613	430	659	679
V/C Ratio(X)	0.80	0.55	0.55	0.55	0.74	0.77	0.79	0.79	0.79	0.84	0.89	0.89
Avail Cap(c_a), veh/h	144	1221	628	80	1603	695	341	590	615	589	717	739
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.0	29.4	29.5	54.8	35.1	27.6	51.0	34.7	34.7	48.6	33.8	33.8
Incr Delay (d2), s/veh	21.7	0.5	1.1	8.5	1.8	5.3	9.9	7.3	7.0	7.0	12.6	12.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	6.9	7.3	0.7	9.3	12.2	3.5	11.9	12.4	5.2	16.1	16.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.8	30.0	30.5	63.4	37.0	32.9	60.9	42.0	41.7	55.6	46.4	46.2
LnGrp LOS	E	C	C	E	D	C	E	D	D	E	D	D
Approach Vol, veh/h		1119			1732			1181			1549	
Approach Delay, s/veh		34.0			36.0			45.6			48.5	
Approach LOS		C			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.5	46.0	13.4	47.3	11.7	40.8	17.9	42.9				
Change Period (Y+Rc), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0				
Max Green Setting (Gmax), s	5.0	39.0	11.0	45.0	9.0	35.0	19.0	37.0				
Max Q Clear Time (g_c+1), s	3.4	19.8	9.3	36.5	8.0	34.1	13.4	28.5				
Green Ext Time (p_c), s	0.0	5.7	0.1	4.8	0.0	0.8	0.5	3.9				

Intersection Summary

HCM 6th Ctrl Delay	41.1
HCM 6th LOS	D

Timings  
1: US-395 & Avenal St.

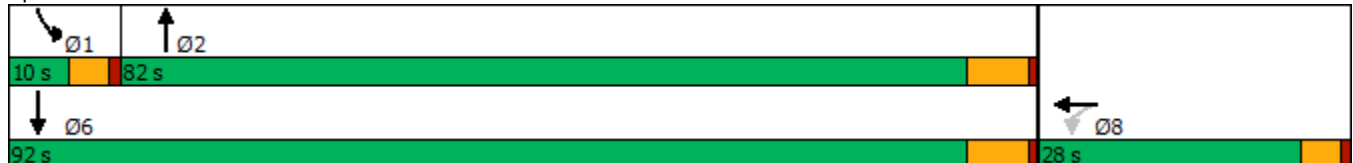


Lane Group	WBT	NBT	SBL	SBT
Lane Configurations	↔	↕	↗	↕
Traffic Volume (vph)	0	1728	1	1252
Future Volume (vph)	0	1728	1	1252
Turn Type	NA	NA	Prot	NA
Protected Phases	8	2	1	6
Permitted Phases				
Detector Phase	8	2	1	6
Switch Phase				
Minimum Initial (s)	10.0	10.0	5.0	10.0
Minimum Split (s)	26.6	24.5	9.6	24.5
Total Split (s)	28.0	82.0	10.0	92.0
Total Split (%)	23.3%	68.3%	8.3%	76.7%
Yellow Time (s)	3.6	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.5
Lead/Lag		Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	
Recall Mode	None	Min	None	Min

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 78.9  
 Natural Cycle: 90  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 1: US-395 & Avenal St.



HCM 6th Signalized Intersection Summary  
1: US-395 & Avenal St.

Hesperia US Cold Storage (JN 13201)

01/18/2021



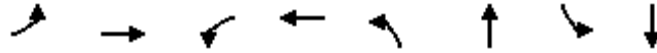
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔			↕		↗	↖	
Traffic Volume (veh/h)	0	0	0	79	0	6	0	1728	12	1	1252	0
Future Volume (veh/h)	0	0	0	79	0	6	0	1728	12	1	1252	0
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1700	1800	1800	0	1800	1800	1700	1800	0
Adj Flow Rate, veh/h				86	0	7	0	1878	13	1	1361	0
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				180	0	15	0	2344	16	2	2518	0
Arrive On Green				0.11	0.00	0.11	0.00	0.67	0.67	0.00	0.74	0.00
Sat Flow, veh/h				1571	0	128	0	3572	24	1619	3510	0
Grp Volume(v), veh/h				93	0	0	0	921	970	1	1361	0
Grp Sat Flow(s),veh/h/ln				1698	0	0	0	1710	1796	1619	1710	0
Q Serve(g_s), s				3.8	0.0	0.0	0.0	28.4	28.6	0.0	13.0	0.0
Cycle Q Clear(g_c), s				3.8	0.0	0.0	0.0	28.4	28.6	0.0	13.0	0.0
Prop In Lane				0.92		0.08	0.00		0.01	1.00		0.00
Lane Grp Cap(c), veh/h				195	0	0	0	1151	1209	2	2518	0
V/C Ratio(X)				0.48	0.00	0.00	0.00	0.80	0.80	0.45	0.54	0.00
Avail Cap(c_a), veh/h				533	0	0	0	1733	1819	117	3924	0
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh				30.9	0.0	0.0	0.0	8.6	8.6	37.2	4.3	0.0
Incr Delay (d2), s/veh				1.8	0.0	0.0	0.0	1.6	1.6	44.8	0.2	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				1.6	0.0	0.0	0.0	6.0	6.4	0.0	1.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				32.7	0.0	0.0	0.0	10.3	10.2	82.0	4.5	0.0
LnGrp LOS				C	A	A	A	B	B	F	A	A
Approach Vol, veh/h					93			1891			1362	
Approach Delay, s/veh					32.7			10.2			4.5	
Approach LOS					C			B			A	
Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	4.7	56.7				61.4		13.1				
Change Period (Y+Rc), s	4.6	6.5				6.5		4.6				
Max Green Setting (Gmax), s	5.4	75.5				85.5		23.4				
Max Q Clear Time (g_c+I1), s	2.0	30.6				15.0		5.8				
Green Ext Time (p_c), s	0.0	19.6				12.4		0.4				

Intersection Summary

HCM 6th Ctrl Delay	8.5
HCM 6th LOS	A



Timings  
2: US-395 & Yucca Terrace Dr.

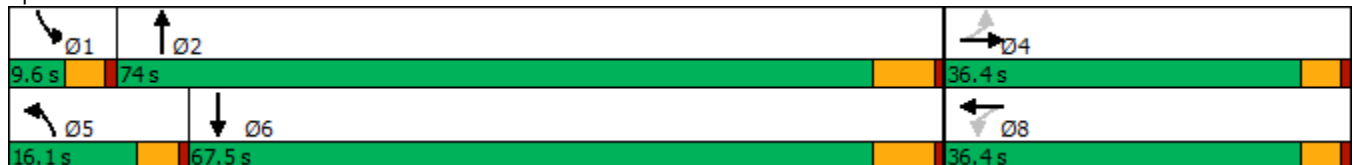


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↖	↗	↖	↗	↖	↕	↖	↕
Traffic Volume (vph)	110	0	31	0	71	1627	2	1302
Future Volume (vph)	110	0	31	0	71	1627	2	1302
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	26.6	26.6	26.6	26.6	9.6	24.5	9.6	24.5
Total Split (s)	36.4	36.4	36.4	36.4	16.1	74.0	9.6	67.5
Total Split (%)	30.3%	30.3%	30.3%	30.3%	13.4%	61.7%	8.0%	56.3%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	6.5	4.6	6.5
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 98.9  
 Natural Cycle: 90  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 2: US-395 & Yucca Terrace Dr.



HCM 6th Signalized Intersection Summary  
 2: US-395 & Yucca Terrace Dr.

Hesperia US Cold Storage (JN 13201)

01/18/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕	↗	↖	↕	↗
Traffic Volume (veh/h)	110	0	413	31	0	3	71	1627	28	2	1302	27
Future Volume (veh/h)	110	0	413	31	0	3	71	1627	28	2	1302	27
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	115	0	430	32	0	3	74	1695	29	2	1356	28
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	468	0	452	86	0	452	92	1907	33	4	1713	35
Arrive On Green	0.30	0.00	0.30	0.30	0.00	0.30	0.06	0.55	0.55	0.00	0.50	0.50
Sat Flow, veh/h	1356	0	1525	919	0	1525	1619	3441	59	1619	3426	71
Grp Volume(v), veh/h	115	0	430	32	0	3	74	841	883	2	676	708
Grp Sat Flow(s),veh/h/ln	1356	0	1525	919	0	1525	1619	1710	1789	1619	1710	1787
Q Serve(g_s), s	7.0	0.0	29.6	2.2	0.0	0.1	4.8	46.2	46.6	0.1	35.1	35.1
Cycle Q Clear(g_c), s	7.1	0.0	29.6	31.8	0.0	0.1	4.8	46.2	46.6	0.1	35.1	35.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.03	1.00		0.04
Lane Grp Cap(c), veh/h	468	0	452	86	0	452	92	948	992	4	855	894
V/C Ratio(X)	0.25	0.00	0.95	0.37	0.00	0.01	0.80	0.89	0.89	0.46	0.79	0.79
Avail Cap(c_a), veh/h	468	0	452	86	0	452	174	1077	1127	76	973	1017
HCM 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
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.1	0.0	36.9	53.0	0.0	26.6	50.0	21.0	21.0	53.4	22.2	22.2
Incr Delay (d2), s/veh	0.3	0.0	30.0	2.7	0.0	0.0	6.0	8.4	8.3	25.3	4.0	3.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.0	14.7	0.9	0.0	0.1	2.0	17.5	18.4	0.1	13.1	13.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.4	0.0	66.9	55.6	0.0	26.6	55.9	29.4	29.4	78.7	26.2	26.0
LnGrp LOS	C	A	E	E	A	C	E	C	C	E	C	C
Approach Vol, veh/h		545			35			1798			1386	
Approach Delay, s/veh		59.0			53.1			30.5			26.2	
Approach LOS		E			D			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.9	65.9		36.4	10.7	60.1		36.4				
Change Period (Y+Rc), s	4.6	6.5		4.6	4.6	6.5		4.6				
Max Green Setting (Gmax), s	5.0	67.5		31.8	11.5	61.0		31.8				
Max Q Clear Time (g_c+I1), s	2.1	48.6		31.6	6.8	37.1		33.8				
Green Ext Time (p_c), s	0.0	10.9		0.1	0.0	9.0		0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				33.2								
HCM 6th LOS				C								

Timings  
3: US-395 & Phelan Rd./Main St.

Hesperia US Cold Storage (JN 13201)

07/09/2020

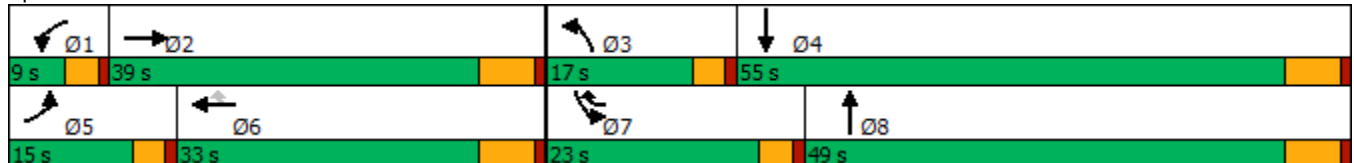


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↶	↶↶↶	↶	↶↶↶	↶	↶↶	↶↶	↶↶	↶↶
Traffic Volume (vph)	91	1255	25	909	384	241	1251	649	996
Future Volume (vph)	91	1255	25	909	384	241	1251	649	996
Turn Type	Prot	NA	Prot	NA	pm+ov	Prot	NA	Prot	NA
Protected Phases	5	2	1	6	7	3	8	7	4
Permitted Phases						6			
Detector Phase	5	2	1	6	7	3	8	7	4
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.0	16.0	9.0	16.0	9.0	9.0	16.0	9.0	16.0
Total Split (s)	15.0	39.0	9.0	33.0	23.0	17.0	49.0	23.0	55.0
Total Split (%)	12.5%	32.5%	7.5%	27.5%	19.2%	14.2%	40.8%	19.2%	45.8%
Yellow Time (s)	3.0	5.0	3.0	5.0	3.0	3.0	5.0	3.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	4.0	6.0	4.0	4.0	6.0	4.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 117  
 Natural Cycle: 110  
 Control Type: Actuated-Uncoordinated






























Splits and Phases: 3: US-395 & Phelan Rd./Main St.



HCM 6th Signalized Intersection Summary  
 3: US-395 & Phelan Rd./Main St.

Hesperia US Cold Storage (JN 13201)

07/09/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 		 	 	 	 	 	
Traffic Volume (veh/h)	91	1255	200	25	909	384	241	1251	47	649	996	100
Future Volume (veh/h)	91	1255	200	25	909	384	241	1251	47	649	996	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1976	1900	1900	1976	1900	1900	1900	1900	1976	1900	1900
Adj Flow Rate, veh/h	96	1321	77	26	957	215	254	1317	42	683	1048	48
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	121	1498	87	44	1352	630	317	1355	43	615	1607	74
Arrive On Green	0.07	0.31	0.27	0.02	0.26	0.23	0.09	0.37	0.37	0.16	0.45	0.45
Sat Flow, veh/h	1810	5542	323	1810	5928	1610	3619	3662	117	3764	3605	165
Grp Volume(v), veh/h	96	942	456	26	957	215	254	683	676	683	552	544
Grp Sat Flow(s),veh/h/ln	1810	1976	1913	1810	1976	1610	1810	1900	1879	1882	1900	1870
Q Serve(g_s), s	6.1	26.3	26.4	1.7	17.0	10.9	8.0	41.1	41.2	19.0	26.4	26.4
Cycle Q Clear(g_c), s	6.1	26.3	26.4	1.7	17.0	10.9	8.0	41.1	41.2	19.0	26.4	26.4
Prop In Lane	1.00		0.17	1.00		1.00	1.00		0.06	1.00		0.09
Lane Grp Cap(c), veh/h	121	1068	517	44	1352	630	317	703	695	615	847	834
V/C Ratio(X)	0.80	0.88	0.88	0.59	0.71	0.34	0.80	0.97	0.97	1.11	0.65	0.65
Avail Cap(c_a), veh/h	171	1122	543	78	1377	637	405	703	695	615	847	834
HCM Platoon Ratio	1.00	1.15	1.00	1.00	1.15	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.5	38.3	38.7	56.1	39.4	24.8	52.0	36.0	36.1	48.6	25.2	25.2
Incr Delay (d2), s/veh	13.3	8.2	15.2	8.9	1.7	0.3	7.9	26.9	27.5	70.4	1.9	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	12.7	13.4	0.8	7.7	3.9	3.8	22.7	22.6	14.5	11.3	11.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.8	46.5	53.9	65.0	41.0	25.2	59.9	63.0	63.6	119.0	27.1	27.1
LnGrp LOS	E	D	D	E	D	C	E	E	E	F	C	C
Approach Vol, veh/h		1494			1198			1613			1779	
Approach Delay, s/veh		50.0			38.7			62.7			62.4	
Approach LOS		D			D			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.8	37.4	14.2	57.8	11.7	32.5	23.0	49.0				
Change Period (Y+Rc), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0				
Max Green Setting (Gmax), s	5.0	33.0	13.0	49.0	11.0	27.0	19.0	43.0				
Max Q Clear Time (g_c+I1), s	3.7	28.4	10.0	28.4	8.1	19.0	21.0	43.2				
Green Ext Time (p_c), s	0.0	3.1	0.2	7.5	0.0	3.9	0.0	0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			54.8									
HCM 6th LOS			D									

**APPENDIX 6.11:**

**OPENING YEAR CUMULATIVE (2022) WITHOUT PROJECT CONDITIONS QUEUING  
ANALYSIS WORKSHEETS WITH IMPROVEMENTS**

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Queues  
3: US-395 & Phelan Rd./Main St.



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	92	1065	22	1176	521	232	935	332	1186
v/c Ratio	0.68	0.60	0.28	0.80	0.65	0.71	0.79	0.69	0.89
Control Delay	78.2	32.0	64.4	43.1	24.3	64.4	41.4	55.4	43.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	78.2	32.0	64.4	43.1	24.3	64.4	41.4	55.4	43.1
Queue Length 50th (ft)	71	247	17	305	263	91	341	128	444
Queue Length 95th (ft)	#149	297	45	361	367	#142	439	173	541
Internal Link Dist (ft)		3796		1443			1039		2603
Turn Bay Length (ft)	340		250		300	330		250	
Base Capacity (vph)	144	1827	80	1617	846	343	1225	592	1439
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.64	0.58	0.28	0.73	0.62	0.68	0.76	0.56	0.82

Intersection Summary

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

Queues  
3: US-395 & Phelan Rd./Main St.



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	93	1532	26	957	371	254	1361	593	1132
v/c Ratio	0.60	0.92	0.32	0.77	0.42	0.67	0.97	0.96	0.69
Control Delay	69.0	50.1	66.4	47.9	18.3	60.2	55.7	77.5	30.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.0	50.1	66.4	47.9	18.3	60.2	55.7	77.5	30.3
Queue Length 50th (ft)	70	385	20	231	139	95	521	231	359
Queue Length 95th (ft)	127	#481	51	278	221	138	#679	#346	438
Internal Link Dist (ft)		3796		1443			1039		2603
Turn Bay Length (ft)	340		250		300	330		250	
Base Capacity (vph)	178	1663	81	1317	877	421	1398	616	1638
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.92	0.32	0.73	0.42	0.60	0.97	0.96	0.69

Intersection Summary

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



**APPENDIX 6.12:**

**OPENING YEAR CUMULATIVE (2022) WITH PROJECT CONDITIONS QUEUING  
ANALYSIS WORKSHEETS WITH IMPROVEMENTS**

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Queues  
3: US-395 & Phelan Rd./Main St.



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	98	1065	22	1176	613	232	949	361	1192
v/c Ratio	0.72	0.60	0.28	0.81	0.76	0.72	0.82	0.72	0.89
Control Delay	82.0	32.1	64.5	43.2	28.8	64.6	43.3	55.9	43.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	82.0	32.1	64.5	43.2	28.8	64.6	43.3	55.9	43.5
Queue Length 50th (ft)	76	247	17	305	334	91	357	138	448
Queue Length 95th (ft)	#162	297	45	361	478	#142	447	188	#552
Internal Link Dist (ft)		3796		1443			1039		2603
Turn Bay Length (ft)	340		250		300	330		250	
Base Capacity (vph)	144	1822	80	1612	845	342	1204	590	1432
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.58	0.28	0.73	0.73	0.68	0.79	0.61	0.83

Intersection Summary

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

Queues  
3: US-395 & Phelan Rd./Main St.



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	96	1532	26	957	404	254	1366	683	1153
v/c Ratio	0.62	0.90	0.32	0.75	0.46	0.67	0.98	1.07	0.70
Control Delay	69.5	47.6	66.4	47.3	19.5	60.1	55.9	102.9	30.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.5	47.6	66.4	47.3	19.5	60.1	55.9	102.9	30.6
Queue Length 50th (ft)	72	380	20	230	161	95	~525	~300	368
Queue Length 95th (ft)	130	#466	51	276	249	138	#683	#415	448
Internal Link Dist (ft)		3796		1443			1039		2603
Turn Bay Length (ft)	340		250		300	330		250	
Base Capacity (vph)	179	1718	81	1361	874	422	1400	638	1640
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.89	0.32	0.70	0.46	0.60	0.98	1.07	0.70

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

**APPENDIX 7.1:**

**HORIZON YEAR (2040) WITHOUT PROJECT CONDITIONS INTERSECTION OPERATIONS  
ANALYSIS WORKSHEETS**

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Intersection												
Int Delay, s/veh	69.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	19	0	74	0	0	0	325	1892	0	0	2631	111
Future Vol, veh/h	19	0	74	0	0	0	325	1892	0	0	2631	111
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	21	0	82	0	0	0	361	2102	0	0	2923	123

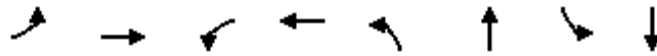
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	5809	5809	2985	5850	5870	2102	3046	0	0	2102	0	0
Stage 1	2985	2985	-	2824	2824	-	-	-	-	-	-	-
Stage 2	2824	2824	-	3026	3046	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	0	0	~ 19	0	0	66	~ 112	-	-	265	-	-
Stage 1	~ 20	32	-	25	39	-	-	-	-	-	-	-
Stage 2	25	39	-	19	30	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	-	0	~ 19	-	0	66	~ 112	-	-	265	-	-
Mov Cap-2 Maneuver	-	0	-	-	0	-	-	-	-	-	-	-
Stage 1	~ 20	32	-	25	0	-	-	-	-	-	-	-
Stage 2	-	0	-	-	30	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s		0	158.7	0
HCM LOS	-	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	~ 112	-	-	-	265	-	-
HCM Lane V/C Ratio	3.224	-	-	-	-	-	-
HCM Control Delay (s)	\$ 1082.6	0	-	0	0	-	-
HCM Lane LOS	F	A	-	A	A	-	-
HCM 95th %tile Q(veh)	35	-	-	-	0	-	-

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

Timings  
3: US-395 & Phelan Rd./Main St.

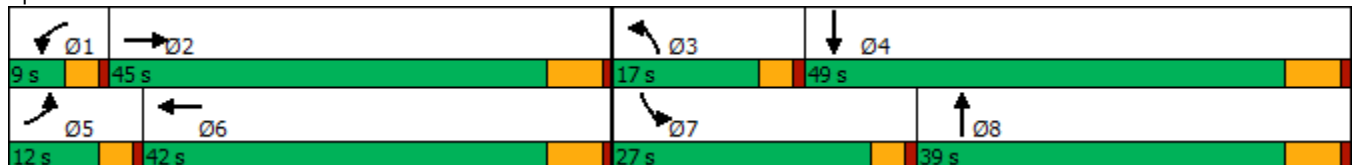


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↙	↕	↙	↕	↙	↕	↙	↕
Traffic Volume (vph)	97	1030	23	1203	237	1558	347	2279
Future Volume (vph)	97	1030	23	1203	237	1558	347	2279
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	5	2	1	6	3	8	7	4
Permitted Phases								
Detector Phase	5	2	1	6	3	8	7	4
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.0	16.0	9.0	16.0	9.0	16.0	9.0	16.0
Total Split (s)	12.0	45.0	9.0	42.0	17.0	39.0	27.0	49.0
Total Split (%)	10.0%	37.5%	7.5%	35.0%	14.2%	32.5%	22.5%	40.8%
Yellow Time (s)	3.0	5.0	3.0	5.0	3.0	5.0	3.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 3: US-395 & Phelan Rd./Main St.





HCM 6th Signalized Intersection Summary  
 3: US-395 & Phelan Rd./Main St.

Hesperia US Cold Storage (JN 13201)

07/09/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕		↖	↕	
Traffic Volume (veh/h)	97	1030	218	23	1203	561	237	1558	26	347	2279	80
Future Volume (veh/h)	97	1030	218	23	1203	561	237	1558	26	347	2279	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	101	1073	182	24	1253	504	247	1623	27	361	2374	79
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	121	1062	180	42	764	294	196	999	17	347	1278	42
Arrive On Green	0.07	0.34	0.34	0.02	0.30	0.30	0.11	0.28	0.28	0.19	0.36	0.36
Sat Flow, veh/h	1810	3088	523	1810	2548	981	1810	3634	60	1810	3566	118
Grp Volume(v), veh/h	101	626	629	24	871	886	247	805	845	361	1195	1258
Grp Sat Flow(s),veh/h/ln	1810	1805	1806	1810	1805	1723	1810	1805	1889	1810	1805	1879
Q Serve(g_s), s	6.6	41.2	41.2	1.6	36.0	36.0	13.0	33.0	33.0	23.0	43.0	43.0
Cycle Q Clear(g_c), s	6.6	41.2	41.2	1.6	36.0	36.0	13.0	33.0	33.0	23.0	43.0	43.0
Prop In Lane	1.00		0.29	1.00		0.57	1.00		0.03	1.00		0.06
Lane Grp Cap(c), veh/h	121	620	621	42	542	517	196	496	520	347	647	673
V/C Ratio(X)	0.84	1.01	1.01	0.58	1.61	1.71	1.26	1.62	1.63	1.04	1.85	1.87
Avail Cap(c_a), veh/h	121	620	621	75	542	517	196	496	520	347	647	673
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.4	39.4	39.4	58.0	42.0	42.0	53.5	43.5	43.5	48.5	38.5	38.5
Incr Delay (d2), s/veh	37.0	38.4	39.5	9.1	282.7	328.9	151.4	289.0	290.6	59.4	387.4	396.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	23.5	23.7	0.8	57.5	61.5	13.9	53.7	56.4	15.5	87.1	92.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	92.4	77.8	78.8	67.1	324.7	370.9	204.9	332.5	334.1	107.9	425.9	435.0
LnGrp LOS	F	F	F	E	F	F	F	F	F	F	F	F
Approach Vol, veh/h		1356			1781			1897			2814	
Approach Delay, s/veh		79.4			344.2			316.6			389.2	
Approach LOS		E			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.8	47.2	17.0	49.0	12.0	42.0	27.0	39.0				
Change Period (Y+Rc), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0				
Max Green Setting (Gmax), s	5.0	39.0	13.0	43.0	8.0	36.0	23.0	33.0				
Max Q Clear Time (g_c+I1), s	3.6	43.2	15.0	45.0	8.6	38.0	25.0	35.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	307.9
HCM 6th LOS	F

Timings  
6: Mesa Linda St. & Main St.

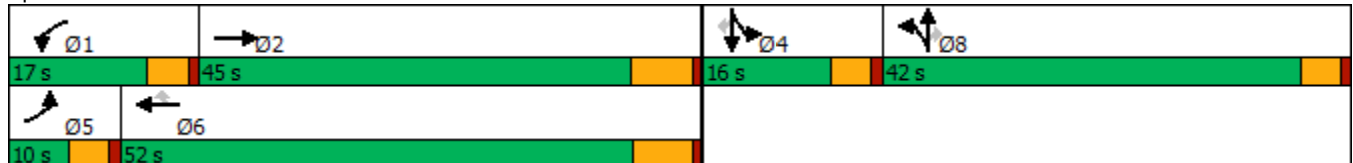


Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Configurations	↖	↗↗↗	↖	↗↗↗	↗	↗	↗	↗	↗
Traffic Volume (vph)	7	1349	121	1702	24	3	177	3	20
Future Volume (vph)	7	1349	121	1702	24	3	177	3	20
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	NA	Perm
Protected Phases	5	2	1	6		8		4	
Permitted Phases					6		8		4
Detector Phase	5	2	1	6	6	8	8	4	4
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	16.5	9.6	23.2	23.2	40.6	40.6	14.6	14.6
Total Split (s)	10.0	45.0	17.0	52.0	52.0	42.0	42.0	16.0	16.0
Total Split (%)	8.3%	37.5%	14.2%	43.3%	43.3%	35.0%	35.0%	13.3%	13.3%
Yellow Time (s)	3.6	5.5	3.6	5.2	5.2	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.2	6.2	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	Max	None	Max	Max	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 92.2  
 Natural Cycle: 110  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 6: Mesa Linda St. & Main St.



HCM 6th Signalized Intersection Summary  
6: Mesa Linda St. & Main St.

Hesperia US Cold Storage (JN 13201)  
07/09/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑	↖		↖	↖		↖	↖
Traffic Volume (veh/h)	7	1349	4	121	1702	24	0	3	177	66	3	20
Future Volume (veh/h)	7	1349	4	121	1702	24	0	3	177	66	3	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	8	1466	4	132	1850	18	0	3	172	72	3	9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	17	2357	6	163	2729	847	0	250	212	173	7	160
Arrive On Green	0.01	0.44	0.44	0.09	0.53	0.53	0.00	0.13	0.13	0.10	0.10	0.10
Sat Flow, veh/h	1714	5341	15	1714	5187	1610	0	1900	1610	1740	73	1610
Grp Volume(v), veh/h	8	949	521	132	1850	18	0	3	172	75	0	9
Grp Sat Flow(s),veh/h/ln	1714	1729	1897	1714	1729	1610	0	1900	1610	1813	0	1610
Q Serve(g_s), s	0.4	18.4	18.4	6.6	22.9	0.5	0.0	0.1	9.1	3.4	0.0	0.4
Cycle Q Clear(g_c), s	0.4	18.4	18.4	6.6	22.9	0.5	0.0	0.1	9.1	3.4	0.0	0.4
Prop In Lane	1.00		0.01	1.00		1.00	0.00		1.00	0.96		1.00
Lane Grp Cap(c), veh/h	17	1526	837	163	2729	847	0	250	212	181	0	160
V/C Ratio(X)	0.46	0.62	0.62	0.81	0.68	0.02	0.00	0.01	0.81	0.42	0.00	0.06
Avail Cap(c_a), veh/h	106	1526	837	244	2729	847	0	814	690	237	0	210
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	42.9	18.8	18.8	38.7	15.2	9.9	0.0	33.0	36.8	36.9	0.0	35.6
Incr Delay (d2), s/veh	7.0	1.9	3.5	6.9	1.4	0.0	0.0	0.0	7.3	1.5	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	6.6	7.6	2.9	7.7	0.2	0.0	0.1	4.0	1.6	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.9	20.7	22.2	45.6	16.6	10.0	0.0	33.0	44.2	38.4	0.0	35.7
LnGrp LOS	D	C	C	D	B	A	A	C	D	D	A	D
Approach Vol, veh/h		1478			2000			175				84
Approach Delay, s/veh		21.4			18.5			44.0				38.1
Approach LOS		C			B			D				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.9	45.0		13.3	5.5	52.4		16.1				
Change Period (Y+Rc), s	4.6	6.5		4.6	4.6	* 6.5		4.6				
Max Green Setting (Gmax), s	12.4	38.5		11.4	5.4	* 46		37.4				
Max Q Clear Time (g_c+I1), s	8.6	20.4		5.4	2.4	24.9		11.1				
Green Ext Time (p_c), s	0.0	8.4		0.1	0.0	12.9		0.6				

Intersection Summary

HCM 6th Ctrl Delay	21.3
HCM 6th LOS	C

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

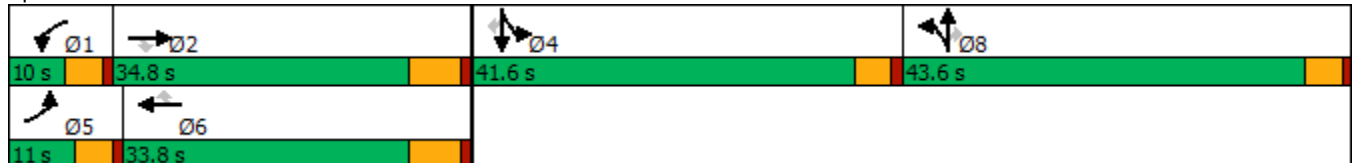
Timings  
7: Cataba Av. & Main St.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	78	1291	310	284	1789	24	179	15	154	47	15	36
Future Volume (vph)	78	1291	310	284	1789	24	179	15	154	47	15	36
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	32.2	32.2	9.6	32.2	32.2	43.6	43.6	43.6	41.6	41.6	41.6
Total Split (s)	11.0	34.8	34.8	10.0	33.8	33.8	43.6	43.6	43.6	41.6	41.6	41.6
Total Split (%)	8.5%	26.8%	26.8%	7.7%	26.0%	26.0%	33.5%	33.5%	33.5%	32.0%	32.0%	32.0%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (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
Lost Time Adjust (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
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None	None

Intersection Summary

Cycle Length: 130  
 Actuated Cycle Length: 82.8  
 Natural Cycle: 130  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 7: Cataba Av. & Main St.



HCM 6th Signalized Intersection Summary  
7: Cataba Av. & Main St.

Hesperia US Cold Storage (JN 13201)  
07/09/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘↗	↑↑↑	↗	↘	↗	↗	↘	↑	↗
Traffic Volume (veh/h)	78	1291	310	284	1789	24	179	15	154	47	15	36
Future Volume (veh/h)	78	1291	310	284	1789	24	179	15	154	47	15	36
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1700	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	85	1403	330	309	1945	19	206	0	147	51	16	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	108	2055	637	235	2117	657	489	0	229	188	208	176
Arrive On Green	0.06	0.40	0.40	0.07	0.41	0.41	0.14	0.00	0.14	0.11	0.11	0.11
Sat Flow, veh/h	1714	5187	1609	3141	5187	1609	3429	0	1607	1714	1900	1610
Grp Volume(v), veh/h	85	1403	330	309	1945	19	206	0	147	51	16	11
Grp Sat Flow(s),veh/h/ln	1714	1729	1609	1570	1729	1609	1714	0	1607	1714	1900	1610
Q Serve(g_s), s	3.5	16.2	11.2	5.4	25.6	0.5	4.0	0.0	6.2	2.0	0.5	0.4
Cycle Q Clear(g_c), s	3.5	16.2	11.2	5.4	25.6	0.5	4.0	0.0	6.2	2.0	0.5	0.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	108	2055	637	235	2117	657	489	0	229	188	208	176
V/C Ratio(X)	0.79	0.68	0.52	1.32	0.92	0.03	0.42	0.00	0.64	0.27	0.08	0.06
Avail Cap(c_a), veh/h	152	2055	637	235	2117	657	1852	0	868	879	974	825
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.4	18.0	16.6	33.4	20.2	12.8	28.2	0.0	29.2	29.5	28.9	28.8
Incr Delay (d2), s/veh	10.7	1.9	3.0	168.7	7.9	0.1	0.6	0.0	3.0	0.8	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	5.5	3.9	7.4	10.0	0.2	1.6	0.0	2.5	0.8	0.3	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.1	19.9	19.5	202.1	28.1	12.9	28.8	0.0	32.2	30.3	29.0	29.0
LnGrp LOS	D	B	B	F	C	B	C	A	C	C	C	C
Approach Vol, veh/h		1818			2273			353			78	
Approach Delay, s/veh		21.0			51.6			30.2			29.8	
Approach LOS		C			D			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.0	34.8		12.5	9.1	35.7		14.9				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	5.4	28.6		37.0	6.4	27.6		39.0				
Max Q Clear Time (g_c+I1), s	7.4	18.2		4.0	5.5	27.6		8.2				
Green Ext Time (p_c), s	0.0	6.7		0.2	0.0	0.0		1.3				

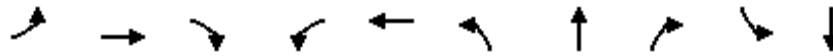
Intersection Summary

HCM 6th Ctrl Delay	37.3
HCM 6th LOS	D

Notes

- User approved pedestrian interval to be less than phase max green.
- User approved volume balancing among the lanes for turning movement.

Timings  
8: Key Point Av. & Main St.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↙	↑↑↑	↗	↙	↑↑↑	↙	↑	↗	↙	↗
Traffic Volume (vph)	42	1358	17	194	1938	15	16	110	522	37
Future Volume (vph)	42	1358	17	194	1938	15	16	110	522	37
Turn Type	Prot	NA	Perm	Prot	NA	Perm	NA	Perm	Perm	NA
Protected Phases	5	2		1	6		8			4
Permitted Phases			2			8		8	4	
Detector Phase	5	2	2	1	6	8	8	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	29.2	29.2	9.6	30.2	38.6	38.6	38.6	41.6	41.6
Total Split (s)	14.0	45.0	45.0	29.0	60.0	46.0	46.0	46.0	46.0	46.0
Total Split (%)	11.7%	37.5%	37.5%	24.2%	50.0%	38.3%	38.3%	38.3%	38.3%	38.3%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	Max	Max	None	Max	None	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 116  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 8: Key Point Av. & Main St.



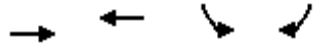
HCM 6th Signalized Intersection Summary  
 8: Key Point Av. & Main St.

Hesperia US Cold Storage (JN 13201)  
 07/09/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑		↘	↑	↗	↘	↗	↘
Traffic Volume (veh/h)	42	1358	17	194	1938	316	15	16	110	522	37	26
Future Volume (veh/h)	42	1358	17	194	1938	316	15	16	110	522	37	26
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	43	1386	14	198	1978	288	15	16	52	533	38	22
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	56	1925	597	226	2156	309	527	688	583	546	409	237
Arrive On Green	0.03	0.37	0.37	0.13	0.47	0.47	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	1714	5187	1608	1714	4582	658	1364	1900	1609	1353	1129	654
Grp Volume(v), veh/h	43	1386	14	198	1486	780	15	16	52	533	0	60
Grp Sat Flow(s),veh/h/ln	1714	1729	1608	1714	1729	1782	1364	1900	1609	1353	0	1782
Q Serve(g_s), s	2.8	26.2	0.6	13.0	45.6	47.2	0.8	0.6	2.4	40.8	0.0	2.5
Cycle Q Clear(g_c), s	2.8	26.2	0.6	13.0	45.6	47.2	3.4	0.6	2.4	41.4	0.0	2.5
Prop In Lane	1.00		1.00	1.00		0.37	1.00		1.00	1.00		0.37
Lane Grp Cap(c), veh/h	56	1925	597	226	1627	838	527	688	583	546	0	645
V/C Ratio(X)	0.77	0.72	0.02	0.87	0.91	0.93	0.03	0.02	0.09	0.98	0.00	0.09
Avail Cap(c_a), veh/h	141	1925	597	366	1627	838	527	688	583	546	0	645
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	54.9	30.9	22.8	48.7	28.1	28.5	25.2	23.5	24.0	38.7	0.0	24.1
Incr Delay (d2), s/veh	8.0	2.4	0.1	7.6	9.4	18.2	0.0	0.0	0.1	32.5	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	10.6	0.2	5.8	19.1	22.3	0.3	0.3	1.0	20.4	0.0	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.9	33.2	22.9	56.3	37.5	46.7	25.2	23.5	24.1	71.2	0.0	24.1
LnGrp LOS	E	C	C	E	D	D	C	C	C	E	A	C
Approach Vol, veh/h		1443			2464			83				593
Approach Delay, s/veh		34.0			41.9			24.2				66.5
Approach LOS		C			D			C				E
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	19.7	48.6		46.0	8.3	60.0		46.0				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	24.4	38.8		41.4	9.4	53.8		41.4				
Max Q Clear Time (g_c+I1), s	15.0	28.2		43.4	4.8	49.2		5.4				
Green Ext Time (p_c), s	0.2	6.1		0.0	0.0	4.1		0.3				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay					42.3							
HCM 6th LOS					D							

Timings  
9: I-15 SB Ramps & Main St.

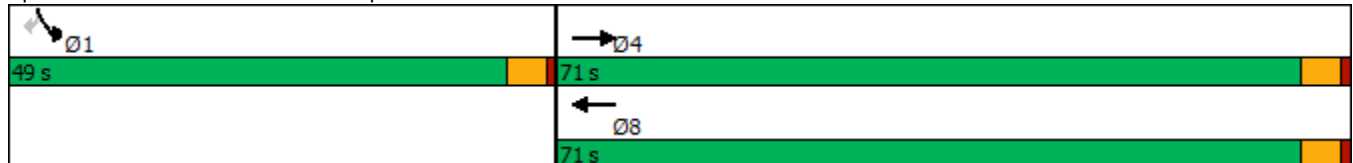


Lane Group	EBT	WBT	SBL	SBR
Lane Configurations	↑↑↑	↑↑↑	↘↘	↗
Traffic Volume (vph)	1463	1646	434	691
Future Volume (vph)	1463	1646	434	691
Turn Type	NA	NA	Prot	Perm
Protected Phases	4	8	1	
Permitted Phases				1
Detector Phase	4	8	1	1
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.6	9.6	9.6
Total Split (s)	71.0	71.0	49.0	49.0
Total Split (%)	59.2%	59.2%	40.8%	40.8%
Yellow Time (s)	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 98.3  
 Natural Cycle: 50  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 9: I-15 SB Ramps & Main St.

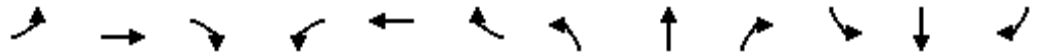




HCM 6th Signalized Intersection Summary  
 9: I-15 SB Ramps & Main St.

Hesperia US Cold Storage (JN 13201)

07/09/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑					↑↑		↑
Traffic Volume (veh/h)	0	1463	0	0	1646	0	0	0	0	434	0	691
Future Volume (veh/h)	0	1463	0	0	1646	0	0	0	0	434	0	691
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1900	0	0	1900	0				1900	0	1900
Adj Flow Rate, veh/h	0	1540	0	0	1733	0				457	0	646
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	2424		0	2424					1519	0	697
Arrive On Green	0.00	0.47	0.00	0.00	0.47	0.00				0.43	0.00	0.43
Sat Flow, veh/h	0	5529	0	0	5529	0				3510	0	1610
Grp Volume(v), veh/h	0	1540	0	0	1733	0				457	0	646
Grp Sat Flow(s),veh/h/ln	0	1729	0	0	1729	0				1755	0	1610
Q Serve(g_s), s	0.0	20.7	0.0	0.0	24.6	0.0				7.8	0.0	35.0
Cycle Q Clear(g_c), s	0.0	20.7	0.0	0.0	24.6	0.0				7.8	0.0	35.0
Prop In Lane	0.00		0.00	0.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2424		0	2424					1519	0	697
V/C Ratio(X)	0.00	0.64		0.00	0.71					0.30	0.00	0.93
Avail Cap(c_a), veh/h	0	3737		0	3737					1691	0	776
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	18.6	0.0	0.0	19.6	0.0				17.0	0.0	24.8
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	0.4	0.0				0.1	0.0	16.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	7.2	0.0	0.0	8.6	0.0				3.1	0.0	15.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	18.9	0.0	0.0	20.0	0.0				17.2	0.0	41.0
LnGrp LOS	A	B		A	C					B	A	D
Approach Vol, veh/h		1540	A		1733	A					1103	
Approach Delay, s/veh		18.9			20.0						31.1	
Approach LOS		B			C						C	
Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				47.7		44.5		47.7				
Change Period (Y+Rc), s				4.6		4.6		4.6				
Max Green Setting (Gmax), s				66.4		44.4		66.4				
Max Q Clear Time (g_c+I1), s				22.7		37.0		26.6				
Green Ext Time (p_c), s				14.1		2.9		16.4				

Intersection Summary

HCM 6th Ctrl Delay	22.4
HCM 6th LOS	C

Notes

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

Timings  
10: I-15 NB Ramps & Main St.

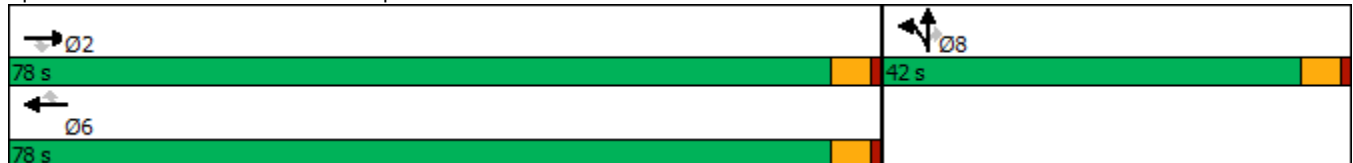


Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR
Lane Configurations	↑↑↑	↑	↑↑↑	↑	↑	↑	↑
Traffic Volume (vph)	1423	473	1821	670	582	8	547
Future Volume (vph)	1423	473	1821	670	582	8	547
Turn Type	NA	Perm	NA	Perm	Split	NA	Perm
Protected Phases	2		6		8	8	
Permitted Phases		2		6			8
Detector Phase	2	2	6	6	8	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.6	22.6	22.6	22.6	9.6	9.6	9.6
Total Split (s)	78.0	78.0	78.0	78.0	42.0	42.0	42.0
Total Split (%)	65.0%	65.0%	65.0%	65.0%	35.0%	35.0%	35.0%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	None	None	None	None	Min	Min	Min

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 108.1  
 Natural Cycle: 45  
 Control Type: Actuated-Uncoordinated













Splits and Phases: 10: I-15 NB Ramps & Main St.



HCM 6th Signalized Intersection Summary  
 10: I-15 NB Ramps & Main St.

Hesperia US Cold Storage (JN 13201)

07/09/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑↑	↗	↗	↗	↗			
Traffic Volume (veh/h)	0	1423	473	0	1821	670	582	8	547	0	0	0
Future Volume (veh/h)	0	1423	473	0	1821	670	582	8	547	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1900	1900	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	0	1452	0	0	1858	652	594	0	353			
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	0	2896		0	2896	899	634	0	1129			
Arrive On Green	0.00	0.56	0.00	0.00	0.56	0.56	0.35	0.00	0.35			
Sat Flow, veh/h	0	5358	1610	0	5358	1610	1810	0	3220			
Grp Volume(v), veh/h	0	1452	0	0	1858	652	594	0	353			
Grp Sat Flow(s),veh/h/ln	0	1729	1610	0	1729	1610	1810	0	1610			
Q Serve(g_s), s	0.0	17.3	0.0	0.0	24.9	30.3	32.0	0.0	8.1			
Cycle Q Clear(g_c), s	0.0	17.3	0.0	0.0	24.9	30.3	32.0	0.0	8.1			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	2896		0	2896	899	634	0	1129			
V/C Ratio(X)	0.00	0.50		0.00	0.64	0.73	0.94	0.00	0.31			
Avail Cap(c_a), veh/h	0	3773		0	3773	1171	671	0	1194			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	13.7	0.0	0.0	15.3	16.5	31.7	0.0	23.9			
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.2	1.6	20.1	0.0	0.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	5.8	0.0	0.0	8.4	9.8	17.3	0.0	3.1			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	13.8	0.0	0.0	15.6	18.1	51.8	0.0	24.1			
LnGrp LOS	A	B		A	B	B	D	A	C			
Approach Vol, veh/h		1452	A		2510			947				
Approach Delay, s/veh		13.8			16.2			41.5				
Approach LOS		B			B			D				
Timer - Assigned Phs		2			6			8				
Phs Duration (G+Y+Rc), s		60.9			60.9			40.0				
Change Period (Y+Rc), s		4.6			4.6			4.6				
Max Green Setting (Gmax), s		73.4			73.4			37.4				
Max Q Clear Time (g_c+I1), s		19.3			32.3			34.0				
Green Ext Time (p_c), s		13.3			24.0			1.3				

Intersection Summary

HCM 6th Ctrl Delay	20.4
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.  
 Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Intersection												
Int Delay, s/veh	299.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	111	0	415	0	0	0	74	2778	0	0	1929	29
Future Vol, veh/h	111	0	415	0	0	0	74	2778	0	0	1929	29
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	116	0	432	0	0	0	77	2894	0	0	2009	30

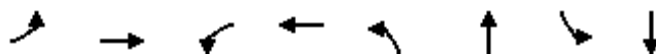
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	5073	5073	2025	5288	5088	2894	2040	0	0	2894	0	0
Stage 1	2025	2025	-	3048	3048	-	-	-	-	-	-	-
Stage 2	3048	3048	-	2240	2040	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	0	1	~ 73	0	1	21	280	-	-	129	-	-
Stage 1	~ 76	103	-	18	30	-	-	-	-	-	-	-
Stage 2	~ 18	30	-	57	101	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	0	1	~ 73	-	1	21	280	-	-	129	-	-
Mov Cap-2 Maneuver	0	1	-	-	1	-	-	-	-	-	-	-
Stage 1	~ 76	103	-	18	30	-	-	-	-	-	-	-
Stage 2	~ 18	30	-	-	101	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, \$	3037.7	0	0.6	0
HCM LOS	F	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	280	-	-	73	-	129	-	-
HCM Lane V/C Ratio	0.275	-	-	7.506	-	-	-	-
HCM Control Delay (s)	22.7	0		\$ 3037.7	0	0	-	-
HCM Lane LOS	C	A	-	F	A	A	-	-
HCM 95th %tile Q(veh)	1.1	-	-	62.6	-	0	-	-

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

Timings  
3: US-395 & Phelan Rd./Main St.

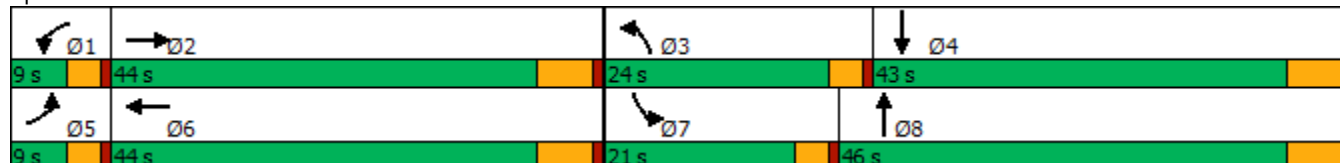


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↶	↷	↶	↷	↶	↷	↶	↷
Traffic Volume (vph)	96	1399	27	1077	296	2382	621	1621
Future Volume (vph)	96	1399	27	1077	296	2382	621	1621
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	5	2	1	6	3	8	7	4
Permitted Phases								
Detector Phase	5	2	1	6	3	8	7	4
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.0	16.0	9.0	16.0	9.0	16.0	9.0	16.0
Total Split (s)	9.0	44.0	9.0	44.0	24.0	46.0	21.0	43.0
Total Split (%)	7.5%	36.7%	7.5%	36.7%	20.0%	38.3%	17.5%	35.8%
Yellow Time (s)	3.0	5.0	3.0	5.0	3.0	5.0	3.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 3: US-395 & Phelan Rd./Main St.



HCM 6th Signalized Intersection Summary  
 3: US-395 & Phelan Rd./Main St.

Hesperia US Cold Storage (JN 13201)

07/09/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (veh/h)	96	1399	210	27	1077	372	296	2382	423	621	1621	102
Future Volume (veh/h)	96	1399	210	27	1077	372	296	2382	423	621	1621	102
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	101	1473	193	28	1134	308	312	2507	438	654	1706	92
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	75	1069	138	46	891	239	302	1029	175	256	1074	58
Arrive On Green	0.04	0.33	0.33	0.03	0.32	0.32	0.17	0.33	0.33	0.14	0.31	0.31
Sat Flow, veh/h	1810	3209	415	1810	2813	756	1810	3087	524	1810	3485	187
Grp Volume(v), veh/h	101	821	845	28	723	719	312	1435	1510	654	878	920
Grp Sat Flow(s),veh/h/ln	1810	1805	1819	1810	1805	1764	1810	1805	1806	1810	1805	1866
Q Serve(g_s), s	5.0	40.0	40.0	1.8	38.0	38.0	20.0	40.0	40.0	17.0	37.0	37.0
Cycle Q Clear(g_c), s	5.0	40.0	40.0	1.8	38.0	38.0	20.0	40.0	40.0	17.0	37.0	37.0
Prop In Lane	1.00		0.23	1.00		0.43	1.00		0.29	1.00		0.10
Lane Grp Cap(c), veh/h	75	601	606	46	572	559	302	602	602	256	557	575
V/C Ratio(X)	1.34	1.37	1.40	0.61	1.27	1.29	1.03	2.38	2.51	2.55	1.58	1.60
Avail Cap(c_a), veh/h	75	601	606	75	572	559	302	602	602	256	557	575
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.5	40.0	40.0	57.9	41.0	41.0	50.0	40.0	40.0	51.5	41.5	41.5
Incr Delay (d2), s/veh	218.6	174.8	187.8	9.4	132.9	142.2	61.0	628.2	684.0	709.4	268.6	277.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.8	45.6	48.2	0.9	36.8	37.4	13.7	121.4	130.8	57.9	56.8	60.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	276.1	214.9	227.9	67.3	173.9	183.2	111.0	668.2	724.0	760.9	310.1	318.9
LnGrp LOS	F	F	F	E	F	F	F	F	F	F	F	F
Approach Vol, veh/h		1767			1470			3257			2452	
Approach Delay, s/veh		224.6			176.4			640.7			433.6	
Approach LOS		F			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.0	46.0	24.0	43.0	9.0	44.0	21.0	46.0				
Change Period (Y+Rc), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0				
Max Green Setting (Gmax), s	5.0	38.0	20.0	37.0	5.0	38.0	17.0	40.0				
Max Q Clear Time (g_c+I1), s	3.8	42.0	22.0	39.0	7.0	40.0	19.0	42.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	425.5
HCM 6th LOS	F

Timings  
6: Mesa Linda St. & Main St.

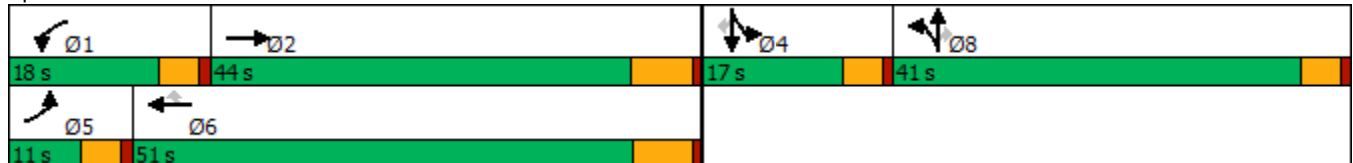


Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	7	1923	98	1444	76	10	114	0	4
Future Volume (vph)	7	1923	98	1444	76	10	114	0	4
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	NA	Perm
Protected Phases	5	2	1	6		8		4	
Permitted Phases					6		8		4
Detector Phase	5	2	1	6	6	8	8	4	4
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	16.5	9.6	23.2	23.2	40.6	40.6	14.6	14.6
Total Split (s)	11.0	44.0	18.0	51.0	51.0	41.0	41.0	17.0	17.0
Total Split (%)	9.2%	36.7%	15.0%	42.5%	42.5%	34.2%	34.2%	14.2%	14.2%
Yellow Time (s)	3.6	5.5	3.6	5.2	5.2	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.2	6.2	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	Max	None	Max	Max	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 86.3  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 6: Mesa Linda St. & Main St.



HCM 6th Signalized Intersection Summary  
6: Mesa Linda St. & Main St.

Hesperia US Cold Storage (JN 13201)  
07/09/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑	↖		↑	↖		↖	↖
Traffic Volume (veh/h)	7	1923	8	98	1444	76	13	10	114	44	0	4
Future Volume (veh/h)	7	1923	8	98	1444	76	13	10	114	44	0	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	7	2003	7	102	1504	71	14	10	60	46	0	2
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	15	2600	9	129	2872	892	113	81	169	148	0	131
Arrive On Green	0.01	0.49	0.49	0.08	0.55	0.55	0.10	0.10	0.10	0.08	0.00	0.08
Sat Flow, veh/h	1714	5336	19	1714	5187	1610	1077	769	1610	1810	0	1610
Grp Volume(v), veh/h	7	1298	712	102	1504	71	24	0	60	46	0	2
Grp Sat Flow(s),veh/h/ln	1714	1729	1897	1714	1729	1610	1846	0	1610	1810	0	1610
Q Serve(g_s), s	0.3	24.9	24.9	4.7	14.7	1.7	1.0	0.0	2.8	1.9	0.0	0.1
Cycle Q Clear(g_c), s	0.3	24.9	24.9	4.7	14.7	1.7	1.0	0.0	2.8	1.9	0.0	0.1
Prop In Lane	1.00		0.01	1.00		1.00	0.58		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	15	1685	924	129	2872	892	194	0	169	148	0	131
V/C Ratio(X)	0.45	0.77	0.77	0.79	0.52	0.08	0.12	0.00	0.36	0.31	0.00	0.02
Avail Cap(c_a), veh/h	136	1685	924	284	2872	892	831	0	724	277	0	247
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	39.9	17.0	17.0	36.8	11.4	8.4	32.8	0.0	33.7	35.0	0.0	34.2
Incr Delay (d2), s/veh	7.6	3.5	6.2	4.0	0.7	0.2	0.3	0.0	1.3	1.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	8.6	10.1	2.0	4.6	0.5	0.4	0.0	1.1	0.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.4	20.5	23.2	40.8	12.0	8.6	33.1	0.0	34.9	36.2	0.0	34.2
LnGrp LOS	D	C	C	D	B	A	C	A	C	D	A	C
Approach Vol, veh/h		2017			1677			84				48
Approach Delay, s/veh		21.5			13.6			34.4				36.1
Approach LOS		C			B			C				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.7	45.9		11.2	5.3	51.3		13.1				
Change Period (Y+Rc), s	4.6	6.5		4.6	4.6	* 6.5		4.6				
Max Green Setting (Gmax), s	13.4	37.5		12.4	6.4	* 45		36.4				
Max Q Clear Time (g_c+I1), s	6.7	26.9		3.9	2.3	16.7		4.8				
Green Ext Time (p_c), s	0.1	7.9		0.1	0.0	12.0		0.3				

Intersection Summary

HCM 6th Ctrl Delay	18.5
HCM 6th LOS	B

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Timings  
7: Cataba Av. & Main St.

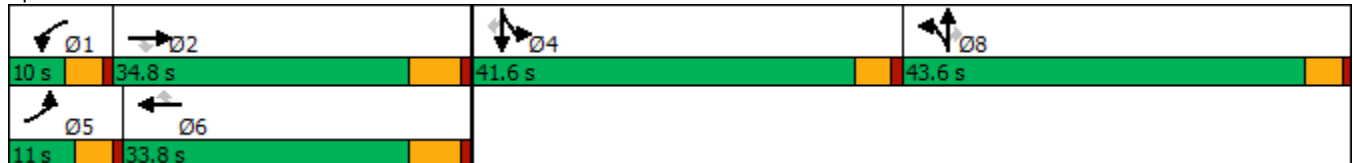


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘↗	↑↑↑	↗	↘	↗	↗	↘	↑	↗
Traffic Volume (vph)	108	1832	124	324	1242	61	218	71	193	98	41	156
Future Volume (vph)	108	1832	124	324	1242	61	218	71	193	98	41	156
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	32.2	32.2	9.6	32.2	32.2	43.6	43.6	43.6	41.6	41.6	41.6
Total Split (s)	11.0	34.8	34.8	10.0	33.8	33.8	43.6	43.6	43.6	41.6	41.6	41.6
Total Split (%)	8.5%	26.8%	26.8%	7.7%	26.0%	26.0%	33.5%	33.5%	33.5%	32.0%	32.0%	32.0%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (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
Lost Time Adjust (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
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None	None

Intersection Summary

Cycle Length: 130  
 Actuated Cycle Length: 87.4  
 Natural Cycle: 130  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 7: Cataba Av. & Main St.



HCM 6th Signalized Intersection Summary  
7: Cataba Av. & Main St.

Hesperia US Cold Storage (JN 13201)  
07/09/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘↗	↑↑↑	↗	↘	↗	↗	↘	↑	↗
Traffic Volume (veh/h)	108	1832	124	324	1242	61	218	71	193	98	41	156
Future Volume (veh/h)	108	1832	124	324	1242	61	218	71	193	98	41	156
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1700	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	110	1869	88	331	1267	50	147	177	94	100	42	69
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	138	1957	607	224	1908	591	270	299	251	223	248	210
Arrive On Green	0.08	0.38	0.38	0.07	0.37	0.37	0.16	0.16	0.16	0.13	0.13	0.13
Sat Flow, veh/h	1714	5187	1609	3141	5187	1608	1714	1900	1595	1714	1900	1610
Grp Volume(v), veh/h	110	1869	88	331	1267	50	147	177	94	100	42	69
Grp Sat Flow(s),veh/h/ln	1714	1729	1609	1570	1729	1608	1714	1900	1595	1714	1900	1610
Q Serve(g_s), s	4.8	26.6	2.7	5.4	15.5	1.5	6.0	6.6	4.0	4.1	1.5	3.0
Cycle Q Clear(g_c), s	4.8	26.6	2.7	5.4	15.5	1.5	6.0	6.6	4.0	4.1	1.5	3.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	138	1957	607	224	1908	591	270	299	251	223	248	210
V/C Ratio(X)	0.80	0.96	0.14	1.48	0.66	0.08	0.54	0.59	0.37	0.45	0.17	0.33
Avail Cap(c_a), veh/h	145	1957	607	224	1908	591	882	977	820	837	927	786
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.2	23.0	15.6	35.2	20.0	15.6	29.4	29.7	28.6	30.4	29.3	30.0
Incr Delay (d2), s/veh	22.8	12.2	0.5	238.2	1.8	0.3	1.7	1.9	0.9	1.4	0.3	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	11.1	0.9	9.3	5.7	0.5	2.5	3.1	1.6	1.7	0.7	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.0	35.2	16.1	273.5	21.9	15.9	31.2	31.5	29.5	31.8	29.6	30.9
LnGrp LOS	E	D	B	F	C	B	C	C	C	C	C	C
Approach Vol, veh/h		2067			1648			418			211	
Approach Delay, s/veh		35.5			72.2			31.0			31.1	
Approach LOS		D			E			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.0	34.8		14.5	10.7	34.1		16.5				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	5.4	28.6		37.0	6.4	27.6		39.0				
Max Q Clear Time (g_c+I1), s	7.4	28.6		6.1	6.8	17.5		8.6				
Green Ext Time (p_c), s	0.0	0.0		0.8	0.0	5.6		1.9				

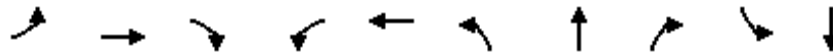
Intersection Summary

HCM 6th Ctrl Delay	48.8
HCM 6th LOS	D

Notes

- User approved pedestrian interval to be less than phase max green.
- User approved volume balancing among the lanes for turning movement.

Timings  
8: Key Point Av. & Main St.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↙	↑↑↑	↘	↙	↑↑↑	↙	↑	↘	↙	↘
Traffic Volume (vph)	85	2126	34	303	1707	41	100	325	254	119
Future Volume (vph)	85	2126	34	303	1707	41	100	325	254	119
Turn Type	Prot	NA	Perm	Prot	NA	Perm	NA	Perm	Perm	NA
Protected Phases	5	2		1	6		8			4
Permitted Phases			2			8		8	4	
Detector Phase	5	2	2	1	6	8	8	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	29.2	29.2	9.6	30.2	38.6	38.6	38.6	41.6	41.6
Total Split (s)	12.0	55.4	55.4	23.0	66.4	41.6	41.6	41.6	41.6	41.6
Total Split (%)	10.0%	46.2%	46.2%	19.2%	55.3%	34.7%	34.7%	34.7%	34.7%	34.7%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	Max	Max	None	Max	None	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 111  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 8: Key Point Av. & Main St.



HCM 6th Signalized Intersection Summary  
 8: Key Point Av. & Main St.

Hesperia US Cold Storage (JN 13201)

07/09/2020

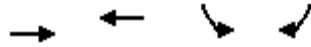


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑		↘	↑	↗	↘	↗	
Traffic Volume (veh/h)	85	2126	34	303	1707	607	41	100	325	254	119	43
Future Volume (veh/h)	85	2126	34	303	1707	607	41	100	325	254	119	43
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	87	2169	31	309	1742	466	42	102	191	259	121	23
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	108	2171	674	268	2096	548	356	559	466	341	456	87
Arrive On Green	0.06	0.42	0.42	0.16	0.51	0.51	0.29	0.29	0.29	0.29	0.29	0.29
Sat Flow, veh/h	1714	5187	1610	1714	4094	1070	1260	1900	1585	1102	1551	295
Grp Volume(v), veh/h	87	2169	31	309	1465	743	42	102	191	259	0	144
Grp Sat Flow(s),veh/h/ln	1714	1729	1610	1714	1729	1706	1260	1900	1585	1102	0	1846
Q Serve(g_s), s	5.9	49.1	1.3	18.4	42.2	44.2	3.1	4.7	11.4	26.9	0.0	7.0
Cycle Q Clear(g_c), s	5.9	49.1	1.3	18.4	42.2	44.2	10.1	4.7	11.4	31.7	0.0	7.0
Prop In Lane	1.00		1.00	1.00		0.63	1.00		1.00	1.00		0.16
Lane Grp Cap(c), veh/h	108	2171	674	268	1771	874	356	559	466	341	0	543
V/C Ratio(X)	0.81	1.00	0.05	1.15	0.83	0.85	0.12	0.18	0.41	0.76	0.00	0.27
Avail Cap(c_a), veh/h	108	2171	674	268	1771	874	383	598	499	364	0	581
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	54.4	34.2	20.3	49.6	24.3	24.8	35.7	31.0	33.3	42.8	0.0	31.8
Incr Delay (d2), s/veh	32.5	19.1	0.1	102.3	4.6	10.2	0.1	0.2	0.6	8.5	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	22.7	0.5	15.2	16.6	18.4	1.0	2.2	4.5	8.2	0.0	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	86.9	53.3	20.4	151.8	28.9	35.0	35.8	31.1	33.9	51.2	0.0	32.0
LnGrp LOS	F	D	C	F	C	C	D	C	C	D	A	C
Approach Vol, veh/h		2287			2517			335				403
Approach Delay, s/veh		54.1			45.8			33.3				44.4
Approach LOS		D			D			C				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	23.0	55.4		39.2	12.0	66.4		39.2				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	18.4	49.2		37.0	7.4	60.2		37.0				
Max Q Clear Time (g_c+I1), s	20.4	51.1		33.7	7.9	46.2		13.4				
Green Ext Time (p_c), s	0.0	0.0		0.7	0.0	10.9		1.4				

Intersection Summary

HCM 6th Ctrl Delay	48.4
HCM 6th LOS	D

Timings  
 9: I-15 SB Ramps & Main St.

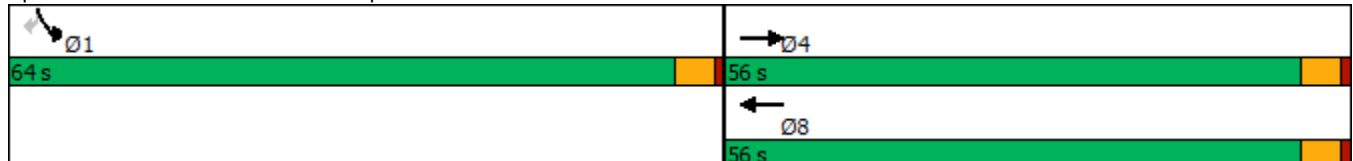


Lane Group	EBT	WBT	SBL	SBR
Lane Configurations	↑↑↑	↑↑↑	↘↘	↗
Traffic Volume (vph)	2207	1935	763	628
Future Volume (vph)	2207	1935	763	628
Turn Type	NA	NA	Prot	Perm
Protected Phases	4	8	1	
Permitted Phases				1
Detector Phase	4	8	1	1
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.6	9.6	9.6
Total Split (s)	56.0	56.0	64.0	64.0
Total Split (%)	46.7%	46.7%	53.3%	53.3%
Yellow Time (s)	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 109.8  
 Natural Cycle: 70  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 9: I-15 SB Ramps & Main St.



HCM 6th Signalized Intersection Summary  
 9: I-15 SB Ramps & Main St.

Hesperia US Cold Storage (JN 13201)

07/09/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑					↑↑		↑
Traffic Volume (veh/h)	0	2207	0	0	1935	0	0	0	0	763	0	628
Future Volume (veh/h)	0	2207	0	0	1935	0	0	0	0	763	0	628
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1900	0	0	1900	0				1900	0	1900
Adj Flow Rate, veh/h	0	2275	0	0	1995	0				787	0	534
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97				0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	2673		0	2673					1361	0	624
Arrive On Green	0.00	0.52	0.00	0.00	0.52	0.00				0.39	0.00	0.39
Sat Flow, veh/h	0	5529	0	0	5529	0				3510	0	1610
Grp Volume(v), veh/h	0	2275	0	0	1995	0				787	0	534
Grp Sat Flow(s),veh/h/ln	0	1729	0	0	1729	0				1755	0	1610
Q Serve(g_s), s	0.0	35.9	0.0	0.0	28.8	0.0				16.8	0.0	28.8
Cycle Q Clear(g_c), s	0.0	35.9	0.0	0.0	28.8	0.0				16.8	0.0	28.8
Prop In Lane	0.00		0.00	0.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2673		0	2673					1361	0	624
V/C Ratio(X)	0.00	0.85		0.00	0.75					0.58	0.00	0.86
Avail Cap(c_a), veh/h	0	2808		0	2808					2196	0	1007
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	19.9	0.0	0.0	18.1	0.0				22.9	0.0	26.6
Incr Delay (d2), s/veh	0.0	2.6	0.0	0.0	1.1	0.0				0.4	0.0	4.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	12.8	0.0	0.0	10.0	0.0				6.9	0.0	11.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	22.5	0.0	0.0	19.2	0.0				23.3	0.0	30.8
LnGrp LOS	A	C		A	B					C	A	C
Approach Vol, veh/h		2275	A		1995	A					1321	
Approach Delay, s/veh		22.5			19.2						26.4	
Approach LOS		C			B						C	
Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				53.5		41.4		53.5				
Change Period (Y+Rc), s				4.6		4.6		4.6				
Max Green Setting (Gmax), s				51.4		59.4		51.4				
Max Q Clear Time (g_c+I1), s				37.9		30.8		30.8				
Green Ext Time (p_c), s				11.0		6.0		13.8				

Intersection Summary

HCM 6th Ctrl Delay	22.2
HCM 6th LOS	C

Notes

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

Timings  
10: I-15 NB Ramps & Main St.

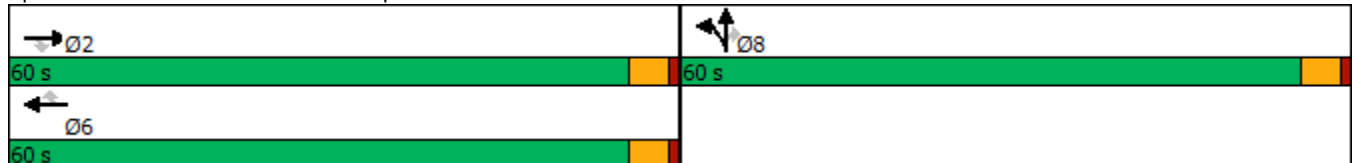


Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR
Lane Configurations	↑↑↑↑	↑	↑↑↑↑	↑	↑	↑	↑
Traffic Volume (vph)	2281	688	1862	560	329	0	1174
Future Volume (vph)	2281	688	1862	560	329	0	1174
Turn Type	NA	Perm	NA	Perm	Split	NA	Perm
Protected Phases	2		6		8	8	
Permitted Phases		2		6			8
Detector Phase	2	2	6	6	8	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.6	22.6	22.6	22.6	9.6	9.6	9.6
Total Split (s)	60.0	60.0	60.0	60.0	60.0	60.0	60.0
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	None	None	None	None	Min	Min	Min

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 116.2  
 Natural Cycle: 75  
 Control Type: Actuated-Uncoordinated













Splits and Phases: 10: I-15 NB Ramps & Main St.



HCM 6th Signalized Intersection Summary  
 10: I-15 NB Ramps & Main St.

Hesperia US Cold Storage (JN 13201)

07/09/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑↑	↗	↗	↗	↗			
Traffic Volume (veh/h)	0	2281	688	0	1862	560	329	0	1174	0	0	0
Future Volume (veh/h)	0	2281	688	0	1862	560	329	0	1174	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1900	1900	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	0	2352	0	0	1920	430	339	0	1063			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	0	2712		0	2712	842	700	0	1246			
Arrive On Green	0.00	0.52	0.00	0.00	0.52	0.52	0.39	0.00	0.39			
Sat Flow, veh/h	0	5358	1610	0	5358	1610	1810	0	3220			
Grp Volume(v), veh/h	0	2352	0	0	1920	430	339	0	1063			
Grp Sat Flow(s),veh/h/ln	0	1729	1610	0	1729	1610	1810	0	1610			
Q Serve(g_s), s	0.0	40.3	0.0	0.0	28.6	17.7	14.4	0.0	30.8			
Cycle Q Clear(g_c), s	0.0	40.3	0.0	0.0	28.6	17.7	14.4	0.0	30.8			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	2712		0	2712	842	700	0	1246			
V/C Ratio(X)	0.00	0.87		0.00	0.71	0.51	0.48	0.00	0.85			
Avail Cap(c_a), veh/h	0	2820		0	2820	875	984	0	1751			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	21.2	0.0	0.0	18.4	15.8	23.6	0.0	28.6			
Incr Delay (d2), s/veh	0.0	3.1	0.0	0.0	0.8	0.5	0.5	0.0	3.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	14.7	0.0	0.0	10.1	5.8	6.2	0.0	12.2			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	24.3	0.0	0.0	19.2	16.3	24.1	0.0	31.7			
LnGrp LOS	A	C		A	B	B	C	A	C			
Approach Vol, veh/h		2352	A		2350			1402				
Approach Delay, s/veh		24.3			18.7			29.8				
Approach LOS		C			B			C				
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		57.9				57.9		44.0				
Change Period (Y+Rc), s		4.6				4.6		4.6				
Max Green Setting (Gmax), s		55.4				55.4		55.4				
Max Q Clear Time (g_c+I1), s		42.3				30.6		32.8				
Green Ext Time (p_c), s		10.9				16.8		6.6				

Intersection Summary

HCM 6th Ctrl Delay	23.4
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.  
 Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



**APPENDIX 7.2:**

**HORIZON YEAR (2040) WITH PROJECT CONDITIONS INTERSECTION OPERATIONS  
ANALYSIS WORKSHEETS**

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Timings  
1: US-395 & Avenal St.



Lane Group	WBT	NBT	SBL	SBT
Lane Configurations	↔	↑	↘	↓
Traffic Volume (vph)	0	1911	3	2747
Future Volume (vph)	0	1911	3	2747
Turn Type	NA	NA	Prot	NA
Protected Phases	8	2	1	6
Permitted Phases				
Detector Phase	8	2	1	6
Switch Phase				
Minimum Initial (s)	10.0	10.0	5.0	10.0
Minimum Split (s)	26.6	23.5	9.6	16.5
Total Split (s)	26.6	83.8	9.6	93.4
Total Split (%)	22.2%	69.8%	8.0%	77.8%
Yellow Time (s)	3.6	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.5
Lead/Lag		Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	
Recall Mode	None	Min	None	Min
Act Effct Green (s)	12.3	99.1	5.0	100.9
Actuated g/C Ratio	0.11	0.86	0.04	0.87
v/c Ratio	0.12	1.30	0.04	1.80
Control Delay	0.9	153.2	56.7	378.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	0.9	153.2	56.7	378.2
LOS	A	F	E	F
Approach Delay	0.9	153.2		377.9
Approach LOS	A	F		F

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 115.4	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.80	
Intersection Signal Delay: 283.3	Intersection LOS: F
Intersection Capacity Utilization 162.2%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 1: US-395 & Avenal St.



HCM 6th Signalized Intersection Summary  
1: US-395 & Avenal St.

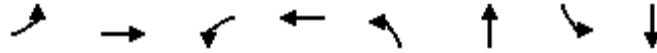
Hesperia US Cold Storage (JN 13201)

01/18/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔			↔		↔	↔	
Traffic Volume (veh/h)	0	0	0	26	0	2	0	1911	29	3	2747	0
Future Volume (veh/h)	0	0	0	26	0	2	0	1911	29	3	2747	0
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No		No		No		No		No
Adj Sat Flow, veh/h/ln				1800	1900	1900	0	1900	1900	1800	1900	0
Adj Flow Rate, veh/h				28	0	2	0	2077	32	3	2986	0
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				93	0	7	0	1472	23	7	1591	0
Arrive On Green				0.06	0.00	0.06	0.00	0.79	0.79	0.00	0.84	0.00
Sat Flow, veh/h				1675	0	120	0	1866	29	1714	1900	0
Grp Volume(v), veh/h				30	0	0	0	0	2109	3	2986	0
Grp Sat Flow(s),veh/h/ln				1795	0	0	0	0	1895	1714	1900	0
Q Serve(g_s), s				1.7	0.0	0.0	0.0	0.0	81.9	0.2	86.9	0.0
Cycle Q Clear(g_c), s				1.7	0.0	0.0	0.0	0.0	81.9	0.2	86.9	0.0
Prop In Lane				0.93		0.07	0.00		0.02	1.00		0.00
Lane Grp Cap(c), veh/h				100	0	0	0	0	1495	7	1591	0
V/C Ratio(X)				0.30	0.00	0.00	0.00	0.00	1.41	0.44	1.88	0.00
Avail Cap(c_a), veh/h				380	0	0	0	0	1495	83	1591	0
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh				47.1	0.0	0.0	0.0	0.0	11.0	51.6	8.4	0.0
Incr Delay (d2), s/veh				1.7	0.0	0.0	0.0	0.0	188.9	15.5	397.1	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.8	0.0	0.0	0.0	0.0	93.4	0.1	182.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				48.7	0.0	0.0	0.0	0.0	199.8	67.1	405.5	0.0
LnGrp LOS				D	A	A	A	A	F	E	F	A
Approach Vol, veh/h					30			2109			2989	
Approach Delay, s/veh					48.7			199.8			405.2	
Approach LOS					D			F			F	
Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	5.0	88.4				93.4		10.4				
Change Period (Y+Rc), s	4.6	6.5				6.5		4.6				
Max Green Setting (Gmax), s	5.0	77.3				86.9		22.0				
Max Q Clear Time (g_c+I1), s	2.2	83.9				88.9		3.7				
Green Ext Time (p_c), s	0.0	0.0				0.0		0.1				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				318.6								
HCM 6th LOS				F								

Timings  
2: US-395 & Yucca Terrace Dr.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕	↗	↖	↗	↖
Traffic Volume (vph)	19	0	9	0	325	1920	6	2656
Future Volume (vph)	19	0	9	0	325	1920	6	2656
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	26.6	26.6	26.6	26.6	9.6	23.5	9.6	23.5
Total Split (s)	26.6	26.6	26.6	26.6	9.6	83.8	9.6	83.8
Total Split (%)	22.2%	22.2%	22.2%	22.2%	8.0%	69.8%	8.0%	69.8%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.6		4.6	4.6	6.5	4.6	6.5
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min
Act Effct Green (s)		12.2		12.2	5.0	85.3	5.0	77.4
Actuated g/C Ratio		0.11		0.11	0.05	0.77	0.05	0.70
v/c Ratio		0.43		0.05	4.69	1.52	0.09	2.32
Control Delay		21.8		0.4	1690.4	257.7	55.3	613.3
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		21.8		0.4	1690.4	257.7	55.3	613.3
LOS		C		A	F	F	E	F
Approach Delay		21.8		0.4		457.9		612.1
Approach LOS		C		A		F		F

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 110.4	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 4.69	
Intersection Signal Delay: 531.4	Intersection LOS: F
Intersection Capacity Utilization 186.9%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 2: US-395 & Yucca Terrace Dr.



HCM 6th Signalized Intersection Summary  
2: US-395 & Yucca Terrace Dr.

Hesperia US Cold Storage (JN 13201)

01/18/2021

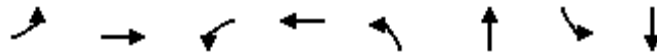


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↘		↗	↘	
Traffic Volume (veh/h)	19	0	74	9	0	1	325	1920	81	6	2656	111
Future Volume (veh/h)	19	0	74	9	0	1	325	1920	81	6	2656	111
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	21	0	82	10	0	1	361	2133	90	7	2951	123
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	60	10	115	166	3	10	80	1368	58	15	1300	54
Arrive On Green	0.09	0.00	0.09	0.09	0.00	0.09	0.05	0.76	0.76	0.01	0.72	0.72
Sat Flow, veh/h	221	108	1284	1133	35	117	1714	1810	76	1714	1811	75
Grp Volume(v), veh/h	103	0	0	11	0	0	361	0	2223	7	0	3074
Grp Sat Flow(s),veh/h/ln	1613	0	0	1285	0	0	1714	0	1886	1714	0	1886
Q Serve(g_s), s	3.5	0.0	0.0	0.0	0.0	0.0	5.0	0.0	81.4	0.4	0.0	77.3
Cycle Q Clear(g_c), s	6.6	0.0	0.0	0.8	0.0	0.0	5.0	0.0	81.4	0.4	0.0	77.3
Prop In Lane	0.20		0.80	0.91		0.09	1.00		0.04	1.00		0.04
Lane Grp Cap(c), veh/h	185	0	0	179	0	0	80	0	1425	15	0	1354
V/C Ratio(X)	0.56	0.00	0.00	0.06	0.00	0.00	4.53	0.00	1.56	0.47	0.00	2.27
Avail Cap(c_a), veh/h	367	0	0	343	0	0	80	0	1425	80	0	1354
HCM 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
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	47.6	0.0	0.0	44.9	0.0	0.0	51.3	0.0	13.2	53.1	0.0	15.2
Incr Delay (d2), s/veh	2.6	0.0	0.0	0.1	0.0	0.0	1619.1	0.0	255.3	8.1	0.0	573.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	0.0	0.3	0.0	0.0	37.8	0.0	120.5	0.2	0.0	237.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.2	0.0	0.0	45.1	0.0	0.0	1670.4	0.0	268.5	61.2	0.0	588.9
LnGrp LOS	D	A	A	D	A	A	F	A	F	E	A	F
Approach Vol, veh/h		103			11			2584			3081	
Approach Delay, s/veh		50.2			45.1			464.4			587.7	
Approach LOS		D			D			F			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.5	87.9		14.3	9.6	83.8		14.3				
Change Period (Y+Rc), s	4.6	6.5		4.6	4.6	6.5		4.6				
Max Green Setting (Gmax), s	5.0	77.3		22.0	5.0	77.3		22.0				
Max Q Clear Time (g_c+I1), s	2.4	83.4		8.6	7.0	79.3		2.8				
Green Ext Time (p_c), s	0.0	0.0		0.4	0.0	0.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay	522.0
HCM 6th LOS	F

Timings  
3: US-395 & Phelan Rd./Main St.

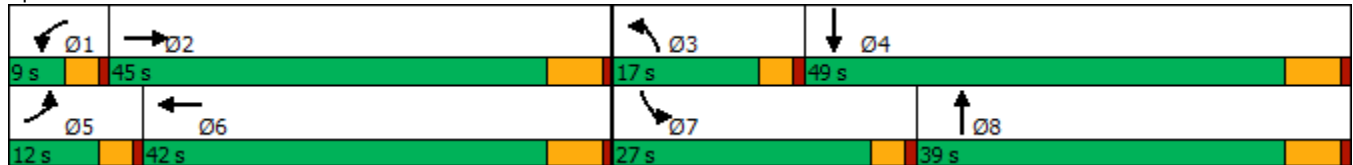


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↵	↕↗	↵	↕↗	↵	↕↗	↵	↕↗
Traffic Volume (vph)	103	1030	23	1203	237	1571	375	2283
Future Volume (vph)	103	1030	23	1203	237	1571	375	2283
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	5	2	1	6	3	8	7	4
Permitted Phases								
Detector Phase	5	2	1	6	3	8	7	4
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.0	16.0	9.0	16.0	9.0	16.0	9.0	16.0
Total Split (s)	12.0	45.0	9.0	42.0	17.0	39.0	27.0	49.0
Total Split (%)	10.0%	37.5%	7.5%	35.0%	14.2%	32.5%	22.5%	40.8%
Yellow Time (s)	3.0	5.0	3.0	5.0	3.0	5.0	3.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 3: US-395 & Phelan Rd./Main St.



HCM 6th Signalized Intersection Summary  
 3: US-395 & Phelan Rd./Main St.

Hesperia US Cold Storage (JN 13201)

07/09/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	103	1030	218	23	1203	651	237	1571	26	375	2283	82
Future Volume (veh/h)	103	1030	218	23	1203	651	237	1571	26	375	2283	82
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	107	1073	182	24	1253	598	247	1636	27	391	2378	81
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	121	1062	180	42	727	326	196	999	16	347	1277	43
Arrive On Green	0.07	0.34	0.34	0.02	0.30	0.30	0.11	0.28	0.28	0.19	0.36	0.36
Sat Flow, veh/h	1810	3088	523	1810	2425	1085	1810	3634	60	1810	3563	121
Grp Volume(v), veh/h	107	626	629	24	912	939	247	811	852	391	1198	1261
Grp Sat Flow(s),veh/h/ln	1810	1805	1806	1810	1805	1705	1810	1805	1889	1810	1805	1878
Q Serve(g_s), s	7.0	41.2	41.2	1.6	36.0	36.0	13.0	33.0	33.0	23.0	43.0	43.0
Cycle Q Clear(g_c), s	7.0	41.2	41.2	1.6	36.0	36.0	13.0	33.0	33.0	23.0	43.0	43.0
Prop In Lane	1.00		0.29	1.00		0.64	1.00		0.03	1.00		0.06
Lane Grp Cap(c), veh/h	121	620	621	42	542	511	196	496	520	347	647	673
V/C Ratio(X)	0.89	1.01	1.01	0.58	1.68	1.84	1.26	1.63	1.64	1.13	1.85	1.87
Avail Cap(c_a), veh/h	121	620	621	75	542	511	196	496	520	347	647	673
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.6	39.4	39.4	58.0	42.0	42.0	53.5	43.5	43.5	48.5	38.5	38.5
Incr Delay (d2), s/veh	48.5	38.4	39.5	9.1	315.5	384.3	151.4	294.6	296.3	87.4	389.4	398.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	23.5	23.7	0.8	62.4	68.7	13.9	54.4	57.2	18.2	87.5	92.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	104.1	77.8	78.8	67.1	357.5	426.3	204.9	338.1	339.8	135.9	427.9	437.3
LnGrp LOS	F	F	F	E	F	F	F	F	F	F	F	F
Approach Vol, veh/h		1362			1875			1910			2850	
Approach Delay, s/veh		80.3			388.2			321.6			392.0	
Approach LOS		F			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.8	47.2	17.0	49.0	12.0	42.0	27.0	39.0				
Change Period (Y+Rc), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0				
Max Green Setting (Gmax), s	5.0	39.0	13.0	43.0	8.0	36.0	23.0	33.0				
Max Q Clear Time (g_c+I1), s	3.6	43.2	15.0	45.0	9.0	38.0	25.0	35.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay					321.2							
HCM 6th LOS					F							



Intersection						
Int Delay, s/veh	3.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	0	33	0	0	28	0
Future Vol, veh/h	0	33	0	0	28	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	36	0	0	30	0

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	36	0	19
Stage 1	-	-	-	-	18
Stage 2	-	-	-	-	1
Critical Hdwy	-	-	4.1	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	1588	-	1004
Stage 1	-	-	-	-	1010
Stage 2	-	-	-	-	1028
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1588	-	1004
Mov Cap-2 Maneuver	-	-	-	-	1004
Stage 1	-	-	-	-	1010
Stage 2	-	-	-	-	1028

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1004	-	-	1588	-
HCM Lane V/C Ratio	0.03	-	-	-	-
HCM Control Delay (s)	8.7	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection						
Int Delay, s/veh	7.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	89	0	0	0	0	10
Future Vol, veh/h	89	0	0	0	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	97	0	0	0	0	11

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1	0	-	0	195
Stage 1	-	-	-	-	1
Stage 2	-	-	-	-	194
Critical Hdwy	4.1	-	-	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	2.2	-	-	-	3.5
Pot Cap-1 Maneuver	1635	-	-	-	798
Stage 1	-	-	-	-	1028
Stage 2	-	-	-	-	844
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1635	-	-	-	751
Mov Cap-2 Maneuver	-	-	-	-	751
Stage 1	-	-	-	-	967
Stage 2	-	-	-	-	844

Approach	EB	WB	SB
HCM Control Delay, s	7.3	0	8.3
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1635	-	-	-	1090
HCM Lane V/C Ratio	0.059	-	-	-	0.01
HCM Control Delay (s)	7.3	0	-	-	8.3
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.2	-	-	-	0

Timings  
6: Mesa Linda St. & Main St.

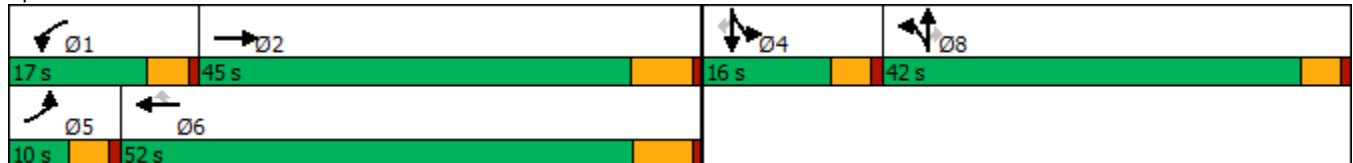


Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Configurations	↖	↗↗↗	↖	↗↗↗	↗	↖	↗	↖	↗
Traffic Volume (vph)	7	1377	121	1792	24	3	177	3	20
Future Volume (vph)	7	1377	121	1792	24	3	177	3	20
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	NA	Perm
Protected Phases	5	2	1	6		8		4	
Permitted Phases					6		8		4
Detector Phase	5	2	1	6	6	8	8	4	4
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	16.5	9.6	23.2	23.2	40.6	40.6	14.6	14.6
Total Split (s)	10.0	45.0	17.0	52.0	52.0	42.0	42.0	16.0	16.0
Total Split (%)	8.3%	37.5%	14.2%	43.3%	43.3%	35.0%	35.0%	13.3%	13.3%
Yellow Time (s)	3.6	5.5	3.6	5.2	5.2	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.2	6.2	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	Max	None	Max	Max	None	None	None	None

Intersection Summary

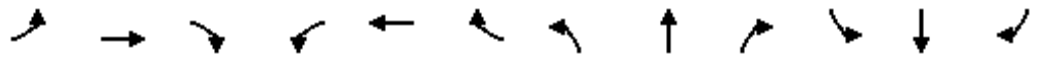
Cycle Length: 120  
 Actuated Cycle Length: 92.2  
 Natural Cycle: 110  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 6: Mesa Linda St. & Main St.



HCM 6th Signalized Intersection Summary  
6: Mesa Linda St. & Main St.

Hesperia US Cold Storage (JN 13201)  
07/09/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↖	↑↑↑	↗		↖	↗		↖	↗
Traffic Volume (veh/h)	7	1377	4	121	1792	24	0	3	177	66	3	20
Future Volume (veh/h)	7	1377	4	121	1792	24	0	3	177	66	3	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	8	1497	4	132	1948	18	0	3	172	72	3	9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	17	2357	6	163	2729	847	0	250	212	173	7	160
Arrive On Green	0.01	0.44	0.44	0.09	0.53	0.53	0.00	0.13	0.13	0.10	0.10	0.10
Sat Flow, veh/h	1714	5341	14	1714	5187	1610	0	1900	1610	1740	73	1610
Grp Volume(v), veh/h	8	969	532	132	1948	18	0	3	172	75	0	9
Grp Sat Flow(s),veh/h/ln	1714	1729	1897	1714	1729	1610	0	1900	1610	1813	0	1610
Q Serve(g_s), s	0.4	19.0	19.0	6.6	24.9	0.5	0.0	0.1	9.1	3.4	0.0	0.4
Cycle Q Clear(g_c), s	0.4	19.0	19.0	6.6	24.9	0.5	0.0	0.1	9.1	3.4	0.0	0.4
Prop In Lane	1.00		0.01	1.00		1.00	0.00		1.00	0.96		1.00
Lane Grp Cap(c), veh/h	17	1526	837	163	2729	847	0	250	212	181	0	160
V/C Ratio(X)	0.46	0.64	0.64	0.81	0.71	0.02	0.00	0.01	0.81	0.42	0.00	0.06
Avail Cap(c_a), veh/h	106	1526	837	244	2729	847	0	814	690	237	0	210
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	42.9	18.9	18.9	38.7	15.7	9.9	0.0	33.0	36.8	36.9	0.0	35.6
Incr Delay (d2), s/veh	7.0	2.0	3.7	6.9	1.6	0.0	0.0	0.0	7.3	1.5	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	6.8	7.9	2.9	8.4	0.2	0.0	0.1	4.0	1.6	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.9	21.0	22.6	45.6	17.3	10.0	0.0	33.0	44.2	38.4	0.0	35.7
LnGrp LOS	D	C	C	D	B	A	A	C	D	D	A	D
Approach Vol, veh/h		1509			2098			175				84
Approach Delay, s/veh		21.7			19.0			44.0				38.1
Approach LOS		C			B			D				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.9	45.0		13.3	5.5	52.4		16.1				
Change Period (Y+Rc), s	4.6	6.5		4.6	4.6	* 6.5		4.6				
Max Green Setting (Gmax), s	12.4	38.5		11.4	5.4	* 46		37.4				
Max Q Clear Time (g_c+1), s	8.6	21.0		5.4	2.4	26.9		11.1				
Green Ext Time (p_c), s	0.0	8.4		0.1	0.0	12.7		0.6				

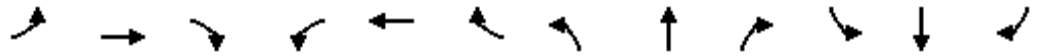
Intersection Summary

HCM 6th Ctrl Delay	21.6
HCM 6th LOS	C

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings  
7: Cataba Av. & Main St.

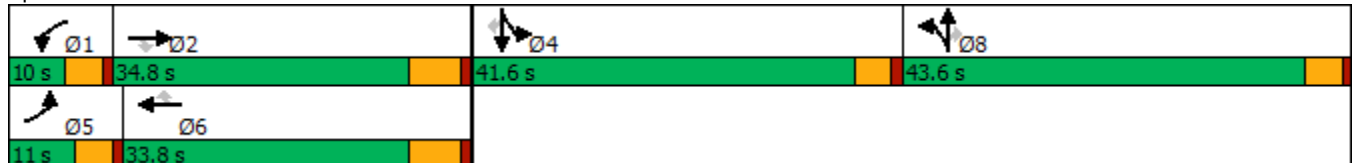


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘↗	↑↑↑	↗	↘	↗	↗	↘	↑	↗
Traffic Volume (vph)	78	1319	310	284	1879	24	179	15	154	47	15	36
Future Volume (vph)	78	1319	310	284	1879	24	179	15	154	47	15	36
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	32.2	32.2	9.6	32.2	32.2	43.6	43.6	43.6	41.6	41.6	41.6
Total Split (s)	11.0	34.8	34.8	10.0	33.8	33.8	43.6	43.6	43.6	41.6	41.6	41.6
Total Split (%)	8.5%	26.8%	26.8%	7.7%	26.0%	26.0%	33.5%	33.5%	33.5%	32.0%	32.0%	32.0%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (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
Lost Time Adjust (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
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None	None

Intersection Summary

Cycle Length: 130  
 Actuated Cycle Length: 82.8  
 Natural Cycle: 130  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 7: Cataba Av. & Main St.



HCM 6th Signalized Intersection Summary  
7: Cataba Av. & Main St.

Hesperia US Cold Storage (JN 13201)  
07/09/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘↗	↑↑↑	↗	↘	↗	↗	↘	↑	↗
Traffic Volume (veh/h)	78	1319	310	284	1879	24	179	15	154	47	15	36
Future Volume (veh/h)	78	1319	310	284	1879	24	179	15	154	47	15	36
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1700	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	85	1434	330	309	2042	19	206	0	147	51	16	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	108	2055	637	235	2117	657	489	0	229	188	208	176
Arrive On Green	0.06	0.40	0.40	0.07	0.41	0.41	0.14	0.00	0.14	0.11	0.11	0.11
Sat Flow, veh/h	1714	5187	1609	3141	5187	1609	3429	0	1607	1714	1900	1610
Grp Volume(v), veh/h	85	1434	330	309	2042	19	206	0	147	51	16	11
Grp Sat Flow(s),veh/h/ln	1714	1729	1609	1570	1729	1609	1714	0	1607	1714	1900	1610
Q Serve(g_s), s	3.5	16.7	11.2	5.4	27.7	0.5	4.0	0.0	6.2	2.0	0.5	0.4
Cycle Q Clear(g_c), s	3.5	16.7	11.2	5.4	27.7	0.5	4.0	0.0	6.2	2.0	0.5	0.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	108	2055	637	235	2117	657	489	0	229	188	208	176
V/C Ratio(X)	0.79	0.70	0.52	1.32	0.96	0.03	0.42	0.00	0.64	0.27	0.08	0.06
Avail Cap(c_a), veh/h	152	2055	637	235	2117	657	1852	0	868	879	974	825
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.4	18.2	16.6	33.4	20.8	12.8	28.2	0.0	29.2	29.5	28.9	28.8
Incr Delay (d2), s/veh	10.7	2.0	3.0	168.7	12.8	0.1	0.6	0.0	3.0	0.8	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	5.7	3.9	7.4	11.6	0.2	1.6	0.0	2.5	0.8	0.3	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.1	20.2	19.5	202.1	33.6	12.9	28.8	0.0	32.2	30.3	29.0	29.0
LnGrp LOS	D	C	B	F	C	B	C	A	C	C	C	C
Approach Vol, veh/h		1849			2370			353			78	
Approach Delay, s/veh		21.2			55.4			30.2			29.8	
Approach LOS		C			E			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.0	34.8		12.5	9.1	35.7		14.9				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	5.4	28.6		37.0	6.4	27.6		39.0				
Max Q Clear Time (g_c+I1), s	7.4	18.7		4.0	5.5	29.7		8.2				
Green Ext Time (p_c), s	0.0	6.5		0.2	0.0	0.0		1.3				

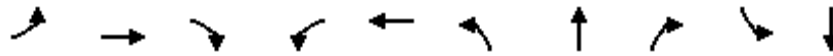
Intersection Summary

HCM 6th Ctrl Delay	39.5
HCM 6th LOS	D

Notes

- User approved pedestrian interval to be less than phase max green.
- User approved volume balancing among the lanes for turning movement.

Timings  
8: Key Point Av. & Main St.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↙	↑↑↑	↗	↙	↑↑↑	↙	↑	↗	↙	↘
Traffic Volume (vph)	42	1386	17	194	2028	15	16	110	522	37
Future Volume (vph)	42	1386	17	194	2028	15	16	110	522	37
Turn Type	Prot	NA	Perm	Prot	NA	Perm	NA	Perm	Perm	NA
Protected Phases	5	2		1	6		8			4
Permitted Phases			2			8		8	4	
Detector Phase	5	2	2	1	6	8	8	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	29.2	29.2	9.6	30.2	38.6	38.6	38.6	41.6	41.6
Total Split (s)	14.0	45.0	45.0	29.0	60.0	46.0	46.0	46.0	46.0	46.0
Total Split (%)	11.7%	37.5%	37.5%	24.2%	50.0%	38.3%	38.3%	38.3%	38.3%	38.3%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	Max	Max	None	Max	None	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 116  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 8: Key Point Av. & Main St.



HCM 6th Signalized Intersection Summary  
8: Key Point Av. & Main St.

Hesperia US Cold Storage (JN 13201)  
07/09/2020



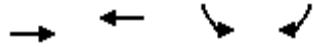
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑		↘	↑	↗	↘	↗	
Traffic Volume (veh/h)	42	1386	17	194	2028	316	15	16	110	522	37	26
Future Volume (veh/h)	42	1386	17	194	2028	316	15	16	110	522	37	26
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	43	1414	14	198	2069	288	15	16	52	533	38	22
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	56	1925	597	226	2171	297	527	688	583	546	409	237
Arrive On Green	0.03	0.37	0.37	0.13	0.47	0.47	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	1714	5187	1608	1714	4613	631	1364	1900	1609	1353	1129	654
Grp Volume(v), veh/h	43	1414	14	198	1542	815	15	16	52	533	0	60
Grp Sat Flow(s),veh/h/ln	1714	1729	1608	1714	1729	1786	1364	1900	1609	1353	0	1782
Q Serve(g_s), s	2.8	26.9	0.6	13.0	48.7	50.8	0.8	0.6	2.4	40.8	0.0	2.5
Cycle Q Clear(g_c), s	2.8	26.9	0.6	13.0	48.7	50.8	3.4	0.6	2.4	41.4	0.0	2.5
Prop In Lane	1.00		1.00	1.00		0.35	1.00		1.00	1.00		0.37
Lane Grp Cap(c), veh/h	56	1925	597	226	1627	841	527	688	583	546	0	645
V/C Ratio(X)	0.77	0.73	0.02	0.87	0.95	0.97	0.03	0.02	0.09	0.98	0.00	0.09
Avail Cap(c_a), veh/h	141	1925	597	366	1627	841	527	688	583	546	0	645
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	54.9	31.1	22.8	48.7	28.9	29.5	25.2	23.5	24.0	38.7	0.0	24.1
Incr Delay (d2), s/veh	8.0	2.5	0.1	7.6	12.9	24.5	0.0	0.0	0.1	32.5	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	10.9	0.2	5.8	21.1	25.2	0.3	0.3	1.0	20.4	0.0	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.9	33.6	22.9	56.3	41.8	53.9	25.2	23.5	24.1	71.2	0.0	24.1
LnGrp LOS	E	C	C	E	D	D	C	C	C	E	A	C
Approach Vol, veh/h		1471			2555			83				593
Approach Delay, s/veh		34.4			46.8			24.2				66.5
Approach LOS		C			D			C				E
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	19.7	48.6		46.0	8.3	60.0		46.0				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	24.4	38.8		41.4	9.4	53.8		41.4				
Max Q Clear Time (g_c+I1), s	15.0	28.9		43.4	4.8	52.8		5.4				
Green Ext Time (p_c), s	0.2	5.9		0.0	0.0	1.0		0.3				

Intersection Summary

HCM 6th Ctrl Delay	45.0
HCM 6th LOS	D



Timings  
9: I-15 SB Ramps & Main St.

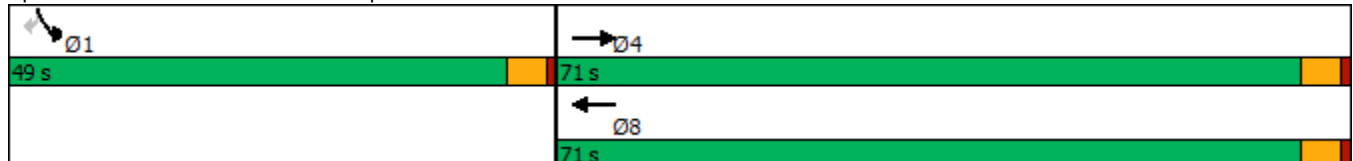


Lane Group	EBT	WBT	SBL	SBR
Lane Configurations	↑↑↑	↑↑↑	↘↘	↘
Traffic Volume (vph)	1477	1696	434	732
Future Volume (vph)	1477	1696	434	732
Turn Type	NA	NA	Prot	Perm
Protected Phases	4	8	1	
Permitted Phases				1
Detector Phase	4	8	1	1
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.6	9.6	9.6
Total Split (s)	71.0	71.0	49.0	49.0
Total Split (%)	59.2%	59.2%	40.8%	40.8%
Yellow Time (s)	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 100.2  
 Natural Cycle: 60  
 Control Type: Actuated-Uncoordinated

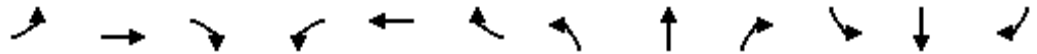
Splits and Phases: 9: I-15 SB Ramps & Main St.



HCM 6th Signalized Intersection Summary  
 9: I-15 SB Ramps & Main St.

Hesperia US Cold Storage (JN 13201)

07/09/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑					↑↑		↑
Traffic Volume (veh/h)	0	1477	0	0	1696	0	0	0	0	434	0	732
Future Volume (veh/h)	0	1477	0	0	1696	0	0	0	0	434	0	732
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1900	0	0	1900	0				1900	0	1900
Adj Flow Rate, veh/h	0	1555	0	0	1785	0				457	0	690
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	2418		0	2418					1551	0	711
Arrive On Green	0.00	0.47	0.00	0.00	0.47	0.00				0.44	0.00	0.44
Sat Flow, veh/h	0	5529	0	0	5529	0				3510	0	1610
Grp Volume(v), veh/h	0	1555	0	0	1785	0				457	0	690
Grp Sat Flow(s),veh/h/ln	0	1729	0	0	1729	0				1755	0	1610
Q Serve(g_s), s	0.0	22.8	0.0	0.0	28.0	0.0				8.4	0.0	41.8
Cycle Q Clear(g_c), s	0.0	22.8	0.0	0.0	28.0	0.0				8.4	0.0	41.8
Prop In Lane	0.00		0.00	0.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2418		0	2418					1551	0	711
V/C Ratio(X)	0.00	0.64		0.00	0.74					0.29	0.00	0.97
Avail Cap(c_a), veh/h	0	3445		0	3445					1559	0	715
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	20.3	0.0	0.0	21.7	0.0				17.9	0.0	27.3
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	0.5	0.0				0.1	0.0	26.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	8.2	0.0	0.0	10.1	0.0				3.4	0.0	20.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	20.6	0.0	0.0	22.2	0.0				18.0	0.0	53.5
LnGrp LOS	A	C		A	C					B	A	D
Approach Vol, veh/h		1555	A		1785	A					1147	
Approach Delay, s/veh		20.6			22.2						39.4	
Approach LOS		C			C						D	
Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				51.2		48.8		51.2				
Change Period (Y+Rc), s				4.6		4.6		4.6				
Max Green Setting (Gmax), s				66.4		44.4		66.4				
Max Q Clear Time (g_c+I1), s				24.8		43.8		30.0				
Green Ext Time (p_c), s				14.1		0.3		16.6				

Intersection Summary

HCM 6th Ctrl Delay	26.1
HCM 6th LOS	C

Notes

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

Timings  
10: I-15 NB Ramps & Main St.

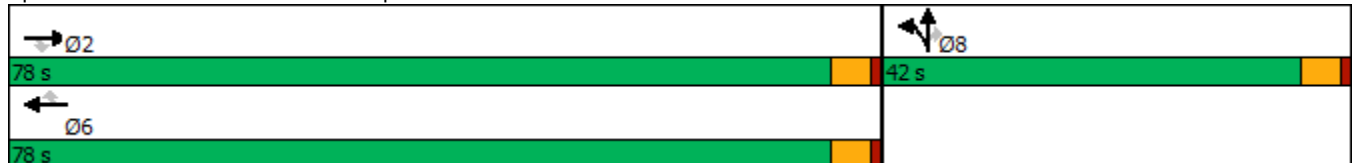


Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR
Lane Configurations	↑↑↑	↑	↑↑↑	↑	↑	↑	↑
Traffic Volume (vph)	1425	485	1827	670	625	8	547
Future Volume (vph)	1425	485	1827	670	625	8	547
Turn Type	NA	Perm	NA	Perm	Split	NA	Perm
Protected Phases	2		6		8	8	
Permitted Phases		2		6			8
Detector Phase	2	2	6	6	8	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.6	22.6	22.6	22.6	9.6	9.6	9.6
Total Split (s)	78.0	78.0	78.0	78.0	42.0	42.0	42.0
Total Split (%)	65.0%	65.0%	65.0%	65.0%	35.0%	35.0%	35.0%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	None	None	None	None	Min	Min	Min

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 108.7  
 Natural Cycle: 55  
 Control Type: Actuated-Uncoordinated













Splits and Phases: 10: I-15 NB Ramps & Main St.



HCM 6th Signalized Intersection Summary  
 10: I-15 NB Ramps & Main St.

Hesperia US Cold Storage (JN 13201)

07/09/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑↑	↗	↗	↗	↗			
Traffic Volume (veh/h)	0	1425	485	0	1827	670	625	8	547	0	0	0
Future Volume (veh/h)	0	1425	485	0	1827	670	625	8	547	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1900	1900	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	0	1454	0	0	1864	652	638	0	353			
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	0	2861		0	2861	888	651	0	1159			
Arrive On Green	0.00	0.55	0.00	0.00	0.55	0.55	0.36	0.00	0.36			
Sat Flow, veh/h	0	5358	1610	0	5358	1610	1810	0	3220			
Grp Volume(v), veh/h	0	1454	0	0	1864	652	638	0	353			
Grp Sat Flow(s),veh/h/ln	0	1729	1610	0	1729	1610	1810	0	1610			
Q Serve(g_s), s	0.0	18.2	0.0	0.0	26.1	31.7	36.2	0.0	8.2			
Cycle Q Clear(g_c), s	0.0	18.2	0.0	0.0	26.1	31.7	36.2	0.0	8.2			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	2861		0	2861	888	651	0	1159			
V/C Ratio(X)	0.00	0.51		0.00	0.65	0.73	0.98	0.00	0.30			
Avail Cap(c_a), veh/h	0	3663		0	3663	1137	651	0	1159			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	14.5	0.0	0.0	16.3	17.6	32.9	0.0	23.9			
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.3	1.8	30.1	0.0	0.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	6.2	0.0	0.0	8.9	10.5	21.0	0.0	3.2			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	14.7	0.0	0.0	16.6	19.4	63.0	0.0	24.1			
LnGrp LOS	A	B		A	B	B	E	A	C			
Approach Vol, veh/h		1454	A		2516			991				
Approach Delay, s/veh		14.7			17.3			49.1				
Approach LOS		B			B			D				
Timer - Assigned Phs		2			6			8				
Phs Duration (G+Y+Rc), s		61.9			61.9			42.0				
Change Period (Y+Rc), s		4.6			4.6			4.6				
Max Green Setting (Gmax), s		73.4			73.4			37.4				
Max Q Clear Time (g_c+I1), s		20.2			33.7			38.2				
Green Ext Time (p_c), s		13.3			23.6			0.0				

Intersection Summary

HCM 6th Ctrl Delay	22.9
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.  
 Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Timings  
1: US-395 & Avenal St.



Lane Group	WBT	NBT	SBL	SBT
Lane Configurations	↔	↑	↘	↓
Traffic Volume (vph)	0	2891	1	1957
Future Volume (vph)	0	2891	1	1957
Turn Type	NA	NA	Prot	NA
Protected Phases	8	2	1	6
Permitted Phases				
Detector Phase	8	2	1	6
Switch Phase				
Minimum Initial (s)	10.0	10.0	5.0	10.0
Minimum Split (s)	26.6	23.5	9.6	16.5
Total Split (s)	26.6	83.8	9.6	93.4
Total Split (%)	22.2%	69.8%	8.0%	77.8%
Yellow Time (s)	3.6	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.5
Lead/Lag		Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	
Recall Mode	None	Min	None	Min
Act Effct Green (s)	12.4	92.2	5.0	94.1
Actuated g/C Ratio	0.11	0.78	0.04	0.80
v/c Ratio	0.36	2.12	0.01	1.40
Control Delay	18.7	523.9	54.0	202.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	18.7	523.9	54.0	202.0
LOS	B	F	D	F
Approach Delay	18.7	523.9		201.9
Approach LOS	B	F		F

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 117.6  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 2.12  
 Intersection Signal Delay: 387.7  
 Intersection LOS: F  
 Intersection Capacity Utilization 170.5%  
 ICU Level of Service H  
 Analysis Period (min) 15

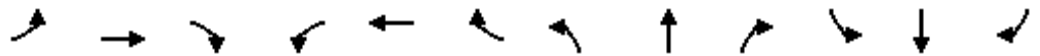
Splits and Phases: 1: US-395 & Avenal St.



HCM 6th Signalized Intersection Summary  
 1: US-395 & Avenal St.

Hesperia US Cold Storage (JN 13201)

01/18/2021

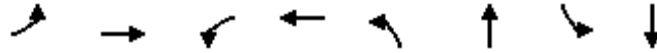


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔			↔		↔	↔	
Traffic Volume (veh/h)	0	0	0	79	0	6	0	2891	12	1	1957	0
Future Volume (veh/h)	0	0	0	79	0	6	0	2891	12	1	1957	0
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1800	1900	1900	0	1900	1900	1800	1900	0
Adj Flow Rate, veh/h				86	0	7	0	3142	13	1	2127	0
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				145	0	12	0	1447	6	2	1538	0
Arrive On Green				0.09	0.00	0.09	0.00	0.77	0.77	0.00	0.81	0.00
Sat Flow, veh/h				1658	0	135	0	1891	8	1714	1900	0
Grp Volume(v), veh/h				93	0	0	0	0	3155	1	2127	0
Grp Sat Flow(s),veh/h/ln				1793	0	0	0	0	1899	1714	1900	0
Q Serve(g_s), s				5.4	0.0	0.0	0.0	0.0	82.2	0.1	86.9	0.0
Cycle Q Clear(g_c), s				5.4	0.0	0.0	0.0	0.0	82.2	0.1	86.9	0.0
Prop In Lane				0.92		0.08	0.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h				157	0	0	0	0	1453	2	1538	0
V/C Ratio(X)				0.59	0.00	0.00	0.00	0.00	2.17	0.43	1.38	0.00
Avail Cap(c_a), veh/h				367	0	0	0	0	1453	80	1538	0
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh				47.2	0.0	0.0	0.0	0.0	12.6	53.6	10.2	0.0
Incr Delay (d2), s/veh				3.6	0.0	0.0	0.0	0.0	529.7	39.7	176.6	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				2.6	0.0	0.0	0.0	0.0	232.4	0.1	89.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				50.7	0.0	0.0	0.0	0.0	542.3	93.2	186.8	0.0
LnGrp LOS				D	A	A	A	A	F	F	F	A
Approach Vol, veh/h					93			3155			2128	
Approach Delay, s/veh					50.7			542.3			186.8	
Approach LOS					D			F			F	
Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	4.7	88.7				93.4		14.0				
Change Period (Y+Rc), s	4.6	6.5				6.5		4.6				
Max Green Setting (Gmax), s	5.0	77.3				86.9		22.0				
Max Q Clear Time (g_c+I1), s	2.1	84.2				88.9		7.4				
Green Ext Time (p_c), s	0.0	0.0				0.0		0.4				

Intersection Summary

HCM 6th Ctrl Delay	393.1
HCM 6th LOS	F

Timings  
2: US-395 & Yucca Terrace Dr.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕	↗	↖	↗	↖
Traffic Volume (vph)	111	0	31	0	74	2789	2	2005
Future Volume (vph)	111	0	31	0	74	2789	2	2005
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	26.6	26.6	26.6	26.6	9.6	24.5	9.6	24.5
Total Split (s)	26.6	26.6	26.6	26.6	9.6	83.8	9.6	83.8
Total Split (%)	22.2%	22.2%	22.2%	22.2%	8.0%	69.8%	8.0%	69.8%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.6		4.6	4.6	6.5	4.6	6.5
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min
Act Effct Green (s)		22.0		22.0	5.0	85.0	5.0	77.3
Actuated g/C Ratio		0.18		0.18	0.04	0.71	0.04	0.64
v/c Ratio		1.57		0.18	1.08	2.18	0.03	1.74
Control Delay		299.4		2.6	185.3	553.7	56.0	356.1
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		299.4		2.6	185.3	553.7	56.0	356.1
LOS		F		A	F	F	E	F
Approach Delay		299.4		2.6		544.2		355.8
Approach LOS		F		A		F		F

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 2.18	
Intersection Signal Delay: 447.5	Intersection LOS: F
Intersection Capacity Utilization 187.4%	ICU Level of Service H
Analysis Period (min) 15	

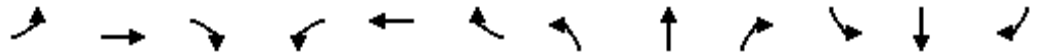
Splits and Phases: 2: US-395 & Yucca Terrace Dr.



HCM 6th Signalized Intersection Summary  
 2: US-395 & Yucca Terrace Dr.

Hesperia US Cold Storage (JN 13201)

01/18/2021



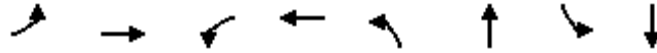
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↘		↗	↘	
Traffic Volume (veh/h)	111	0	415	31	0	3	74	2789	28	2	2005	29
Future Volume (veh/h)	111	0	415	31	0	3	74	2789	28	2	2005	29
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	116	0	432	32	0	3	77	2905	29	2	2089	30
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	98	3	240	151	3	9	71	1283	13	5	1204	17
Arrive On Green	0.18	0.00	0.18	0.18	0.00	0.18	0.04	0.68	0.68	0.00	0.64	0.64
Sat Flow, veh/h	336	15	1308	509	15	49	1714	1878	19	1714	1868	27
Grp Volume(v), veh/h	548	0	0	35	0	0	77	0	2934	2	0	2119
Grp Sat Flow(s),veh/h/ln	1659	0	0	573	0	0	1714	0	1897	1714	0	1895
Q Serve(g_s), s	16.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	82.0	0.1	0.0	77.3
Cycle Q Clear(g_c), s	22.0	0.0	0.0	6.0	0.0	0.0	5.0	0.0	82.0	0.1	0.0	77.3
Prop In Lane	0.21		0.79	0.91		0.09	1.00		0.01	1.00		0.01
Lane Grp Cap(c), veh/h	341	0	0	162	0	0	71	0	1296	5	0	1221
V/C Ratio(X)	1.61	0.00	0.00	0.22	0.00	0.00	1.08	0.00	2.26	0.43	0.00	1.74
Avail Cap(c_a), veh/h	341	0	0	162	0	0	71	0	1296	71	0	1221
HCM 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
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	49.9	0.0	0.0	42.3	0.0	0.0	57.5	0.0	19.0	59.7	0.0	21.4
Incr Delay (d2), s/veh	287.5	0.0	0.0	0.7	0.0	0.0	129.5	0.0	571.5	22.1	0.0	334.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	37.6	0.0	0.0	0.9	0.0	0.0	4.6	0.0	232.6	0.1	0.0	140.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	337.4	0.0	0.0	43.0	0.0	0.0	187.0	0.0	590.5	81.9	0.0	355.9
LnGrp LOS	F	A	A	D	A	A	F	A	F	F	A	F
Approach Vol, veh/h		548			35			3011			2121	
Approach Delay, s/veh		337.4			43.0			580.2			355.6	
Approach LOS		F			D			F			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.9	88.5		26.6	9.6	83.8		26.6				
Change Period (Y+Rc), s	4.6	6.5		4.6	4.6	6.5		4.6				
Max Green Setting (Gmax), s	5.0	77.3		22.0	5.0	77.3		22.0				
Max Q Clear Time (g_c+I1), s	2.1	84.0		24.0	7.0	79.3		8.0				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.1				

Intersection Summary

HCM 6th Ctrl Delay	470.3
HCM 6th LOS	F



Timings  
3: US-395 & Phelan Rd./Main St.

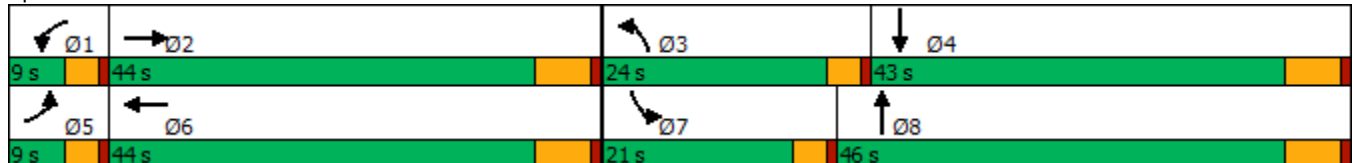


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↙	↕	↙	↕	↙	↕	↙	↕
Traffic Volume (vph)	99	1399	27	1077	296	2387	707	1635
Future Volume (vph)	99	1399	27	1077	296	2387	707	1635
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	5	2	1	6	3	8	7	4
Permitted Phases								
Detector Phase	5	2	1	6	3	8	7	4
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.0	16.0	9.0	16.0	9.0	16.0	9.0	16.0
Total Split (s)	9.0	44.0	9.0	44.0	24.0	46.0	21.0	43.0
Total Split (%)	7.5%	36.7%	7.5%	36.7%	20.0%	38.3%	17.5%	35.8%
Yellow Time (s)	3.0	5.0	3.0	5.0	3.0	5.0	3.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 3: US-395 & Phelan Rd./Main St.



HCM 6th Signalized Intersection Summary  
 3: US-395 & Phelan Rd./Main St.

Hesperia US Cold Storage (JN 13201)

07/09/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↕		↖	↕		↗	↕		↖	↕	
Traffic Volume (veh/h)	99	1399	210	27	1077	404	296	2387	423	707	1635	109
Future Volume (veh/h)	99	1399	210	27	1077	404	296	2387	423	707	1635	109
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	104	1473	193	28	1134	341	312	2513	438	744	1721	100
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	75	1069	138	46	869	258	302	1029	174	256	1070	62
Arrive On Green	0.04	0.33	0.33	0.03	0.32	0.32	0.17	0.33	0.33	0.14	0.31	0.31
Sat Flow, veh/h	1810	3209	415	1810	2744	814	1810	3088	523	1810	3469	200
Grp Volume(v), veh/h	104	821	845	28	741	734	312	1438	1513	744	889	932
Grp Sat Flow(s),veh/h/ln	1810	1805	1819	1810	1805	1753	1810	1805	1806	1810	1805	1864
Q Serve(g_s), s	5.0	40.0	40.0	1.8	38.0	38.0	20.0	40.0	40.0	17.0	37.0	37.0
Cycle Q Clear(g_c), s	5.0	40.0	40.0	1.8	38.0	38.0	20.0	40.0	40.0	17.0	37.0	37.0
Prop In Lane	1.00		0.23	1.00		0.46	1.00		0.29	1.00		0.11
Lane Grp Cap(c), veh/h	75	601	606	46	572	555	302	602	602	256	557	575
V/C Ratio(X)	1.38	1.37	1.40	0.61	1.30	1.32	1.03	2.39	2.51	2.90	1.60	1.62
Avail Cap(c_a), veh/h	75	601	606	75	572	555	302	602	602	256	557	575
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.5	40.0	40.0	57.9	41.0	41.0	50.0	40.0	40.0	51.5	41.5	41.5
Incr Delay (d2), s/veh	234.0	174.8	187.8	9.4	145.6	157.5	61.0	630.4	686.2	866.6	277.4	287.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.1	45.6	48.2	0.9	38.8	39.5	13.7	121.8	131.2	69.1	58.2	61.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	291.5	214.9	227.9	67.3	186.6	198.5	111.0	670.4	726.2	918.1	318.9	329.0
LnGrp LOS	F	F	F	E	F	F	F	F	F	F	F	F
Approach Vol, veh/h		1770			1503			3263			2565	
Approach Delay, s/veh		225.6			190.2			642.8			496.4	
Approach LOS		F			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.0	46.0	24.0	43.0	9.0	44.0	21.0	46.0				
Change Period (Y+Rc), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0				
Max Green Setting (Gmax), s	5.0	38.0	20.0	37.0	5.0	38.0	17.0	40.0				
Max Q Clear Time (g_c+I1), s	3.8	42.0	22.0	39.0	7.0	40.0	19.0	42.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			445.6									
HCM 6th LOS			F									

Intersection						
Int Delay, s/veh	7.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	0	13	0	0	86	0
Future Vol, veh/h	0	13	0	0	86	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	14	0	0	93	0

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	14	0	8
Stage 1	-	-	-	-	7
Stage 2	-	-	-	-	1
Critical Hdwy	-	-	4.1	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	1617	-	1018
Stage 1	-	-	-	-	1021
Stage 2	-	-	-	-	1028
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1617	-	1018
Mov Cap-2 Maneuver	-	-	-	-	1018
Stage 1	-	-	-	-	1021
Stage 2	-	-	-	-	1028

Approach	EB	WB	NB
HCM Control Delay, s	0	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1018	-	-	1617	-
HCM Lane V/C Ratio	0.092	-	-	-	-
HCM Control Delay (s)	8.9	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Intersection						
Int Delay, s/veh	7.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	32	0	0	0	0	36
Future Vol, veh/h	32	0	0	0	0	36
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	35	0	0	0	0	39

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1	0	-	0	71
Stage 1	-	-	-	-	1
Stage 2	-	-	-	-	70
Critical Hdwy	4.1	-	-	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	2.2	-	-	-	3.5
Pot Cap-1 Maneuver	1635	-	-	-	938
Stage 1	-	-	-	-	1028
Stage 2	-	-	-	-	958
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1635	-	-	-	918
Mov Cap-2 Maneuver	-	-	-	-	918
Stage 1	-	-	-	-	1006
Stage 2	-	-	-	-	958

Approach	EB	WB	SB
HCM Control Delay, s	7.3	0	8.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1635	-	-	-	1090
HCM Lane V/C Ratio	0.021	-	-	-	0.036
HCM Control Delay (s)	7.2	0	-	-	8.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Timings  
6: Mesa Linda St. & Main St.

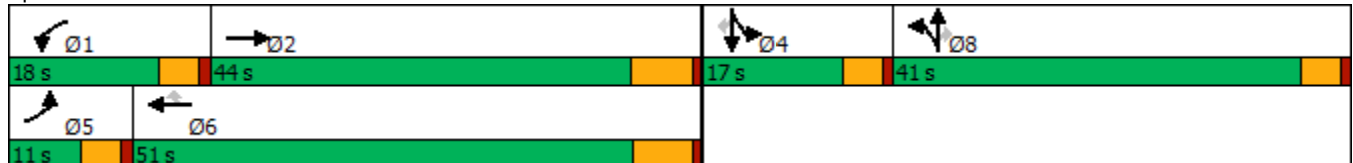


Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	7	2009	98	1476	76	10	114	0	4
Future Volume (vph)	7	2009	98	1476	76	10	114	0	4
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	NA	Perm
Protected Phases	5	2	1	6		8		4	
Permitted Phases					6		8		4
Detector Phase	5	2	1	6	6	8	8	4	4
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	16.5	9.6	23.2	23.2	40.6	40.6	14.6	14.6
Total Split (s)	11.0	44.0	18.0	51.0	51.0	41.0	41.0	17.0	17.0
Total Split (%)	9.2%	36.7%	15.0%	42.5%	42.5%	34.2%	34.2%	14.2%	14.2%
Yellow Time (s)	3.6	5.5	3.6	5.2	5.2	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.2	6.2	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	Max	None	Max	Max	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 86.3  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 6: Mesa Linda St. & Main St.



HCM 6th Signalized Intersection Summary  
6: Mesa Linda St. & Main St.

Hesperia US Cold Storage (JN 13201)  
07/09/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑	↖		↑	↖		↖	↖
Traffic Volume (veh/h)	7	2009	8	98	1476	76	13	10	114	44	0	4
Future Volume (veh/h)	7	2009	8	98	1476	76	13	10	114	44	0	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	7	2093	7	102	1538	71	14	10	60	46	0	2
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	15	2601	9	129	2872	892	113	81	169	148	0	131
Arrive On Green	0.01	0.49	0.49	0.08	0.55	0.55	0.10	0.10	0.10	0.08	0.00	0.08
Sat Flow, veh/h	1714	5337	18	1714	5187	1610	1077	769	1610	1810	0	1610
Grp Volume(v), veh/h	7	1356	744	102	1538	71	24	0	60	46	0	2
Grp Sat Flow(s),veh/h/ln	1714	1729	1897	1714	1729	1610	1846	0	1610	1810	0	1610
Q Serve(g_s), s	0.3	26.8	26.8	4.7	15.2	1.7	1.0	0.0	2.8	1.9	0.0	0.1
Cycle Q Clear(g_c), s	0.3	26.8	26.8	4.7	15.2	1.7	1.0	0.0	2.8	1.9	0.0	0.1
Prop In Lane	1.00		0.01	1.00		1.00	0.58		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	15	1685	924	129	2872	892	194	0	169	148	0	131
V/C Ratio(X)	0.45	0.80	0.80	0.79	0.54	0.08	0.12	0.00	0.36	0.31	0.00	0.02
Avail Cap(c_a), veh/h	136	1685	924	284	2872	892	831	0	724	277	0	247
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	39.9	17.5	17.5	36.8	11.5	8.4	32.8	0.0	33.7	35.0	0.0	34.2
Incr Delay (d2), s/veh	7.6	4.2	7.4	4.0	0.7	0.2	0.3	0.0	1.3	1.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	9.3	11.1	2.0	4.7	0.5	0.4	0.0	1.1	0.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.4	21.7	24.9	40.8	12.2	8.6	33.1	0.0	34.9	36.2	0.0	34.2
LnGrp LOS	D	C	C	D	B	A	C	A	C	D	A	C
Approach Vol, veh/h		2107			1711			84				48
Approach Delay, s/veh		22.9			13.7			34.4				36.1
Approach LOS		C			B			C				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.7	45.9		11.2	5.3	51.3		13.1				
Change Period (Y+Rc), s	4.6	6.5		4.6	4.6	* 6.5		4.6				
Max Green Setting (Gmax), s	13.4	37.5		12.4	6.4	* 45		36.4				
Max Q Clear Time (g_c+I1), s	6.7	28.8		3.9	2.3	17.2		4.8				
Green Ext Time (p_c), s	0.1	6.9		0.1	0.0	12.3		0.3				

Intersection Summary

HCM 6th Ctrl Delay	19.3
HCM 6th LOS	B

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

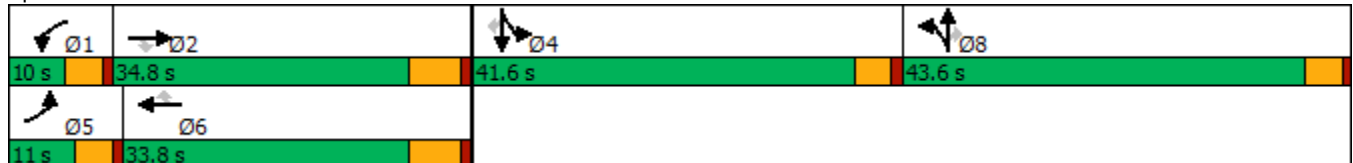
Timings  
7: Cataba Av. & Main St.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	108	1918	124	324	1274	61	218	71	193	98	41	156
Future Volume (vph)	108	1918	124	324	1274	61	218	71	193	98	41	156
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	32.2	32.2	9.6	32.2	32.2	43.6	43.6	43.6	41.6	41.6	41.6
Total Split (s)	11.0	34.8	34.8	10.0	33.8	33.8	43.6	43.6	43.6	41.6	41.6	41.6
Total Split (%)	8.5%	26.8%	26.8%	7.7%	26.0%	26.0%	33.5%	33.5%	33.5%	32.0%	32.0%	32.0%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (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
Lost Time Adjust (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
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None	None

Intersection Summary

Cycle Length: 130  
 Actuated Cycle Length: 87.4  
 Natural Cycle: 130  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 7: Cataba Av. & Main St.



HCM 6th Signalized Intersection Summary  
7: Cataba Av. & Main St.

Hesperia US Cold Storage (JN 13201)  
07/09/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘↗	↑↑↑	↗	↘	↗	↗	↘	↑	↗
Traffic Volume (veh/h)	108	1918	124	324	1274	61	218	71	193	98	41	156
Future Volume (veh/h)	108	1918	124	324	1274	61	218	71	193	98	41	156
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1700	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	110	1957	88	331	1300	50	147	177	94	100	42	69
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	138	1957	607	224	1908	591	270	299	251	223	248	210
Arrive On Green	0.08	0.38	0.38	0.07	0.37	0.37	0.16	0.16	0.16	0.13	0.13	0.13
Sat Flow, veh/h	1714	5187	1609	3141	5187	1608	1714	1900	1595	1714	1900	1610
Grp Volume(v), veh/h	110	1957	88	331	1300	50	147	177	94	100	42	69
Grp Sat Flow(s),veh/h/ln	1714	1729	1609	1570	1729	1608	1714	1900	1595	1714	1900	1610
Q Serve(g_s), s	4.8	28.6	2.7	5.4	16.0	1.5	6.0	6.6	4.0	4.1	1.5	3.0
Cycle Q Clear(g_c), s	4.8	28.6	2.7	5.4	16.0	1.5	6.0	6.6	4.0	4.1	1.5	3.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	138	1957	607	224	1908	591	270	299	251	223	248	210
V/C Ratio(X)	0.80	1.00	0.14	1.48	0.68	0.08	0.54	0.59	0.37	0.45	0.17	0.33
Avail Cap(c_a), veh/h	145	1957	607	224	1908	591	882	977	820	837	927	786
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.2	23.6	15.6	35.2	20.2	15.6	29.4	29.7	28.6	30.4	29.3	30.0
Incr Delay (d2), s/veh	22.8	20.4	0.5	238.2	2.0	0.3	1.7	1.9	0.9	1.4	0.3	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	13.2	0.9	9.3	5.9	0.5	2.5	3.1	1.6	1.7	0.7	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.0	44.0	16.1	273.5	22.2	15.9	31.2	31.5	29.5	31.8	29.6	30.9
LnGrp LOS	E	F	B	F	C	B	C	C	C	C	C	C
Approach Vol, veh/h		2155			1681			418			211	
Approach Delay, s/veh		43.5			71.5			31.0			31.1	
Approach LOS		D			E			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.0	34.8		14.5	10.7	34.1		16.5				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	5.4	28.6		37.0	6.4	27.6		39.0				
Max Q Clear Time (g_c+1), s	7.4	30.6		6.1	6.8	18.0		8.6				
Green Ext Time (p_c), s	0.0	0.0		0.8	0.0	5.5		1.9				

Intersection Summary

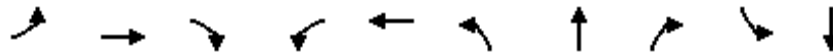
HCM 6th Ctrl Delay	52.3
HCM 6th LOS	D

Notes

- User approved pedestrian interval to be less than phase max green.
- User approved volume balancing among the lanes for turning movement.



Timings  
8: Key Point Av. & Main St.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↙	↑↑↑	↗	↙	↑↑↑	↙	↑	↗	↙	↗
Traffic Volume (vph)	85	2212	34	303	1739	41	100	325	254	119
Future Volume (vph)	85	2212	34	303	1739	41	100	325	254	119
Turn Type	Prot	NA	Perm	Prot	NA	Perm	NA	Perm	Perm	NA
Protected Phases	5	2		1	6		8			4
Permitted Phases			2			8		8	4	
Detector Phase	5	2	2	1	6	8	8	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	29.2	29.2	9.6	30.2	38.6	38.6	38.6	41.6	41.6
Total Split (s)	12.0	55.4	55.4	23.0	66.4	41.6	41.6	41.6	41.6	41.6
Total Split (%)	10.0%	46.2%	46.2%	19.2%	55.3%	34.7%	34.7%	34.7%	34.7%	34.7%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	Max	Max	None	Max	None	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 111  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 8: Key Point Av. & Main St.



HCM 6th Signalized Intersection Summary  
8: Key Point Av. & Main St.

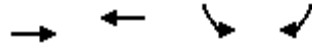
Hesperia US Cold Storage (JN 13201)

07/09/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑		↘	↑	↗	↘	↗	
Traffic Volume (veh/h)	85	2212	34	303	1739	607	41	100	325	254	119	43
Future Volume (veh/h)	85	2212	34	303	1739	607	41	100	325	254	119	43
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	87	2257	31	309	1774	466	42	102	191	259	121	23
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	108	2171	674	268	2106	540	356	559	466	341	456	87
Arrive On Green	0.06	0.42	0.42	0.16	0.51	0.51	0.29	0.29	0.29	0.29	0.29	0.29
Sat Flow, veh/h	1714	5187	1610	1714	4113	1054	1260	1900	1585	1102	1551	295
Grp Volume(v), veh/h	87	2257	31	309	1485	755	42	102	191	259	0	144
Grp Sat Flow(s),veh/h/ln	1714	1729	1610	1714	1729	1709	1260	1900	1585	1102	0	1846
Q Serve(g_s), s	5.9	49.2	1.3	18.4	43.2	45.4	3.1	4.7	11.4	26.9	0.0	7.0
Cycle Q Clear(g_c), s	5.9	49.2	1.3	18.4	43.2	45.4	10.1	4.7	11.4	31.7	0.0	7.0
Prop In Lane	1.00		1.00	1.00		0.62	1.00		1.00	1.00		0.16
Lane Grp Cap(c), veh/h	108	2171	674	268	1771	875	356	559	466	341	0	543
V/C Ratio(X)	0.81	1.04	0.05	1.15	0.84	0.86	0.12	0.18	0.41	0.76	0.00	0.27
Avail Cap(c_a), veh/h	108	2171	674	268	1771	875	383	598	499	364	0	581
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	54.4	34.2	20.3	49.6	24.5	25.1	35.7	31.0	33.3	42.8	0.0	31.8
Incr Delay (d2), s/veh	32.5	30.6	0.1	102.3	4.9	11.0	0.1	0.2	0.6	8.5	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	25.1	0.5	15.2	17.0	19.1	1.0	2.2	4.5	8.2	0.0	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	86.9	64.8	20.4	151.8	29.5	36.1	35.8	31.1	33.9	51.2	0.0	32.0
LnGrp LOS	F	F	C	F	C	D	D	C	C	D	A	C
Approach Vol, veh/h		2375			2549			335				403
Approach Delay, s/veh		65.0			46.3			33.3				44.4
Approach LOS		E			D			C				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	23.0	55.4		39.2	12.0	66.4		39.2				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	18.4	49.2		37.0	7.4	60.2		37.0				
Max Q Clear Time (g_c+I1), s	20.4	51.2		33.7	7.9	47.4		13.4				
Green Ext Time (p_c), s	0.0	0.0		0.7	0.0	10.2		1.4				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				53.2								
HCM 6th LOS				D								

Timings  
9: I-15 SB Ramps & Main St.

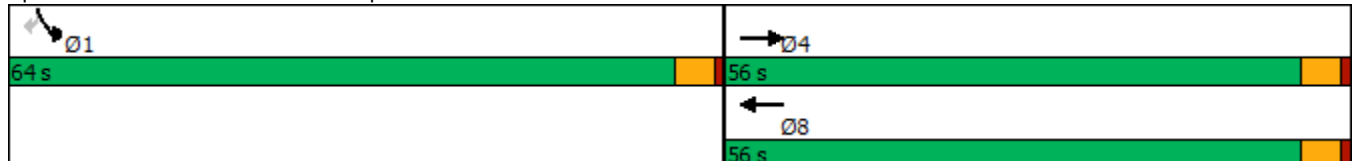


Lane Group	EBT	WBT	SBL	SBR
Lane Configurations	↑↑↑	↑↑↑	↘↘	↗
Traffic Volume (vph)	2252	1953	763	642
Future Volume (vph)	2252	1953	763	642
Turn Type	NA	NA	Prot	Perm
Protected Phases	4	8	1	
Permitted Phases				1
Detector Phase	4	8	1	1
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.6	9.6	9.6
Total Split (s)	56.0	56.0	64.0	64.0
Total Split (%)	46.7%	46.7%	53.3%	53.3%
Yellow Time (s)	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 110.8  
 Natural Cycle: 75  
 Control Type: Actuated-Uncoordinated

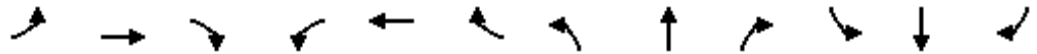
Splits and Phases: 9: I-15 SB Ramps & Main St.



HCM 6th Signalized Intersection Summary  
 9: I-15 SB Ramps & Main St.

Hesperia US Cold Storage (JN 13201)

07/09/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑					↑↑		↑
Traffic Volume (veh/h)	0	2252	0	0	1953	0	0	0	0	763	0	642
Future Volume (veh/h)	0	2252	0	0	1953	0	0	0	0	763	0	642
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1900	0	0	1900	0				1900	0	1900
Adj Flow Rate, veh/h	0	2322	0	0	2013	0				787	0	549
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97				0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	2648		0	2648					1387	0	636
Arrive On Green	0.00	0.51	0.00	0.00	0.51	0.00				0.40	0.00	0.40
Sat Flow, veh/h	0	5529	0	0	5529	0				3510	0	1610
Grp Volume(v), veh/h	0	2322	0	0	2013	0				787	0	549
Grp Sat Flow(s),veh/h/ln	0	1729	0	0	1729	0				1755	0	1610
Q Serve(g_s), s	0.0	38.7	0.0	0.0	30.3	0.0				17.0	0.0	30.5
Cycle Q Clear(g_c), s	0.0	38.7	0.0	0.0	30.3	0.0				17.0	0.0	30.5
Prop In Lane	0.00		0.00	0.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2648		0	2648					1387	0	636
V/C Ratio(X)	0.00	0.88		0.00	0.76					0.57	0.00	0.86
Avail Cap(c_a), veh/h	0	2734		0	2734					2138	0	981
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	21.1	0.0	0.0	19.1	0.0				23.0	0.0	27.1
Incr Delay (d2), s/veh	0.0	3.5	0.0	0.0	1.2	0.0				0.4	0.0	5.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	14.1	0.0	0.0	10.7	0.0				7.0	0.0	12.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	24.6	0.0	0.0	20.3	0.0				23.4	0.0	32.2
LnGrp LOS	A	C		A	C					C	A	C
Approach Vol, veh/h		2322	A		2013	A					1336	
Approach Delay, s/veh		24.6			20.3						27.0	
Approach LOS		C			C						C	
Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				54.4		43.1		54.4				
Change Period (Y+Rc), s				4.6		4.6		4.6				
Max Green Setting (Gmax), s				51.4		59.4		51.4				
Max Q Clear Time (g_c+I1), s				40.7		32.5		32.3				
Green Ext Time (p_c), s				9.1		6.0		13.2				

Intersection Summary

HCM 6th Ctrl Delay	23.7
HCM 6th LOS	C

Notes

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

Timings  
10: I-15 NB Ramps & Main St.

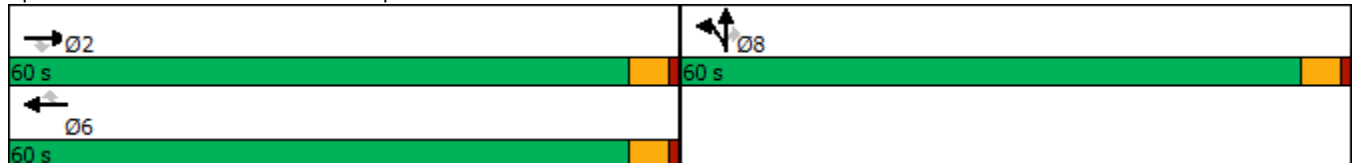


Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR
Lane Configurations	↑↑↑	↑	↑↑↑	↑	↑	↑	↑
Traffic Volume (vph)	2288	727	1865	560	344	0	1174
Future Volume (vph)	2288	727	1865	560	344	0	1174
Turn Type	NA	Perm	NA	Perm	Split	NA	Perm
Protected Phases	2		6		8	8	
Permitted Phases		2		6			8
Detector Phase	2	2	6	6	8	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.6	22.6	22.6	22.6	9.6	9.6	9.6
Total Split (s)	60.0	60.0	60.0	60.0	60.0	60.0	60.0
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	None	None	None	None	Min	Min	Min

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 116.6  
 Natural Cycle: 75  
 Control Type: Actuated-Uncoordinated













Splits and Phases: 10: I-15 NB Ramps & Main St.



HCM 6th Signalized Intersection Summary  
 10: I-15 NB Ramps & Main St.

Hesperia US Cold Storage (JN 13201)

07/09/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑↑	↗	↗	↗	↗			
Traffic Volume (veh/h)	0	2288	727	0	1865	560	344	0	1174	0	0	0
Future Volume (veh/h)	0	2288	727	0	1865	560	344	0	1174	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1900	1900	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	0	2359	0	0	1923	430	355	0	1063			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	0	2711		0	2711	842	701	0	1247			
Arrive On Green	0.00	0.52	0.00	0.00	0.52	0.52	0.39	0.00	0.39			
Sat Flow, veh/h	0	5358	1610	0	5358	1610	1810	0	3220			
Grp Volume(v), veh/h	0	2359	0	0	1923	430	355	0	1063			
Grp Sat Flow(s),veh/h/ln	0	1729	1610	0	1729	1610	1810	0	1610			
Q Serve(g_s), s	0.0	40.7	0.0	0.0	28.7	17.8	15.3	0.0	30.8			
Cycle Q Clear(g_c), s	0.0	40.7	0.0	0.0	28.7	17.8	15.3	0.0	30.8			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	2711		0	2711	842	701	0	1247			
V/C Ratio(X)	0.00	0.87		0.00	0.71	0.51	0.51	0.00	0.85			
Avail Cap(c_a), veh/h	0	2814		0	2814	873	982	0	1747			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	21.3	0.0	0.0	18.5	15.9	23.9	0.0	28.6			
Incr Delay (d2), s/veh	0.0	3.2	0.0	0.0	0.8	0.5	0.6	0.0	3.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	14.9	0.0	0.0	10.1	5.8	6.6	0.0	12.2			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	24.5	0.0	0.0	19.3	16.4	24.4	0.0	31.7			
LnGrp LOS	A	C		A	B	B	C	A	C			
Approach Vol, veh/h		2359	A		2353			1418				
Approach Delay, s/veh		24.5			18.8			29.9				
Approach LOS		C			B			C				
Timer - Assigned Phs		2			6			8				
Phs Duration (G+Y+Rc), s		58.0			58.0			44.2				
Change Period (Y+Rc), s		4.6			4.6			4.6				
Max Green Setting (Gmax), s		55.4			55.4			55.4				
Max Q Clear Time (g_c+I1), s		42.7			30.7			32.8				
Green Ext Time (p_c), s		10.7			16.7			6.7				

Intersection Summary

HCM 6th Ctrl Delay	23.5
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.  
 Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

**APPENDIX 7.3:**

**HORIZON YEAR (2040) WITH PROJECT CONDITIONS TRAFFIC SIGNAL WARRANT  
ANALYSIS WORKSHEETS**

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### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	TRAFFIC CONDITIONS	<u>2040 WP</u>
Jurisdiction: <u>City of Hesperia</u>				CALC <u>CS</u>	DATE <u>07/08/20</u>
Major Street: <u>Avenal St.</u>				CHK <u>CS</u>	DATE <u>07/08/20</u>
Minor Street: <u>Driveway 1</u>				Critical Approach Speed (Major) <u>25</u> mph	
				Critical Approach Speed (Minor) <u>25</u> mph	
Major Street Approach Lanes = <u>1</u>	lane	Minor Street Approach Lanes: <u>1</u>	lane		
Major Street Future ADT = <u>821</u>	vpd	Minor Street Future ADT = <u>821</u>	vpd		
Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....					<input type="checkbox"/>
					or
In built up area of isolated community of < 10,000 population .....					<input type="checkbox"/>

**URBAN (U)**

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements EADT			
<b>XX</b>					
<b>CONDITION A - Minimum Vehicular Volume</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	<b>XX</b>				
Number of lanes for moving traffic on each approach		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<u>Major Street</u>	<u>Minor Street</u>				
1 <b>821</b>	1 <b>821</b>	8,000	5,600	2,400	1,680
2 +	1	9,600	6,720	2,400	1,680
2 +	2 +	9,600	6,720	3,200	2,240
1	2 +	8,000	5,600	3,200	2,240
<b>CONDITION B - Interruption of Continuous Traffic</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	<b>XX</b>				
Number of lanes for moving traffic on each approach		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<u>Major Street</u>	<u>Minor Street</u>				
1 <b>821</b>	1 <b>821</b>	12,000	8,400	1,200	850
2 +	1	14,400	10,080	1,200	850
2 +	2 +	14,400	10,080	1,600	1,120
1	2 +	12,000	8,400	1,600	1,120
<b>Combination of CONDITIONS A + B</b>		2 CONDITIONS 80%		2 CONDITIONS 80%	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	<b>XX</b>				
No one condition satisfied, but following conditions fulfilled 80% of more .....					
	<u>A</u>				
	<b>10%</b>				
	<u>B</u>				
	<b>7%</b>				

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	CALC <u>CS</u>	TRAFFIC CONDITIONS	<u>2040 WP</u>
Jurisdiction: <u>City of Hesperia</u>				CHK <u>CS</u>		DATE <u>07/08/20</u>
Major Street: <u>Yucca Terrace Dr.</u>					Critical Approach Speed (Major)	<u>25</u> mph
Minor Street: <u>Driveway 2</u>					Critical Approach Speed (Minor)	<u>25</u> mph
Major Street Approach Lanes =			<u>1</u> lane		Minor Street Approach Lanes:	<u>1</u> lane
Major Street Future ADT =			<u>822</u> vpd		Minor Street Future ADT =	<u>822</u> vpd
Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....						<input type="checkbox"/>
						or
In built up area of isolated community of < 10,000 population .....						<input type="checkbox"/>

**URBAN (U)**

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements EADT			
<b>XX</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<b>CONDITION A - Minimum Vehicular Volume</b>					
<u>Satisfied</u>	<u>Not Satisfied</u>				
	<b>XX</b>				
Number of lanes for moving traffic on each approach		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<u>Major Street</u>	<u>Minor Street</u>				
1 <b>822</b>	1 <b>822</b>	8,000	5,600	2,400	1,680
2 +	1	9,600	6,720	2,400	1,680
2 +	2 +	9,600	6,720	3,200	2,240
1	2 +	8,000	5,600	3,200	2,240
<b>CONDITION B - Interruption of Continuous Traffic</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	<b>XX</b>				
Number of lanes for moving traffic on each approach		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<u>Major Street</u>	<u>Minor Street</u>				
1 <b>822</b>	1 <b>822</b>	12,000	8,400	1,200	850
2 +	1	14,400	10,080	1,200	850
2 +	2 +	14,400	10,080	1,600	1,120
1	2 +	12,000	8,400	1,600	1,120
<b>Combination of CONDITIONS A + B</b>		2 CONDITIONS 80%		2 CONDITIONS 80%	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	<b>XX</b>				
No one condition satisfied, but following conditions fulfilled 80% of more .....					
	<u>A</u>				
	<b>10%</b>				
	<u>B</u>				
	<b>7%</b>				

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

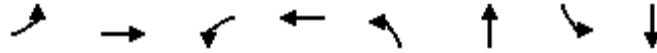
The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.



**APPENDIX 7.4:**

**HORIZON YEAR (2040) WITHOUT PROJECT CONDITIONS QUEUING ANALYSIS  
WORKSHEETS**

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Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	101	1300	24	1837	247	1650	361	2457
v/c Ratio	0.84	1.03	0.32	1.71	1.27	1.66	1.05	1.91
Control Delay	103.7	71.4	67.3	350.3	197.5	333.8	108.2	436.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	103.7	71.4	67.3	350.3	197.5	333.8	108.2	436.2
Queue Length 50th (ft)	79	~607	18	~1092	~241	~988	~303	~1553
Queue Length 95th (ft)	#182	#747	48	#1234	#407	#1130	#493	#1688
Internal Link Dist (ft)		1117		1265		3985		2617
Turn Bay Length (ft)	340		250		280		250	
Base Capacity (vph)	120	1262	75	1076	195	991	345	1289
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.84	1.03	0.32	1.71	1.27	1.66	1.05	1.91

**Intersection Summary**

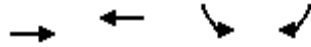
~ Volume exceeds capacity, queue is theoretically infinite.  
Queue shown is maximum after two cycles.

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

Queues

9: I-15 SB Ramps & Main St.

07/09/2020



Lane Group	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	1540	1733	457	727
v/c Ratio	0.66	0.74	0.29	0.98
Control Delay	22.2	24.1	18.7	56.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	22.3	24.1	18.7	56.9
Queue Length 50th (ft)	265	315	88	420
Queue Length 95th (ft)	311	366	154	#824
Internal Link Dist (ft)	480	822		
Turn Bay Length (ft)			1000	540
Base Capacity (vph)	3527	3527	1592	742
Starvation Cap Reductn	279	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.47	0.49	0.29	0.98

Intersection Summary

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

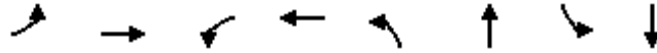
Queues  
10: I-15 NB Ramps & Main St.



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	1452	483	1858	684	594	281	285
v/c Ratio	0.50	0.43	0.64	0.57	0.94	0.49	0.50
Control Delay	14.5	2.1	16.7	2.8	60.5	28.9	29.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.5	2.1	16.7	2.8	60.5	28.9	29.2
Queue Length 50th (ft)	208	0	299	0	413	138	142
Queue Length 95th (ft)	242	40	342	45	#728	254	258
Internal Link Dist (ft)	822		339			457	
Turn Bay Length (ft)		250			1000		615
Base Capacity (vph)	3568	1261	3568	1324	632	569	567
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.38	0.52	0.52	0.94	0.49	0.50

Intersection Summary

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



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	101	1694	28	1526	312	2952	654	1813
v/c Ratio	1.35	1.37	0.37	1.35	1.04	2.49	2.56	1.64
Control Delay	264.9	205.6	70.2	198.3	111.5	692.4	737.6	321.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	264.9	205.6	70.2	198.3	111.5	692.4	737.6	321.4
Queue Length 50th (ft)	~102	~962	22	~809	~260	~2020	~848	~1077
Queue Length 95th (ft)	#218	#1104	54	#951	#441	#2146	#1077	#1218
Internal Link Dist (ft)		1117		1265		3985		2617
Turn Bay Length (ft)	340		250		280		250	
Base Capacity (vph)	75	1233	75	1127	300	1187	255	1106
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.35	1.37	0.37	1.35	1.04	2.49	2.56	1.64

**Intersection Summary**

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

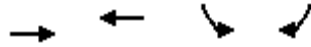
# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.



Queues

9: I-15 SB Ramps & Main St.

07/09/2020



Lane Group	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	2275	1995	787	647
v/c Ratio	0.93	0.81	0.51	0.89
Control Delay	36.7	29.8	22.7	43.3
Queue Delay	25.3	0.0	0.0	0.0
Total Delay	62.0	29.8	22.7	43.3
Queue Length 50th (ft)	560	448	198	399
Queue Length 95th (ft)	#781	588	250	571
Internal Link Dist (ft)	480	822		
Turn Bay Length (ft)			1000	540
Base Capacity (vph)	2450	2450	1912	889
Starvation Cap Reductn	289	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.05	0.81	0.41	0.73

Intersection Summary

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

Queues

10: I-15 NB Ramps & Main St.

07/09/2020



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	2352	709	1920	577	339	605	605
v/c Ratio	0.95	0.69	0.77	0.56	0.43	0.88	0.88
Control Delay	39.4	10.5	28.5	5.5	23.9	44.6	44.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.4	10.5	28.5	5.5	23.9	44.6	44.6
Queue Length 50th (ft)	641	112	454	32	170	416	416
Queue Length 95th (ft)	#775	258	519	117	248	#648	#648
Internal Link Dist (ft)	822		339			457	
Turn Bay Length (ft)		250			1000		615
Base Capacity (vph)	2482	1035	2482	1035	863	742	742
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.95	0.69	0.77	0.56	0.39	0.82	0.82

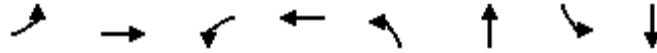
Intersection Summary

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

**APPENDIX 7.5:**

**HORIZON YEAR (2040) WITH PROJECT CONDITIONS QUEUING ANALYSIS  
WORKSHEETS**

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Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	107	1300	24	1931	247	1663	391	2463
v/c Ratio	0.89	1.03	0.32	1.78	1.27	1.68	1.13	1.91
Control Delay	113.0	71.4	67.3	381.6	197.5	339.4	133.8	438.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	113.0	71.4	67.3	381.6	197.5	339.4	133.8	438.2
Queue Length 50th (ft)	84	~607	18	~1163	~241	~999	~351	~1558
Queue Length 95th (ft)	#193	#747	48	#1303	#407	#1141	#546	#1693
Internal Link Dist (ft)		1117		1265		3985		2617
Turn Bay Length (ft)	340		250		280		250	
Base Capacity (vph)	120	1262	75	1085	195	991	345	1289
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.89	1.03	0.32	1.78	1.27	1.68	1.13	1.91

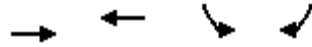
**Intersection Summary**

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

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

Queues

9: I-15 SB Ramps & Main St.



Lane Group	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	1555	1785	457	771
v/c Ratio	0.65	0.75	0.29	1.06
Control Delay	21.8	24.0	19.7	78.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	21.9	24.0	19.7	78.9
Queue Length 50th (ft)	269	330	92	~535
Queue Length 95th (ft)	313	381	160	#923
Internal Link Dist (ft)	480	822		
Turn Bay Length (ft)			1000	540
Base Capacity (vph)	3463	3463	1563	729
Starvation Cap Reductn	354	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.50	0.52	0.29	1.06

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Queues  
10: I-15 NB Ramps & Main St.



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	1454	495	1864	684	638	281	285
v/c Ratio	0.50	0.44	0.63	0.56	1.02	0.50	0.51
Control Delay	14.5	2.2	16.7	2.7	77.5	29.1	29.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.5	2.2	16.7	2.7	77.5	29.1	29.4
Queue Length 50th (ft)	208	0	300	0	~502	141	144
Queue Length 95th (ft)	243	40	344	45	#802	254	258
Internal Link Dist (ft)	822		339			457	
Turn Bay Length (ft)		250			1000		615
Base Capacity (vph)	3543	1260	3543	1320	628	565	563
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.39	0.53	0.52	1.02	0.50	0.51

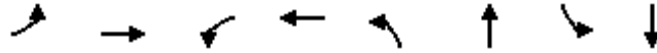
Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	104	1694	28	1559	312	2958	744	1836
v/c Ratio	1.39	1.37	0.37	1.38	1.04	2.49	2.92	1.66
Control Delay	279.2	205.6	70.2	210.1	111.5	694.7	893.1	329.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	279.2	205.6	70.2	210.1	111.5	694.7	893.1	329.7
Queue Length 50th (ft)	~107	~962	22	~836	~260	~2025	~993	~1096
Queue Length 95th (ft)	#223	#1104	54	#978	#441	#2151	#1230	#1237
Internal Link Dist (ft)		1117		1265		3985		2617
Turn Bay Length (ft)	340		250		280		250	
Base Capacity (vph)	75	1233	75	1128	300	1187	255	1107
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.39	1.37	0.37	1.38	1.04	2.49	2.92	1.66

**Intersection Summary**

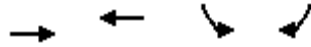
~ Volume exceeds capacity, queue is theoretically infinite.  
Queue shown is maximum after two cycles.

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



Queues

9: I-15 SB Ramps & Main St.



Lane Group	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	2322	2013	787	662
v/c Ratio	0.96	0.83	0.50	0.90
Control Delay	40.9	31.0	22.4	44.3
Queue Delay	36.2	0.0	0.0	0.0
Total Delay	77.1	31.0	22.4	44.3
Queue Length 50th (ft)	605	473	198	415
Queue Length 95th (ft)	#808	596	250	597
Internal Link Dist (ft)	480	822		
Turn Bay Length (ft)			1000	540
Base Capacity (vph)	2424	2424	1891	879
Starvation Cap Reductn	280	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.08	0.83	0.42	0.75

Intersection Summary

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

Queues  
10: I-15 NB Ramps & Main St.



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	2359	749	1923	577	355	605	605
v/c Ratio	0.95	0.72	0.78	0.56	0.44	0.88	0.88
Control Delay	40.5	11.2	28.8	5.6	24.2	44.1	44.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.5	11.2	28.8	5.6	24.2	44.1	44.1
Queue Length 50th (ft)	645	125	455	32	180	416	416
Queue Length 95th (ft)	#779	284	520	117	261	#648	#648
Internal Link Dist (ft)	822		339			457	
Turn Bay Length (ft)		250			1000		615
Base Capacity (vph)	2472	1047	2472	1032	860	739	739
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.95	0.72	0.78	0.56	0.41	0.82	0.82

Intersection Summary

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

**APPENDIX 7.6:**

**HORIZON YEAR (2040) WITHOUT PROJECT CONDITIONS FREEWAY FACILITY  
ANALYSIS WORKSHEETS**

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# HCS7 Freeway Facilities Report

## Project Information

Analyst	JB	Date	7/9/2020
Agency	Urban Crossroads, Inc.	Analysis Year	Horizon Year (2040) NP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	US Cold Storage (JN 13201) - I-15 SB at Main		

## Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15

## Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-15 SB, North of Main St.	16360	3
2	Diverge	Diverge	I-15 SB, Off-Ramp at Main St.	1500	3
3	Basic	Basic	I-15 SB, Between Off and Loop On-Ramp	975	3
4	Merge	Merge	I-15 SB, Loop On-Ramp at Main St.	1500	3
5	Basic	Basic	I-15 SB, Between Loop On-Ramp and On-Ramp	1415	3
6	Merge	Merge	I-15 SB, On-Ramp at Main St.	1500	3
7	Basic	Basic	I-15 SB, South of Main St.	5900	3

## Facility Segment Data

### Segment 1: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.952		6776		7146		0.95		56.1		40.3		E

### Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.962	0.862	6706	1175	7200	2100	0.93	0.56	62.8	58.7	35.6	39.0	E

### Segment 3: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.971		5600		7146		0.78		63.8		29.3		D

### Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.971	0.971	6355	755	7200	61900	0.88	0.40	58.0	55.3	36.5	34.5	D

### Segment 5: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.971	6355	7146	0.89	59.3	35.7	E

### Segment 6: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.971	0.952	6853	498	7200	2100	0.95	0.24	57.0	54.5	40.1	35.4	E

### Segment 7: Basic

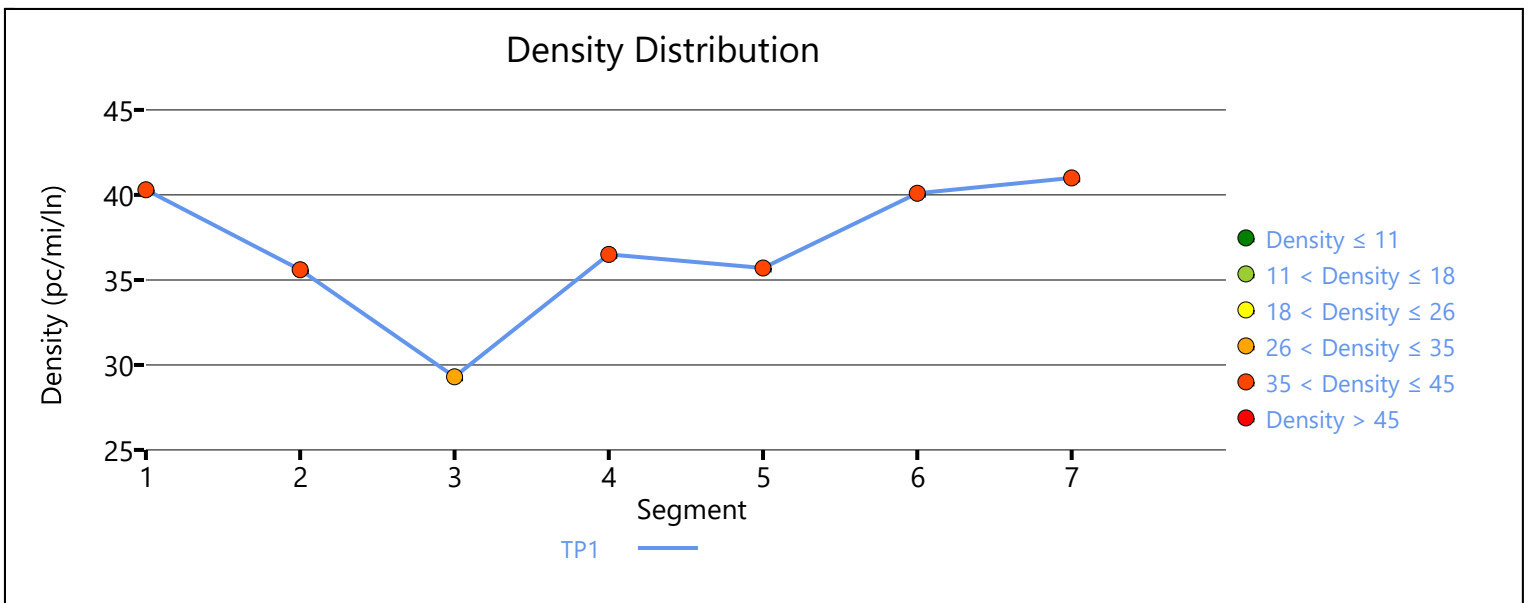
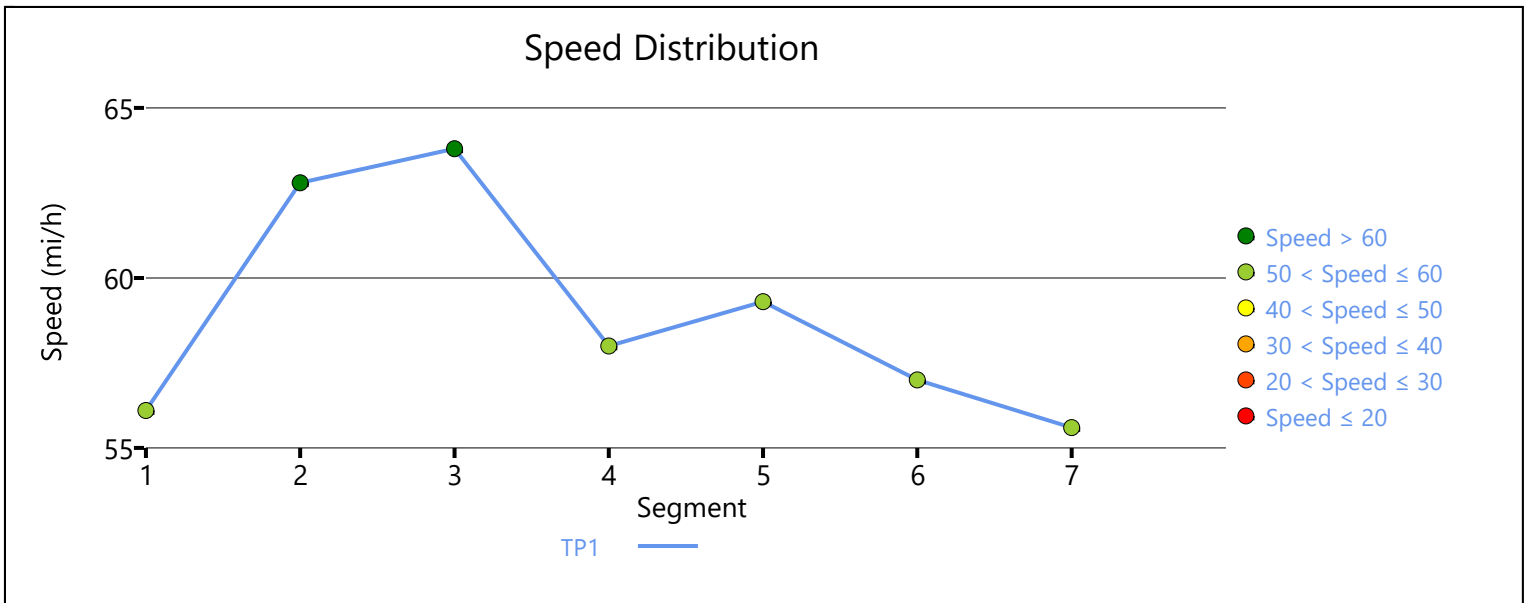
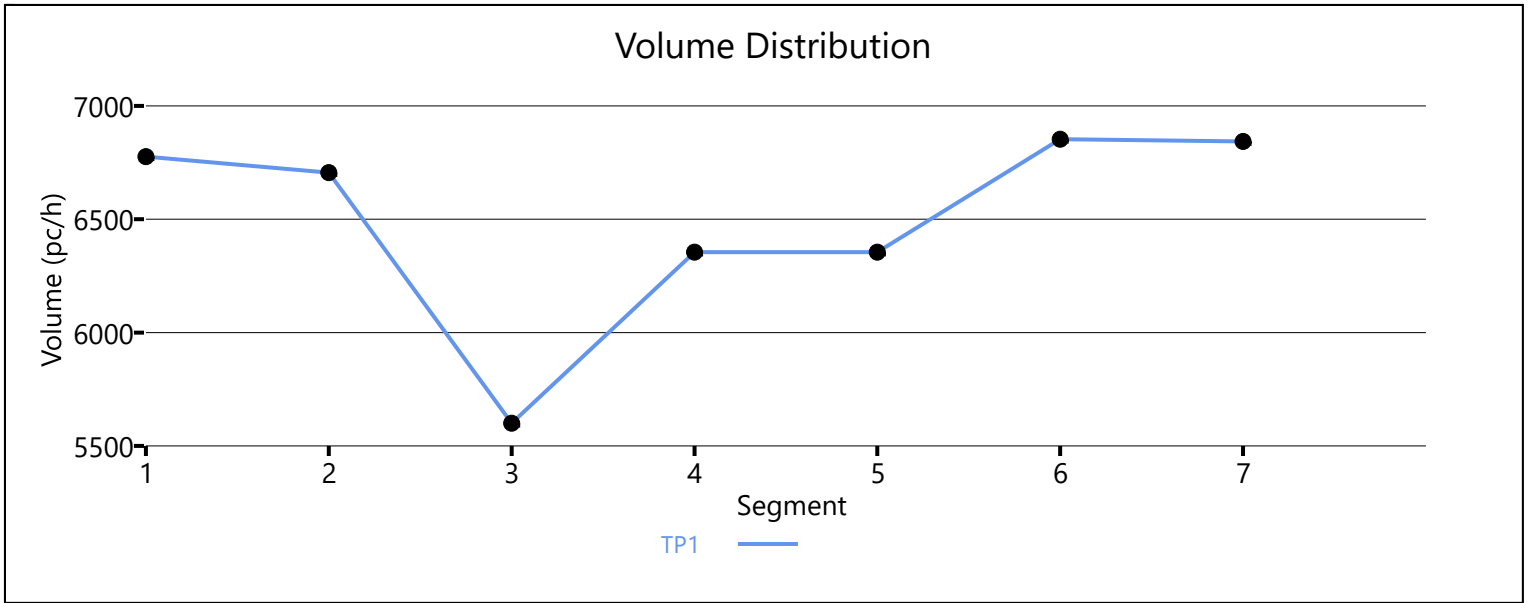
Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.971	6843	7146	0.96	55.6	41.0	E

### Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	56.8	39.4	37.8	5.8	E

### Facility Overall Results

Space Mean Speed, mi/h	56.8	Density, veh/mi/ln	37.8
Average Travel Time, min	5.8	Density, pc/mi/ln	39.4



# HCS7 Freeway Facilities Report

## Project Information

Analyst	JB	Date	7/9/2020
Agency	Urban Crossroads, Inc.	Analysis Year	Horizon Year (2040) NP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	US Cold Storage (JN 13201) - I-15 NB at Main		

## Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15

## Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-15 NB, South of Main St.	6140	3
2	Diverge	Diverge	I-15 NB, Off-Ramp at Main St.	1500	3
3	Basic	Basic	I-15 NB, Between Off-Ramp and Loop On-Ramp	1125	3
4	Merge	Merge	I-15 NB, Loop On-Ramp at Main St.	1500	3
5	Basic	Basic	I-15 NB, Between Loop On-Ramp and On-Ramp	1215	3
6	Merge	Merge	I-15 NB, On-Ramp at Main St.	1500	3
7	Basic	Basic	I-15 NB, North of Main St.	16370	3

## Facility Segment Data

### Segment 1: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.92		0.952		5222		7146		0.73		65.5		26.6		D

### Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.952	0.862	5222	1276	7200	2100	0.73	0.61	62.7	58.4	27.8	33.3	D

### Segment 3: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.92		0.980		3951		7146		0.55		68.2		19.3		C

### Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.980	0.935	4490	539	7200	641900	0.62	0.28	61.9	59.8	24.2	24.6	C

### Segment 5: Basic



Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.971	4507	7146	0.63	67.5	22.3	C

### Segment 6: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.971	0.971	5266	759	7200	2100	0.73	0.36	60.8	58.7	28.9	29.3	D

### Segment 7: Basic

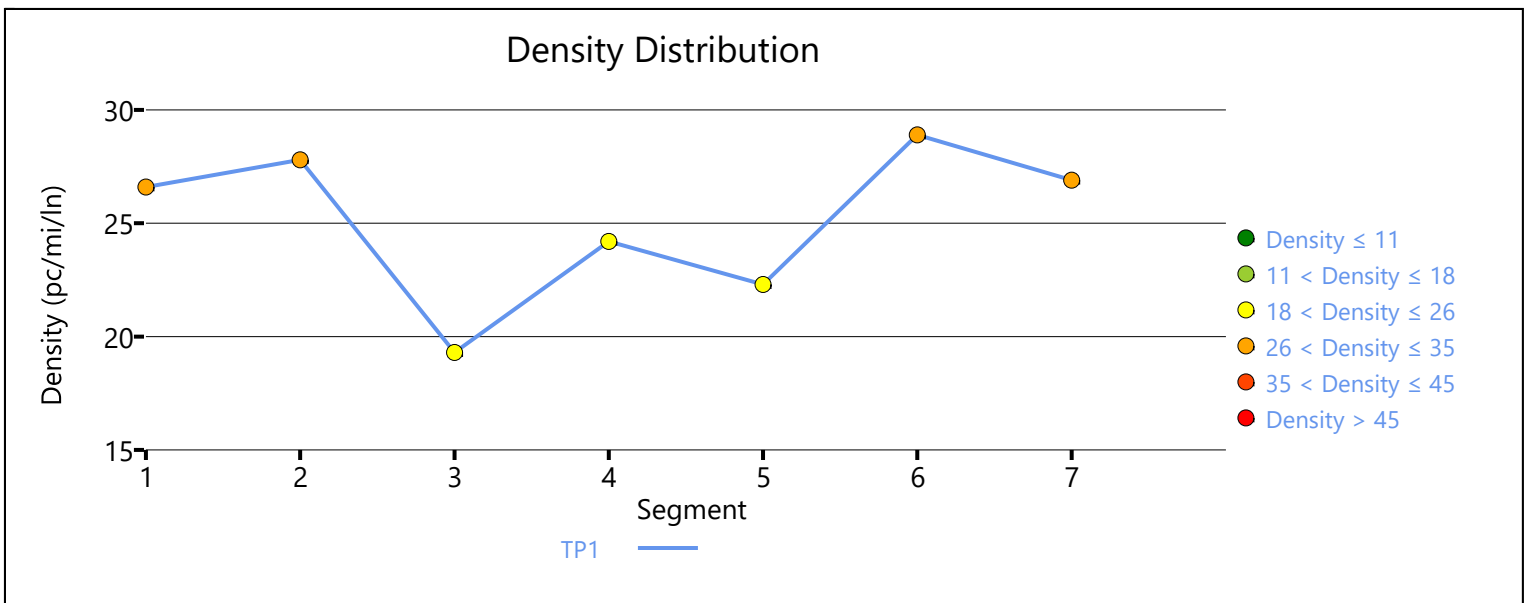
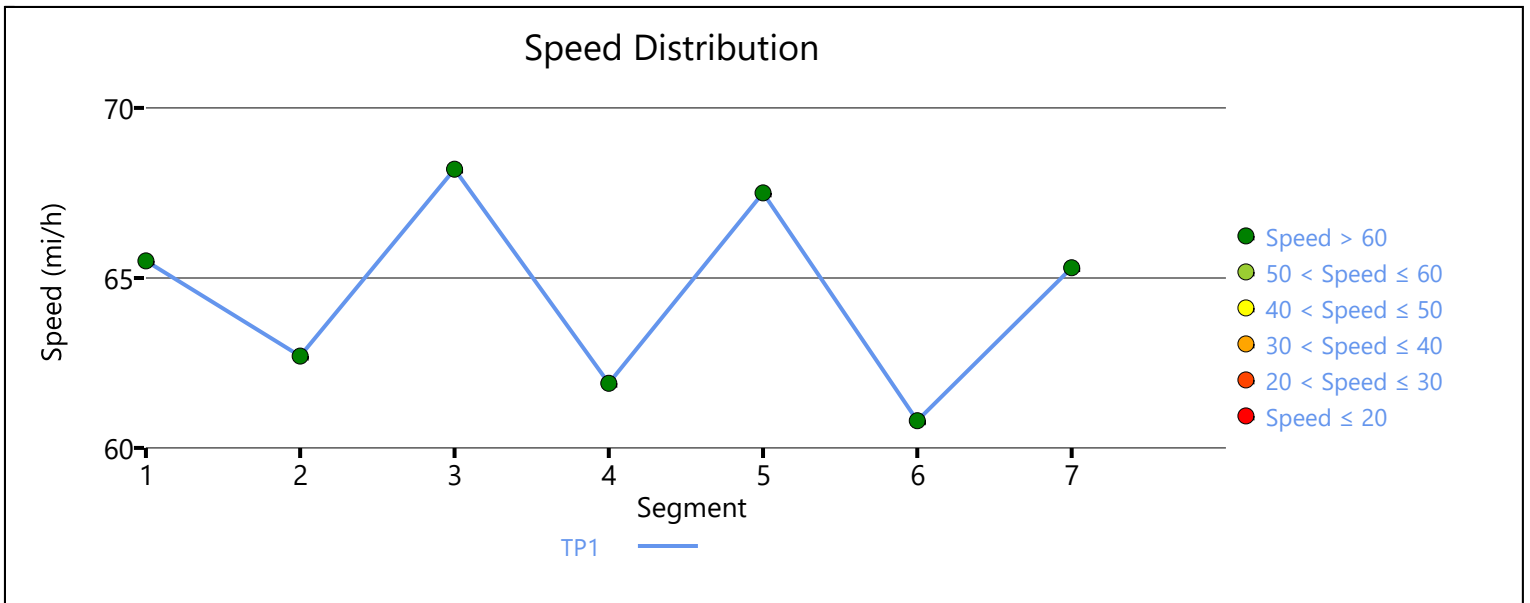
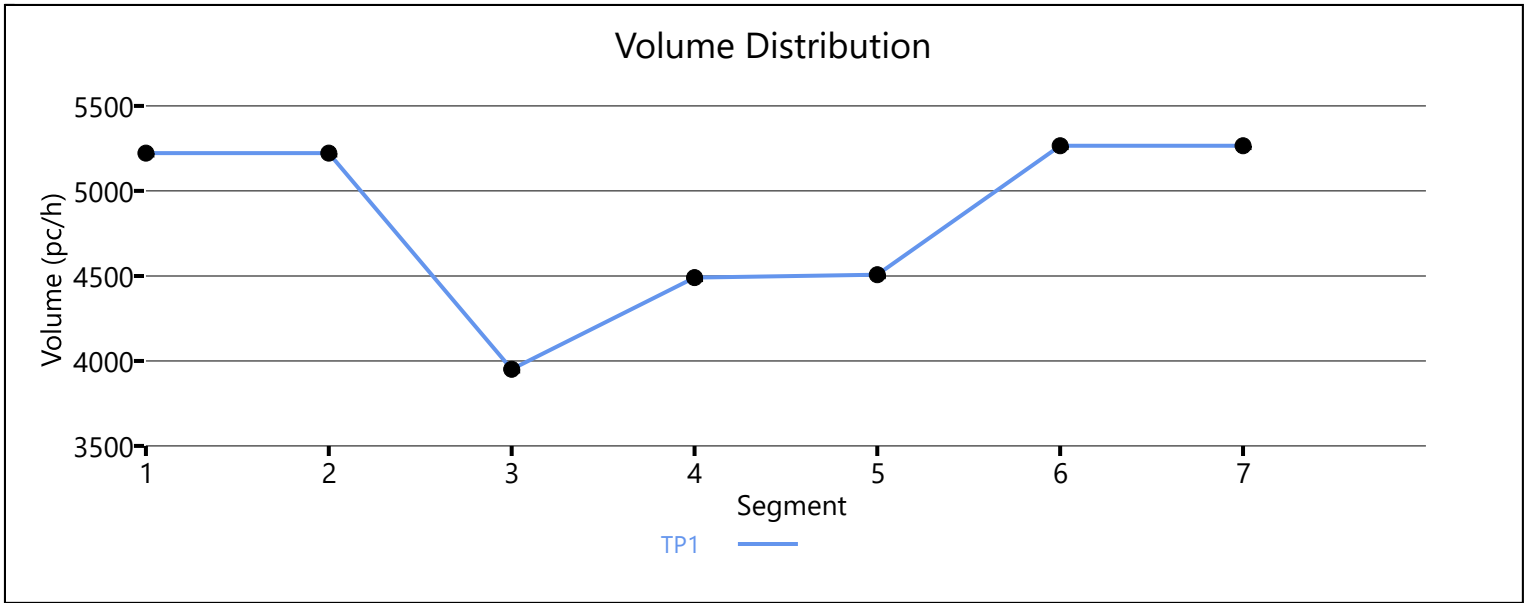
Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.971	5266	7146	0.74	65.3	26.9	D

### Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	65.0	26.4	25.5	5.1	D

### Facility Overall Results

Space Mean Speed, mi/h	65.0	Density, veh/mi/ln	25.5
Average Travel Time, min	5.1	Density, pc/mi/ln	26.4



# HCS7 Freeway Facilities Report

## Project Information

Analyst	JB	Date	7/9/2020
Agency	Urban Crossroads, Inc.	Analysis Year	Horizon Year (2040) NP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	US Cold Storage (JN 13201)) - I-15 SB at Main		

## Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15

## Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-15 SB, North of Main St.	16360	3
2	Diverge	Diverge	I-15 SB, Off-Ramp at Main St.	1500	3
3	Basic	Basic	I-15 SB, Between Off and Loop On-Ramp	975	3
4	Merge	Merge	I-15 SB, Loop On-Ramp at Main St.	1500	3
5	Basic	Basic	I-15 SB, Between Loop On-Ramp and On-Ramp	1415	3
6	Merge	Merge	I-15 SB, On-Ramp at Main St.	1500	3
7	Basic	Basic	I-15 SB, South of Main St.	5900	3

## Facility Segment Data

### Segment 1: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.962		6740		7146		0.94		56.4		39.8		E

### Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.962	0.962	6740	1425	7200	2100	0.94	0.68	62.3	58.1	36.1	39.6	E

### Segment 3: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.962		5315		7146		0.74		65.1		27.2		D

### Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.962	0.917	5594	279	7200	671900	0.78	0.15	60.3	58.2	30.9	29.7	D

### Segment 5: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.962		5581		7146		0.78		63.9		29.1		D

### Segment 6: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.962	0.781	6071	490	7200	2100	0.84	0.23	59.6	57.4	34.0	31.8	D

### Segment 7: Basic

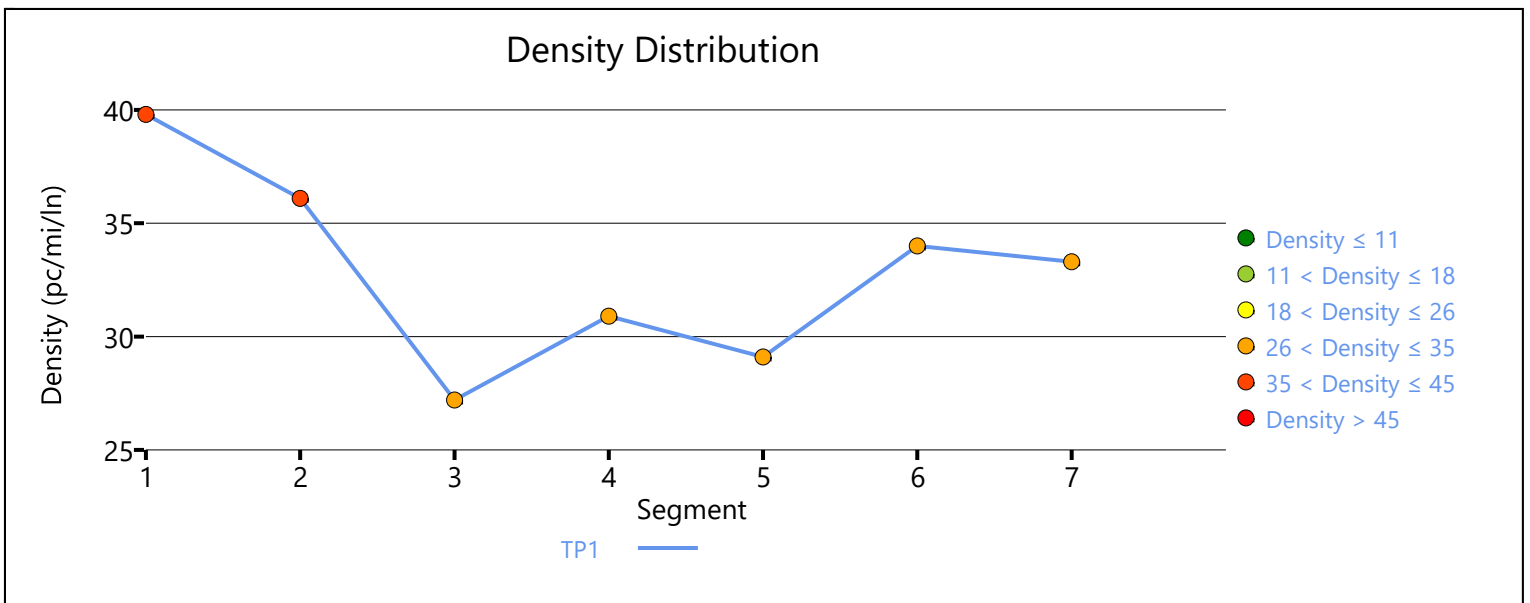
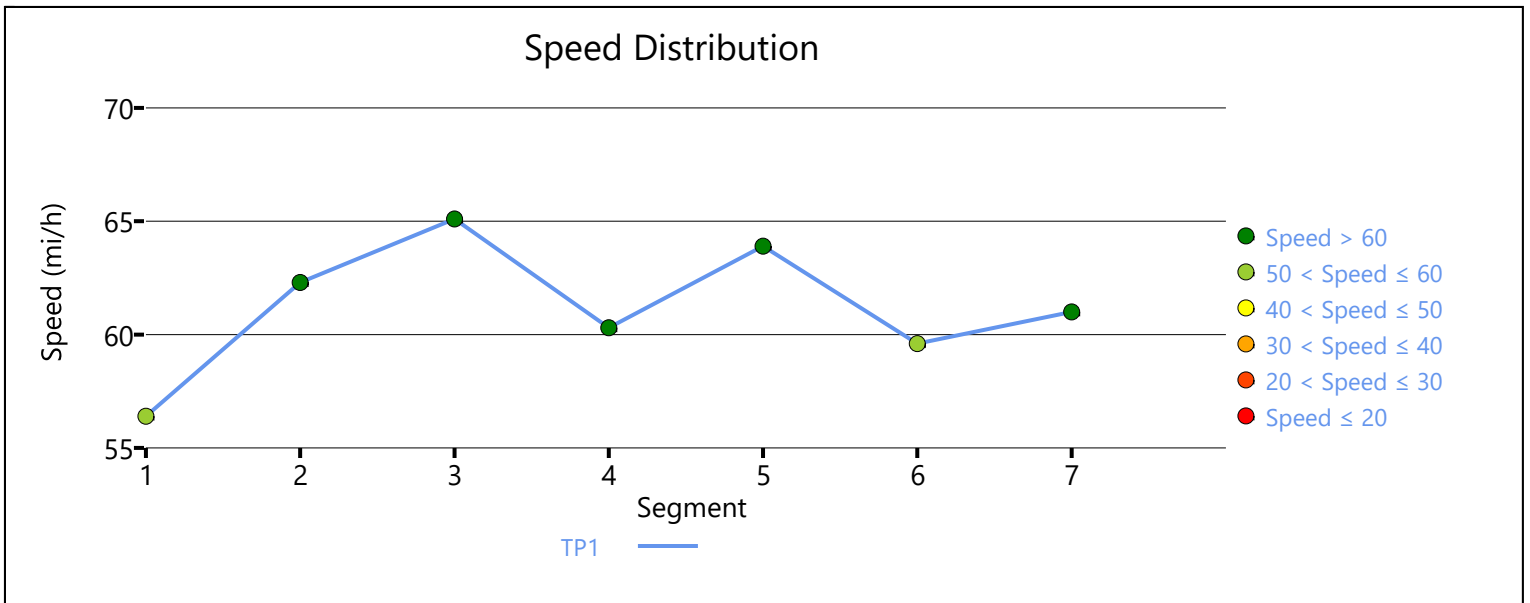
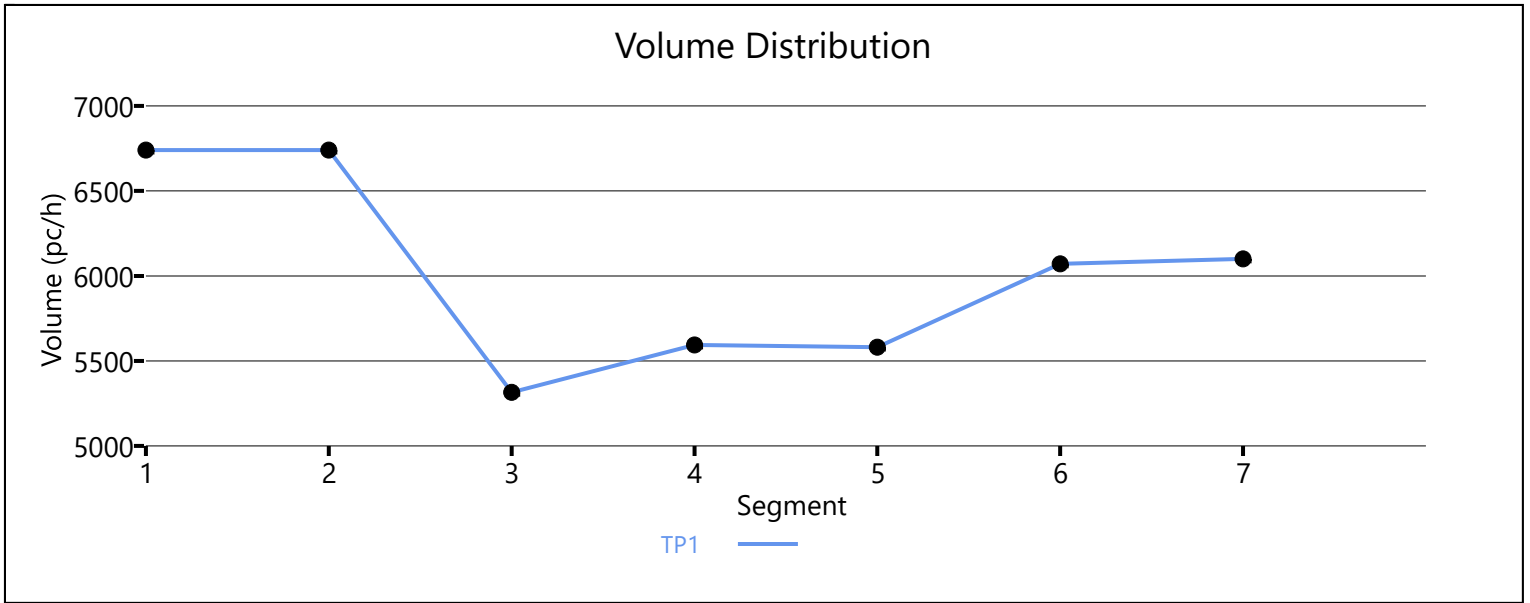
Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.943		6100		7146		0.85		61.0		33.3		D

### Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	58.4	36.6	35.1	5.7	E

### Facility Overall Results

Space Mean Speed, mi/h	58.4	Density, veh/mi/ln	35.1
Average Travel Time, min	5.7	Density, pc/mi/ln	36.6



# HCS7 Freeway Facilities Report

## Project Information

Analyst	JB	Date	7/9/2020
Agency	Urban Crossroads, Inc.	Analysis Year	Horizon Year (2040) NP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	US Cold Storage (JN 13201) - I-15 NB at Main		

## Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15

## Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-15 NB, South of Main St.	6140	3
2	Diverge	Diverge	I-15 NB, Off-Ramp at Main St.	1500	3
3	Basic	Basic	I-15 NB, Between Off-Ramp and Loop On-Ramp	1125	3
4	Merge	Merge	I-15 NB, Loop On-Ramp at Main St.	1500	3
5	Basic	Basic	I-15 NB, Between Loop On-Ramp and On-Ramp	1215	3
6	Merge	Merge	I-15 NB, On-Ramp at Main St.	1500	3
7	Basic	Basic	I-15 NB, North of Main St.	16370	3

## Facility Segment Data

### Segment 1: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.92		0.962		8327		7146		1.17		52.9		45.0		F

### Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.971	0.926	7146	1740	7200	2100	1.15	0.83	61.6	57.3	38.7	41.2	F

### Segment 3: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.92		0.980		5406		7146		0.91		65.8		27.4		D

### Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.980	0.862	6144	738	7200	1900	1.01	0.39	58.7	56.1	34.9	32.8	F

### Segment 5: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	6144	7146	1.02	61.7	33.2	F

### Segment 6: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.980	0.962	6777	633	7200	2100	1.08	0.30	57.0	54.3	39.6	35.9	F

### Segment 7: Basic

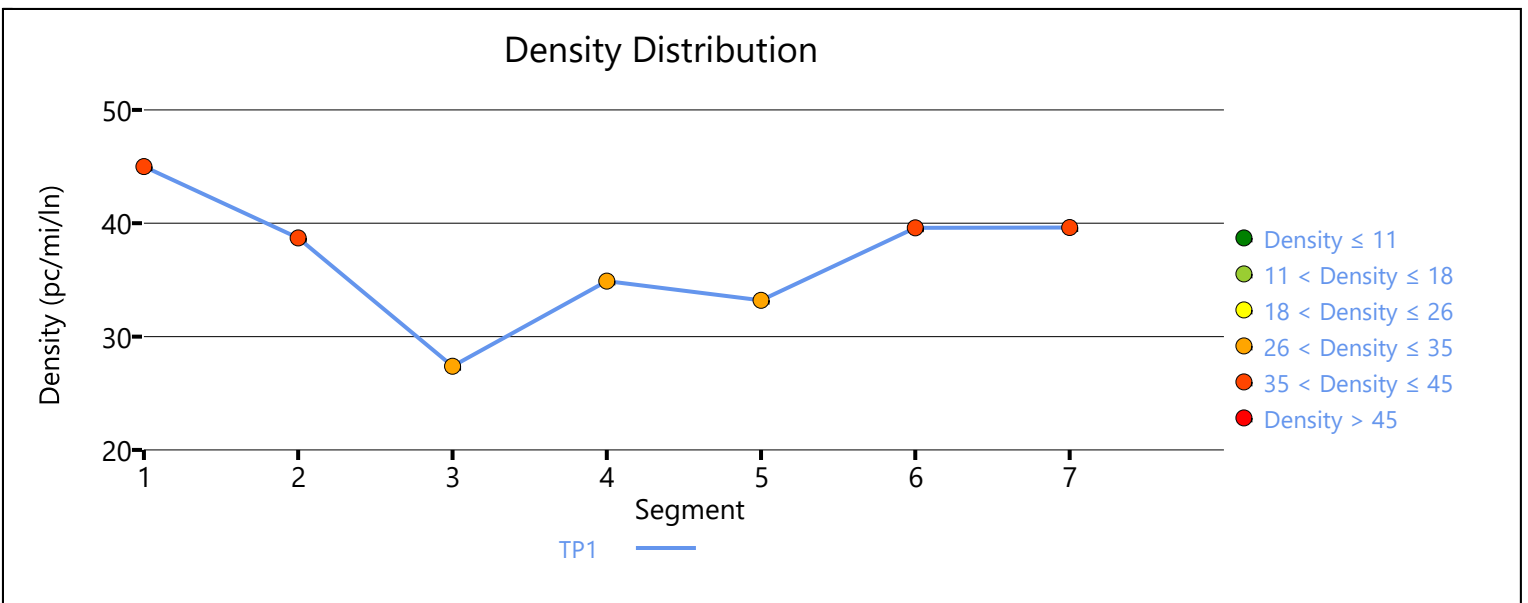
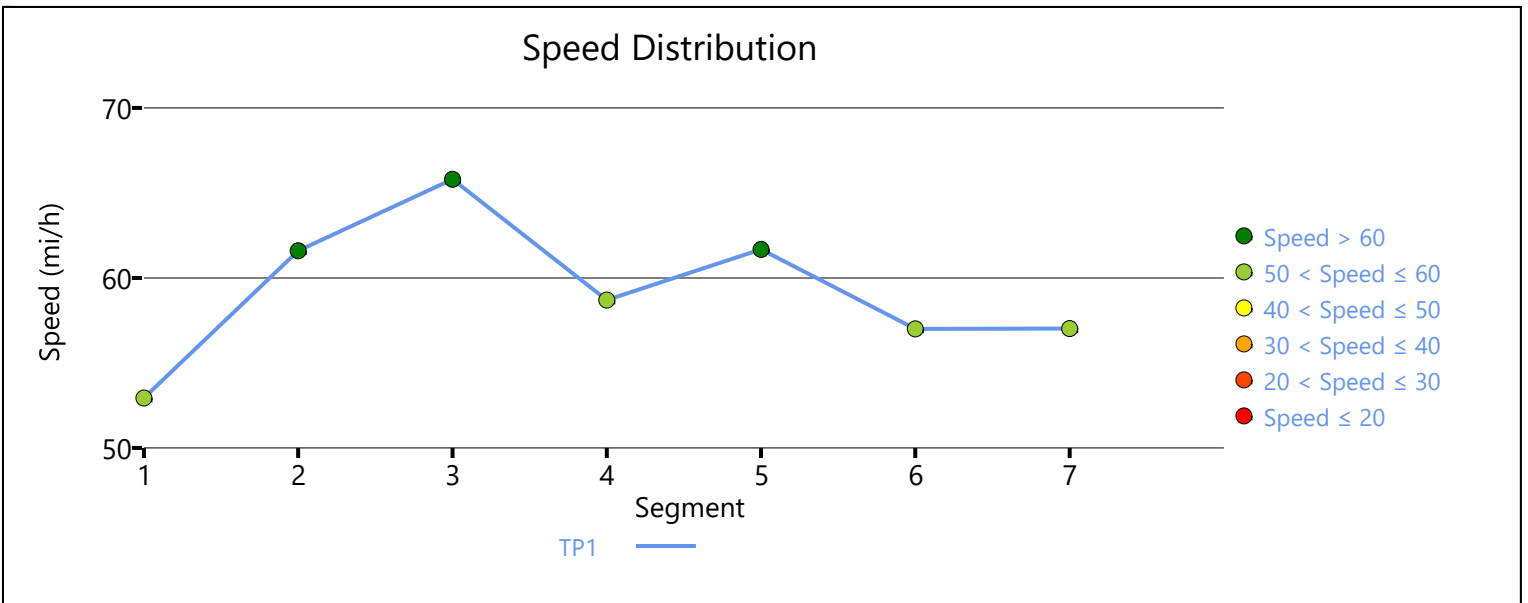
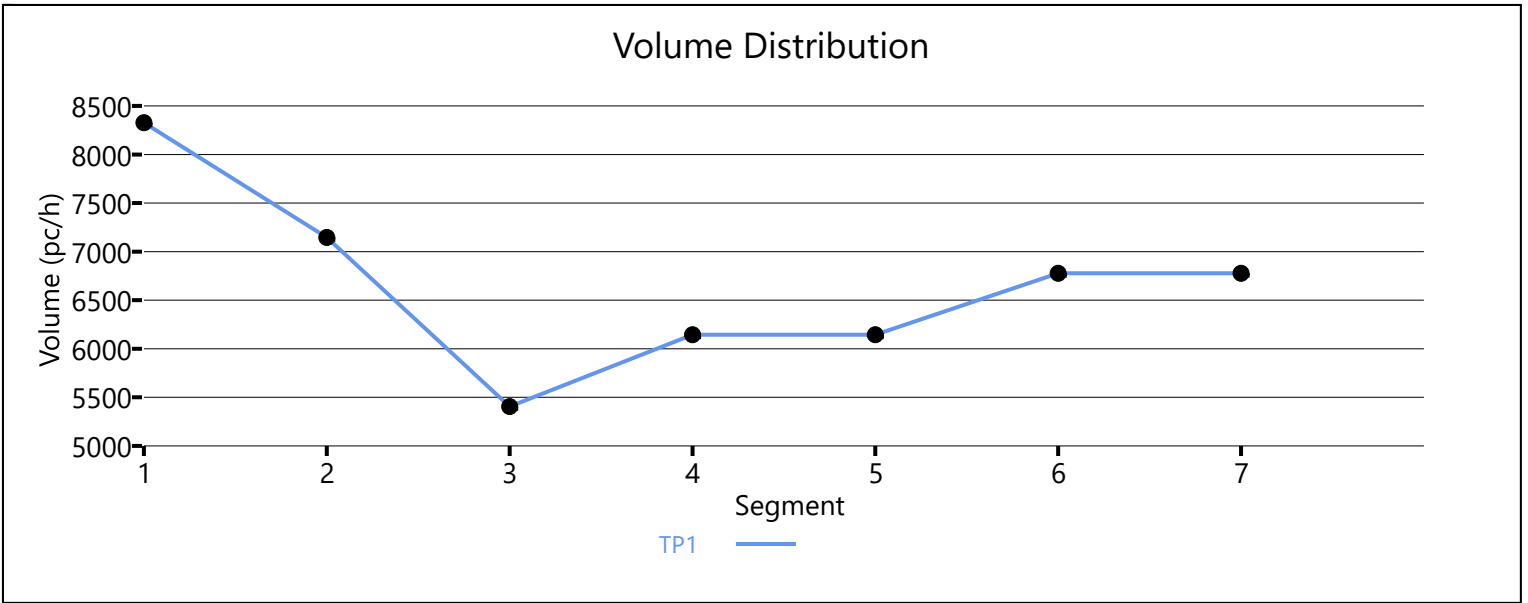
Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	6777	7146	1.11	57.0	39.6	F

### Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	57.0	39.6	38.2	5.9	F

### Facility Overall Results

Space Mean Speed, mi/h	57.0	Density, veh/mi/ln	38.2
Average Travel Time, min	5.9	Density, pc/mi/ln	39.6





**APPENDIX 7.7:**

**HORIZON YEAR (2040) WITH PROJECT CONDITIONS FREEWAY FACILITY ANALYSIS  
WORKSHEETS**

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# HCS7 Freeway Facilities Report

## Project Information

Analyst	JB	Date	7/9/2020
Agency	Urban Crossroads, Inc.	Analysis Year	Horizon Year (2040) WP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	US Cold Storage (JN 13201) - I-15 SB at Main		

## Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15

## Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-15 SB, North of Main St.	16360	3
2	Diverge	Diverge	I-15 SB, Off-Ramp at Main St.	1500	3
3	Basic	Basic	I-15 SB, Between Off and Loop On-Ramp	975	3
4	Merge	Merge	I-15 SB, Loop On-Ramp at Main St.	1500	3
5	Basic	Basic	I-15 SB, Between Loop On-Ramp and On-Ramp	1415	3
6	Merge	Merge	I-15 SB, On-Ramp at Main St.	1500	3
7	Basic	Basic	I-15 SB, South of Main St.	5900	3

## Facility Segment Data

### Segment 1: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.952		6805		7146		0.95		55.9		40.6		E

### Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.962	0.855	6734	1216	7200	2100	0.94	0.58	62.7	58.6	35.8	39.2	E

### Segment 3: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.971		5600		7146		0.78		63.8		29.3		D

### Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.971	0.971	6355	755	7200	1900	0.88	0.40	58.0	55.3	36.5	34.5	D

### Segment 5: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.971		6355		7146		0.89		59.3		35.7		E

### Segment 6: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.971	0.943	6866	511	7200	2100	0.95	0.24	56.9	54.4	40.2	35.5	E

### Segment 7: Basic

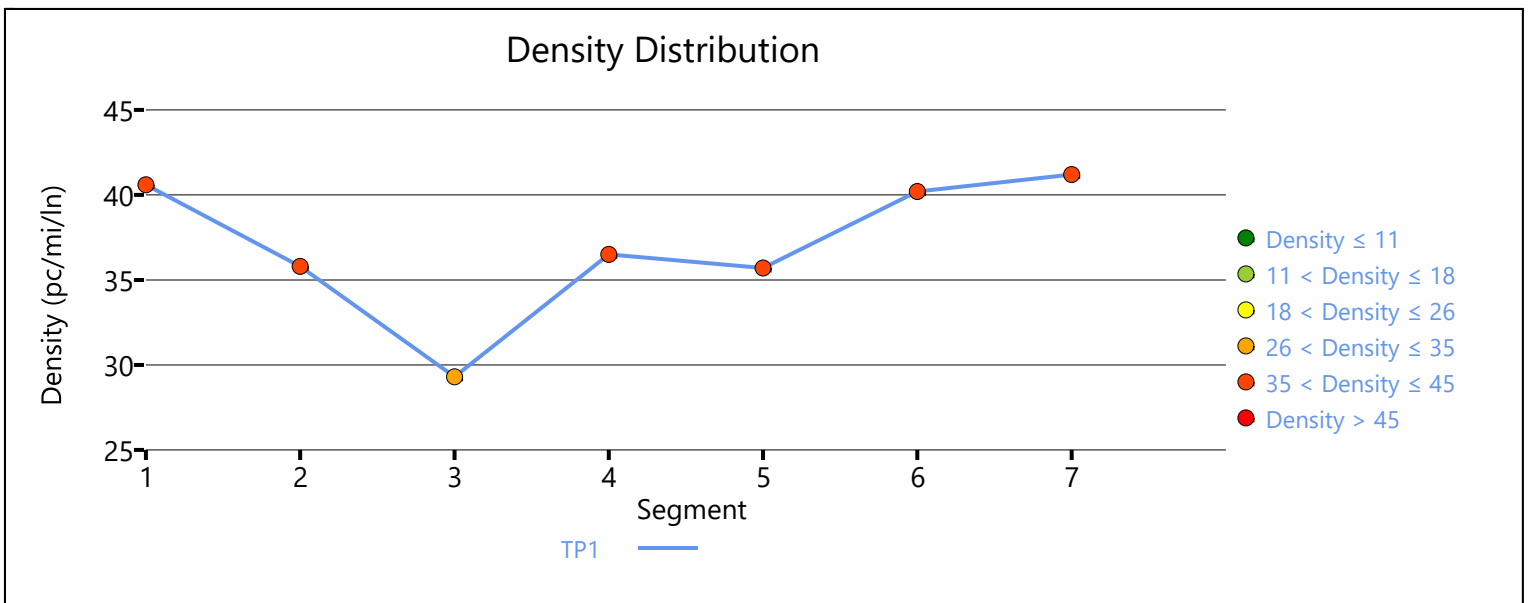
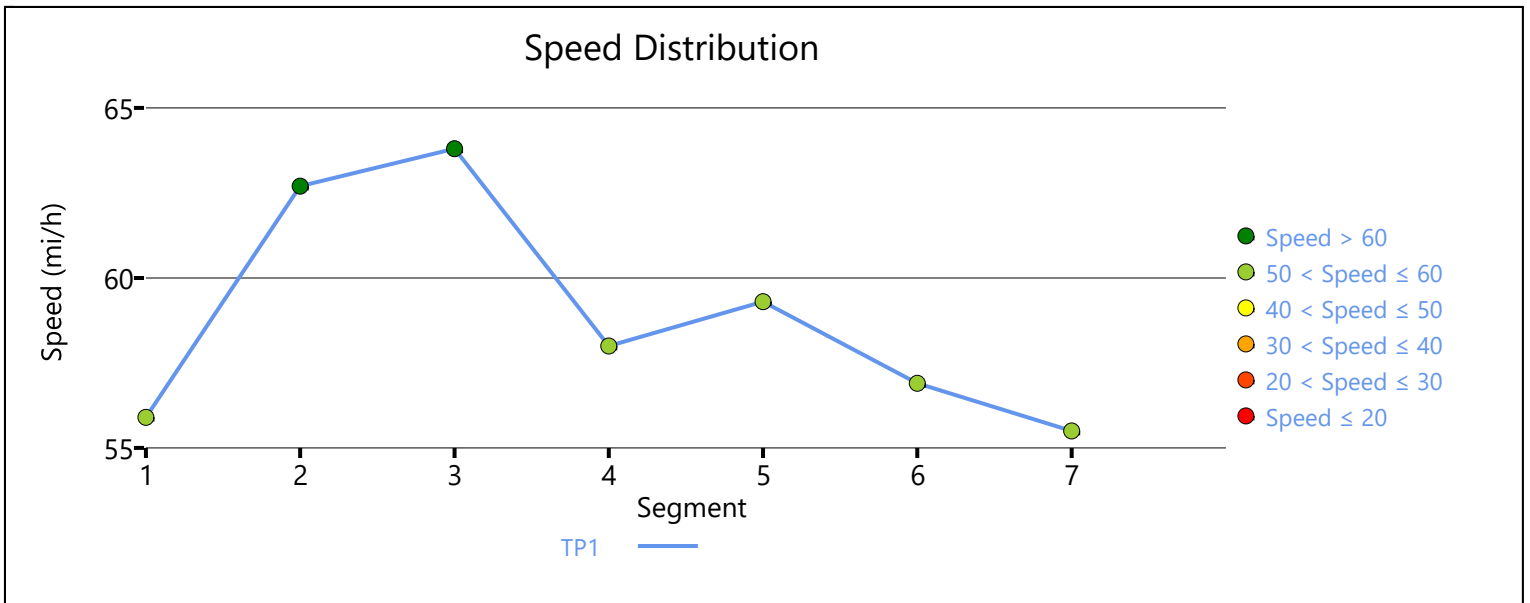
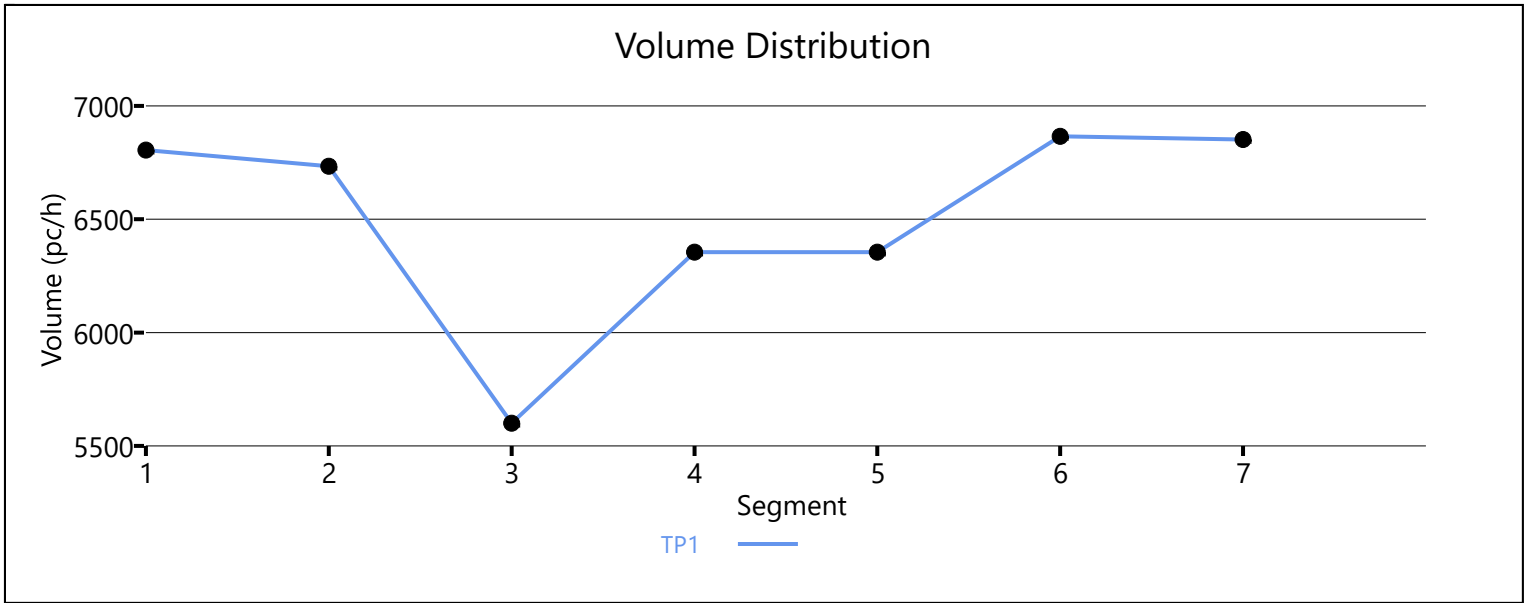
Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.971		6852		7146		0.96		55.5		41.2		E

### Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	56.6	39.6	38.1	5.8	E

### Facility Overall Results

Space Mean Speed, mi/h	56.6	Density, veh/mi/ln	38.1
Average Travel Time, min	5.8	Density, pc/mi/ln	39.6



# HCS7 Freeway Facilities Report

## Project Information

Analyst	JB	Date	7/9/2020
Agency	Urban Crossroads, Inc.	Analysis Year	Horizon Year (2040) WP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	US Cold Storage (JN 13201) - I-15 NB at Main		

## Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15

## Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-15 NB, South of Main St.	6140	3
2	Diverge	Diverge	I-15 NB, Off-Ramp at Main St.	1500	3
3	Basic	Basic	I-15 NB, Between Off-Ramp and Loop On-Ramp	1125	3
4	Merge	Merge	I-15 NB, Loop On-Ramp at Main St.	1500	3
5	Basic	Basic	I-15 NB, Between Loop On-Ramp and On-Ramp	1215	3
6	Merge	Merge	I-15 NB, On-Ramp at Main St.	1500	3
7	Basic	Basic	I-15 NB, North of Main St.	16370	3

## Facility Segment Data

### Segment 1: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.92		0.943		5305		7146		0.74		65.2		27.1		D

### Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.952	0.862	5254	1311	7200	2100	0.73	0.62	62.7	58.4	27.9	33.5	D

### Segment 3: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.92		0.980		3951		7146		0.55		68.2		19.3		C

### Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.980	0.935	4490	539	7200	741900	0.62	0.28	61.9	59.8	24.2	24.6	C

### Segment 5: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.92		0.971		4507		7146		0.63		67.5		22.3		C

### Segment 6: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.971	0.971	5266	759	7200	2100	0.73	0.36	60.8	58.7	28.9	29.3	D

### Segment 7: Basic

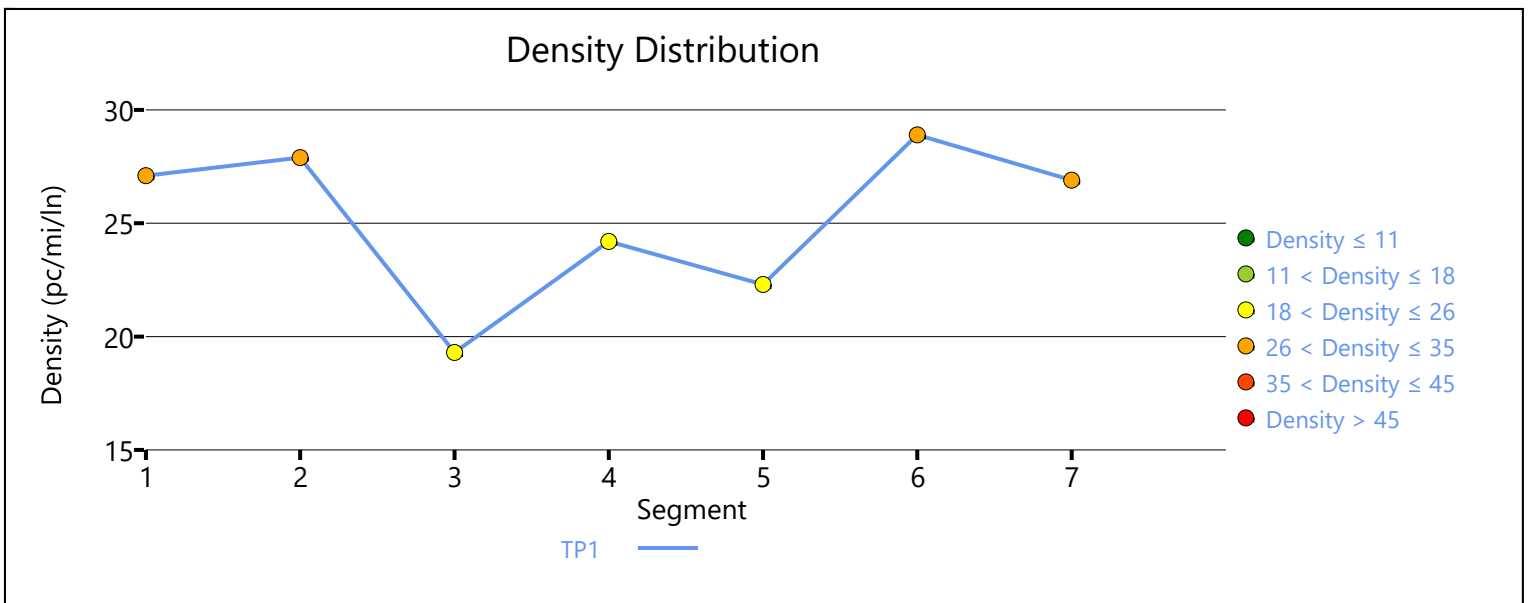
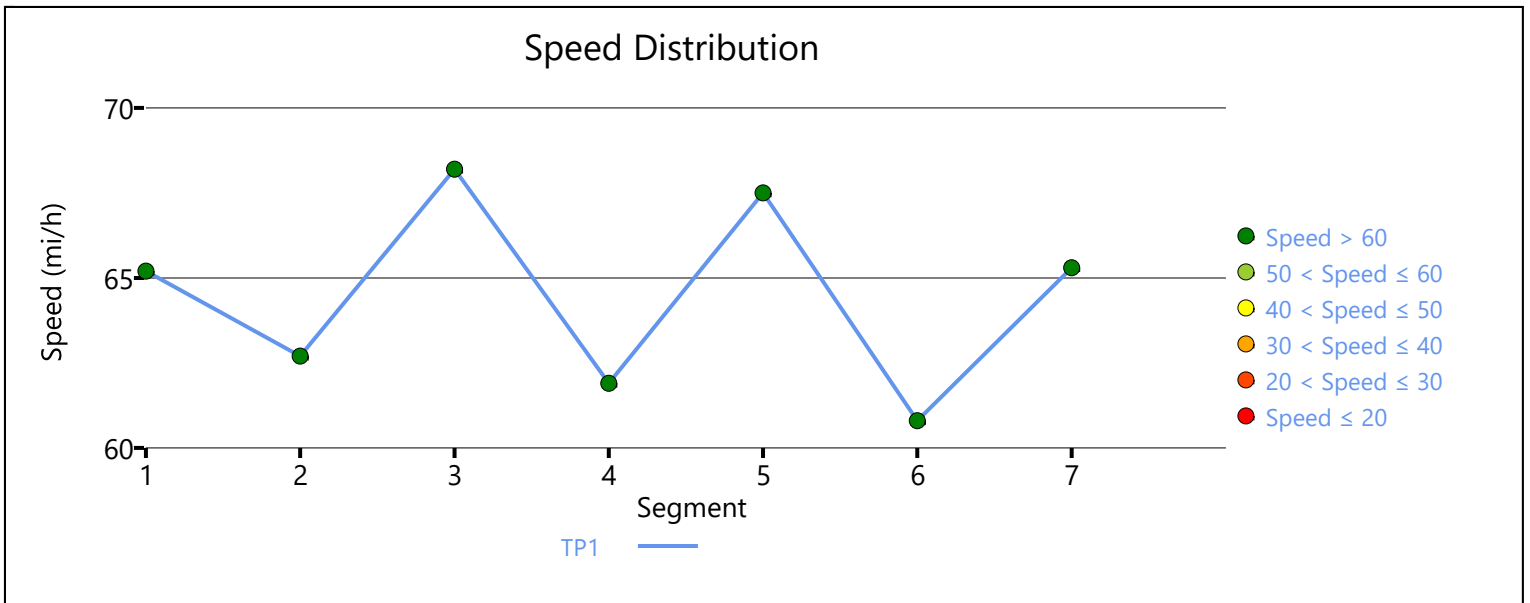
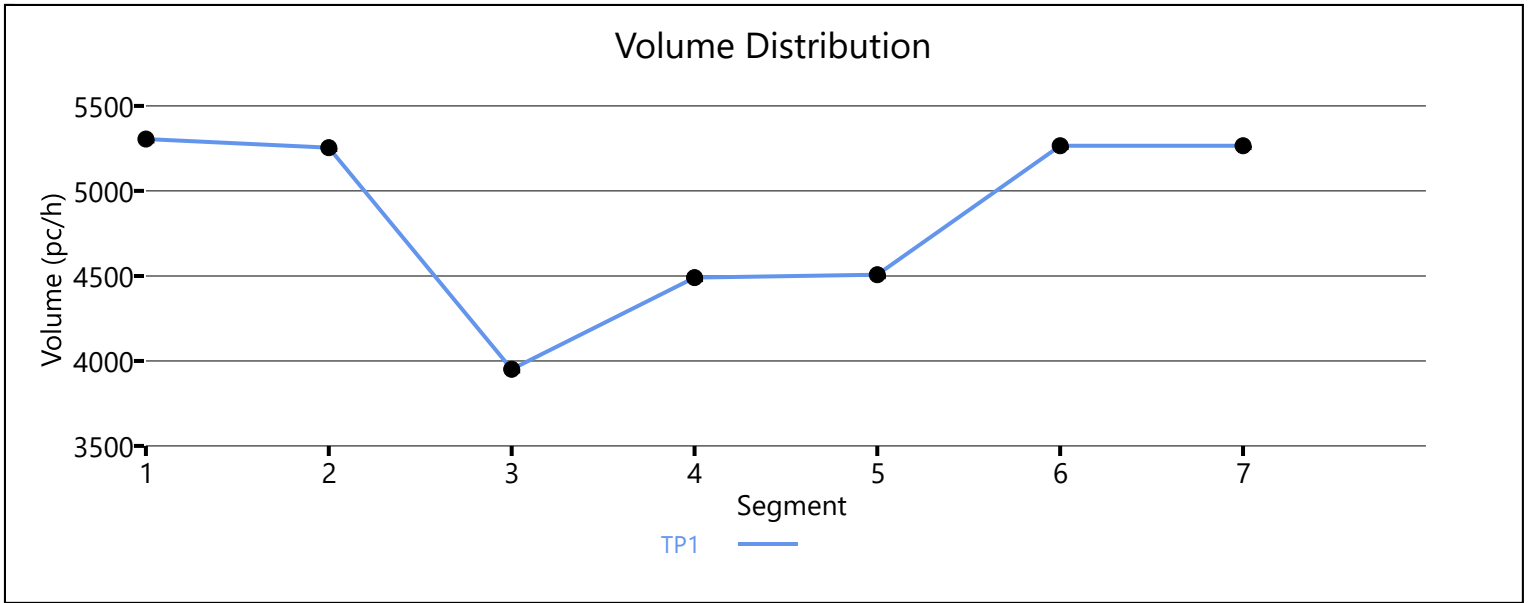
Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.92		0.971		5266		7146		0.74		65.3		26.9		D

### Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	64.9	26.5	25.5	5.1	D

### Facility Overall Results

Space Mean Speed, mi/h	64.9	Density, veh/mi/ln	25.5
Average Travel Time, min	5.1	Density, pc/mi/ln	26.5





# HCS7 Freeway Facilities Report

## Project Information

Analyst	JB	Date	7/9/2020
Agency	Urban Crossroads, Inc.	Analysis Year	Horizon Year (2040) WP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	US Cold Storage (JN 13201)) - I-15 SB at Main		

## Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15

## Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-15 SB, North of Main St.	16360	3
2	Diverge	Diverge	I-15 SB, Off-Ramp at Main St.	1500	3
3	Basic	Basic	I-15 SB, Between Off and Loop On-Ramp	975	3
4	Merge	Merge	I-15 SB, Loop On-Ramp at Main St.	1500	3
5	Basic	Basic	I-15 SB, Between Loop On-Ramp and On-Ramp	1415	3
6	Merge	Merge	I-15 SB, On-Ramp at Main St.	1500	3
7	Basic	Basic	I-15 SB, South of Main St.	5900	3

## Facility Segment Data

### Segment 1: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.962		6751		7146		0.94		56.3		40.0		E

### Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.962	0.962	6751	1436	7200	2100	0.94	0.68	62.2	58.0	36.2	39.6	E

### Segment 3: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.962		5315		7146		0.74		65.1		27.2		D

### Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.962	0.917	5594	279	7200	1900	0.78	0.15	60.3	58.2	30.9	29.7	D

### Segment 5: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.962	5581	7146	0.78	63.9	29.1	D

### Segment 6: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.962	0.775	6110	529	7200	2100	0.85	0.25	59.4	57.2	34.3	32.1	D

### Segment 7: Basic

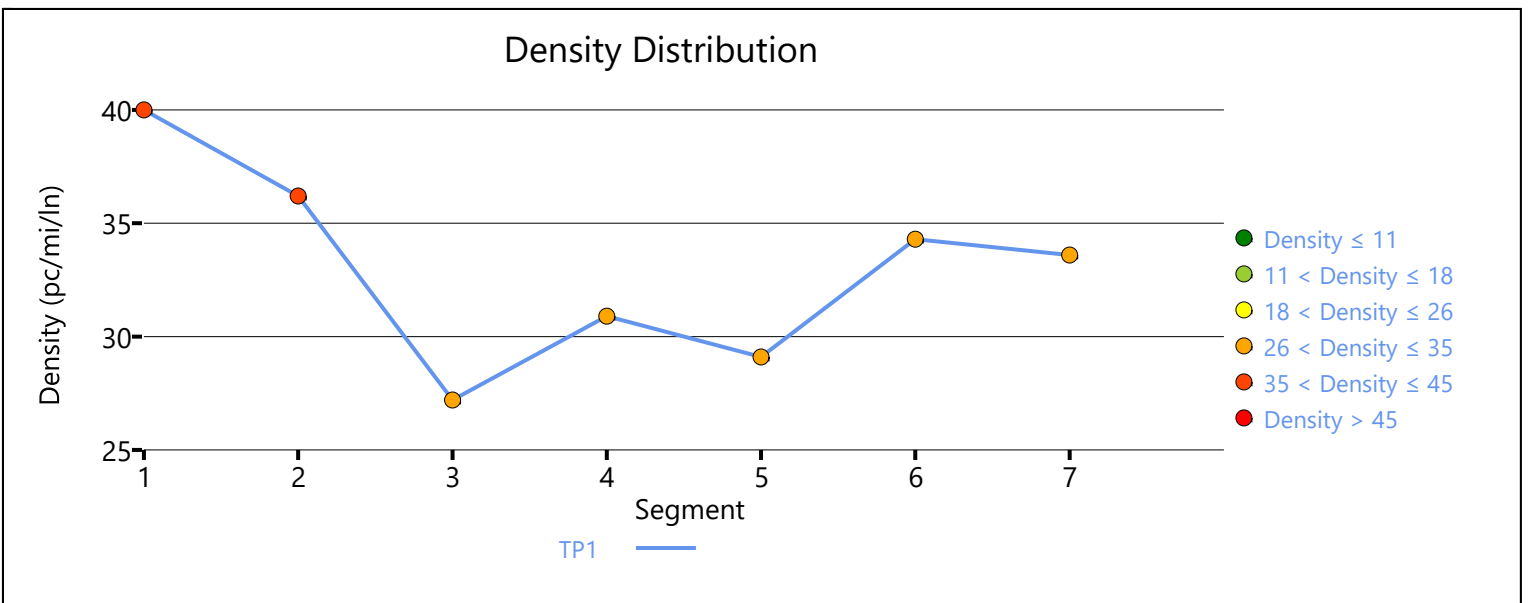
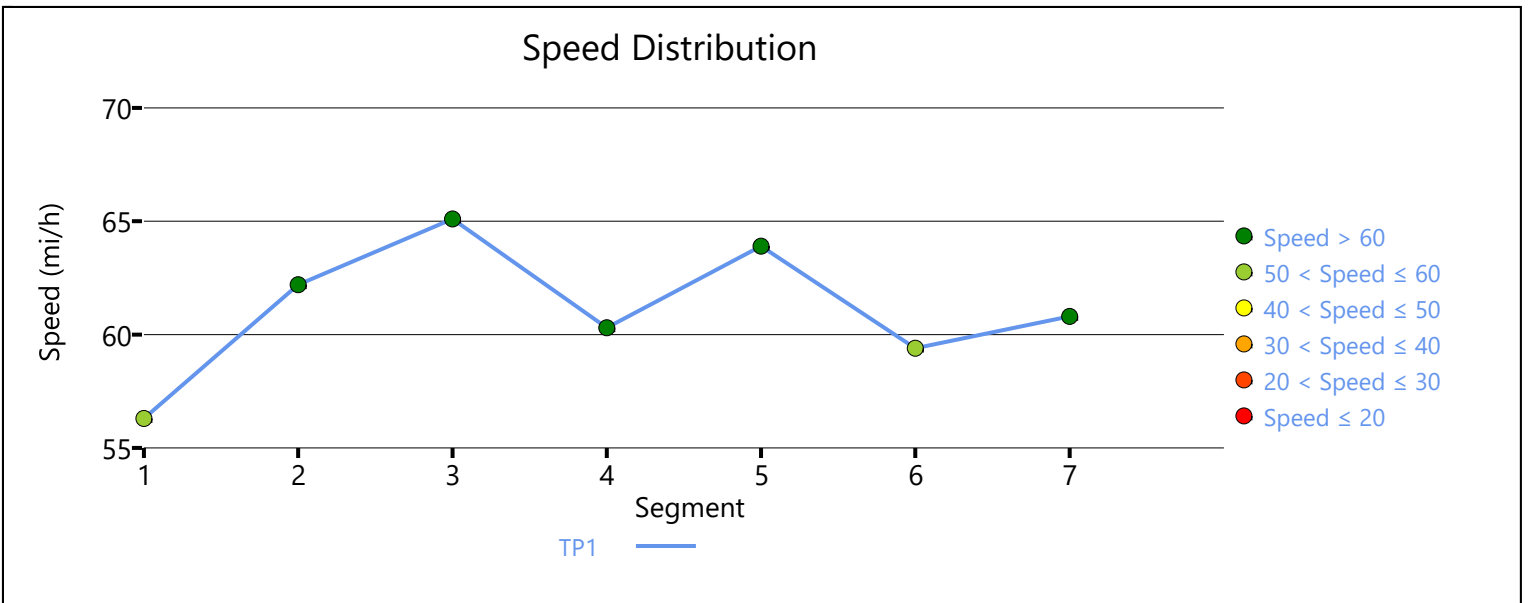
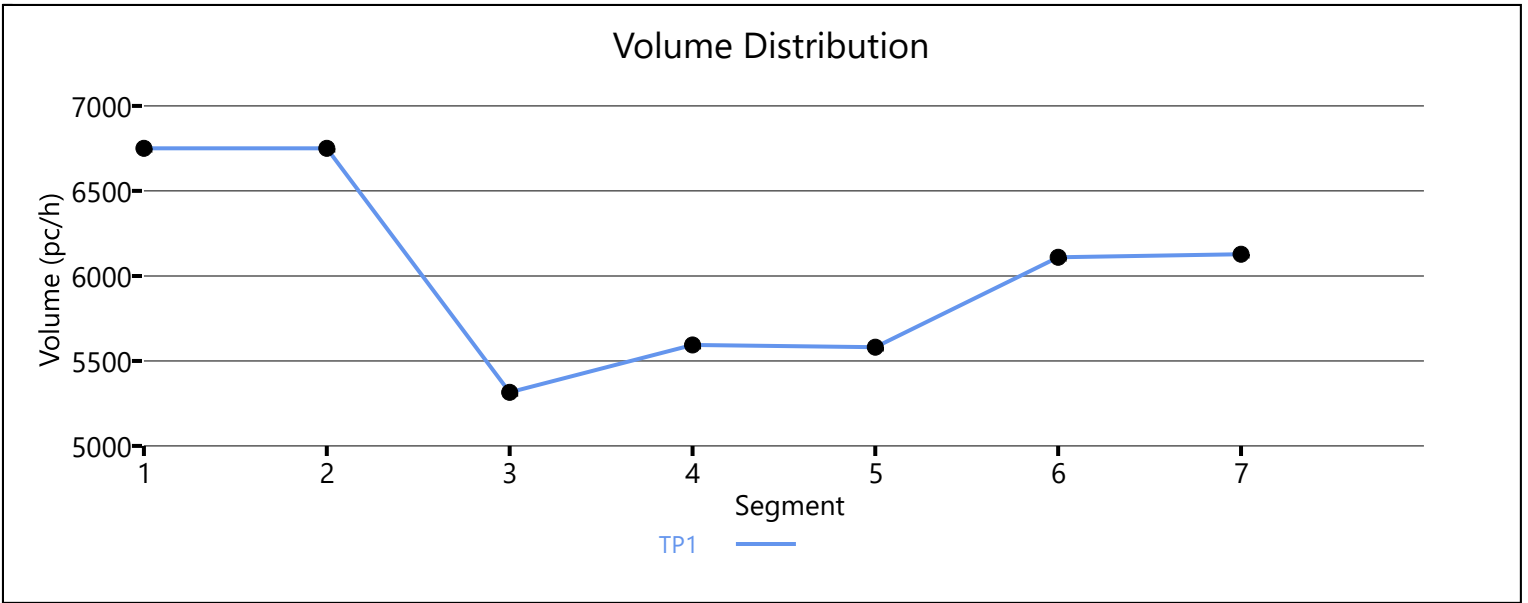
Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.943	6128	7146	0.86	60.8	33.6	D

### Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	58.3	36.8	35.3	5.7	E

### Facility Overall Results

Space Mean Speed, mi/h	58.3	Density, veh/mi/ln	35.3
Average Travel Time, min	5.7	Density, pc/mi/ln	36.8



# HCS7 Freeway Facilities Report

## Project Information

Analyst	JB	Date	7/9/2020
Agency	Urban Crossroads, Inc.	Analysis Year	Horizon Year (2040) WP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	US Cold Storage (JN 13201) - I-15 NB at Main		

## Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15

## Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-15 NB, South of Main St.	6140	3
2	Diverge	Diverge	I-15 NB, Off-Ramp at Main St.	1500	3
3	Basic	Basic	I-15 NB, Between Off-Ramp and Loop On-Ramp	1125	3
4	Merge	Merge	I-15 NB, Loop On-Ramp at Main St.	1500	3
5	Basic	Basic	I-15 NB, Between Loop On-Ramp and On-Ramp	1215	3
6	Merge	Merge	I-15 NB, On-Ramp at Main St.	1500	3
7	Basic	Basic	I-15 NB, North of Main St.	16370	3

## Facility Segment Data

### Segment 1: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.92		0.962		8339		7146		1.17		52.9		45.0		F

### Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.971	0.926	7146	1751	7200	2100	1.15	0.83	61.5	57.2	38.7	41.3	F

### Segment 3: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.92		0.980		5395		7146		0.91		65.9		27.3		D

### Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.980	0.862	6165	770	7200	1900	1.01	0.41	58.6	56.0	35.1	33.0	F

### Segment 5: Basic

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.92		0.962		6165		7146		1.03		61.5		33.4		F

### Segment 6: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.962	0.962	6798	633	7200	2100	1.11	0.30	57.0	54.3	39.8	36.0	F

### Segment 7: Basic

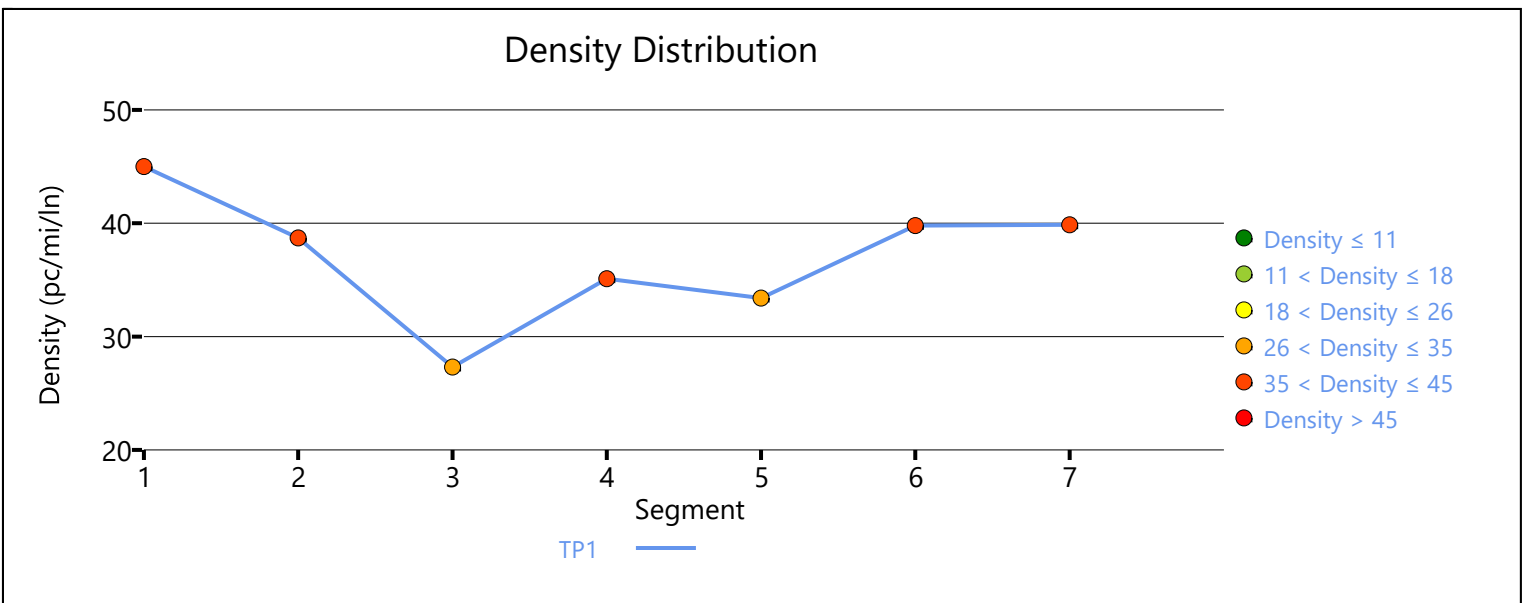
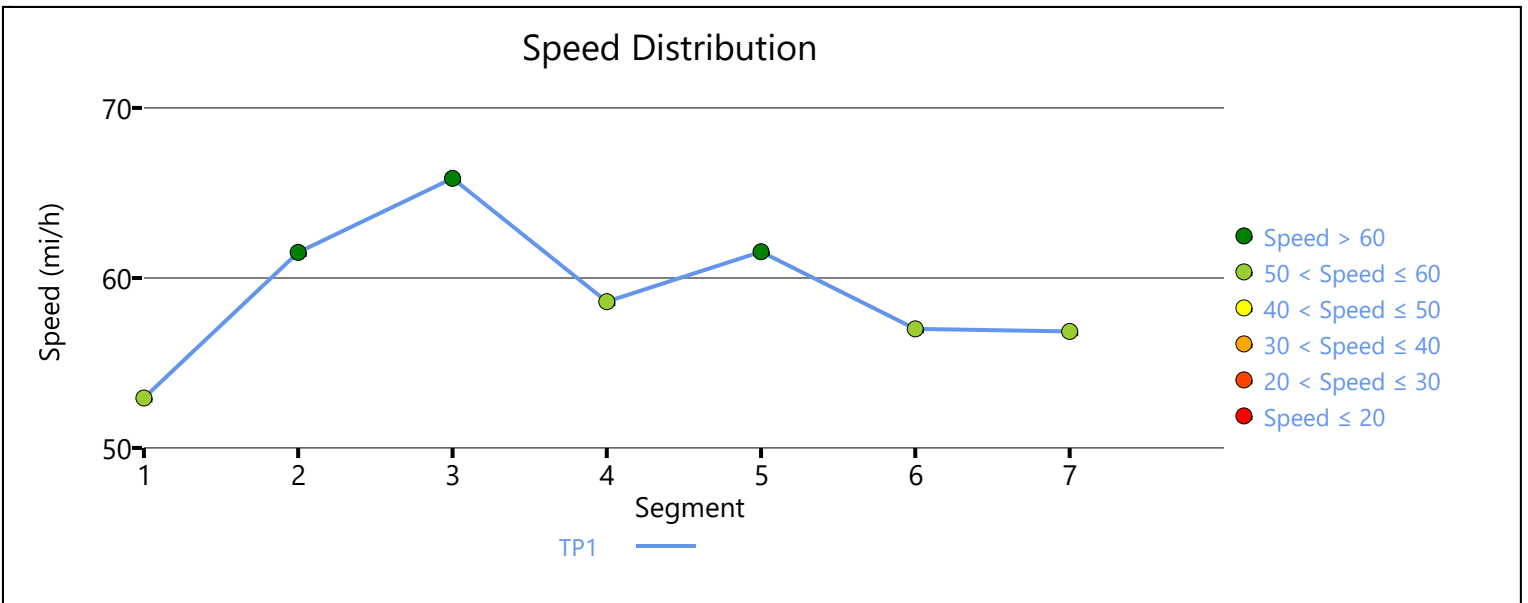
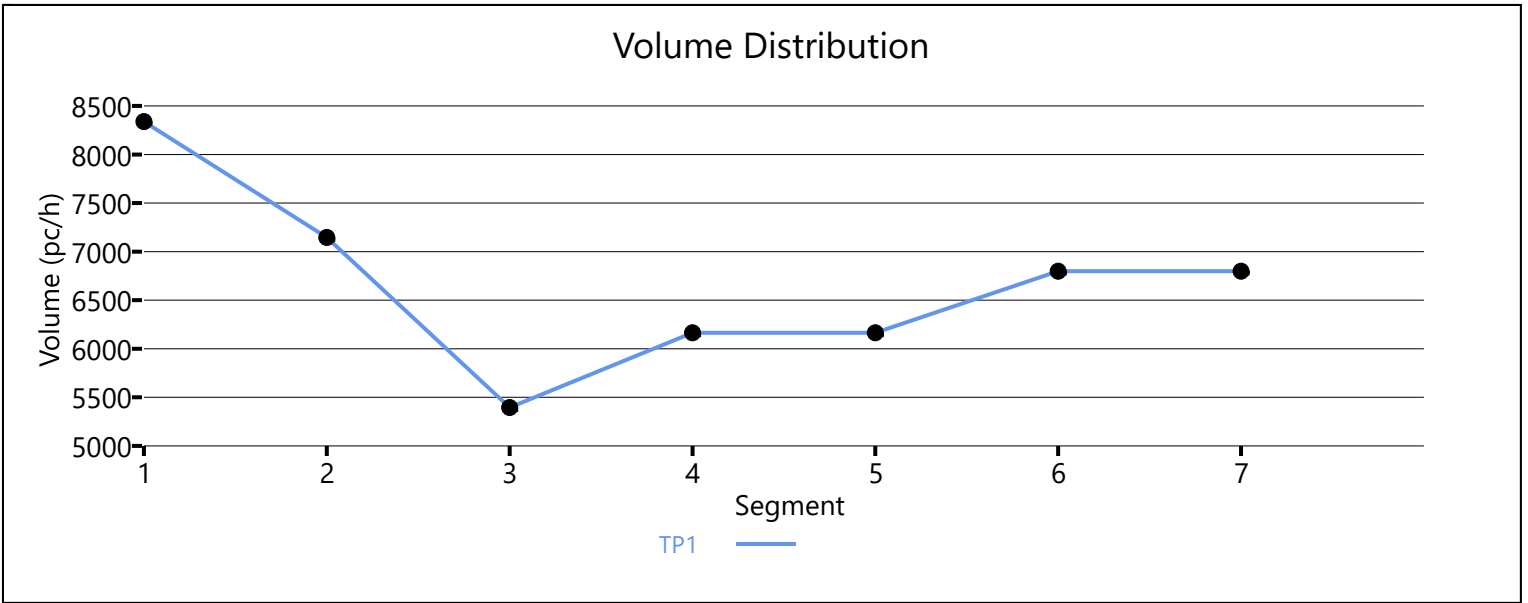
Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.92		0.962		6798		7146		1.12		56.8		39.9		F

### Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	56.9	39.7	38.3	5.9	F

### Facility Overall Results

Space Mean Speed, mi/h	56.9	Density, veh/mi/ln	38.3
Average Travel Time, min	5.9	Density, pc/mi/ln	39.7



**APPENDIX 7.8:**

**HORIZON YEAR (2040) WITHOUT PROJECT CONDITIONS INTERSECTION OPERATIONS  
ANALYSIS WORKSHEETS WITH IMPROVEMENTS**

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Timings  
2: US-395 & Yucca Terrace Dr.



Lane Group	EBL	EBT	NBL	NBT	SBT	Ø1	Ø8
Lane Configurations	↖	↗	↖	↑↑↑	↑↑↑		
Traffic Volume (vph)	19	0	325	1892	2631		
Future Volume (vph)	19	0	325	1892	2631		
Turn Type	Perm	NA	Prot	NA	NA		
Protected Phases		4	5	2	6	1	8
Permitted Phases	4						
Detector Phase	4	4	5	2	6		
Switch Phase							
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	26.6	26.6	9.6	24.5	24.5	9.6	26.6
Total Split (s)	26.6	26.6	31.0	83.8	62.4	9.6	26.6
Total Split (%)	22.2%	22.2%	25.8%	69.8%	52.0%	8%	22%
Yellow Time (s)	3.6	3.6	3.6	5.5	5.5	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	4.6	4.6	4.6	6.5	6.5		
Lead/Lag			Lead	Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	Min	Min	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 106.4  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 2: US-395 & Yucca Terrace Dr.



HCM 6th Signalized Intersection Summary  
 2: US-395 & Yucca Terrace Dr.

Hesperia US Cold Storage (JN 13201)

07/09/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↑↑↑		↖	↑↑↑	
Traffic Volume (veh/h)	19	0	74	0	0	0	325	1892	0	0	2631	111
Future Volume (veh/h)	19	0	74	0	0	0	325	1892	0	0	2631	111
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	21	0	82	0	0	0	361	2102	0	0	2923	123
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	224	0	146	69	172	0	389	4168	0	2	2722	113
Arrive On Green	0.09	0.00	0.09	0.00	0.00	0.00	0.23	0.80	0.00	0.00	0.53	0.53
Sat Flow, veh/h	1714	0	1610	1337	1900	0	1714	5358	0	1714	5108	212
Grp Volume(v), veh/h	21	0	82	0	0	0	361	2102	0	0	1966	1080
Grp Sat Flow(s),veh/h/ln	1714	0	1610	1337	1900	0	1714	1729	0	1714	1729	1862
Q Serve(g_s), s	1.2	0.0	5.1	0.0	0.0	0.0	21.6	14.0	0.0	0.0	55.9	55.9
Cycle Q Clear(g_c), s	1.2	0.0	5.1	0.0	0.0	0.0	21.6	14.0	0.0	0.0	55.9	55.9
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.00	1.00		0.11
Lane Grp Cap(c), veh/h	224	0	146	69	172	0	389	4168	0	2	1843	992
V/C Ratio(X)	0.09	0.00	0.56	0.00	0.00	0.00	0.93	0.50	0.00	0.00	1.07	1.09
Avail Cap(c_a), veh/h	428	0	338	228	398	0	431	4168	0	82	1843	992
HCM 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
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	43.9	0.0	45.7	0.0	0.0	0.0	39.7	3.4	0.0	0.0	24.5	24.5
Incr Delay (d2), s/veh	0.2	0.0	3.4	0.0	0.0	0.0	24.0	0.1	0.0	0.0	41.4	55.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	2.2	0.0	0.0	0.0	11.1	2.1	0.0	0.0	29.6	35.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.1	0.0	49.1	0.0	0.0	0.0	63.7	3.5	0.0	0.0	65.9	80.3
LnGrp LOS	D	A	D	A	A	A	E	A	A	A	F	F
Approach Vol, veh/h		103			0			2463			3046	
Approach Delay, s/veh		48.1			0.0			12.3			71.0	
Approach LOS		D						B			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	90.8		14.1	28.4	62.4		14.1				
Change Period (Y+Rc), s	4.6	6.5		4.6	4.6	6.5		4.6				
Max Green Setting (Gmax), s	5.0	77.3		22.0	26.4	55.9		22.0				
Max Q Clear Time (g_c+1), s	0.0	16.0		7.1	23.6	57.9		0.0				
Green Ext Time (p_c), s	0.0	25.9		0.4	0.2	0.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay	44.8
HCM 6th LOS	D

Timings  
3: US-395 & Phelan Rd./Main St.

Hesperia US Cold Storage (JN 13201)

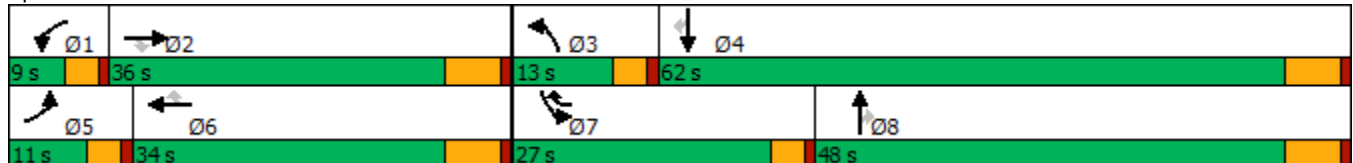
07/09/2020

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	97	1030	218	23	1203	561	237	1558	26	347	2279	80
Future Volume (vph)	97	1030	218	23	1203	561	237	1558	26	347	2279	80
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6	7	3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	7	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.0	16.0	16.0	9.0	16.0	9.0	9.0	16.0	16.0	9.0	16.0	16.0
Total Split (s)	11.0	36.0	36.0	9.0	34.0	27.0	13.0	48.0	48.0	27.0	62.0	62.0
Total Split (%)	9.2%	30.0%	30.0%	7.5%	28.3%	22.5%	10.8%	40.0%	40.0%	22.5%	51.7%	51.7%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (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
Lost Time Adjust (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
Total Lost Time (s)	4.0	6.0	6.0	4.0	6.0	4.0	4.0	6.0	6.0	4.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 110  
 Control Type: Actuated-Uncoordinated



































Splits and Phases: 3: US-395 & Phelan Rd./Main St.



HCM 6th Signalized Intersection Summary  
 3: US-395 & Phelan Rd./Main St.

Hesperia US Cold Storage (JN 13201)

07/09/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  		 	  		 	  	
Traffic Volume (veh/h)	97	1030	218	23	1203	561	237	1558	26	347	2279	80
Future Volume (veh/h)	97	1030	218	23	1203	561	237	1558	26	347	2279	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	101	1073	171	24	1253	376	247	1623	18	361	2374	62
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	106	1394	433	42	1210	573	263	2174	675	430	2421	751
Arrive On Green	0.06	0.27	0.27	0.02	0.23	0.23	0.08	0.42	0.42	0.12	0.47	0.47
Sat Flow, veh/h	1810	5187	1610	1810	5187	1610	3510	5187	1610	3510	5187	1610
Grp Volume(v), veh/h	101	1073	171	24	1253	376	247	1623	18	361	2374	62
Grp Sat Flow(s),veh/h/ln	1810	1729	1610	1810	1729	1610	1755	1729	1610	1755	1729	1610
Q Serve(g_s), s	6.7	22.9	10.4	1.6	28.0	23.6	8.4	31.7	0.8	12.1	54.0	2.6
Cycle Q Clear(g_c), s	6.7	22.9	10.4	1.6	28.0	23.6	8.4	31.7	0.8	12.1	54.0	2.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	106	1394	433	42	1210	573	263	2174	675	430	2421	751
V/C Ratio(X)	0.96	0.77	0.40	0.58	1.04	0.66	0.94	0.75	0.03	0.84	0.98	0.08
Avail Cap(c_a), veh/h	106	1394	433	75	1210	573	263	2174	675	673	2421	751
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.3	40.5	35.9	58.0	46.0	32.5	55.2	29.5	20.5	51.5	31.5	17.8
Incr Delay (d2), s/veh	73.4	2.7	0.6	9.1	35.4	2.7	38.8	1.5	0.0	4.6	14.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	9.5	4.0	0.8	15.3	9.0	5.0	12.4	0.3	5.4	23.2	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	129.7	43.1	36.5	67.1	81.4	35.2	94.0	31.0	20.5	56.1	45.5	17.8
LnGrp LOS	F	D	D	E	F	D	F	C	C	E	D	B
Approach Vol, veh/h		1345			1653			1888			2797	
Approach Delay, s/veh		48.8			70.7			39.1			46.3	
Approach LOS		D			E			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.8	38.2	13.0	62.0	11.0	34.0	18.7	56.3				
Change Period (Y+Rc), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0				
Max Green Setting (Gmax), s	5.0	30.0	9.0	56.0	7.0	28.0	23.0	42.0				
Max Q Clear Time (g_c+I1), s	3.6	24.9	10.4	56.0	8.7	30.0	14.1	33.7				
Green Ext Time (p_c), s	0.0	3.0	0.0	0.0	0.0	0.0	0.6	6.2				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			50.2									
HCM 6th LOS			D									

Timings  
2: US-395 & Yucca Terrace Dr.

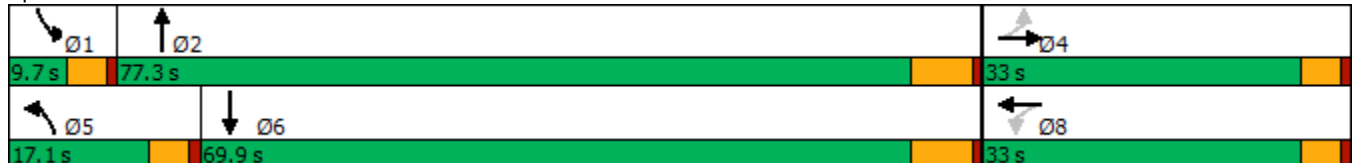


Lane Group	EBL	EBT	NBL	NBT	SBT	Ø1	Ø8
Lane Configurations	↶	↷	↶	↑↑↑	↑↑↑		
Traffic Volume (vph)	111	0	74	2778	1929		
Future Volume (vph)	111	0	74	2778	1929		
Turn Type	Perm	NA	Prot	NA	NA		
Protected Phases		4	5	2	6	1	8
Permitted Phases	4						
Detector Phase	4	4	5	2	6		
Switch Phase							
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	26.6	26.6	9.6	24.5	24.5	9.6	26.6
Total Split (s)	33.0	33.0	17.1	77.3	69.9	9.7	33.0
Total Split (%)	27.5%	27.5%	14.3%	64.4%	58.3%	8%	28%
Yellow Time (s)	3.6	3.6	3.6	5.5	5.5	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	4.6	4.6	4.6	6.5	6.5		
Lead/Lag			Lead	Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	Min	Min	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 110.9  
 Natural Cycle: 90  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 2: US-395 & Yucca Terrace Dr.



HCM 6th Signalized Intersection Summary  
 2: US-395 & Yucca Terrace Dr.

Hesperia US Cold Storage (JN 13201)

07/09/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↑↑↑		↖	↑↑↑	
Traffic Volume (veh/h)	111	0	415	0	0	0	74	2778	0	0	1929	29
Future Volume (veh/h)	111	0	415	0	0	0	74	2778	0	0	1929	29
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	116	0	432	0	0	0	77	2894	0	0	2009	30
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	516	0	422	66	498	0	97	3296	0	2	2823	42
Arrive On Green	0.26	0.00	0.26	0.00	0.00	0.00	0.06	0.64	0.00	0.00	0.54	0.54
Sat Flow, veh/h	1714	0	1610	971	1900	0	1714	5358	0	1714	5265	79
Grp Volume(v), veh/h	116	0	432	0	0	0	77	2894	0	0	1319	720
Grp Sat Flow(s),veh/h/ln	1714	0	1610	971	1900	0	1714	1729	0	1714	1729	1886
Q Serve(g_s), s	5.8	0.0	28.4	0.0	0.0	0.0	4.8	49.9	0.0	0.0	31.0	31.0
Cycle Q Clear(g_c), s	5.8	0.0	28.4	0.0	0.0	0.0	4.8	49.9	0.0	0.0	31.0	31.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.00	1.00		0.04
Lane Grp Cap(c), veh/h	516	0	422	66	498	0	97	3296	0	2	1854	1011
V/C Ratio(X)	0.22	0.00	1.02	0.00	0.00	0.00	0.79	0.88	0.00	0.00	0.71	0.71
Avail Cap(c_a), veh/h	516	0	422	66	498	0	198	3389	0	81	2023	1103
HCM 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
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	31.7	0.0	40.0	0.0	0.0	0.0	50.5	16.3	0.0	0.0	18.8	18.9
Incr Delay (d2), s/veh	0.2	0.0	50.0	0.0	0.0	0.0	5.3	2.9	0.0	0.0	1.1	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	17.0	0.0	0.0	0.0	2.1	16.0	0.0	0.0	10.9	12.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.9	0.0	90.0	0.0	0.0	0.0	55.7	19.2	0.0	0.0	19.9	20.8
LnGrp LOS	C	A	F	A	A	A	E	B	A	A	B	C
Approach Vol, veh/h		548			0			2971			2039	
Approach Delay, s/veh		77.7			0.0			20.1			20.2	
Approach LOS		E						C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	75.4		33.0	10.8	64.6		33.0				
Change Period (Y+Rc), s	4.6	6.5		4.6	4.6	6.5		4.6				
Max Green Setting (Gmax), s	5.1	70.8		28.4	12.5	63.4		28.4				
Max Q Clear Time (g_c+1), s	0.0	51.9		30.4	6.8	33.0		0.0				
Green Ext Time (p_c), s	0.0	17.0		0.0	0.0	16.6		0.0				

Intersection Summary

HCM 6th Ctrl Delay	25.8
HCM 6th LOS	C

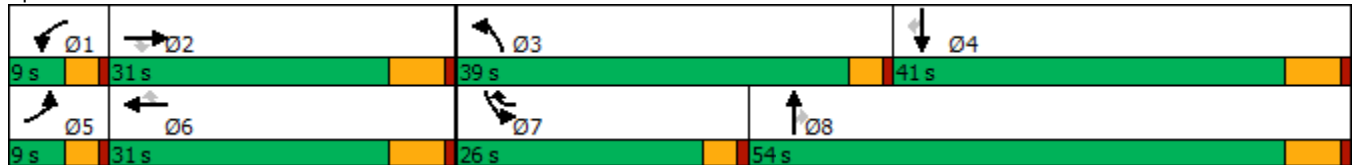
Timings  
3: US-395 & Phelan Rd./Main St.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	96	1399	210	27	1077	372	296	2382	423	621	1621	102
Future Volume (vph)	96	1399	210	27	1077	372	296	2382	423	621	1621	102
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6	7	3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	7	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.0	16.0	16.0	9.0	16.0	9.0	9.0	16.0	16.0	9.0	16.0	16.0
Total Split (s)	9.0	31.0	31.0	9.0	31.0	26.0	39.0	54.0	54.0	26.0	41.0	41.0
Total Split (%)	7.5%	25.8%	25.8%	7.5%	25.8%	21.7%	32.5%	45.0%	45.0%	21.7%	34.2%	34.2%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (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
Lost Time Adjust (s)	0.0	-2.0	0.0	0.0	-2.0	0.0	0.0	-2.0	0.0	-0.5	-2.0	0.0
Total Lost Time (s)	4.0	4.0	6.0	4.0	4.0	4.0	4.0	4.0	6.0	3.5	4.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 119.8  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 3: US-395 & Phelan Rd./Main St.



HCM 6th Signalized Intersection Summary  
 3: US-395 & Phelan Rd./Main St.

Hesperia US Cold Storage (JN 13201)

07/09/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	1399	210	27	1077	372	296	2382	423	621	1621	102
Future Volume (veh/h)	96	1399	210	27	1077	372	296	2382	423	621	1621	102
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	101	1473	221	28	1134	392	312	2507	392	654	1706	81
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	75	1376	357	46	1282	631	385	2375	644	679	2814	768
Arrive On Green	0.06	0.36	0.34	0.04	0.34	0.31	0.16	0.63	0.60	0.28	0.74	0.72
Sat Flow, veh/h	1810	5700	1589	1810	5700	1610	3619	5700	1610	3619	5700	1610
Grp Volume(v), veh/h	101	1473	221	28	1134	392	312	2507	392	654	1706	81
Grp Sat Flow(s),veh/h/ln	1810	1900	1589	1810	1900	1610	1810	1900	1610	1810	1900	1610
Q Serve(g_s), s	5.0	29.0	14.0	1.8	22.5	24.3	10.0	50.0	18.4	21.4	16.9	1.9
Cycle Q Clear(g_c), s	5.0	29.0	14.0	1.8	22.5	24.3	10.0	50.0	18.4	21.4	16.9	1.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	75	1376	357	46	1283	631	385	2375	644	679	2814	768
V/C Ratio(X)	1.34	1.07	0.62	0.61	0.88	0.62	0.81	1.06	0.61	0.96	0.61	0.11
Avail Cap(c_a), veh/h	75	1376	357	75	1283	631	1056	2375	644	679	2814	768
HCM Platoon Ratio	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.2	38.3	35.5	57.1	38.3	25.7	49.3	22.5	18.1	42.7	10.1	9.2
Incr Delay (d2), s/veh	218.6	45.6	3.2	9.4	7.6	1.9	3.1	35.2	1.8	25.7	0.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.7	16.8	5.0	0.9	9.6	7.5	4.3	21.5	5.3	10.5	4.5	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	274.9	83.9	38.7	66.6	45.9	27.6	52.4	57.7	19.9	68.4	10.5	9.3
LnGrp LOS	F	F	D	E	D	C	D	F	B	E	B	A
Approach Vol, veh/h		1795			1554			3211			2441	
Approach Delay, s/veh		89.0			41.7			52.6			26.0	
Approach LOS		F			D			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.0	33.0	16.8	63.2	9.0	31.0	26.0	54.0				
Change Period (Y+Rc), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0				
Max Green Setting (Gmax), s	5.0	25.0	35.0	35.0	5.0	25.0	22.0	48.0				
Max Q Clear Time (g_c+I1), s	3.8	31.0	12.0	18.9	7.0	26.3	23.4	52.0				
Green Ext Time (p_c), s	0.0	0.0	0.8	11.4	0.0	0.0	0.0	0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			50.8									
HCM 6th LOS			D									



**APPENDIX 7.9:**

**HORIZON YEAR (2040) WITH PROJECT CONDITIONS INTERSECTION OPERATIONS  
ANALYSIS WORKSHEETS WITH IMPROVEMENTS**

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Timings  
1: US-395 & Avenal St.



Lane Group	WBL	NBT	SBL	SBT
Lane Configurations	↘	↑↑↑	↘	↑↑↑
Traffic Volume (vph)	26	1911	3	2747
Future Volume (vph)	26	1911	3	2747
Turn Type	Prot	NA	Prot	NA
Protected Phases	8	2	1	6
Permitted Phases				
Detector Phase	8	2	1	6
Switch Phase				
Minimum Initial (s)	10.0	10.0	5.0	10.0
Minimum Split (s)	26.6	28.5	9.6	24.5
Total Split (s)	27.0	81.0	12.0	93.0
Total Split (%)	22.5%	67.5%	10.0%	77.5%
Yellow Time (s)	3.6	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.5
Lead/Lag		Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	
Recall Mode	None	Min	None	Min
Act Effct Green (s)	12.7	86.2	5.4	87.9
Actuated g/C Ratio	0.13	0.86	0.05	0.87
v/c Ratio	0.14	0.47	0.03	0.66
Control Delay	44.8	5.1	56.0	5.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	44.8	5.1	56.0	5.6
LOS	D	A	E	A
Approach Delay	44.8	5.1		5.7
Approach LOS	D	A		A

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 100.5  
 Natural Cycle: 80  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.66  
 Intersection Signal Delay: 5.7  
 Intersection LOS: A  
 Intersection Capacity Utilization 70.7%  
 ICU Level of Service C  
 Analysis Period (min) 15

Splits and Phases: 1: US-395 & Avenal St.



HCM 6th Signalized Intersection Summary  
 1: US-395 & Avenal St.

Hesperia US Cold Storage (JN 13201)  
 01/18/2021



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↑↑↑		↔	↑↑↑
Traffic Volume (veh/h)	26	2	1911	29	3	2747
Future Volume (veh/h)	26	2	1911	29	3	2747
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1800	1900	1900	1900	1800	1900
Adj Flow Rate, veh/h	28	2	2077	32	3	2986
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	93	7	3994	61	7	4227
Arrive On Green	0.06	0.06	0.76	0.76	0.00	0.81
Sat Flow, veh/h	1538	110	5433	81	1714	5358
Grp Volume(v), veh/h	31	0	1364	745	3	2986
Grp Sat Flow(s),veh/h/ln	1703	0	1729	1885	1714	1729
Q Serve(g_s), s	1.5	0.0	13.9	14.0	0.2	22.3
Cycle Q Clear(g_c), s	1.5	0.0	13.9	14.0	0.2	22.3
Prop In Lane	0.90	0.06		0.04	1.00	
Lane Grp Cap(c), veh/h	103	0	2625	1431	7	4227
V/C Ratio(X)	0.30	0.00	0.52	0.52	0.44	0.71
Avail Cap(c_a), veh/h	430	0	2901	1582	143	5052
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.9	0.0	4.3	4.3	44.1	3.6
Incr Delay (d2), s/veh	1.6	0.0	0.2	0.3	15.3	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	2.3	2.5	0.1	1.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	41.6	0.0	4.4	4.6	59.4	4.0
LnGrp LOS	D	A	A	A	E	A
Approach Vol, veh/h	31		2109			2989
Approach Delay, s/veh	41.6		4.5			4.0
Approach LOS	D		A			A
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	5.0	73.9			78.9	9.9
Change Period (Y+Rc), s	4.6	6.5			6.5	4.6
Max Green Setting (Gmax), s	7.4	74.5			86.5	22.4
Max Q Clear Time (g_c+I1), s	2.2	16.0			24.3	3.5
Green Ext Time (p_c), s	0.0	23.4			48.1	0.0

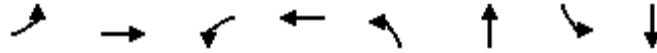
Intersection Summary

HCM 6th Ctrl Delay	4.4
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

Timings  
2: US-395 & Yucca Terrace Dr.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↘	↗	↘	↗	↘	↑↑↑	↘	↑↑↑
Traffic Volume (vph)	19	0	9	0	325	1920	6	2656
Future Volume (vph)	19	0	9	0	325	1920	6	2656
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	26.6	26.6	26.6	26.6	9.6	24.5	9.6	24.5
Total Split (s)	26.6	26.6	26.6	26.6	31.0	83.8	9.6	62.4
Total Split (%)	22.2%	22.2%	22.2%	22.2%	25.8%	69.8%	8.0%	52.0%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	6.5	4.6	6.5
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	12.2	12.2	12.2	12.2	25.4	86.4	5.0	56.5
Actuated g/C Ratio	0.11	0.11	0.11	0.11	0.24	0.81	0.05	0.53
v/c Ratio	0.13	0.18	0.07	0.00	0.88	0.53	0.09	1.12
Control Delay	45.4	0.9	44.0	0.0	64.5	6.1	55.0	86.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.4	0.9	44.0	0.0	64.5	6.1	55.0	86.8
LOS	D	A	D	A	E	A	D	F
Approach Delay		9.9		40.0		14.3		86.8
Approach LOS		A		D		B		F

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 106.4	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.12	
Intersection Signal Delay: 52.9	Intersection LOS: D
Intersection Capacity Utilization 94.2%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 2: US-395 & Yucca Terrace Dr.



HCM 6th Signalized Intersection Summary  
 2: US-395 & Yucca Terrace Dr.

Hesperia US Cold Storage (JN 13201)  
 01/18/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↑↑↑		↖	↑↑↑	
Traffic Volume (veh/h)	19	0	74	9	0	1	325	1920	81	6	2656	111
Future Volume (veh/h)	19	0	74	9	0	1	325	1920	81	6	2656	111
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	21	0	82	10	0	1	361	2133	90	7	2951	123
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	200	0	148	126	0	148	389	3829	161	15	2718	112
Arrive On Green	0.09	0.00	0.09	0.09	0.00	0.09	0.23	0.75	0.75	0.01	0.53	0.53
Sat Flow, veh/h	1439	0	1610	1337	0	1610	1714	5105	215	1714	5110	210
Grp Volume(v), veh/h	21	0	82	10	0	1	361	1442	781	7	1984	1090
Grp Sat Flow(s),veh/h/ln	1439	0	1610	1337	0	1610	1714	1729	1861	1714	1729	1862
Q Serve(g_s), s	1.4	0.0	5.1	0.8	0.0	0.1	21.7	18.8	19.0	0.4	55.9	55.9
Cycle Q Clear(g_c), s	1.5	0.0	5.1	5.9	0.0	0.1	21.7	18.8	19.0	0.4	55.9	55.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.12	1.00		0.11
Lane Grp Cap(c), veh/h	200	0	148	126	0	148	389	2594	1396	15	1840	991
V/C Ratio(X)	0.11	0.00	0.56	0.08	0.00	0.01	0.93	0.56	0.56	0.46	1.08	1.10
Avail Cap(c_a), veh/h	369	0	337	283	0	337	431	2594	1396	82	1840	991
HCM 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
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.0	0.0	45.7	48.5	0.0	43.4	39.8	5.6	5.7	51.8	24.6	24.6
Incr Delay (d2), s/veh	0.2	0.0	3.2	0.3	0.0	0.0	24.1	0.3	0.5	8.0	45.7	60.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	2.2	0.3	0.0	0.0	11.1	4.2	4.6	0.2	30.6	37.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.3	0.0	48.9	48.7	0.0	43.4	63.9	5.9	6.2	59.9	70.3	84.7
LnGrp LOS	D	A	D	D	A	D	E	A	A	E	F	F
Approach Vol, veh/h		103			11			2584			3081	
Approach Delay, s/veh		48.0			48.3			14.1			75.4	
Approach LOS		D			D			B			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.5	85.3		14.2	28.4	62.4		14.2				
Change Period (Y+Rc), s	4.6	6.5		4.6	4.6	6.5		4.6				
Max Green Setting (Gmax), s	5.0	77.3		22.0	26.4	55.9		22.0				
Max Q Clear Time (g_c+I1), s	2.4	21.0		7.1	23.7	57.9		7.9				
Green Ext Time (p_c), s	0.0	25.7		0.4	0.2	0.0		0.0				

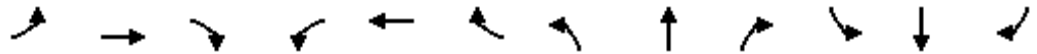
Intersection Summary

HCM 6th Ctrl Delay	47.4
HCM 6th LOS	D

Timings

3: US-395 & Phelan Rd./Main St.

07/09/2020

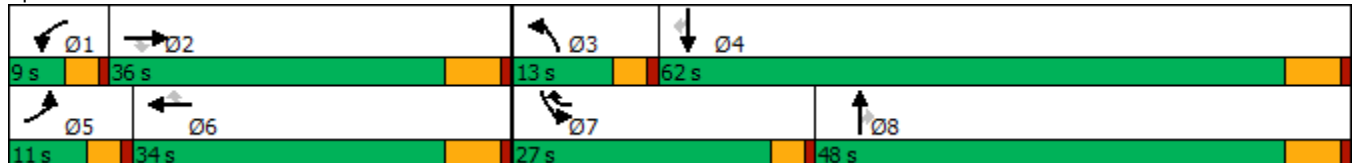


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↗	↘↗	↑↑↑	↗	↘↗	↑↑↑	↗
Traffic Volume (vph)	103	1030	218	23	1203	651	237	1571	26	375	2283	82
Future Volume (vph)	103	1030	218	23	1203	651	237	1571	26	375	2283	82
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6	7	3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	7	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.0	16.0	16.0	9.0	16.0	9.0	9.0	16.0	16.0	9.0	16.0	16.0
Total Split (s)	11.0	36.0	36.0	9.0	34.0	27.0	13.0	48.0	48.0	27.0	62.0	62.0
Total Split (%)	9.2%	30.0%	30.0%	7.5%	28.3%	22.5%	10.8%	40.0%	40.0%	22.5%	51.7%	51.7%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (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
Lost Time Adjust (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
Total Lost Time (s)	4.0	6.0	6.0	4.0	6.0	4.0	4.0	6.0	6.0	4.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 3: US-395 & Phelan Rd./Main St.



HCM 6th Signalized Intersection Summary  
 3: US-395 & Phelan Rd./Main St.

Hesperia US Cold Storage (JN 13201)

07/09/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↗	↘↗	↑↑↑	↗	↘↗	↑↑↑	↗
Traffic Volume (veh/h)	103	1030	218	23	1203	651	237	1571	26	375	2283	82
Future Volume (veh/h)	103	1030	218	23	1203	651	237	1571	26	375	2283	82
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	107	1073	171	24	1253	470	247	1636	18	391	2378	64
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	106	1394	433	42	1210	587	263	2130	661	460	2421	751
Arrive On Green	0.06	0.27	0.27	0.02	0.23	0.23	0.08	0.41	0.41	0.13	0.47	0.47
Sat Flow, veh/h	1810	5187	1610	1810	5187	1610	3510	5187	1610	3510	5187	1610
Grp Volume(v), veh/h	107	1073	171	24	1253	470	247	1636	18	391	2378	64
Grp Sat Flow(s),veh/h/ln	1810	1729	1610	1810	1729	1610	1755	1729	1610	1755	1729	1610
Q Serve(g_s), s	7.0	22.9	10.4	1.6	28.0	28.0	8.4	32.6	0.8	13.1	54.2	2.6
Cycle Q Clear(g_c), s	7.0	22.9	10.4	1.6	28.0	28.0	8.4	32.6	0.8	13.1	54.2	2.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	106	1394	433	42	1210	587	263	2130	661	460	2421	751
V/C Ratio(X)	1.01	0.77	0.40	0.58	1.04	0.80	0.94	0.77	0.03	0.85	0.98	0.09
Avail Cap(c_a), veh/h	106	1394	433	75	1210	587	263	2130	661	673	2421	751
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.5	40.5	35.9	58.0	46.0	34.2	55.2	30.4	21.1	51.0	31.5	17.8
Incr Delay (d2), s/veh	91.3	2.7	0.6	9.1	35.4	7.8	38.8	1.8	0.0	6.0	14.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.7	9.5	4.0	0.8	15.3	12.7	5.0	12.8	0.3	5.9	23.3	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	147.8	43.1	36.5	67.1	81.4	42.1	94.0	32.2	21.1	57.0	45.9	17.8
LnGrp LOS	F	D	D	E	F	D	F	C	C	E	D	B
Approach Vol, veh/h		1351			1747			1901			2833	
Approach Delay, s/veh		50.6			70.6			40.2			46.8	
Approach LOS		D			E			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.8	38.2	13.0	62.0	11.0	34.0	19.7	55.3				
Change Period (Y+Rc), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0				
Max Green Setting (Gmax), s	5.0	30.0	9.0	56.0	7.0	28.0	23.0	42.0				
Max Q Clear Time (g_c+I1), s	3.6	24.9	10.4	56.2	9.0	30.0	15.1	34.6				
Green Ext Time (p_c), s	0.0	3.0	0.0	0.0	0.0	0.0	0.6	5.7				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			51.2									
HCM 6th LOS			D									



Timings  
1: US-395 & Avenal St.



Lane Group	WBL	NBT	SBL	SBT
Lane Configurations	↙	↑↑↑	↘	↑↑↑
Traffic Volume (vph)	79	2891	1	1957
Future Volume (vph)	79	2891	1	1957
Turn Type	Prot	NA	Prot	NA
Protected Phases	3	2	1	6
Permitted Phases				
Detector Phase	3	2	1	6
Switch Phase				
Minimum Initial (s)	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	24.5	9.6	24.5
Total Split (s)	17.8	92.4	9.8	102.2
Total Split (%)	14.8%	77.0%	8.2%	85.2%
Yellow Time (s)	3.6	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.5
Lead/Lag		Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	
Recall Mode	None	Min	None	Min
Act Effct Green (s)	10.8	90.5	5.0	92.3
Actuated g/C Ratio	0.09	0.79	0.04	0.81
v/c Ratio	0.57	0.77	0.01	0.51
Control Delay	62.7	8.9	55.0	4.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	62.7	8.9	55.0	4.2
LOS	E	A	D	A
Approach Delay	62.7	8.9		4.2
Approach LOS	E	A		A

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 114.3  
 Natural Cycle: 80  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.77  
 Intersection Signal Delay: 8.0  
 Intersection LOS: A  
 Intersection Capacity Utilization 70.4%  
 ICU Level of Service C  
 Analysis Period (min) 15

Splits and Phases: 1: US-395 & Avenal St.



HCM 6th Signalized Intersection Summary  
 1: US-395 & Avenal St.

Hesperia US Cold Storage (JN 13201)

01/18/2021



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↑↑↑		↔	↑↑↑
Traffic Volume (veh/h)	79	6	2891	12	1	1957
Future Volume (veh/h)	79	6	2891	12	1	1957
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1800	1900	1900	1900	1800	1900
Adj Flow Rate, veh/h	86	7	3142	13	1	2127
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	109	9	4108	17	2	4244
Arrive On Green	0.07	0.07	0.77	0.77	0.00	0.82
Sat Flow, veh/h	1555	127	5503	22	1714	5358
Grp Volume(v), veh/h	94	0	2036	1119	1	2127
Grp Sat Flow(s),veh/h/ln	1699	0	1729	1896	1714	1729
Q Serve(g_s), s	5.4	0.0	32.6	32.8	0.1	12.5
Cycle Q Clear(g_c), s	5.4	0.0	32.6	32.8	0.1	12.5
Prop In Lane	0.91	0.07		0.01	1.00	
Lane Grp Cap(c), veh/h	119	0	2664	1461	2	4244
V/C Ratio(X)	0.79	0.00	0.76	0.77	0.43	0.50
Avail Cap(c_a), veh/h	226	0	2995	1642	90	5004
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.4	0.0	6.4	6.4	49.5	2.8
Incr Delay (d2), s/veh	11.1	0.0	1.1	2.0	39.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.0	6.2	7.1	0.0	1.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	56.6	0.0	7.4	8.4	89.0	2.9
LnGrp LOS	E	A	A	A	F	A
Approach Vol, veh/h	94		3155			2128
Approach Delay, s/veh	56.6		7.8			2.9
Approach LOS	E		A			A
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	4.7	82.9			87.7	11.5
Change Period (Y+Rc), s	4.6	6.5			6.5	4.6
Max Green Setting (Gmax), s	5.2	85.9			95.7	13.2
Max Q Clear Time (g_c+I1), s	2.1	34.8			14.5	7.4
Green Ext Time (p_c), s	0.0	41.7			28.8	0.1

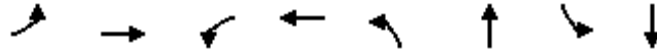
Intersection Summary

HCM 6th Ctrl Delay	6.7
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

Timings  
2: US-395 & Yucca Terrace Dr.

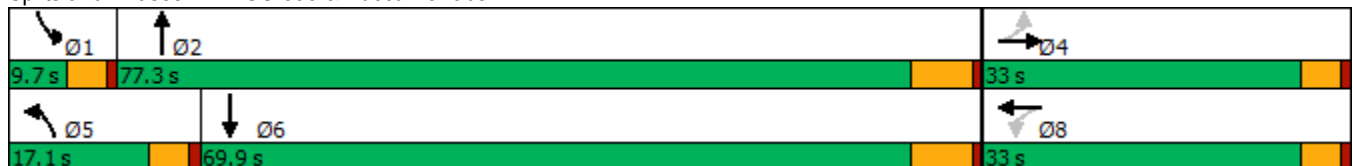


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↘	↗	↘	↗	↘	↑↑↑	↘	↑↑↑
Traffic Volume (vph)	111	0	31	0	74	2789	2	2005
Future Volume (vph)	111	0	31	0	74	2789	2	2005
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	26.6	26.6	26.6	26.6	9.6	24.5	9.6	24.5
Total Split (s)	33.0	33.0	33.0	33.0	17.1	77.3	9.7	69.9
Total Split (%)	27.5%	27.5%	27.5%	27.5%	14.3%	64.4%	8.1%	58.3%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	6.5	4.6	6.5
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	26.2	26.2	26.2	26.2	9.2	73.3	5.0	63.5
Actuated g/C Ratio	0.23	0.23	0.23	0.23	0.08	0.65	0.04	0.56
v/c Ratio	0.37	0.92	0.50	0.01	0.55	0.87	0.03	0.72
Control Delay	40.7	55.8	67.9	0.0	66.0	20.3	55.5	21.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.7	55.8	67.9	0.0	66.0	20.3	55.5	21.3
LOS	D	E	E	A	E	C	E	C
Approach Delay		52.6		62.1		21.5		21.3
Approach LOS		D		E		C		C

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 112.4	
Natural Cycle: 100	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.92	
Intersection Signal Delay: 24.7	Intersection LOS: C
Intersection Capacity Utilization 99.0%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 2: US-395 & Yucca Terrace Dr.



HCM 6th Signalized Intersection Summary  
2: US-395 & Yucca Terrace Dr.

Hesperia US Cold Storage (JN 13201)  
01/18/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↑↑↑		↖	↑↑↑	
Traffic Volume (veh/h)	111	0	415	31	0	3	74	2789	28	2	2005	29
Future Volume (veh/h)	111	0	415	31	0	3	74	2789	28	2	2005	29
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	116	0	432	32	0	3	77	2905	29	2	2089	30
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	420	0	402	63	0	402	97	3230	32	5	2929	42
Arrive On Green	0.25	0.00	0.25	0.25	0.00	0.25	0.06	0.61	0.61	0.00	0.56	0.56
Sat Flow, veh/h	1436	0	1610	971	0	1610	1714	5296	53	1714	5269	76
Grp Volume(v), veh/h	116	0	432	32	0	3	77	1894	1040	2	1370	749
Grp Sat Flow(s),veh/h/ln	1436	0	1610	971	0	1610	1714	1729	1891	1714	1729	1886
Q Serve(g_s), s	7.5	0.0	28.4	0.0	0.0	0.2	5.1	53.7	54.3	0.1	33.2	33.3
Cycle Q Clear(g_c), s	7.7	0.0	28.4	28.4	0.0	0.2	5.1	53.7	54.3	0.1	33.2	33.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.03	1.00		0.04
Lane Grp Cap(c), veh/h	420	0	402	63	0	402	97	2109	1153	5	1922	1049
V/C Ratio(X)	0.28	0.00	1.08	0.51	0.00	0.01	0.79	0.90	0.90	0.43	0.71	0.71
Avail Cap(c_a), veh/h	420	0	402	63	0	402	188	2151	1176	77	1926	1051
HCM 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
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.0	0.0	42.7	56.9	0.0	32.1	53.0	19.1	19.3	56.7	18.6	18.6
Incr Delay (d2), s/veh	0.4	0.0	66.5	6.4	0.0	0.0	5.3	5.4	9.7	22.0	1.3	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.0	18.7	1.0	0.0	0.1	2.2	19.1	22.4	0.1	11.7	13.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.4	0.0	109.3	63.3	0.0	32.1	58.4	24.6	28.9	78.7	19.9	20.9
LnGrp LOS	D	A	F	E	A	C	E	C	C	E	B	C
Approach Vol, veh/h		548			35			3011			2121	
Approach Delay, s/veh		93.6			60.6			27.0			20.3	
Approach LOS		F			E			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.9	75.9		33.0	11.1	69.8		33.0				
Change Period (Y+Rc), s	4.6	6.5		4.6	4.6	6.5		4.6				
Max Green Setting (Gmax), s	5.1	70.8		28.4	12.5	63.4		28.4				
Max Q Clear Time (g_c+I1), s	2.1	56.3		30.4	7.1	35.3		30.4				
Green Ext Time (p_c), s	0.0	13.1		0.0	0.0	16.8		0.0				

Intersection Summary

HCM 6th Ctrl Delay	31.1
HCM 6th LOS	C

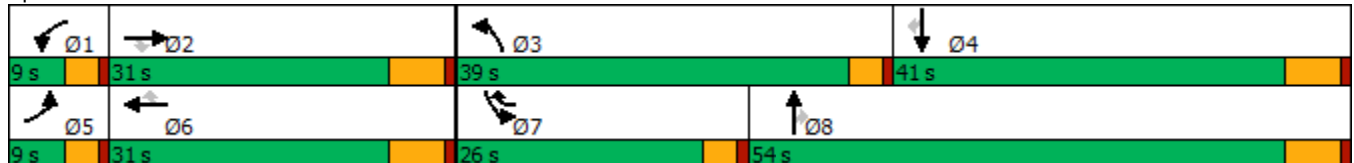
Timings  
3: US-395 & Phelan Rd./Main St.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	99	1399	210	27	1077	404	296	2387	423	707	1635	109
Future Volume (vph)	99	1399	210	27	1077	404	296	2387	423	707	1635	109
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6	7	3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	7	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.0	16.0	16.0	9.0	16.0	9.0	9.0	16.0	16.0	9.0	16.0	16.0
Total Split (s)	9.0	31.0	31.0	9.0	31.0	26.0	39.0	54.0	54.0	26.0	41.0	41.0
Total Split (%)	7.5%	25.8%	25.8%	7.5%	25.8%	21.7%	32.5%	45.0%	45.0%	21.7%	34.2%	34.2%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (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
Lost Time Adjust (s)	0.0	-2.0	0.0	0.0	-2.0	0.0	0.0	-2.0	0.0	-0.5	-2.0	0.0
Total Lost Time (s)	4.0	4.0	6.0	4.0	4.0	4.0	4.0	4.0	6.0	3.5	4.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated



































Splits and Phases: 3: US-395 & Phelan Rd./Main St.



HCM 6th Signalized Intersection Summary  
 3: US-395 & Phelan Rd./Main St.

Hesperia US Cold Storage (JN 13201)

07/09/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  		 	  		 	  	
Traffic Volume (veh/h)	99	1399	210	27	1077	404	296	2387	423	707	1635	109
Future Volume (veh/h)	99	1399	210	27	1077	404	296	2387	423	707	1635	109
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	104	1473	221	28	1134	425	312	2513	392	744	1721	89
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	75	1376	357	46	1282	631	385	2375	644	679	2814	768
Arrive On Green	0.06	0.36	0.34	0.04	0.34	0.31	0.16	0.63	0.60	0.28	0.74	0.72
Sat Flow, veh/h	1810	5700	1589	1810	5700	1610	3619	5700	1610	3619	5700	1610
Grp Volume(v), veh/h	104	1473	221	28	1134	425	312	2513	392	744	1721	89
Grp Sat Flow(s),veh/h/ln	1810	1900	1589	1810	1900	1610	1810	1900	1610	1810	1900	1610
Q Serve(g_s), s	5.0	29.0	14.0	1.8	22.5	25.0	10.0	50.0	18.4	22.5	17.2	2.1
Cycle Q Clear(g_c), s	5.0	29.0	14.0	1.8	22.5	25.0	10.0	50.0	18.4	22.5	17.2	2.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	75	1376	357	46	1283	631	385	2375	644	679	2814	768
V/C Ratio(X)	1.38	1.07	0.62	0.61	0.88	0.67	0.81	1.06	0.61	1.10	0.61	0.12
Avail Cap(c_a), veh/h	75	1376	357	75	1283	631	1056	2375	644	679	2814	768
HCM Platoon Ratio	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.2	38.3	35.5	57.1	38.3	26.6	49.3	22.5	18.1	43.1	10.1	9.2
Incr Delay (d2), s/veh	234.0	45.6	3.2	9.4	7.6	2.8	3.1	36.1	1.8	63.9	0.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.0	16.8	5.0	0.9	9.6	8.7	4.3	21.7	5.3	14.5	4.6	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	290.3	83.9	38.7	66.6	45.9	29.4	52.4	58.6	19.9	107.0	10.5	9.3
LnGrp LOS	F	F	D	E	D	C	D	F	B	F	B	A
Approach Vol, veh/h		1798			1587			3217			2554	
Approach Delay, s/veh		90.2			41.9			53.3			38.6	
Approach LOS		F			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.0	33.0	16.8	63.2	9.0	31.0	26.0	54.0				
Change Period (Y+Rc), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0				
Max Green Setting (Gmax), s	5.0	25.0	35.0	35.0	5.0	25.0	22.0	48.0				
Max Q Clear Time (g_c+I1), s	3.8	31.0	12.0	19.2	7.0	27.0	24.5	52.0				
Green Ext Time (p_c), s	0.0	0.0	0.8	11.3	0.0	0.0	0.0	0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			54.5									
HCM 6th LOS			D									

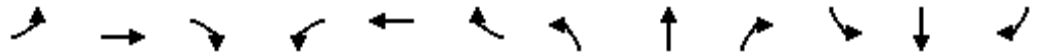
**APPENDIX 7.10:**

**HORIZON YEAR (2040) WITHOUT PROJECT CONDITIONS QUEUING ANALYSIS  
WORKSHEETS WITH IMPROVEMENTS**

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Queues  
3: US-395 & Phelan Rd./Main St.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	101	1073	227	24	1253	584	247	1623	27	361	2374	83
v/c Ratio	0.96	0.74	0.39	0.32	1.04	0.79	0.94	0.80	0.04	0.69	0.98	0.10
Control Delay	134.8	43.6	10.4	67.3	80.5	34.6	98.1	36.5	0.1	55.1	46.1	2.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	134.8	43.6	10.4	67.3	80.5	34.6	98.1	36.5	0.1	55.1	46.1	2.6
Queue Length 50th (ft)	80	289	23	18	~382	346	100	402	0	138	646	0
Queue Length 95th (ft)	#194	345	91	48	#478	467	#181	499	0	180	#780	20
Internal Link Dist (ft)		1117			1265			3985			1763	
Turn Bay Length (ft)	340			250		200	280		200	250		200
Base Capacity (vph)	105	1452	588	75	1210	800	262	2034	715	671	2420	807
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.96	0.74	0.39	0.32	1.04	0.73	0.94	0.80	0.04	0.54	0.98	0.10

Intersection Summary

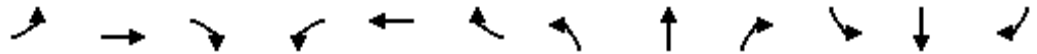
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Queues  
3: US-395 & Phelan Rd./Main St.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	101	1473	221	28	1134	392	312	2507	445	654	1706	107
v/c Ratio	1.35	1.01	0.42	0.37	0.88	0.51	0.68	1.05	0.62	0.93	0.63	0.13
Control Delay	264.9	71.1	11.5	70.2	54.1	20.2	57.4	69.0	25.8	68.2	25.6	2.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	264.9	71.1	11.5	70.2	54.1	20.2	57.4	69.0	25.8	68.2	25.6	2.1
Queue Length 50th (ft)	~102	~447	21	22	285	158	117	~709	206	251	323	0
Queue Length 95th (ft)	#218	#535	92	54	#340	250	158	#792	322	#354	396	20
Internal Link Dist (ft)		1117			1265			3985			1763	
Turn Bay Length (ft)	340			250		200	280		200	250		200
Base Capacity (vph)	75	1456	523	75	1284	770	1054	2379	712	713	2689	809
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.35	1.01	0.42	0.37	0.88	0.51	0.30	1.05	0.63	0.92	0.63	0.13

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

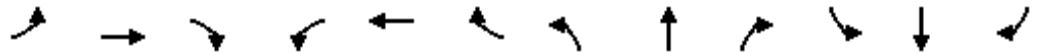
Queue shown is maximum after two cycles.

**APPENDIX 7.11:**

**HORIZON YEAR (2040) WITH PROJECT CONDITIONS QUEUING ANALYSIS  
WORKSHEETS WITH IMPROVEMENTS**

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Queues  
3: US-395 & Phelan Rd./Main St.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	107	1073	227	24	1253	678	247	1636	27	391	2378	85
v/c Ratio	1.02	0.74	0.39	0.32	1.04	0.89	0.94	0.84	0.04	0.66	0.98	0.11
Control Delay	148.9	43.6	10.4	67.3	80.5	42.0	98.1	40.0	0.1	52.2	46.4	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	148.9	43.6	10.4	67.3	80.5	42.0	98.1	40.0	0.1	52.2	46.4	2.8
Queue Length 50th (ft)	~86	289	23	18	~382	414	100	438	0	143	648	0
Queue Length 95th (ft)	#205	345	91	48	#478	#652	#181	504	0	195	#782	21
Internal Link Dist (ft)		1117			1265			3985			1763	
Turn Bay Length (ft)	340			250		200	280		200	250		200
Base Capacity (vph)	105	1452	588	75	1210	800	262	1938	688	671	2420	807
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.02	0.74	0.39	0.32	1.04	0.85	0.94	0.84	0.04	0.58	0.98	0.11

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Queues  
3: US-395 & Phelan Rd./Main St.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	104	1473	221	28	1134	425	312	2513	445	744	1721	115
v/c Ratio	1.39	1.01	0.42	0.37	0.88	0.55	0.68	1.06	0.63	1.04	0.64	0.14
Control Delay	279.2	71.7	11.5	70.2	54.4	21.6	57.5	70.6	26.0	93.3	25.7	2.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	279.2	71.7	11.5	70.2	54.4	21.6	57.5	70.6	26.0	93.3	25.7	2.7
Queue Length 50th (ft)	~107	~447	21	22	285	181	117	~712	208	~312	327	0
Queue Length 95th (ft)	#223	#535	92	54	#340	283	158	#796	323	#431	401	25
Internal Link Dist (ft)		1117			1265			3985			1763	
Turn Bay Length (ft)	340			250		200	280		200	250		200
Base Capacity (vph)	75	1453	522	75	1282	769	1052	2375	710	712	2694	810
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.39	1.01	0.42	0.37	0.88	0.55	0.30	1.06	0.63	1.04	0.64	0.14

Intersection Summary

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

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

**APPENDIX 7.12:**

**HORIZON YEAR (2040) WITH PROJECT CONDITIONS FREEWAY FACILITY ANALYSIS  
WORKSHEETS WITH IMPROVEMENTS**

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# HCS7 Freeway Facilities Report

## Project Information

Analyst	JB	Date	7/9/2020
Agency	Urban Crossroads, Inc.	Analysis Year	Horizon Year (2040) WP with Improvements
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	US Cold Storage (JN 13201) - I-15 SB at Main		

## Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15

## Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-15 SB, North of Main St.	16360	3
2	Diverge	Diverge	I-15 SB, Off-Ramp at Main St.	1500	3
3	Basic	Basic	I-15 SB, Between Off and Loop On-Ramp	975	3
4	Merge	Merge	I-15 SB, Loop On-Ramp at Main St.	1500	3
5	Basic	Basic	I-15 SB, Between Loop On-Ramp and On-Ramp	1415	3
6	Merge	Merge	I-15 SB, On-Ramp at Main St.	1500	3
7	Basic	Basic	I-15 SB, South of Main St.	5900	3

## Facility Segment Data

### Segment 1: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.943	5908	7146	0.83	62.2	31.7	D

### Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.962	0.855	5791	1216	7200	2100	0.80	0.58	62.9	58.6	30.7	35.7	E

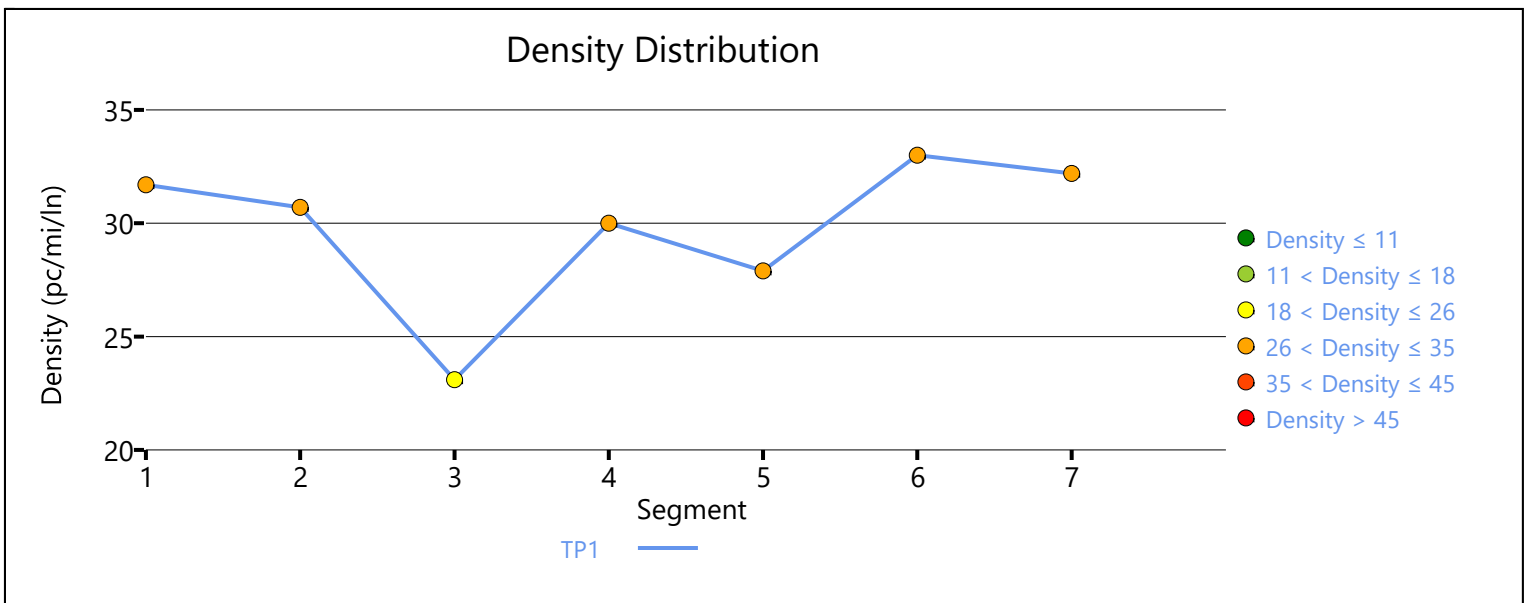
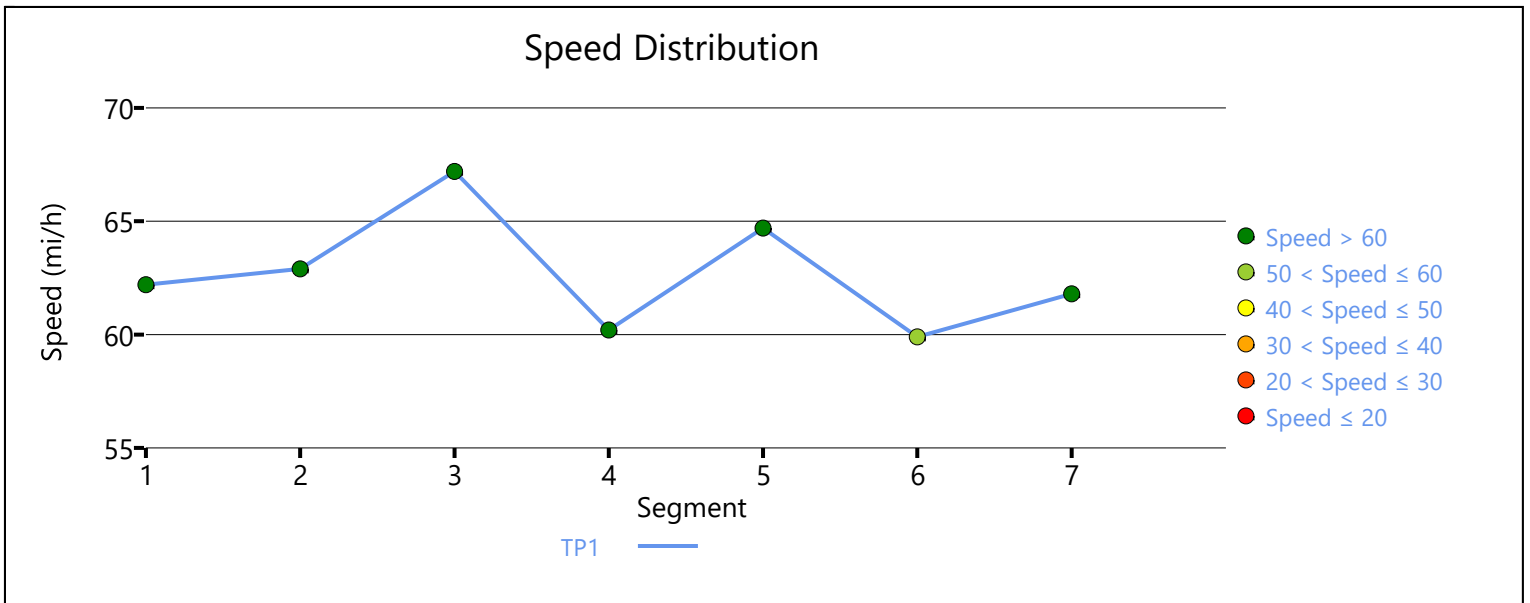
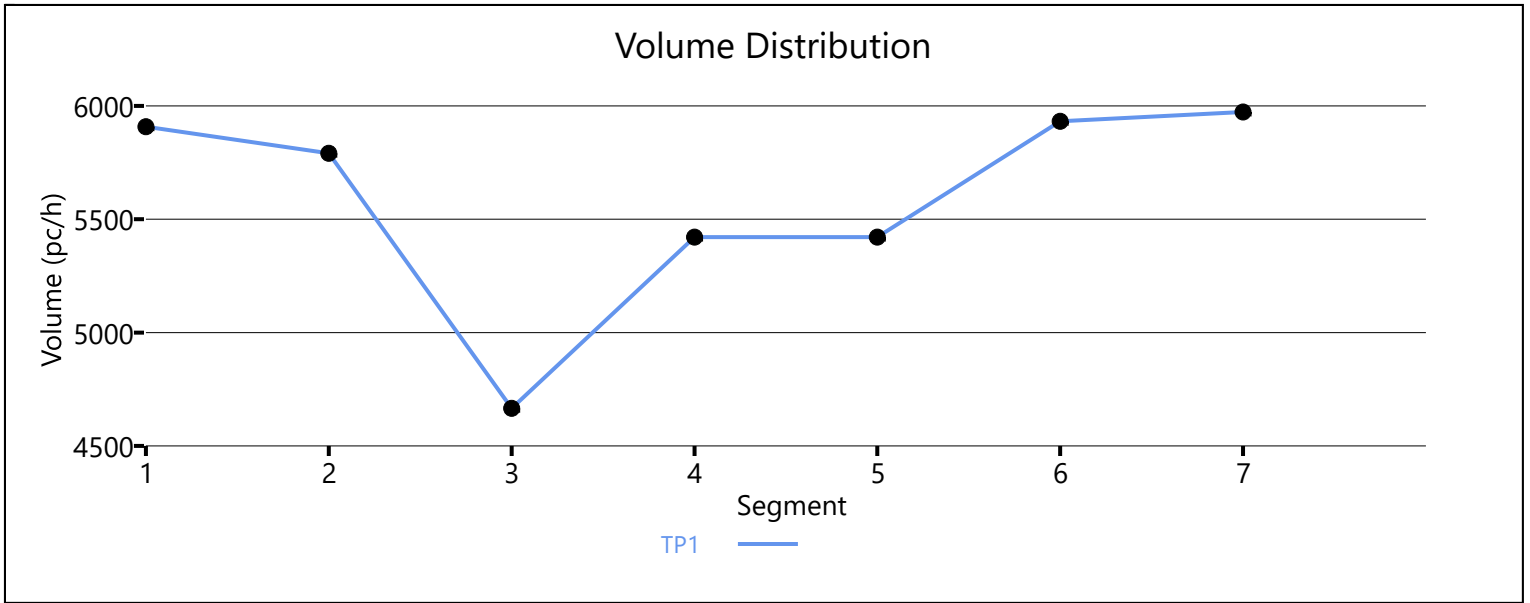
### Segment 3: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.971	4666	7146	0.65	67.2	23.1	C

### Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.971	0.971	5421	755	7200	1900	0.75	0.40	60.2	57.9	30.0	30.3	D

Segment 5: Basic																
Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS	
1	1.00		0.971		5421		7146		0.76		64.7		27.9		D	
Segment 6: Merge																
Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS	
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp		
1	1.00	1.00	0.971	0.943	5932	511	7200	2100	0.82	0.24	59.9	57.8	33.0	31.2	D	
Segment 7: Basic																
Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS	
1	1.00		0.962		5973		7146		0.84		61.8		32.2		D	
Facility Time Period Results																
T	Speed, mi/h				Density, pc/mi/ln				Density, veh/mi/ln				Travel Time, min		LOS	
1	62.2				31.3				29.8				5.3		D	
Facility Overall Results																
Space Mean Speed, mi/h					62.2				Density, veh/mi/ln				29.8			
Average Travel Time, min					5.3				Density, pc/mi/ln				31.3			



# HCS7 Freeway Facilities Report

## Project Information

Analyst	JB	Date	7/9/2020
Agency	Urban Crossroads, Inc.	Analysis Year	Horizon Year (2040) WP with Improvements
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	US Cold Storage (JN 13201) - I-15 NB at Main		

## Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15

## Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-15 NB, South of Main St.	6140	3
2	Diverge	Diverge	I-15 NB, Off-Ramp at Main St.	1500	3
3	Basic	Basic	I-15 NB, Between Off-Ramp and Loop On-Ramp	1125	3
4	Merge	Merge	I-15 NB, Loop On-Ramp at Main St.	1500	3
5	Basic	Basic	I-15 NB, Between Loop On-Ramp and On-Ramp	1215	3
6	Merge	Merge	I-15 NB, On-Ramp at Main St.	1500	3
7	Basic	Basic	I-15 NB, North of Main St.	16370	3

## Facility Segment Data

### Segment 1: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.935	4584	7146	0.64	67.4	22.7	C

### Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.952	0.862	4502	1311	7200	2100	0.63	0.62	62.5	58.4	24.0	30.4	D

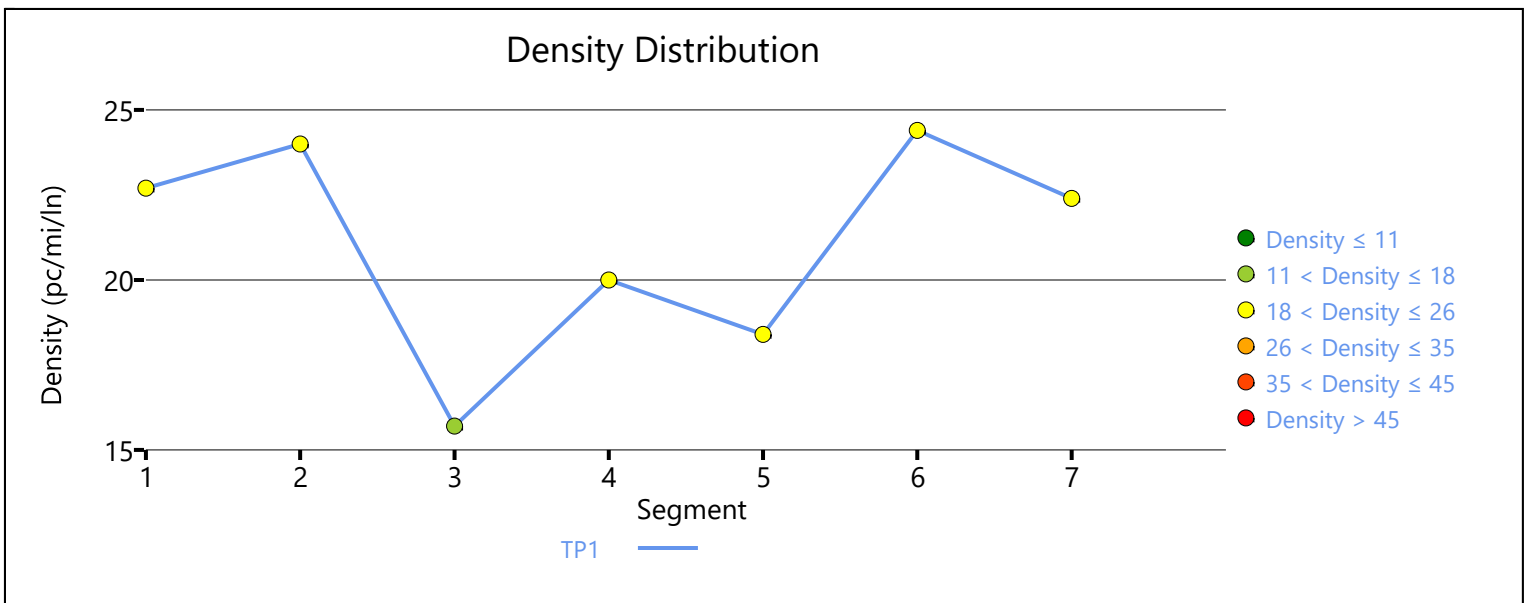
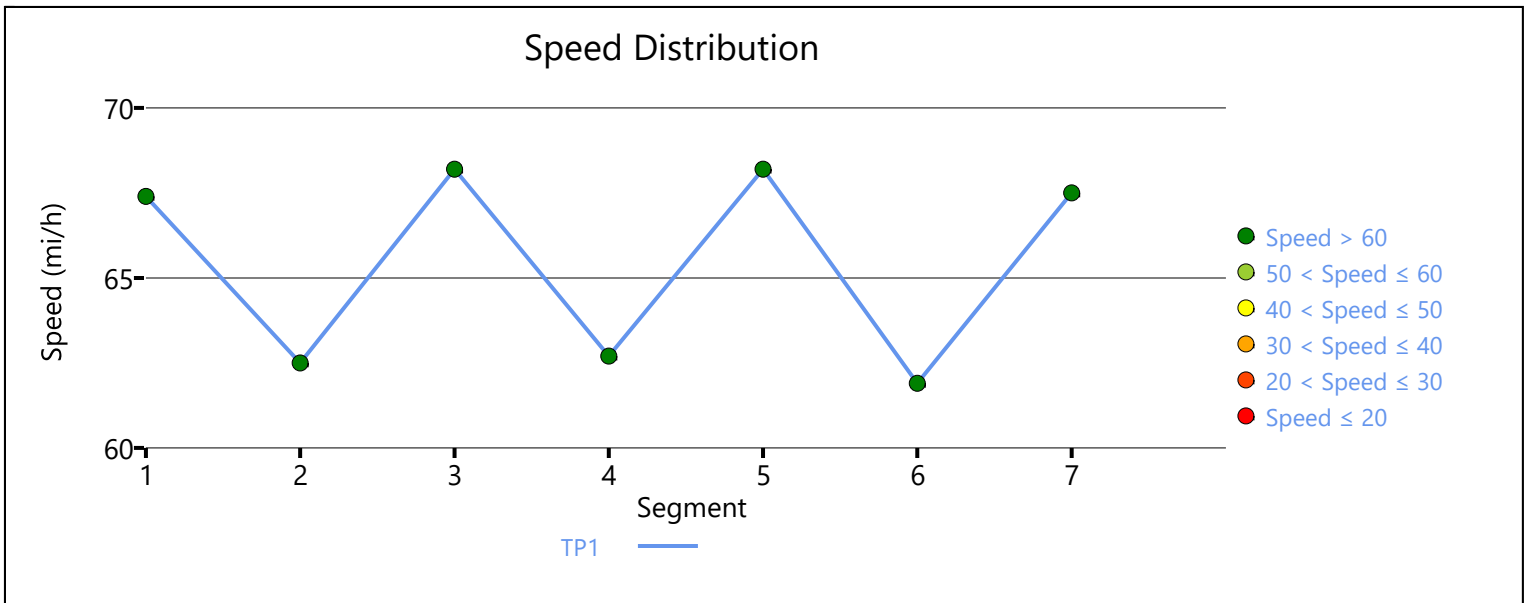
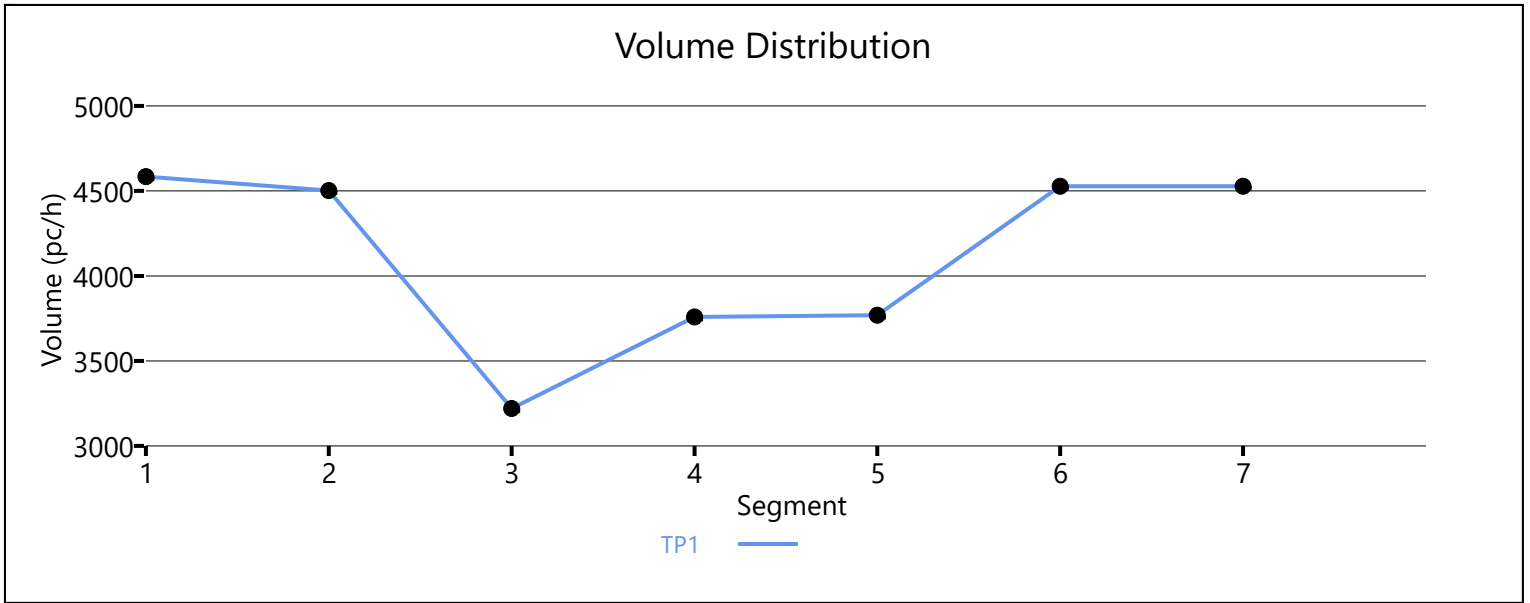
### Segment 3: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.980	3220	7146	0.45	68.2	15.7	B

### Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.980	0.935	3759	539	7200	1900	0.52	0.28	62.7	60.5	20.0	21.2	C

Segment 5: Basic																
Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS	
1	0.92		0.971		3769		7146		0.53		68.2		18.4		C	
Segment 6: Merge																
Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS	
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp		
1	0.92	0.92	0.971	0.971	4528	759	7200	2100	0.63	0.36	61.9	59.9	24.4	25.9	C	
Segment 7: Basic																
Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS	
1	0.92		0.971		4528		7146		0.63		67.5		22.4		C	
Facility Time Period Results																
T	Speed, mi/h				Density, pc/mi/ln				Density, veh/mi/ln				Travel Time, min		LOS	
1	66.7				22.1				21.3				5.0		C	
Facility Overall Results																
Space Mean Speed, mi/h					66.7				Density, veh/mi/ln				21.3			
Average Travel Time, min					5.0				Density, pc/mi/ln				22.1			



# HCS7 Freeway Facilities Report

## Project Information

Analyst	JB	Date	7/9/2020
Agency	Urban Crossroads, Inc.	Analysis Year	Horizon Year (2040) WP with Improvements
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	US Cold Storage (JN 13201)) - I-15 SB at Main		

## Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15

## Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-15 SB, North of Main St.	16360	3
2	Diverge	Diverge	I-15 SB, Off-Ramp at Main St.	1500	3
3	Basic	Basic	I-15 SB, Between Off and Loop On-Ramp	975	3
4	Merge	Merge	I-15 SB, Loop On-Ramp at Main St.	1500	3
5	Basic	Basic	I-15 SB, Between Loop On-Ramp and On-Ramp	1415	3
6	Merge	Merge	I-15 SB, On-Ramp at Main St.	1500	3
7	Basic	Basic	I-15 SB, South of Main St.	5900	3

## Facility Segment Data

### Segment 1: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.962	5806	7146	0.81	62.8	30.8	D

### Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.962	0.962	5806	1436	7200	2100	0.81	0.68	62.3	58.0	31.1	36.2	E

### Segment 3: Basic

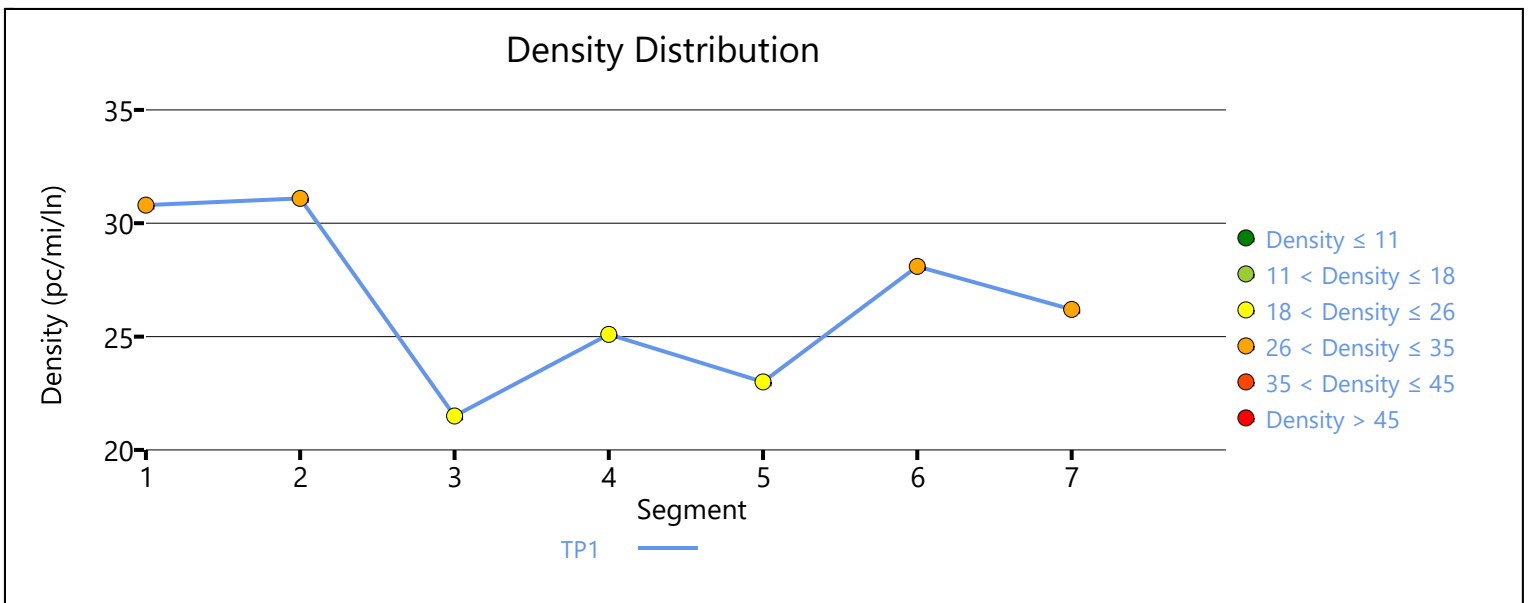
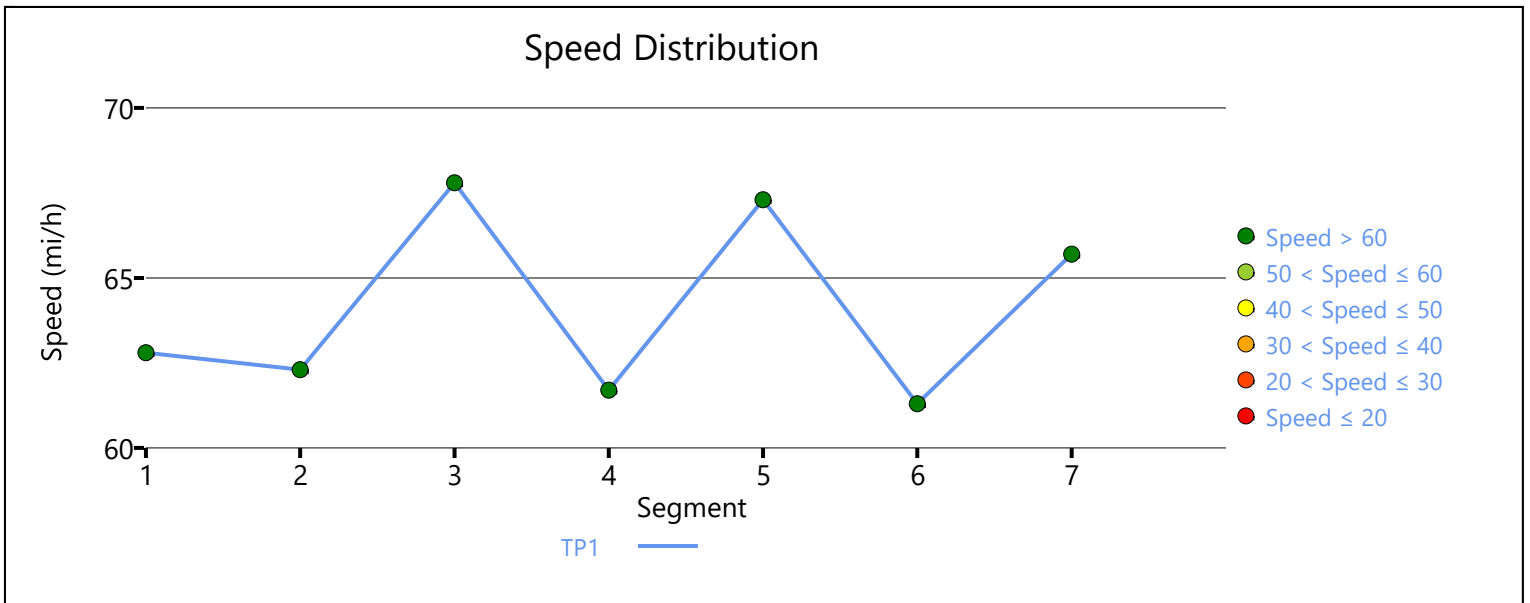
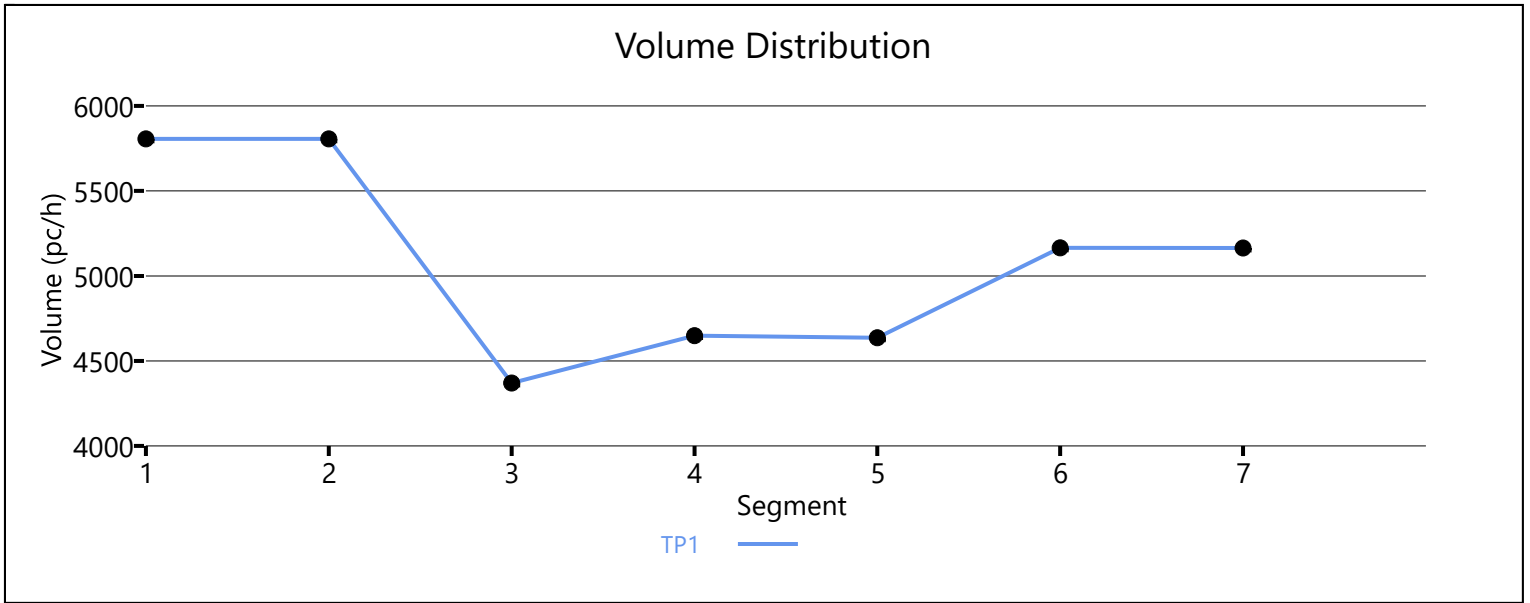
Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.962	4370	7146	0.61	67.8	21.5	C

### Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.962	0.917	4649	279	7200	1900	0.65	0.15	61.7	59.6	25.1	25.4	C

Segment 5: Basic															
Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.962		4636		7146		0.65		67.3		23.0		C
Segment 6: Merge															
Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.962	0.775	5165	529	7200	2100	0.72	0.25	61.3	59.4	28.1	27.7	C
Segment 7: Basic															
Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.943		5164		7146		0.72		65.7		26.2		D
Facility Time Period Results															
T	Speed, mi/h			Density, pc/mi/ln			Density, veh/mi/ln			Travel Time, min			LOS		
1	63.5			28.8			27.6			5.2			D		
Facility Overall Results															
Space Mean Speed, mi/h					63.5					Density, veh/mi/ln					27.6
Average Travel Time, min					5.2					Density, pc/mi/ln					28.8





# HCS7 Freeway Facilities Report

## Project Information

Analyst	JB	Date	7/9/2020
Agency	Urban Crossroads, Inc.	Analysis Year	Horizon Year (2040) WP with Improvements
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	US Cold Storage (JN 13201) - I-15 NB at Main		

## Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15

## Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-15 NB, South of Main St.	6140	3
2	Diverge	Diverge	I-15 NB, Off-Ramp at Main St.	1500	3
3	Basic	Basic	I-15 NB, Between Off-Ramp and Loop On-Ramp	1125	3
4	Merge	Merge	I-15 NB, Loop On-Ramp at Main St.	1500	3
5	Basic	Basic	I-15 NB, Between Loop On-Ramp and On-Ramp	1215	3
6	Merge	Merge	I-15 NB, On-Ramp at Main St.	1500	3
7	Basic	Basic	I-15 NB, North of Main St.	16370	3

## Facility Segment Data

### Segment 1: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	7222	7146	1.01	52.9	45.0	F

### Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.971	0.926	7146	1751	7200	2100	0.99	0.83	61.5	57.2	38.7	41.3	E

### Segment 3: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.980	5395	7146	0.76	65.9	27.3	D

### Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.980	0.862	6165	770	7200	1900	0.86	0.41	58.6	56.0	35.1	33.0	D

Segment 5: Basic																
Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS	
1	0.92		0.962		6165		7146		0.87		61.5		33.4		D	
Segment 6: Merge																
Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS	
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp		
1	0.92	0.92	0.962	0.962	6798	633	7200	2100	0.95	0.30	57.0	54.3	39.8	36.0	E	
Segment 7: Basic																
Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS	
1	0.92		0.962		6798		7146		0.96		56.8		39.9		E	
Facility Time Period Results																
T	Speed, mi/h			Density, pc/mi/ln			Density, veh/mi/ln			Travel Time, min			LOS			
1	56.9			39.7			38.3			5.9			F			
Facility Overall Results																
Space Mean Speed, mi/h					56.9					Density, veh/mi/ln					38.3	
Average Travel Time, min					5.9					Density, pc/mi/ln					39.7	

