DOCKETED	
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TN #:	254404
Document Title:	Apx T Transportation Analysis, Apx U Visual Simulations, Apx V GRTS, Apx W Corridor Conflict Resolution
Description:	Appendix T is the Transportation Impact Analysis Report, Appendix U are the Visual Simulation and Data Sheets, Appendix V is the Groundwater Resources Technical Report, and Appendix W is the Utility Corridor Conflict Analysis
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Organization:	Panorama Environmental, Inc.
Submitter Role:	Applicant Consultant
Submission Date:	2/12/2024 7:00:50 AM
Docketed Date:	2/12/2024

Appendix T Transportation Impact Analysis Report

TRANSPORTATION IMPACT ANALYSIS REPORT

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PERKINS RENEWABLE ENERGY PROJECT

Prepared for:

IP Perkins LLC & IP Perkins BAAH, LLC

Prepared by:

DAVID EVANS AND ASSOCIATES INC.

DRAFT REPORT

January 24, 2024

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1. EXECUTIVE SUMMARY

A. Project Description

The proposed Project, being planned and operated by IP Perkins, LLC and IP Perkins BAAH, LLC, is in unincorporated Imperial County off Highway 98, east of El Centro, California.

The Project would generate 1,150 MW of renewable electricity via arrays of solar panels, and store energy in a battery storage system. Additionally, the Project would construct a gen-tie line connecting the Project substation(s) to a new breaker and a half (BAAH) switchyard, and two 500 kV loop-in transmission lines to interconnect the BAAH with the existing SDG&E Southwest Powerlink 500 kV Transmission Line located south of the Project site and terminating at the Imperial Valley Substation southwest of El Centro.

B. Temporary Construction Impacts with Project

The Project's construction traffic volumes are based on estimates of the number of employees and material and equipment delivery trucks representing the height of the construction phase.

The Project applicant proposes a trip reduction program emphasizing ridesharing / carpooling of workers as a potential contractor requirement. Based on this proposed action, the estimated traffic generated by the construction workforce assumes trips will be substantially reduced and worker arrivals and departures to the work sites will be distributed over the morning and afternoon peak periods rather than concentrated in a single hour (AM peak hour) during the morning peak period or single hour (PM peak hour) during afternoon peak period. The effective reduction in construction worker traffic is approximately 50 percent[1].

Under the Temporary Construction Conditions with Project scenario, the intersection of Highway 98 at the I-8 Westbound Ramps is anticipated to operate at a LOS E during the PM peak hour.

The movement operating at LOS E is the stop-controlled movements from the interchange off ramps intersecting Highway 98. This intersection would experience an approximate delay of 50 seconds for the stop-controlled movements if all assumed maximum construction traffic accessed these intersections during a single hour during the AM peak hour and PM peak hour. The proposed trip reduction program combined with other recommended measures would effectively mitigate this impact.

C. Temporary Construction Mitigation Measures

1. Prepare a Construction Traffic Control Plan (CTC Plan).
   Prior to the start of construction, the applicant will prepare and submit a Construction Traffic Control Plan for review and approval by Caltrans (and potentially input from the BLM, BOR, CHP, and Imperial County) for the state highways affected by construction of the Project. The Construction Traffic Control Plan should include, but not be limited to:
   - Plan for implementing a trip reduction (rideshare/carpool) program for construction workforce.
   - Flagging operations guidelines, implementation criteria, and retainment of a crew(s) of Certified Flaggers.
   - Corridorwide safety measures coordinated with Caltrans which can range from static warning signs to enforced restrictions.
   - Plan for monitoring and responding to construction traffic conditions.
   - Encroachment permits for temporary construction access to work sites.

   See Section 5.E for a detailed description of the components of the Construction Traffic Control Plan.

[1] A 50% reduction is based on the definition of "ridesharing" in the California Vehicle Code as: "Ridesharing" means two or more persons traveling by any mode, including, but not limited to, carpooling, vanpooling, [shuttles], jitney, and public transit." Cal. Veh. Code § 522.

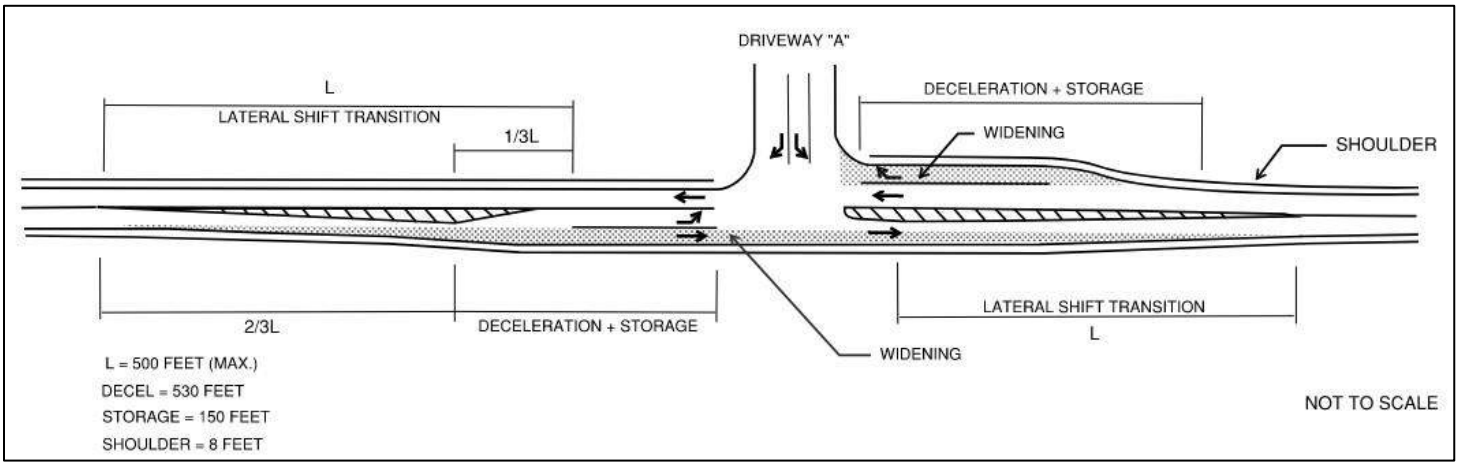
D. Project Operation and Maintenance Traffic Impacts

The opening year is defined as the period in which the Perkins Project is fully constructed and now in full commercial operation. Under Opening Year Conditions with Project, the study intersections are anticipated to operate at LOS B or better. Traffic generated from operations and maintenance of the facility is substantially lower than construction generated traffic. Therefore, the Project does not cause any level of service-related deficiencies during the operation and maintenance phase.

E. Project Operations and Maintenance Recommended Improvements

Although not required to mitigate level of service impacts, access to the proposed Project from Highway 98 at the proposed Driveway "A" will require general safety related improvements for a two-lane, high speed rural highway. The recommended access improvements for the Project's Highway 98 / Driveway A include:

1. Widen the approaches to the primary access intersection of Highway 98 at Driveway A to accommodate the following deceleration and storage / turning lanes into the access driveway (see schematic diagram below)
    a. Eastbound deceleration / median left turn lane (12-foot lane width)
    b. Westbound deceleration / right turn lane (12-foot lane width plus 8-foot-wide shoulder)
2. Construct Driveway "A" north of Highway 98, paved at a typical commercial driveway width of 26 feet.



Recommended intersection widening to accommodate deceleration / storage turning lanes to improve safety at the Project's primary access (Driveway A) during the operations and maintenance lifespan of the Project.

2. INTRODUCTION

A. Purpose of Study

This Draft Transportation Impact Analysis report evaluates the effects of the construction, and the operations & maintenance of the proposed Perkins Renewable Energy Project for environmental clearance. Because the Project is predominantly on federal lands managed by the Bureau of Land Management and the Bureau of Reclamation, environmental clearance falls under the requirements of the National Environmental Policy Act (NEPA).

B. Project Description

IP Perkins, LLC and IP Perkins BAAH, LLC (Applicant or Proponent), subsidiaries of Intersect Power, LLC, propose to construct, operate, maintain, and decommission the Perkins Renewable Energy Project (Perkins or Project) within the Project application area on public and private lands. The proposed Project is located adjacent to Highway 98, in Imperial County east of El Centro, California.

The developable acreage of the proposed Project is approximately 6,050.9-acres on a contiguous site that would be developed as a solar facility. The proposed solar facility's functional areas would be developed on public and private lands including:

- Approximately 4,707.8 acres of Bureau of Land Management (BLM)-administered public land for solar panel facilities and appurtenant components,
- Approximately 515.3 acres on private lands for the solar panel facilities and appurtenant components,
- Approximately 827.8 acres on Bureau of Reclamation (BOR) lands for solar panel facilities and appurtenant components, and
- Approximately 55 acres of additional facilities on BLM and BOR lands for transmission lines and facilities to connect to existing high voltage transmission lines.

The Project would generate and store 1,150 MW of renewable electricity via arrays of solar panels, a battery energy storage system, and appurtenant facilities. The final Project capacity will be based on optimization of buildable acreage and solar PV technology at the time of procurement. The Project would construct two new lines that would connect the Project substation(s) to a new substation and switchyard to interconnect to the existing high-voltage transmission line that connect the Project site to the Imperial Valley Substation located southwest of El Centro.

C. Scope of Study

Study Area

The study area covers a 6,050-acre developable footprint as described above in the Project description section. **Figure 1** illustrates the vicinity map and **Figure 2** illustrates the proposed Project site plan.

This study evaluates two existing study intersections along Highway 98. The study also evaluates Project Access Driveway. The study intersections include:

1. Highway 98 / I-8 Westbound Ramps
2. Highway 98 / I-8 Eastbound Ramps
3. Highway 98 / Project Driveway "A" (Primary site entrance)

All study intersections are side street stop-controlled intersections under Caltrans jurisdiction.

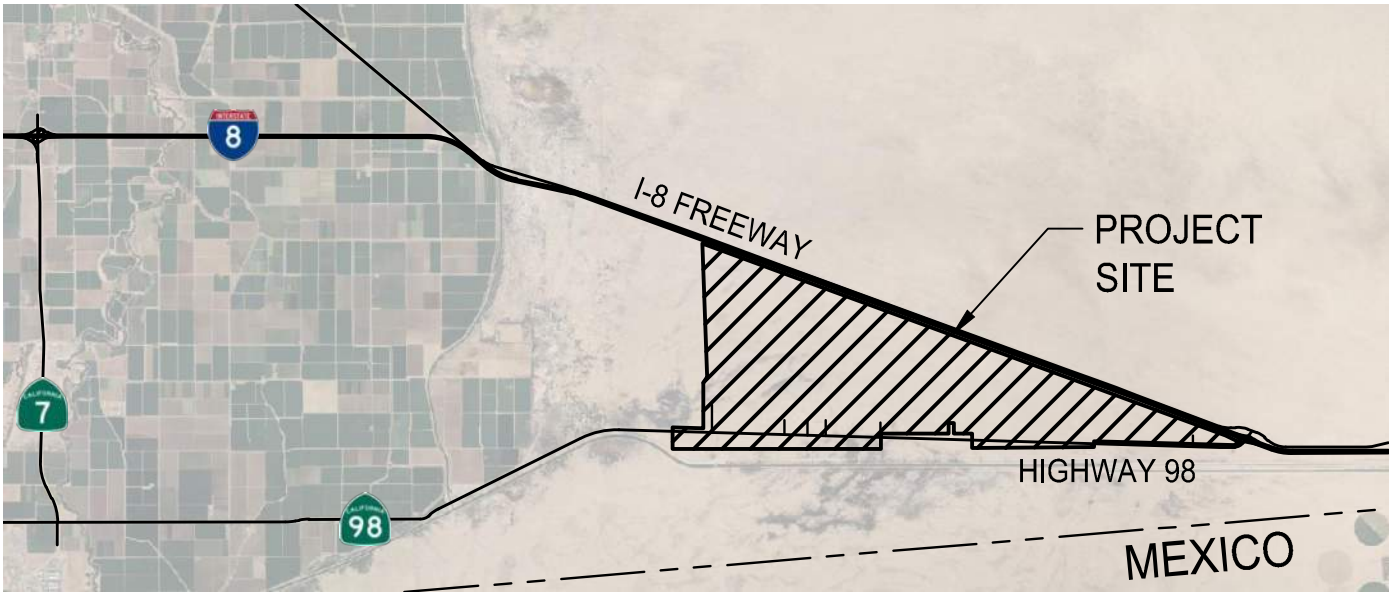


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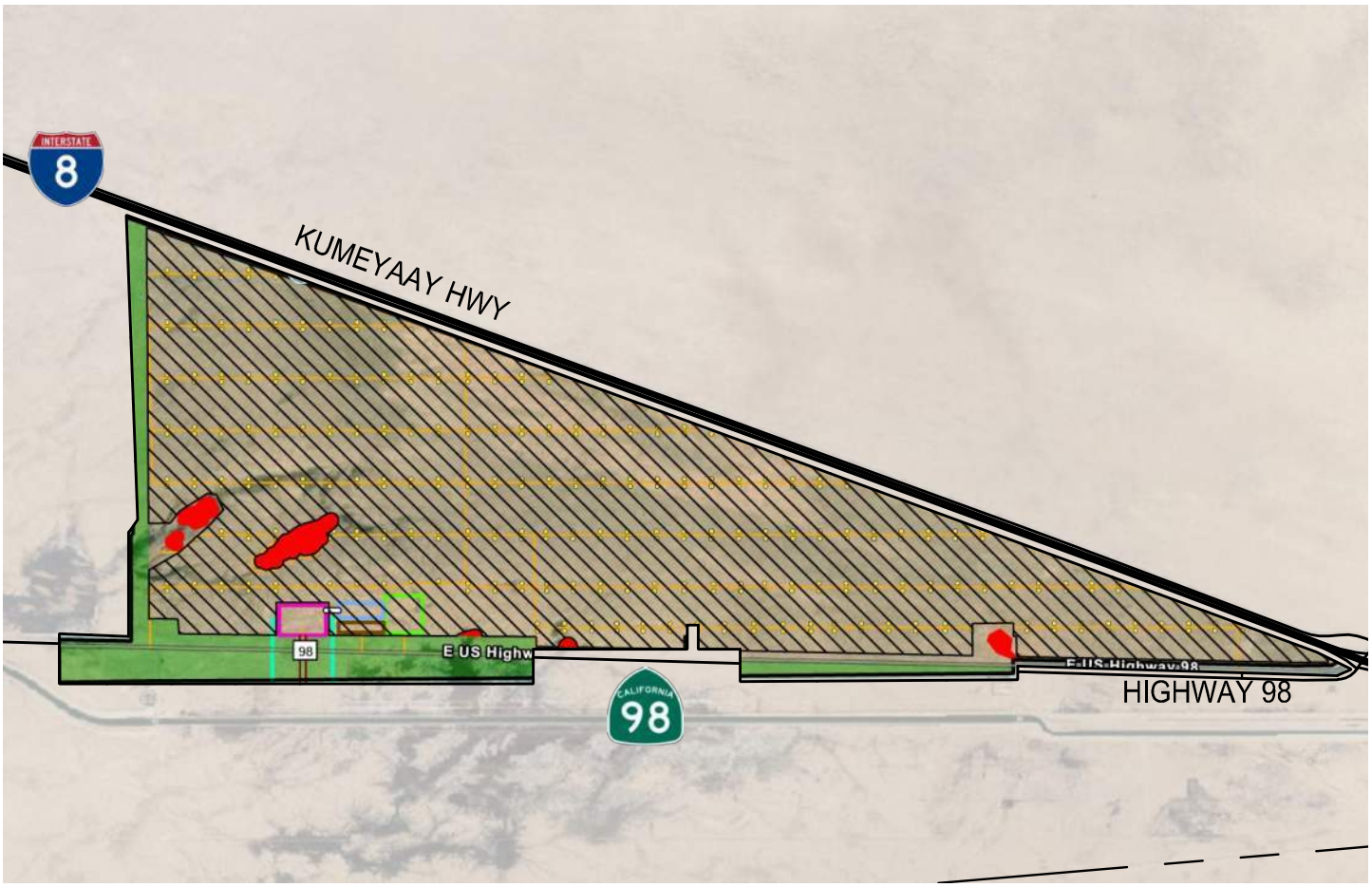
FIGURE 1: VICINITY MAP
PERKINS RENEWABLE ENERGY PROJECT
UNINCORPORATED IMPERIAL COUNTY, CA



- Project Boundary (7324.36 ac.)
- Proposed Solar Facility Fencing (6,050.95 ac.)
- Proposed 500 kV Loop-in Corridor (2,000 ft Wide)
- Proposed 500 kV Loop-In Transmission Lines (to be included within 175-ft ROWs)
- Proposed 500 kV Loop-In Structures
- Proposed Battery Energy Storage System (BESS)
- Proposed O&M Facility
- Proposed Breaker and a Half (BAAH) Switchyard
- Proposed Substation
- Proposed Gen-Tie Line
- Proposed Access Roads
- Proposed Inverters
- Microphyll Woodland 200-ft Buffer and Existing Development Exclusion Areas
- All American Canal
- BLM Section 368 West-Wide Energy Corridor Preserved within Project Site; No Solar Development
- BLM CDCA Utility Corridor K (Outside of Project Boundary)
- SDG&E Southwest Power Link, 500 kV Transmission Line

DAVID EVANS AND ASSOCIATES INC.

FIGURE 2: SITE PLAN
PERKINS RENEWABLE ENERGY PROJECT
UNINCORPORATED IMPERIAL COUNTY, CA

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Study Scenarios and Analysis Periods

In conformance with NEPA requirements, this traffic impact analysis evaluates temporary Project construction impacts and temporary mitigation measures (as necessary) and Project impacts from typical operations and maintenance with completion of the Project.

The analysis of construction and normal operations address different peak hours of the day since construction traffic typically peaks earlier than operational traffic. The traffic impact analysis evaluates the following no build and build scenarios:

1. Existing Conditions (No Build)
2. Temporary Construction Conditions without the Project (No Build) - (Year 2025)
3. Temporary Construction Conditions with the Project (Build) - (Year 2025)
4. Opening Year Conditions without the Project (No Build) - (Year 2027)
5. Opening Year Conditions with the Project (Build) - (Year 2027)
6. Cumulative Year 2047 without the Project (No Build)
7. Cumulative Year 2047 with the Project (Build)

The analysis periods consist of the typical morning (6:00-9:00 AM) peak period and evening (3:00-7:00 PM) peak period.

3. EXISTING CONDITIONS

A. Caltrans Level of Service Standards

The study intersections are located on state highways and therefore subject to the level of service (LOS) standards of the California Department of Transportation (Caltrans). The Caltrans' Guide for the Preparation of Traffic Impact Studies (December 2002) states "Caltrans endeavors to maintain a target LOS at the transition between LOS "C" and LOS "D" on State highway facilities." For this study, LOS D is assumed to be the criteria for the study intersections and LOS E, or LOS F is considered unacceptable for these facilities.

B. Analysis Methodology

Intersection capacity analyses were conducted using Synchro software[2], which implements the traffic analysis methodology concepts presented in Chapters 20 and 21 of the Highway Capacity Manual, 6th Edition (HCM 6)[3] used in this report. The intersection capacity analyses utilize existing intersection geometrics and existing traffic volumes in analyzing AM peak hour and PM peak hour intersection operating conditions.

The level of service for a two-way (or side-street) stop controlled (TWSC or SSSC) intersection is determined by the computed or measured control delay. The LOS is determined for each minor-street movement (or shared movement) by using the criteria provided in **Table 3-1** referenced from HCM 6 Chapter 20. The movement with the highest delay and worst level of service is reported as the LOS for the intersection.

Table 3-1: HCM 6 – Level of Service Criteria for Two-Way (TWSC) or Side-Street Stop Controlled Intersections

Control Delay (s/veh)	LOS by Volume-to-Capacity Ratio	
	v/c ≤1.0	v/c >1.0
0 - 10	A	F
> 10 -15	B	F
> 15 - 25	C	F
> 25 - 35	D	F
> 35 - 50	E	F
> 50	F	F
Note: The LOS criteria apply to each lane on a given approach and to each approach on the minor street. LOS is not calculated for major-street approaches or for the entire intersection. Source: Highway Capacity Manual 6th Edition, Exhibit 20-2.		

The LOS for an All-Way Stop Controlled (AWSC) intersection quantitatively describes the intersection's operating characteristics. The LOS is based on the average delay for the entire intersection using the criteria provided in **Table 3-2** referenced from Chapter 21 of the Highway Capacity Manual.

Table 3-2: HCM 6 – Level of Service Criteria for All-Way Stop Controlled (AWSC) Intersections

Control Delay (s/veh)	LOS by Volume-to-Capacity Ratio	
	v/c ≤1.0	v/c >1.0
0 - 10	A	F
> 10 -15	B	F
> 15 - 25	C	F
> 25 - 35	D	F
> 35 - 50	E	F
> 50	F	F
Note: For approach-based and intersectionwide assessments, LOS is defined solely by control delay for the entire intersection. Source: Highway Capacity Manual 6th Edition, Exhibit 21-8.		

2 Trafficware Ltd, version 10.

3 Transportation Research Board, Washington D.C., 2010.

C. Study Area Roadways

Interstate 8 (I-8): I-8 is a major east-west interstate freeway providing regional access throughout Imperial County and San Diego County. Near the Project site, the I-8 is a four-lane divided freeway with an interchange at SR-98. The posted speed limit is 70 mph.

Highway 98 (SR-98): Highway 98 is an east-west highway running through the City of Calexico and ends east of Holtville. Highway 98 is a loop of Interstate 8 (I-8) running west to east south of the Interstate through the border City of Calexico. Near the Project site, Highway 98 is a two-lane roadway with a posted speed limit of 65 mph. Average daily traffic counts conducted in October 2023 resulted in a three-day average of 2,720 vehicles per day.

D. Traffic Counts

Existing turn movement counts were conducted in October 2023 by Counts Unlimited for the AM (6:00-9:00 AM) peak period and PM (3:00-7:00 PM) peak period, provided in **Appendix A**. **Figure 3** illustrates the existing AM peak hour (6:30 – 7:30 AM) and PM peak hour (3:45 – 4:45 PM) traffic volumes and **Figure 4** illustrates the existing intersection geometrics utilized in the capacity analysis.

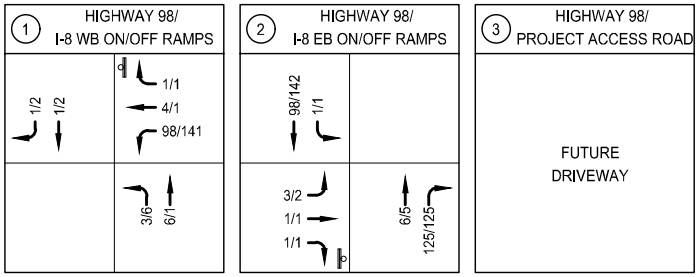
E. Existing Traffic Analysis

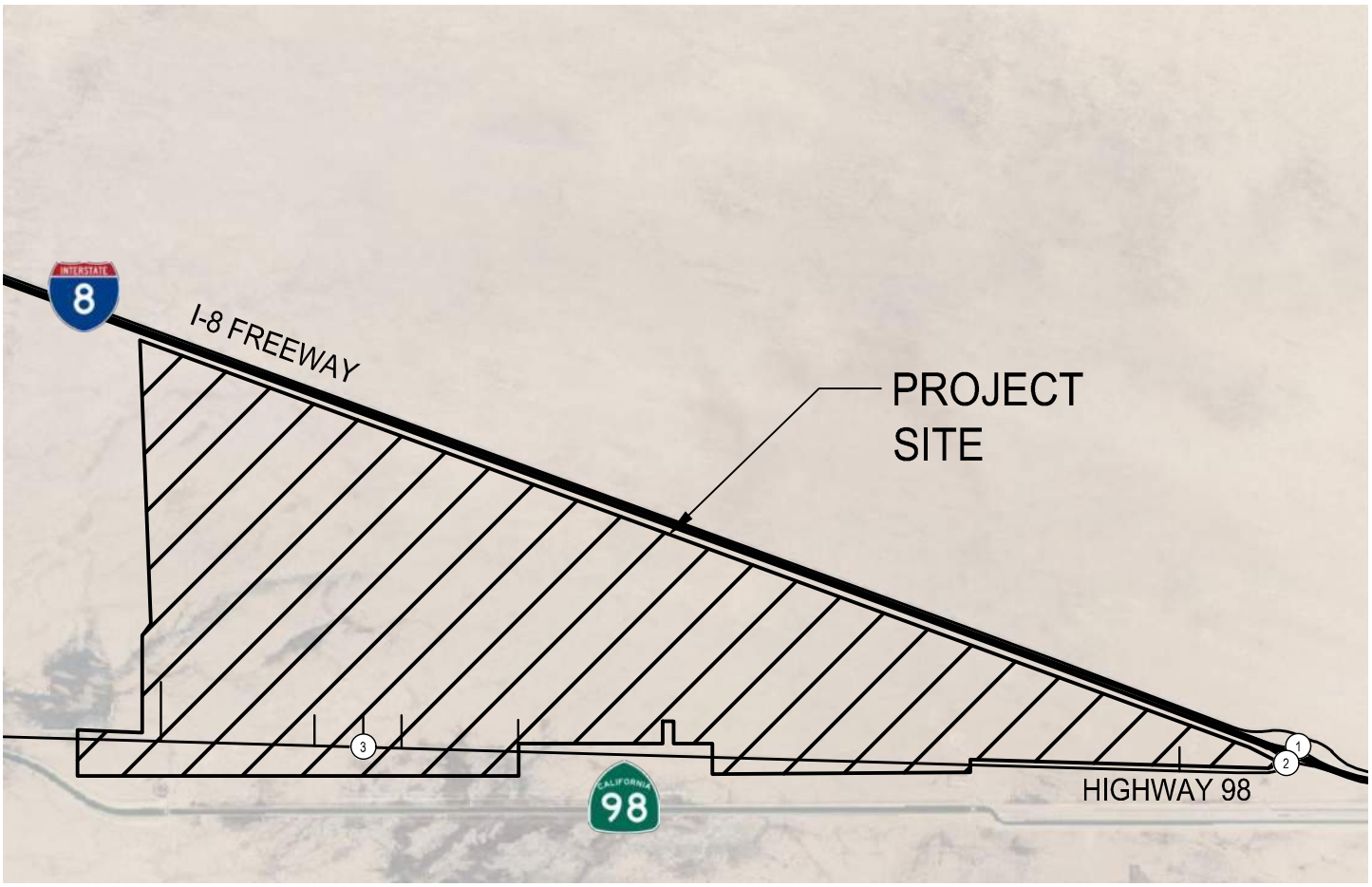
Table 3-3 presents the existing intersection levels of service which operate at a LOS A for the worst movement from the stop-controlled side streets. The results of the analysis are provided in **Appendix B**.

Table 3-3: Existing Intersection Levels of Service

Intersection	Control Type	AM Peak		PM Peak	
		Delay	LOS	Delay	LOS
1. Highway 98 / I-8 Westbound Ramps	SSSC	9.0	A	9.8	A
2. Highway 98 / I-8 Eastbound Ramps	SSSC	9.7	A	9.9	A
3. Highway 98 / Project Driveway “A”	SSSC	Not Applicable (Future Driveway)			

Source: David Evans and Associates, Inc.
Definitions and Abbreviations:
SSSC – Side-street stop-controlled intersection, Delay – seconds per vehicle, LOS – Level of Service





N

NOT TO SCALE

LEGEND

XX/XX - AM/PM TRAFFIC VOLUMES

(#) - STUDY INTERSECTIONS

- SIGNALIZED INTERSECTION

- STOP CONTROLLED APPROACH

DAVID EVANS AND ASSOCIATES INC.

FIGURE 3: EXISTING TRAFFIC VOLUMES
PERKINS RENEWABLE ENERGY PROJECT
UNINCORPORATED IMPERIAL COUNTY, CA

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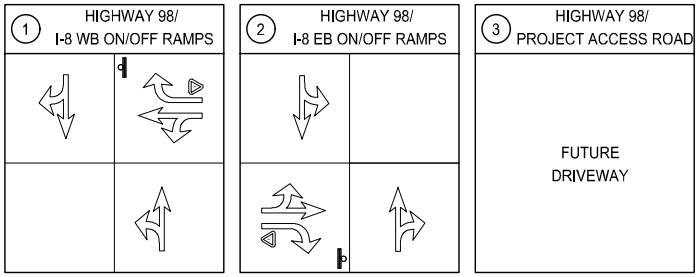

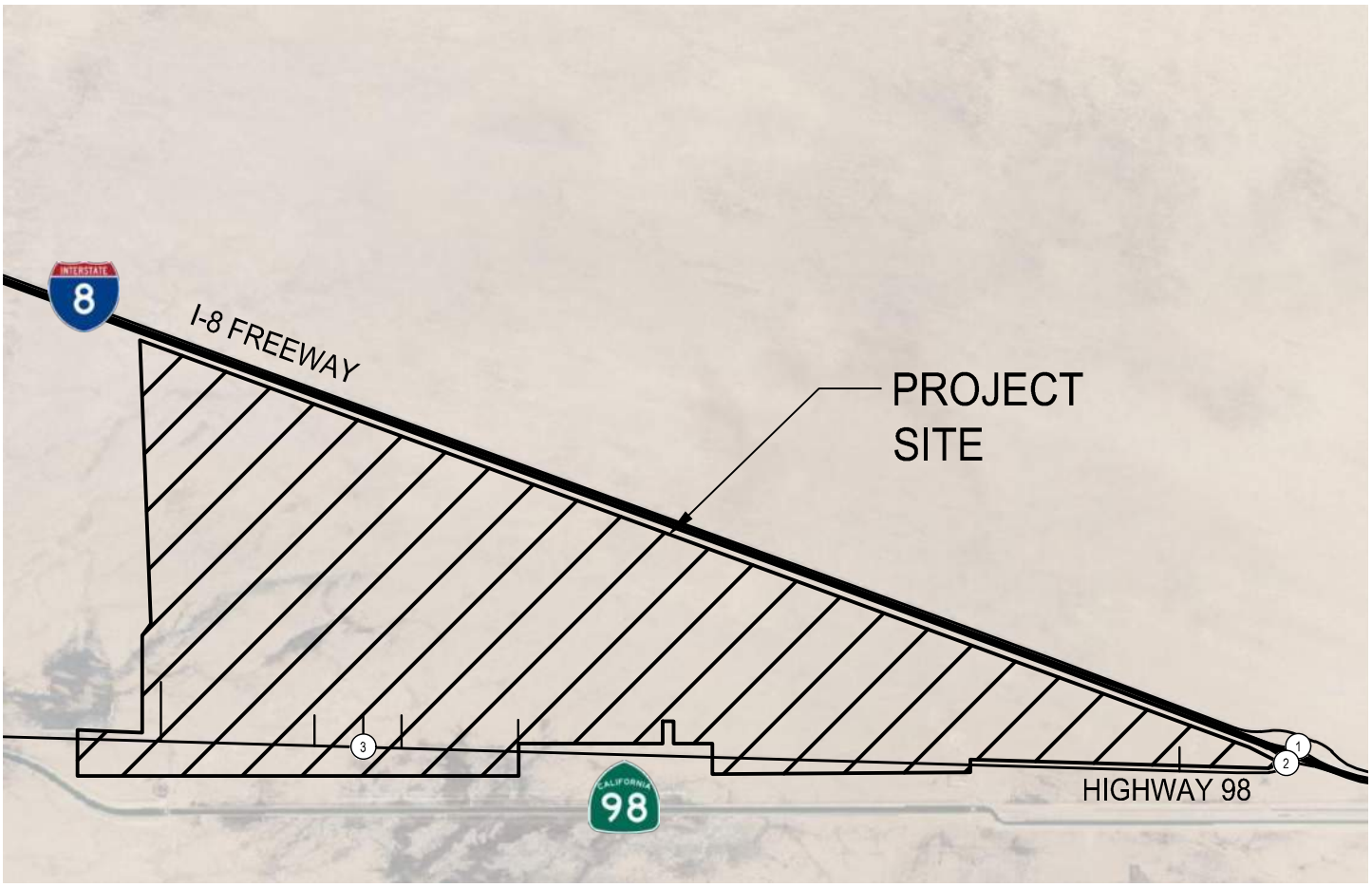

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LEGEND

- EXISTING GEOMETRICS
- # - STUDY INTERSECTIONS
- SIGNALIZED INTERSECTION
- STOP CONTROLLED APPROACH
- YIELD RIGHT TURN

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FIGURE 4: EXISTING INTERSECTION GEOMETRICS
PERKINS RENEWABLE ENERGY PROJECT
UNINCORPORATED IMPERIAL COUNTY, CA

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4. TEMPORARY CONSTRUCTION CONDITIONS WITHOUT PROJECT

The Temporary Construction Conditions scenario establishes baseline conditions from which to measure the impacts of the temporary construction traffic. The baseline volume forecasts are comprised of existing traffic volumes and ambient growth between the 2023 counts and the year 2025. The Project's construction related traffic is not included in this scenario. The selected year 2025 is consistent with the start of the Project's proposed construction timeline with a duration of approximately 24-months to complete. Ambient growth is a general rate of growth in traffic from overall regional growth (assumed to be 3% annually for this study).

A. Other Area Project Construction Projects

Based on current information available from the Bureau of Land Management National NEPA Register and the Imperial County Planning and Development Services there is no other development proposed in the vicinity of the study area.

B. Temporary Construction Conditions without Project Traffic Analysis

The access routes used by construction related traffic includes Interstate 8 (I-8) and Highway 98. Because these are state highways, they are also designated truck routes. There are no alternative routes to the site.

The Temporary Construction without Project Conditions intersection capacity analysis utilized existing intersection geometrics. The Temporary Construction without Project traffic volumes are shown in **Figure 5**. **Table 4-1** and **Appendix B** provide the results of the analysis.

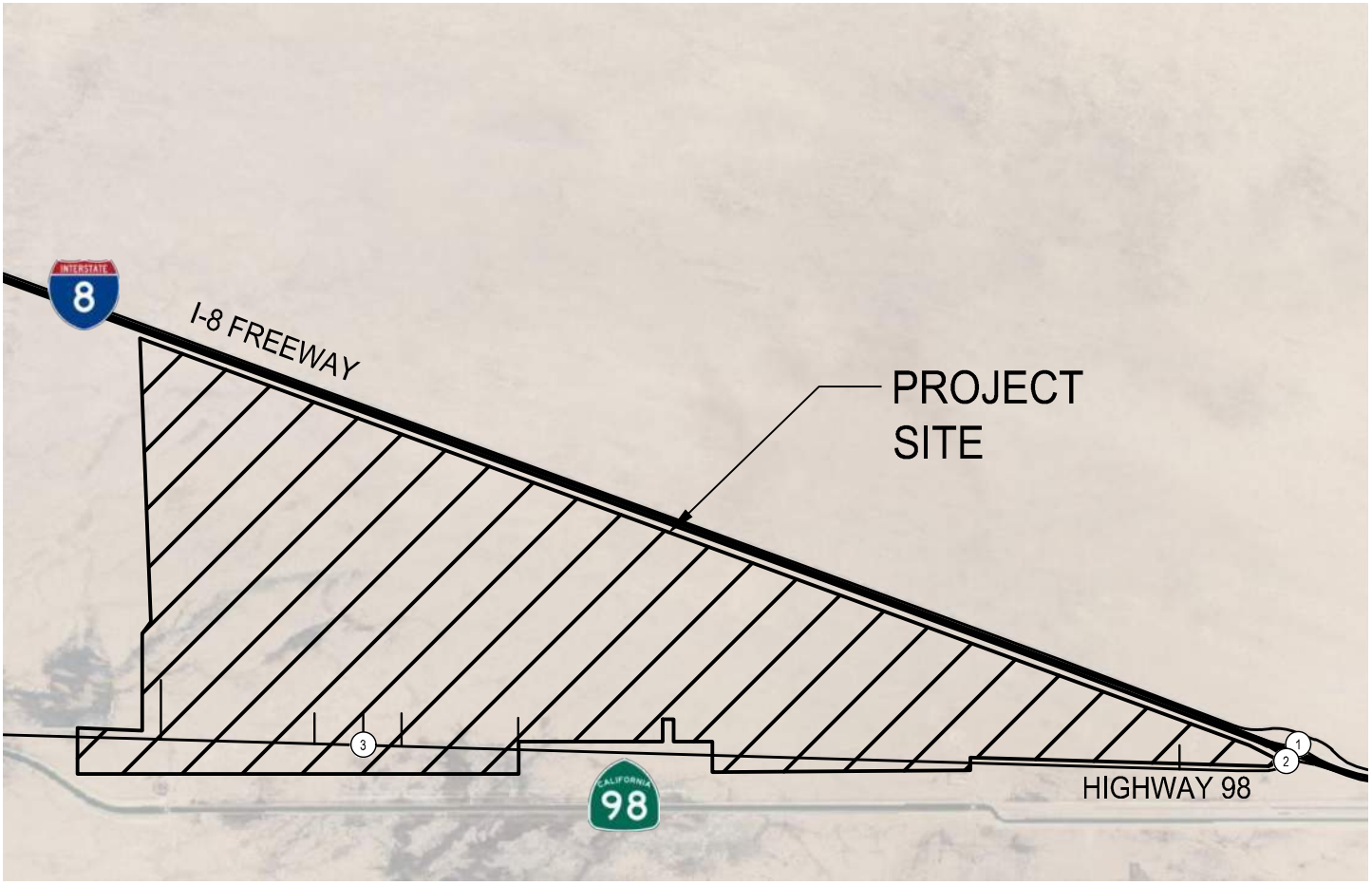
Table 4-1: Temporary Construction Conditions without Project Intersection Levels of Service

Intersection	Control Type	AM Peak		PM Peak	
		Delay	LOS	Delay	LOS
1. Highway 98 / I-8 Westbound Ramps	SSSC	9.0	A	9.9	A
2. Highway 98 / I-8 Eastbound Ramps	SSSC	9.8	A	10.0	B
3. Highway 98 / Project Driveway "A"	SSSC	Not Applicable (Future Access Point)			
Source: David Evans and Associates, Inc. Definitions and Abbreviations: SSSC – Side-street stop-controlled intersection, Delay – seconds per vehicle, LOS – Level of Service					

C. Temporary Construction Impacts without Project

As shown in **Table 4-1***,* under the Temporary Construction Conditions without Project Scenario, the study intersections are anticipated to operate at a LOS B or better for the worst movement from the stop-controlled side streets during both the AM peak hour and PM peak hour.

① HIGHWAY 98/ I-8 WB ON/OFF RAMPS		② HIGHWAY 98/ I-8 EB ON/OFF RAMPS		③ HIGHWAY 98/ PROJECT ACCESS ROAD
2/3 2/3	2/2 5/2 104/150	104/151 2/2		FUTURE DRIVEWAY
	4/7 7/2	4/3 2/2 2/2	7/6 133/133	



N

NOT TO SCALE

LEGEND

XX/XX - AM/PM TRAFFIC VOLUMES

(#) - STUDY INTERSECTIONS

- SIGNALIZED INTERSECTION

- STOP CONTROLLED APPROACH

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FIGURE 5: TEMPORARY CONSTRUCTION CONDITIONS TRAFFIC VOLUMES
PERKINS RENEWABLE ENERGY PROJECT
UNINCORPORATED IMPERIAL COUNTY, CA

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5. TEMPORARY CONSTRUCTION CONDITIONS WITH PROJECT

The Temporary Construction Conditions with Project scenario adds the Project's maximum construction-related traffic to the Temporary Construction Conditions without Project Scenario. Construction is anticipated to require approximately 24-months. The on-site workforce would consist of laborers, craftsmen, supervisory personnel, supply personnel, and construction management personnel. The on-site workforce is expected to reach its peak of approximately 1,000 individuals with an average construction-related on-site workforce of 700 individuals.

A. Estimated Project Construction Traffic

Trip generation for the proposed Project (Perkins) was developed for the construction phase of the Project using information provided by the applicant. The Project proponent estimates a peak construction workforce of 1,000 workers on-site, with an average of 700 workers on site daily.

Carpooling of workers will be a contractor requirement. As such, the estimated traffic generated by the site assumes that the construction workers will carpool from remote parking outside of the study area to the work sites and their arrivals and departures will be distributed over the morning (6:00-9:00 AM) peak period and afternoon (3:00-7:00 PM) peak period rather than concentrated in a single hour (AM peak hour) during the morning peak period or single hour (PM peak hour) during afternoon peak period. The effective reduction in construction worker traffic is approximately 50 percent[4].

However, to be conservative and to identify intersections with the potential to be impacted by inbound or outbound worker traffic when concentrated in a short timeframe, the analysis assumes a condition with the maximum workforce (1,000 workers) arriving and departing concentrated in a single morning and afternoon hour reduced by the carpool equivalent of 50 percent.

Table 5-1 provides the Average daily (ADT), AM peak hour, and PM peak hour Project trips generated for the construction period of the Project and reduced by 50% to reflect mandatory carpooling / ridesharing by construction workers.

Table 5-1: Perkins Renewable Energy Project Estimated Maximum Construction Related Trip Generation

Description	Quantity	ADT	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Workers	1,000	2,040	1,000	20	1,020	20	1,000	1,020
Delivery Trucks	40	80	2	1	3	1	2	3
Water Trucks	15	30	1	0	1	0	1	1
Sub-Total		2,150	1,003	21	1,024	21	1,003	1,024
Carpool (50%)		1,020	500	10	510	10	500	510
Total		**1,130**	503	11	**514**	11	503	**514**

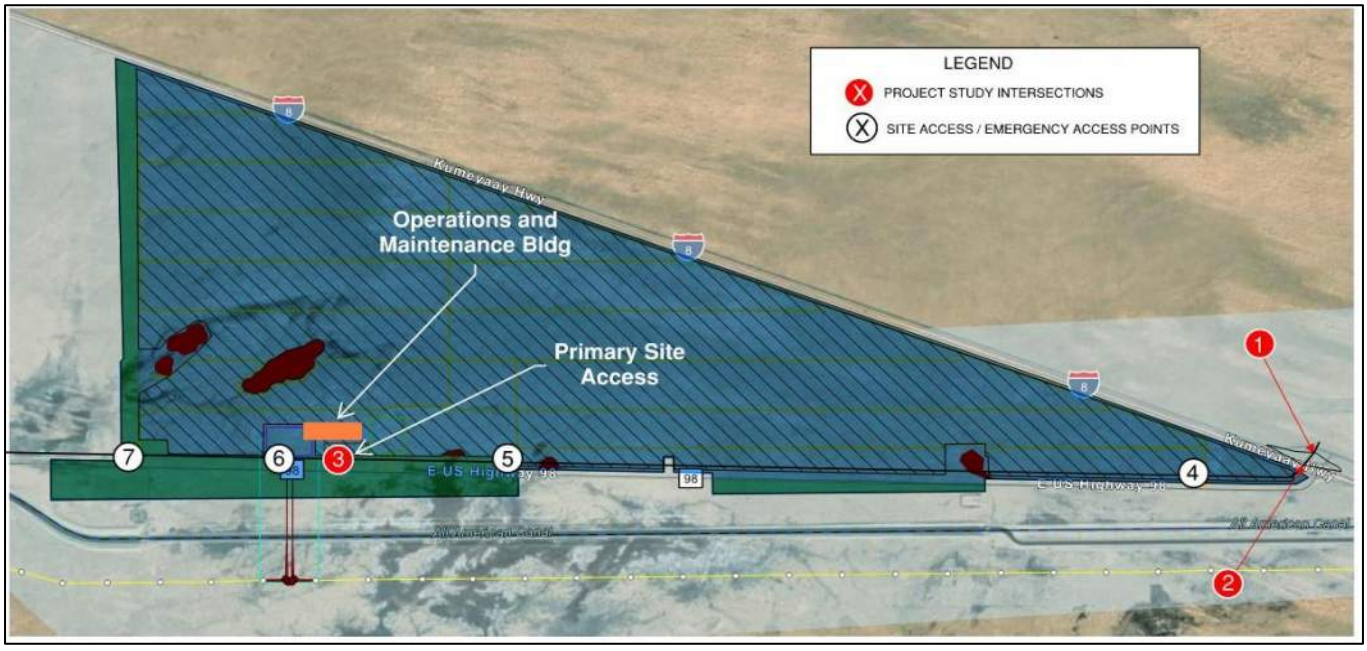
B. Construction Traffic Distribution and Assignment

Project Construction Traffic Access Routes to Work Sites

Due to the size of the proposed Project area and the distribution of work sites, construction access and emergency access will be located at several locations along the Project's frontage with Highway 98. The diagram shown on the following page illustrates the Project access points—for both construction and emergency access. Project Driveway "A" (Intersection #3) will be used as a primary site access driveway and serve as permanent access to the

[4] Refer to Footnote #1.

Operations & Maintenance facility after construction. The other four driveways will also serve as temporary work site access points during construction and all access points will serve as emergency access for the site.



Access to the site is from Highway 98. There are five proposed access points during construction with access #3 serving as the primary access and the permanent access to the O&M facility.

The estimated Project construction traffic was distributed and assigned to the surrounding roadways and study intersections based on the anticipated direction of travel for construction workers, equipment and material deliveries, and facility employees.

The assumed Project construction traffic distribution percentages are shown on **Figure 6**. Project-only construction traffic at the study intersections is shown on **Figure 7**.

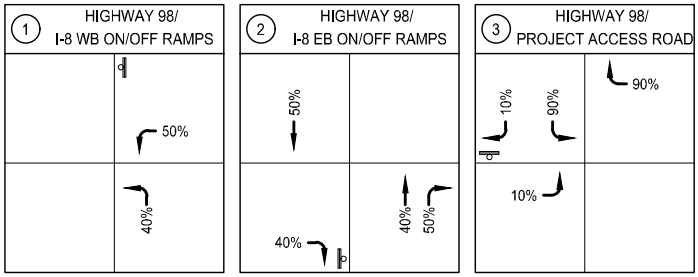
C. Temporary Construction Conditions with Project Traffic Analysis

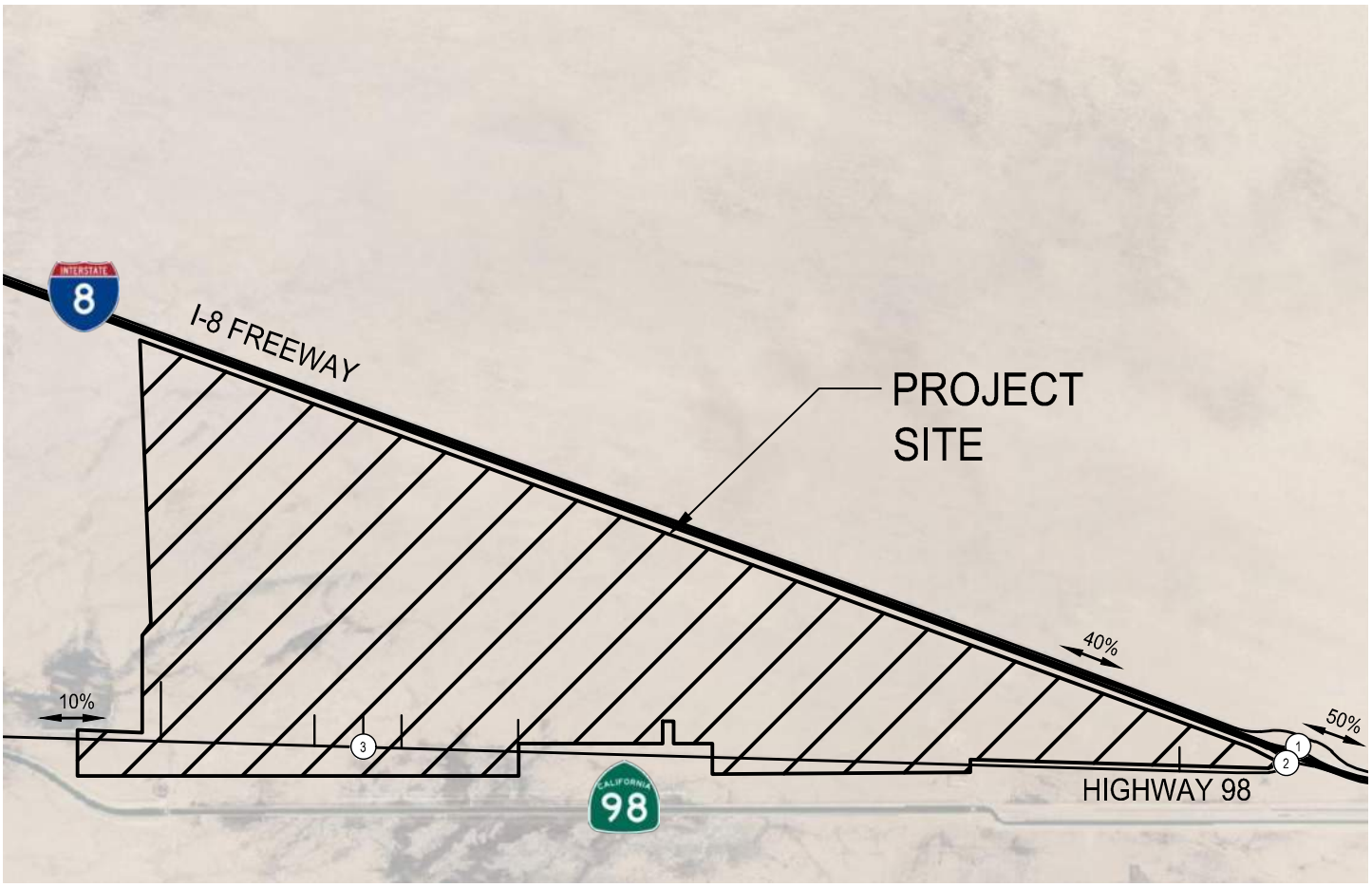
Figure 8 shows the Temporary Construction Conditions traffic volumes with the addition of Project construction traffic. **Figure 9** illustrates the temporary Project construction intersection geometrics utilized in the capacity analysis. **Table 5-2** and **Appendix B** provide the results of the analysis.

Table 5-2: Temporary Construction Conditions with Project Intersection Levels of Service

Intersection	Control Type	Temporary Construction without Project				Temporary Construction with Project			
		AM Peak		PM Peak		AM Peak		PM Peak	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. Highway 98 / I-8 Westbound Ramps	SSSC	9.0	A	9.9	A	10.8	B	**49.1**	**E**
2. Highway 98 / I-8 Eastbound Ramps	SSSC	9.8	A	10.0	B	15.8	C	13.5	B
3. Highway 98 / Project Driveway "A"	SSSC	Not Applicable (Future Intersection)				13.8	B	27.0	13.8

Source: David Evans and Associates, Inc.
Definitions and Abbreviations:
SSSC – Side-street stop-controlled intersection, Delay – seconds per vehicle, LOS – Level of Service





N

NOT TO SCALE

LEGEND

XX% - GENERAL PROJECT CONSTRUCTION TRIP DISTRIBUTION

XX% - SPECIFIC PROJECT CONSTRUCTION TRIP PERCENTAGE

(#) - STUDY INTERSECTIONS

- STOP CONTROLLED INTERSECTION

- SIGNAL CONTROLLED INTERSECTION

DAVID EVANS AND ASSOCIATES INC.

FIGURE 6: PROJECT CONSTRUCTION TRAFFIC DISTRIBUTION
PERKINS RENEWABLE ENERGY PROJECT
UNINCORPORATED IMPERIAL COUNTY, CA

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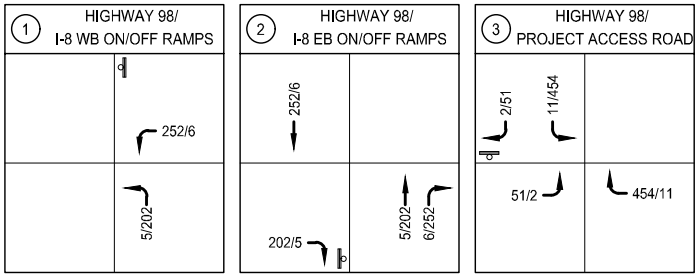

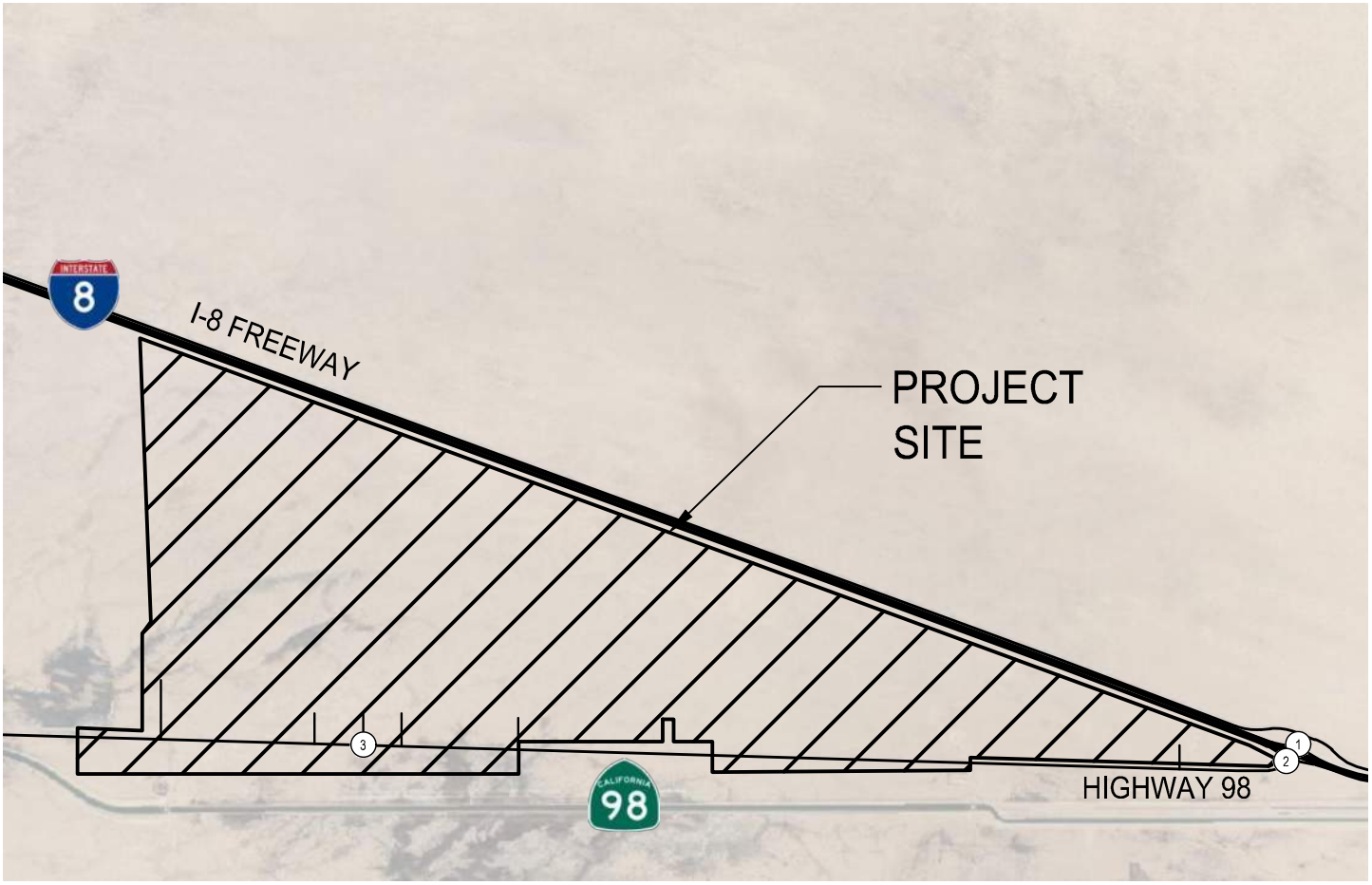

N

NOT TO SCALE

PROJECT CONSTRUCTION TRAFFIC

AM PEAK PERIOD - 503 IN / 11 OUT
PM PEAK PERIOD - 11 IN / 503 OUT

LEGEND

XX/XX - AM/PM PROJECT CONSTRUCTION TRIPS
(#) - STUDY INTERSECTIONS
- SIGNALIZED INTERSECTION
- STOP CONTROLLED APPROACH

DAVID EVANS AND ASSOCIATES INC.

FIGURE 7: PROJECT CONSTRUCTION TRAFFIC
PERKINS RENEWABLE ENERGY PROJECT
UNINCORPORATED IMPERIAL COUNTY, CA

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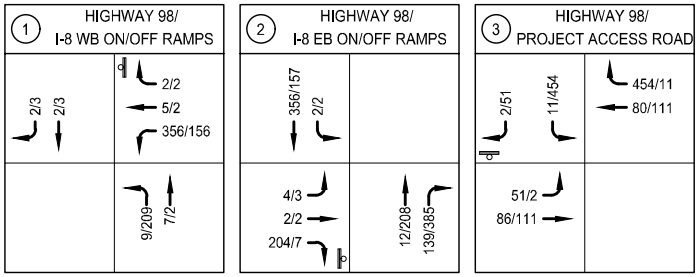

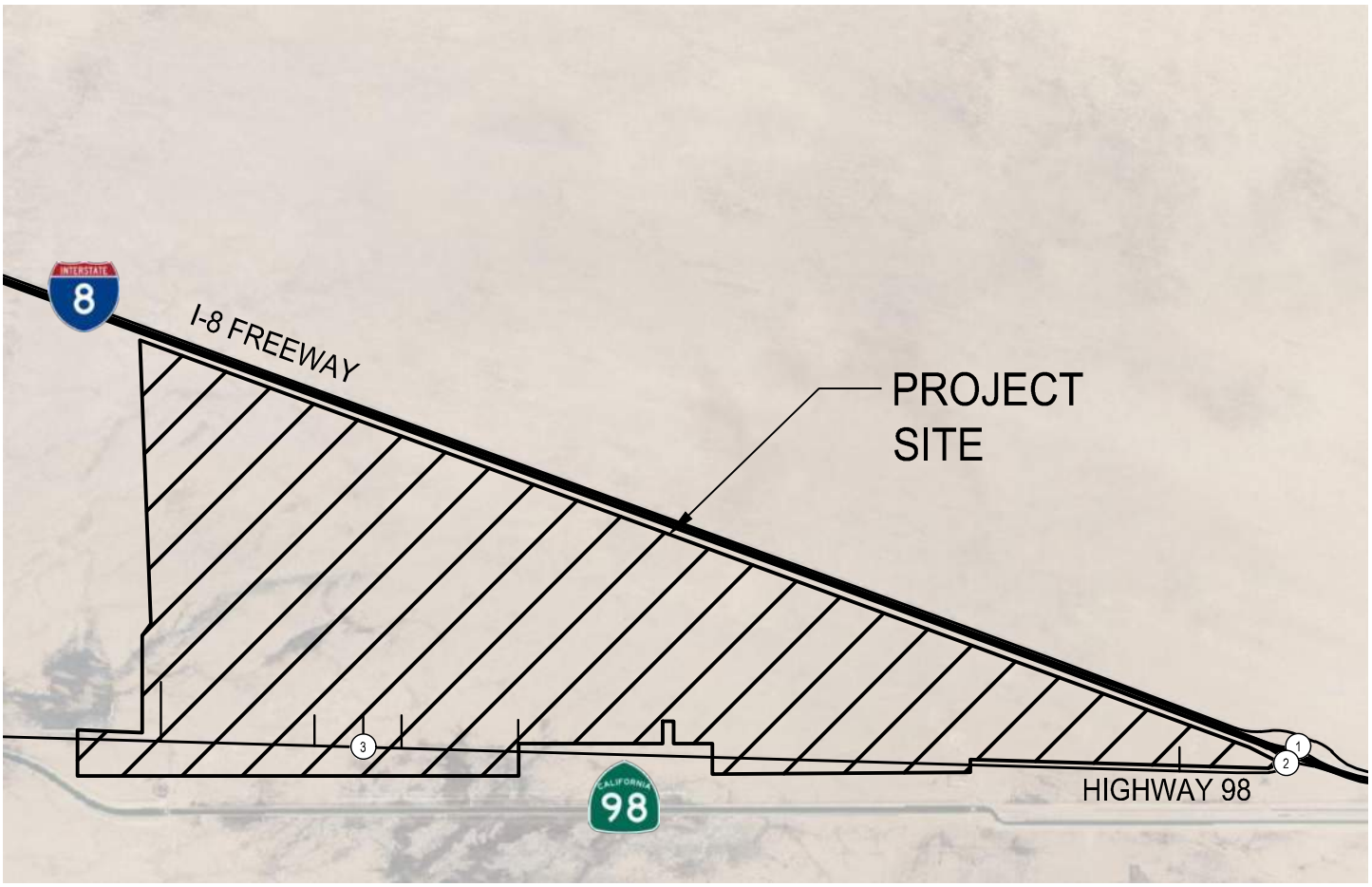

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NOT TO SCALE

LEGEND

XX/XX - AM/PM TRAFFIC VOLUMES

(#) - STUDY INTERSECTIONS

- SIGNALIZED INTERSECTION

- STOP CONTROLLED APPROACH

DAVID EVANS AND ASSOCIATES INC.

FIGURE 8: TEMPORARY CONSTRUCTION WITH PROJECT TRAFFIC VOLUMES
PERKINS RENEWABLE ENERGY PROJECT
UNINCORPORATED IMPERIAL COUNTY, CA

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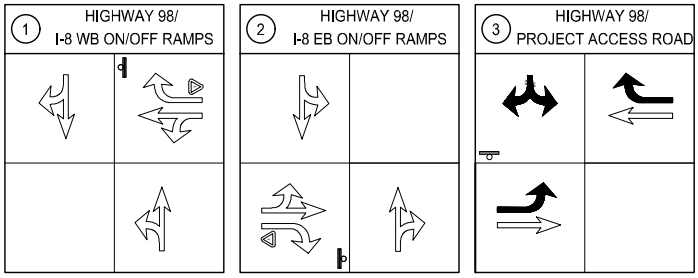

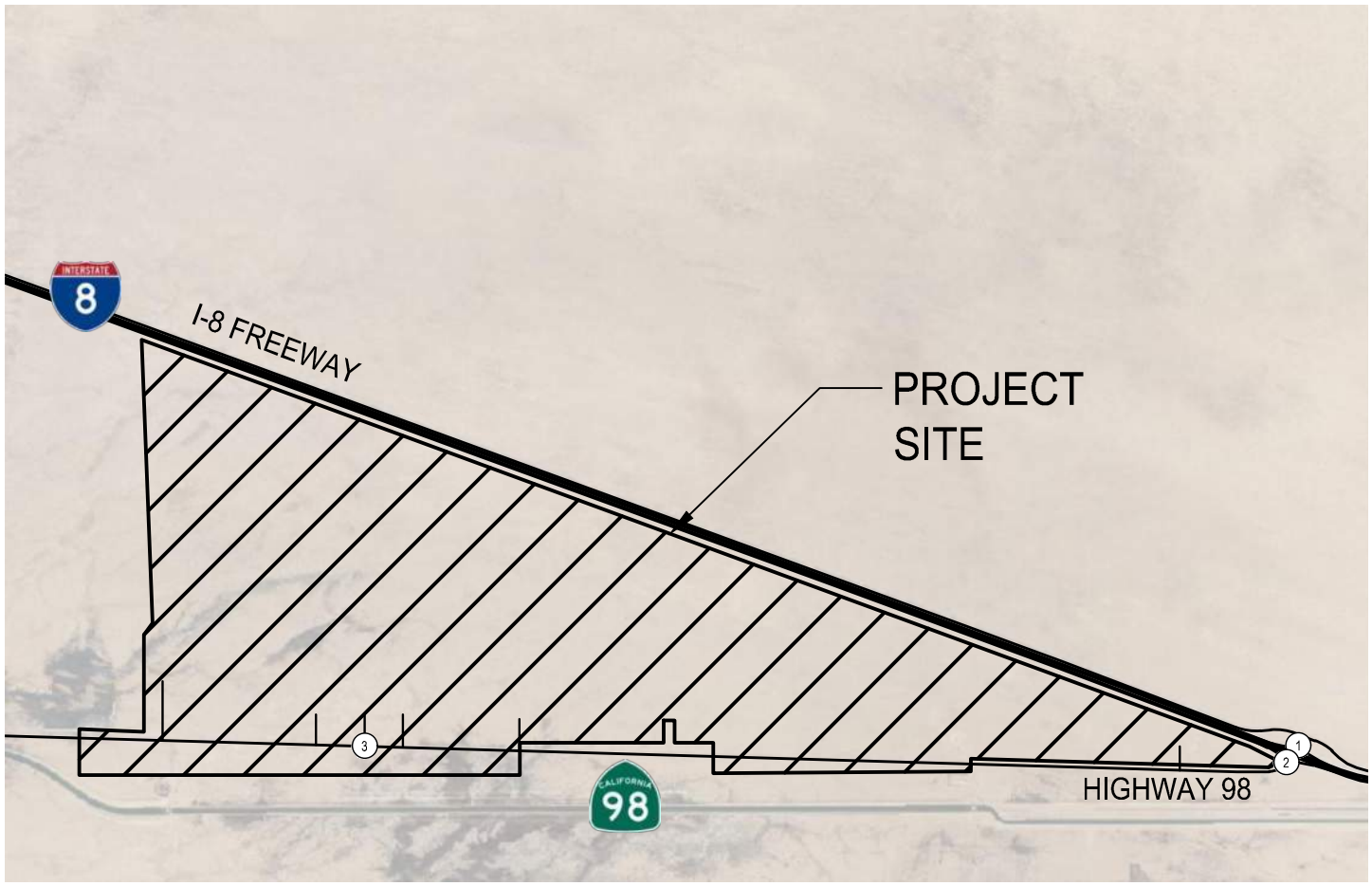

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NOT TO SCALE

LEGEND

- EXISTING GEOMETRICS
- PROPOSED GEOMETRICS
- # - STUDY INTERSECTIONS
- SIGNALIZED INTERSECTION
- STOP CONTROLLED APPROACH
- YIELD RIGHT TURN

DAVID EVANS AND ASSOCIATES INC.

FIGURE 9: TEMPORARY CONSTRUCTION WITH PROJECT INTERSECTION GEOMETRICS
PERKINS RENEWABLE ENERGY PROJECT
UNINCORPORATED IMPERIAL COUNTY, CA

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D. Temporary Project Construction Impacts with Project

Impacts to the Highway 98 and I-8 Ramp Intersections

As presented in **Table 5-2** above, under the Temporary Construction Conditions with Project scenario, there is no impact in the AM peak hour both ramp intersections will operate at a LOS C or better in the AM peak hour.

In the PM peak hour, assuming no trip reduction program in place, there are nearly 200 vehicles of outbound workers traveling northbound on the overpass to turn left onto the westbound on-ramp to I-8. This is a free movement with very little opposing traffic approaching southbound from the Evan Hewes Highway. However, these approximately 200 vehicles using the on-ramp conflict with about 150 left turns from the westbound I-8 off-ramp (most of which is existing traffic heading to Highway 98). The stop-controlled left turns from the I-8 westbound off-ramp operate at LOS E, experiencing delays of approximately 50 seconds per vehicle which is the threshold for acceptable delays at side-street stop-controlled intersections.

This level of service is based on the conservative assumption that all construction workers would depart the site during a single peak hour. Based on experience from other construction sites (unlike factory workers that all depart simultaneously at the end of a shift) on-site construction workers are comprised of multiple contractors and tradesmen with different work schedules and generally will depart the site over a period of several hours and not in a single surge.

The level of service analysis indicates that departing worker traffic using the on-ramp at the Highway 98 / I-8 Westbound Ramps intersection has the potential, under certain circumstances, to cause substantial delays to the stop-controlled off-ramp traffic and should be periodically monitored to determine if delay is occurring at the stop-controlled off-ramp, its duration, and frequency.

Impacts to the Highway 98 Project Access Driveways

The analysis of the project's access conservatively assumes 100% of the project trips enter and exit the Project's primary access driveway located on Highway 98 about six miles west of the I-8 interchange. Although construction workers will utilize all five of the access points, the distribution to each access is unknown. The intersection of Highway 98 / Project Driveway "A" is projected to operate at a LOS B in the AM peak hour and a LOS D in the PM peak hour.

Similar to the analysis of the I-8 ramp intersections, the level of service at the Project's primary access is based on the conservative assumption that all construction workers would arrive and depart the site during a single peak hour in the morning and in the afternoon respectively, but in actuality, will arrive and depart the site over a period of several hours and not in a single one-hour surge. However, there may be times when arriving or departing traffic surges. Surges of traffic should be anticipated through planning of worksite schedules, construction staging, significant material, or equipment deliveries, etc.

For both the Highway 98 / I-8 Westbound Ramps intersection and the Highway 98 access points, contingency flagging operations plans should be developed, approved, and be ready to implement in a relatively short time throughout the duration of the construction (see Section H).

The capacity of the Highway 98 access points may only be a concern under surge conditions, but safety-related issues at the access points may be a concern over the duration of construction regardless of traffic volume. Highway 98 is a rural two-lane highway with a 65-mph speed limit and one 12-foot-wide travel lane and an 8-foot shoulder in each direction. Vehicles turning left into a Project access driveway from eastbound Highway 98 may obstruct the travel lane while waiting for a gap in the opposing traffic flow and thereby increasing the risk of rear-end collisions, especially at night (see Section H for potential measures to improve safety during construction).

E. Temporary Construction Mitigation Measures

Prepare a Construction Traffic Control Plan (CTC Plan). Prior to the start of construction, the applicant will prepare and submit a Construction Traffic Control Plan for review and approval by Caltrans (and potentially input from the BLM, BOR, and Imperial County) for the state highways affected by construction of the Project. The Construction Traffic Control Plan should include, but not be limited to:

- **Plan for implementing a trip reduction (rideshare/carpool) program for the construction workforce.** The applicant's proposed trip reduction requirement for the contractor workforce should implement services and measures that effectively reduce construction commute traffic by half[5] assuming most workers would commute to the site in a single occupant vehicle otherwise. This level of reduction is not always possible at construction sites because many tradesmen require use of their vehicle and the tools it contains to do their job. Traditional measures to reduce the number of vehicles on-site like ridesharing, vanpools, and remote parking served by frequent shuttles will need to work in unison with measures that spread arriving and departing traffic over several hours, the most common of which is staggered shift start times and end times. Effectively meeting these objectives will reduce the number and frequency of required flagging operations.

  Further, the trip reduction program will require continuous monitoring and refinement to maintain its effectiveness throughout the 24-month duration of the Project's construction and adapt to the needs of a changing workforce that comes with the different technical specializations introduced in each stage of construction, and the ebb and flow of the workforce population as construction progresses. Monitoring is also important to hold participants accountable for their role in the success of the program, as well as enforcing violations of the program's rules and restrictions.

  The applicant and/or contractors should consider engaging a single entity to manage the trip reduction program rather than leaving it to each contractor to manage their own workers. A Transportation Management Association (TMA) or a private Transportation Management Services (TMS) organization can be an efficient and cost-effective way of achieving the objectives and having access to a more wide-ranging array of options to meet the trip reduction targets. The common services described earlier including leased remote parking served by shuttles, and organized and incentivized vanpools, can be augmented with customized services including developing and maintaining a rideshare matching service for individual workers, preparing and tracking the logistics involved in implementing staggered contractor work schedules, and ensuring the availability of lifeline supportive services like a guaranteed ride home program.

- **Flagging operations.** Temporary construction related impacts may periodically require flagging operations[6] during periods of maximum or concentrated inbound or outbound worker traffic or unique events for the delivery of large pieces of equipment or large number of materials. The need for flagging operations should be triggered when indicated through monitoring day to day traffic operations on routes to/from the site and determined to be required during construction stage planning. The workforce either needs to include Certified Flaggers available on demand or the managing entity retains Certified Flaggers on call.

  Impacts related to the volume of construction traffic causing intolerable delays to conflicting traffic movements or vehicle queuing that backs up into freeway mainline lanes and creating a safety risk may be addressed with manual traffic direction provided by officers of the California Highway Patrol instead of

[5] A 50% reduction is based on the definition of "ridesharing" in the California Vehicle Code as: "Ridesharing" means two or more persons traveling by any mode, including, but not limited to, carpooling, vanpooling, [shuttles], jitney, and public transit." Cal. Veh. Code § 522.

[6] Flagging operations will require a plan in accordance with California Code of Regulations, Title 8, Section 1599, (8 CCR 1599) "Flaggers," and Chapter 6E, "Flagger Control," of the *California MUTCD*. This plan should be prepared and approved by Caltrans before beginning construction.

flagging crews. This service may not always be available and should be reserved for a unique event planned for a specific data and time (advance coordination with Caltrans and the California Highway Patrol required) or if serious traffic congestion related to the Project occurs unexpectantly due to unforeseen circumstances or an incident the California Highway Patrol may be dispatched to site.

The CTC Plan should identify the locations and use of flaggers, warning signs, lights, barricades, delineators, cones, arrow boards, etc., according to standard guidelines outlined in the Manual on Uniform Traffic Control Devices, the Standard Specifications for Public Works Construction, and/or the California Temporary Traffic Control Handbook.

- **Corridorwide safety measures coordinated with Caltrans**. Prior to the start of construction, the applicant should meet with Caltrans to identify measures that could effectively improve safety in the Highway 98 corridor between Interstate 8 and the Project's western boundary during the construction period. Measures to improve safety could include signs warning of TRUCKS ENTERING EXITING C44(CA) highway or, if permitted by Caltrans, advanced intersection warning signs such as W2-2 (see illustration) giving advance warning of an upcoming access intersection at each of the five access points in both directions. Alternatively, trailer mounted Changeable Message Signs (CMS) with an appropriate message could be stationed at the beginning of the Project's site frontage in both directions of Highway 98. Temporary regulatory changes may be justified such as a reduced speed limit through the Project's site frontage, or prohibiting left turns into the Project access points from eastbound Highway 98.

- **Plan for monitoring and responding to construction traffic conditions**. The CTC Plan should include a traffic monitoring plan that spans the full duration of the Project's construction, includes monitoring of anticipated special events in each stage of construction, and includes contingencies for rapid deployment monitoring in unexpected situations. The traffic monitoring plan should maintain a hierarchy of contact persons identifying roles and responsibilities.
  Initial monitoring of day-to-day traffic conditions on the routes to the work sites while the trip reduction program is in its early stages is essential to determine efficacy and to adjust the plan. Monitoring should be conducted continuously in the initial two weeks of construction and whenever a new stage of construction begins or the number of workers and/or daily deliveries of equipment changes materially to identify when flagging operations are needed. Major equipment and material deliveries should be monitored before and during planned use of flagging operations. After the initial continuous monitoring, traffic monitoring should continue periodically but regularly, and work force commuters should be solicited to report on traffic conditions they observe daily. Monitoring can use traditional roaming vehicle techniques or take advantage of current technology such as closed-circuit camera systems, sensors, drones, or even "big data" if the resolution is fine enough to identify real-time problems.

  Monitoring must include observation of the I-8 off-ramp queues during inbound and outbound commute periods to identify normal queue lengths and the potential for queues to extend into the freeway mainline lanes resulting in a safety risk. Coordinate monitoring with Caltrans and the California Highway Patrol to establish criteria that trigger implementation of flagging operations or other traffic control measures.

- **Encroachment permits for temporary construction access to work sites**. The applicant will be required to obtain encroachment permits from Caltrans before constructing the five proposed access driveways, and the CTC Plan should identify the steps in the permitting process, the timeline, and submittals required from the permitting division. Coordinate with Caltrans early in the planning process to identify the information / submittals Caltrans will require including temporary traffic control measures, signing and pavement marking plans, restrictions, and shoulder and roadside modifications within Caltrans right of way to improve safety and reduce damage. Caltrans may also require pavement damage monitoring and rehabilitation once construction has been completed.

6. OPENING YEAR CONDITIONS WITHOUT PROJECT

The opening year is defined as the period in which the Project is fully constructed and in full operation. The opening year baseline traffic volumes are comprised of existing traffic volumes, ambient growth, and any operation and maintenance traffic generated by other projects in the vicinity of the Project. The opening year, 2027, represents the first year of commercial operation of the proposed Project.

Ambient growth is a general rate of growth in traffic from overall regional growth (assumed to be 3% compounded annually for this study). No planned or approved projects were identified in the vicinity of the study area in the Bureau of Land Management National NEPA Register or by Imperial County Planning and Development Services.

A. Opening Year Conditions without Project Traffic Analysis

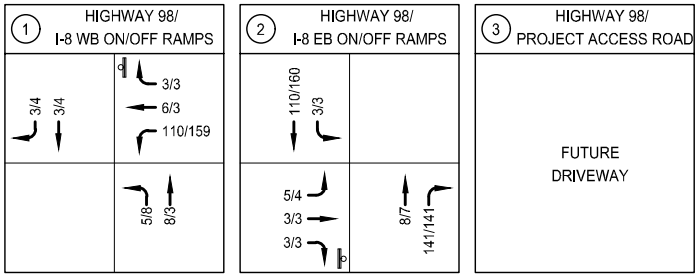
The opening year conditions intersection capacity analysis is based on existing intersection geometrics and the Projected AM peak hour and PM peak hour traffic volumes shown in **Figure 10**. **Table 6-1** and **Appendix B** provide the results of the analysis.

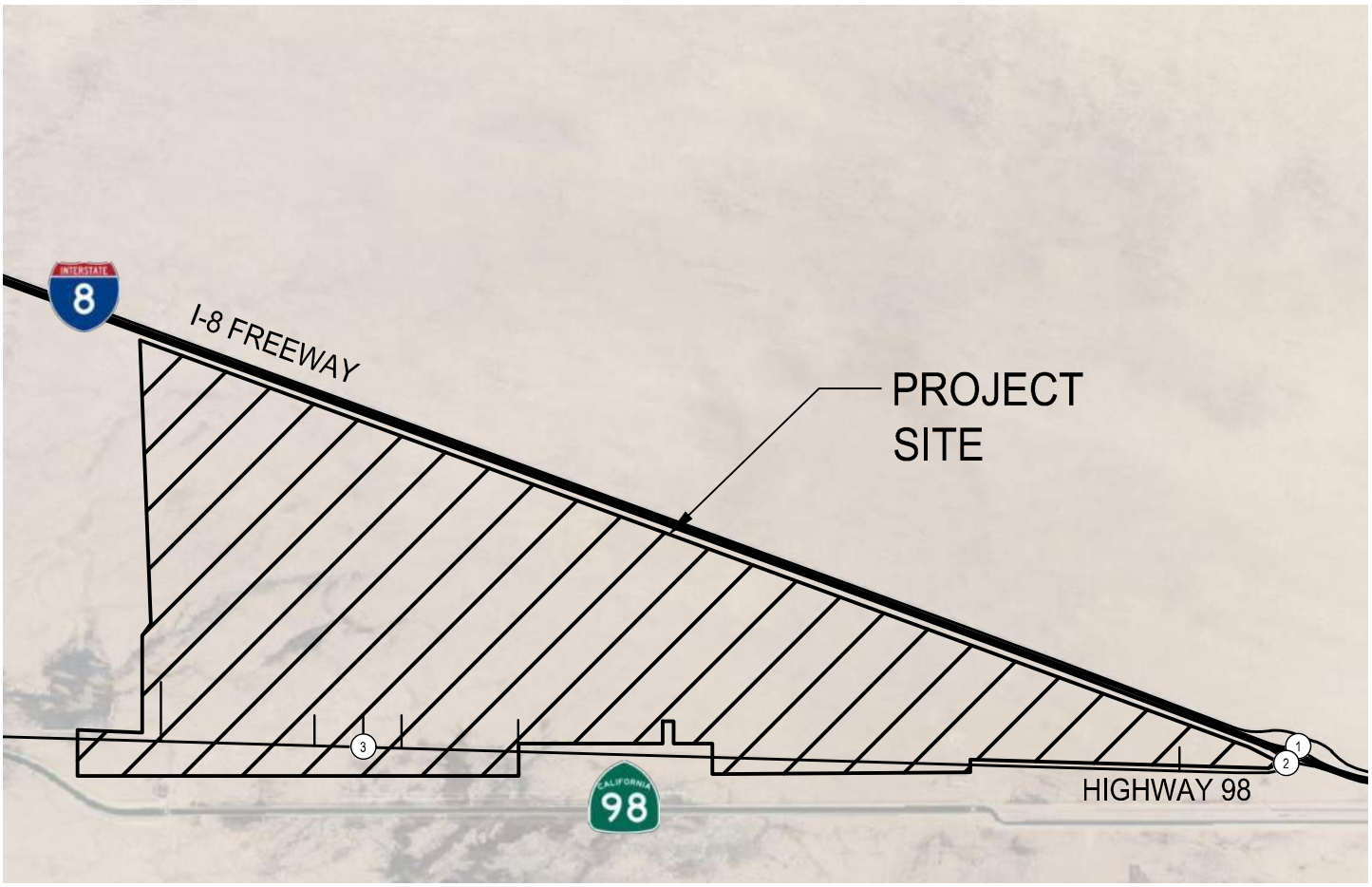
Table 6-1: Opening Year Conditions without Project Intersection Levels of Service

Intersection	Control Type	AM Peak		PM Peak	
		Delay	LOS	Delay	LOS
1. Highway 98 / I-8 Westbound Ramps	SSSC	9.1	A	10.1	B
2. Highway 98 / I-8 Eastbound Ramps	SSSC	10.0	B	10.2	B
3. Highway 98 / Project Driveway "A"	SSSC	Not Applicable (Future Driveway)			

Source: David Evans and Associates, Inc.
Definitions and Abbreviations:
SSSC – Side-street stop-controlled intersection, Delay – seconds per vehicle, LOS – Level of Service

As presented in **Table 6-1***,* in the opening year conditions without Project scenario, the study intersections would operate at a LOS B or better in both the AM peak hour and PM peak hour.





N

NOT TO SCALE

LEGEND

XX/XX - AM/PM TRAFFIC VOLUMES

(#) - STUDY INTERSECTIONS

- SIGNALIZED INTERSECTION

- STOP CONTROLLED APPROACH

DAVID EVANS AND ASSOCIATES INC.

FIGURE 10: OPENING YEAR CONDITIONS WITHOUT PROJECT TRAFFIC VOLUMES
PERKINS RENEWABLE ENERGY PROJECT
UNINCORPORATED IMPERIAL COUNTY, CA

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7. OPENING YEAR CONDITIONS WITH PROJECT

The opening year is defined as the first 12-month period in which the Project constructed is completed and the facility is in full operation. The opening year with Project scenario includes the addition of the Project's maximum operation and maintenance-related traffic to the traffic forecast for the opening year without Project scenario.

A. Estimated Project Operations and Maintenance Trip Generation

Trip generation for the proposed Project was developed for its operations and maintenance phase using information provided by the applicant. **Table 7-1** provides the average daily, AM peak hour, and PM peak hour trips generated for the operation and maintenance phase.

Table 7-1: Perkins Renewable Energy Project Operations and Maintenance Trip Generation

Description	Peak Hour Quantity	ADT	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Daily Workers	29	64	29	3	32	3	29	32
Delivery Trucks	7	14	5	4	9	3	2	5
Total		78	34	7	41	6	31	37

B. Project Operations and Maintenance Trip Distribution and Assignment

The Project's operations and maintenance trip distribution is shown on **Figure 11**, and the resulting Project only trips at the study intersections is shown on **Figure 12**.

C. Project Operations and Maintenance Project Traffic Analysis

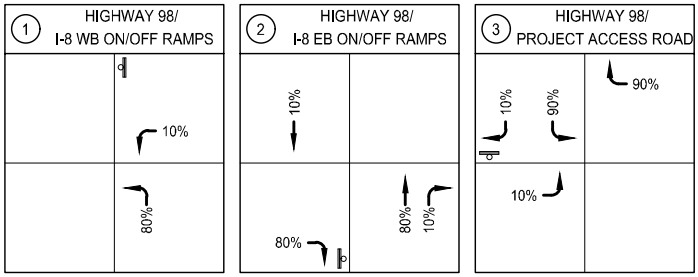
Figure 13 shows the opening year conditions with Project traffic volumes utilized in the capacity analysis. **Table 7-2** and **Appendix B** provide the results of the analysis.

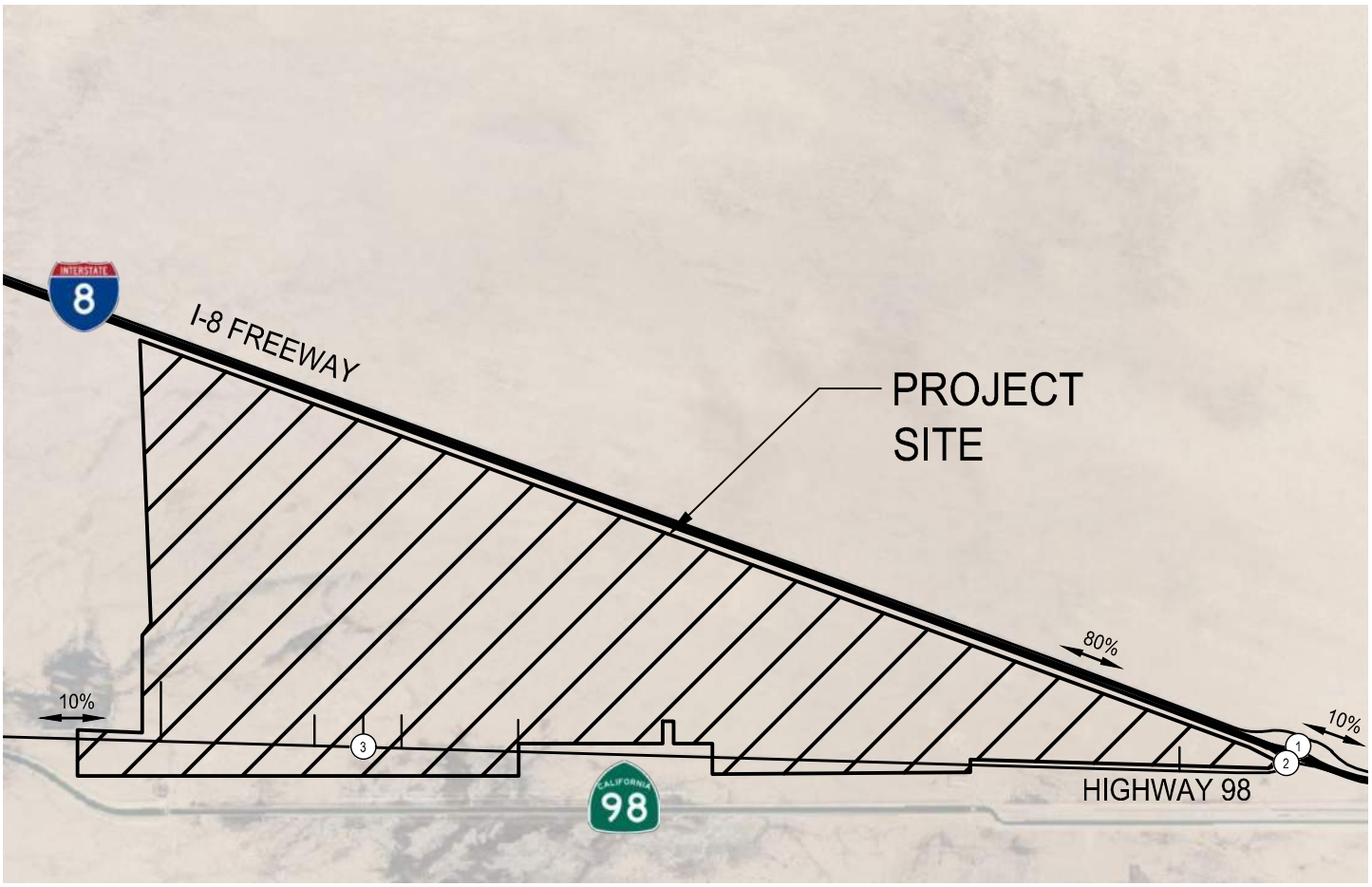
Table 7-2: Opening Year Conditions with Project Intersection Levels of Service

Intersection	Control Type	Opening Year Conditions Without Project				Opening Year Conditions With Project			
		AM Peak		PM Peak		AM Peak		PM Peak	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. Highway 98 / I-8 Westbound Ramps	SSSC	9.1	A	10.1	B	9.2	A	11.2	B
2. Highway 98 / I-8 Eastbound Ramps	SSSC	10.0	B	10.2	B	10.1	B	10.4	B
3. Highway 98 / Project Driveway "A"	SSSC	Not Applicable (Future Driveway)				9.9	A	10.2	B

Source: David Evans and Associates, Inc.
Definitions and Abbreviations:
SSSC – Side-street stop-controlled intersection, Delay – seconds per vehicle, LOS – Level of Service

As presented in **Table 7-2**, under opening year conditions with Project scenario, the study intersections are anticipated to operate at LOS B or better during both the AM peak hour and PM peak hour.





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NOT TO SCALE

LEGEND

XX% - GENERAL PROJECT OPERATION AND MAINTENANCE TRIP DISTRIBUTION

XX% - SPECIFIC PROJECT OPERATION AND MAINTENANCE TRIP PERCENTAGE

(#) - STUDY INTERSECTIONS

- STOP CONTROLLED INTERSECTION

- SIGNAL CONTROLLED INTERSECTION

DAVID EVANS AND ASSOCIATES INC.

FIGURE 11: PROJECT OPERATION AND MAINTENANCE TRIP DISTRIBUTION PERKINS RENEWABLE ENERGY PROJECT UNINCORPORATED IMPERIAL COUNTY, CA

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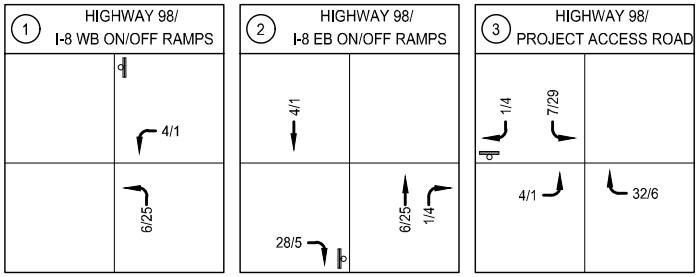

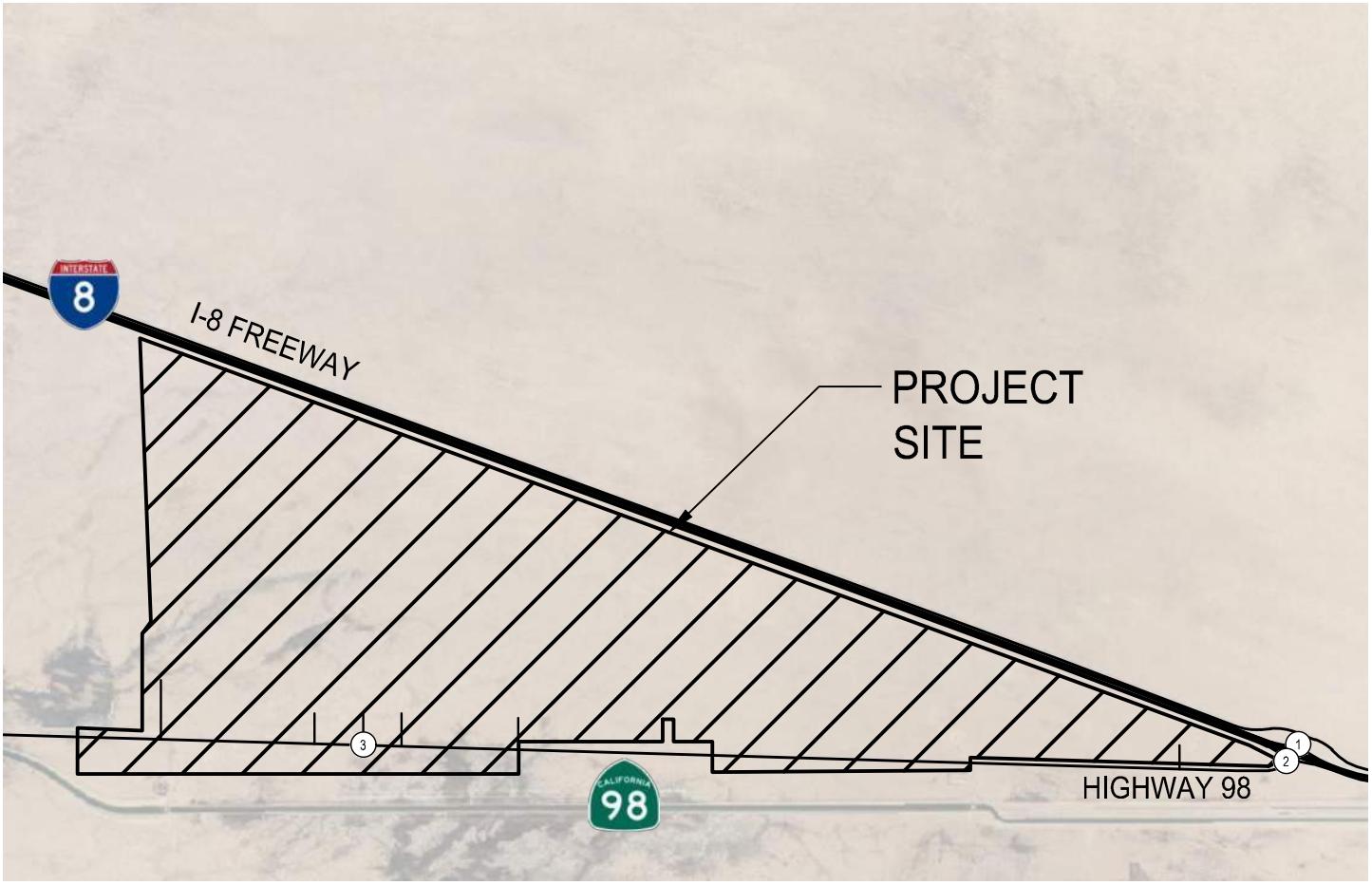

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NOT TO SCALE

PROJECT OPERATIONS AND MAINTENANCE TRIPS

AM PEAK PERIOD - 34 IN / 7 OUT
PM PEAK PERIOD - 6 IN / 31 OUT

LEGEND

XX/XX - AM/PM PROJECT OPERATION AND MAINTENANCE TRIPS
(#) - STUDY INTERSECTIONS
- SIGNALIZED INTERSECTION
- STOP CONTROLLED APPROACH

DAVID EVANS AND ASSOCIATES INC.

FIGURE 12: PROJECT OPERATIONS AND MAINTENANCE TRIPS
PERKINS RENEWABLE ENERGY PROJECT
UNINCORPORATED IMPERIAL COUNTY, CA

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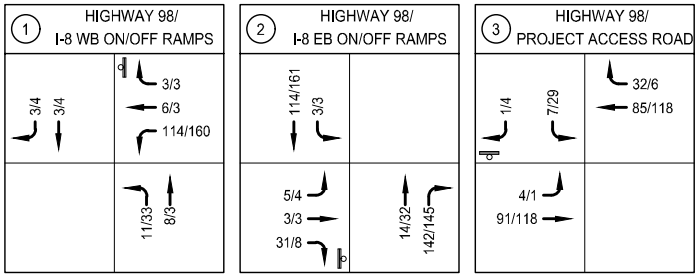

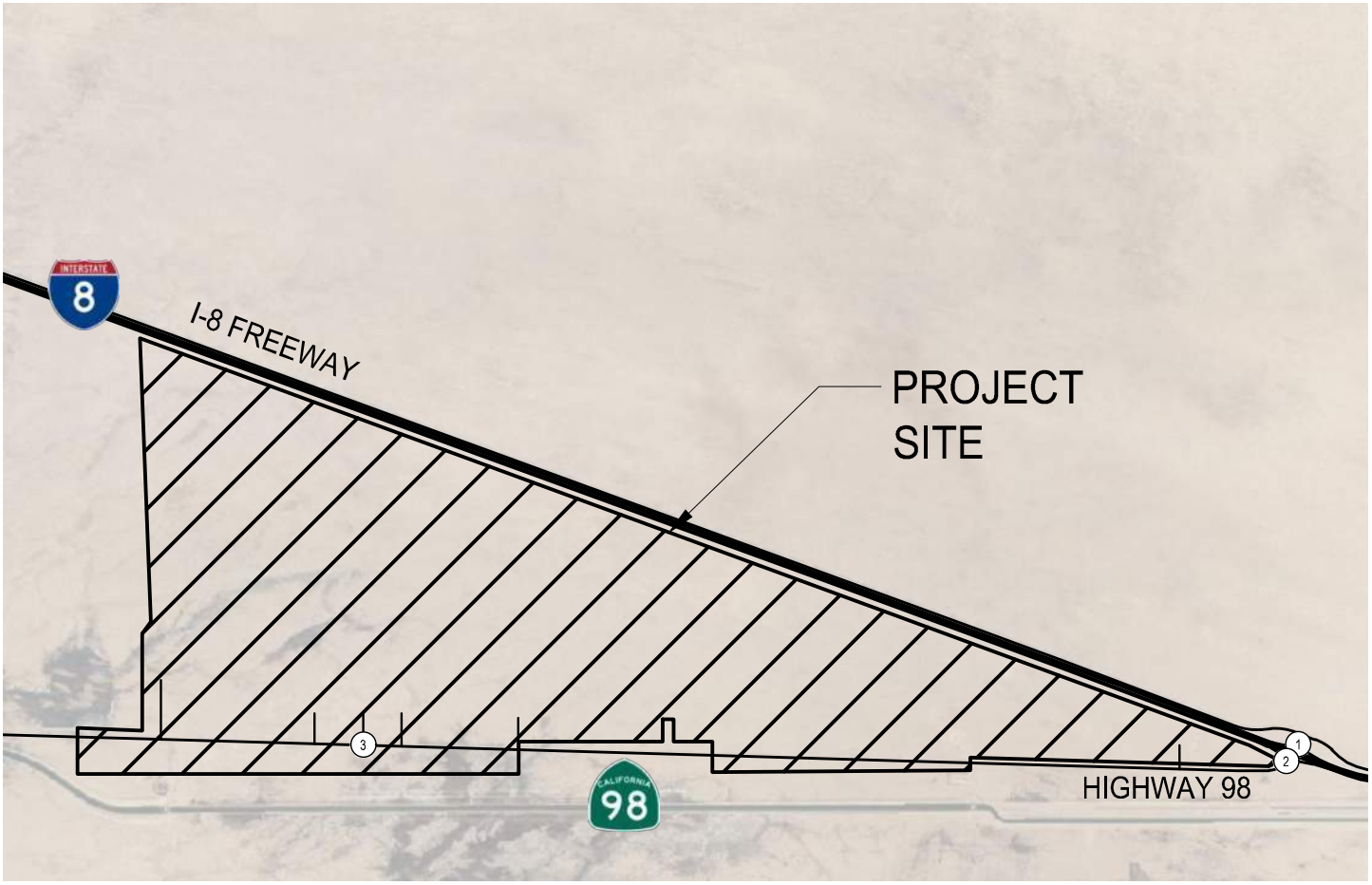

N

NOT TO SCALE

LEGEND

XX/XX - AM/PM TRAFFIC VOLUMES

(#) - STUDY INTERSECTIONS

- SIGNALIZED INTERSECTION

- STOP CONTROLLED APPROACH

DAVID EVANS AND ASSOCIATES INC.

FIGURE 13: OPENING YEAR WITH PROJECT TRAFFC VOLUMES
PERKINS RENEWABLE ENERGY PROJECT
UNINCORPORATED IMPERIAL COUNTY, CA

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D. Project Operations and Maintenance Conditions Mitigations Measures

Although not required to mitigate level of service impacts, access to the proposed Project from Highway 98 at the proposed facility's primary driveway "A" will require general safety related improvements for a two-lane, high speed rural highway. The recommended improvements remove turning traffic from the travel lanes and provide a lane where high-speed traffic can safely decelerate without impeding through traffic and risking rear-end collisions. During surges of arriving workforce traffic the deceleration / storage lanes provide space for vehicles to wait while waiting for a gap in opposing traffic (left turn in) or waiting for the driveway to clear of queued vehicles (left or right turn in).

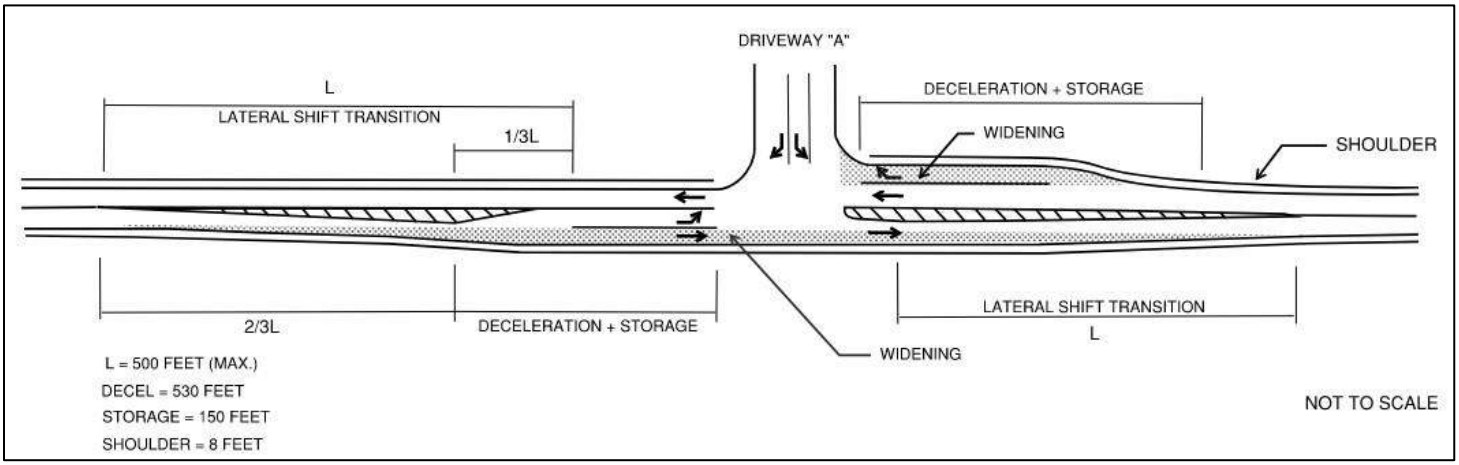
The recommended access improvements for the Project's Highway 98 / Driveway #A include:

3. Widen the approaches to the intersection of Highway 98 at Driveway #A to accommodate the following deceleration and storage / turning lanes into the access driveway (see schematic diagram below)
    a. Eastbound deceleration / median left turn lane (12-foot lane width)
    b. Westbound deceleration / right turn lane (12-foot lane width plus 8-foot-wide shoulder)
4. Construct Driveway "A" north of Highway 98, paved at a typical commercial driveway width of 26 feet.

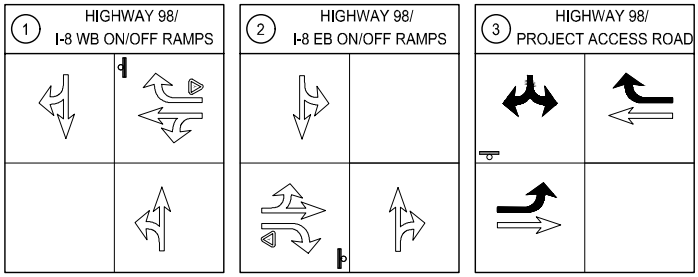
Table 7-3 presents the intersection level of service at the Highway 98 / Project Driveway "A" with the recommended improvements, which will operate at LOS B during both the AM peak hour and PM peak hour. It is important to reiterate that the recommended mitigation measures are for safety improvements and not level of service improvements. **Figure 14** illustrates the mitigated intersection geometrics.

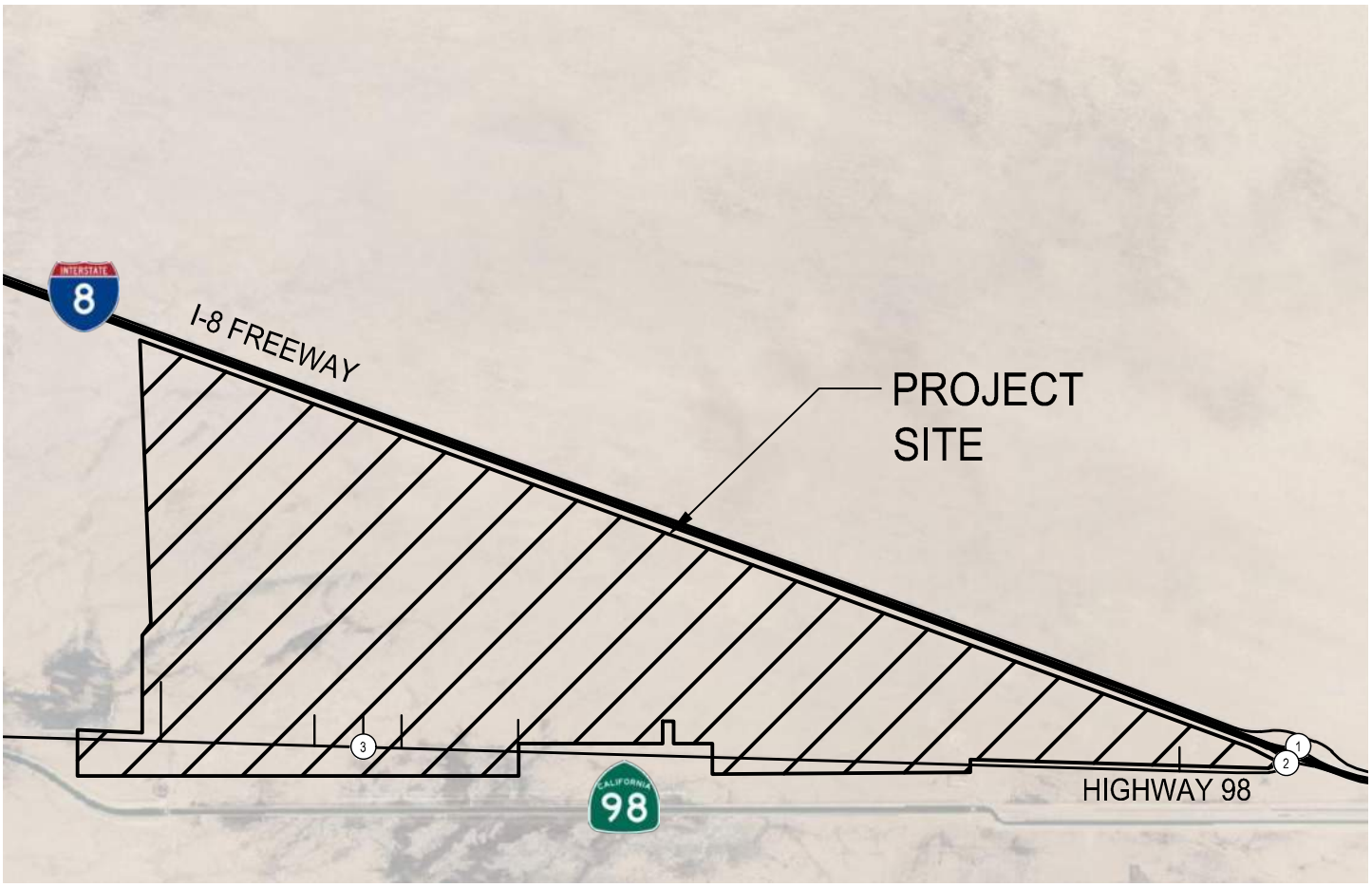
Table 7-3: Opening Year Conditions with Project – With Mitigation Measures

Intersection	Control Type	AM Peak		PM Peak	
		Delay	LOS	Delay	LOS
3. Highway 98 / Project Driveway "A"	SSSC	9.7	A	10.2	B
Source: David Evans and Associates, Inc. Definitions and Abbreviations: SSSC – Side-street stop-controlled intersection, Delay – seconds per vehicle, LOS – Level of Service					



Recommended improvements to improve safety at the Project's primary access (Driveway A) during the operations and maintenance lifespan of the Project.





N

NOT TO SCALE

LEGEND

- EXISTING GEOMETRICS
- PROPOSED GEOMETRICS
- (#) - STUDY INTERSECTIONS
- SIGNALIZED INTERSECTION
- STOP CONTROLLED APPROACH
- YIELD RIGHT TURN

DAVID EVANS AND ASSOCIATES INC.

FIGURE 14: OPENING YEAR WITH PROJECT
INTERSECTION GEOMETRICS
PERKINS RENEWABLE ENERGY PROJECT
UNINCORPORATED IMPERIAL COUNTY, CA

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8. CUMULATIVE YEAR 2047 CONDITIONS WITHOUT PROJECT

The Cumulative Year 2047 Conditions scenario represents long-term conditions assuming a 20-year planning horizon without traffic generated by the Project. As a starting point for developing the year 2047 traffic projections, baseline year 2020 and future year 2040 bi-directional link volume forecasts from the Southern California Association of Governments (SCAG) Transportation Model are used to develop an annual average growth rate. The 2020 and 2040 bi-directional link volume forecasts are provided in **Appendix C**.

The annual growth rates derived from the 2020 baseline and 2040 future SCAG model forecasts are applied to the 2023 traffic counts and compounded annually for the 22-year period between 2023 and 2047. No other cumulative development in the vicinity of the study area has been identified and, therefore, the year 2047 traffic volumes derived in the above process represent the cumulative year 2047 without Project (no Build) scenario.

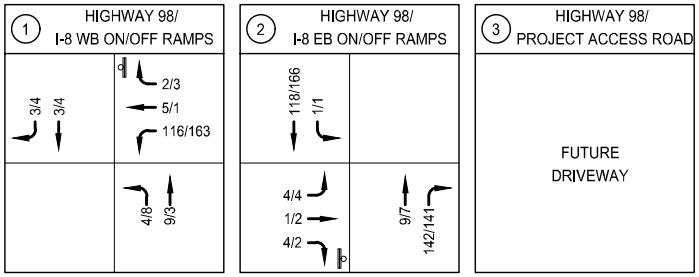
A. Cumulative Year 2047 Conditions without Project Traffic Analysis

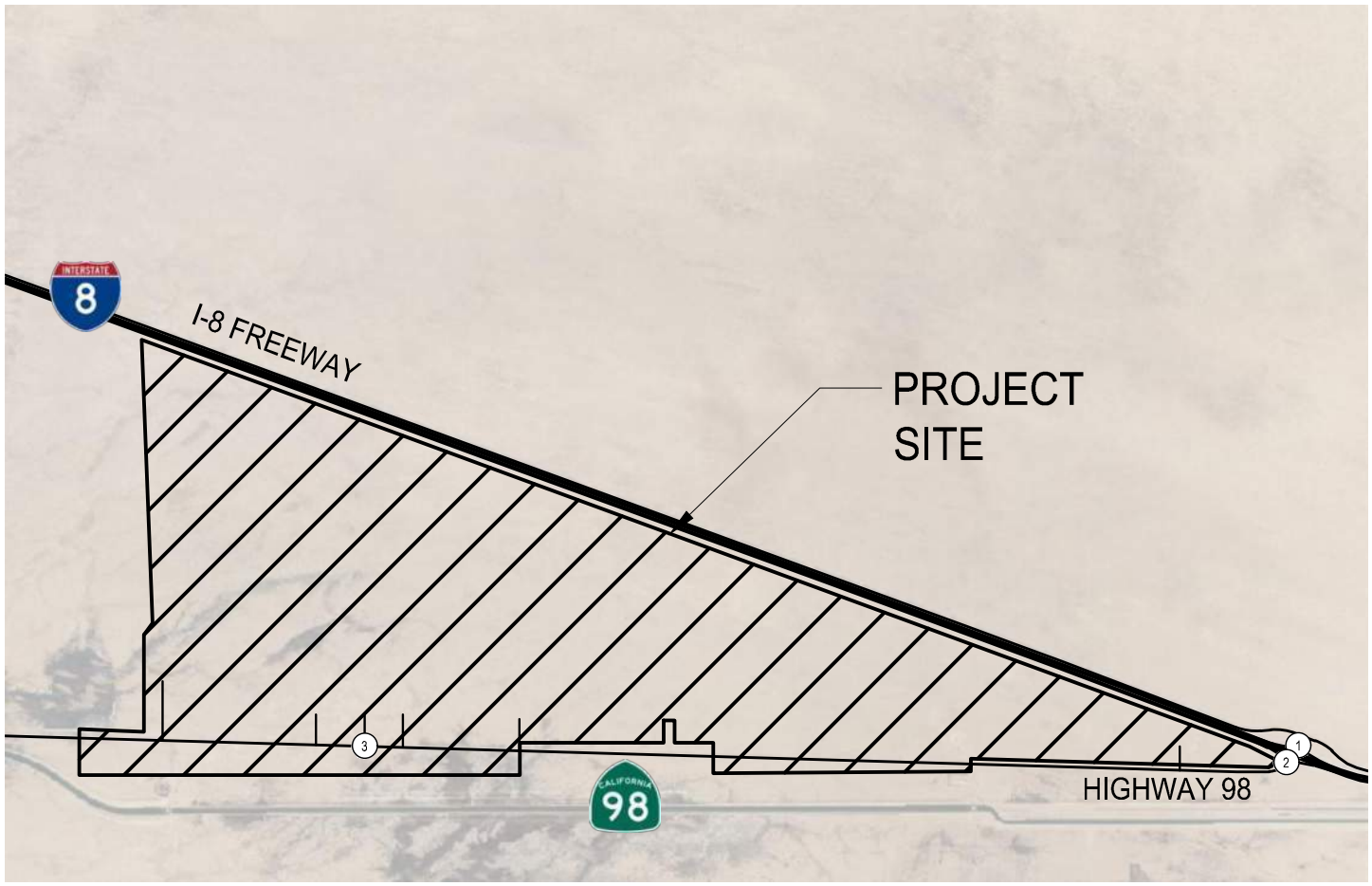
The cumulative year 2047 conditions intersection capacity analysis is based on existing intersection geometrics and the projected AM peak hour and PM peak hour traffic volumes shown in **Figure 15**. **Table 8-1** and **Appendix B** provide the results of the analysis.

Table 8-1: Cumulative Year 2047 Conditions without Project Intersection Levels of Service

Intersection	Control Type	AM Peak		PM Peak	
		Delay	LOS	Delay	LOS
1. Highway 98 / I-8 Westbound Ramps	SSSC	9.1	A	10.2	B
2. Highway 98 / I-8 Eastbound Ramps	SSSC	10.0	B	10.2	B
3. Highway 98 / Project Driveway “A”	SSSC	Not Applicable (Future Driveway)			
Source: David Evans and Associates, Inc. Definitions and Abbreviations: SSSC – Side-street stop-controlled intersection, Delay – seconds per vehicle, LOS – Level of Service					

As presented in **Table 8-1**, under cumulative year 2047 conditions without Project, the study intersections are anticipated to operate at a LOS B or better in both the AM peak hour and PM peak hour.





N

NOT TO SCALE

LEGEND

XX/XX - AM/PM TRAFFIC VOLUMES

(#) - STUDY INTERSECTIONS

- SIGNALIZED INTERSECTION

- STOP CONTROLLED APPROACH

DAVID EVANS AND ASSOCIATES INC.

FIGURE 15: CUMULATIVE YEAR 2047 CONDITIONS WITHOUT PROJECT TRAFFIC VOLUMES PERKINS RENEWABLE ENERGY PROJECT UNINCORPORATED IMPERIAL COUNTY, CA

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Last Opened: Dec 19, 2023 - 4:45pm by: Tmm

9. CUMULATIVE YEAR 2047 CONDITIONS WITH PROJECT TRAFFIC VOLUMES

The Cumulative Year 2047 with Project scenario represents the 20-year planning horizon under build conditions. In this scenario, the Project's operations and maintenance trip generation is added to the cumulative year 2047 without Project (no build) conditions forecast traffic volumes.

A. Cumulative Year 2047 Conditions with Project Traffic Analysis

The Cumulative Year 2047 Conditions with Project intersection capacity analysis is based on existing intersection geometrics and the cumulative year 2047 conditions with Project traffic volumes shown in **Figure 16. Table 9-1** and **Appendix B** provide the results of the analysis.

Table 9-1: Cumulative Year 2047 Conditions with Project Intersection Levels of Service

Intersection	Control Type	Cumulative Year 2045 Conditions				Cumulative Year 2045 Conditions With Project			
		AM Peak		PM Peak		AM Peak		PM Peak	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. Highway 98 / I-8 Westbound Ramps	SSSC	9.1	A	10.2	B	9.2	A	11.2	B
2. Highway 98 / I-8 Eastbound Ramps	SSSC	10.0	B	10.2	B	10.1	B	10.4	B
3. Highway 98 / Project Driveway "A"	SSSC	Not Applicable (Future Driveway)				10.0	B	10.3	B

Source: David Evans and Associates, Inc.
Definitions and Abbreviations:
SSSC – Side-street stop-controlled intersection, Delay – seconds per vehicle, LOS – Level of Service

As presented in **Table 9-1***,* under the cumulative year 2047 conditions with Project scenario, the study intersections are anticipated to operate at a LOS B or better in both the AM peak hour and PM peak hour.

B. Project Operations and Maintenance Mitigations Measures

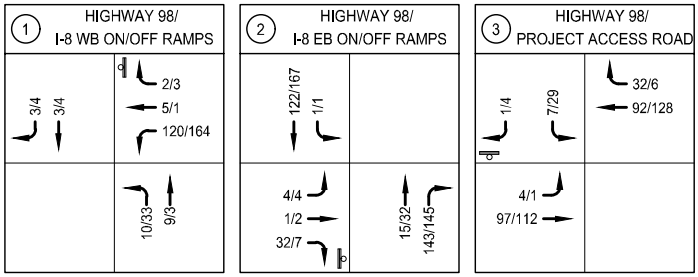
If implemented, the safety measures recommended for opening day conditions with Project will be in place in cumulative year 2047 conditions with Project. No additional improvements are required to mitigate any level of service deficiency or improve safety conditions related to traffic entering the Project's primary access point (Driveway "A").

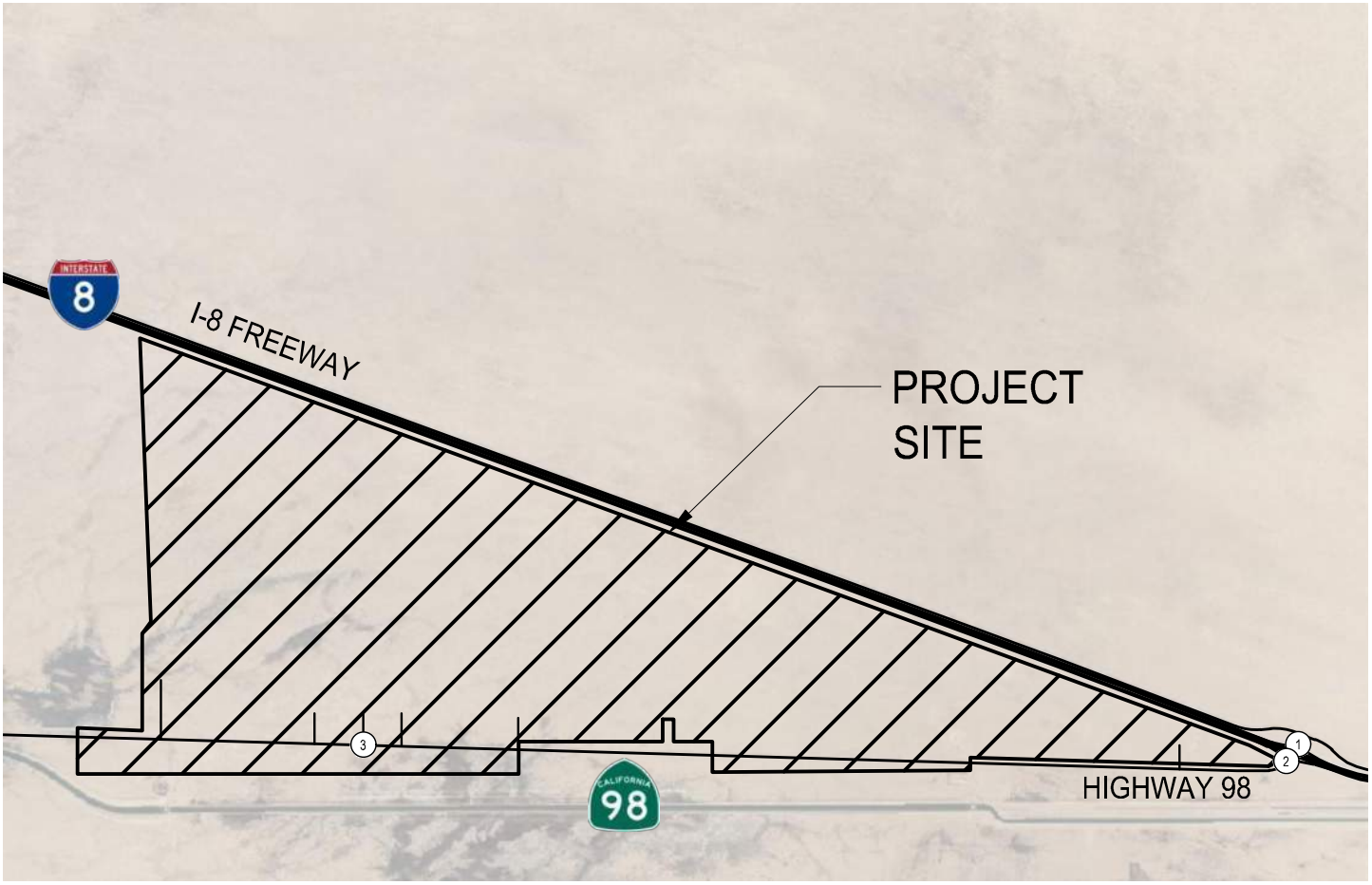
The **Table 9-2** presents the level of service at the Highway 98 / Project Driveway A intersection, which will operate at LOS A in the AM peak hour and at a LOS B in the PM peak hour. It is important to reiterate that the recommended widening and lane construction are for safety improvements and not for mitigating a level of service deficiency.

Table 9-2: Cumulative Year 2047 Conditions with Project – With Mitigation Measures

Intersection	Control Type	AM Peak		PM Peak	
		Delay	LOS	Delay	LOS
3. Highway 98 / Project Driveway "A"	SSSC	9.9	A	10.2	B

Source: David Evans and Associates, Inc.
Definitions and Abbreviations:
SSSC – Side-street stop-controlled intersection, Delay – seconds per vehicle, LOS – Level of Service





N

NOT TO SCALE

LEGEND

XX/XX - AM/PM TRAFFIC VOLUMES

(#) - STUDY INTERSECTIONS

- SIGNALIZED INTERSECTION

- STOP CONTROLLED APPROACH

DAVID EVANS AND ASSOCIATES INC.

FIGURE 16: CUMULATIVE YEAR 2047 CONDITIONS WITH PROJECT TRAFFIC VOLUMES PERKINS RENEWABLE ENERGY PROJECT UNINCORPORATED IMPERIAL COUNTY, CA

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Last Opened: Dec 19, 2023 - 4:45pm by: Tmm

APPENDICES

Appendix A: Traffic Counts
Appendix B: Intersection Capacity Analysis Worksheets
Appendix C: Southern California Association of Governments (SCAG) Transportation Model Plots

Appendix A: Traffic Counts

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

County of Imperial
N/S: SR-98
E/W: I-8 Westbound Ramps
Weather: Clear

File Name : 01_CIM_SR98_I8W AM
Site Code : 13023987
Start Date : 10/24/2023
Page No : 1

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

	SR-98 Southbound				I-8 Westbound Off Ramp Westbound				SR-98 Northbound				I-8 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:00 AM	0	0	0	0	6	1	0	7	0	0	0	0	0	0	0	0	7
06:15 AM	0	0	0	0	9	0	0	9	0	0	0	0	0	0	0	0	9
06:30 AM	0	0	0	0	18	1	0	19	0	1	0	1	0	0	0	0	20
06:45 AM	0	0	1	1	19	0	1	20	0	1	0	1	0	0	0	0	22
Total	0	0	1	1	52	2	1	55	0	2	0	2	0	0	0	0	58
07:00 AM	0	0	0	0	21	0	0	21	0	1	0	1	0	0	0	0	22
07:15 AM	0	0	0	0	23	1	0	24	1	0	0	1	0	0	0	0	25
07:30 AM	0	0	0	0	11	0	0	11	0	2	0	2	0	0	0	0	13
07:45 AM	0	0	0	0	22	0	0	22	0	0	0	0	0	0	0	0	22
Total	0	0	0	0	77	1	0	78	1	3	0	4	0	0	0	0	82
08:00 AM	0	0	0	0	12	0	0	12	0	0	0	0	0	0	0	0	12
08:15 AM	0	1	0	1	9	1	0	10	0	1	0	1	0	0	0	0	12
08:30 AM	0	0	0	0	15	0	0	15	0	0	0	0	0	0	0	0	15
08:45 AM	0	1	1	2	20	0	1	21	0	1	0	1	0	0	0	0	24
Total	0	2	1	3	56	1	1	58	0	2	0	2	0	0	0	0	63
Grand Total	0	2	2	4	185	4	2	191	1	7	0	8	0	0	0	0	203
Apprch %	0	50	50		96.9	2.1	1		12.5	87.5	0		0	0	0		
Total %	0	1	1	2	91.1	2	1	94.1	0.5	3.4	0	3.9	0	0	0	0	
Passenger Vehicles	0	2	2	4	160	2	2	164	0	4	0	4	0	0	0	0	172
% Passenger Vehicles	0	100	100	100	86.5	50	100	85.9	0	57.1	0	50	0	0	0	0	84.7
Large 2 Axle Vehicles	0	0	0	0	6	0	0	6	0	1	0	1	0	0	0	0	7
% Large 2 Axle Vehicles	0	0	0	0	3.2	0	0	3.1	0	14.3	0	12.5	0	0	0	0	3.4
3 Axle Vehicles	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	2
% 3 Axle Vehicles	0	0	0	0	1.1	0	0	1	0	0	0	0	0	0	0	0	1
4+ Axle Trucks	0	0	0	0	17	2	0	19	1	2	0	3	0	0	0	0	22
% 4+ Axle Trucks	0	0	0	0	9.2	50	0	9.9	100	28.6	0	37.5	0	0	0	0	10.8

	SR-98 Southbound				I-8 Westbound Off Ramp Westbound				SR-98 Northbound				I-8 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 06:30 AM																	
06:30 AM	0	0	0	0	18	**1**	0	19	0	**1**	0	**1**	0	0	0	0	20
06:45 AM	0	0	**1**	**1**	19	0	**1**	20	0	1	0	1	0	0	0	0	22
07:00 AM	0	0	0	0	21	0	0	21	0	1	0	1	0	0	0	0	22
07:15 AM	0	0	0	0	**23**	1	0	**24**	**1**	0	0	1	0	0	0	0	**25**
Total Volume	0	0	1	1	81	2	1	84	1	3	0	4	0	0	0	0	89
% App. Total	0	0	100		96.4	2.4	1.2		25	75	0		0	0	0		
PHF	.000	.000	.250	.250	.880	.500	.250	.875	.250	.750	.000	1.00	.000	.000	.000	.000	.890

Counts Unlimited, Inc.
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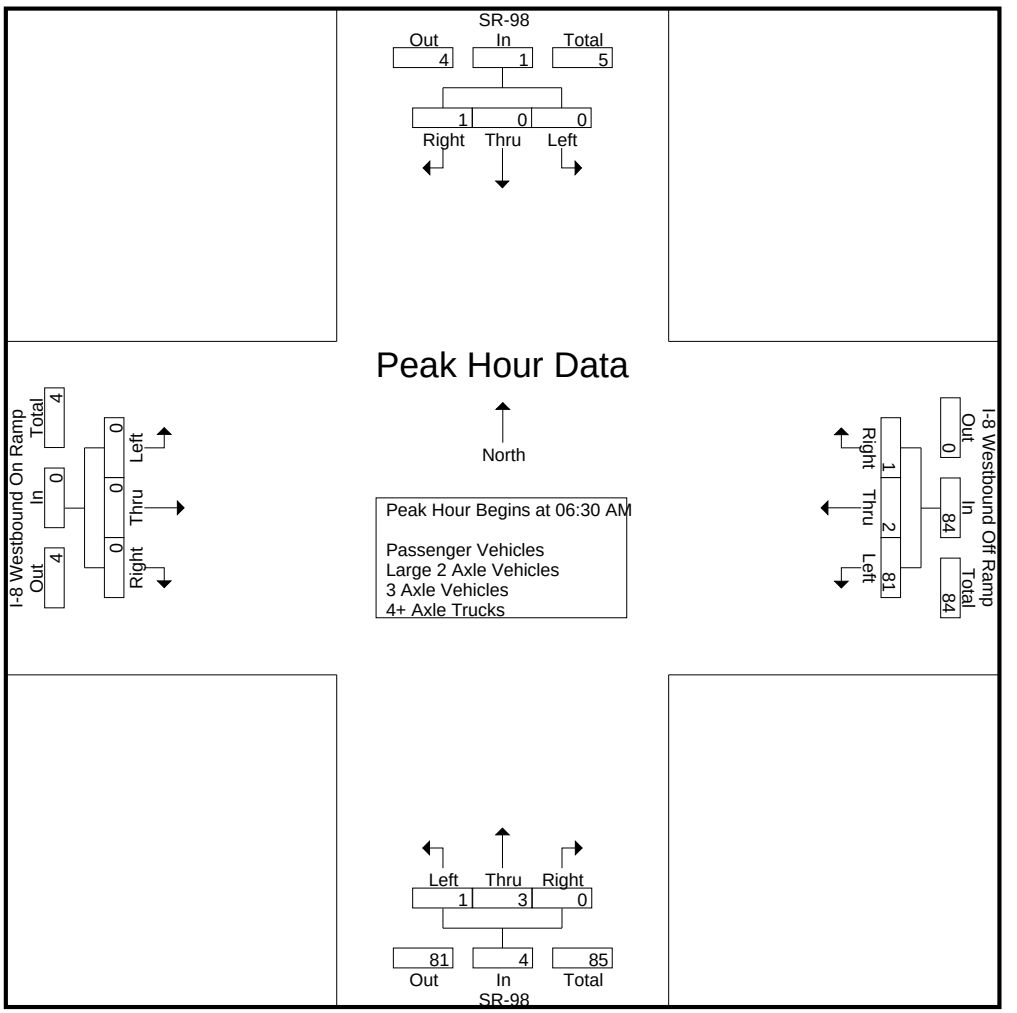
County of Imperial
N/S: SR-98
E/W: I-8 Westbound Ramps
Weather: Clear

File Name : 01_CIM_SR98_I8W AM
Site Code : 13023987
Start Date : 10/24/2023
Page No : 2



Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				06:30 AM				06:45 AM				06:00 AM			
+0 mins.	0	0	0	0	18	**1**	0	19	0	1	0	1	0	0	0	0
+15 mins.	0	**1**	0	1	19	0	**1**	20	0	1	0	1	0	0	0	0
+30 mins.	0	0	0	0	21	0	0	21	**1**	0	0	1	0	0	0	0
+45 mins.	0	1	**1**	**2**	**23**	1	0	**24**	0	**2**	0	**2**	0	0	0	0
Total Volume	0	2	1	3	81	2	1	84	1	4	0	5	0	0	0	0
% App. Total	0	66.7	33.3		96.4	2.4	1.2		20	80	0		0	0	0	
PHF	.000	.500	.250	.375	.880	.500	.250	.875	.250	.500	.000	.625	.000	.000	.000	.000

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County of Imperial
N/S: SR-98
E/W: I-8 Westbound Ramps
Weather: Clear

File Name : 01_CIM_SR98_I8W AM
Site Code : 13023987
Start Date : 10/24/2023
Page No : 1

Groups Printed- Passenger Vehicles

	SR-98 Southbound				I-8 Westbound Off Ramp Westbound				SR-98 Northbound				I-8 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:00 AM	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	0	5
06:15 AM	0	0	0	0	6	0	0	6	0	0	0	0	0	0	0	0	6
06:30 AM	0	0	0	0	16	1	0	17	0	0	0	0	0	0	0	0	17
06:45 AM	0	0	1	1	17	0	1	18	0	0	0	0	0	0	0	0	19
Total	0	0	1	1	44	1	1	46	0	0	0	0	0	0	0	0	47
07:00 AM	0	0	0	0	19	0	0	19	0	1	0	1	0	0	0	0	20
07:15 AM	0	0	0	0	19	0	0	19	0	0	0	0	0	0	0	0	19
07:30 AM	0	0	0	0	9	0	0	9	0	1	0	1	0	0	0	0	10
07:45 AM	0	0	0	0	20	0	0	20	0	0	0	0	0	0	0	0	20
Total	0	0	0	0	67	0	0	67	0	2	0	2	0	0	0	0	69
08:00 AM	0	0	0	0	10	0	0	10	0	0	0	0	0	0	0	0	10
08:15 AM	0	1	0	1	7	1	0	8	0	1	0	1	0	0	0	0	10
08:30 AM	0	0	0	0	12	0	0	12	0	0	0	0	0	0	0	0	12
08:45 AM	0	1	1	2	20	0	1	21	0	1	0	1	0	0	0	0	24
Total	0	2	1	3	49	1	1	51	0	2	0	2	0	0	0	0	56
Grand Total	0	2	2	4	160	2	2	164	0	4	0	4	0	0	0	0	172
Apprch %	0	50	50		97.6	1.2	1.2		0	100	0		0	0	0		
Total %	0	1.2	1.2	2.3	93	1.2	1.2	95.3	0	2.3	0	2.3	0	0	0	0	

	SR-98 Southbound				I-8 Westbound Off Ramp Westbound				SR-98 Northbound				I-8 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:30 AM to 07:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 06:30 AM																	
06:30 AM	0	0	0	0	16	**1**	0	17	0	0	0	0	0	0	0	0	17
06:45 AM	0	0	**1**	**1**	17	0	**1**	18	0	0	0	0	0	0	0	0	19
07:00 AM	0	0	0	0	**19**	0	0	**19**	0	**1**	0	**1**	0	0	0	0	**20**
07:15 AM	0	0	0	0	19	0	0	19	0	0	0	0	0	0	0	0	19
Total Volume	0	0	1	1	71	1	1	73	0	1	0	1	0	0	0	0	75
% App. Total	0	0	100		97.3	1.4	1.4		0	100	0		0	0	0		
PHF	.000	.000	.250	.250	.934	.250	.250	.961	.000	.250	.000	.250	.000	.000	.000	.000	.938

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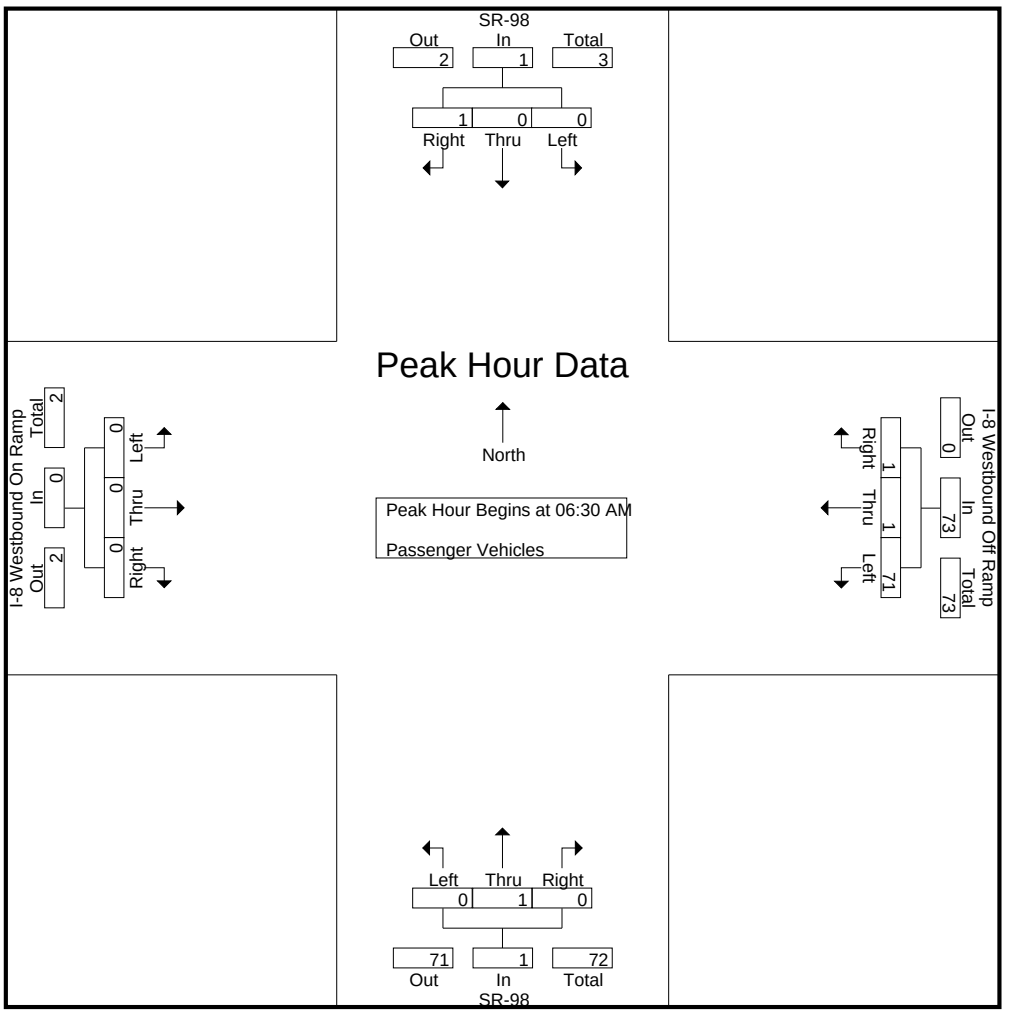
County of Imperial
N/S: SR-98
E/W: I-8 Westbound Ramps
Weather: Clear

File Name : 01_CIM_SR98_I8W AM
Site Code : 13023987
Start Date : 10/24/2023
Page No : 2



Peak Hour Analysis From 06:30 AM to 07:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	06:30 AM				06:30 AM				06:30 AM				06:30 AM			
+0 mins.	0	0	0	0	16	**1**	0	17	0	0	0	0	0	0	0	0
+15 mins.	0	0	**1**	**1**	17	0	**1**	18	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	**19**	0	0	**19**	0	**1**	0	**1**	0	0	0	0
+45 mins.	0	0	0	0	19	0	0	19	0	0	0	0	0	0	0	0
Total Volume	0	0	1	1	71	1	1	73	0	1	0	1	0	0	0	0
% App. Total	0	0	100		97.3	1.4	1.4		0	100	0		0	0	0	
PHF	.000	.000	.250	.250	.934	.250	.250	.961	.000	.250	.000	.250	.000	.000	.000	.000

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County of Imperial
N/S: SR-98
E/W: I-8 Westbound Ramps
Weather: Clear

File Name : 01_CIM_SR98_I8W AM
Site Code : 13023987
Start Date : 10/24/2023
Page No : 1

Groups Printed- Large 2 Axle Vehicles

	SR-98 Southbound				I-8 Westbound Off Ramp Westbound				SR-98 Northbound				I-8 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:00 AM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
06:15 AM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
06:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
Total	0	0	0	0	2	0	0	2	0	1	0	1	0	0	0	0	3
07:00 AM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
07:15 AM	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	2
07:30 AM	0	0	0	0	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
Total	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	3
08:00 AM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
Grand Total	0	0	0	0	6	0	0	6	0	1	0	1	0	0	0	0	7
Apprch %	0	0	0		100	0	0		0	100	0		0	0	0		
Total %	0	0	0	0	85.7	0	0	85.7	0	14.3	0	14.3	0	0	0	0	

	SR-98 Southbound				I-8 Westbound Off Ramp Westbound				SR-98 Northbound				I-8 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:30 AM to 07:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 06:30 AM																	
06:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 AM	0	0	0	0	0	0	0	0	0	**1**	0	**1**	0	0	0	0	1
07:00 AM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
07:15 AM	0	0	0	0	**2**	0	0	**2**	0	0	0	0	0	0	0	0	**2**
Total Volume	0	0	0	0	3	0	0	3	0	1	0	1	0	0	0	0	4
% App. Total	0	0	0		100	0	0		0	100	0		0	0	0		
PHF	.000	.000	.000	.000	.375	.000	.000	.375	.000	.250	.000	.250	.000	.000	.000	.000	.500

Counts Unlimited, Inc.
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Corona, CA 92878
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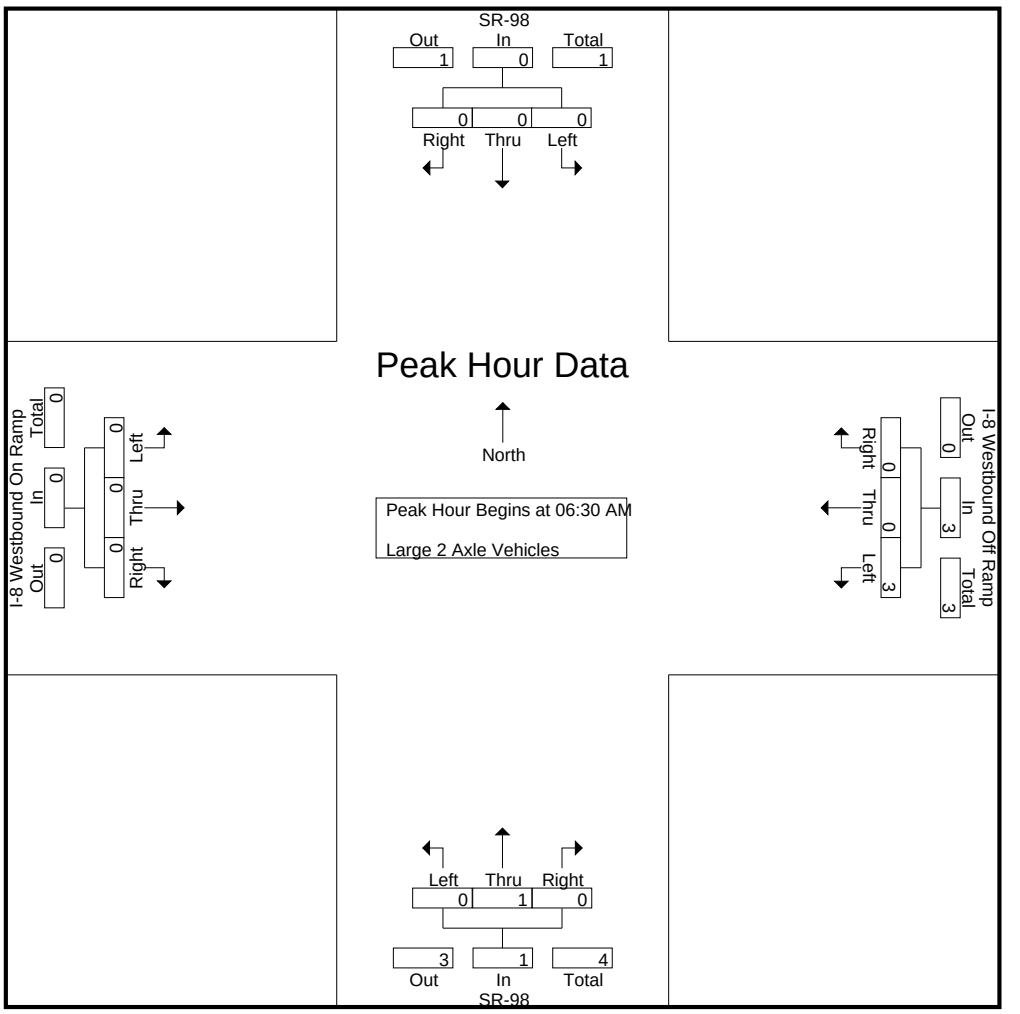
County of Imperial
N/S: SR-98
E/W: I-8 Westbound Ramps
Weather: Clear

File Name : 01_CIM_SR98_I8W AM
Site Code : 13023987
Start Date : 10/24/2023
Page No : 2



Peak Hour Analysis From 06:30 AM to 07:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	06:30 AM				06:30 AM				06:30 AM				06:30 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	**1**	0	**1**	0	0	0	0
+30 mins.	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	**2**	0	0	**2**	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	3	0	0	3	0	1	0	1	0	0	0	0
% App. Total	0	0	0		100	0	0		0	100	0		0	0	0	
PHF	.000	.000	.000	.000	.375	.000	.000	.375	.000	.250	.000	.250	.000	.000	.000	.000

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County of Imperial
N/S: SR-98
E/W: I-8 Westbound Ramps
Weather: Clear

File Name : 01_CIM_SR98_I8W AM
Site Code : 13023987
Start Date : 10/24/2023
Page No : 1

Groups Printed- 3 Axle Vehicles

	SR-98 Southbound				I-8 Westbound Off Ramp Westbound				SR-98 Northbound				I-8 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 AM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
06:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
07:00 AM	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
07:30 AM	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
Total	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
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	1	0	0	1	0	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
Total	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
Grand Total	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	2
Apprch %	0	0	0		100	0	0		0	0	0		0	0	0		
Total %	0	0	0	0	100	0	0	100	0	0	0	0	0	0	0	0	

	SR-98 Southbound				I-8 Westbound Off Ramp Westbound				SR-98 Northbound				I-8 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:30 AM to 07:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 06:30 AM																	
06:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 AM	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
Total Volume	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		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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County of Imperial
N/S: SR-98
E/W: I-8 Westbound Ramps
Weather: Clear

File Name : 01_CIM_SR98_I8W AM
Site Code : 13023987
Start Date : 10/24/2023
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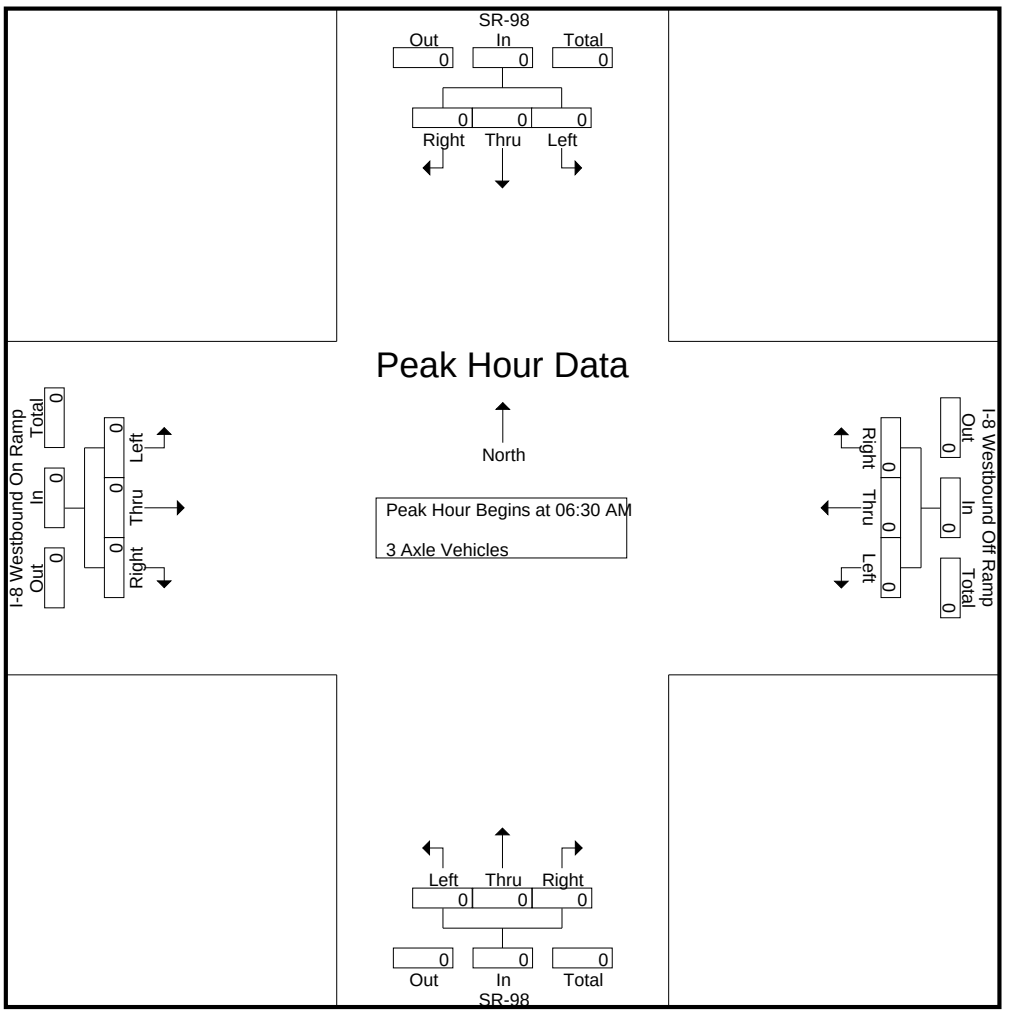

Peak Hour Analysis From 06:30 AM to 07:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	06:30 AM				06:30 AM				06:30 AM				06:30 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	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	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
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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County of Imperial
N/S: SR-98
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Weather: Clear

File Name : 01_CIM_SR98_I8W AM
Site Code : 13023987
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Groups Printed- 4+ Axle Trucks

	SR-98 Southbound				I-8 Westbound Off Ramp Westbound				SR-98 Northbound				I-8 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:00 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
06:15 AM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
06:30 AM	0	0	0	0	2	0	0	2	0	1	0	1	0	0	0	0	3
06:45 AM	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	2
Total	0	0	0	0	5	1	0	6	0	1	0	1	0	0	0	0	7
07:00 AM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
07:15 AM	0	0	0	0	2	1	0	3	1	0	0	1	0	0	0	0	4
07:30 AM	0	0	0	0	2	0	0	2	0	1	0	1	0	0	0	0	3
07:45 AM	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	2
Total	0	0	0	0	7	1	0	8	1	1	0	2	0	0	0	0	10
08:00 AM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
08:15 AM	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	2
08:30 AM	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	2
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	0	5
Grand Total	0	0	0	0	17	2	0	19	1	2	0	3	0	0	0	0	22
Apprch %	0	0	0		89.5	10.5	0		33.3	66.7	0		0	0	0		
Total %	0	0	0	0	77.3	9.1	0	86.4	4.5	9.1	0	13.6	0	0	0	0	

	SR-98 Southbound				I-8 Westbound Off Ramp Westbound				SR-98 Northbound				I-8 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:30 AM to 07:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 06:30 AM																	
06:30 AM	0	0	0	0	**2**	0	0	2	0	**1**	0	**1**	0	0	0	0	3
06:45 AM	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	2
07:00 AM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
07:15 AM	0	0	0	0	2	**1**	0	**3**	**1**	0	0	1	0	0	0	0	**4**
Total Volume	0	0	0	0	7	1	0	8	1	1	0	2	0	0	0	0	10
% App. Total	0	0	0		87.5	12.5	0		50	50	0		0	0	0		
PHF	.000	.000	.000	.000	.875	.250	.000	.667	.250	.250	.000	.500	.000	.000	.000	.000	.625

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County of Imperial
N/S: SR-98
E/W: I-8 Westbound Ramps
Weather: Clear

File Name : 01_CIM_SR98_I8W AM
Site Code : 13023987
Start Date : 10/24/2023
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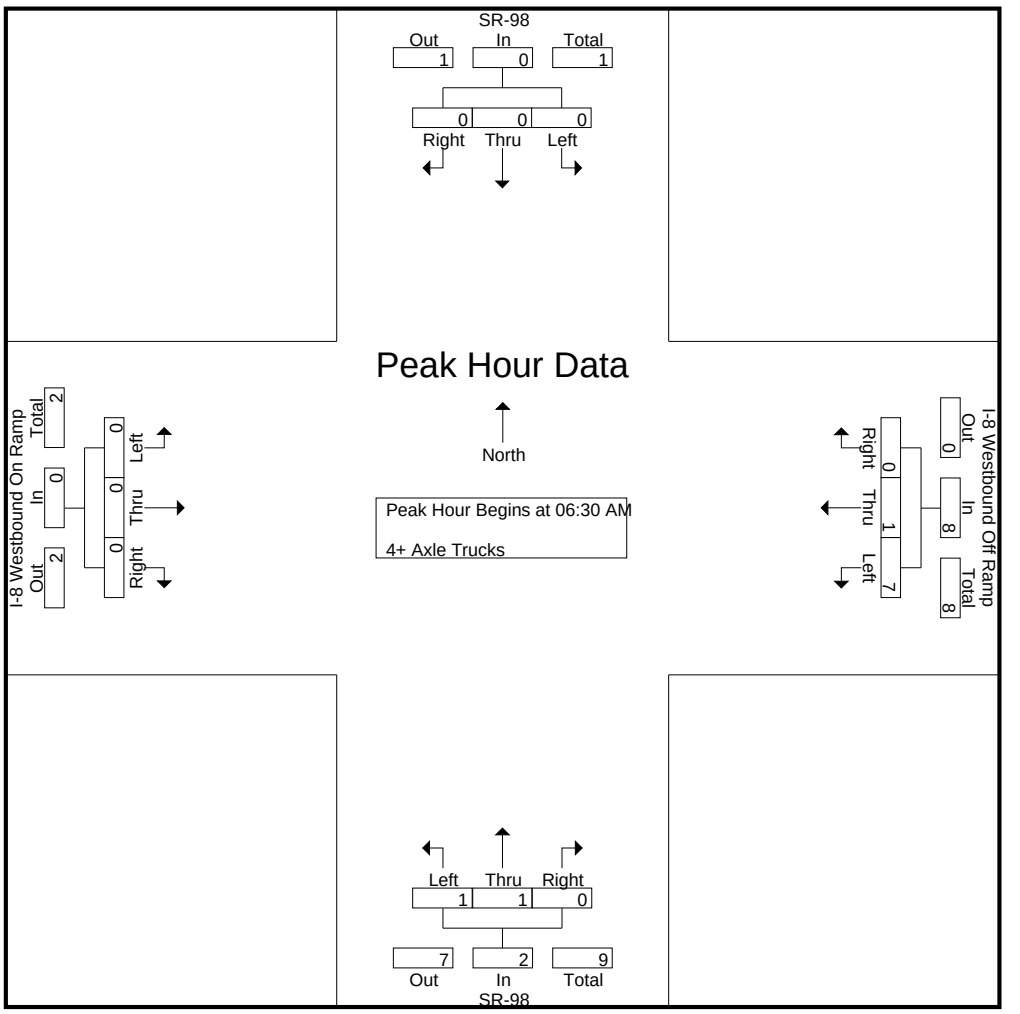

Peak Hour Analysis From 06:30 AM to 07:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	06:30 AM				06:30 AM				06:30 AM				06:30 AM			
+0 mins.	0	0	0	0	**2**	0	0	2	0	**1**	0	**1**	0	0	0	0
+15 mins.	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	2	**1**	0	**3**	**1**	0	0	1	0	0	0	0
Total Volume	0	0	0	0	7	1	0	8	1	1	0	2	0	0	0	0
% App. Total	0	0	0		87.5	12.5	0		50	50	0		0	0	0	
PHF	.000	.000	.000	.000	.875	.250	.000	.667	.250	.250	.000	.500	.000	.000	.000	.000

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County of Imperial
N/S: SR-98
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Weather: Clear

File Name : 01_CIM_SR98_I8W PM
Site Code : 13023987
Start Date : 10/24/2023
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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	SR-98 Southbound				I-8 Westbound Off Ramp Westbound				SR-98 Northbound				I-8 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	0	0	0	40	0	0	40	5	0	0	5	0	0	0	0	45
03:15 PM	0	1	2	3	24	0	0	24	0	0	0	0	0	0	0	0	27
03:30 PM	0	0	0	0	19	0	0	19	0	0	0	0	0	0	0	0	19
03:45 PM	0	0	0	0	18	0	0	18	0	0	0	0	0	0	0	0	18
Total	0	1	2	3	101	0	0	101	5	0	0	5	0	0	0	0	109
04:00 PM	0	1	0	1	28	0	0	28	0	0	0	0	0	0	0	0	29
04:15 PM	0	0	0	0	27	1	0	28	0	0	0	0	0	0	0	0	28
04:30 PM	0	0	0	0	30	0	0	30	0	0	0	0	0	0	0	0	30
04:45 PM	0	0	0	0	19	0	0	19	0	0	0	0	0	0	0	0	19
Total	0	1	0	1	104	1	0	105	0	0	0	0	0	0	0	0	106
05:00 PM	0	1	0	1	22	0	1	23	0	0	0	0	0	0	0	0	24
05:15 PM	0	0	0	0	24	0	0	24	1	0	0	1	0	0	0	0	25
05:30 PM	0	0	0	0	23	0	0	23	0	0	0	0	0	0	0	0	23
05:45 PM	0	1	0	1	22	0	0	22	0	0	0	0	0	0	0	0	23
Total	0	2	0	2	91	0	1	92	1	0	0	1	0	0	0	0	95
06:00 PM	0	0	0	0	22	0	0	22	0	0	0	0	0	0	0	0	22
06:15 PM	0	0	0	0	24	0	0	24	0	0	0	0	0	0	0	0	24
06:30 PM	0	0	0	0	19	0	0	19	1	0	0	1	0	0	0	0	20
06:45 PM	0	0	0	0	9	0	0	9	0	1	0	1	0	0	0	0	10
Total	0	0	0	0	74	0	0	74	1	1	0	2	0	0	0	0	76
Grand Total	0	4	2	6	370	1	1	372	7	1	0	8	0	0	0	0	386
Apprch %	0	66.7	33.3		99.5	0.3	0.3		87.5	12.5	0		0	0	0		
Total %	0	1	0.5	1.6	95.9	0.3	0.3	96.4	1.8	0.3	0	2.1	0	0	0	0	
Passenger Vehicles	0	2	2	4	298	1	1	300	5	1	0	6	0	0	0	0	310
% Passenger Vehicles	0	50	100	66.7	80.5	100	100	80.6	71.4	100	0	75	0	0	0	0	80.3
Large 2 Axle Vehicles	0	1	0	1	15	0	0	15	2	0	0	2	0	0	0	0	18
% Large 2 Axle Vehicles	0	25	0	16.7	4.1	0	0	4	28.6	0	0	25	0	0	0	0	4.7
3 Axle Vehicles	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	2
% 3 Axle Vehicles	0	0	0	0	0.5	0	0	0.5	0	0	0	0	0	0	0	0	0.5
4+ Axle Trucks	0	1	0	1	55	0	0	55	0	0	0	0	0	0	0	0	56
% 4+ Axle Trucks	0	25	0	16.7	14.9	0	0	14.8	0	0	0	0	0	0	0	0	14.5

	SR-98 Southbound				I-8 Westbound Off Ramp Westbound				SR-98 Northbound				I-8 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 06:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:00 PM																	
03:00 PM	0	0	0	0	**40**	0	0	**40**	**5**	0	0	**5**	0	0	0	0	**45**
03:15 PM	0	**1**	**2**	**3**	24	0	0	24	0	0	0	0	0	0	0	0	27
03:30 PM	0	0	0	0	19	0	0	19	0	0	0	0	0	0	0	0	19
03:45 PM	0	0	0	0	18	0	0	18	0	0	0	0	0	0	0	0	18
Total Volume	0	1	2	3	101	0	0	101	5	0	0	5	0	0	0	0	109
% App. Total	0	33.3	66.7		100	0	0		100	0	0		0	0	0		
PHF	.000	.250	.250	.250	.631	.000	.000	.631	.250	.000	.000	.250	.000	.000	.000	.000	.606

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County of Imperial
N/S: SR-98
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Site Code : 13023987
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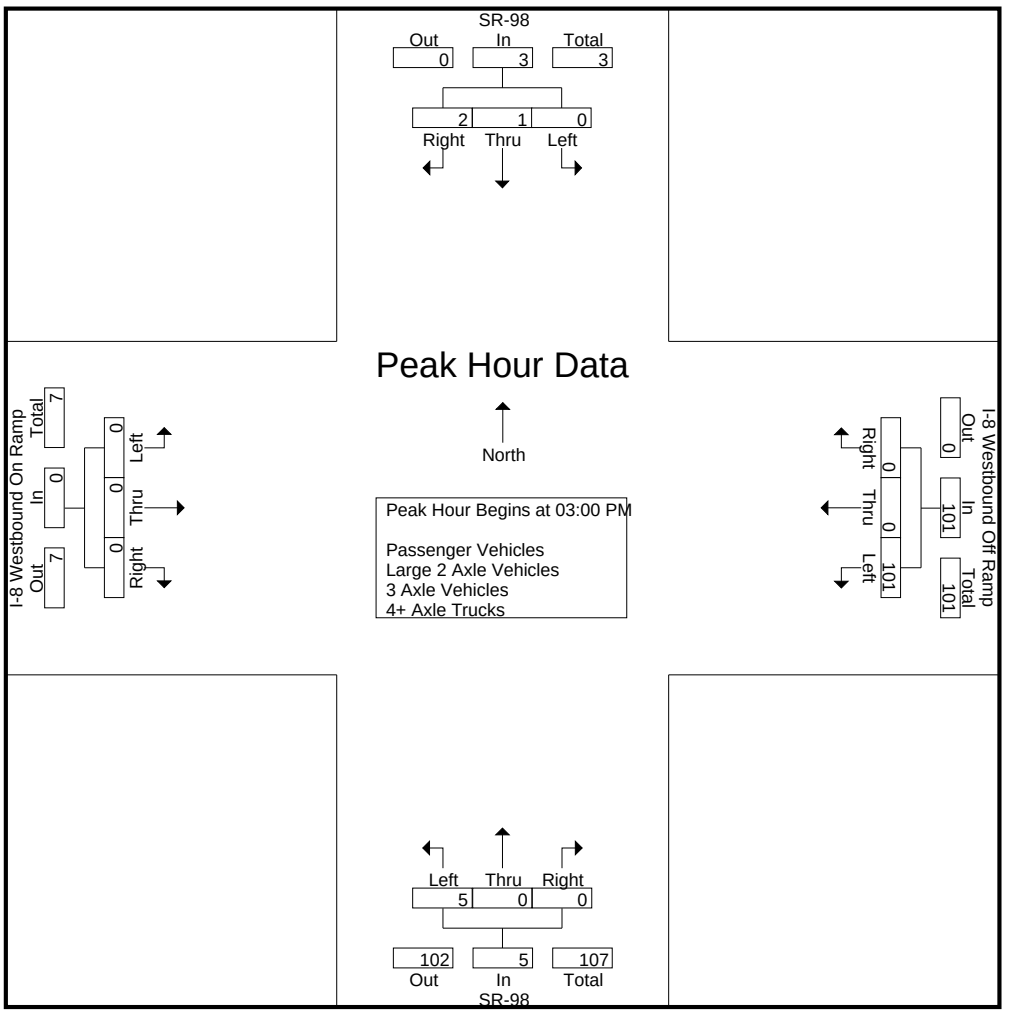

Peak Hour Analysis From 03:00 PM to 06:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	03:15 PM				04:00 PM				03:00 PM				03:00 PM			
+0 mins.	0	**1**	**2**	**3**	28	0	0	28	**5**	0	0	**5**	0	0	0	0
+15 mins.	0	0	0	0	27	**1**	0	28	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	**30**	0	0	**30**	0	0	0	0	0	0	0	0
+45 mins.	0	1	0	1	19	0	0	19	0	0	0	0	0	0	0	0
Total Volume	0	2	2	4	104	1	0	105	5	0	0	5	0	0	0	0
% App. Total	0	50	50		99	1	0		100	0	0		0	0	0	
PHF	.000	.500	.250	.333	.867	.250	.000	.875	.250	.000	.000	.250	.000	.000	.000	.000

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County of Imperial
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Weather: Clear

File Name : 01_CIM_SR98_I8W PM
Site Code : 13023987
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Groups Printed- Passenger Vehicles

	SR-98 Southbound				I-8 Westbound Off Ramp Westbound				SR-98 Northbound				I-8 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	0	0	0	28	0	0	28	3	0	0	3	0	0	0	0	31
03:15 PM	0	0	2	2	18	0	0	18	0	0	0	0	0	0	0	0	20
03:30 PM	0	0	0	0	15	0	0	15	0	0	0	0	0	0	0	0	15
03:45 PM	0	0	0	0	17	0	0	17	0	0	0	0	0	0	0	0	17
Total	0	0	2	2	78	0	0	78	3	0	0	3	0	0	0	0	83
04:00 PM	0	1	0	1	19	0	0	19	0	0	0	0	0	0	0	0	20
04:15 PM	0	0	0	0	22	1	0	23	0	0	0	0	0	0	0	0	23
04:30 PM	0	0	0	0	21	0	0	21	0	0	0	0	0	0	0	0	21
04:45 PM	0	0	0	0	16	0	0	16	0	0	0	0	0	0	0	0	16
Total	0	1	0	1	78	1	0	79	0	0	0	0	0	0	0	0	80
05:00 PM	0	1	0	1	21	0	1	22	0	0	0	0	0	0	0	0	23
05:15 PM	0	0	0	0	19	0	0	19	1	0	0	1	0	0	0	0	20
05:30 PM	0	0	0	0	19	0	0	19	0	0	0	0	0	0	0	0	19
05:45 PM	0	0	0	0	19	0	0	19	0	0	0	0	0	0	0	0	19
Total	0	1	0	1	78	0	1	79	1	0	0	1	0	0	0	0	81
06:00 PM	0	0	0	0	16	0	0	16	0	0	0	0	0	0	0	0	16
06:15 PM	0	0	0	0	23	0	0	23	0	0	0	0	0	0	0	0	23
06:30 PM	0	0	0	0	17	0	0	17	1	0	0	1	0	0	0	0	18
06:45 PM	0	0	0	0	8	0	0	8	0	1	0	1	0	0	0	0	9
Total	0	0	0	0	64	0	0	64	1	1	0	2	0	0	0	0	66
Grand Total	0	2	2	4	298	1	1	300	5	1	0	6	0	0	0	0	310
Apprch %	0	50	50		99.3	0.3	0.3		83.3	16.7	0		0	0	0		
Total %	0	0.6	0.6	1.3	96.1	0.3	0.3	96.8	1.6	0.3	0	1.9	0	0	0	0	

	SR-98 Southbound				I-8 Westbound Off Ramp Westbound				SR-98 Northbound				I-8 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 03:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:00 PM																	
03:00 PM	0	0	0	0	**28**	0	0	**28**	**3**	0	0	**3**	0	0	0	0	**31**
03:15 PM	0	0	**2**	**2**	18	0	0	18	0	0	0	0	0	0	0	0	20
03:30 PM	0	0	0	0	15	0	0	15	0	0	0	0	0	0	0	0	15
03:45 PM	0	0	0	0	17	0	0	17	0	0	0	0	0	0	0	0	17
Total Volume	0	0	2	2	78	0	0	78	3	0	0	3	0	0	0	0	83
% App. Total	0	0	100		100	0	0		100	0	0		0	0	0		
PHF	.000	.000	.250	.250	.696	.000	.000	.696	.250	.000	.000	.250	.000	.000	.000	.000	.669

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County of Imperial
N/S: SR-98
E/W: I-8 Westbound Ramps
Weather: Clear

File Name : 01_CIM_SR98_I8W PM
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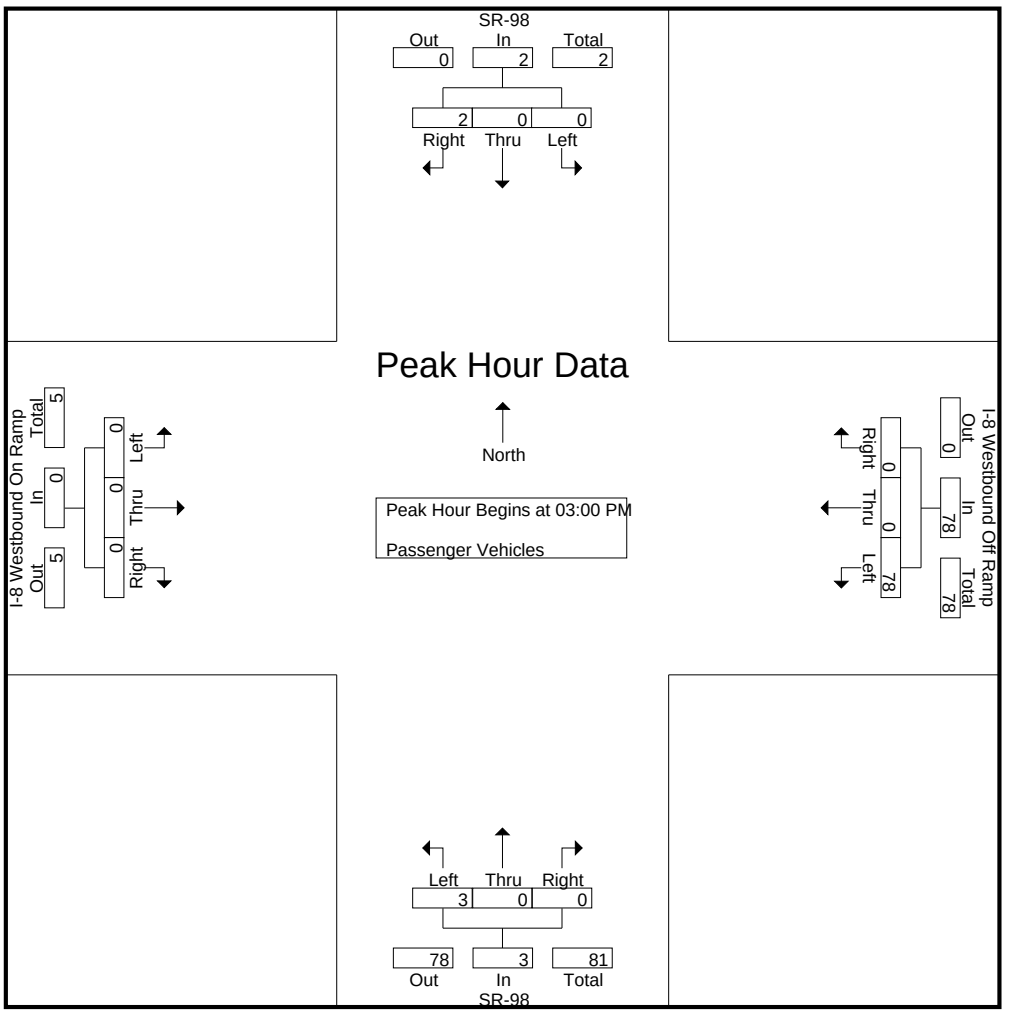

Peak Hour Analysis From 03:00 PM to 03:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	03:00 PM				03:00 PM				03:00 PM				03:00 PM			
+0 mins.	0	0	0	0	**28**	0	0	**28**	**3**	0	0	**3**	0	0	0	0
+15 mins.	0	0	**2**	**2**	18	0	0	18	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	15	0	0	15	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	17	0	0	17	0	0	0	0	0	0	0	0
Total Volume	0	0	2	2	78	0	0	78	3	0	0	3	0	0	0	0
% App. Total	0	0	100		100	0	0		100	0	0		0	0	0	
PHF	.000	.000	.250	.250	.696	.000	.000	.696	.250	.000	.000	.250	.000	.000	.000	.000

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

County of Imperial
N/S: SR-98
E/W: I-8 Westbound Ramps
Weather: Clear

File Name : 01_CIM_SR98_I8W PM
Site Code : 13023987
Start Date : 10/24/2023
Page No : 1

Groups Printed- Large 2 Axle Vehicles

	SR-98 Southbound				I-8 Westbound Off Ramp Westbound				SR-98 Northbound				I-8 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	0	0	0	3	0	0	3	2	0	0	2	0	0	0	0	5
03:15 PM	0	1	0	1	1	0	0	1	0	0	0	0	0	0	0	0	2
03:30 PM	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	3
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	1	7	0	0	7	2	0	0	2	0	0	0	0	10
04:00 PM	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	2
04:15 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	3
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	6	0	0	6	0	0	0	0	0	0	0	0	6
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	2
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	2
Grand Total	0	1	0	1	15	0	0	15	2	0	0	2	0	0	0	0	18
Apprch %	0	100	0		100	0	0		100	0	0		0	0	0		
Total %	0	5.6	0	5.6	83.3	0	0	83.3	11.1	0	0	11.1	0	0	0	0	

	SR-98 Southbound				I-8 Westbound Off Ramp Westbound				SR-98 Northbound				I-8 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 03:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:00 PM																	
03:00 PM	0	0	0	0	**3**	0	0	**3**	**2**	0	0	**2**	0	0	0	0	**5**
03:15 PM	0	**1**	0	**1**	1	0	0	1	0	0	0	0	0	0	0	0	2
03:30 PM	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	3
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	1	7	0	0	7	2	0	0	2	0	0	0	0	10
% App. Total	0	100	0		100	0	0		100	0	0		0	0	0		
PHF	.000	.250	.000	.250	.583	.000	.000	.583	.250	.000	.000	.250	.000	.000	.000	.000	.500

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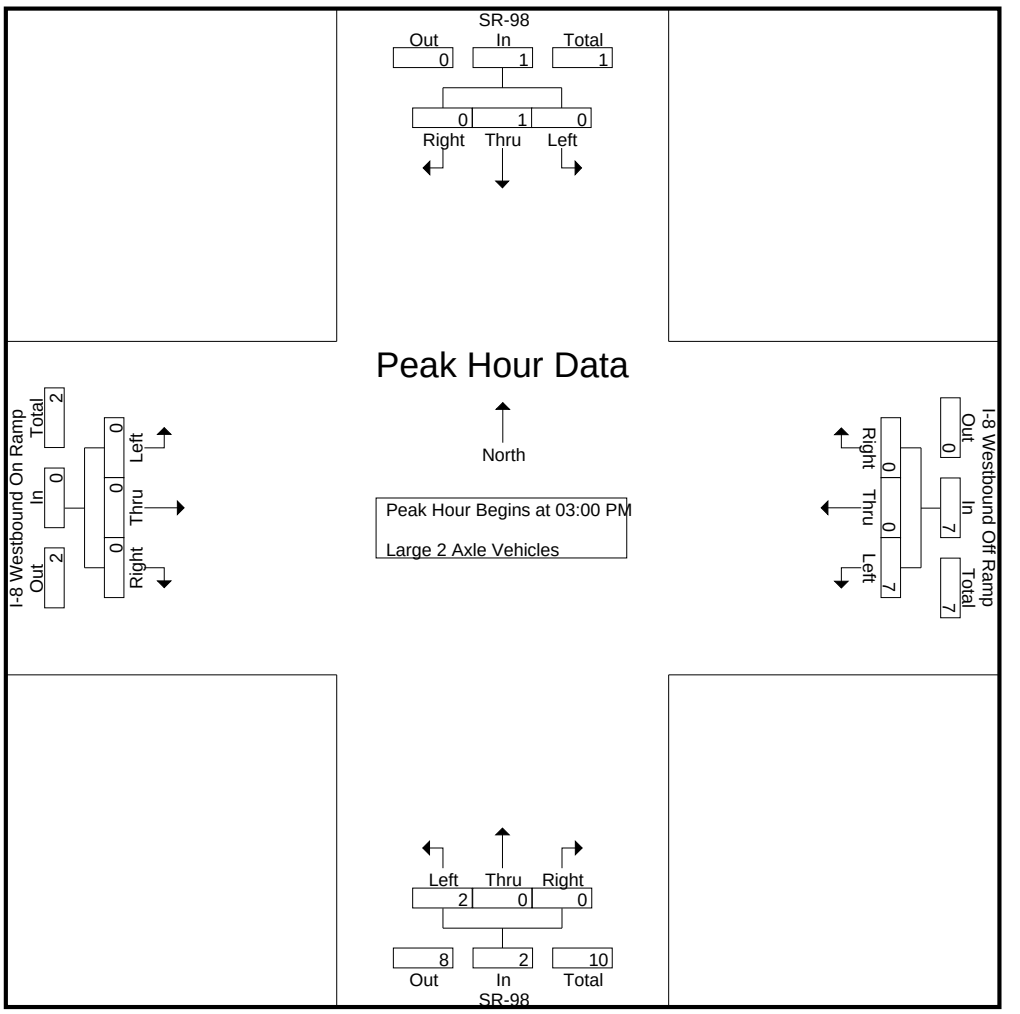
County of Imperial
N/S: SR-98
E/W: I-8 Westbound Ramps
Weather: Clear

File Name : 01_CIM_SR98_I8W PM
Site Code : 13023987
Start Date : 10/24/2023
Page No : 2



Peak Hour Analysis From 03:00 PM to 03:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	03:00 PM				03:00 PM				03:00 PM				03:00 PM			
+0 mins.	0	0	0	0	**3**	0	0	**3**	**2**	0	0	**2**	0	0	0	0
+15 mins.	0	**1**	0	**1**	1	0	0	1	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	1	7	0	0	7	2	0	0	2	0	0	0	0
% App. Total	0	100	0		100	0	0		100	0	0		0	0	0	
PHF	.000	.250	.000	.250	.583	.000	.000	.583	.250	.000	.000	.250	.000	.000	.000	.000

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County of Imperial
N/S: SR-98
E/W: I-8 Westbound Ramps
Weather: Clear

File Name : 01_CIM_SR98_I8W PM
Site Code : 13023987
Start Date : 10/24/2023
Page No : 1

Groups Printed- 3 Axle Vehicles

	SR-98 Southbound				I-8 Westbound Off Ramp Westbound				SR-98 Northbound				I-8 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 PM	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	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
Total	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
05:15 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
05:30 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	2
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	2
Apprch %	0	0	0		100	0	0		0	0	0		0	0	0		
Total %	0	0	0	0	100	0	0	100	0	0	0	0	0	0	0	0	

	SR-98 Southbound				I-8 Westbound Off Ramp Westbound				SR-98 Northbound				I-8 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 03:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:00 PM																	
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	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
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Counts Unlimited, Inc.
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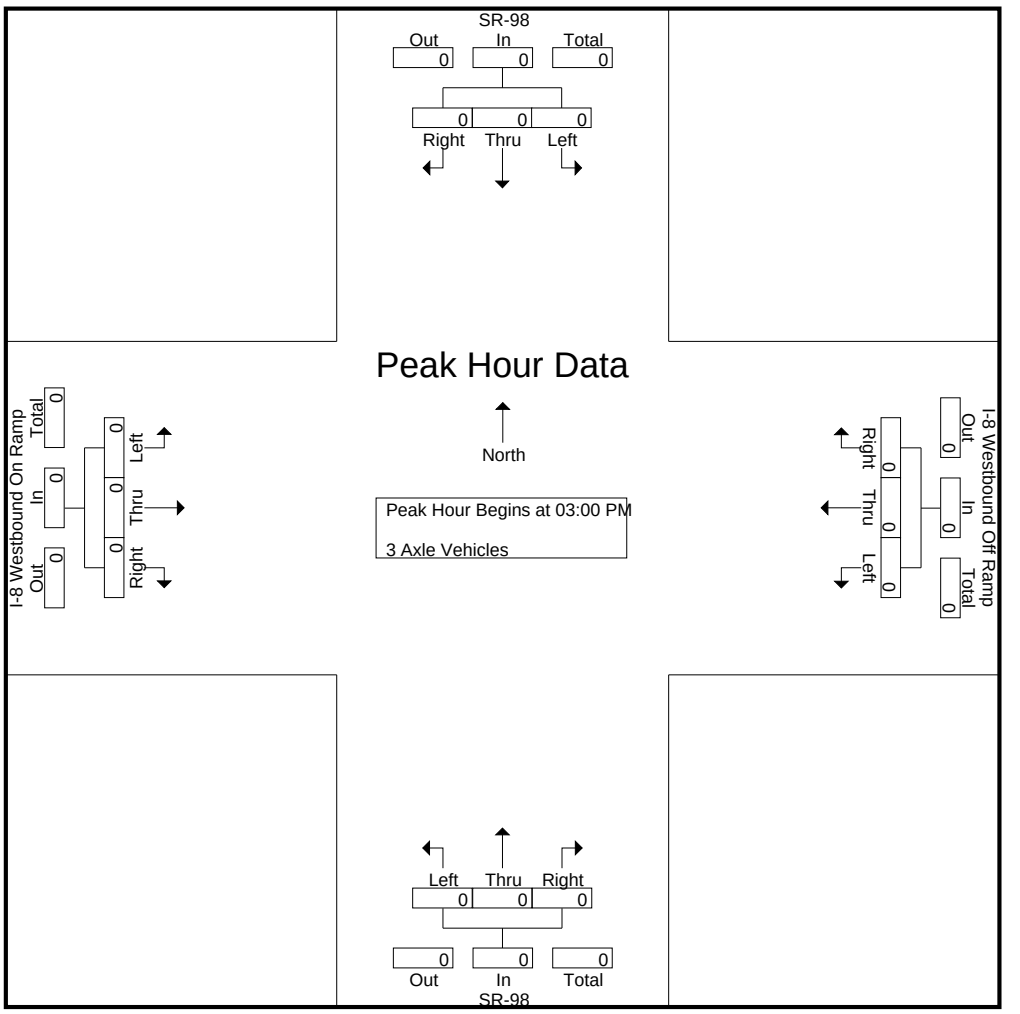
Corona, CA 92878
(951) 268-6268

County of Imperial
N/S: SR-98
E/W: I-8 Westbound Ramps
Weather: Clear

File Name : 01_CIM_SR98_I8W PM
Site Code : 13023987
Start Date : 10/24/2023
Page No : 2



Peak Hour Analysis From 03:00 PM to 03:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	03:00 PM				03:00 PM				03:00 PM				03:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	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	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
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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County of Imperial
N/S: SR-98
E/W: I-8 Westbound Ramps
Weather: Clear

File Name : 01_CIM_SR98_I8W PM
Site Code : 13023987
Start Date : 10/24/2023
Page No : 1

Groups Printed- 4+ Axle Trucks

	SR-98 Southbound				I-8 Westbound Off Ramp Westbound				SR-98 Northbound				I-8 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	0	0	0	9	0	0	9	0	0	0	0	0	0	0	0	9
03:15 PM	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	0	5
03:30 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
03:45 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	16	0	0	16	0	0	0	0	0	0	0	0	16
04:00 PM	0	0	0	0	7	0	0	7	0	0	0	0	0	0	0	0	7
04:15 PM	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	4
04:30 PM	0	0	0	0	6	0	0	6	0	0	0	0	0	0	0	0	6
04:45 PM	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	3
Total	0	0	0	0	20	0	0	20	0	0	0	0	0	0	0	0	20
05:00 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	4
05:30 PM	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	3
05:45 PM	0	1	0	1	3	0	0	3	0	0	0	0	0	0	0	0	4
Total	0	1	0	1	11	0	0	11	0	0	0	0	0	0	0	0	12
06:00 PM	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	4
06:15 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
06:30 PM	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	2
06:45 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	8	0	0	8	0	0	0	0	0	0	0	0	8
Grand Total	0	1	0	1	55	0	0	55	0	0	0	0	0	0	0	0	56
Apprch %	0	100	0		100	0	0		0	0	0		0	0	0		
Total %	0	1.8	0	1.8	98.2	0	0	98.2	0	0	0	0	0	0	0	0	

	SR-98 Southbound				I-8 Westbound Off Ramp Westbound				SR-98 Northbound				I-8 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 03:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:00 PM																	
03:00 PM	0	0	0	0	**9**	0	0	**9**	0	0	0	0	0	0	0	0	**9**
03:15 PM	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	0	5
03:30 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
03:45 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	16	0	0	16	0	0	0	0	0	0	0	0	16
% App. Total	0	0	0		100	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.444	.000	.000	.444	.000	.000	.000	.000	.000	.000	.000	.000	.444

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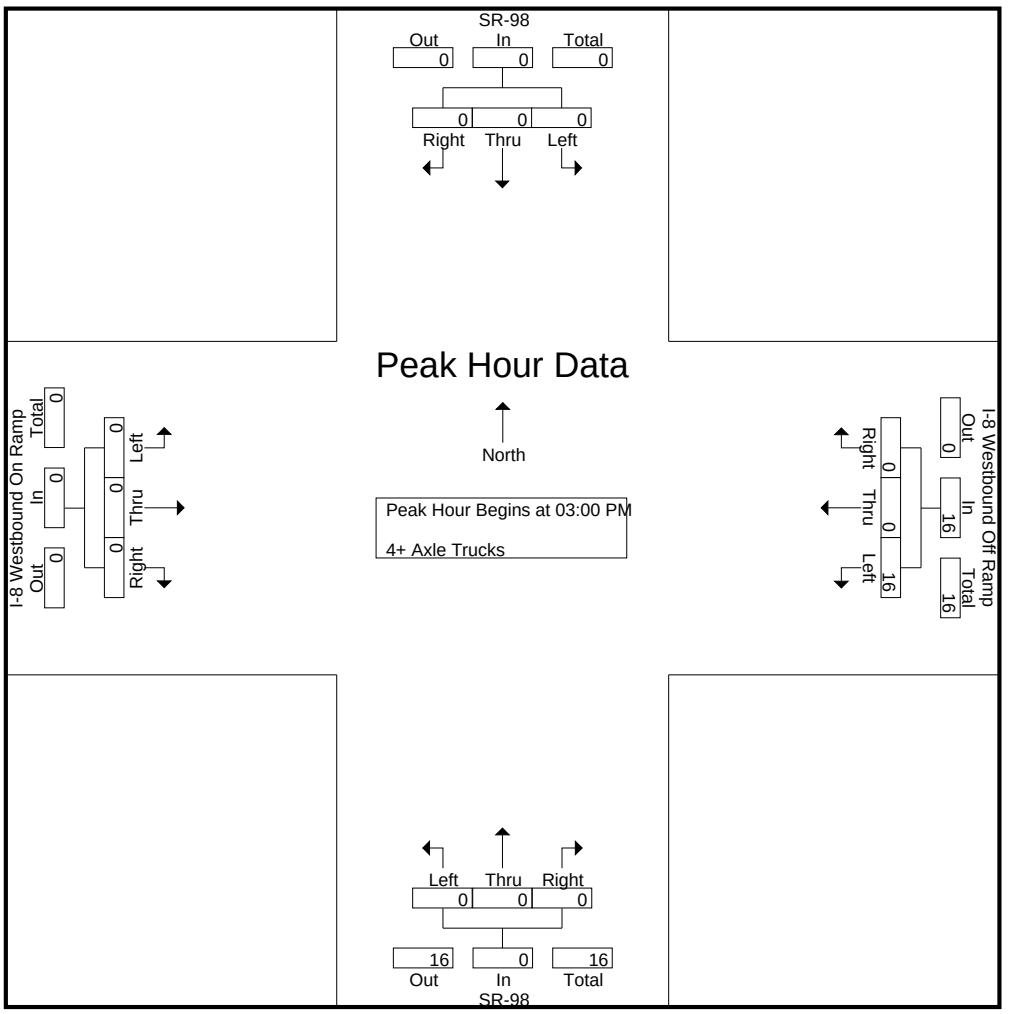
County of Imperial
N/S: SR-98
E/W: I-8 Westbound Ramps
Weather: Clear

File Name : 01_CIM_SR98_I8W PM
Site Code : 13023987
Start Date : 10/24/2023
Page No : 2



Peak Hour Analysis From 03:00 PM to 03:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	03:00 PM				03:00 PM				03:00 PM				03:00 PM			
+0 mins.	0	0	0	0	**9**	0	0	**9**	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	16	0	0	16	0	0	0	0	0	0	0	0
% App. Total	0	0	0		100	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.444	.000	.000	.444	.000	.000	.000	.000	.000	.000	.000	.000

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County of Imperial
N/S: SR-98
E/W: I-8 Eastbound Ramps
Weather: Clear

File Name : 02_CIM_SR98_I8E AM
Site Code : 13023987
Start Date : 10/24/2023
Page No : 1

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

	SR-98 Southbound				I-8 Eastbound On Ramp Westbound				SR-98 Northbound				I-8 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:00 AM	0	5	0	5	0	0	0	0	0	0	16	16	0	0	1	1	22
06:15 AM	0	9	0	9	0	0	0	0	0	0	16	16	0	0	1	1	26
06:30 AM	0	18	0	18	0	0	0	0	0	0	10	10	1	0	0	1	29
06:45 AM	0	19	0	19	0	0	0	0	0	1	18	19	0	0	1	1	39
Total	0	51	0	51	0	0	0	0	0	1	60	61	1	0	3	4	116
07:00 AM	0	21	0	21	0	0	0	0	0	1	35	36	0	0	0	0	57
07:15 AM	0	24	0	24	0	0	0	0	0	1	23	24	0	0	0	0	48
07:30 AM	0	10	0	10	0	0	0	0	0	0	15	15	2	0	0	2	27
07:45 AM	0	23	0	23	0	0	0	0	0	0	9	9	0	0	0	0	32
Total	0	78	0	78	0	0	0	0	0	2	82	84	2	0	0	2	164
08:00 AM	0	11	0	11	0	0	0	0	0	0	14	14	0	0	0	0	25
08:15 AM	0	13	0	13	0	0	0	0	0	1	27	28	0	0	0	0	41
08:30 AM	0	12	0	12	0	0	0	0	0	0	15	15	0	0	0	0	27
08:45 AM	1	20	0	21	0	0	0	0	0	0	14	14	1	0	0	1	36
Total	1	56	0	57	0	0	0	0	0	1	70	71	1	0	0	1	129
Grand Total	1	185	0	186	0	0	0	0	0	4	212	216	4	0	3	7	409
Apprch %	0.5	99.5	0		0	0	0		0	1.9	98.1		57.1	0	42.9		
Total %	0.2	45.2	0	45.5	0	0	0	0	0	1	51.8	52.8	1	0	0.7	1.7	
Passenger Vehicles	1	160	0	161	0	0	0	0	0	2	159	161	2	0	2	4	326
% Passenger Vehicles	100	86.5	0	86.6	0	0	0	0	0	50	75	74.5	50	0	66.7	57.1	79.7
Large 2 Axle Vehicles	0	6	0	6	0	0	0	0	0	1	10	11	0	0	1	1	18
% Large 2 Axle Vehicles	0	3.2	0	3.2	0	0	0	0	0	25	4.7	5.1	0	0	33.3	14.3	4.4
3 Axle Vehicles	0	2	0	2	0	0	0	0	0	0	1	1	0	0	0	0	3
% 3 Axle Vehicles	0	1.1	0	1.1	0	0	0	0	0	0	0.5	0.5	0	0	0	0	0.7
4+ Axle Trucks	0	17	0	17	0	0	0	0	0	1	42	43	2	0	0	2	62
% 4+ Axle Trucks	0	9.2	0	9.1	0	0	0	0	0	25	19.8	19.9	50	0	0	28.6	15.2

	SR-98 Southbound				I-8 Eastbound On Ramp Westbound				SR-98 Northbound				I-8 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 06:30 AM																	
06:30 AM	0	18	0	18	0	0	0	0	0	0	10	10	**1**	0	0	**1**	29
06:45 AM	0	19	0	19	0	0	0	0	0	**1**	18	19	0	0	**1**	1	39
07:00 AM	0	21	0	21	0	0	0	0	0	1	**35**	**36**	0	0	0	0	**57**
07:15 AM	0	**24**	0	**24**	0	0	0	0	0	1	23	24	0	0	0	0	48
Total Volume	0	82	0	82	0	0	0	0	0	3	86	89	1	0	1	2	173
% App. Total	0	100	0		0	0	0		0	3.4	96.6		50	0	50		
PHF	.000	.854	.000	.854	.000	.000	.000	.000	.000	.750	.614	.618	.250	.000	.250	.500	.759

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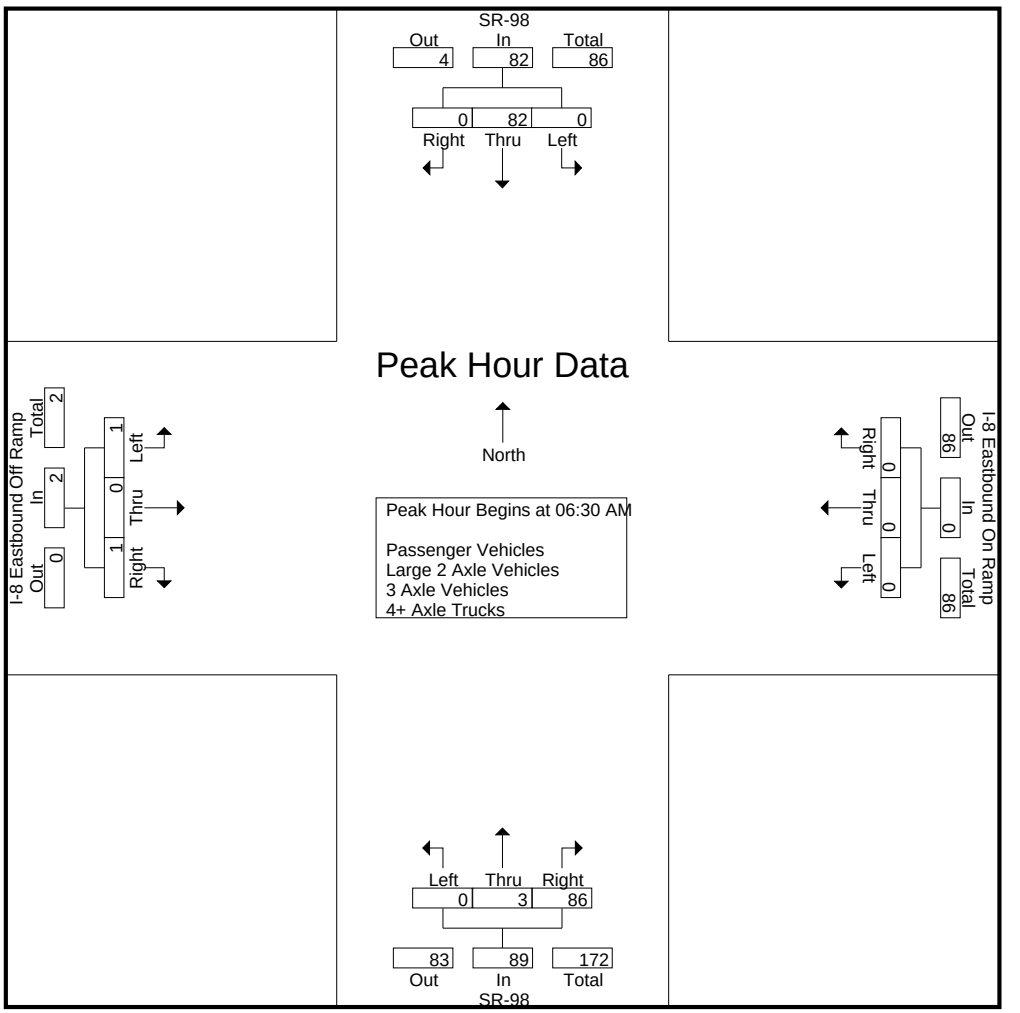
County of Imperial
N/S: SR-98
E/W: I-8 Eastbound Ramps
Weather: Clear

File Name : 02_CIM_SR98_I8E AM
Site Code : 13023987
Start Date : 10/24/2023



Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	06:30 AM				06:00 AM				06:45 AM				06:00 AM			
+0 mins.	0	18	0	18	0	0	0	0	0	**1**	18	19	0	0	**1**	**1**
+15 mins.	0	19	0	19	0	0	0	0	0	1	**35**	**36**	0	0	1	1
+30 mins.	0	21	0	21	0	0	0	0	0	1	23	24	**1**	0	0	1
+45 mins.	0	**24**	0	**24**	0	0	0	0	0	0	15	15	0	0	1	1
Total Volume	0	82	0	82	0	0	0	0	0	3	91	94	1	0	3	4
% App. Total	0	100	0		0	0	0		0	3.2	96.8		25	0	75	
PHF	.000	.854	.000	.854	.000	.000	.000	.000	.000	.750	.650	.653	.250	.000	.750	1.000

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County of Imperial
N/S: SR-98
E/W: I-8 Eastbound Ramps
Weather: Clear

File Name : 02_CIM_SR98_I8E AM
Site Code : 13023987
Start Date : 10/24/2023
Page No : 1

Groups Printed- Passenger Vehicles

	SR-98 Southbound				I-8 Eastbound On Ramp Westbound				SR-98 Northbound				I-8 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:00 AM	0	4	0	4	0	0	0	0	0	0	13	13	0	0	1	1	18
06:15 AM	0	6	0	6	0	0	0	0	0	0	16	16	0	0	1	1	23
06:30 AM	0	16	0	16	0	0	0	0	0	0	10	10	0	0	0	0	26
06:45 AM	0	17	0	17	0	0	0	0	0	0	15	15	0	0	0	0	32
Total	0	43	0	43	0	0	0	0	0	0	54	54	0	0	2	2	99
07:00 AM	0	19	0	19	0	0	0	0	0	1	23	24	0	0	0	0	43
07:15 AM	0	20	0	20	0	0	0	0	0	0	12	12	0	0	0	0	32
07:30 AM	0	8	0	8	0	0	0	0	0	0	11	11	1	0	0	1	20
07:45 AM	0	20	0	20	0	0	0	0	0	0	6	6	0	0	0	0	26
Total	0	67	0	67	0	0	0	0	0	1	52	53	1	0	0	1	121
08:00 AM	0	10	0	10	0	0	0	0	0	0	9	9	0	0	0	0	19
08:15 AM	0	11	0	11	0	0	0	0	0	1	22	23	0	0	0	0	34
08:30 AM	0	9	0	9	0	0	0	0	0	0	10	10	0	0	0	0	19
08:45 AM	1	20	0	21	0	0	0	0	0	0	12	12	1	0	0	1	34
Total	1	50	0	51	0	0	0	0	0	1	53	54	1	0	0	1	106
Grand Total	1	160	0	161	0	0	0	0	0	2	159	161	2	0	2	4	326
Apprch %	0.6	99.4	0		0	0	0		0	1.2	98.8		50	0	50		
Total %	0.3	49.1	0	49.4	0	0	0	0	0	0.6	48.8	49.4	0.6	0	0.6	1.2	

	SR-98 Southbound				I-8 Eastbound On Ramp Westbound				SR-98 Northbound				I-8 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:30 AM to 07:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 06:30 AM																	
06:30 AM	0	16	0	16	0	0	0	0	0	0	10	10	0	0	0	0	26
06:45 AM	0	17	0	17	0	0	0	0	0	0	15	15	0	0	0	0	32
07:00 AM	0	19	0	19	0	0	0	0	0	**1**	**23**	**24**	0	0	0	0	**43**
07:15 AM	0	**20**	0	**20**	0	0	0	0	0	0	12	12	0	0	0	0	32
Total Volume	0	72	0	72	0	0	0	0	0	1	60	61	0	0	0	0	133
% App. Total	0	100	0		0	0	0		0	1.6	98.4		0	0	0		
PHF	.000	.900	.000	.900	.000	.000	.000	.000	.000	.250	.652	.635	.000	.000	.000	.000	.773

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PO Box 1178
Corona, CA 92878
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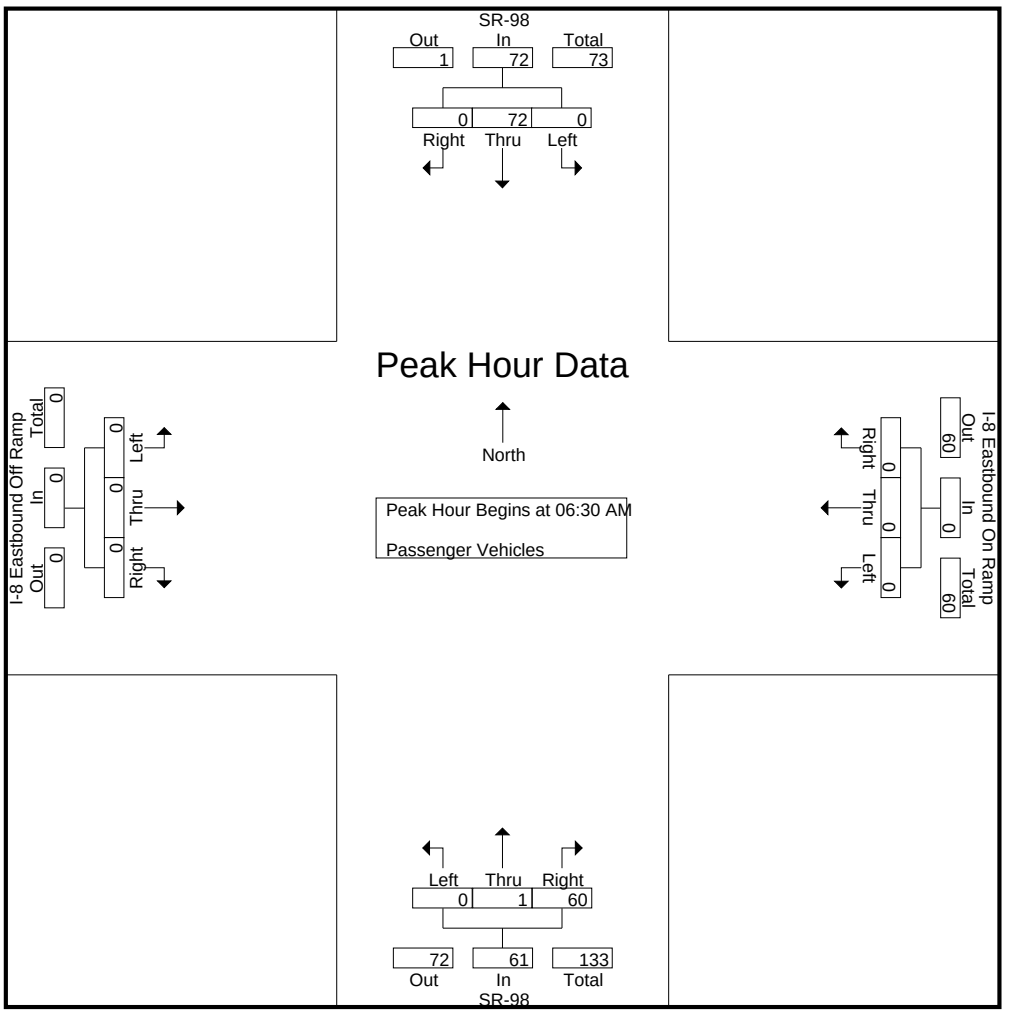
County of Imperial
N/S: SR-98
E/W: I-8 Eastbound Ramps
Weather: Clear

File Name : 02_CIM_SR98_I8E AM
Site Code : 13023987
Start Date : 10/24/2023
Page No : 2



Peak Hour Analysis From 06:30 AM to 07:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	06:30 AM				06:30 AM				06:30 AM				06:30 AM			
+0 mins.	0	16	0	16	0	0	0	0	0	0	10	10	0	0	0	0
+15 mins.	0	17	0	17	0	0	0	0	0	0	15	15	0	0	0	0
+30 mins.	0	19	0	19	0	0	0	0	0	**1**	**23**	**24**	0	0	0	0
+45 mins.	0	**20**	0	**20**	0	0	0	0	0	0	12	12	0	0	0	0
Total Volume	0	72	0	72	0	0	0	0	0	1	60	61	0	0	0	0
% App. Total	0	100	0		0	0	0		0	1.6	98.4		0	0	0	
PHF	.000	.900	.000	.900	.000	.000	.000	.000	.000	.250	.652	.635	.000	.000	.000	.000

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County of Imperial
N/S: SR-98
E/W: I-8 Eastbound Ramps
Weather: Clear

File Name : 02_CIM_SR98_I8E AM
Site Code : 13023987
Start Date : 10/24/2023
Page No : 1

Groups Printed- Large 2 Axle Vehicles

	SR-98 Southbound				I-8 Eastbound On Ramp Westbound				SR-98 Northbound				I-8 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:00 AM	0	1	0	1	0	0	0	0	0	0	1	1	0	0	0	0	2
06:15 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
06:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 AM	0	0	0	0	0	0	0	0	0	1	1	2	0	0	1	1	3
Total	0	2	0	2	0	0	0	0	0	1	2	3	0	0	1	1	6
07:00 AM	0	1	0	1	0	0	0	0	0	0	1	1	0	0	0	0	2
07:15 AM	0	2	0	2	0	0	0	0	0	0	6	6	0	0	0	0	8
07:30 AM	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
Total	0	3	0	3	0	0	0	0	0	0	7	7	0	0	0	0	10
08:00 AM	0	1	0	1	0	0	0	0	0	0	1	1	0	0	0	0	2
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	1	0	0	0	0	0	0	1	1	0	0	0	0	2
Grand Total	0	6	0	6	0	0	0	0	0	1	10	11	0	0	1	1	18
Apprch %	0	100	0		0	0	0		0	9.1	90.9		0	0	100		
Total %	0	33.3	0	33.3	0	0	0	0	0	5.6	55.6	61.1	0	0	5.6	5.6	

	SR-98 Southbound				I-8 Eastbound On Ramp Westbound				SR-98 Northbound				I-8 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:30 AM to 07:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 06:30 AM																	
06:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 AM	0	0	0	0	0	0	0	0	0	**1**	1	2	0	0	**1**	**1**	3
07:00 AM	0	1	0	1	0	0	0	0	0	0	1	1	0	0	0	0	2
07:15 AM	0	**2**	0	**2**	0	0	0	0	0	0	**6**	**6**	0	0	0	0	**8**
Total Volume	0	3	0	3	0	0	0	0	0	1	8	9	0	0	1	1	13
% App. Total	0	100	0		0	0	0		0	11.1	88.9		0	0	100		
PHF	.000	.375	.000	.375	.000	.000	.000	.000	.000	.250	.333	.375	.000	.000	.250	.250	.406

Counts Unlimited, Inc.
PO Box 1178
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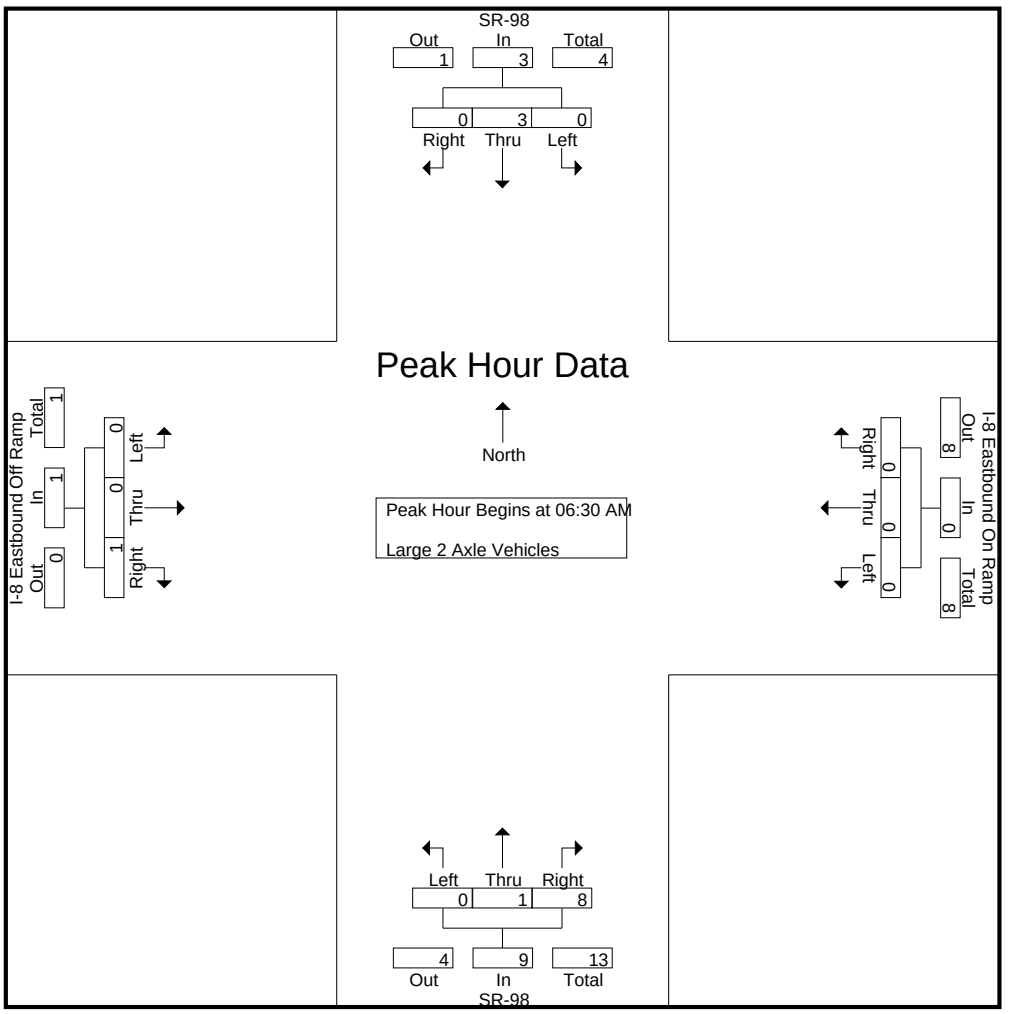
County of Imperial
N/S: SR-98
E/W: I-8 Eastbound Ramps
Weather: Clear

File Name : 02_CIM_SR98_I8E AM
Site Code : 13023987
Start Date : 10/24/2023
Page No : 2



Peak Hour Analysis From 06:30 AM to 07:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	06:30 AM				06:30 AM				06:30 AM				06:30 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	**1**	1	2	0	0	**1**	**1**
+30 mins.	0	1	0	1	0	0	0	0	0	0	1	1	0	0	0	0
+45 mins.	0	**2**	0	**2**	0	0	0	0	0	0	**6**	**6**	0	0	0	0
Total Volume	0	3	0	3	0	0	0	0	0	1	8	9	0	0	1	1
% App. Total	0	100	0		0	0	0		0	11.1	88.9		0	0	100	
PHF	.000	.375	.000	.375	.000	.000	.000	.000	.000	.250	.333	.375	.000	.000	.250	.250

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County of Imperial
N/S: SR-98
E/W: I-8 Eastbound Ramps
Weather: Clear

File Name : 02_CIM_SR98_I8E AM
Site Code : 13023987
Start Date : 10/24/2023
Page No : 1

Groups Printed- 3 Axle Vehicles

	SR-98 Southbound				I-8 Eastbound On Ramp Westbound				SR-98 Northbound				I-8 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
06:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
07:00 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
07:15 AM	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	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
Total	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	1	0	1	0	0	0	0	0	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
Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Grand Total	0	2	0	2	0	0	0	0	0	0	1	1	0	0	0	0	3
Apprch %	0	100	0		0	0	0		0	0	100		0	0	0		
Total %	0	66.7	0	66.7	0	0	0	0	0	0	33.3	33.3	0	0	0	0	

	SR-98 Southbound				I-8 Eastbound On Ramp Westbound				SR-98 Northbound				I-8 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:30 AM to 07:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 06:30 AM																	
06:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 AM	0	0	0	0	0	0	0	0	0	0	**1**	**1**	0	0	0	0	**1**
07:15 AM	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	1	1	0	0	0	0	1
% App. Total	0	0	0		0	0	0		0	0	100		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.250	.000	.000	.000	.000	.250

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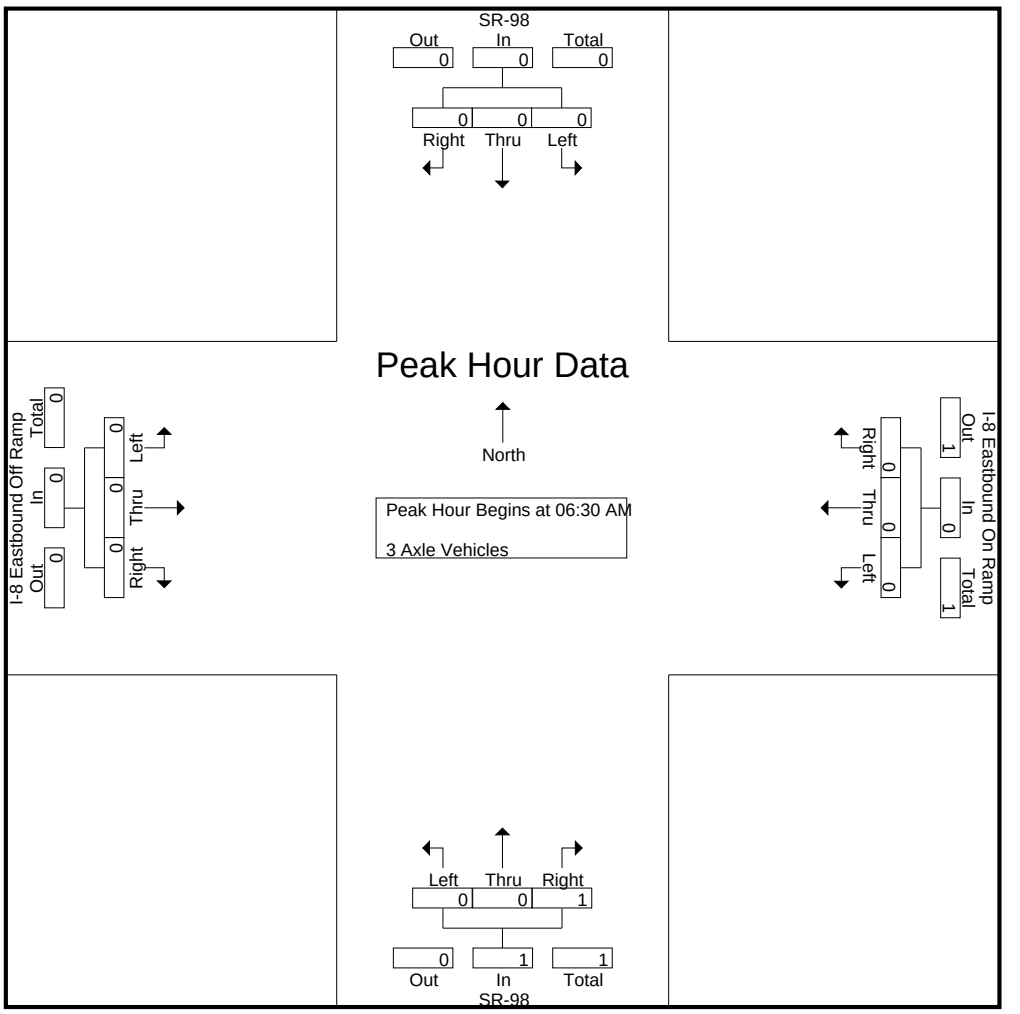
County of Imperial
N/S: SR-98
E/W: I-8 Eastbound Ramps
Weather: Clear

File Name : 02_CIM_SR98_I8E AM
Site Code : 13023987
Start Date : 10/24/2023
Page No : 2



Peak Hour Analysis From 06:30 AM to 07:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	06:30 AM				06:30 AM				06:30 AM				06:30 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	**1**	**1**	0	0	0	0
+45 mins.	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	1	1	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	100		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.250	.000	.000	.000	.000

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County of Imperial
N/S: SR-98
E/W: I-8 Eastbound Ramps
Weather: Clear

File Name : 02_CIM_SR98_I8E AM
Site Code : 13023987
Start Date : 10/24/2023
Page No : 1

Groups Printed- 4+ Axle Trucks

	SR-98 Southbound				I-8 Eastbound On Ramp Westbound				SR-98 Northbound				I-8 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:00 AM	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	2
06:15 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
06:30 AM	0	2	0	2	0	0	0	0	0	0	0	0	1	0	0	1	3
06:45 AM	0	2	0	2	0	0	0	0	0	0	2	2	0	0	0	0	4
Total	0	5	0	5	0	0	0	0	0	0	4	4	1	0	0	1	10
07:00 AM	0	1	0	1	0	0	0	0	0	0	10	10	0	0	0	0	11
07:15 AM	0	2	0	2	0	0	0	0	0	1	5	6	0	0	0	0	8
07:30 AM	0	2	0	2	0	0	0	0	0	0	4	4	1	0	0	1	7
07:45 AM	0	3	0	3	0	0	0	0	0	0	3	3	0	0	0	0	6
Total	0	8	0	8	0	0	0	0	0	1	22	23	1	0	0	1	32
08:00 AM	0	0	0	0	0	0	0	0	0	0	4	4	0	0	0	0	4
08:15 AM	0	2	0	2	0	0	0	0	0	0	5	5	0	0	0	0	7
08:30 AM	0	2	0	2	0	0	0	0	0	0	5	5	0	0	0	0	7
08:45 AM	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	2
Total	0	4	0	4	0	0	0	0	0	0	16	16	0	0	0	0	20
Grand Total	0	17	0	17	0	0	0	0	0	1	42	43	2	0	0	2	62
Apprch %	0	100	0		0	0	0		0	2.3	97.7		100	0	0		
Total %	0	27.4	0	27.4	0	0	0	0	0	1.6	67.7	69.4	3.2	0	0	3.2	

	SR-98 Southbound				I-8 Eastbound On Ramp Westbound				SR-98 Northbound				I-8 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:30 AM to 07:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 06:30 AM																	
06:30 AM	0	**2**	0	**2**	0	0	0	0	0	0	0	0	**1**	0	0	**1**	3
06:45 AM	0	2	0	2	0	0	0	0	0	0	2	2	0	0	0	0	4
07:00 AM	0	1	0	1	0	0	0	0	0	0	**10**	**10**	0	0	0	0	**11**
07:15 AM	0	2	0	2	0	0	0	0	0	**1**	5	6	0	0	0	0	8
Total Volume	0	7	0	7	0	0	0	0	0	1	17	18	1	0	0	1	26
% App. Total	0	100	0		0	0	0		0	5.6	94.4		100	0	0		
PHF	.000	.875	.000	.875	.000	.000	.000	.000	.000	.250	.425	.450	.250	.000	.000	.250	.591

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

County of Imperial
N/S: SR-98
E/W: I-8 Eastbound Ramps
Weather: Clear

File Name : 02_CIM_SR98_I8E AM
Site Code : 13023987
Start Date : 10/24/2023
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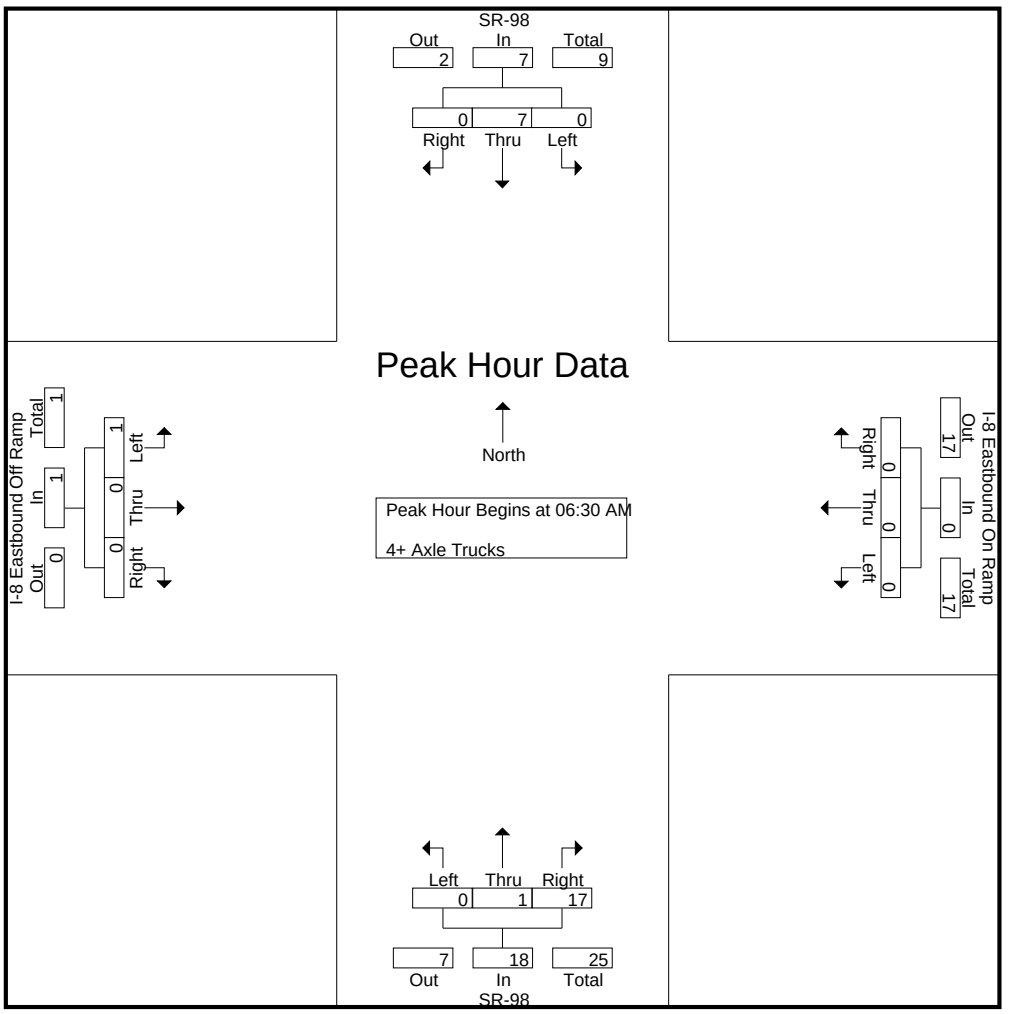

Peak Hour Analysis From 06:30 AM to 07:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	06:30 AM				06:30 AM				06:30 AM				06:30 AM			
+0 mins.	0	**2**	0	**2**	0	0	0	0	0	0	0	0	**1**	0	0	**1**
+15 mins.	0	2	0	2	0	0	0	0	0	0	2	2	0	0	0	0
+30 mins.	0	1	0	1	0	0	0	0	0	0	**10**	**10**	0	0	0	0
+45 mins.	0	2	0	2	0	0	0	0	0	**1**	5	6	0	0	0	0
Total Volume	0	7	0	7	0	0	0	0	0	1	17	18	1	0	0	1
% App. Total	0	100	0		0	0	0		0	5.6	94.4		100	0	0	
PHF	.000	.875	.000	.875	.000	.000	.000	.000	.000	.250	.425	.450	.250	.000	.000	.250

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County of Imperial
N/S: SR-98
E/W: I-8 Eastbound Ramps
Weather: Clear

File Name : 02_CIM_SR98_I8E PM
Site Code : 13023987
Start Date : 10/24/2023
Page No : 1

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

	SR-98 Southbound				I-8 Eastbound On Ramp Westbound				SR-98 Northbound				I-8 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	39	0	39	0	0	0	0	0	5	20	25	0	0	1	1	65
03:15 PM	0	27	0	27	0	0	0	0	0	0	25	25	0	0	0	0	52
03:30 PM	0	19	0	19	0	0	0	0	0	0	27	27	0	0	0	0	46
03:45 PM	1	16	0	17	0	0	0	0	0	0	25	25	0	0	0	0	42
Total	1	101	0	102	0	0	0	0	0	5	97	102	0	0	1	1	205
04:00 PM	0	31	0	31	0	0	0	0	0	0	31	31	0	0	0	0	62
04:15 PM	0	26	0	26	0	0	0	0	0	0	28	28	0	0	0	0	54
04:30 PM	0	30	0	30	0	0	0	0	0	1	22	23	0	0	0	0	53
04:45 PM	0	19	0	19	0	0	0	0	0	0	16	16	0	1	0	1	36
Total	0	106	0	106	0	0	0	0	0	1	97	98	0	1	0	1	205
05:00 PM	0	23	0	23	0	0	0	0	0	0	21	21	0	0	2	2	46
05:15 PM	0	24	0	24	0	0	0	0	0	0	29	29	1	0	0	1	54
05:30 PM	0	24	0	24	0	0	0	0	0	0	31	31	0	0	0	0	55
05:45 PM	1	21	0	22	0	0	0	0	0	0	23	23	0	0	0	0	45
Total	1	92	0	93	0	0	0	0	0	0	104	104	1	0	2	3	200
06:00 PM	0	21	0	21	0	0	0	0	0	0	21	21	0	0	0	0	42
06:15 PM	0	25	0	25	0	0	0	0	0	0	22	22	0	0	0	0	47
06:30 PM	0	19	0	19	0	0	0	0	0	0	10	10	1	2	0	3	32
06:45 PM	0	9	0	9	0	0	0	0	0	1	25	26	0	0	0	0	35
Total	0	74	0	74	0	0	0	0	0	1	78	79	1	2	0	3	156
Grand Total	2	373	0	375	0	0	0	0	0	7	376	383	2	3	3	8	766
Apprch %	0.5	99.5	0		0	0	0		0	1.8	98.2		25	37.5	37.5		
Total %	0.3	48.7	0	49	0	0	0	0	0	0.9	49.1	50	0.3	0.4	0.4	1	
Passenger Vehicles	1	300	0	301	0	0	0	0	0	5	317	322	2	3	3	8	631
% Passenger Vehicles	50	80.4	0	80.3	0	0	0	0	0	71.4	84.3	84.1	100	100	100	100	82.4
Large 2 Axle Vehicles	0	16	0	16	0	0	0	0	0	1	7	8	0	0	0	0	24
% Large 2 Axle Vehicles	0	4.3	0	4.3	0	0	0	0	0	14.3	1.9	2.1	0	0	0	0	3.1
3 Axle Vehicles	0	2	0	2	0	0	0	0	0	1	4	5	0	0	0	0	7
% 3 Axle Vehicles	0	0.5	0	0.5	0	0	0	0	0	14.3	1.1	1.3	0	0	0	0	0.9
4+ Axle Trucks	1	55	0	56	0	0	0	0	0	0	48	48	0	0	0	0	104
% 4+ Axle Trucks	50	14.7	0	14.9	0	0	0	0	0	0	12.8	12.5	0	0	0	0	13.6

	SR-98 Southbound				I-8 Eastbound On Ramp Westbound				SR-98 Northbound				I-8 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 06:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:45 PM																	
03:45 PM	**1**	16	0	17	0	0	0	0	0	0	25	25	0	0	0	0	42
04:00 PM	0	**31**	0	**31**	0	0	0	0	0	0	**31**	**31**	0	0	0	0	**62**
04:15 PM	0	26	0	26	0	0	0	0	0	0	28	28	0	0	0	0	54
04:30 PM	0	30	0	30	0	0	0	0	0	**1**	22	23	0	0	0	0	53
Total Volume	1	103	0	104	0	0	0	0	0	1	106	107	0	0	0	0	211
% App. Total	1	99	0		0	0	0		0	0.9	99.1		0	0	0		
PHF	.250	.831	.000	.839	.000	.000	.000	.000	.000	.250	.855	.863	.000	.000	.000	.000	.851

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PO Box 1178
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County of Imperial
N/S: SR-98
E/W: I-8 Eastbound Ramps
Weather: Clear

File Name : 02_CIM_SR98_I8E PM
Site Code : 13023987
Start Date : 10/24/2023
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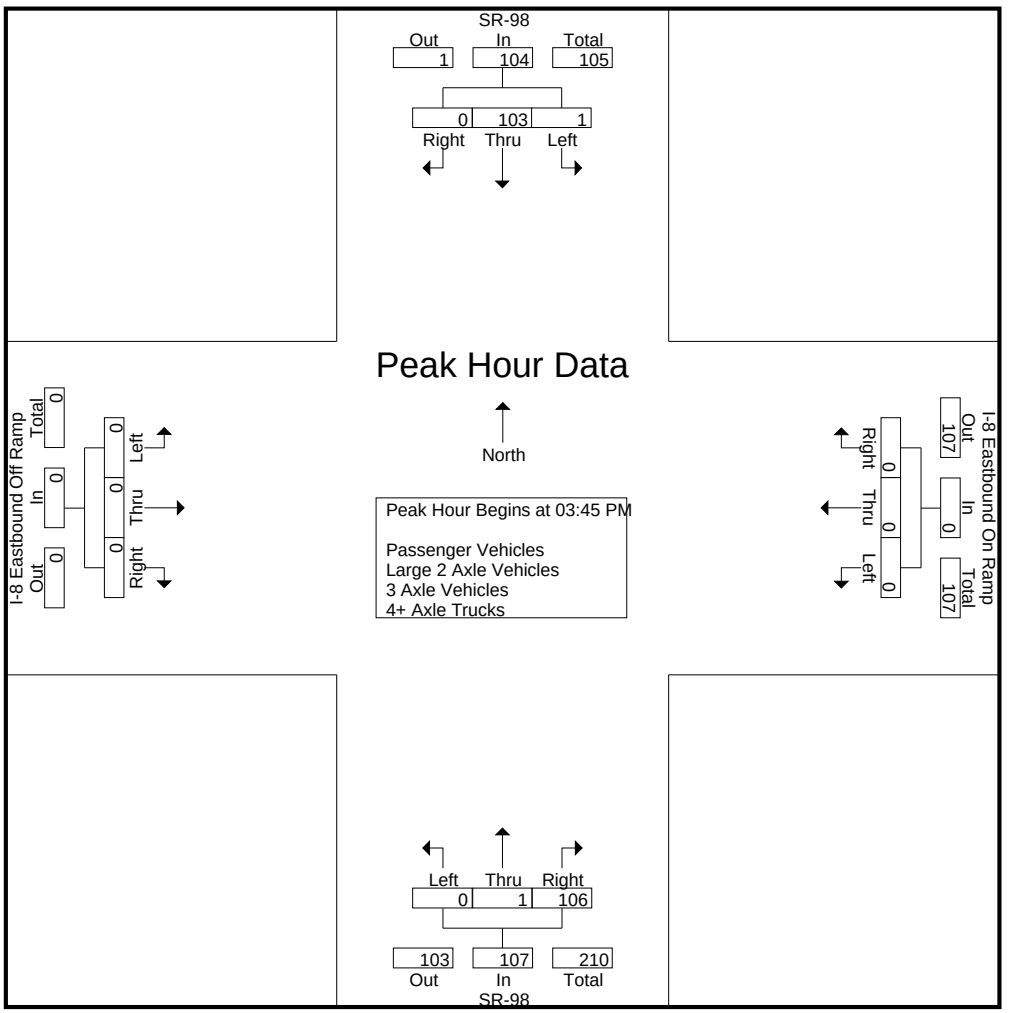

Peak Hour Analysis From 03:00 PM to 06:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				03:00 PM				03:30 PM				04:30 PM			
+0 mins.	0	**31**	0	**31**	0	0	0	0	0	0	27	27	0	0	0	0
+15 mins.	0	26	0	26	0	0	0	0	0	0	25	25	0	**1**	0	1
+30 mins.	0	30	0	30	0	0	0	0	0	0	**31**	**31**	0	0	**2**	**2**
+45 mins.	0	19	0	19	0	0	0	0	0	0	28	28	**1**	0	0	1
Total Volume	0	106	0	106	0	0	0	0	0	0	111	111	1	1	2	4
% App. Total	0	100	0		0	0	0		0	0	100		25	25	50	
PHF	.000	.855	.000	.855	.000	.000	.000	.000	.000	.000	.895	.895	.250	.250	.250	.500

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File Name : 02_CIM_SR98_I8E PM
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Groups Printed- Passenger Vehicles

	SR-98 Southbound				I-8 Eastbound On Ramp Westbound				SR-98 Northbound				I-8 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	28	0	28	0	0	0	0	0	3	15	18	0	0	1	1	47
03:15 PM	0	19	0	19	0	0	0	0	0	0	22	22	0	0	0	0	41
03:30 PM	0	15	0	15	0	0	0	0	0	0	23	23	0	0	0	0	38
03:45 PM	1	15	0	16	0	0	0	0	0	0	24	24	0	0	0	0	40
Total	1	77	0	78	0	0	0	0	0	3	84	87	0	0	1	1	166
04:00 PM	0	22	0	22	0	0	0	0	0	0	23	23	0	0	0	0	45
04:15 PM	0	21	0	21	0	0	0	0	0	0	26	26	0	0	0	0	47
04:30 PM	0	21	0	21	0	0	0	0	0	1	19	20	0	0	0	0	41
04:45 PM	0	16	0	16	0	0	0	0	0	0	12	12	0	1	0	1	29
Total	0	80	0	80	0	0	0	0	0	1	80	81	0	1	0	1	162
05:00 PM	0	22	0	22	0	0	0	0	0	0	17	17	0	0	2	2	41
05:15 PM	0	19	0	19	0	0	0	0	0	0	26	26	1	0	0	1	46
05:30 PM	0	20	0	20	0	0	0	0	0	0	28	28	0	0	0	0	48
05:45 PM	0	18	0	18	0	0	0	0	0	0	19	19	0	0	0	0	37
Total	0	79	0	79	0	0	0	0	0	0	90	90	1	0	2	3	172
06:00 PM	0	15	0	15	0	0	0	0	0	0	15	15	0	0	0	0	30
06:15 PM	0	24	0	24	0	0	0	0	0	0	20	20	0	0	0	0	44
06:30 PM	0	17	0	17	0	0	0	0	0	0	10	10	1	2	0	3	30
06:45 PM	0	8	0	8	0	0	0	0	0	1	18	19	0	0	0	0	27
Total	0	64	0	64	0	0	0	0	0	1	63	64	1	2	0	3	131
Grand Total	1	300	0	301	0	0	0	0	0	5	317	322	2	3	3	8	631
Apprch %	0.3	99.7	0		0	0	0		0	1.6	98.4		25	37.5	37.5		
Total %	0.2	47.5	0	47.7	0	0	0	0	0	0.8	50.2	51	0.3	0.5	0.5	1.3	

	SR-98 Southbound				I-8 Eastbound On Ramp Westbound				SR-98 Northbound				I-8 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:45 PM to 04:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:45 PM																	
03:45 PM	**1**	15	0	16	0	0	0	0	0	0	24	24	0	0	0	0	40
04:00 PM	0	**22**	0	**22**	0	0	0	0	0	0	23	23	0	0	0	0	45
04:15 PM	0	21	0	21	0	0	0	0	0	0	**26**	**26**	0	0	0	0	**47**
04:30 PM	0	21	0	21	0	0	0	0	0	**1**	19	20	0	0	0	0	41
Total Volume	1	79	0	80	0	0	0	0	0	1	92	93	0	0	0	0	173
% App. Total	1.2	98.8	0		0	0	0		0	1.1	98.9		0	0	0		
PHF	.250	.898	.000	.909	.000	.000	.000	.000	.000	.250	.885	.894	.000	.000	.000	.000	.920

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County of Imperial
N/S: SR-98
E/W: I-8 Eastbound Ramps
Weather: Clear

File Name : 02_CIM_SR98_I8E PM
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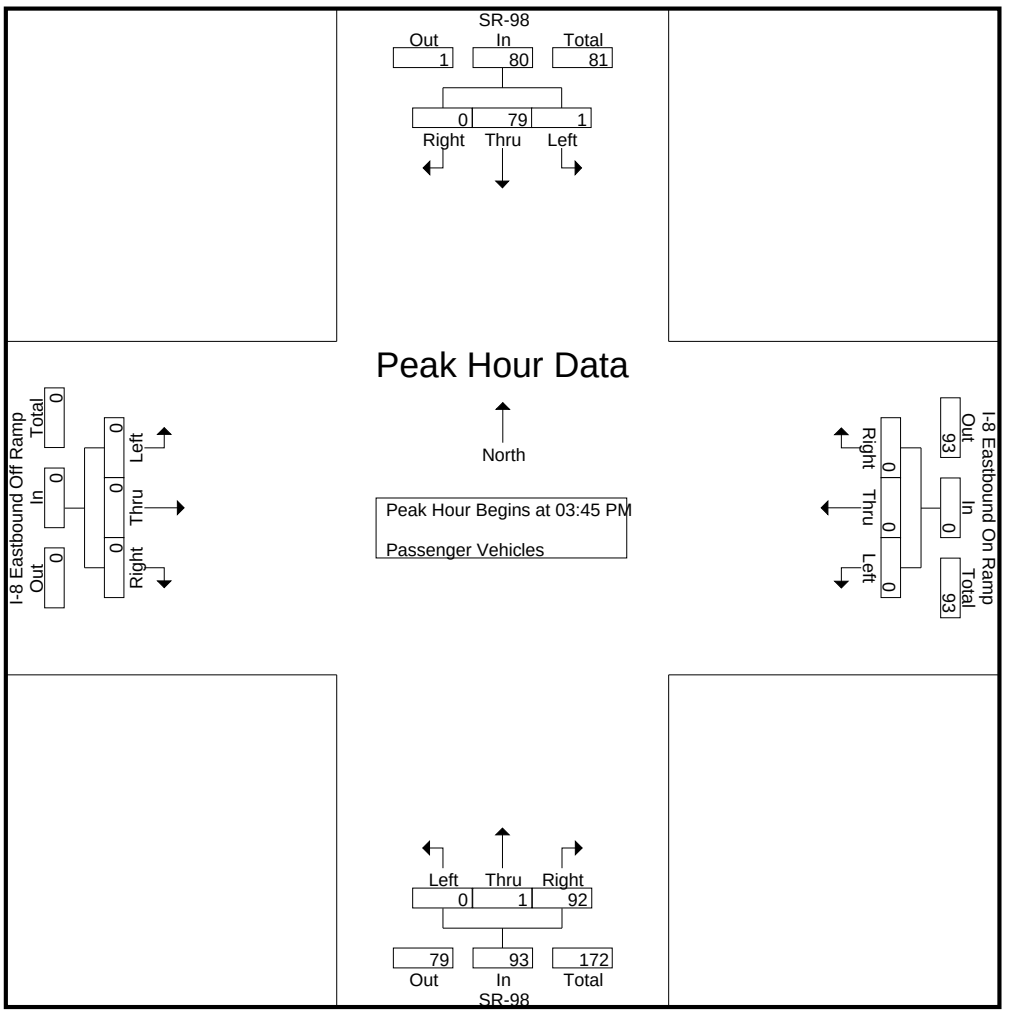

Peak Hour Analysis From 03:45 PM to 04:30 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	03:45 PM				03:45 PM				03:45 PM				03:45 PM			
+0 mins.	**1**	15	0	16	0	0	0	0	0	0	24	24	0	0	0	0
+15 mins.	0	**22**	0	**22**	0	0	0	0	0	0	23	23	0	0	0	0
+30 mins.	0	21	0	21	0	0	0	0	0	0	**26**	**26**	0	0	0	0
+45 mins.	0	21	0	21	0	0	0	0	0	**1**	19	20	0	0	0	0
Total Volume	1	79	0	80	0	0	0	0	0	1	92	93	0	0	0	0
% App. Total	1.2	98.8	0		0	0	0		0	1.1	98.9		0	0	0	
PHF	.250	.898	.000	.909	.000	.000	.000	.000	.000	.250	.885	.894	.000	.000	.000	.000

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County of Imperial
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File Name : 02_CIM_SR98_I8E PM
Site Code : 13023987
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Groups Printed- Large 2 Axle Vehicles

	SR-98 Southbound				I-8 Eastbound On Ramp Westbound				SR-98 Northbound				I-8 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	3	0	3	0	0	0	0	0	1	0	1	0	0	0	0	4
03:15 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
03:30 PM	0	3	0	3	0	0	0	0	0	0	1	1	0	0	0	0	4
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	8	0	8	0	0	0	0	0	1	1	2	0	0	0	0	10
04:00 PM	0	2	0	2	0	0	0	0	0	0	4	4	0	0	0	0	6
04:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:30 PM	0	3	0	3	0	0	0	0	0	0	2	2	0	0	0	0	5
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	6	0	6	0	0	0	0	0	0	6	6	0	0	0	0	12
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Grand Total	0	16	0	16	0	0	0	0	0	1	7	8	0	0	0	0	24
Apprch %	0	100	0		0	0	0		0	12.5	87.5		0	0	0		
Total %	0	66.7	0	66.7	0	0	0	0	0	4.2	29.2	33.3	0	0	0	0	

	SR-98 Southbound				I-8 Eastbound On Ramp Westbound				SR-98 Northbound				I-8 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:45 PM to 04:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:45 PM																	
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 PM	0	2	0	2	0	0	0	0	0	0	**4**	**4**	0	0	0	0	**6**
04:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:30 PM	0	**3**	0	**3**	0	0	0	0	0	0	2	2	0	0	0	0	5
Total Volume	0	6	0	6	0	0	0	0	0	0	6	6	0	0	0	0	12
% App. Total	0	100	0		0	0	0		0	0	100		0	0	0		
PHF	.000	.500	.000	.500	.000	.000	.000	.000	.000	.000	.375	.375	.000	.000	.000	.000	.500

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County of Imperial
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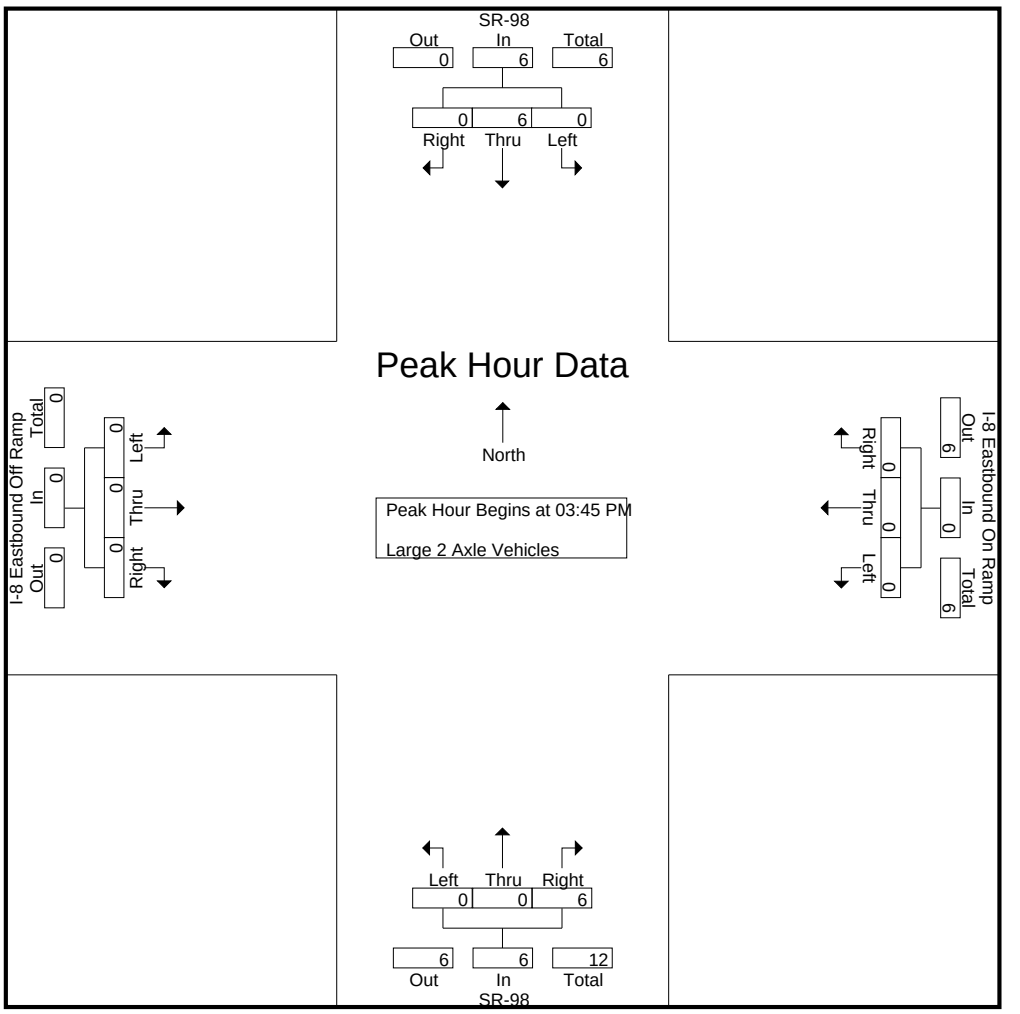

Peak Hour Analysis From 03:45 PM to 04:30 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	03:45 PM				03:45 PM				03:45 PM				03:45 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	2	0	2	0	0	0	0	0	0	**4**	**4**	0	0	0	0
+30 mins.	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	**3**	0	**3**	0	0	0	0	0	0	2	2	0	0	0	0
Total Volume	0	6	0	6	0	0	0	0	0	0	6	6	0	0	0	0
% App. Total	0	100	0		0	0	0		0	0	100		0	0	0	
PHF	.000	.500	.000	.500	.000	.000	.000	.000	.000	.000	.375	.375	.000	.000	.000	.000

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County of Imperial
N/S: SR-98
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Weather: Clear

File Name : 02_CIM_SR98_I8E PM
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Groups Printed- 3 Axle Vehicles

	SR-98 Southbound				I-8 Eastbound On Ramp Westbound				SR-98 Northbound				I-8 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
04:00 PM	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	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
Total	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
05:15 PM	0	1	0	1	0	0	0	0	0	0	2	2	0	0	0	0	3
05:30 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	2
Total	0	2	0	2	0	0	0	0	0	0	4	4	0	0	0	0	6
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	2	0	2	0	0	0	0	0	1	4	5	0	0	0	0	7
Apprch %	0	100	0		0	0	0		0	20	80		0	0	0		
Total %	0	28.6	0	28.6	0	0	0	0	0	14.3	57.1	71.4	0	0	0	0	

	SR-98 Southbound				I-8 Eastbound On Ramp Westbound				SR-98 Northbound				I-8 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:45 PM to 04:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:45 PM																	
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 PM	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	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
Total Volume	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		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Counts Unlimited, Inc.
PO Box 1178
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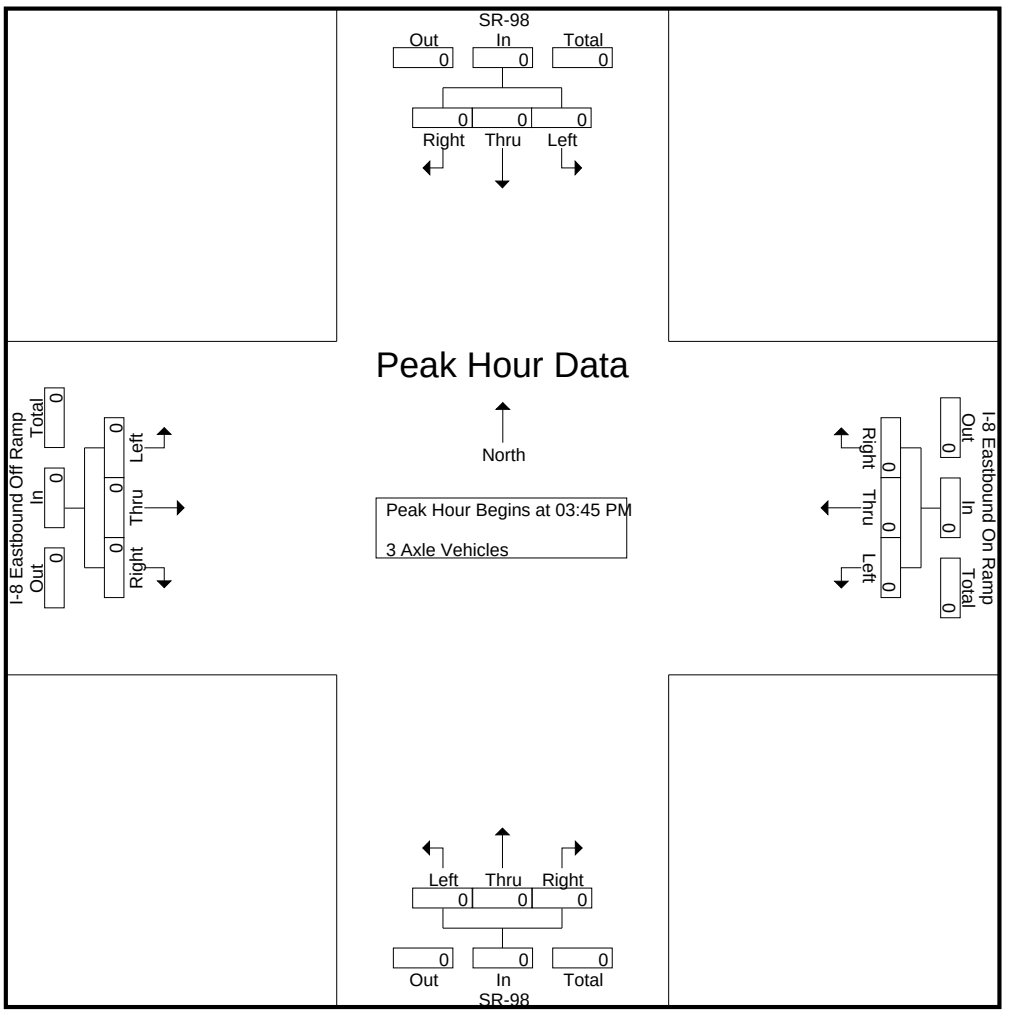
County of Imperial
N/S: SR-98
E/W: I-8 Eastbound Ramps
Weather: Clear

File Name : 02_CIM_SR98_I8E PM
Site Code : 13023987
Start Date : 10/24/2023
Page No : 2



Peak Hour Analysis From 03:45 PM to 04:30 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	03:45 PM				03:45 PM				03:45 PM				03:45 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	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	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
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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County of Imperial
N/S: SR-98
E/W: I-8 Eastbound Ramps
Weather: Clear

File Name : 02_CIM_SR98_I8E PM
Site Code : 13023987
Start Date : 10/24/2023
Page No : 1

Groups Printed- 4+ Axle Trucks

	SR-98 Southbound				I-8 Eastbound On Ramp Westbound				SR-98 Northbound				I-8 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	8	0	8	0	0	0	0	0	0	5	5	0	0	0	0	13
03:15 PM	0	6	0	6	0	0	0	0	0	0	3	3	0	0	0	0	9
03:30 PM	0	1	0	1	0	0	0	0	0	0	3	3	0	0	0	0	4
03:45 PM	0	1	0	1	0	0	0	0	0	0	1	1	0	0	0	0	2
Total	0	16	0	16	0	0	0	0	0	0	12	12	0	0	0	0	28
04:00 PM	0	7	0	7	0	0	0	0	0	0	4	4	0	0	0	0	11
04:15 PM	0	4	0	4	0	0	0	0	0	0	2	2	0	0	0	0	6
04:30 PM	0	6	0	6	0	0	0	0	0	0	1	1	0	0	0	0	7
04:45 PM	0	3	0	3	0	0	0	0	0	0	4	4	0	0	0	0	7
Total	0	20	0	20	0	0	0	0	0	0	11	11	0	0	0	0	31
05:00 PM	0	1	0	1	0	0	0	0	0	0	4	4	0	0	0	0	5
05:15 PM	0	4	0	4	0	0	0	0	0	0	1	1	0	0	0	0	5
05:30 PM	0	3	0	3	0	0	0	0	0	0	3	3	0	0	0	0	6
05:45 PM	1	3	0	4	0	0	0	0	0	0	2	2	0	0	0	0	6
Total	1	11	0	12	0	0	0	0	0	0	10	10	0	0	0	0	22
06:00 PM	0	4	0	4	0	0	0	0	0	0	6	6	0	0	0	0	10
06:15 PM	0	1	0	1	0	0	0	0	0	0	2	2	0	0	0	0	3
06:30 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
06:45 PM	0	1	0	1	0	0	0	0	0	0	7	7	0	0	0	0	8
Total	0	8	0	8	0	0	0	0	0	0	15	15	0	0	0	0	23
Grand Total	1	55	0	56	0	0	0	0	0	0	48	48	0	0	0	0	104
Apprch %	1.8	98.2	0		0	0	0		0	0	100		0	0	0		
Total %	1	52.9	0	53.8	0	0	0	0	0	0	46.2	46.2	0	0	0	0	

	SR-98 Southbound				I-8 Eastbound On Ramp Westbound				SR-98 Northbound				I-8 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:45 PM to 04:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:45 PM																	
03:45 PM	0	1	0	1	0	0	0	0	0	0	1	1	0	0	0	0	2
04:00 PM	0	**7**	0	**7**	0	0	0	0	0	0	**4**	**4**	0	0	0	0	**11**
04:15 PM	0	4	0	4	0	0	0	0	0	0	2	2	0	0	0	0	6
04:30 PM	0	6	0	6	0	0	0	0	0	0	1	1	0	0	0	0	7
Total Volume	0	18	0	18	0	0	0	0	0	0	8	8	0	0	0	0	26
% App. Total	0	100	0		0	0	0		0	0	100		0	0	0		
PHF	.000	.643	.000	.643	.000	.000	.000	.000	.000	.000	.500	.500	.000	.000	.000	.000	.591

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County of Imperial
N/S: SR-98
E/W: I-8 Eastbound Ramps
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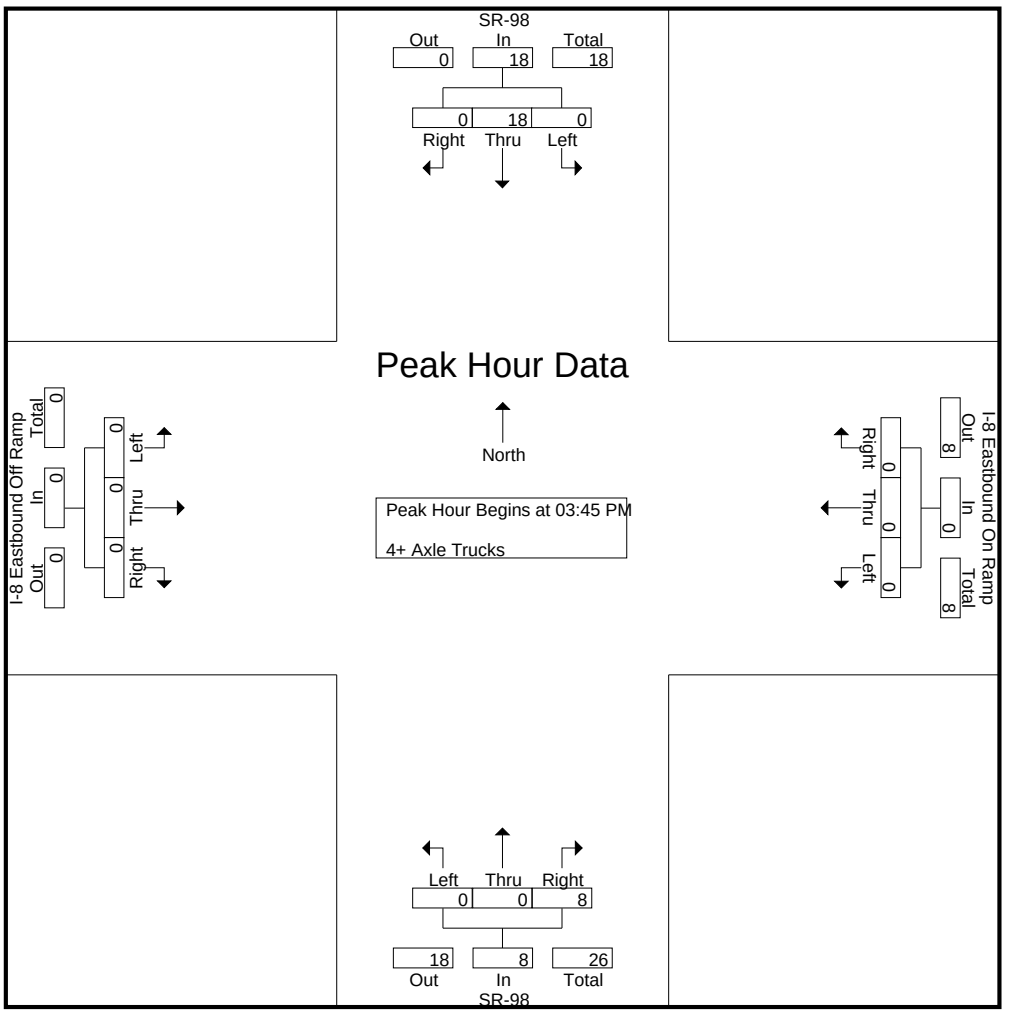
File Name : 02_CIM_SR98_I8E PM
Site Code : 13023987
Start Date : 10/24/2023
Page No : 2



Peak Hour Analysis From 03:45 PM to 04:30 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	03:45 PM				03:45 PM				03:45 PM				03:45 PM			
+0 mins.	0	1	0	1	0	0	0	0	0	0	1	1	0	0	0	0
+15 mins.	0	**7**	0	**7**	0	0	0	0	0	0	**4**	**4**	0	0	0	0
+30 mins.	0	4	0	4	0	0	0	0	0	0	2	2	0	0	0	0
+45 mins.	0	6	0	6	0	0	0	0	0	0	1	1	0	0	0	0
Total Volume	0	18	0	18	0	0	0	0	0	0	8	8	0	0	0	0
% App. Total	0	100	0		0	0	0		0	0	100		0	0	0	
PHF	.000	.643	.000	.643	.000	.000	.000	.000	.000	.000	.500	.500	.000	.000	.000	.000

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County of Imperial
State Route 98
W/ Interstate 8 Interchange
72 Hour Directional Volume Count

CIM001V
Site Code: 130-23987

Start Time	10/24/23 Tue	Eastbound Morning	Eastbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Westbound Morning	Westbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		4	24			1	15				
12:15		1	18			4	15				
12:30		5	21			3	11				
12:45		2	15	12	78	2	28	10	69	22	147
01:00		4	15			1	20				
01:15		4	24			4	27				
01:30		6	13			0	22				
01:45		4	18	18	70	0	17	5	86	23	156
02:00		4	17			1	20				
02:15		6	15			1	18				
02:30		4	28			0	**18**				
02:45		2	22	16	82	3	**24**	5	80	21	162
03:00		7	20			1	**35**				
03:15		8	24			4	**33**				
03:30		8	**27**			6	18				
03:45		10	**25**	33	96	1	16	12	102	45	198
04:00		12	**31**			5	27				
04:15		19	**28**			7	30				
04:30		14	24			4	26				
04:45		20	21	65	104	6	21	22	104	87	208
05:00		11	16			8	22				
05:15		10	31			15	23				
05:30		7	29			15	23				
05:45		11	25	39	101	15	25	53	93	92	194
06:00		14	19			5	20				
06:15		16	22			7	26				
06:30		11	10			**17**	18				
06:45		**18**	27	59	78	**21**	9	50	73	109	151
07:00		**39**	15			**18**	18				
07:15		**18**	20			**26**	16				
07:30		**15**	13			11	12				
07:45		9	19	81	67	20	9	75	55	156	122
08:00		13	10			14	10				
08:15		27	11			8	9				
08:30		17	16			14	9				
08:45		12	16	69	53	20	8	56	36	125	89
09:00		17	18			19	16				
09:15		17	17			18	16				
09:30		17	16			19	10				
09:45		19	14	70	65	19	9	75	51	145	116
10:00		24	8			20	3				
10:15		14	14			13	7				
10:30		15	11			15	5				
10:45		11	7	64	40	14	6	62	21	126	61
11:00		17	5			18	5				
11:15		25	6			10	9				
11:30		19	10			14	5				
11:45		16	2	77	23	16	2	58	21	135	44
Total		603	857	603	857	483	791	483	791	1086	1648
Combined Total		1460		1460		1274		1274		2734	
AM Peak	-	06:45	-	-	-	06:30	-	-	-	-	-
Vol.	-	90	-	-	-	82	-	-	-	-	-
P.H.F.		0.577				0.788					
PM Peak	-	-	03:30	-	-	-	02:30	-	-	-	-
Vol.	-	-	111	-	-	-	110	-	-	-	-
P.H.F.			0.895				0.786				
Percentage		41.3%	58.7%			37.9%	62.1%				

Counts Unlimited, Inc.

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County of Imperial
State Route 98
W/ Interstate 8 Interchange
72 Hour Directional Volume Count

CIM001V
Site Code: 130-23987

Start Time	10/25/23 Wed	Eastbound Morning	Eastbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Westbound Morning	Westbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		4	17			4	12				
12:15		1	18			2	10				
12:30		4	16			1	27				
12:45		3	17	12	68	6	13	13	62	25	130
01:00		1	18			3	**29**				
01:15		2	22			5	**32**				
01:30		3	13			1	**30**				
01:45		3	13	9	66	1	**21**	10	112	19	178
02:00		5	31			4	26				
02:15		5	19			1	22				
02:30		4	20			2	26				
02:45		3	19	17	89	1	26	8	100	25	189
03:00		8	17			5	19				
03:15		5	15			4	29				
03:30		15	30			7	21				
03:45		12	17	40	79	5	28	21	97	61	176
04:00		11	**24**			4	20				
04:15		19	**24**			7	31				
04:30		23	**26**			4	27				
04:45		7	**30**	60	104	7	20	22	98	82	202
05:00		7	10			12	22				
05:15		7	20			15	21				
05:30		9	22			14	36				
05:45		8	20	31	72	9	23	50	102	81	174
06:00		10	20			6	21				
06:15		11	10			8	22				
06:30		13	20			24	23				
06:45		22	13	56	63	17	15	55	81	111	144
07:00		22	16			17	11				
07:15		13	16			20	9				
07:30		10	15			16	14				
07:45		13	7	58	54	24	11	77	45	135	99
08:00		16	13			18	7				
08:15		14	13			18	17				
08:30		15	22			13	12				
08:45		12	15	57	63	14	15	63	51	120	114
09:00		18	14			**28**	16				
09:15		**13**	11			**19**	11				
09:30		**19**	8			**22**	13				
09:45		**14**	9	64	42	**26**	12	95	52	159	94
10:00		**25**	17			25	9				
10:15		13	10			10	8				
10:30		13	17			14	5				
10:45		17	6	68	50	14	8	63	30	131	80
11:00		20	3			15	7				
11:15		16	5			8	2				
11:30		10	1			12	5				
11:45		24	4	70	13	21	3	56	17	126	30
Total		542	763	542	763	533	847	533	847	1075	1610
Combined Total		1305		1305		1380		1380		2685	
AM Peak	-	09:15	-	-	-	09:00	-	-	-	-	-
Vol.	-	71	-	-	-	95	-	-	-	-	-
P.H.F.		0.710				0.848					
PM Peak	-	-	04:00	-	-	-	01:00	-	-	-	-
Vol.	-	-	104	-	-	-	112	-	-	-	-
P.H.F.			0.867				0.875				
Percentage		41.5%	58.5%			38.6%	61.4%				

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County of Imperial
State Route 98
W/ Interstate 8 Interchange
72 Hour Directional Volume Count

CIM001V
Site Code: 130-23987

Start Time	10/26/23 Thu	Eastbound Morning	Eastbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Westbound Morning	Westbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		6	16			5	16				
12:15		3	18			0	27				
12:30		4	22			4	21				
12:45		3	15	16	71	3	25	12	89	28	160
01:00		1	11			0	29				
01:15		2	14			3	30				
01:30		3	16			2	26				
01:45		2	7	8	48	4	16	9	101	17	149
02:00		6	16			1	24				
02:15		4	18			1	17				
02:30		6	17			3	17				
02:45		5	13	21	64	4	33	9	91	30	155
03:00		6	11			4	32				
03:15		10	7			3	23				
03:30		19	31			2	**29**				
03:45		9	21	44	70	3	**34**	12	118	56	188
04:00		15	**25**			5	**32**				
04:15		13	**22**			8	**38**				
04:30		16	**28**			4	23				
04:45		16	**27**	60	102	11	22	28	115	88	217
05:00		13	12			8	23				
05:15		7	24			17	28				
05:30		13	19			10	21				
05:45		11	13	44	68	12	30	47	102	91	170
06:00		14	15			8	26				
06:15		12	7			14	29				
06:30		**18**	11			9	34				
06:45		**22**	16	66	49	**23**	28	54	117	120	166
07:00		**16**	18			**21**	24				
07:15		**17**	18			**24**	21				
07:30		11	16			**21**	20				
07:45		11	15	55	67	16	13	82	78	137	145
08:00		11	21			19	13				
08:15		14	12			12	14				
08:30		14	17			31	15				
08:45		12	14	51	64	13	14	75	56	126	120
09:00		15	21			19	16				
09:15		13	13			20	15				
09:30		11	10			18	17				
09:45		15	11	54	55	15	14	72	62	126	117
10:00		16	8			10	7				
10:15		21	9			14	8				
10:30		17	6			19	4				
10:45		9	9	63	32	13	8	56	27	119	59
11:00		16	8			15	3				
11:15		19	8			17	8				
11:30		10	13			13	2				
11:45		12	0	57	29	15	0	60	13	117	42
Total		539	719	539	719	516	969	516	969	1055	1688
Combined Total		1258		1258		1485		1485		2743	
AM Peak	-	06:30	-	-	-	06:45	-	-	-	-	-
Vol.	-	73	-	-	-	89	-	-	-	-	-
P.H.F.		0.830				0.927					
PM Peak	-	-	04:00	-	-	-	03:30	-	-	-	-
Vol.	-	-	102	-	-	-	133	-	-	-	-
P.H.F.			0.911				0.875				
Percentage		42.8%	57.2%			34.7%	65.3%				
ADT/AADT		ADT 2,721		AADT 2,721							

Appendix B: Intersection Capacity Analysis Worksheets

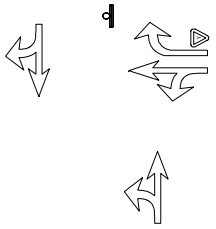
DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TMO	22-Jan-24	ASPE0000-0006	1 OF 2

E/W STREET : I-8 WB RAMPS
N/S STREET : HIGHWAY 98
CONDITION : AM PEAK HOUR

INTERSECTION : 1
GROWTH PER YEAR : 3.0%

CONDITION DIAGRAMS



EXISTING GEOMETRICS

TURN MOVEMENTS

Condition	Existing Condition Traffic	Temporary Project Construction Ambient Growth	Temporary Project Construction Conditions	Temporary Project Construction Trips	Temporary Project Construction w/Project Conditions	Opening Year Conditions Ambient Growth	Opening Year Conditions without Project	O&M Project Trips	Opening Year Conditions with Project	Cumulative Year Conditions without Project	Cumulative Year Conditions with Project
	1		3		5		7		9	11	13
I-8 WB RAMPS											
EB LEFT	0	0	0	0	0	0	0	0	0	0	0
EB THRU	0	0	0	0	0	0	0	0	0	0	0
EB RIGHT	0	0	0	0	0	0	0	0	0	0	0
WB LEFT	98	6	104	252	356	6	110	4	114	116	120
WB THRU	4	1	5	0	5	1	6	0	6	5	5
WB RIGHT	1	1	2	0	2	1	3	0	3	2	2
HIGHWAY 98											
NB LEFT	3	1	4	5	9	1	5	6	11	4	10
NB THRU	6	1	7	0	7	1	8	0	8	9	9
NB RIGHT	0	0	0	0	0	0	0	0	0	0	0
SB LEFT	0	0	0	0	0	0	0	0	0	0	0
SB THRU	1	1	2	0	2	1	3	0	3	3	3
SB RIGHT	1	1	2	0	2	1	3	0	3	3	3
Totals	**114**	**12**	**126**	**257**	**383**	**12**	**138**	**10**	**148**	**142**	**152**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN VOLUME SUMMARY	TMO	1/22/2024	ASPE0000-0006	2 OF 2

E/W STREET : I-8 WB RAMPS
N/S STREET : HIGHWAY 98
CONDITION : AM PEAK HOUR
PHF : 0.89

SOUTHBOUND			HIGHWAY 98								
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0

NORTHBOUND			HIGHWAY 98								
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	0	0	0	0	0	0	0	0	0	1	0
0	0	0	0	1	0	0	0	0	0	0	0
0	1	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	1

WESTBOUND			I-8 WB OFF-RAMP								
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	1	16	0	0	0	0	0	0	0	0	2
1	0	17	0	0	0	0	0	0	0	0	2
0	0	19	0	0	1	0	0	0	0	0	1
0	0	19	0	0	2	0	0	0	0	1	2

WESTBOUND			I-8 WB ON-RAMP								
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
I-8 WB RAMPS					
EB LEFT	0	0	**0**	**0**	**0**
EB THRU	0	0	**0**	**0**	**0**
EB RIGHT	0	0	**0**	**0**	**0**
WB LEFT	10	71	**81**	**97**	**98**
WB THRU	1	1	**2**	**4**	**4**
WB RIGHT	0	1	**1**	**1**	**1**
HIGHWAY 98					
NB LEFT	1	0	**1**	**3**	**3**
NB THRU	2	1	**3**	**6**	**6**
NB RIGHT	0	0	**0**	**0**	**0**
SB LEFT	0	0	**0**	**0**	**0**
SB THRU	0	0	**0**	**1**	**1**
SB RIGHT	0	1	**1**	**1**	**1**

Intersection	
Int Delay, s/veh	8.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↰	↱		↰			↱	
Traffic Vol, veh/h	0	0	0	98	4	1	3	6	0	0	1	1
Future Vol, veh/h	0	0	0	98	4	1	3	6	0	0	1	1
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	-	-	Yield	-	-	None	-	-	None
Storage Length	-	-	-	-	-	30	-	-	-	-	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	0	0	100	4	1	3	6	0	0	1	1

Major/Minor	Minor1		Major1		Major2				
Conflicting Flow All	14	14	6	2	0	-	-	-	0
Stage 1	12	12	-	-	-	-	-	-	-
Stage 2	2	2	-	-	-	-	-	-	-
Critical Hdwy	6.4	6.5	6.2	4.1	-	-	-	-	-
Critical Hdwy Stg 1	5.4	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.4	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	2.2	-	-	-	-	-
Pot Cap-1 Maneuver	1010	884	1083	1634	-	0	0	-	-
Stage 1	1016	890	-	-	-	0	0	-	-
Stage 2	1026	898	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	1008	0	1083	1634	-	-	-	-	-
Mov Cap-2 Maneuver	1008	0	-	-	-	-	-	-	-
Stage 1	1014	0	-	-	-	-	-	-	-
Stage 2	1026	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9	2.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	1634	-	1008	1083	-	-
HCM Lane V/C Ratio	0.002	-	0.103	0.001	-	-
HCM Control Delay (s)	7.2	0	9	8.3	-	-
HCM Lane LOS	A	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.3	0	-	-

Intersection	
Int Delay, s/veh	8.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↰	↱		↰			↱	
Traffic Vol, veh/h	0	0	0	104	5	2	4	7	0	0	2	2
Future Vol, veh/h	0	0	0	104	5	2	4	7	0	0	2	2
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	-	-	Yield	-	-	None	-	-	None
Storage Length	-	-	-	-	-	30	-	-	-	-	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	0	0	106	5	2	4	7	0	0	2	2

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	18	19	7	4	0	-	-	-	0
Stage 1	15	15	-	-	-	-	-	-	-
Stage 2	3	4	-	-	-	-	-	-	-
Critical Hdwy	6.4	6.5	6.2	4.1	-	-	-	-	-
Critical Hdwy Stg 1	5.4	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.4	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	2.2	-	-	-	-	-
Pot Cap-1 Maneuver	1005	879	1081	1631	-	0	0	-	-
Stage 1	1013	887	-	-	-	0	0	-	-
Stage 2	1025	897	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	1003	0	1081	1631	-	-	-	-	-
Mov Cap-2 Maneuver	1003	0	-	-	-	-	-	-	-
Stage 1	1011	0	-	-	-	-	-	-	-
Stage 2	1025	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9	2.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	1631	-	1003	1081	-	-
HCM Lane V/C Ratio	0.003	-	0.111	0.002	-	-
HCM Control Delay (s)	7.2	0	9	8.3	-	-
HCM Lane LOS	A	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.4	0	-	-

Intersection	
Int Delay, s/veh	10.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↰	↱		↰			↱	
Traffic Vol, veh/h	0	0	0	356	5	2	9	7	0	0	2	2
Future Vol, veh/h	0	0	0	356	5	2	9	7	0	0	2	2
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	-	-	Yield	-	-	None	-	-	None
Storage Length	-	-	-	-	-	30	-	-	-	-	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	0	0	363	5	2	9	7	0	0	2	2

Major/Minor	Minor1			Major1				Major2		
Conflicting Flow All	28	29	7	4	0	-	-	-	0	
Stage 1	25	25	-	-	-	-	-	-	-	
Stage 2	3	4	-	-	-	-	-	-	-	
Critical Hdwy	6.4	6.5	6.2	4.1	-	-	-	-	-	
Critical Hdwy Stg 1	5.4	5.5	-	-	-	-	-	-	-	
Critical Hdwy Stg 2	5.4	5.5	-	-	-	-	-	-	-	
Follow-up Hdwy	3.5	4	3.3	2.2	-	-	-	-	-	
Pot Cap-1 Maneuver	992	868	1081	1631	-	0	0	-	-	
Stage 1	1003	878	-	-	-	0	0	-	-	
Stage 2	1025	897	-	-	-	0	0	-	-	
Platoon blocked, %					-			-	-	
Mov Cap-1 Maneuver	986	0	1081	1631	-	-	-	-	-	
Mov Cap-2 Maneuver	986	0	-	-	-	-	-	-	-	
Stage 1	997	0	-	-	-	-	-	-	-	
Stage 2	1025	0	-	-	-	-	-	-	-	

Approach	WB	NB	SB
HCM Control Delay, s	10.8	4.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	1631	-	986	1081	-	-
HCM Lane V/C Ratio	0.006	-	0.374	0.002	-	-
HCM Control Delay (s)	7.2	0	10.8	8.3	-	-
HCM Lane LOS	A	A	B	A	-	-
HCM 95th %tile Q(veh)	0	-	1.8	0	-	-

Intersection	
Int Delay, s/veh	8.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↰	↱		↰			↱	
Traffic Vol, veh/h	0	0	0	110	6	3	5	8	0	0	3	3
Future Vol, veh/h	0	0	0	110	6	3	5	8	0	0	3	3
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	-	-	Yield	-	-	None	-	-	None
Storage Length	-	-	-	-	-	30	-	-	-	-	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	0	0	112	6	3	5	8	0	0	3	3

Major/Minor	Minor1		Major1		Major2				
Conflicting Flow All	23	24	8	6	0	-	-	-	0
Stage 1	18	18	-	-	-	-	-	-	-
Stage 2	5	6	-	-	-	-	-	-	-
Critical Hdwy	6.4	6.5	6.2	4.1	-	-	-	-	-
Critical Hdwy Stg 1	5.4	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.4	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	2.2	-	-	-	-	-
Pot Cap-1 Maneuver	998	873	1080	1628	-	0	0	-	-
Stage 1	1010	884	-	-	-	0	0	-	-
Stage 2	1023	895	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	995	0	1080	1628	-	-	-	-	-
Mov Cap-2 Maneuver	995	0	-	-	-	-	-	-	-
Stage 1	1007	0	-	-	-	-	-	-	-
Stage 2	1023	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.1	2.8	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	1628	-	995	1080	-	-
HCM Lane V/C Ratio	0.003	-	0.119	0.003	-	-
HCM Control Delay (s)	7.2	0	9.1	8.3	-	-
HCM Lane LOS	A	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.4	0	-	-

Intersection	
Int Delay, s/veh	8.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↰	↱		↰			↱	
Traffic Vol, veh/h	0	0	0	114	6	3	11	8	0	0	3	3
Future Vol, veh/h	0	0	0	114	6	3	11	8	0	0	3	3
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	-	-	Yield	-	-	None	-	-	None
Storage Length	-	-	-	-	-	30	-	-	-	-	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	0	0	116	6	3	11	8	0	0	3	3

Major/Minor	Minor1			Major1			Major2			
Conflicting Flow All	35	36	8	6	0	-	-	-	0	
Stage 1	30	30	-	-	-	-	-	-	-	
Stage 2	5	6	-	-	-	-	-	-	-	
Critical Hdwy	6.4	6.5	6.2	4.1	-	-	-	-	-	
Critical Hdwy Stg 1	5.4	5.5	-	-	-	-	-	-	-	
Critical Hdwy Stg 2	5.4	5.5	-	-	-	-	-	-	-	
Follow-up Hdwy	3.5	4	3.3	2.2	-	-	-	-	-	
Pot Cap-1 Maneuver	983	860	1080	1628	-	0	0	-	-	
Stage 1	998	874	-	-	-	0	0	-	-	
Stage 2	1023	895	-	-	-	0	0	-	-	
Platoon blocked, %					-			-	-	
Mov Cap-1 Maneuver	976	0	1080	1628	-	-	-	-	-	
Mov Cap-2 Maneuver	976	0	-	-	-	-	-	-	-	
Stage 1	991	0	-	-	-	-	-	-	-	
Stage 2	1023	0	-	-	-	-	-	-	-	

Approach	WB	NB	SB
HCM Control Delay, s	9.2	4.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	1628	-	976	1080	-	-
HCM Lane V/C Ratio	0.007	-	0.125	0.003	-	-
HCM Control Delay (s)	7.2	0	9.2	8.3	-	-
HCM Lane LOS	A	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.4	0	-	-

Intersection	
Int Delay, s/veh	8.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↰	↱		↰			↳	
Traffic Vol, veh/h	0	0	0	116	5	2	4	9	0	0	3	3
Future Vol, veh/h	0	0	0	116	5	2	4	9	0	0	3	3
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	-	-	Yield	-	-	None	-	-	None
Storage Length	-	-	-	-	-	30	-	-	-	-	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	0	0	118	5	2	4	9	0	0	3	3

Major/Minor	Minor1			Major1			Major2			
Conflicting Flow All	22	23	9	6	0	-	-	-	0	
Stage 1	17	17	-	-	-	-	-	-	-	
Stage 2	5	6	-	-	-	-	-	-	-	
Critical Hdwy	6.4	6.5	6.2	4.1	-	-	-	-	-	
Critical Hdwy Stg 1	5.4	5.5	-	-	-	-	-	-	-	
Critical Hdwy Stg 2	5.4	5.5	-	-	-	-	-	-	-	
Follow-up Hdwy	3.5	4	3.3	2.2	-	-	-	-	-	
Pot Cap-1 Maneuver	1000	874	1079	1628	-	0	0	-	-	
Stage 1	1011	885	-	-	-	0	0	-	-	
Stage 2	1023	895	-	-	-	0	0	-	-	
Platoon blocked, %					-			-	-	
Mov Cap-1 Maneuver	998	0	1079	1628	-	-	-	-	-	
Mov Cap-2 Maneuver	998	0	-	-	-	-	-	-	-	
Stage 1	1009	0	-	-	-	-	-	-	-	
Stage 2	1023	0	-	-	-	-	-	-	-	

Approach	WB	NB	SB
HCM Control Delay, s	9.1	2.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	1628	-	998	1079	-	-
HCM Lane V/C Ratio	0.003	-	0.124	0.002	-	-
HCM Control Delay (s)	7.2	0	9.1	8.3	-	-
HCM Lane LOS	A	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.4	0	-	-

Intersection	
Int Delay, s/veh	8.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↰	↱		↰			↱	
Traffic Vol, veh/h	0	0	0	120	5	2	10	9	0	0	3	3
Future Vol, veh/h	0	0	0	120	5	2	10	9	0	0	3	3
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	-	-	Yield	-	-	None	-	-	None
Storage Length	-	-	-	-	-	30	-	-	-	-	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	0	0	122	5	2	10	9	0	0	3	3

Major/Minor	Minor1		Major1		Major2				
Conflicting Flow All	34	35	9	6	0	-	-	-	0
Stage 1	29	29	-	-	-	-	-	-	-
Stage 2	5	6	-	-	-	-	-	-	-
Critical Hdwy	6.4	6.5	6.2	4.1	-	-	-	-	-
Critical Hdwy Stg 1	5.4	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.4	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	2.2	-	-	-	-	-
Pot Cap-1 Maneuver	984	861	1079	1628	-	0	0	-	-
Stage 1	999	875	-	-	-	0	0	-	-
Stage 2	1023	895	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	978	0	1079	1628	-	-	-	-	-
Mov Cap-2 Maneuver	978	0	-	-	-	-	-	-	-
Stage 1	993	0	-	-	-	-	-	-	-
Stage 2	1023	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.2	3.8	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	1628	-	978	1079	-	-
HCM Lane V/C Ratio	0.006	-	0.13	0.002	-	-
HCM Control Delay (s)	7.2	0	9.2	8.3	-	-
HCM Lane LOS	A	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.4	0	-	-

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TMO	22-Jan-24	ASPE0000-0006	1 OF 2

E/W STREET : I-8 WB RAMPS
N/S STREET : HIGHWAY 98
CONDITION : PM PEAK HOUR

INTERSECTION : 1
GROWTH PER YEAR : 3.0%

TURN MOVEMENTS

Condition	Existing Condition Traffic	Temporary Project Construction Ambient Growth	Temporary Project Construction Conditions	Temporary Project Construction Trips	Temporary Project Construction w/Project Conditions	Opening Year Conditions Ambient Growth	Opening Year Conditions without Project	O&M Project Trips	Opening Year Conditions with Project	Cumulative Year Conditions without Project	Cumulative Year Conditions with Project
	2		4		6		6		8	12	14
I-8 WB RAMPS											
EB LEFT	0	0	0	0	0	0	0	0	0	0	0
EB THRU	0	0	0	0	0	0	0	0	0	0	0
EB RIGHT	0	0	0	0	0	0	0	0	0	0	0
WB LEFT	141	9	150	6	156	9	159	1	160	163	164
WB THRU	1	1	2	0	2	1	3	0	3	1	1
WB RIGHT	1	1	2	0	2	1	3	0	3	3	3
HIGHWAY 98											
NB LEFT	6	1	7	202	209	1	8	25	33	8	33
NB THRU	1	1	2	0	2	1	3	0	3	3	3
NB RIGHT	0	0	0	0	0	0	0	0	0	0	0
SB LEFT	0	0	0	0	0	0	0	0	0	0	0
SB THRU	2	1	3	0	3	1	4	0	4	4	4
SB RIGHT	2	1	3	0	3	1	4	0	4	4	4
Totals	**154**	**15**	**169**	**208**	**377**	**15**	**184**	**26**	**210**	**186**	**212**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN VOLUME SUMMARY	TMO	22-Jan-24	ASPE0000-0006	2 OF 2

E/W STREET : I-8 WB RAMPS
N/S STREET : HIGHWAY 98
CONDITION : PM PEAK HOUR
PHF : 0.61

SOUTHBOUND			HIGHWAY 98								
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	1	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0

NORTHBOUND			HIGHWAY 98								
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	0	3	0	0	2	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0

WESTBOUND			I-8 WB OFF-RAMP								
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	0	28	0	0	3	0	0	0	0	0	9
0	0	18	0	0	1	0	0	0	0	0	5
0	0	15	0	0	3	0	0	0	0	0	1
0	0	17	0	0	0	0	0	0	0	0	1

WESTBOUND			I-8 WB ON-RAMP								
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
I-8 WB RAMPS					
EB LEFT	0	0	**0**	**0**	**0**
EB THRU	0	0	**0**	**0**	**0**
EB RIGHT	0	0	**0**	**0**	**0**
WB LEFT	23	78	**101**	**137**	**141**
WB THRU	0	0	**0**	**1**	**1**
WB RIGHT	0	0	**0**	**1**	**1**
HIGHWAY 98					
NB LEFT	2	3	**5**	**6**	**6**
NB THRU	0	0	**0**	**1**	**1**
NB RIGHT	0	0	**0**	**0**	**0**
SB LEFT	0	0	**0**	**0**	**0**
SB THRU	1	0	**1**	**2**	**2**
SB RIGHT	0	2	**2**	**2**	**2**

Intersection	
Int Delay, s/veh	9.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↰	↱		↰			↱	
Traffic Vol, veh/h	0	0	0	141	1	1	6	1	0	0	2	2
Future Vol, veh/h	0	0	0	141	1	1	6	1	0	0	2	2
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	-	-	Yield	-	-	None	-	-	None
Storage Length	-	-	-	-	-	30	-	-	-	-	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	61	61	61	61	61	61	61	61	61	61	61	61
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	0	0	231	2	2	10	2	0	0	3	3

Major/Minor	Minor1			Major1			Major2			
Conflicting Flow All	27	28	2	6	0	-	-	-	0	
Stage 1	22	22	-	-	-	-	-	-	-	
Stage 2	5	6	-	-	-	-	-	-	-	
Critical Hdwy	6.4	6.5	6.2	4.1	-	-	-	-	-	
Critical Hdwy Stg 1	5.4	5.5	-	-	-	-	-	-	-	
Critical Hdwy Stg 2	5.4	5.5	-	-	-	-	-	-	-	
Follow-up Hdwy	3.5	4	3.3	2.2	-	-	-	-	-	
Pot Cap-1 Maneuver	993	869	1088	1628	-	0	0	-	-	
Stage 1	1006	881	-	-	-	0	0	-	-	
Stage 2	1023	895	-	-	-	0	0	-	-	
Platoon blocked, %					-			-	-	
Mov Cap-1 Maneuver	987	0	1088	1628	-	-	-	-	-	
Mov Cap-2 Maneuver	987	0	-	-	-	-	-	-	-	
Stage 1	1000	0	-	-	-	-	-	-	-	
Stage 2	1023	0	-	-	-	-	-	-	-	

Approach	WB	NB	SB
HCM Control Delay, s	9.8	6.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	1628	-	987	1088	-	-
HCM Lane V/C Ratio	0.006	-	0.236	0.002	-	-
HCM Control Delay (s)	7.2	0	9.8	8.3	-	-
HCM Lane LOS	A	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.9	0	-	-

Intersection	
Int Delay, s/veh	9.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	150	2	2	7	2	0	0	3	3
Future Vol, veh/h	0	0	0	150	2	2	7	2	0	0	3	3
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	-	-	Yield	-	-	None	-	-	None
Storage Length	-	-	-	-	-	30	-	-	-	-	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	61	61	61	61	61	61	61	61	61	61	61	61
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	0	0	246	3	3	11	3	0	0	5	5

Major/Minor	Minor1			Major1			Major2			
Conflicting Flow All	33	35	3	10	0	-	-	-	0	
Stage 1	25	25	-	-	-	-	-	-	-	
Stage 2	8	10	-	-	-	-	-	-	-	
Critical Hdwy	6.4	6.5	6.2	4.1	-	-	-	-	-	
Critical Hdwy Stg 1	5.4	5.5	-	-	-	-	-	-	-	
Critical Hdwy Stg 2	5.4	5.5	-	-	-	-	-	-	-	
Follow-up Hdwy	3.5	4	3.3	2.2	-	-	-	-	-	
Pot Cap-1 Maneuver	986	861	1087	1623	-	0	0	-	-	
Stage 1	1003	878	-	-	-	0	0	-	-	
Stage 2	1020	891	-	-	-	0	0	-	-	
Platoon blocked, %					-			-	-	
Mov Cap-1 Maneuver	979	0	1087	1623	-	-	-	-	-	
Mov Cap-2 Maneuver	979	0	-	-	-	-	-	-	-	
Stage 1	996	0	-	-	-	-	-	-	-	
Stage 2	1020	0	-	-	-	-	-	-	-	

Approach	WB	NB	SB
HCM Control Delay, s	9.9	5.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	1623	-	979	1087	-	-
HCM Lane V/C Ratio	0.007	-	0.255	0.003	-	-
HCM Control Delay (s)	7.2	0	9.9	8.3	-	-
HCM Lane LOS	A	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	1	0	-	-

Intersection	
Int Delay, s/veh	24.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↰	↱		↰			↱	
Traffic Vol, veh/h	0	0	0	156	2	2	209	2	0	0	3	3
Future Vol, veh/h	0	0	0	156	2	2	209	2	0	0	3	3
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	-	-	Yield	-	-	None	-	-	None
Storage Length	-	-	-	-	-	30	-	-	-	-	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	61	61	61	61	61	61	61	61	61	61	61	61
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	0	0	256	3	3	343	3	0	0	5	5

Major/Minor	Minor1		Major1		Major2				
Conflicting Flow All	697	699	3	10	0	-	-	-	0
Stage 1	689	689	-	-	-	-	-	-	-
Stage 2	8	10	-	-	-	-	-	-	-
Critical Hdwy	6.4	6.5	6.2	4.1	-	-	-	-	-
Critical Hdwy Stg 1	5.4	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.4	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	2.2	-	-	-	-	-
Pot Cap-1 Maneuver	410	366	1087	1623	-	0	0	-	-
Stage 1	502	450	-	-	-	0	0	-	-
Stage 2	1020	891	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	323	0	1087	1623	-	-	-	-	-
Mov Cap-2 Maneuver	323	0	-	-	-	-	-	-	-
Stage 1	396	0	-	-	-	-	-	-	-
Stage 2	1020	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	48.6	7.7	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	1623	-	323	1087	-	-
HCM Lane V/C Ratio	0.211	-	0.802	0.003	-	-
HCM Control Delay (s)	7.8	0	49.1	8.3	-	-
HCM Lane LOS	A	A	E	A	-	-
HCM 95th %tile Q(veh)	0.8	-	6.6	0	-	-

Intersection	
Int Delay, s/veh	9.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↰	↱		↰			↳	
Traffic Vol, veh/h	0	0	0	159	3	3	8	3	0	0	4	4
Future Vol, veh/h	0	0	0	159	3	3	8	3	0	0	4	4
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	-	-	Yield	-	-	None	-	-	None
Storage Length	-	-	-	-	-	30	-	-	-	-	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	61	61	61	61	61	61	61	61	61	61	61	61
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	0	0	261	5	5	13	5	0	0	7	7

Major/Minor	Minor1			Major1			Major2			
Conflicting Flow All	42	45	5	14	0	-	-	-	0	
Stage 1	31	31	-	-	-	-	-	-	-	
Stage 2	11	14	-	-	-	-	-	-	-	
Critical Hdwy	6.4	6.5	6.2	4.1	-	-	-	-	-	
Critical Hdwy Stg 1	5.4	5.5	-	-	-	-	-	-	-	
Critical Hdwy Stg 2	5.4	5.5	-	-	-	-	-	-	-	
Follow-up Hdwy	3.5	4	3.3	2.2	-	-	-	-	-	
Pot Cap-1 Maneuver	974	851	1084	1617	-	0	0	-	-	
Stage 1	997	873	-	-	-	0	0	-	-	
Stage 2	1017	888	-	-	-	0	0	-	-	
Platoon blocked, %					-			-	-	
Mov Cap-1 Maneuver	966	0	1084	1617	-	-	-	-	-	
Mov Cap-2 Maneuver	966	0	-	-	-	-	-	-	-	
Stage 1	989	0	-	-	-	-	-	-	-	
Stage 2	1017	0	-	-	-	-	-	-	-	

Approach	WB	NB	SB
HCM Control Delay, s	10.1	5.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	1617	-	966	1084	-	-
HCM Lane V/C Ratio	0.008	-	0.275	0.005	-	-
HCM Control Delay (s)	7.2	0	10.1	8.3	-	-
HCM Lane LOS	A	A	B	A	-	-
HCM 95th %tile Q(veh)	0	-	1.1	0	-	-

Intersection	
Int Delay, s/veh	9.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↰	↱		↰			↳	
Traffic Vol, veh/h	0	0	0	160	3	3	33	3	0	0	4	4
Future Vol, veh/h	0	0	0	160	3	3	33	3	0	0	4	4
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	-	-	Yield	-	-	None	-	-	None
Storage Length	-	-	-	-	-	30	-	-	-	-	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	61	61	61	61	61	61	61	61	61	61	61	61
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	0	0	262	5	5	54	5	0	0	7	7

Major/Minor	Minor1		Major1		Major2				
Conflicting Flow All	124	127	5	14	0	-	-	-	0
Stage 1	113	113	-	-	-	-	-	-	-
Stage 2	11	14	-	-	-	-	-	-	-
Critical Hdwy	6.4	6.5	6.2	4.1	-	-	-	-	-
Critical Hdwy Stg 1	5.4	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.4	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	2.2	-	-	-	-	-
Pot Cap-1 Maneuver	876	767	1084	1617	-	0	0	-	-
Stage 1	917	806	-	-	-	0	0	-	-
Stage 2	1017	888	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	847	0	1084	1617	-	-	-	-	-
Mov Cap-2 Maneuver	847	0	-	-	-	-	-	-	-
Stage 1	887	0	-	-	-	-	-	-	-
Stage 2	1017	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.1	6.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	1617	-	847	1084	-	-
HCM Lane V/C Ratio	0.033	-	0.315	0.005	-	-
HCM Control Delay (s)	7.3	0	11.2	8.3	-	-
HCM Lane LOS	A	A	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	1.4	0	-	-

Intersection	
Int Delay, s/veh	9.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	163	1	3	8	3	0	0	4	4
Future Vol, veh/h	0	0	0	163	1	3	8	3	0	0	4	4
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	-	-	Yield	-	-	None	-	-	None
Storage Length	-	-	-	-	-	30	-	-	-	-	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	61	61	61	61	61	61	61	61	61	61	61	61
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	0	0	267	2	5	13	5	0	0	7	7

Major/Minor	Minor1			Major1			Major2			
Conflicting Flow All	42	45	5	14	0	-	-	-	0	
Stage 1	31	31	-	-	-	-	-	-	-	
Stage 2	11	14	-	-	-	-	-	-	-	
Critical Hdwy	6.4	6.5	6.2	4.1	-	-	-	-	-	
Critical Hdwy Stg 1	5.4	5.5	-	-	-	-	-	-	-	
Critical Hdwy Stg 2	5.4	5.5	-	-	-	-	-	-	-	
Follow-up Hdwy	3.5	4	3.3	2.2	-	-	-	-	-	
Pot Cap-1 Maneuver	974	851	1084	1617	-	0	0	-	-	
Stage 1	997	873	-	-	-	0	0	-	-	
Stage 2	1017	888	-	-	-	0	0	-	-	
Platoon blocked, %					-			-	-	
Mov Cap-1 Maneuver	966	0	1084	1617	-	-	-	-	-	
Mov Cap-2 Maneuver	966	0	-	-	-	-	-	-	-	
Stage 1	989	0	-	-	-	-	-	-	-	
Stage 2	1017	0	-	-	-	-	-	-	-	

Approach	WB	NB	SB
HCM Control Delay, s	10.2	5.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	1617	-	966	1084	-	-
HCM Lane V/C Ratio	0.008	-	0.278	0.005	-	-
HCM Control Delay (s)	7.2	0	10.2	8.3	-	-
HCM Lane LOS	A	A	B	A	-	-
HCM 95th %tile Q(veh)	0	-	1.1	0	-	-

Intersection	
Int Delay, s/veh	9.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	164	1	3	33	3	0	0	4	4
Future Vol, veh/h	0	0	0	164	1	3	33	3	0	0	4	4
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	-	-	Yield	-	-	None	-	-	None
Storage Length	-	-	-	-	-	30	-	-	-	-	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	61	61	61	61	61	61	61	61	61	61	61	61
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	0	0	269	2	5	54	5	0	0	7	7

Major/Minor	Minor1			Major1			Major2			
Conflicting Flow All	124	127	5	14	0	-	-	-	0	
Stage 1	113	113	-	-	-	-	-	-	-	
Stage 2	11	14	-	-	-	-	-	-	-	
Critical Hdwy	6.4	6.5	6.2	4.1	-	-	-	-	-	
Critical Hdwy Stg 1	5.4	5.5	-	-	-	-	-	-	-	
Critical Hdwy Stg 2	5.4	5.5	-	-	-	-	-	-	-	
Follow-up Hdwy	3.5	4	3.3	2.2	-	-	-	-	-	
Pot Cap-1 Maneuver	876	767	1084	1617	-	0	0	-	-	
Stage 1	917	806	-	-	-	0	0	-	-	
Stage 2	1017	888	-	-	-	0	0	-	-	
Platoon blocked, %					-			-	-	
Mov Cap-1 Maneuver	847	0	1084	1617	-	-	-	-	-	
Mov Cap-2 Maneuver	847	0	-	-	-	-	-	-	-	
Stage 1	887	0	-	-	-	-	-	-	-	
Stage 2	1017	0	-	-	-	-	-	-	-	

Approach	WB	NB	SB
HCM Control Delay, s	11.1	6.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	1617	-	847	1084	-	-
HCM Lane V/C Ratio	0.033	-	0.319	0.005	-	-
HCM Control Delay (s)	7.3	0	11.2	8.3	-	-
HCM Lane LOS	A	A	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	1.4	0	-	-

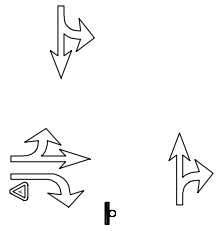
DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TMO	22-Jan-24	ASPE0000-0006	1 OF 2

E/W STREET : I-8 EB RAMPS
N/S STREET : HIGHWAY 98
CONDITION : AM PEAK HOUR

INTERSECTION : 2
GROWTH PER YEAR : 3.0%

CONDITION DIAGRAMS



EXISTING GEOMETRICS

TURN MOVEMENTS

Condition	Existing Condition Traffic	Temporary Project Construction Ambient Growth	Temporary Project Construction Conditions	Temporary Project Construction Trips	Temporary Project Construction w/Project Conditions	Opening Year Conditions Ambient Growth	Opening Year Conditions without Project	O&M Project Trips	Opening Year Conditions with Project	Cumulative Year Conditions without Project	Cumulative Year Conditions with Project
	1		3		5		7		9	11	13
I-8 EB RAMPS											
EB LEFT	3	1	4	0	4	1	5	0	5	4	4
EB THRU	1	1	2	0	2	1	3	0	3	1	1
EB RIGHT	1	1	2	202	204	1	3	28	31	4	32
WB LEFT	0	0	0	0	0	0	0	0	0	0	0
WB THRU	0	0	0	0	0	0	0	0	0	0	0
WB RIGHT	0	0	0	0	0	0	0	0	0	0	0
HIGHWAY 98											
NB LEFT	0	0	0	0	0	0	0	0	0	0	0
NB THRU	6	1	7	5	12	1	8	6	14	9	15
NB RIGHT	125	8	133	6	139	8	141	1	142	142	143
SB LEFT	1	1	2	0	2	1	3	0	3	1	1
SB THRU	98	6	104	252	356	6	110	4	114	118	122
SB RIGHT	0	0	0	0	0	0	0	0	0	0	0
Totals	**235**	**19**	**254**	**465**	**719**	**19**	**273**	**39**	**312**	**279**	**318**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN VOLUME SUMMARY	TMO	1/22/2024	ASPE0000-0006	2 OF 2

E/W STREET : I-8 EB RAMPS
N/S STREET : HIGHWAY 98
CONDITION : AM PEAK HOUR
PHF : 0.76

SOUTHBOUND			HIGHWAY 98								
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	16	0	0	0	0	0	0	0	0	2	0
0	17	0	0	0	0	0	0	0	0	2	0
0	19	0	0	1	0	0	0	0	0	1	0
0	20	0	0	2	0	0	0	0	0	2	0

NORTHBOUND			HIGHWAY 98								
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
10	0	0	0	0	0	0	0	0	0	0	0
15	0	0	1	1	0	0	0	0	2	0	0
23	1	0	1	0	0	1	0	0	10	0	0
12	0	0	6	0	0	0	0	0	5	1	0

WESTBOUND			I-8 EB ON-RAMP								
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0

EASTBOUND			I-8 EB OFF-RAMP								
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	0	0	0	0	0	0	0	0	0	0	1
1	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
I-8 EB RAMPS					
EB LEFT	1	0	**1**	**3**	**3**
EB THRU	0	0	**0**	**1**	**1**
EB RIGHT	0	1	**1**	**1**	**1**
WB LEFT	0	0	**0**	**0**	**0**
WB THRU	0	0	**0**	**0**	**0**
WB RIGHT	0	0	**0**	**0**	**0**
HIGHWAY 98					
NB LEFT	0	0	**0**	**0**	**0**
NB THRU	2	1	**3**	**6**	**6**
NB RIGHT	26	60	**86**	**125**	**125**
SB LEFT	0	0	**0**	**1**	**1**
SB THRU	10	72	**82**	**98**	**98**
SB RIGHT	0	0	**0**	**0**	**0**

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	3	1	1	0	0	0	0	6	125	1	98	0
Future Vol, veh/h	3	1	1	0	0	0	0	6	125	1	98	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	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	-	-	30	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	4	1	1	0	0	0	0	8	164	1	129	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	221	303	129	-	0	0	172	0	0
Stage 1	131	131	-	-	-	-	-	-	-
Stage 2	90	172	-	-	-	-	-	-	-
Critical Hdwy	6.4	6.5	6.2	-	-	-	4.1	-	-
Critical Hdwy Stg 1	5.4	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.4	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	-	-	-	2.2	-	-
Pot Cap-1 Maneuver	772	613	926	0	-	-	1417	-	0
Stage 1	900	792	-	0	-	-	-	-	0
Stage 2	939	760	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	771	0	926	-	-	-	1417	-	-
Mov Cap-2 Maneuver	771	0	-	-	-	-	-	-	-
Stage 1	900	0	-	-	-	-	-	-	-
Stage 2	938	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.5	0	0.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	771	926	1417	-
HCM Lane V/C Ratio	-	-	0.007	0.001	0.001	-
HCM Control Delay (s)	-	-	9.7	8.9	7.5	0
HCM Lane LOS	-	-	A	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	0	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱					↳			↰	
Traffic Vol, veh/h	4	2	2	0	0	0	0	7	133	2	104	0
Future Vol, veh/h	4	2	2	0	0	0	0	7	133	2	104	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	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	-	-	30	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	5	3	3	0	0	0	0	9	175	3	137	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	240	327	137	-	0	0	184	0	0
Stage 1	143	143	-	-	-	-	-	-	-
Stage 2	97	184	-	-	-	-	-	-	-
Critical Hdwy	6.4	6.5	6.2	-	-	-	4.1	-	-
Critical Hdwy Stg 1	5.4	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.4	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	-	-	-	2.2	-	-
Pot Cap-1 Maneuver	753	595	917	0	-	-	1403	-	0
Stage 1	889	782	-	0	-	-	-	-	0
Stage 2	932	751	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	751	0	917	-	-	-	1403	-	-
Mov Cap-2 Maneuver	751	0	-	-	-	-	-	-	-
Stage 1	889	0	-	-	-	-	-	-	-
Stage 2	930	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.6	0	0.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	751	917	1403	-
HCM Lane V/C Ratio	-	-	0.011	0.003	0.002	-
HCM Control Delay (s)	-	-	9.8	8.9	7.6	0
HCM Lane LOS	-	-	A	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	0	-

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱					↱			↰	
Traffic Vol, veh/h	4	2	204	0	0	0	0	12	139	2	356	0
Future Vol, veh/h	4	2	204	0	0	0	0	12	139	2	356	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	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	-	-	30	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	5	3	268	0	0	0	0	16	183	3	468	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	582	673	468	-	0	0	199	0	0
Stage 1	474	474	-	-	-	-	-	-	-
Stage 2	108	199	-	-	-	-	-	-	-
Critical Hdwy	6.4	6.5	6.2	-	-	-	4.1	-	-
Critical Hdwy Stg 1	5.4	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.4	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	-	-	-	2.2	-	-
Pot Cap-1 Maneuver	479	379	599	0	-	-	1385	-	0
Stage 1	630	561	-	0	-	-	-	-	0
Stage 2	921	740	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	478	0	599	-	-	-	1385	-	-
Mov Cap-2 Maneuver	478	0	-	-	-	-	-	-	-
Stage 1	630	0	-	-	-	-	-	-	-
Stage 2	918	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.7	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	478	599	1385	-
HCM Lane V/C Ratio	-	-	0.017	0.448	0.002	-
HCM Control Delay (s)	-	-	12.7	15.8	7.6	0
HCM Lane LOS	-	-	B	C	A	A
HCM 95th %tile Q(veh)	-	-	0.1	2.3	0	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱					↳			↰	
Traffic Vol, veh/h	5	3	3	0	0	0	0	8	141	3	110	0
Future Vol, veh/h	5	3	3	0	0	0	0	8	141	3	110	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	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	-	-	30	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	7	4	4	0	0	0	0	11	186	4	145	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	257	350	145	-	0	0	197	0	0
Stage 1	153	153	-	-	-	-	-	-	-
Stage 2	104	197	-	-	-	-	-	-	-
Critical Hdwy	6.4	6.5	6.2	-	-	-	4.1	-	-
Critical Hdwy Stg 1	5.4	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.4	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	-	-	-	2.2	-	-
Pot Cap-1 Maneuver	736	577	908	0	-	-	1388	-	0
Stage 1	880	775	-	0	-	-	-	-	0
Stage 2	925	742	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	734	0	908	-	-	-	1388	-	-
Mov Cap-2 Maneuver	734	0	-	-	-	-	-	-	-
Stage 1	880	0	-	-	-	-	-	-	-
Stage 2	922	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.7	0	0.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	734	908	1388	-
HCM Lane V/C Ratio	-	-	0.014	0.004	0.003	-
HCM Control Delay (s)	-	-	10	9	7.6	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	0	-

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱					↱			↰	
Traffic Vol, veh/h	5	3	31	0	0	0	0	14	142	3	114	0
Future Vol, veh/h	5	3	31	0	0	0	0	14	142	3	114	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	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	-	-	30	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	7	4	41	0	0	0	0	18	187	4	150	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	270	363	150	-	0	0	205	0	0
Stage 1	158	158	-	-	-	-	-	-	-
Stage 2	112	205	-	-	-	-	-	-	-
Critical Hdwy	6.4	6.5	6.2	-	-	-	4.1	-	-
Critical Hdwy Stg 1	5.4	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.4	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	-	-	-	2.2	-	-
Pot Cap-1 Maneuver	724	568	902	0	-	-	1378	-	0
Stage 1	875	771	-	0	-	-	-	-	0
Stage 2	918	736	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	722	0	902	-	-	-	1378	-	-
Mov Cap-2 Maneuver	722	0	-	-	-	-	-	-	-
Stage 1	875	0	-	-	-	-	-	-	-
Stage 2	915	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.4	0	0.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	722	902	1378	-
HCM Lane V/C Ratio	-	-	0.015	0.045	0.003	-
HCM Control Delay (s)	-	-	10.1	9.2	7.6	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0.1	0	-

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	4	1	4	0	0	0	0	9	142	1	118	0
Future Vol, veh/h	4	1	4	0	0	0	0	9	142	1	118	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	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	-	-	30	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	5	1	5	0	0	0	0	12	187	1	155	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	263	356	155	-	0	0	199	0	0
Stage 1	157	157	-	-	-	-	-	-	-
Stage 2	106	199	-	-	-	-	-	-	-
Critical Hdwy	6.4	6.5	6.2	-	-	-	4.1	-	-
Critical Hdwy Stg 1	5.4	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.4	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	-	-	-	2.2	-	-
Pot Cap-1 Maneuver	730	573	896	0	-	-	1385	-	0
Stage 1	876	772	-	0	-	-	-	-	0
Stage 2	923	740	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	729	0	896	-	-	-	1385	-	-
Mov Cap-2 Maneuver	729	0	-	-	-	-	-	-	-
Stage 1	876	0	-	-	-	-	-	-	-
Stage 2	922	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.6	0	0.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	729	896	1385	-
HCM Lane V/C Ratio	-	-	0.009	0.006	0.001	-
HCM Control Delay (s)	-	-	10	9	7.6	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	0	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱					↳			↰	
Traffic Vol, veh/h	4	1	32	0	0	0	0	15	143	1	122	0
Future Vol, veh/h	4	1	32	0	0	0	0	15	143	1	122	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	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	-	-	30	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	5	1	42	0	0	0	0	20	188	1	161	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	277	371	161	-	0	0	208	0	0
Stage 1	163	163	-	-	-	-	-	-	-
Stage 2	114	208	-	-	-	-	-	-	-
Critical Hdwy	6.4	6.5	6.2	-	-	-	4.1	-	-
Critical Hdwy Stg 1	5.4	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.4	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	-	-	-	2.2	-	-
Pot Cap-1 Maneuver	717	562	889	0	-	-	1375	-	0
Stage 1	871	767	-	0	-	-	-	-	0
Stage 2	916	734	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	716	0	889	-	-	-	1375	-	-
Mov Cap-2 Maneuver	716	0	-	-	-	-	-	-	-
Stage 1	871	0	-	-	-	-	-	-	-
Stage 2	915	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.4	0	0.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	716	889	1375	-
HCM Lane V/C Ratio	-	-	0.009	0.047	0.001	-
HCM Control Delay (s)	-	-	10.1	9.3	7.6	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0.1	0	-

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TMO	22-Jan-24	ASPE0000-0006	1 OF 2

E/W STREET : I-8 EB RAMPS
N/S STREET : HIGHWAY 98
CONDITION : PM PEAK HOUR

INTERSECTION : 2
GROWTH PER YEAR : 3.0%

TURN MOVEMENTS

Condition	Existing Condition Traffic	Temporary Project Construction Ambient Growth	Temporary Project Construction Conditions	Temporary Project Construction Trips	Temporary Project Construction w/Project Conditions	Opening Year Conditions Ambient Growth	Opening Year Conditions without Project	O&M Project Trips	Opening Year Conditions with Project	Cumulative Year Conditions without Project	Cumulative Year Conditions with Project
	2		4		6		6		8	12	14
I-8 EB RAMPS											
EB LEFT	2	1	3	0	3	1	4	0	4	4	4
EB THRU	1	1	2	0	2	1	3	0	3	2	2
EB RIGHT	1	1	2	5	7	1	3	5	8	2	7
WB LEFT	0	0	0	0	0	0	0	0	0	0	0
WB THRU	0	0	0	0	0	0	0	0	0	0	0
WB RIGHT	0	0	0	0	0	0	0	0	0	0	0
HIGHWAY 98											
NB LEFT	0	0	0	0	0	0	0	0	0	0	0
NB THRU	5	1	6	202	208	1	7	25	32	7	32
NB RIGHT	125	8	133	252	385	8	141	4	145	141	145
SB LEFT	1	1	2	0	2	1	3	0	3	1	1
SB THRU	142	9	151	6	157	9	160	1	161	166	167
SB RIGHT	0	0	0	0	0	0	0	0	0	0	0
Totals	**277**	**22**	**299**	**465**	**764**	**22**	**321**	**35**	**356**	**323**	**358**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN VOLUME SUMMARY	TMO	22-Jan-24	ASPE0000-0006	2 OF 2

E/W STREET : I-8 EB RAMPS
CONDITION : PM PEAK HOUR
N/S STREET : HIGHWAY 98
PHF : 0.85

SOUTHBOUND			HIGHWAY 98								
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	15	1	0	0	0	0	0	0	0	1	0
0	22	0	0	2	0	0	0	0	0	7	0
0	21	0	0	1	0	0	0	0	0	4	0
0	21	0	0	3	0	0	0	0	0	6	0

NORTHBOUND			HIGHWAY 98								
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
24	0	0	0	0	0	0	0	0	1	0	0
23	0	0	4	0	0	0	0	0	4	0	0
26	0	0	0	0	0	0	0	0	2	0	0
19	1	0	2	0	0	0	0	0	1	0	0

WESTBOUND			I-8 EB ON-RAMP								
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0

EASTBOUND			I-8 EB OFF-RAMP								
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
I-8 EB RAMPS					
EB LEFT	0	0	**0**	**1**	**2**
EB THRU	0	0	**0**	**1**	**1**
EB RIGHT	0	0	**0**	**1**	**1**
WB LEFT	0	0	**0**	**0**	**0**
WB THRU	0	0	**0**	**0**	**0**
WB RIGHT	0	0	**0**	**0**	**0**
HIGHWAY 98					
NB LEFT	0	0	**0**	**0**	**0**
NB THRU	0	1	**1**	**1**	**5**
NB RIGHT	14	92	**106**	**125**	**125**
SB LEFT	0	1	**1**	**1**	**1**
SB THRU	24	79	**103**	**142**	**142**
SB RIGHT	0	0	**0**	**0**	**0**

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	2	1	1	0	0	0	0	5	125	1	142	0
Future Vol, veh/h	2	1	1	0	0	0	0	5	125	1	142	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	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	-	-	30	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	2	1	1	0	0	0	0	6	147	1	167	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	249	322	167	-	0	0	153	0	0
Stage 1	169	169	-	-	-	-	-	-	-
Stage 2	80	153	-	-	-	-	-	-	-
Critical Hdwy	6.4	6.5	6.2	-	-	-	4.1	-	-
Critical Hdwy Stg 1	5.4	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.4	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	-	-	-	2.2	-	-
Pot Cap-1 Maneuver	744	599	882	0	-	-	1440	-	0
Stage 1	866	763	-	0	-	-	-	-	0
Stage 2	948	775	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	743	0	882	-	-	-	1440	-	-
Mov Cap-2 Maneuver	743	0	-	-	-	-	-	-	-
Stage 1	866	0	-	-	-	-	-	-	-
Stage 2	947	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.7	0	0.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	743	882	1440	-
HCM Lane V/C Ratio	-	-	0.005	0.001	0.001	-
HCM Control Delay (s)	-	-	9.9	9.1	7.5	0
HCM Lane LOS	-	-	A	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	0	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	2	2	0	0	0	0	6	133	2	151	0
Future Vol, veh/h	3	2	2	0	0	0	0	6	133	2	151	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	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	-	-	30	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	4	2	2	0	0	0	0	7	156	2	178	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	267	345	178	-	0	0	163	0	0
Stage 1	182	182	-	-	-	-	-	-	-
Stage 2	85	163	-	-	-	-	-	-	-
Critical Hdwy	6.4	6.5	6.2	-	-	-	4.1	-	-
Critical Hdwy Stg 1	5.4	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.4	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	-	-	-	2.2	-	-
Pot Cap-1 Maneuver	727	581	870	0	-	-	1428	-	0
Stage 1	854	753	-	0	-	-	-	-	0
Stage 2	943	767	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	726	0	870	-	-	-	1428	-	-
Mov Cap-2 Maneuver	726	0	-	-	-	-	-	-	-
Stage 1	854	0	-	-	-	-	-	-	-
Stage 2	941	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.7	0	0.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	726	870	1428	-
HCM Lane V/C Ratio	-	-	0.008	0.003	0.002	-
HCM Control Delay (s)	-	-	10	9.1	7.5	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	0	-

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	3	2	7	0	0	0	0	208	385	2	157	0
Future Vol, veh/h	3	2	7	0	0	0	0	208	385	2	157	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	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	-	-	30	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	4	2	8	0	0	0	0	245	453	2	185	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	661	887	185	-	0	0	698	0	0
Stage 1	189	189	-	-	-	-	-	-	-
Stage 2	472	698	-	-	-	-	-	-	-
Critical Hdwy	6.4	6.5	6.2	-	-	-	4.1	-	-
Critical Hdwy Stg 1	5.4	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.4	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	-	-	-	2.2	-	-
Pot Cap-1 Maneuver	431	285	862	0	-	-	908	-	0
Stage 1	848	748	-	0	-	-	-	-	0
Stage 2	632	445	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	430	0	862	-	-	-	908	-	-
Mov Cap-2 Maneuver	430	0	-	-	-	-	-	-	-
Stage 1	848	0	-	-	-	-	-	-	-
Stage 2	631	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	430	862	908	-
HCM Lane V/C Ratio	-	-	0.014	0.01	0.003	-
HCM Control Delay (s)	-	-	13.5	9.2	9	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	0	-

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	4	3	3	0	0	0	0	7	141	3	160	0
Future Vol, veh/h	4	3	3	0	0	0	0	7	141	3	160	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	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	-	-	30	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	5	4	4	0	0	0	0	8	166	4	188	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	287	370	188	-	0	0	174	0	0
Stage 1	196	196	-	-	-	-	-	-	-
Stage 2	91	174	-	-	-	-	-	-	-
Critical Hdwy	6.4	6.5	6.2	-	-	-	4.1	-	-
Critical Hdwy Stg 1	5.4	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.4	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	-	-	-	2.2	-	-
Pot Cap-1 Maneuver	708	563	859	0	-	-	1415	-	0
Stage 1	842	742	-	0	-	-	-	-	0
Stage 2	938	759	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	706	0	859	-	-	-	1415	-	-
Mov Cap-2 Maneuver	706	0	-	-	-	-	-	-	-
Stage 1	842	0	-	-	-	-	-	-	-
Stage 2	935	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.9	0	0.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	706	859	1415	-
HCM Lane V/C Ratio	-	-	0.012	0.004	0.002	-
HCM Control Delay (s)	-	-	10.2	9.2	7.6	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	0	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱					↱			↰	
Traffic Vol, veh/h	4	3	8	0	0	0	0	32	145	3	161	0
Future Vol, veh/h	4	3	8	0	0	0	0	32	145	3	161	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	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	-	-	30	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	5	4	9	0	0	0	0	38	171	4	189	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	321	406	189	-	0	0	209	0	0
Stage 1	197	197	-	-	-	-	-	-	-
Stage 2	124	209	-	-	-	-	-	-	-
Critical Hdwy	6.4	6.5	6.2	-	-	-	4.1	-	-
Critical Hdwy Stg 1	5.4	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.4	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	-	-	-	2.2	-	-
Pot Cap-1 Maneuver	677	537	858	0	-	-	1374	-	0
Stage 1	841	742	-	0	-	-	-	-	0
Stage 2	907	733	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	675	0	858	-	-	-	1374	-	-
Mov Cap-2 Maneuver	675	0	-	-	-	-	-	-	-
Stage 1	841	0	-	-	-	-	-	-	-
Stage 2	904	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.8	0	0.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	675	858	1374	-
HCM Lane V/C Ratio	-	-	0.012	0.011	0.003	-
HCM Control Delay (s)	-	-	10.4	9.2	7.6	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	0	-

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	4	2	2	0	0	0	0	7	141	1	166	0
Future Vol, veh/h	4	2	2	0	0	0	0	7	141	1	166	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	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	-	-	30	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	5	2	2	0	0	0	0	8	166	1	195	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	288	371	195	-	0	0	174	0	0
Stage 1	197	197	-	-	-	-	-	-	-
Stage 2	91	174	-	-	-	-	-	-	-
Critical Hdwy	6.4	6.5	6.2	-	-	-	4.1	-	-
Critical Hdwy Stg 1	5.4	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.4	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	-	-	-	2.2	-	-
Pot Cap-1 Maneuver	707	562	851	0	-	-	1415	-	0
Stage 1	841	742	-	0	-	-	-	-	0
Stage 2	938	759	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	706	0	851	-	-	-	1415	-	-
Mov Cap-2 Maneuver	706	0	-	-	-	-	-	-	-
Stage 1	841	0	-	-	-	-	-	-	-
Stage 2	937	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.9	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	706	851	1415	-
HCM Lane V/C Ratio	-	-	0.01	0.003	0.001	-
HCM Control Delay (s)	-	-	10.2	9.2	7.5	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	0	-

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	4	2	7	0	0	0	0	32	145	1	167	0
Future Vol, veh/h	4	2	7	0	0	0	0	32	145	1	167	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	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	-	-	30	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	5	2	8	0	0	0	0	38	171	1	196	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	322	407	196	-	0	0	209	0	0
Stage 1	198	198	-	-	-	-	-	-	-
Stage 2	124	209	-	-	-	-	-	-	-
Critical Hdwy	6.4	6.5	6.2	-	-	-	4.1	-	-
Critical Hdwy Stg 1	5.4	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.4	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	-	-	-	2.2	-	-
Pot Cap-1 Maneuver	676	537	850	0	-	-	1374	-	0
Stage 1	840	741	-	0	-	-	-	-	0
Stage 2	907	733	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	675	0	850	-	-	-	1374	-	-
Mov Cap-2 Maneuver	675	0	-	-	-	-	-	-	-
Stage 1	840	0	-	-	-	-	-	-	-
Stage 2	906	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.8	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	675	850	1374	-
HCM Lane V/C Ratio	-	-	0.01	0.01	0.001	-
HCM Control Delay (s)	-	-	10.4	9.3	7.6	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	0	-

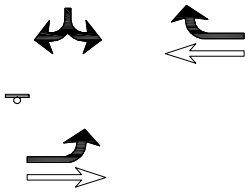
DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TMO	22-Jan-24	ASPE0000-0006	1 OF 2

E/W STREET : HIGHWAY 98
N/S STREET : PROJECT DRIVEWAY 1
CONDITION : AM PEAK HOUR

INTERSECTION : 3
GROWTH PER YEAR : 3.0%

CONDITION DIAGRAMS



PROJECT GEOMETRICS

TURN MOVEMENTS

Condition	Existing Condition Traffic	Temporary Project Construction Ambient Growth	Temporary Project Construction Conditions	Temporary Project Construction Trips	Temporary Project Construction w/Project Conditions	Opening Year Conditions Ambient Growth	Opening Year Conditions without Project	O&M Project Trips	Opening Year Conditions with Project	Cumulative Year Conditions without Project	Cumulative Year Conditions with Project
	1		3		5		7		9	11	13
HIGHWAY 98											
EB LEFT	0	0	0	51	51	0	0	4	4	0	4
EB THRU	81	5	86	0	86	5	91	0	91	97	97
EB RIGHT	0	0	0	0	0	0	0	0	0	0	0
WB LEFT	0	0	0	0	0	0	0	0	0	0	0
WB THRU	75	5	80	0	80	5	85	0	85	92	92
WB RIGHT	0	0	0	454	454	0	0	32	32	0	32
PROJECT DRIVEWAY 1											
NB LEFT	0	0	0	0	0	0	0	0	0	0	0
NB THRU	0	0	0	0	0	0	0	0	0	0	0
NB RIGHT	0	0	0	0	0	0	0	0	0	0	0
SB LEFT	0	0	0	11	11	0	0	7	7	0	7
SB THRU	0	0	0	0	0	0	0	0	0	0	0
SB RIGHT	0	0	0	2	2	0	0	1	1	0	1
Totals	**156**	**10**	**166**	**518**	**684**	**10**	**176**	**44**	**220**	**189**	**233**

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	51	86	80	454	11	2
Future Vol, veh/h	51	86	80	454	11	2
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	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	67	113	105	597	14	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	702	0	-	0	651	404
Stage 1	-	-	-	-	404	-
Stage 2	-	-	-	-	247	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	905	-	-	-	436	651
Stage 1	-	-	-	-	679	-
Stage 2	-	-	-	-	799	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	905	-	-	-	402	651
Mov Cap-2 Maneuver	-	-	-	-	402	-
Stage 1	-	-	-	-	625	-
Stage 2	-	-	-	-	799	-

Approach	EB	WB	SB
HCM Control Delay, s	3.5	0	13.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	905	-	-	-	427
HCM Lane V/C Ratio	0.074	-	-	-	0.04
HCM Control Delay (s)	9.3	0	-	-	13.8
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	91	85	32	7	1
Future Vol, veh/h	4	91	85	32	7	1
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	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	5	120	112	42	9	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	154	0	-	0	263	133
Stage 1	-	-	-	-	133	-
Stage 2	-	-	-	-	130	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1439	-	-	-	730	922
Stage 1	-	-	-	-	898	-
Stage 2	-	-	-	-	901	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1439	-	-	-	727	922
Mov Cap-2 Maneuver	-	-	-	-	727	-
Stage 1	-	-	-	-	894	-
Stage 2	-	-	-	-	901	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1439	-	-	-	747
HCM Lane V/C Ratio	0.004	-	-	-	0.014
HCM Control Delay (s)	7.5	0	-	-	9.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	91	85	32	7	1
Future Vol, veh/h	4	91	85	32	7	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	300	-	-	300	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	5	120	112	42	9	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	154	0	-	0	242	112
Stage 1	-	-	-	-	112	-
Stage 2	-	-	-	-	130	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1439	-	-	-	751	947
Stage 1	-	-	-	-	918	-
Stage 2	-	-	-	-	901	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1439	-	-	-	749	947
Mov Cap-2 Maneuver	-	-	-	-	749	-
Stage 1	-	-	-	-	915	-
Stage 2	-	-	-	-	901	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	9.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1439	-	-	-	769
HCM Lane V/C Ratio	0.004	-	-	-	0.014
HCM Control Delay (s)	7.5	-	-	-	9.7
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	97	92	32	7	1
Future Vol, veh/h	4	97	92	32	7	1
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	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	5	128	121	42	9	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	163	0	-	0	280	142
Stage 1	-	-	-	-	142	-
Stage 2	-	-	-	-	138	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1428	-	-	-	714	911
Stage 1	-	-	-	-	890	-
Stage 2	-	-	-	-	894	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1428	-	-	-	711	911
Mov Cap-2 Maneuver	-	-	-	-	711	-
Stage 1	-	-	-	-	886	-
Stage 2	-	-	-	-	894	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	10
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1428	-	-	-	731
HCM Lane V/C Ratio	0.004	-	-	-	0.014
HCM Control Delay (s)	7.5	0	-	-	10
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	97	92	32	7	1
Future Vol, veh/h	4	97	92	32	7	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	300	-	-	300	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	5	128	121	42	9	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	163	0	-	0	259	121
Stage 1	-	-	-	-	121	-
Stage 2	-	-	-	-	138	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1428	-	-	-	734	936
Stage 1	-	-	-	-	909	-
Stage 2	-	-	-	-	894	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1428	-	-	-	731	936
Mov Cap-2 Maneuver	-	-	-	-	731	-
Stage 1	-	-	-	-	905	-
Stage 2	-	-	-	-	894	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1428	-	-	-	752
HCM Lane V/C Ratio	0.004	-	-	-	0.014
HCM Control Delay (s)	7.5	-	-	-	9.9
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TMO	22-Jan-24	ASPE0000-0006	1 OF 2

E/W STREET : HIGHWAY 98
N/S STREET : PROJECT DRIVEWAY 1
CONDITION : PM PEAK HOUR

INTERSECTION : 3
GROWTH PER YEAR : 3.0%

TURN MOVEMENTS

Condition	Existing Condition Traffic	Temporary Project Construction Ambient Growth	Temporary Project Construction Conditions	Temporary Project Construction Trips	Temporary Project Construction w/Project Conditions	Opening Year Conditions Ambient Growth	Opening Year Conditions without Project	O&M Project Trips	Opening Year Conditions with Project	Cumulative Year Conditions without Project	Cumulative Year Conditions with Project
	2		4		6		6		8	12	14
HIGHWAY 98											
EB LEFT	0	0	0	2	2	0	0	1	1	0	1
EB THRU	104	7	111	0	111	7	118	0	118	112	112
EB RIGHT	0	0	0	0	0	0	0	0	0	0	0
WB LEFT	0	0	0	0	0	0	0	0	0	0	0
WB THRU	104	7	111	0	111	7	118	0	118	128	128
WB RIGHT	0	0	0	11	11	0	0	6	6	0	6
PROJECT DRIVEWAY 1											
NB LEFT	0	0	0	0	0	0	0	0	0	0	0
NB THRU	0	0	0	0	0	0	0	0	0	0	0
NB RIGHT	0	0	0	0	0	0	0	0	0	0	0
SB LEFT	0	0	0	454	454	0	0	29	29	0	29
SB THRU	0	0	0	0	0	0	0	0	0	0	0
SB RIGHT	0	0	0	51	51	0	0	4	4	0	4
Totals	**208**	**14**	**222**	**518**	**740**	**14**	**236**	**40**	**276**	**240**	**280**

Intersection	
Int Delay, s/veh	18.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	2	111	111	11	454	51
Future Vol, veh/h	2	111	111	11	454	51
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	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	131	131	13	534	60

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	144	0	-	0	273	138
Stage 1	-	-	-	-	138	-
Stage 2	-	-	-	-	135	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1451	-	-	-	721	916
Stage 1	-	-	-	-	894	-
Stage 2	-	-	-	-	896	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1451	-	-	-	720	916
Mov Cap-2 Maneuver	-	-	-	-	720	-
Stage 1	-	-	-	-	893	-
Stage 2	-	-	-	-	896	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	27
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1451	-	-	-	736
HCM Lane V/C Ratio	0.002	-	-	-	0.807
HCM Control Delay (s)	7.5	0	-	-	27
HCM Lane LOS	A	A	-	-	D
HCM 95th %tile Q(veh)	0	-	-	-	8.5

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	118	118	6	29	4
Future Vol, veh/h	1	118	118	6	29	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1	139	139	7	34	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	146	0	-	0	284	143
Stage 1	-	-	-	-	143	-
Stage 2	-	-	-	-	141	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1448	-	-	-	710	910
Stage 1	-	-	-	-	889	-
Stage 2	-	-	-	-	891	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1448	-	-	-	709	910
Mov Cap-2 Maneuver	-	-	-	-	709	-
Stage 1	-	-	-	-	888	-
Stage 2	-	-	-	-	891	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	10.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1448	-	-	-	729
HCM Lane V/C Ratio	0.001	-	-	-	0.053
HCM Control Delay (s)	7.5	0	-	-	10.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	118	118	6	29	4
Future Vol, veh/h	1	118	118	6	29	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	300	-	-	300	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1	139	139	7	34	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	146	0	-	0	280	139
Stage 1	-	-	-	-	139	-
Stage 2	-	-	-	-	141	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1448	-	-	-	714	915
Stage 1	-	-	-	-	893	-
Stage 2	-	-	-	-	891	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1448	-	-	-	713	915
Mov Cap-2 Maneuver	-	-	-	-	713	-
Stage 1	-	-	-	-	892	-
Stage 2	-	-	-	-	891	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	10.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1448	-	-	-	733
HCM Lane V/C Ratio	0.001	-	-	-	0.053
HCM Control Delay (s)	7.5	-	-	-	10.2
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	112	128	6	29	4
Future Vol, veh/h	1	112	128	6	29	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1	132	151	7	34	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	158	0	-	0	289	155
Stage 1	-	-	-	-	155	-
Stage 2	-	-	-	-	134	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1434	-	-	-	706	896
Stage 1	-	-	-	-	878	-
Stage 2	-	-	-	-	897	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1434	-	-	-	705	896
Mov Cap-2 Maneuver	-	-	-	-	705	-
Stage 1	-	-	-	-	877	-
Stage 2	-	-	-	-	897	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	10.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1434	-	-	-	724
HCM Lane V/C Ratio	0.001	-	-	-	0.054
HCM Control Delay (s)	7.5	0	-	-	10.3
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	112	128	6	29	4
Future Vol, veh/h	1	112	128	6	29	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	300	-	-	300	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1	132	151	7	34	5

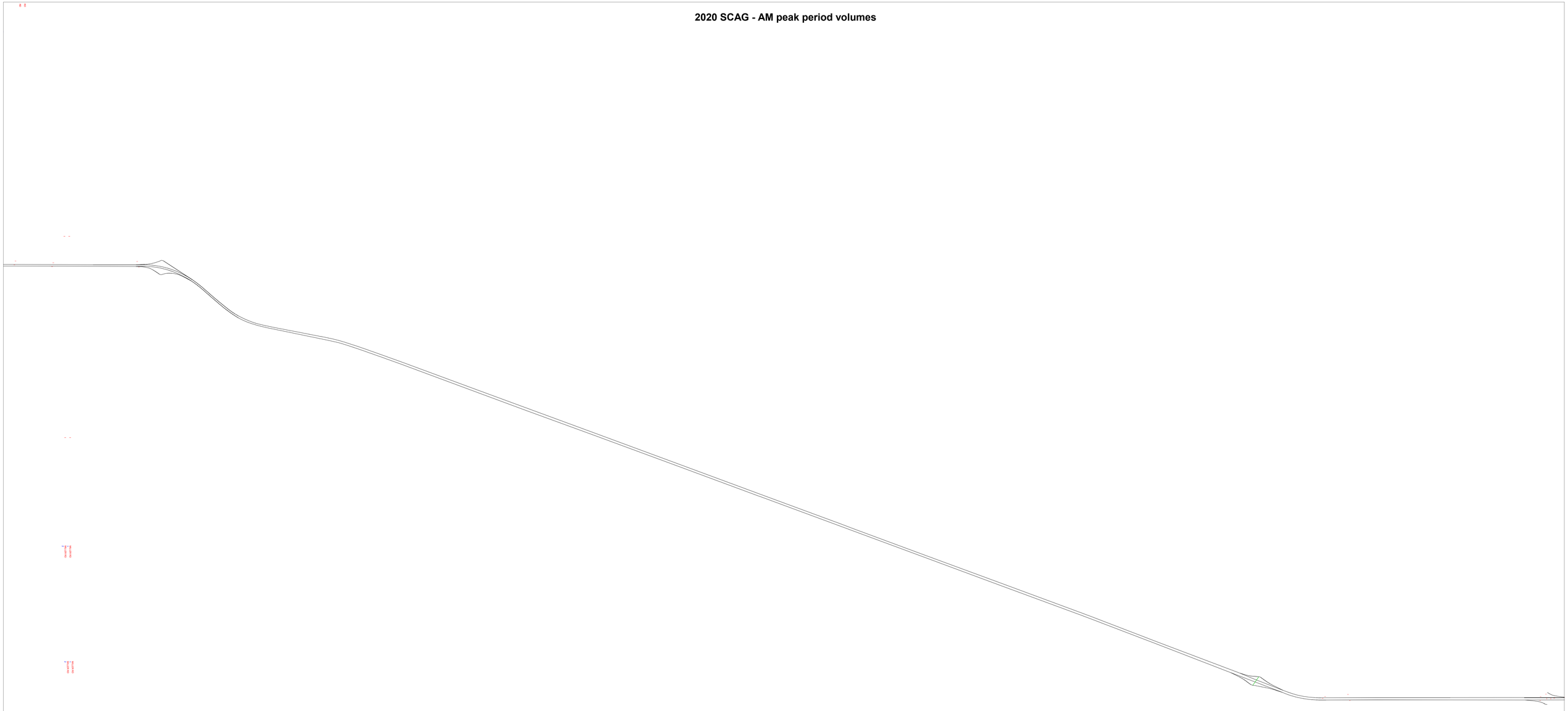
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	158	0	-	0	285	151
Stage 1	-	-	-	-	151	-
Stage 2	-	-	-	-	134	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1434	-	-	-	710	901
Stage 1	-	-	-	-	882	-
Stage 2	-	-	-	-	897	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1434	-	-	-	709	901
Mov Cap-2 Maneuver	-	-	-	-	709	-
Stage 1	-	-	-	-	881	-
Stage 2	-	-	-	-	897	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	10.2
HCM LOS			B

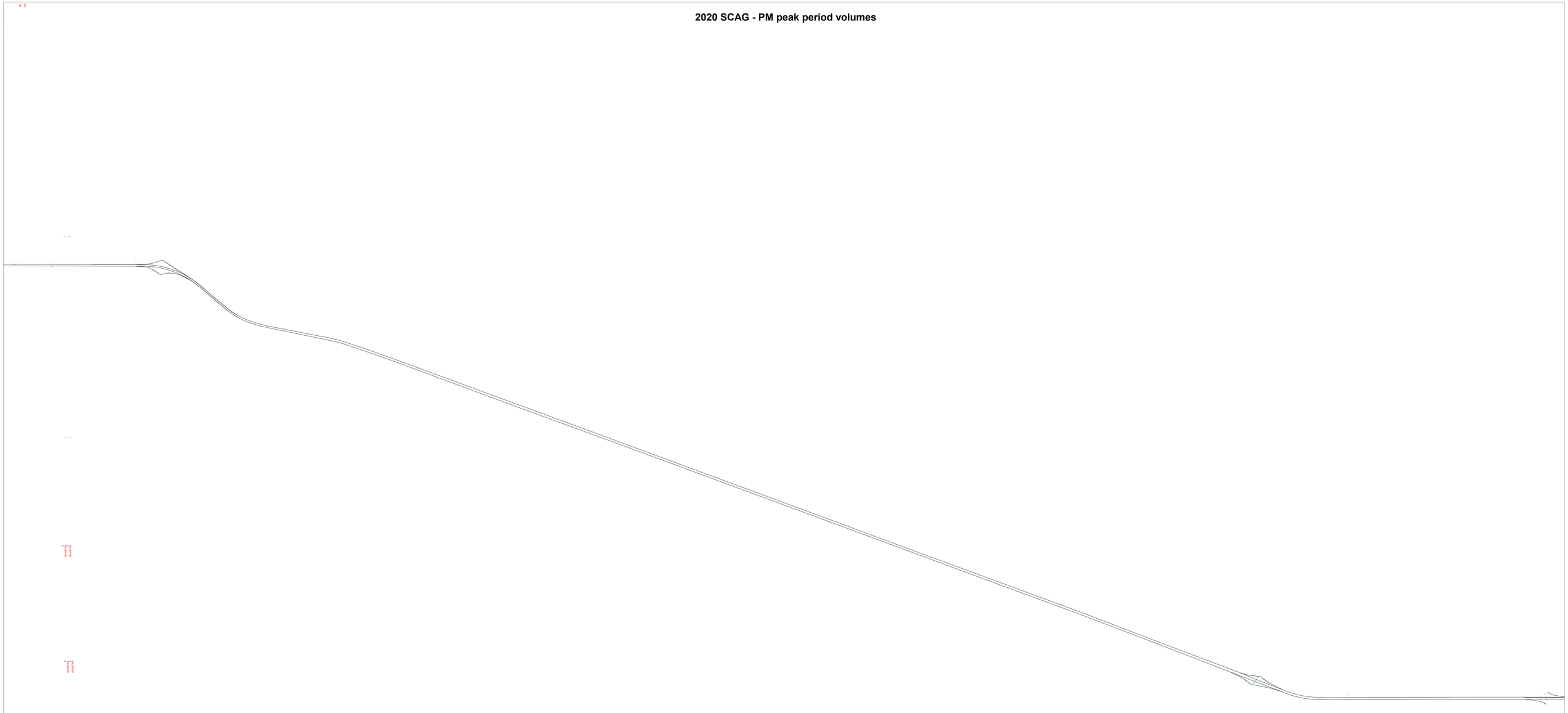
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1434	-	-	-	728
HCM Lane V/C Ratio	0.001	-	-	-	0.053
HCM Control Delay (s)	7.5	-	-	-	10.2
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Appendix C: Southern California Association of Governments (SCAG) Transportation Model Plots

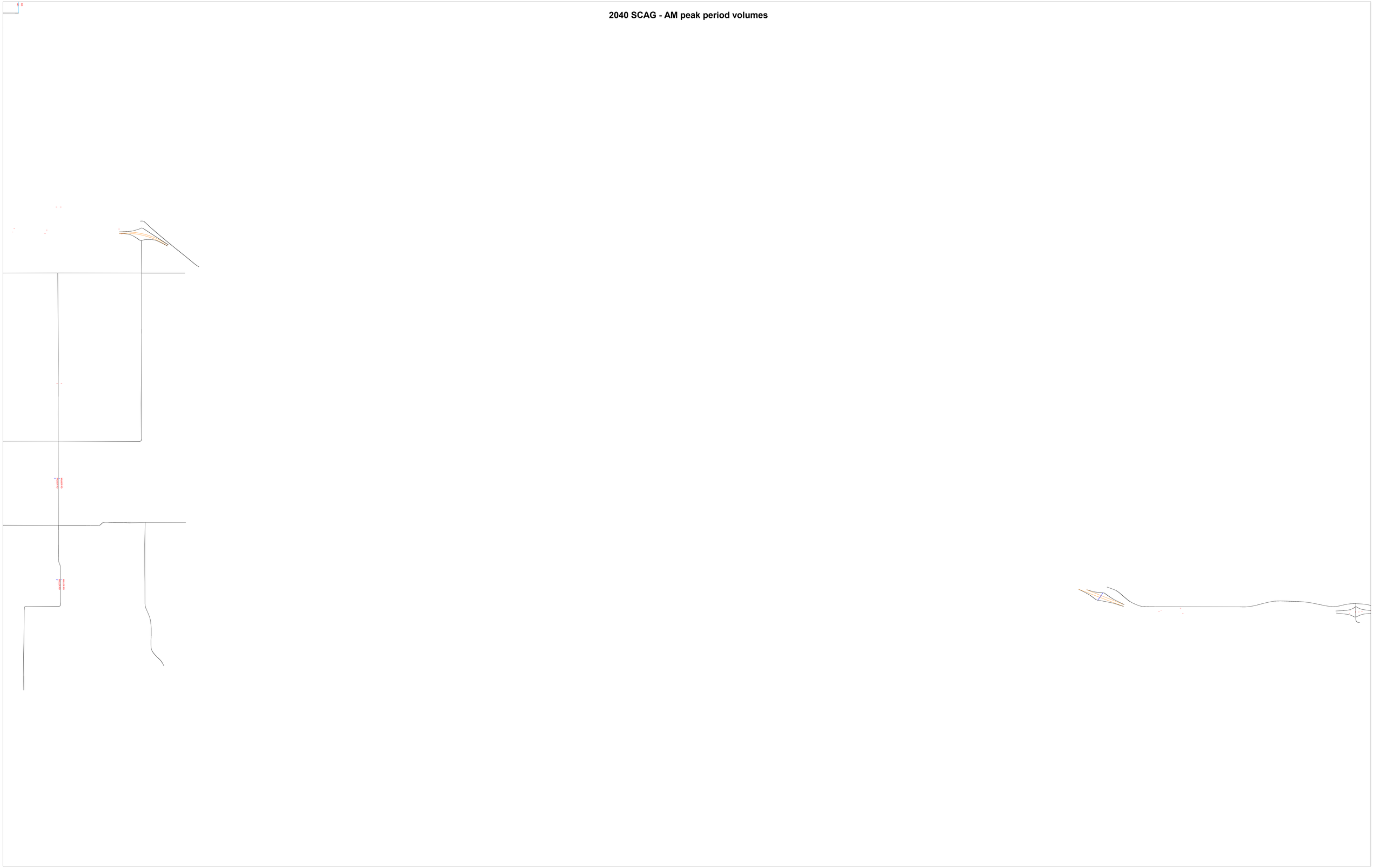
2020 SCAG - AM peak period volumes



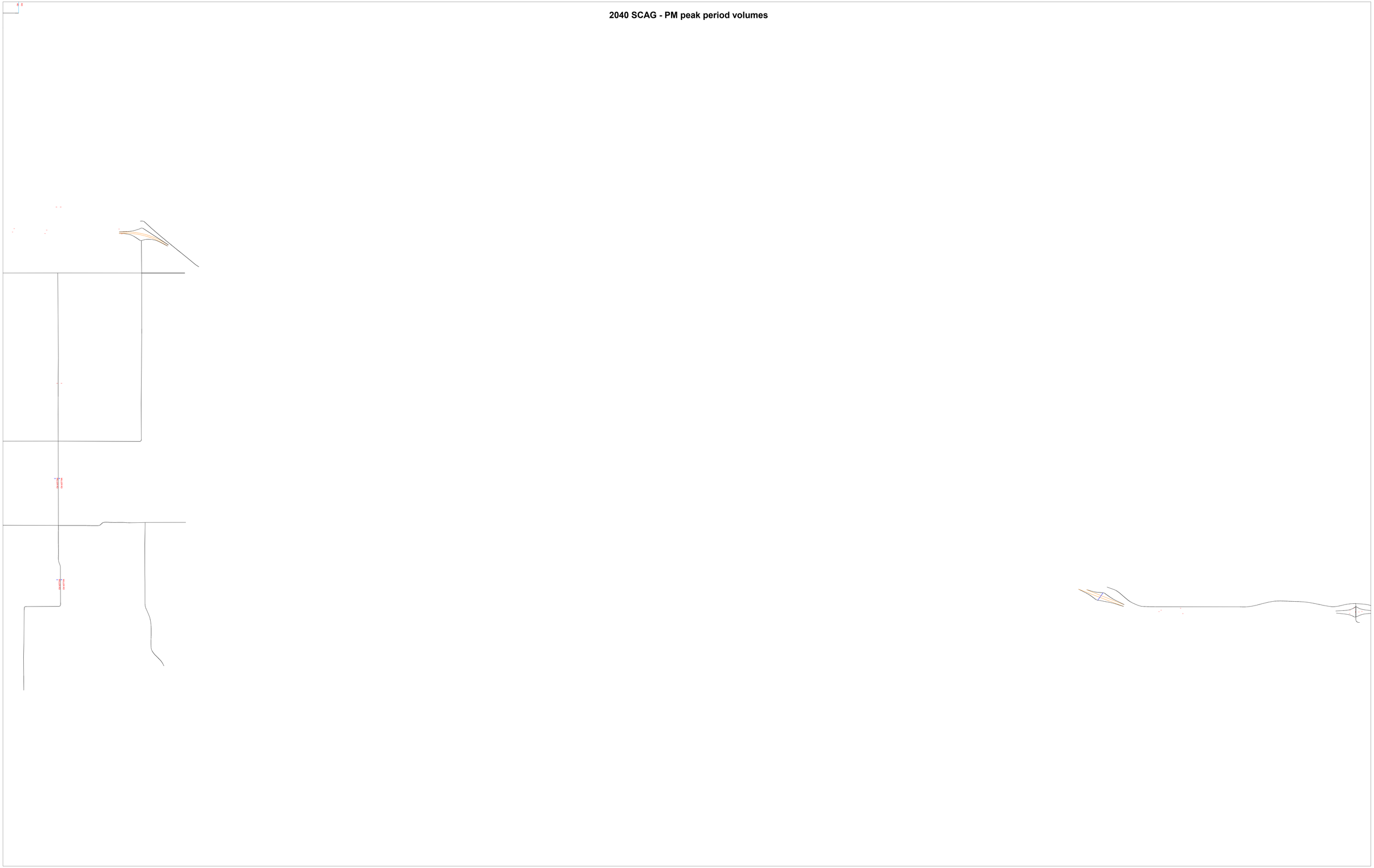
2020 SCAG - PM peak period volumes



2040 SCAG - AM peak period volumes



2040 SCAG - PM peak period volumes



Appendix U Visual Simulation and Data Sheets (pending)

Appendix V (pending) Groundwater Resources Technical Report

Appendix W Utility Corridor Conflict Analysis

Intersect Power

www.intersectpower.com

Perkins Renewable Energy Project
UTILITY CORRIDOR CONFLICT ANALYSIS - Draft

Prepared for

Intersect Power

IP Perkins, LLC and IP Perkins BAAH, LLC
subsidiaries of
Intersect Power, LLC

June 2022

CONTENTS

East Mesa Renewable Energy Project (CACA-59187)

UTILITY CORRIDOR CONFLICT ANALYSIS - Draft

IP Land Holdings, LLC, a subsidiary of Intersect Power, holds an application to the Bureau of Land Management (BLM) for the East Mesa Renewable Energy Project (CACA-59187), proposed to be located within the Imperial East Solar Energy Zone (SEZ),[1] in Imperial County, California. This 5,722-acre SEZ was designated in October 2012 under the *Approved Resource Management Plan Amendments/ Record of Decision (ROD) for Solar Energy Development in Six Southwestern States.* In 2016, the BLM adopted the Desert Renewable Energy Conservation Plan (DRECP) as a Land Use Plan Amendment to the California Desert Conservation Area (CDCA) Plan. The DRECP defined the proposed project's location as a Development Focus Area (DFA) for renewable energy, available to all types of generation technology.

The proposed project is also within an energy corridor, designated by the Bureau of Land Management (BLM) in 2009 under the 2005 Energy Policy Act. The focus of this analysis is the potential for the proposed solar project to be developed within the energy corridor, and the extent to which it could constrain use of the corridor. Further, this analysis addresses the compatibility of solar development with potential future geothermal development.

Section 1 of this analysis describes existing land authorizations issued by the BLM within the Project Application area, Section 2 provides an overview of the utility corridor and its capacity for future development, and Section 3 defines the potential for use conflicts in the designated utility corridor. Section 4 presents a proposed design (the Utility Corridor Preservation Option) that allows for both solar development and the retention of a functional utility corridor. The following figures are presented at the end of this report:

- Figure 1: Existing BLM Authorizations in East Mesa Project Area
- Figure 2: Land Use Designations Overlapping East Mesa Renewable Energy Project Site
- Figure 3: East Mesa Renewable Energy Project and BLM Utility Corridor K
- Figure 4: Existing Geothermal Development within the Project Region
- Figure 5: Project Modification for Utility Corridor Preservation

1. Existing Land Use Authorizations

Figure 1 illustrates the locations of BLM authorizations within the project DFA. The current land use authorizations in the DFA are listed in Table 1, Authorizations Affecting Portions of CACA-059187. These authorizations include cluster of electrical utility facilities and a buried fiber optic line in the southwest corner of the DFA, a communication site with two facilities in the southeastern area of the DFA (T16S, R18E, Sec 32 SESE SBM), and an electrical distribution line and a federal aid highway, both along the southern boundary of the DFA.

[1] https://blmsolar.anl.gov/sez/ca/imperial-east/

These existing authorizations would remove approximately 289 acres from the developable portion of the
DFA. Any proposed development in the proximity of these land use authorizations would require coordination with the right-of-way (ROW) grant holder, and assurance that the proposed project would not conflict with the purposes of the respective ROW.

Table 1 also includes Land Use Designations. These land use designations with respect to the East Mesa Renewable Energy Project site are shown on Figure 2. Specifically, Figure 2 shows that portions of the project site had been included within a designated Geothermal Resource area, but all of the project site was reallocated for solar development (CACA 050951), so no BLM land use conflict exists. The Imperial Irrigation District (IID) boundary also overlays the project site, but as provided earlier in Table 1, IID infrastructure is limited; thereby, only affecting minimal lands within the project site.

Table 1. BLM Authorizations on Public Lands within Project Area (CACA-059187)

Authorization Holder	Purpose	Serial #	Legal Description
Authorizations Affecting Portions of CACA-059187			
AT&T	Communication Site	CACA 057033	T16S, R18E, Sec 32 SESE
Bureau of Reclamation	Irrigation Facility (All American Canal): Distribution Line	CALA 0077775	T16S, R17E, Secs 33, 34, 35
CA Dept Public Works	Fed. Highway Administration, Hwy 98	CALA 0052461	T16S, R17E, Sec 33 S2; Sec 34 S2S2; Sec 35 S2S2; T16S, R18E Sec 31 S2S2; Sec 32 S2S2; Sec 33 S2S2; Sec 34 S2S2
CA Dept Transportation	Federal Aid Highway, Interstate 8 (I-8)	CARI 0007237	T16S, R17E, Sec 21 NENW; Sec 22 S2NE, W2NW, SENW, N2SE; Sec 23 N2SW, SESW, S2SE; Sec 25 NE, N2NW; Sec 26 NENENE; T16S, R18E Sec 29 S2SW; Sec 30 S2NW, NESW, N2SE; Sec 32 N2NE; Sec 33 N2NW, SENW, S2NE; Sec 34 N2SW, SE
IID	Road	CACA 048645	T16S, R17E, Sec 33 W2SWSE
IID	161 kV Transmission Line	CARI 000140	T16S, R17E, Sec 33 S2
IID	92 kV Transmission Lines & Distribution Line		T16S, R17E, Sec 33 SW1/2SW1/4

Level Three Communications	Fiber Optic Line	CACA 041192	T16S, R17E, Sec 21 NENW; Sec. 28 E2W2; Sec 33 E2W2, SWSE
SW Trans Partners LLC	Transmission Line Proposal |(on hold)	CACA 051575	T16S, R17E, Sec 21, NW, NE, SE, SW; Sec. 28 NW, NE, SE, SW; Sec 33 NW, NE, SE, SW
Union Pacific Railroad	Communication Facility	CACA 042127	T16S, R18E, Sec 32 SESE
BLM	Known Geothermal Resource Area Designation	CACA 017574	T16S, R17E, Secs 21, 22, 23, 25, 26, 27, 28; T16S, R18E, Secs 29, 30, 31 E2NW; Sec 31 Lots 3,4; Secs 32, 33, 34
BLM	Withdrawal for solar development	CACA 050951	T16S, R17E, Secs 21, 22, 23, 25, 26, 27, 28, 33, 34, 35; T16S, R18E, Secs 29, 30, Sec 31 NE, NENW, SESW, S2SE, Lot 3; Sec. 32 S2NWSW, S2S2, POR of N2N2 south of I-8 ROW; Sec 33 POR of N2 S of I-8 ROW, N2SE; Sec. 34 S of I8 ROW, POR of N2SW, NWSE
Imperial Irrigation District	ROW Irrigation District Boundary	CALA-- 0 039762	T16S, R17E, Secs 21, 22, 23, 25, 26, 27, 28, 33, 34, 35; T16S, R18E Secs 29, 30, 31, 32, 33, 34

Table 2 defines potential future authorizations that may overlap the DFA and the utility corridor.

Table 2. Reasonably Foreseeable Projects in the Project Area

Type of Authorization	Potential Purpose and Description	LIKELIHOOD

Geothermal energy development	• Development of geothermal resources within the designated Known Geothermal Resource Area • In project area, 13,800 acres of DFA restricted to Geothermal only • Directional drilling technology allows access to geothermal resources from adjacent lands	MEDIUM • Current nomination in the immediate project area but no issued leases • Existing geothermal facilities in the immediate project area have been in operations since the 1970's (Assignments approved 2012 by one operator, Ormesa, LLC, lessee). • Geothermal development can be compatible with solar (see Section 3 below)
Solar energy development	• Installation of solar panels, collector lines, onsite substation, battery storage facilities within the DFA • Construction of transmission interconnection with regional electric grid and interconnection substation	HIGH • Active ROW application for 650 MW solar facility on file for the project site (CACA-059187) • Consultation with Imperial County (CEQA) and Imperial Irrigation District (filed water request) underway
Electric transmission	Construction and operation of new electric transmission lines through the utility corridor	LOW • The CAISO 20 Year Outlook forecasts only one future project that would be constructed within Corridor K: the North Gila-Imperial Valley #2 (NGIV2) 500 kV Transmission Project (see Section 2.5 below) • Low and medium voltage lines are unlikely to be required due to the lack of development in the area and would not be constrained (see Section 2.4 below).
Type of Authorization	**Potential Purpose and Description**	**LIKELIHOOD**
Pipelines	Construction and operation of new pipelines within the utility corridor, carrying natural gas, hydrogen, petroleum fuels from Arizona (and points east) into California	LOW • Given the national and state direction to move to electric generation and decarbonization, development of new gas pipeline not considered likely. • Hydrogen development and resultant pipeline construction not considered reasonable in the project region given limited water resources.

2. Utility Corridor Analysis

2.1 Energy Policy Act of 2005

On August 8, 2005, the President signed into law the Energy Policy Act of 2005 (EPAct) (Public Law 10958). In Section 368 of EPAct, Congress directed the Secretaries of Agriculture, Commerce, Defense, Energy, and the Interior to take the following actions:

- Designate corridors for oil, gas, and hydrogen pipelines and electricity transmission and distribution facilities on Federal land in the 11 contiguous Western States,
- Perform any environmental reviews that may be required to complete the designation of such corridors,
- Incorporate the designated corridors into the relevant agency land use and resource management plans,
- Ensure that additional corridors for oil, gas, and hydrogen pipelines and electricity transmission and distribution facilities on Federal land are promptly identified and designated as necessary,
- Expedite applications to construct or modify oil, gas, and hydrogen pipelines and electricity transmission and distribution facilities within such corridors.

Congress further directed the Secretaries to consider the need for upgraded new electricity transmission and distribution facilities to improve reliability, relieve congestion, and enhance the capability of the national grid to deliver electricity. Finally, Congress specified that Section 368 corridors should specify the centerline, width, and compatible uses of the corridors.

As part of the corridor designation process, the BLM, and U.S. Department of Energy (DOE) took the lead role, with the U.S. Forest Service (USFS) and other Federal land managers acting as cooperators, in preparing a Programmatic Environmental Impact Statement (PEIS), titled *Designation of Energy Corridors on Federal Land in the 11 Western States*. Through a 2009 Record of Decision (ROD), the BLM designated approximately 5,000 miles of energy corridors on public lands (known as west-wide energy corridors or WWECs), in the 11 contiguous western states, that amended BLM 92 land use plans. The proposed project is located, in part, within the energy corridor Number 115-238, designated within the 2009 BLM land use plan amendment.[2]

On July 7, 2009, several non-profit organizations sued the BLM, USFS, and the DOE in the United States District Court for the Northern District of California, arguing the RODs violated the EPAct, National Environmental Policy Act (NEPA), Endangered Species Act (ESA), and Administrative Procedure Act. In July 2012, the BLM, DOE and the USFS entered into a settlement agreement with the plaintiffs. Among other stipulations, the settlement requires the agencies to conduct regional periodic reviews of the corridors designed to:

[2] Approved Resource Management Plan Amendments/ROD for Designation of Energy Corridors on Bureau of Land Management-Administered Lands in the 11 Western States, Appendix A, Table A, January 2009.

- Identify and review new information relevant to the corridors,
- Develop recommendations for any corridor revisions, deletions, or additions,
- Convey recommendations to BLM managers for consideration for implementation through land use planning/environmental review processes, and
- Develop recommendations for updating the Interagency Operating Procedures (IOPs) and coordinate any proposed changes with the FS and DOE.

The agencies divided the western states into 6 regions with each regional review to examine new relevant information and stakeholder input on the Section 368 energy corridors, including corridors of concern, and based on this information, identify potential revisions, deletions, or additions to the corridors. During the regional reviews, the agencies provided information to and solicited input from stakeholders, including state and local governments, federal agencies, tribes, non-governmental organizations, industry, and other interested persons. On May 20, 2016, the BLM, DOE and USFS released the *Section 368 Corridor Study* along with an invitation for stakeholder engagement.

The outcome of each regional review involves a report identifying potential revisions, deletions, and additions to the Section 368 energy corridors. These potential corridor changes will be considered during one of the following subsequent BLM and FS land use planning activities:

- During the normal course of land use plans revisions.
- During amendments to land use plans prompted by project proposals that do not conform to land use plans, or when issues within a Section 368 energy corridor necessitate review of an alternative corridor.
- During amendments to land use plan(s) that address changes to Section 368 energy corridors.

The project site is located within Region 1, consisting of 24 corridors in western Arizona, southern California, and southern Nevada. Stakeholder engagement for Region 1 including four public meetings in Phoenix, AZ (9/20/2016); Palm Desert, CA (9/22/2016), and Las Vegas, NV (9/27/2016) and well as a national webinar (9/7 & 29/2016). The Region 1 Report was released on 6/20/2019.[3] The Imperil East SEZ

is located with Corridor 115-238 as described in the Corridor 115-238 Region 1 Review, dated March
2019.[4]

[3] https://corridoreis.anl.gov/documents/docs/Region_1_Report.pdf
[4] https://corridoreis.anl.gov/documents/docs/corridor-abstracts/corridor-115-238.pdf

Specific information is identified for the project DFA in the Region 1 – Corridor 115-238 Analysis Table, compiled during the regional review process:

- Under Appropriate and Acceptable Uses, the table identifies that the DFA overlaps the energy corridor between mileposts 153.4 and 166, potentially restricting future development of transmission and pipelines. Agency review and analysis also identified that solar energy development within the corridor reduces space for future development of transmission and pipelines and recommend avoidance or restriction of non-linear features, such as geothermal and solar energy development, within the Section 368 energy corridors.[5]

- Under West-Wide Energy Corridor (WWEC) Purpose, agency review and analysis identify that the DFA provides an opportunity for the corridor to accommodate transmission tied to renewable energy development.[6]

- Under Corridor Alignment and Spacing, the table identifies that multiple transmission lines and I-8 occupy much of the corridor between mile posts 157.1 and 166, and that the corridor is two miles wide and has capacity for future projects. Proposed project siting and co-location alternatives to address impacts would be analyzed as part of the project- specific environmental review required under NEPA and other Federal laws.[7]

New data have been added to the Section 368 Energy Corridor Mapping Tool since the release of the draft abstracts in September 2016, including updated information made available in the Record of Decision for the DRECP.[8]

The energy corridor in the area of the proposed project DFA is defined as Utility Corridor K. It is constrained on the southern boundary by lands withdrawn for the reclamation purposes and managed by the Bureau of Reclamation (BOR). Any extension of the utility corridor to the south would require a change in the management of these reserved lands by the BOR.

The boundaries of the proposed project DFA and the utility corridor (BLM Utility Corridor K) are illustrated in Figure 3. Just over 2,000 acres of the 5,722-acre DFA remain outside of the utility corridor. However, the utility corridor extends approximately one mile south of the DFA and one mile west of the DFA.

2.2 Existing Utilities within Utility Corridor K

Table 1 and Figure 1 show the existing rights-of-way within the utility corridor in the project area. Linear utilities (electric transmission lines and pipelines) have the most potential to create conflict with a solar project. The current locations of transmissions lines are as follows:

[5] Ibid, p. 8

[6] Ibid

[7] Ibid, p. 12

[8] https://bogi.evs.anl.gov/section368/portal/

- The 500 kV Southwest Powerlink (SWPL) runs east-west, about 3,500 feet south of Hwy 98 and 1,400 feet south of the All-American Canal.
- Several IID low-voltage transmission lines (161 kV and below) run in and out of the IID Drop 4 Substation, located adjacent to the All-American Canal at the southwest corner of the DFA.
- The east-west lines run about 1,700 feet south of Hwy 98 and about 250 feet north of the canal.
- The north-south lines run along the western boundary of the proposed project area between Hwy 98 and I-8.

2.3 Potential Project Conflict with Utility Corridor

Figure 3 illustrates the location of designated Utility Corridor K in the Project area. Corridor segments are as follows:

- Utility Corridor K in its east-west segment (where it runs parallel to Hwy 98) is 2 miles wide, including an average of approximately 1.1 miles (ranging from 4,000 to 6,000 feet in width) north of Hwy 98 and 0.75 miles (ranging from 4,000 to 7,000 feet in width) south of Hwy 98.
- At the western edge of the project site, Utility Corridor K turns north and extends to the southern boundary of Interstate 8. This north-south segment is also 2 miles wide, with 1 mile being west of the DFA boundary and one mile within the DFA. The corridor area west of the SEZ and between Hwy 98 and I-8 is within the Lake Cahuilla ACEC.
- The designated corridor ends 3 miles west of the western boundary of the SEZ, because there are no BLM-administered public lands immediately west of this point.

The triangular area south of Interstate 8 (I-8), mostly north of Hwy 98 (including the DFA area south of Hwy 98 at the western end of the SEZ), and east of the low voltage IID north-south transmission lines (along the eastern edge of the Lake Cahuilla ACEC) contains a total of approximately 7,000 acres. The area includes approximately 1,300 acres of private land and 5,700 acres of BLM-administered public lands, and all of the BLM lands are both DFA and within the Imperial East SEZ. The BLM lands also include overlays of Utility Corridor K (Section 368 Corridor 115-238).

Utility Corridor K overlies approximately 3,700 acres of the approximately 5,700-acre DFA, or approximately 65% of the DFA acreage.

BLM's consideration of a project that would be located within this corridor require an assessment of whether any corridor management and design parameters could be developed to ensure the long-term viability of the corridor, while also allowing solar development. Potential corridor management adjustments could involve changing the corridor capacity, in terms of assessing a lower potential anticipated demand, and designing the corridor to accommodate more future uses

including adjusting line spacing and placement of new linear facilities in a manner that maximizes future corridor use.

2.4 Typical Spacing of Electric Transmission Lines

Corridor K in the Project area is important for two primary reasons. First, it allows high-voltage line interconnection with Arizona transmission systems and generation resources (including the Palo Verde Nuclear Plant). Second, Corridor K supports IID lines that serve pumps along the All-American canal and other local demand.

There are no regulatory requirements governing separation distances for transmission lines; the safe operation of transmission facilities is defined by each utility, as well as CAISO recommendations, as described below for several major existing corridors in southern California:

- **500 kV Line Separation.** The Devers-Palo Verde #2 500 kV transmission line (Colorado River-Devers) was constructed adjacent to the Devers-Palo Verde #1 500 kV line over more than 100 miles, with separation distance ranging from approximately 100 to 200 feet between the two lines. The Sunrise Powerlink Transmission Line was constructed parallel to the SWPL, west of the Imperial Valley Substation, with a separation ranging from 200 to 1,000 feet (with the larger distances in areas of rugged terrain). In the SCE West of Devers Final EIS,[9] SCE stated that the minimum spacing between a 220 kV double circuit structure and an adjacent 500 kV double circuit structure would be 100 feet from center to center, with an additional 75 feet to the edge of a ROW.

- **Result**: In the 3,200-foot-wide area south of Hwy 98, assuming avoidance of the All American Canal by a total of 800 feet and other existing transmission (2 low voltage lines and the SWPL for a total of 900 additional feet), there remains an available corridor width of 1,500 feet at the east end, where it is narrowest. Given the generally flat topography, this area would allow installation of 7 additional 500 kV lines (spaced 250 feet apart). Even looking 50 years ahead, it is not reasonable to assume this many new high-voltage lines would be installed, because this large number of 500 kV lines in one corridor would be considered a reliability risk from the perspective of system reliability due to outside intervention and high fire risk.[10]

- North of Hwy 98, the Project would leave undeveloped an additional width of corridor along the Project's southern boundary, and this would be available for transmission development. However, because Corridor K turns north and then continues west of the Project site crossing the Lake Cahuilla ACEC and then terminating at private agricultural lands, and there is no existing high voltage transmission through this area, the installation of a future 500 kV line in this area is considered to be highly unlikely.

- **230 kV Line Separation.** The SCE West of Devers 230 kV lines (between the Devers Substation and the San Bernardino/Riverside County substations) are spaced at 60 to 150 feet apart.

- **Result**: If 230 kV lines were installed in the 3,200-foot-wide area south of Hwy 98, given the constraints defined for the 500 kV line separation above, the remaining available corridor with of 1,500 feet at the east end would allow more than 10 additional 230 kV lines to be installed. The reliability concerns described for 500 kV lines would also exist for this exceptional density of 230 kV transmission lines.

[9] https://eplanning.blm.gov/eplanning-ui/project/64793/570

[11] BLM and CPUC, 2008. Sunrise Powerlink EIR/EIS, Attachment 1A to Appendix A (Alternatives Screening Report)

- As with 500 kV lines (described above), the installation of 230 kV lines north of Hwy 98 is unlikely because there is no existing line or corridor continuing to the west from Corridor K.
- **161 kV Line Separation**. IID 161 kV lines from its Drop 4 Substation are separated by 70 to 80 feet (from centerline to centerline).
- **Result**: Given the available corridor space both north and south of Hwy 98, there is more than enough space for any future required 161 kV lines. Since the demand for lower voltage lines in the Project area currently supports only canal pumps, dispersed agricultural needs, and campgrounds, it is unlikely that more than one or two additional lines would be needed.

Table 3 presents an estimate of the total potential capacity of the utility corridor south of Highway 98 for use by electric transmission lines or pipelines, if no solar or geothermal development were allowed within the corridor. As noted above, the feasibility of the use of the utility corridor north of Hwy 98 where the proposed solar project DFA is located is severely constrained by the Lake Cahuilla ACEC and private agricultural lands to the west.

It is important to note that use of the utility corridor south of Hwy 98 would avoid preclusion of renewable solar energy development. As a result, Table 3 shows the corridor capacity south of Hwy 98 where the average width of the corridor south of Hwy 98 is 5,000 feet as described above.

Table 3. Summary Capacity of the Utility Corridor

Type of Corridor Use	Type of Utility	ROW Required	Total Capacity of Corridor South of Hwy 98 (5,000 foot width)
Electric transmission lines	500 kV (high voltage) or DC lines	• 500 feet	• Up to 7 500 kV lines
	230 kV transmission	• 200 feet	• Up to 10 230 kV lines
	92 to 200 kV transmission	• 100 feet	• More than 10 lower voltage lines

	Electric distribution lines	• 50 feet	• More than 10 distribution lines
Pipelines	Natural gas, hydrogen, petroleum fuels	• 100 feet	• More than 10 additional pipelines

2.5 Potential Future High-Voltage Electric Transmission Lines

As discussed above, the most important electric service uses of Corridor K are for (a) IID services to local users and the All-American Canal pumps, and (b) high-voltage transmission connecting Arizona and the Imperial Valley Substation. The highest-voltage IID uses are 161 kV, and there is more than adequate space for many additional 161 kV lines in both the east-west and north-south areas of the corridor. On January 31, 2022, the California Independent System Operator (CAISO) published its **20-year Transmission Outlook**.[9] The Transmission Outlook defines the Imperial Valley as being in the

"SCADSNV_Z3_GreaterImperial" Transmission Zone (GITZ). The Report's "Starting Point" scenario that describes the following components that have the potential to affect the Imperial Valley and the Project area:

- Development of 6,407 MW of utility-scale solar projects within the Imperial Valley GITZ[10]
- Development of up to 2,332 MW of geothermal resources in 2040, with most allocated to the Salton Sea region (north of Utility Corridor K)
- Import of 1,500 MW of wind from Wyoming/Idaho and 1,500 from New Mexico would come into California in transmission north of the Imperial Valley

While the additional potential development listed above is modeled by the CAISO, the report references only one future project that would be constructed within Corridor K: the North Gila-Imperial Valley #2 (NGIV2) Transmission Project.[11] This would be a second 500 kV line between the North Gila and Imperial Valley substations. The project is described as follows:

> *The 97-mile NGIV2 500kV project is a major intertie expansion between the North Gila area (southwest Arizona) and the Imperial Valley area (southern California); this line would parallel the existing North Gila-Imperial Valley line (also known as the Southwest Power*

[9] http://www.caiso.com/InitiativeDocuments/Draft20-YearTransmissionOutlook.pdf (Table 3 in report presents generation resources assumed to be developed)

[10] The 6,407 MW of future solar resources in the Imperial Valley GITZ are identified in the CAISO study as 3,200 MW developed west of the Imperial Valley Substation (at Ocotillo Express and ECO Substation), 1,607 MW at the Imperial Valley Substation, and 1,600 MW from western Arizona. The western Arizona generation would be accommodated in the North Gila-Imperial Valley #2 Transmission Project.

[11] https://www.wecc.org/Reliability/NGIV2%202021%20APR.pdf

*Link, or SWPL), with **an expected minimum separation of 250 feet from the existing SWPL**. [page 2, emphasis added]*

The 250-foot separation from the SWPL means that an additional 500 kV line could be installed within each 500-foot width of the corridor as presented in Table 3 above. Given that there are over 2,000 feet of unoccupied corridor south of the SWPL and over 1,000 feet north of the corridor that there would theoretically be space for 7 additional 500 kV lines in the existing corridor – only within the area south of the All-American Canal, plus potential additional 2 500 kV lines north of the Canal and south of Hwy 98.

Previous CAISO proposals for high-voltage lines in Corridor K include a 2018 SDG&E proposal describing the potential conversion of the existing SWPL to a high-voltage direct-current (HVDC) line.[12] This conversion would use only the existing towers and existing ROW, and no additional corridor space would be required. This proposal is not addressed in the CAISO's recent 20-Year Outlook.

3. Potential Right-of-Way Conflicts

As illustrated on Figure 4, there are existing geothermal leases on BLM-administered public lands northwest of the Project site. In addition, BLM has initiated the nomination process for additional geothermal development on the Project site and surrounding areas. Geothermal generation of electricity requires much less area than solar generation, because the above ground geothermal facilities occupy only nominal lands within a given site. Table 4 presents the site coverage for geothermal facilities on leases within proximity

of the project site (see Figure 4). As presented in Table 4, site coverage for these facilities ranges from 1.7% to 2.2%. Further, geothermal wells for production of steam are generally directionally drilled from concentrated well locations, to access resources below the solar field. Given the limited surface area required and flexibility in well development, geothermal and solar could be compatible uses.

Table 4: Typical Geothermal Site Coverage for Neighboring Leases

CACA 000964	1688.8	10.9	7.3	1.4	11	15.4	19.6	1.7%
CACA 006218	2486.4	19.1	6.3	1.5	20	30.0	55.4	2.2%
CACA 017568	633.7	4.9	-	1.5	6	9.0	13.9	2.2%

[12] https://www.caiso.com/Documents/2018HVDC_Conversion_Project_Summary_Public.pdf

Acreage approximation based on Google Earth satellite imagery.
*Excludes above ground piping.

Further, with respect to the project sites, a good portion of the geothermal generation facilities could be located within the proposed preserved utility corridor within the East Mesa Project DFA (see Section 4 below and Figure 5 – green area). Again, since geothermal facilities required nominal land coverage, locating geothermal facilities within the preserved utility corridor would still allow the option of future transmission facilities.

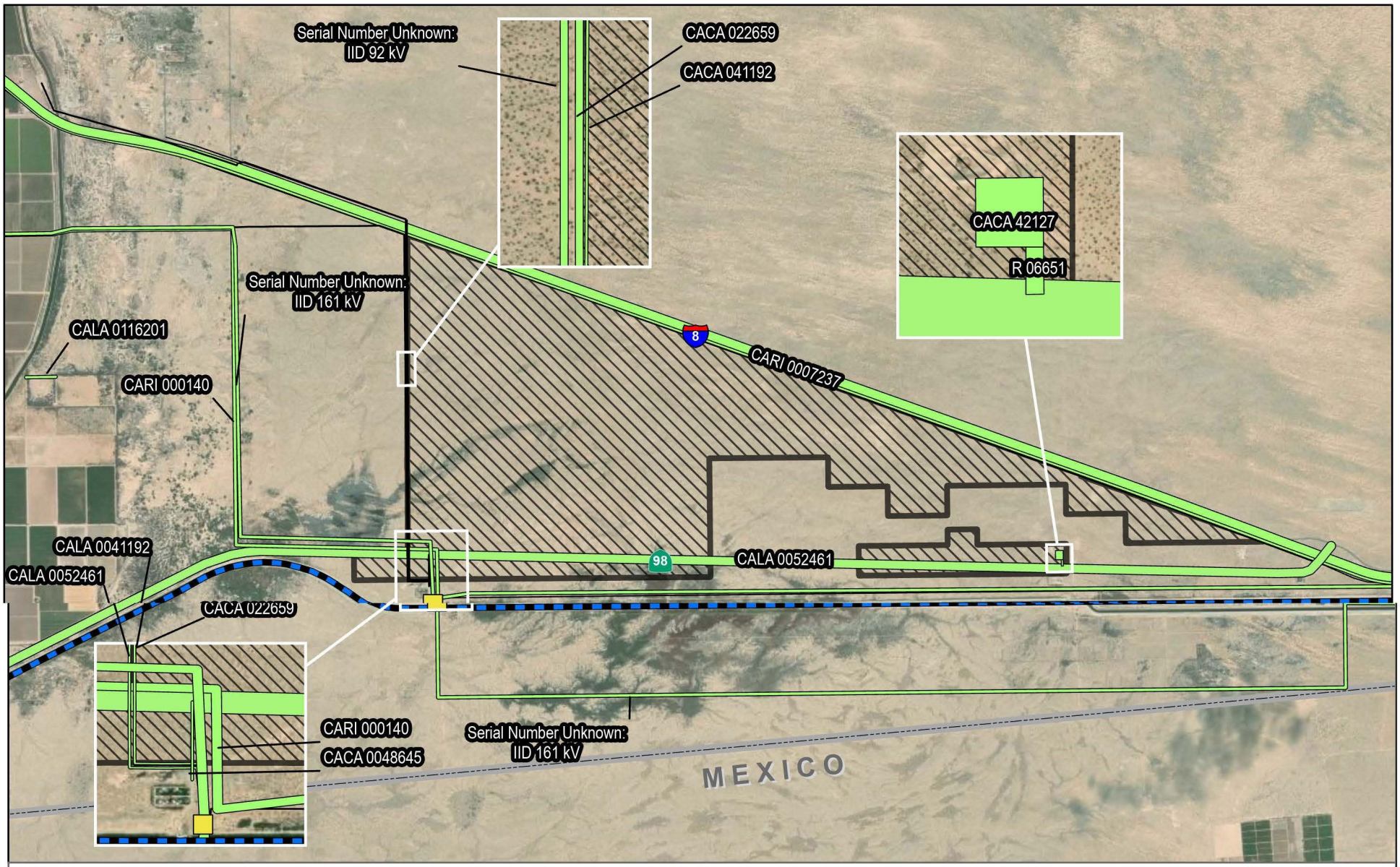
4. Proposed Project Modification for Corridor Preservation

Complete avoidance of the utility corridor would likely render any development of East Mesa Project site, a designated DFA under the DRECP, as infeasible, given the small remaining area (approximately 2,000 acres of the site is not overlaid by the utility corridor). However, due to the width of the utility corridor south of Highway 98 and the distances required for safe separation of transmission lines (defined above), there is more than adequate space to accommodate the proposed solar project as well as existing and future utility uses.

IP Land Holdings LLC is proposing to modify the Project development boundaries originally defined in the SF-299 application submitted to the BLM as shown in the Utility Corridor Preservation Option illustrated in Figure 4. These project boundaries would allow installation and operation of East Mesa Renewable Energy Project facilities within portions of Corridor K, but would retain available corridor space as follows:

- The entire east-west corridor south of Hwy 98, over one mile wide, would remain fully available to utility use. This segment, where the existing 500 kV SWPL is located, offers adequate space for multiple future 500 kV and lower voltage transmission lines or pipelines.
- The solar project boundaries would be adjusted to eliminate the following areas of the DFA, so they remain available for utility use:
- All of the DFA south of Hwy 98 would be excluded from the solar project
- North of and parallel to Hwy 98, a 500-foot-wide segment would be excluded from the solar project to allow for potential future low-voltage transmission line or pipeline use.
- The western boundary of the solar project would be 700 feet from the western DFA boundary (and 700 feet from the Lake Cahuilla ACEC), allowing space for multiple future north-south transmission lines serving IID customers.
- The solar project would not develop the approximately 300-acre “island” of DFAdesignated land in the southeastern portion of the DFA. This area is entirely within the utility corridor and adjacent to the Tamarisk Long Term Visitor Area.

The result of this option is to retain nearly 1,000 acres of the DFA as being permanently available for energy corridor use, including geothermal as described above. This would reduce the size of the solar project to approximately 4,800 acres.



C::::3 Project Boundary

Existing BLM Authorizations

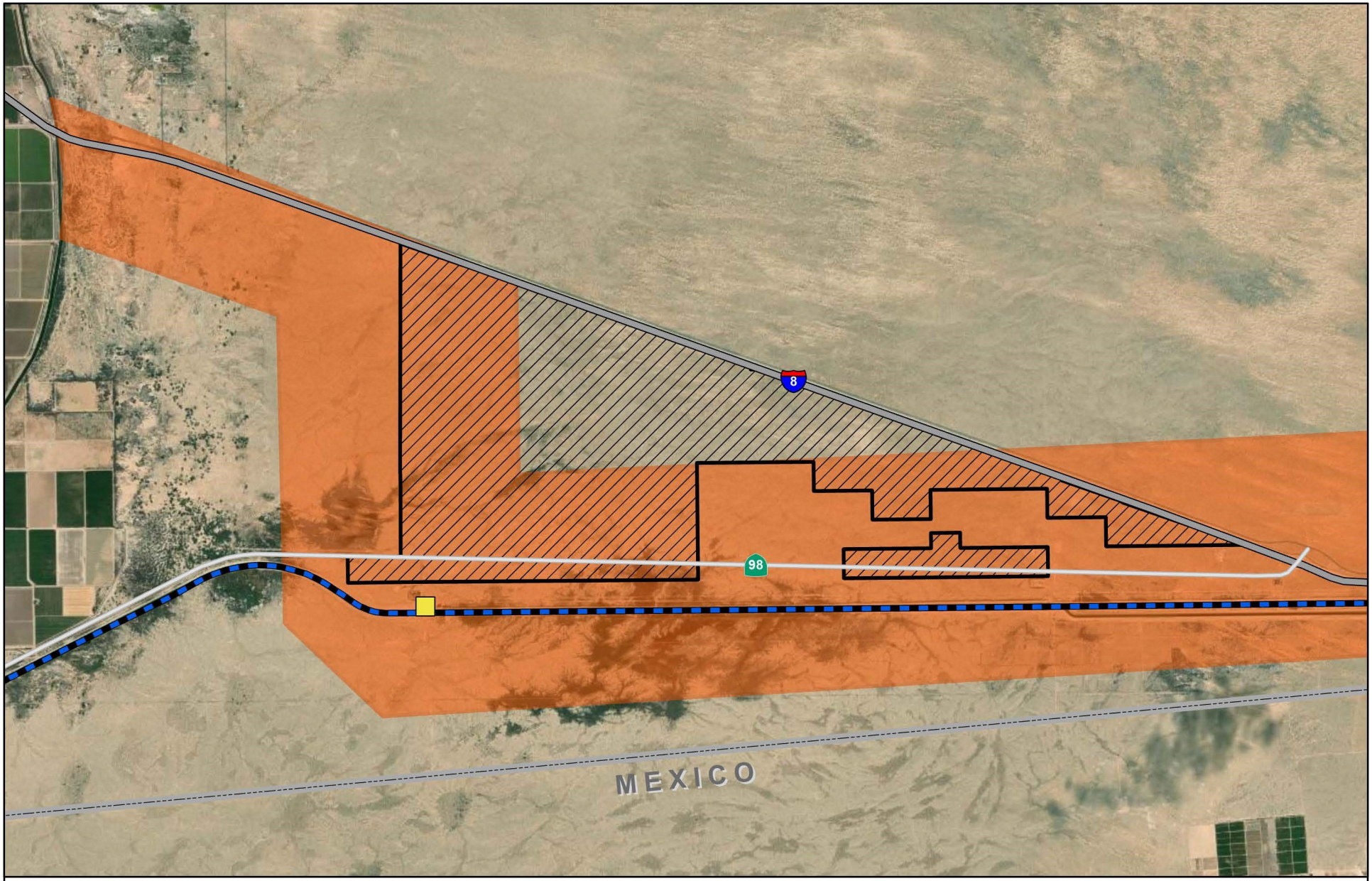
AllAmericanCanal

11D Drop 4 Substation

Figure 1:
Existing BLM Authorizations in East Mesa Project Area

0 1 2 Miles

Sources: Aspen, 2022; Intersect Power, 2022; Imperial Irrigation District, 2022; Bureau of Land Management 2022; Esri, 2022.



ID Drop 4 Substation

East Mesa Project Boundary

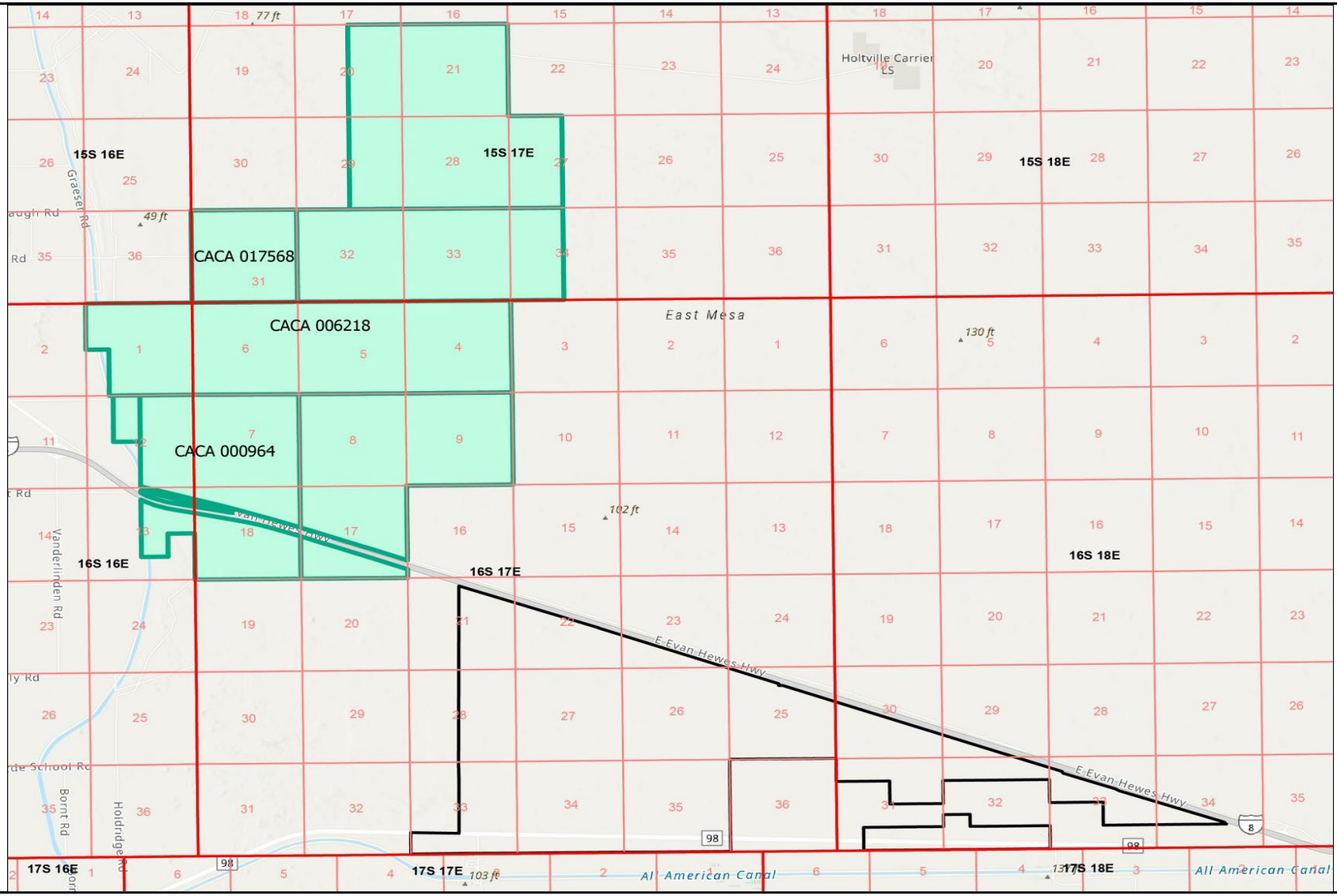
BLM Utility Corridor K

All American Canal

Figure 3:
East Mesa Renewable Energy Project and BLM Utility Corridor K

0 1 2 Miles

Sources: Aspen, 2022; Intersect Power, 2022; Bureau of Land Management, 2022; Imperial Irrigation District, 2022.



Note: There are no existing geothermal leases directly over the East Mesa project area, but there are some Verified Geothermal Leases northwest of the Project site. The blue areas in the map below are Verified Geothermal Leases.

Figure 4: Existing Geothermal Leases in Project Area

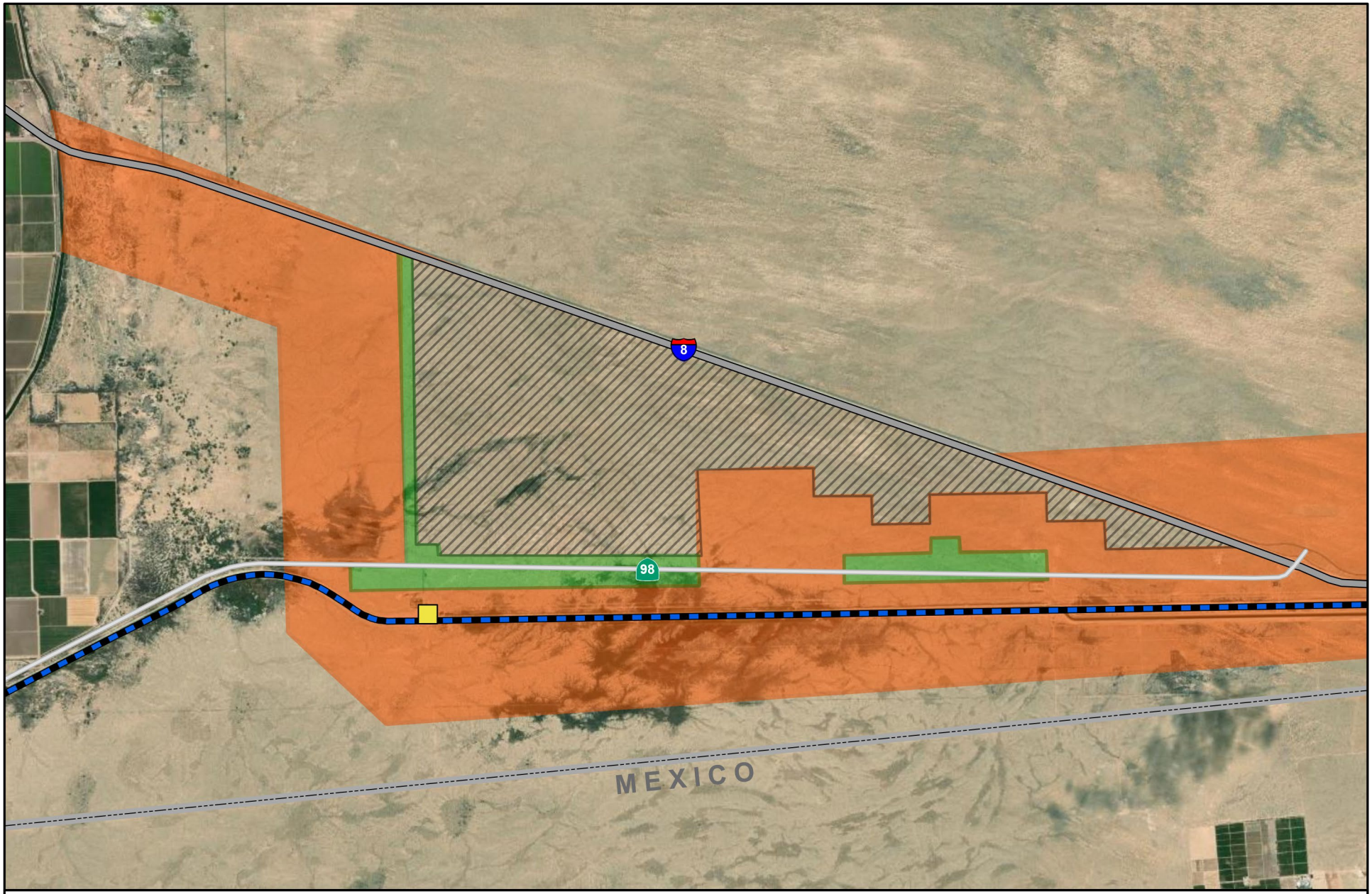


Figure 5
Project Modification for Utility Corridor Preservation

Sources: Aspen, 2022; Intersect Power, 2022; Bureau of Land Management, 2022; Imperial Irrigation District, 2022.