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Filer:	Hannah Arkin
Organization:	Resolution Environmental
Submitter Role:	Applicant Consultant
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KITTELSON & ASSOCIATES

SODA MOUNTAIN SOLAR TRANSPORTATION ANALYSIS

SAN BERNARDINO COUNTY, CALIFORNIA

October 22, 2024

Soda Mountain Solar Project Transportation Analysis

San Bernardino, California

Prepared for:
Soda Mountain Solar, LLC
604 Sutter Street, Suite 250
Folsom, California 95630

Prepared by:
Kittelson & Associates, Inc.
750 The City Drive, Suite 410
Orange, CA 92868
714.468.1997

Project Manager:
Samantha Liu
Engineering Associate

Project Principal:
Fernando Sotelo
Principal Engineer

Project Number 28430

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EXECUTIVE SUMMARY

This report presents the findings of the analysis conducted under the California Environmental Quality Act (CEQA) and the local transportation analysis for the proposed solar facility in a rural area of the Mojave Desert, around 7 miles southwest of Baker town and 50 miles northeast of Barstow city, on the east side of Interstate 15 (I-15), and half a mile away from the western boundary of Mojave National Preserve. This report adheres to the California Energy Commission (CEC) requirements for CEQA analyses, while also being consistent with the San Bernardino County Transportation Impact Study Guidelines (2019) for the Desert region of San Bernardino County, and Caltrans[1] Guidelines for the preparation of transportation studies.

The proposed Project is a 300 MW photovoltaic solar facility located in a rural area of the Mojave Desert. It includes a solar plant site with East Array and South Arrays 1, 2, and 3, a substation, and a switchyard for interconnection to the existing transmission system. The Project site, spanning approximately 2,670 acres, is situated about 7 miles southwest of Baker town and 50 miles northeast of Barstow city, near Interstate 15 and Mojave National Preserve. Existing infrastructure in the area includes highways, communication towers, pipelines, transmission lines, and a gas station. Access to the Project site would be through a gated entrance from Rasor Road.

It is anticipated the project will require a workforce of approximately 25 to 40 workers with more workers on panel washing and cleaning days (including a mix of professional staff, maintenance, and security personnel). However, given that most operations will be remotely controlled, the project is anticipated to generate less than 110 daily one-way trips during operation with panel washing and cleaning occurring two times per year over a three-week period. Therefore, the project screens out as a small project and is not anticipated to result in a significant vehicle-miles-travelled (VMT) impact due to low long-term operational project-related traffic volumes.

The intersection and freeway mainline segment operations analyses considered existing conditions and project construction conditions scenarios during peak periods in the morning (6 - 9 AM), midday (11 AM - 2 PM), and afternoon (3 - 6 PM) on a typical weekday (Monday through Thursday) and a typical Friday to assess the potential operational deficiencies associated with the added project-related traffic. Friday traffic was assessed and analyzed since construction would occur Monday through Friday, and traffic volumes tend to be higher on Fridays compared to typical weekdays, driven by increased recreational travel. Based on the analysis, project construction would generate up to 834 daily trips at the peak construction activity period. All facilities analyzed are considered state facilities, but in the absence of California Department of Transportation (Caltrans) level-of-service (LOS) standards the LOS Desert region standards from the San Bernardino County Transportation Impact Study Guidelines were used as a reference to identify acceptable intersection operations (LOS C or better). Note that LOS is not a metric to evaluate project impacts under CEQA and is solely used to review traffic operations outside CEQA.

Table ES-1 and Table ES-2 summarize LOS findings across existing and project construction scenarios for intersection operations. As shown in the tables, the findings for both a typical weekday and a Friday were the same. While traffic conditions at the study intersections would worsen, all but one study intersection would continue to operate at acceptable LOS and would not affect traffic on I-15.

With the addition of project-related traffic during construction, the LOS shifted from LOS A to LOS C during the AM and PM Peaks for intersection 1 and shifted from LOS A to LOS E during the PM Peak for intersection 2. At intersection 2, the queueing analysis performed at the off-ramps indicates that the 95th percentile queue would remain well within the storage capacity and affect only six vehicles. Therefore, despite falling below ideal performance standards, these temporary traffic conditions during construction are not considered a significant operational deficiency due to small number of vehicles affected, no queue spillback to the freeway mainline, and their temporary nature.

[1] *Transportation Analysis Under CEQA, First Edition*. California Department of Transportation. Sept 2020.

Table ES-1: Typical Weekday Existing Conditions Intersection LOS Summary During Construction

ID	Intersection	Control Type	AM Peak Hour		MD Peak Hour		PM Peak Hour	
			EX	PR	EX	PR	EX	PR
1	I-15 NB Ramps & Rasor Road	SSSC	A	C	A	A	A	C
2	I-15 SB Ramps & Rasor Road	SSSC	A	A	A	A	A	E

Notes:
EX = Existing conditions, PR = Temporary project construction conditions.
SSSC = Side-Street Stop-Controlled

SOURCE: KITTELSON & ASSOCIATES, INC (2024)

Table ES-2: Friday Existing Conditions Intersection LOS Summary During Construction

ID	Intersection	Control Type	AM Peak Hour		MD Peak Hour		PM Peak Hour	
			EX	PR	EX	PR	EX	PR
1	I-15 NB Ramps & Rasor Road	SSSC	A	C	A	A	A	C
2	I-15 SB Ramps & Rasor Road	SSSC	A	A	A	A	A	E

Notes:
EX = Existing conditions, PR = Temporary project construction conditions.
SSSC = Side-Street Stop-Controlled

SOURCE: KITTELSON & ASSOCIATES, INC (2024)

Table ES-3 and Table ES-4 summarize LOS findings across existing and project construction scenarios for basic freeway segment operations. On a typical weekday, I-15 northbound between Basin Road and Rasor Road had a shift in operations from LOS A to LOS B during the AM peak. On a Friday, I-15 southbound between Basin Road and Rasor Road had a shift in operations from LOS C to LOS D during the PM Peak. It is important to note that although I-15 operates at LOS D between Basin Road and Rasor Road, the temporary increase in traffic due to the project would be minimal compared to existing traffic on I-15. Therefore, project construction traffic would not result in operational deficiencies on freeway segment traffic operations.

Table ES-3: Typical Weekday Existing Conditions LOS Summary of Basic Freeway Segment Operations Results During Construction

Mainline Segment	AM Peak Hour		MD Peak Hour		PM Peak Hour	
	EX	PR	EX	PR	EX	PR
I-15 NB *Between Basin Road and Rasor Road*	A	B	B	B	B	B
I-15 NB *Between Rasor Road and Zzyzx Road*	A	A	B	B	B	B
I-15 SB *Between Basin Road and Rasor Road*	A	A	B	B	B	B
I-15 SB *Between Rasor Road and Zzyzx Road*	A	A	B	B	B	B

Notes:
EX = Existing conditions, PR = Temporary project construction conditions.

SOURCE: KITTELSON & ASSOCIATES, INC (2024)

Table ES-4: Friday Existing Conditions LOS Summary of Basic Freeway Segment Operations Results During Construction

Mainline Segment	AM Peak Hour		MD Peak Hour		PM Peak Hour	
	EX	PR	EX	PR	EX	PR
I-15 NB *Between Basin Road and Rasor Road*	A	B	B	B	B	B
I-15 NB *Between Rasor Road and Zzyzx Road*	A	A	B	B	B	B
I-15 SB *Between Basin Road and Rasor Road*	A	A	C	C	C	D
I-15 SB *Between Rasor Road and Zzyzx Road*	A	A	C	C	C	C

Notes:

EX = Existing conditions, PR = Temporary project construction conditions.

SOURCE: KITTELSON & ASSOCIATES, INC (2024)

Overall, this analysis demonstrates that project construction traffic would not cause an adverse effect to the study freeway segments and intersections. Additionally, freeway off-ramps would be able to accommodate the queue with project construction traffic, and project construction traffic would not adversely affect travel on the freeway mainline.

Despite the substantial number of workers, delivery vehicles, and construction vehicle trips expected during the Project's construction, the traffic flow in the Project area would not be substantially affected. To ensure satisfactory operation of the roadway network during construction, the following recommendations should be implemented:

- **Construction Traffic Management Plan:** The Plan should include details such as the types, capacities, and dimensions of construction vehicles to be used, as well as the estimated daily or weekly number of vehicles for each phase of the work. It should outline the routes for different types of vehicles, including passenger/worker vehicles, delivery vehicles, and excavation/construction vehicles. The Plan should also address traffic control methods, strategies for ensuring safe entry and exit of construction vehicles to and from I-15, and a designated contact for addressing complaints. Traffic control measures, such as escort vehicles, signage, and flaggers, may be implemented during grading, construction of the main access point, and when wide-load or high-volume deliveries occur. Construction haul trucks should comply with Caltrans and San Bernardino applicable weight restrictions as a standard condition.
- **Recreationalist Access:** Under the proposed plan, the array areas of the project would be fenced off, restricting access for recreationists. Rasor Road would be closed during project construction along the southern boundary of the project site, closing public access to the Rasor Off-Highway Vehicle (OHV) Area. Signage should be installed to notify recreationists of road closures and provide alternate routes.
- **Transport of Hazardous Materials:** The project anticipates transporting various hazardous materials such as gasoline/diesel fuels, lubricating oils, lead-acid storage batteries, and cleaning solvents. For such hazardous materials, carriers are recommended to develop emergency response plans and ensure proper training for personnel to address potential spills or accidents. Comprehensive documentation, such as safety data sheets, is essential for appropriate handling and emergency response. Proper maintenance and equipping of vehicles with safety features are critical to prevent accidents and mitigate impacts.

INTRODUCTION

Soda Mountain, LLC is proposing to develop a solar farm on approximately 2,670 acres of land administered by the United States Department of the Interior Bureau of Land Management (BLM) in unincorporated San Bernardino County, approximately 7 miles southwest of the town of Baker, California, along Interstate 15 (I-15).

Kittelson & Associates, Inc (Kittelson) prepared this transportation analysis report in association with the project to determine the expected transportation-related effects of the project. The purpose of this report is to identify potential impacts on the transportation infrastructure during construction and operation of the Project, and to provide recommendations to reduce project impacts to less than significant levels.

The transportation analysis documented in this report were performed to comply with CEQA transportation VMT analysis and to assess transportation effects and consistency with CEC's CEQA requirements. This analysis is also consistent with the San Bernardino County Transportation Analysis Guidelines. The report covers the following transportation analyses:

- Project trip generation and trip distribution
- Construction and Operations analyses (level of service, site access, and internal circulation)
- Vehicle-miles travelled assessment

PROJECT BACKGROUND

PROPOSED PROJECT

The Project would consist of a proposed 300 MW photovoltaic solar facility that includes the solar plant site, substation and switchyard for interconnection to the existing transmission system, approximately 300 MW of battery energy storage systems across 18 acres, and operation and maintenance buildings and structures, stormwater infrastructure, and related infrastructure and improvements. The solar plant site would cover all facilities that create a footprint in and around the field of solar panels, including the solar power arrays (East Array and South Arrays 1, 2, and 3). The Project would operate 24 hours per day year-round and generate electricity during daylight hours when the sun is shining. The generated solar power would be delivered to the regional electrical grid through an interconnection with the existing Marketplace-Adelanto 500-kV transmission line operated by the Los Angeles Department of Water and Power (LADWP).

Construction is expected to occur over an 18-month period from Monday through Friday, typically from 6:00 a.m. to 6:00 p.m. Weekends would be reserved to make up time in the schedule, if needed. Typical start and end times may be adjusted during the summer months as a safety precaution, to protect workers from heat exposure during high ambient temperatures. A second shift may be added as necessary to accelerate, make up schedule deficiencies, or to complete critical construction activities.

A detailed site plan of the project can be found in Appendix A.

LOCATION

The proposed Project site, measuring approximately 2,670 acres, is in a rural area of the Mojave Desert, around 7 miles southwest of Baker town and 50 miles northeast of Barstow city, on the east side of I-15, and half a mile away from the western boundary of Mojave National Preserve. The project is bounded directly to the east by the Mojave National Preserve (administered by the National Park Service) and BLM lands, including the Rasor Off-Highway Vehicle (OHV) recreation area at the southeast corner. I-15, the former Arrowhead Trail Highway, runs along the western boundary of the project site, with Rasor Road Services Shell Oil gas station located off I-15 southwest of the project site, along the access road to the project site. Primary

access to the Project site during construction and operation would be through a gated entrance from Rasor Road.

The Project site vicinity can be visualized in Figure 1.

ROADWAYS

The project site is connected to the following regional and local roadway facilities:

- **Interstate 15 (I-15)** is a major north-south highway in California that runs for approximately 287 miles from the Mexican border to the Nevada state line. It serves as a crucial transportation route for both commercial and passenger traffic, connecting cities such as San Diego, Riverside, and Barstow. It has been designed to hold a capacity of 1,850 vehicles per lane per hour during the peak hour.[2]
- **Rasor Road** is a two-lane east-west roadway with one travel lane in each direction. According to San Bernardino County, it is classified as a secondary highway. It connects I-15 to the project. Beyond the Shell Oil Gasoline Station, Rasor Road becomes an unpaved roadway. It has been designed to hold a capacity of 20,000 vehicles per day.[3]

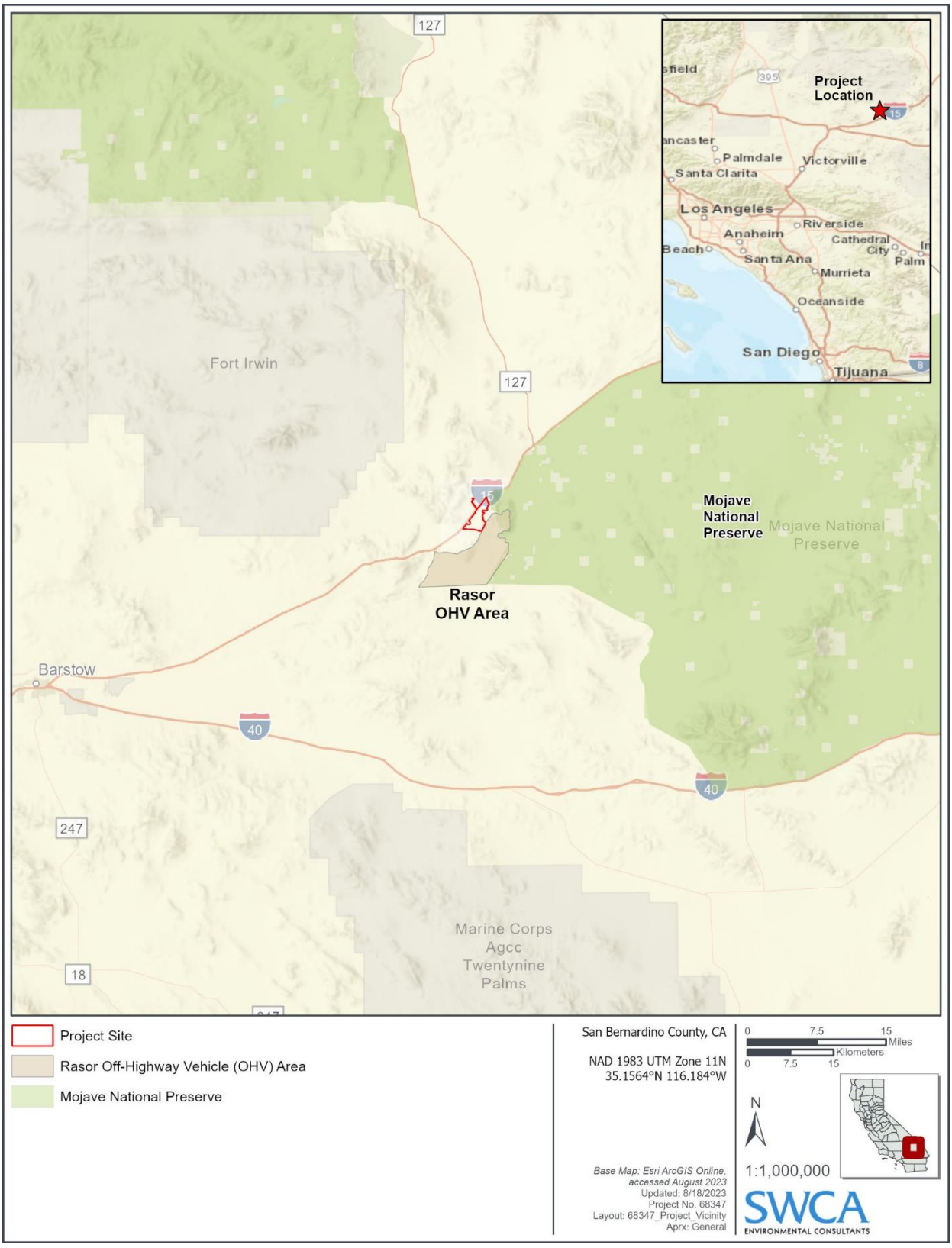
Other unpaved roads within and immediately surrounding the Project site are generally used by recreational motorists.

TRANSIT, BICYCLE AND PEDESTRIAN FACILITIES

There is no transit services, no paved sidewalks, and no dedicated bike lanes in the area. The primary mode of travel in the vicinity of the site is vehicular travel.

[2] Highway Design Manual (2020). Page 100-4.
[3] San Bernardino County Road Planning Design Standards (1993). Page 3-1.

Figure 1: Site Vicinity



SOURCE: SWCA ENVIRONMENTAL CONSULTANTS (2024)

PROJECT TRAFFIC GENERATION

Project-related trip estimates were calculated to assess the project's traffic operational deficiencies on local roads during construction and while the solar farm is in operation.

TRIP GENERATION

It is anticipated that daily vehicle traffic would be primarily comprised of worker's passenger cars/light trucks, worker shuttles, delivery trucks, dump trucks, water trucks, waste hauling trucks, crane equipment vehicles, and porta let trucks during the construction period. The highest number of trips would generally be from construction workers traveling to and from the site each day. After the construction is finished and the Project site is in operation, traffic volumes in the area will be relatively low. The Project will be remotely controlled, eliminating the need for on-site employees. Primary security monitoring will also be conducted remotely. However, security personnel will perform unscheduled rounds and respond to alarms or fence breaches when necessary. The facility will not be accessible to the public, and access will be infrequent and limited to authorized personnel. In result, the Solar Field operation requires only a few daily trips to the site for security, maintenance, and repairs and would generate a negligeable number of trips. Therefore, this transportation analysis focuses on potential traffic operational deficiencies during Project construction.

The Project site and surroundings are undeveloped areas adjacent to the I-15 where traffic is mostly interstate between California and Nevada. Because typical urban environment commute-periods are not observed in the area, this analysis includes an analysis of traffic during the AM, midday (MD), and PM peak hours.

The workforce for onsite construction activities includes laborers, craftsmen, supervisory personnel, support personnel, and construction management personnel. The onsite construction workforce is anticipated to be an average of 200 construction workers with a peak workforce of up to 300 workers during peak construction activities. To be conservative, it has been assumed all 300 workers will arrive during AM peak and leave during PM peak. In the event of having a second shift to accelerate, make up schedule deficiencies, or to complete critical construction activities, the number of estimated workers are not expected to change.

While passenger vehicle trips associated with the workforce are expected to be a daily occurrence during construction, heavy vehicle trips would vary throughout the construction period. Moreover, most construction and delivery trucks are expected to arrive and depart the site throughout the workday. To be conservative, it has been assumed that 80% heavy duty and water trucks would arrive during AM peak and leave during PM peak. The remaining number of trucks are to be distributed evenly throughout the remaining construction hours.

The construction trip generation is shown in Table 1 and has been calculated for total trips and passenger car equivalent (PCE). A PCE factor is applied to truck trips to account for the fact that trucks utilize more capacity on the roadway than a passenger car due to larger size and slower acceleration. A PCE factor of 2.0 for trucks was used for this analysis, based on the guidance for PCE factors found in the Highway Capacity Manual, 7th Edition. It is worth noting that San Bernardino County Congestion Management Plan specifies PCE factors to use accordingly based on truck axles. However, given the uncertainty surrounding the specific details of trucks for construction, default PCE factors from the HCM were employed to assess the traffic implications arising from heavy vehicles.

Table 1: Project Construction Daily Trip Generation

Trip Type	Number of Workers/ Trucks	Vehicle Trips				Passenger Car Equivalent (PCE) Trips			
		Daily	AM Peak Hour	MD Peak Hour	PM Peak Hour	Daily	AM Peak Hour	MD Peak Hour	PM Peak Hour
Workers	300	600	300	0	300	600	300	0	300
Heavy Duty Trucks	100	200	80	4	80	400	160	8	160
Water Trucks	17	34	14	1	14	68	28	2	28
Total		**834**	**394**	**5**	**394**	**1,068**	**488**	**10**	**488**

Note:

AM = before midday (morning)
MD = midday
PM = post midday (afternoon)

PM Peak Hour trips are all outbound with no inbound trips (e.g. leaving the project site) and AM Peak Hour trips are all inbound with no outbound trips (e.g. entering the project site). MD Peak Hour trips are 50% inbound and 50% outbound.

SOURCE: KITTELSON & ASSOCIATES, INC (2024)

TRIP DISTRIBUTION

The proposed project's trip distribution was developed based on a review of the adjacent roadway network and surrounding land uses to determine anticipated origins and paths of travel. It is assumed that 80 percent of the workforce would commute daily to the jobsite from communities south of the Project site, where Barstow, Victorville, and other major residential neighborhoods are located. The remaining 20 percent were assumed to commute from communities north of the Project site. This assumption is validated by the socioeconomic study[4] prepared for this project finalized in July 2024 which stated there was a strong likelihood that the project could meet its labor needs by drawing from Barstow and/or Victorville-Hesperia County Census Divisions, approximately 82 miles away.

LEVEL-OF-SERVICE ANALYSIS

ANALYSIS SOFTWARE AND APPROACH

INTERSECTION ANALYSIS METHODOLOGY

LOS describes the operating conditions experienced by motorists. LOS is a qualitative measure of the effect of a number of factors, including speed and travel time, traffic interruptions and delay, freedom to maneuver, driving comfort, and convenience. LOS A through LOS F covers the entire range of traffic operations that might occur. Motorists using a facility that operates at a LOS A experience very little delay, while those using a facility that operates at a LOS F will experience long delays. Intersection analyses for the four study intersections were conducted using the operational methodologies outlined in the 7th Edition of the Highway Capacity Manual (HCM) methodology calculated with Vistro software.

Using the HCM procedure, the level of service designation for a signalized intersection is determined by calculating a weighted average control delay in seconds per vehicle. For unsignalized intersections, the HCM

[4] *Socioeconomic Impacts on San Bernardino County of the Proposed Soda Mountain Solar Project*. Michael Baker International. 2024, July 18.

methodology is also used to calculate the weighted average control delay for each controlled intersection leg and for the intersection as a whole. In the case of two-way stop-controlled intersections, the LOS for the worst approach is used as the performance measure for the level of service.

Table 2 presents the relationship of average delay to level of service for both signalized and unsignalized intersections.

Table 2: Level of Service Definition for Intersections

Level of Service	Delay Per Vehicle (Seconds)	
	Signalized Intersection	Unsignalized Intersection
A	< 10.0	< 10.0
B	> 10.0 to 20.0	> 10.0 to 15.0
C	> 20.0 to 35.0	> 15.0 to 25.0
D	> 35.0 to 55.0	> 25.0 to 35.0
E	> 55.0 to 80.0	> 35.0 to 50.0
F	> 80.0	> 50.0

SOURCE: HIGHWAY CAPACITY MANUAL, 7TH EDITION

Peak 15-minute flow rates were used in the evaluation of all intersection levels of service to provide analyses based on a reasonable worst-case scenario. The peak hours were identified as the worst four consecutive 15-minute periods between 6 and 9 AM, between 11 AM and 2 PM, and between 3 and 6 PM on weekdays. These represent the critical time periods for evaluation based on peak demand on the surrounding transportation system and the peak demand associated with the project. Using the peak 15-minute flow rate ensures that this analysis is based on a reasonable worst-case scenario. For this reason, the analysis reflects conditions that are only likely to occur for 15 minutes out of each average peak hour. During all other periods, the transportation system likely will operate under conditions better than the conditions described in this report. The following default values were used in the intersection analysis:

- Saturation flow rate HCM default of 1,900 passenger cars per hour lane per lane.
- Heavy vehicle factor of 20%.
- Lane width HCM default of 12 feet.
- 45 miles per hour off-ramp speed based on Caltrans facility standards.
- Intersection peak hour factors based on count data for existing and future conditions.

BASIC FREEWAY SEGMENTS ANALYSIS METHODOLOGY

A basic segment is a freeway mainline segment that is not within a ramp influence area (i.e., within 1,500 feet of a ramp) or within a weaving segment. Adding or dropping a lane on the freeway results in the termination of a basic freeway segment. Peak hour volumes on basic freeway segments are analyzed using the methodology contained in the Highway Capacity Manual (HCM) 7th Edition, Chapter 12 ("Basic Freeway and Multilane Highway Segments"). The freeway analysis was conducted using the software HCS 7 to implement the HCM methodology for basic freeway segments. This methodology analyzes a uniform section of roadway by direction (e.g. northbound, southbound, eastbound, or westbound).

The mainline LOS is determined by a density calculation that divides the peak hour volumes by the number of lanes. A 70-mph free flow speed was assumed of this section of I-5. LOS criteria for evaluating basic freeway segments based on calculated density are given in Table 3.

Table 3: LOS Criteria for Basic Freeway Segments

LOS	Density (pc/mi/ln)
A	≤11
B	>11-18
C	>18-26
D	>26-35
E	>35-45
F	Demand exceeds capacity OR density >45

SOURCE: HIGHWAY CAPACITY MANUAL, 7TH EDITION

REGULATORY STANDARDS

The CEC, the CEQA lead agency for this project, has developed their own set of guidelines to evaluate projects from a transportation standpoint. These guidelines are detailed in Appendix B.

Freeway segments and intersections associated with freeway on- and off-ramps fall under Caltrans jurisdiction. Caltrans updated its guidance in 2020 to include metrics to evaluate transportation impacts based on VMT and no longer sets a minimum acceptable LOS for its facilities. Based on the Caltrans *Vehicle Miles Traveled-Focused Transportation Impact Study Guide*[5], Caltrans is transitioning away from LOS performance standards and instead focused on VMT to identify significant impacts.

> "For land use projects and plans, automobile delay is no longer considered a significant impact on the environment under CEQA (SB 743, 2013). Caltrans review of land use projects and plans is focused on a VMT metric, consistent with changes to the CEQA Guidelines (California Code of Regulations Section 15064.3(b)(1)). This VMT-focused TISG provides a foundation for review of how lead agencies apply the VMT metric to CEQA project analysis.
>
> Beyond or in addition to the use of the VMT metric, determining how the State Highway System may otherwise be affected by a land use project may still be necessary at times, particularly as it relates to the safety of the traveling public. Additional future guidance will include the basis for requesting transportation impact analysis that is not based on VMT. This guidance will include a simplified safety analysis approach that reduces risks to all road users and focuses on multi-modal conflict analysis as well as access management issues. With this guidance the Department will transition away from requesting LOS or other vehicle operations analyses of land use projects."

In the absence of a LOS standard from Caltrans, the LOS Desert region standards from the San Bernardino County Transportation Impact Study Guidelines were used as a reference to identify acceptable intersection operations (LOS C or better). Note that LOS is not a metric to evaluate project impacts under CEQA.

Caltrans in its Interim LDIGP Safety Review Practitioners Guidelines directs practitioners and local district staff to provide safety reviews related to "queuing at off-ramps resulting in slow or stopped traffic on the mainline or speed differentials between adjacent lane". For projects where Caltrans is the lead agency it conducts its own safety review to determine whether the project's contribution to the adverse impacts constitutes a significant impact under CEQA. As Caltrans is not the lead agency for this project, it may review and comment on this study to recommend mitigation to address potential impacts to their facilities.

[5] *Vehicle Miles Traveled-Focused Transportation Impact Study Guide.* May 20,2020.

DATA COLLECTION

In urban areas, operational analyses are typically conducted to assess traffic conditions during the commuter peak periods on weekdays. However, the project site is located in a very low-density area away from a metropolitan area off a major Interstate freeway that connects Southern California to the Las Vegas region and beyond. I-15 is the main highway that connects Southern California cities such as San Diego and Los Angeles to and from recreational areas such as Las Vegas and Mojave Desert for freight and passenger vehicles alike. A review of weekly traffic patterns on I-15 indicates the highest traffic volumes occur on Fridays and Sundays for southbound and northbound directions, respectively. Therefore, Thursdays were determined to appropriately represent typical weekday conditions. Fridays were added as an additional day to analyze since construction would occur Monday through Friday and wouldn't be appropriately represented with Thursday traffic conditions, representing a worst-case scenario. Sunday construction would occur sporadically and, unlikely. Given the total background traffic on I-15 is worse on Fridays and Sundays, and project construction traffic on Sundays would be sporadic, for the purpose of this analysis the worst case traffic condition is represented by Friday traffic.

Freeway mainline data were compiled during the AM (6 – 9 AM), midday (11 AM – 2 PM), and PM (3 – 6 PM) peak periods in 15-minute increments using the Caltrans Performance Measurement System (PeMS) for the following segments on Thursday, April 20, 2023 and Friday, April 21, 2023:

1. I-15 between Basin Road and Rasor Road
2. I-15 between Rasor Road and Zzyzx Road[6]

PeMS was primarily used to understand and validate traffic volumes and patterns between Thursday and Friday traffic peak periods. Turning movement counts were collected at the following study interchange intersections during AM (6 – 9 AM), midday (11 AM – 2 PM), and PM (3 – 6 PM) peak periods on Thursday, May 4, 2023:

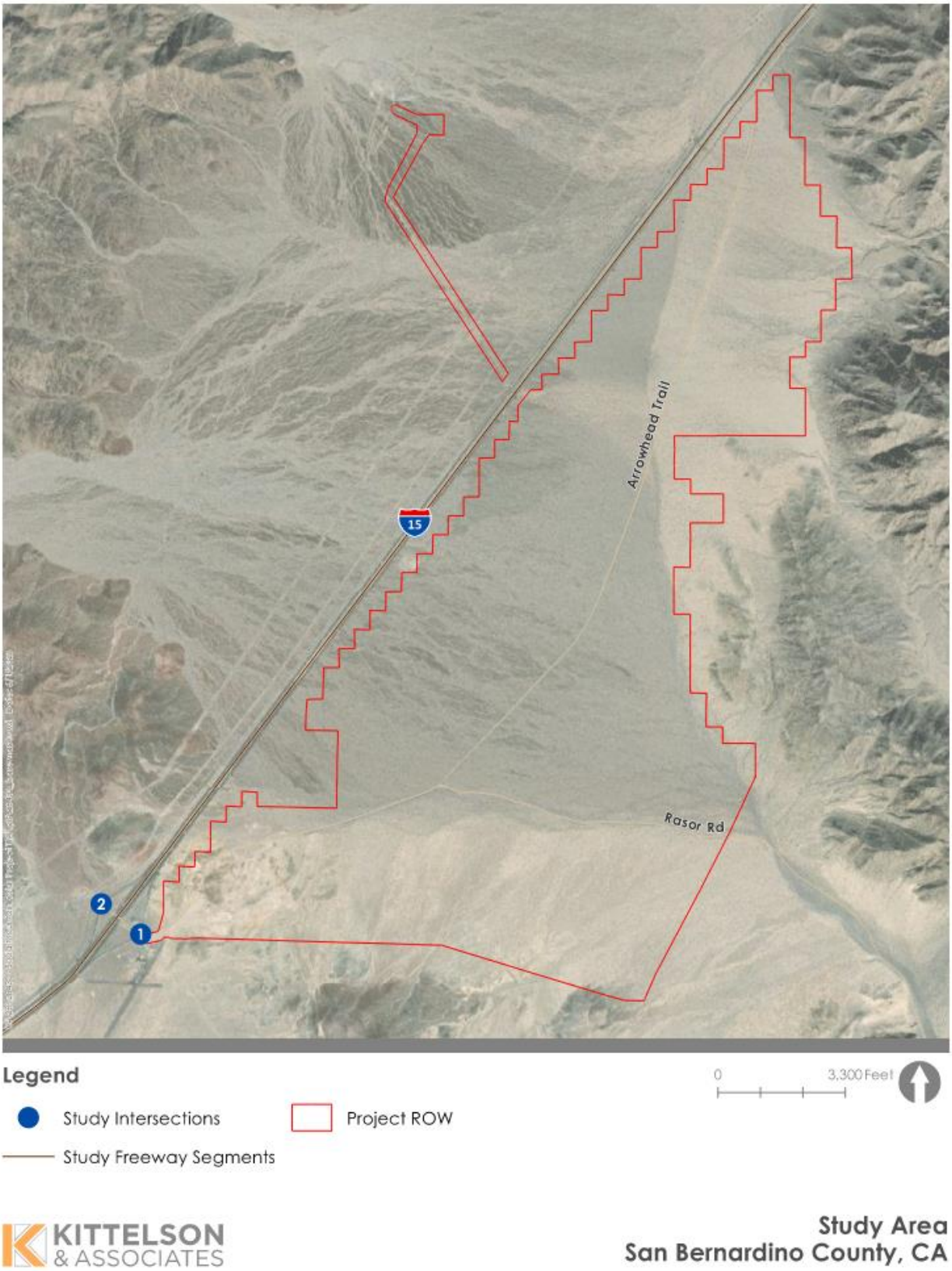
1. I-15 NB Ramps and Rasor Road
2. I-15 SB Ramps and Rasor Road

Using the proportional relationship between Thursday and Friday peak periods, Thursday turning movement counts were adjusted to reflect Friday traffic volumes at the same study interchange intersections. 2020 Caltrans Truck Annual Average Daily Traffic (AADT) was also obtained to establish heavy truck percentages throughout the analysis. On a daily basis, approximately 20% of vehicle traffic were trucks with at least two axles.

Refer to Appendix C for traffic count data reports. Figure 2 shows the study area for this transportation analysis.

[6] PeMS data for I-15 between Rasor Road and Zzyzx provided unreliable data for the analysis since its detector has been down throughout the study analysis period. Given that there are little to no major land uses between the two study segments, data for I-15 between Basin Road and Rasor Road were used instead.

Figure 2: Study Area



OPERATIONAL ANALYSES

As mentioned prior, the major concern for the trips generated into and out of the Project site is during the construction period. There may be some trips generated near the Project site due to traffic entering and existing a nearby Shell Oil gasoline station and the Rasor Off-Highway Vehicle (OHV) Recreational Area. However, these land uses are not major traffic generators. Therefore, our LOS analysis is centered on the trips generated from Project construction for the following scenarios for a typical weekday (Monday through Thursday) and a typical Friday:

- Existing Conditions
- Project Construction Conditions

EXISTING CONDITIONS

Intersection Operations

Existing LOS results for the study intersections are shown in Table 4 and Table 6. The results indicate that all study intersections operate with little or no delay during all peak hours for both a typical weekday and Friday. Detailed results can be found in Appendix D.

Table 4: Typical Weekday (Monday – Thursday) Existing Conditions Intersections LOS Summary

ID	Intersection	Control Type	Delay (s/veh)			LOS		
			AM Peak Hour	MD Peak Hour	PM Peak Hour	AM Peak Hour	MD Peak Hour	PM Peak Hour
1	I-15 NB Ramps & Rasor Road	SSSC	9.4	9.8	9.7	A	A	A
2	I-15 SB Ramps & Rasor Road	SSSC	9.3	9.6	9.3	A	A	A

Note:

SSSC = Side-Street Stop-Controlled

SOURCE: KITTELSON & ASSOCIATES, INC (2024)

Table 5: Friday Existing Conditions LOS Results - Intersection

ID	Intersection	Control Type	Delay (s/veh)			LOS		
			AM Peak Hour	MD Peak Hour	PM Peak Hour	AM Peak Hour	MD Peak Hour	PM Peak Hour
1	I-15 NB Ramps & Rasor Road	SSSC	9.5	9.8	9.7	A	A	A
2	I-15 SB Ramps & Rasor Road	SSSC	9.3	9.7	9.4	A	A	A

Note:

SSSC = Side-Street Stop-Controlled

SOURCE: KITTELSON & ASSOCIATES, INC (2024)

Basic Freeway Segment Operations

Existing LOS results for the study highway mainline segments are shown in Table 6 and Table 7. The results indicate that all study segments operate LOS C or better during all peak hours for both a typical weekday and Friday. Detailed results can be found in Appendix E.

Table 6: Typical Weekday (Monday – Thursday) Existing Conditions LOS Results – Mainline Segment

Mainline Segment	Density (pc/mi/ln)			LOS		
	AM Peak Hour	MD Peak Hour	PM Peak Hour	AM Peak Hour	MD Peak Hour	PM Peak Hour
I-15 NB *Between Basin Road and Rasor Road*	8.2	15.9	11.1	A	B	B
I-15 NB *Between Rasor Road and Zzyzx Road*	8.2	15.9	11.1	A	B	B
I-15 SB *Between Basin Road and Rasor Road*	6.6	13.4	13.3	A	B	B
I-15 SB *Between Rasor Road and Zzyzx Road*	6.6	13.4	13.3	A	B	B

SOURCE: KITTELSON & ASSOCIATES, INC (2024)

Table 7: Friday Existing Conditions LOS Results – Mainline Segment

Mainline Segment	Density (pc/mi/ln)			LOS		
	AM Peak Hour	MD Peak Hour	PM Peak Hour	AM Peak Hour	MD Peak Hour	PM Peak Hour
I-15 NB *Between Basin Road and Rasor Road*	9.9	16.4	12.3	A	B	B
I-15 NB *Between Rasor Road and Zzyzx Road*	9.9	16.4	12.3	A	B	B
I-15 SB *Between Basin Road and Rasor Road*	8.1	20.4	25.5	A	C	C
I-15 SB *Between Rasor Road and Zzyzx Road*	8.1	20.4	25.5	A	C	C

SOURCE: KITTELSON & ASSOCIATES, INC (2024)

PROJECT CONSTRUCTION CONDITIONS

Project construction is expected to take place over an 18-month period. The results below represent the expected change in operations during project construction.

Intersection Operations

Project LOS results for the study intersections are shown in Table 8 and Table 9. With construction traffic, longer delays would be experienced at the intersection of I-15 NB Ramps & Rasor Road, especially during the AM and PM peak hours. The intersection of I-15 SB Ramps & Rasor Road would experience longer delays during the PM peak hour and result in LOS E operations. Compared to the typical weekday results, the results for Friday were found to be similar. Detailed results can be found in Appendix D.

Table 8: Typical Weekday (Monday – Thursday) Project Construction Conditions Intersection LOS Summary

ID	Intersection	Control Type	Delay (s/veh)			LOS		
			AM Peak Hour	MD Peak Hour	PM Peak Hour	AM Peak Hour	MD Peak Hour	PM Peak Hour
1	I-15 NB Ramps & Rasor Road	SSSC	15.5	9.9	15.4	C	A	C
2	I-15 SB Ramps & Rasor Road	SSSC	9.7	9.6	46.3	A	A	E

Note:

SSSC = Side-Street Stop-Controlled

SOURCE: KITTELSON & ASSOCIATES, INC (2024)

Table 9: Friday Project Construction Conditions Intersection LOS Summary

ID	Intersection	Control Type	Delay (s/veh)			LOS		
			AM Peak Hour	MD Peak Hour	PM Peak Hour	AM Peak Hour	MD Peak Hour	PM Peak Hour
1	I-15 NB Ramps & Rasor Road	SSSC	15.7	9.9	15.5	C	A	C
2	I-15 SB Ramps & Rasor Road	SSSC	9.7	9.8	46.5	A	A	E

Note:

SSSC = Side-Street Stop-Controlled

SOURCE: KITTELSON & ASSOCIATES, INC (2024)

As indicated prior, I-15 Southbound Ramps & Rasor Road would operate at LOS E during the PM peak hour. Upon further investigation, it has been found that the vehicles along the westbound approach, I-15 Southbound off-ramp, were predicted to experience an increase in delay by approximately 37 seconds per vehicle. Along this approach, only six vehicles would be affected during the PM peak hour. The 95th percentile queue length along this approach is approximately seven feet. With a storage capacity of 1,450 feet, any additional queuing that the delays may cause will most likely not spill onto the freeway mainline and affect freeway operations. Additionally, these delays are temporary traffic conditions that will not affect long-term traffic operations. Overall, even though this is considered less than ideal performance standards (LOS C or better), it is not considered a significant traffic operational deficiency since minimal vehicles are affected, the additional delay will not affect the freeway mainline, and these conditions are temporary during the construction period.

Basic Freeway Segment Operations

Project LOS results for the study highway mainline segments are shown in Table 10 and Table 11. Compared to existing conditions, the AM peak on a typical weekday and Friday during project construction would temporarily worsen from LOS A to LOS B along I-15 Northbound between Basin Road and Rasor Road. During the PM peak on a Friday, the LOS will temporarily worsen from LOS C to LOS D along I-15 Southbound between Basin Road and Rasor Road. Detailed results can be found in Appendix E.

Provided that project construction would generate a small amount of traffic compared to current traffic volumes, the project would not result in a significant traffic operational deficiency at the study freeway mainline segments.

Table 10: Typical Weekday (Monday – Thursday) Project Construction Conditions LOS Results – Mainline Segment

Mainline Segment	Density (pc/mi/ln)			LOS		
	AM Peak Hour	MD Peak Hour	PM Peak Hour	AM Peak Hour	MD Peak Hour	PM Peak Hour
I-15 NB *Between Basin Road and Rasor Road*	12.6	16.0	11.1	B	B	B
I-15 NB *Between Rasor Road and Zzyzx Road*	8.2	15.9	11.6	A	B	B
I-15 SB *Between Basin Road and Rasor Road*	6.6	13.5	17.4	A	B	B
I-15 SB *Between Rasor Road and Zzyzx Road*	7.0	13.4	13.3	A	B	B

SOURCE: KITTELSON & ASSOCIATES, INC (2024)

Table 11: Friday Project Construction Conditions LOS Results – Mainline Segment

Mainline Segment	Density (pc/mi/ln)			LOS		
	AM Peak Hour	MD Peak Hour	PM Peak Hour	AM Peak Hour	MD Peak Hour	PM Peak Hour
I-15 NB *Between Basin Road and Rasor Road*	14.3	16.5	12.3	B	B	B
I-15 NB *Between Rasor Road and Zzyzx Road*	9.9	16.4	12.8	A	B	B
I-15 SB *Between Basin Road and Rasor Road*	8.1	20.4	31.7	A	C	D
I-15 SB *Between Rasor Road and Zzyzx Road*	8.6	20.4	25.5	A	C	C

SOURCE: KITTELSON & ASSOCIATES, INC (2024)

OFF-RAMP QUEUING ANALYSIS

Queuing analyses were conducted for off-ramp approaches at ramp intersections. The queuing analysis compares the minimum required storage lengths to the storage lengths provided for the analyzed intersections. The minimum required storage lengths are based on the maximum 95th percentile queue lengths for all lane groups on the off-ramp approach as calculated in the Vistro queuing worksheets. Vistro reports the 95th percentile queue length according to HCM procedures for a single lane of a lane group (highest queue length considering all lanes of the lane group) instead of the total queue length of all lanes in that lane group.

The provided storage lengths for an off-ramp are measured from the off-ramp gore point to the crosswalk if it is a continuous lane. Our off-ramp queuing analysis is centered on the trips generated from the construction of the solar farm for the following scenarios:

- Existing Conditions
- Project Construction Conditions

EXISTING CONDITIONS

Intersection queuing analysis results for the off-ramp interchanges are shown in Table 12 and Table 13. In all peak hours analyzed, queues at the study interchanges do not exceed the allocated storage capacity. Detailed results can be found in Appendix D.

Table 12: Typical Weekday (Monday – Thursday) Existing Conditions Off-Ramp Queuing Results

ID	Location	Control Type	Storage Capacity (feet)	95th Percentile Queue (feet)		
				AM Peak Hour	MD Peak Hour	PM Peak Hour
1	I-15 NB Off-Ramp	SSSC	1,550	2.4	4.3	4.0
2	I-15 SB Off-Ramp	SSSC	1,450	0.9	2.3	0.9

Note:
SSSC = Side-Street Stop-Controlled

SOURCE: KITTELSON & ASSOCIATES, INC (2024)

Table 13: Friday Existing Conditions Off-Ramp Queuing Results

ID	Location	Control Type	Storage Capacity (feet)	95th Percentile Queue (feet)		
				AM Peak Hour	MD Peak Hour	PM Peak Hour
1	I-15 NB Off-Ramp	SSSC	1,550	2.9	4.8	4.4
2	I-15 SB Off-Ramp	SSSC	1,450	1.0	3.2	0.9

Note:
SSSC = Side-Street Stop-Controlled

SOURCE: KITTELSON & ASSOCIATES, INC (2024)

PROJECT CONSTRUCTION CONDITIONS

Intersection queuing analysis results for the off-ramp interchanges are shown in Table 14 and Table 15. Compared to existing conditions, queues increase in length during all peak hours, especially at the I-15 Northbound Off-Ramp during the AM and PM peak hours. However, the queues at the study interchanges still do not exceed the allocated storage capacity during project construction and are minimal compared to the storage capacity at the freeway off-ramps. The highest queue is projected to be approximately 110 feet which corresponds to the approximate length of a 6-axle truck or five passenger/light duty vehicles(conservatively). Moreover, due to the low traffic volumes along Rasor Road, queues along the I-15 off-ramps would be negligible. Therefore, off-ramp queues would not adversely affect travel on the freeway mainline. Detailed results can be found in Appendix D.

Table 14: Typical Weekday (Monday – Thursday) Project Construction Conditions Off-Ramp Queuing Results

ID	Location	Control Type	Storage Capacity (feet)	95th Percentile Queue (feet)		
				AM Peak Hour	MD Peak Hour	PM Peak Hour
1	I-15 NB Off-Ramp	SSSC	1,550	109.6	4.9	5.7
2	I-15 SB Off-Ramp	SSSC	1,450	7.4	2.4	6.7

Note:
SSSC = Side-Street Stop-Controlled

SOURCE: KITTELSON & ASSOCIATES, INC (2024)

Table 15: Friday Project Construction Conditions Off-Ramp Queuing Results

ID	Location	Control Type	Storage Capacity (feet)	95th Percentile Queue (feet)		
				AM Peak Hour	MD Peak Hour	PM Peak Hour
1	I-15 NB Off-Ramp	SSSC	1,550	112.4	5.3	6.2
2	I-15 SB Off-Ramp	SSSC	1,450	7.5	3.4	6.8

Note:
SSSC = Side-Street Stop-Controlled

SOURCE: KITTELSON & ASSOCIATES, INC (2024)

SITE PERFORMANCE REVIEW

The existing roadway conditions and proposed site plan were assessed to determine if on-site safety or operational improvements were necessary due to an increase in traffic from the project.

SITE ACCESS

Access to the Project site would be provided from Rasor Road, which can be accessed approximately 250 feet south from I-15 Northbound Off-Ramp. Rasor Road will allow access to the southwest section of the Project area. There appears to be no visual obstructions and no significant topography changes from the Project access point. Additionally, the site plan indicates that there will not be any landscaping or other additions that will obstruct sight distance. Heavy vehicles heading to the site will have adequate spacing given the wide access at the Project access point.

INTERNAL CIRCULATION

Outside of Rasor Road, a California Department of Transportation access road to the Opah Ditch pit mine may be used for construction of the collection line to the substation on the west side of I-15. Other internal roadways will be located within the project right-of-way that will provide internal access. These internal roadways will be built to provide vehicle access to solar equipment (PV modules, inverters, transformers) for operation and maintenance activities. The existing surface area of Rasor Road will be cleared and compacted using on-site materials. The design standards of the internal access roads within the solar field will be consistent with the amount and type of use they will receive.

BICYCLE AND PEDESTRIAN TRAVEL

As mentioned before, there are no existing pedestrian or bicyclist facilities along any of the roadways surrounding the Project site. Therefore, bike or pedestrian travel are expected to not be affected along the Project site during any phase of construction or operation.

WEIGHT AND LOAD LIMITATIONS

Freeways are part of the federal and state truck network, and the system was designed to accommodate higher levels truck activity. On San Bernardino County roads, oversized/overweight load permits are required for vehicles over 65 feet long, over 80,000 pounds in gross weight, over 14 feet high, or over 8 feet and 6 inches wide. According to California Vehicle Code (CVC) Weight Sections 35550 to 35558, construction contractors are required to comply with regulations as it pertains to vehicle weight as a standard condition. Therefore, it is anticipated that project-related traffic would not cause a significant impact to the roadway pavement and exceed allowable weight limits. In general, the gross weight on any one axle should not exceed 20,000 pounds, and the gross weight of an entire vehicle should not exceed 80,000 pounds (regardless of the number of axles). Thus, construction trucks are not expected to be oversized nor exceed 80,000 pounds in gross weight and thus, are compatible with both Rasor Road and the I-15 freeway.

VEHICLE MILES TRAVELED ASSESSMENT

As of July 1, 2020, compliance with SB 743 and the use of SB 743-compliant CEQA analysis became mandatory for land use and transportation projects. These changes have been officially approved and are currently in effect.

Senate Bill 743 (SB 743) was signed into law in September 2013. It required changes to the CEQA Guidelines specifically related to the analysis of transportation impacts. Prior to SB 743, transportation analyses under CEQA focused on factors such as roadway delay and capacity at specific locations. However, SB 743 introduced significant changes by eliminating the use of auto delay, LOS, and similar measures of vehicular capacity or traffic congestion as the basis for determining significant impacts. Instead, SB 743 identified VMT as the most appropriate metric for evaluating a project's transportation impacts. This means that since the bill took effect, automobile delay measured by LOS and similar metrics no longer qualifies as a significant environmental effect under CEQA. However, LOS can still be used as a measure for local agency planning purposes.

In December 2018, the California Governor's Office of Planning and Research (OPR) and the State Natural Resources Agency submitted updated CEQA Guidelines to the Office of Administrative Law for final approval, in order to implement SB 743. The Office of Administrative Law approved these updated guidelines, making VMT the primary metric for analyzing transportation impacts. The finalized documents and related materials can be found at http://resources.ca.gov/ceqa.

OPR provided a Technical Advisory containing guidelines related to VMT analysis methodology, thresholds, and mitigation. The OPR's interpretation of CEQA Guidelines §15064.3 identifies that VMT analysis in the Transportation section of a CEQA document should be focused on automobiles and light duty truck trips. Therefore, vehicle trips mentioned in this section do not include trips that are from heavy duty trucks such as water-transporting and construction trucks.

SB743 was enacted with the goals of "the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses[7]." The technical guidance to date largely focuses on VMT impacts related to long term operation of land use and transportation projects. No requirements or guidance has been given at the state or local level in San Bernardino County to analyze and mitigate VMT during project construction. VMT screening criteria and thresholds discussed throughout the document are oriented towards permanent land uses and on-going operations. Moreover, VMT per capita and VMT per employee metrics are also applicable to long-term project operations rather than short-term temporary activities such as construction. Therefore, applicable methodologies and thresholds in this analysis are related to project operations.

SCREENING CRITERIA

To be screened out of a detailed VMT analysis, a project or project component would need to satisfy at least one of the VMT screening criteria. A summary of OPR's screening criteria and determinations are listed below:

- **Small Project Size:** Projects generating less than 110 trips per day may be considered to have an insignificant impact on VMT. This threshold is not VMT-based but relates to the CEQA categorical exemption for existing facilities and additions to existing structures up to 10,000 square feet.
- **Projects Within Transit Priority Areas:** Projects, including residential, retail, and office projects, as well as mixed-use projects within a ½ mile of an existing major transit stop or along a high-quality transit corridor, are generally presumed to have a minor impact on VMT. This presumption is not valid if project-specific or location-specific information indicates significant VMT levels. An existing major transit stop is defined

[7] Section 21099 of the Public Resources Code.

as a site with a rail transit station, a ferry terminal served by bus or rail transit, or the intersection of multiple major bus routes with frequent service during peak commute periods.

- **Local-Serving Retail:** Projects categorized as local-serving retail are presumed to have an insignificant impact on VMT.
- **Redevelopment Projects Resulting in Net VMT Reduction:** Redevelopment projects that would decrease VMT, meaning the proposed land use generates less VMT than the existing use, may be considered to have an insignificant impact on VMT.
- **Affordable Housing:** The OPR's technical advisory provides special considerations for affordable housing. Projects that consist of 100% affordable housing in infill locations are presumed to have a minor impact on VMT. Infill locations generally offer better access to transit and more opportunities for walking and cycling. The definition of infill locations is determined based on local conditions.

VMT SCREENING DETERMINATION

OPRs technical guidelines focuses on long term VMT impacts from placement of land uses and transportation facilities and does not specify thresholds to evaluate impacts during project construction. Vehicle trips used for construction purposes would be temporary, and any generated VMT would generally be minor and limited to construction equipment and personnel and would not result in long-term trip generation. Therefore, the VMT screening criteria applies for long term operations.

After the completion of construction, the Project will be remotely controlled, eliminating the need for on-site employees. Primary security monitoring will also be conducted remotely. However, security personnel will perform unscheduled rounds and respond to alarms or fence breaches when necessary. The facility will not be accessible to the public, and access will be infrequent and limited to authorized personnel.

It is anticipated the project will require a workforce of approximately 25 to 40 workers with more workers on panel washing and cleaning days (including a mix of professional staff, maintenance, and security personnel). Given that the project will be remotely controlled, the project is anticipated to generate less than 110 daily one-way trips during operation with panel washing and cleaning occurring two times per year over a three-week period. Therefore, the project screens out as a small project and is not anticipated to result in a significant VMT impact due to low long-term operational traffic.

Table 16: Summary of VMT Screening Determination

Screening Criteria	Criterion Met?	Reasoning
Small Project Size	**Yes**	**The proposed project would operate primarily remotely and thus generate less than 110 daily one-way (non-truck) trips during operations.** Therefore, the project would screen out of a detailed VMT analysis.
Projects within Transit Priority Area	No	The proposed project is not located near high-quality transit and is not screened out under this criterion.
Local-Serving Retail	No	The proposed project is not considered local-serving retail.
Redevelopment Projects Resulting in Net VMT Reduction	No	The project would likely generate more daily total VMT since the land is currently open area and is not screened out under this criterion.
Affordable Housing	No	The project is not part of a residential project and is not screened out under this criterion.

SOURCE: KITTELSON & ASSOCIATES, INC (2024)

RECOMMENDATIONS

Even though the Project would generate a significant number of workers, delivery, and construction vehicle trips throughout construction, the traffic flow in the Project area would not be adversely affected. To ensure satisfactory operation of the roadway network during construction, the following recommendations should be implemented:

- Construction Traffic Management Plan
- Recreationalist Access
- Transport of Hazardous Materials

Each of these recommendations is detailed further in the sections below.

CONSTRUCTION TRAFFIC MANAGEMENT PLAN

The contractor should prepare a Construction Traffic Management Plan (Plan) for Project construction to minimize adverse effects of project construction traffic. The Plan may be prepared in consultation with the County of San Bernardino Public Works Department or Caltrans prior to construction and identify the following:

- A breakdown of the number, type, capacity, and dimensions of the construction vehicles that would service the Project site
- An estimate of the average daily or weekly number of vehicles per vehicle type during each major phase of the work
- Construction haul trucks weight and loads as they should comply with Caltrans and San Bernardino County applicable weight restrictions as a standard condition. The construction contractor would be required as a standard condition to apply for permits for any oversized trucks and comply with the corresponding CVC codes.[8]
- Routing of passenger/worker vehicles, delivery vehicles, and excavation and construction vehicles
- Review of site access as well as recommendations of signage and markings as needed so accessibility to Shell gas station is not affected
- Enforcement of routing
- Delivery hour restrictions, if applicable
- Traffic control methods and when each is required
- A contact for complaints and how complaints are to be addressed

Traffic control shall be implemented during grading and construction of the Project's main access point from Rasor Road and when large deliveries in wide-load vehicles or a high volume of deliveries occurs. Traffic control may include escort vehicles for wide loads, signage, and/or flaggers. Traffic control should be consistent with the requirements in the Manual of Uniform Traffic Control Devices (MUTCD). All roadways should always be open to emergency personnel.

RECREATIONALIST ACCESS

The proposed array areas would be fenced and unavailable to recreationists. The arrays would block access to Arrowhead Trail, which is designated as a closed road by BLM. Rasor Road would be closed during the 18-month project construction period along the southern boundary of the project site, closing public access to the Rasor OHV Area. Alternative access is provided at Basin Road and Zzyzx Road via Mojave Road. Road signage notifying recreationists of road closures and alternate routes would be installed as needed.

[8] Transportation Permits (Oversize/Overweight Vehicles) | Caltrans

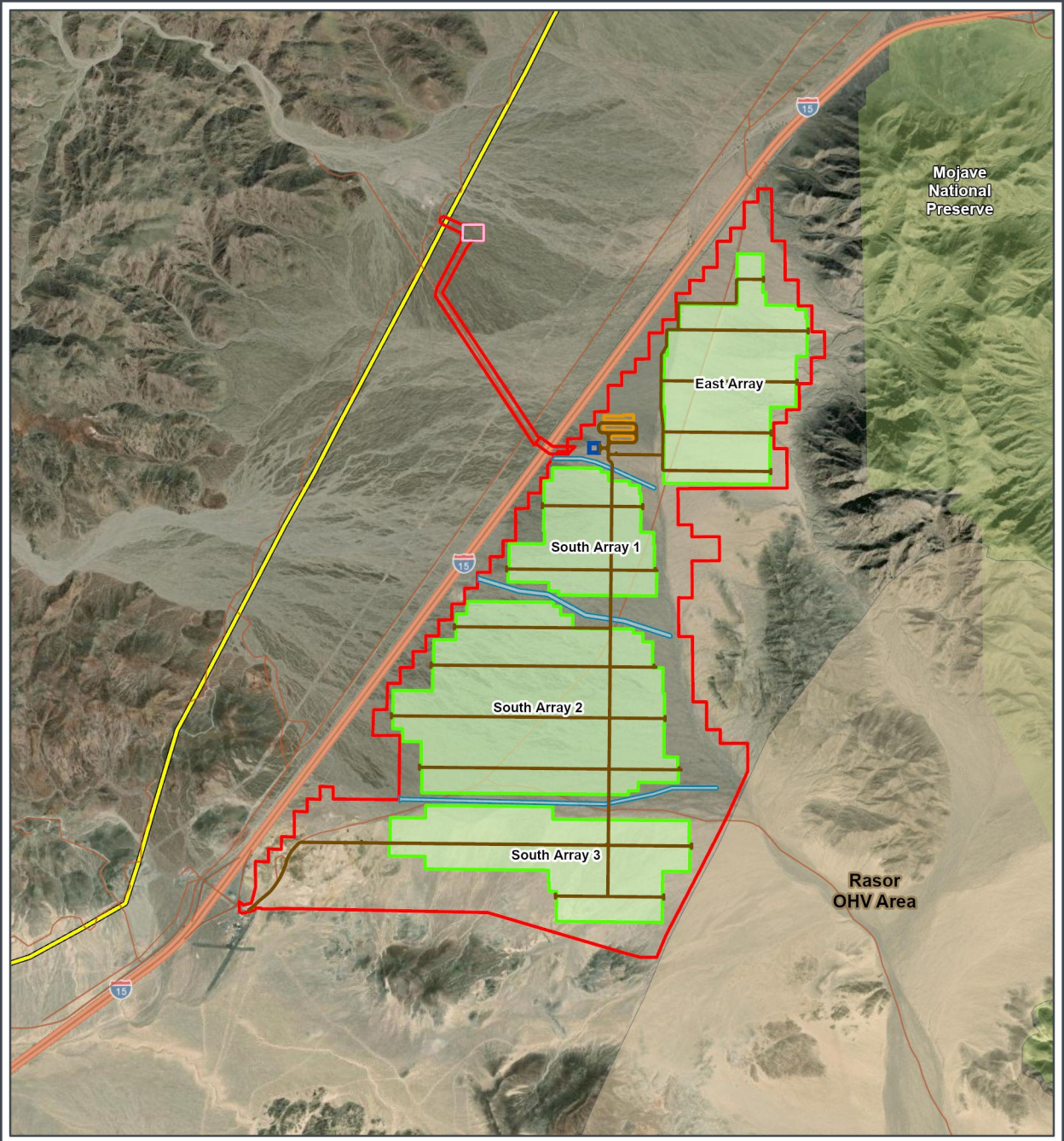
TRANSPORT OF HAZARDOUS MATERIALS

Transporting hazardous materials involves compliance with federal, state, and local regulations designed to ensure safety. The following hazardous materials are anticipated to be transported to and/or from the site during project construction and/or operations:

- **Gasoline and diesel fuel:** These are highly flammable liquids. Transportation hazards include the risk of spills and leaks, which could lead to fires or explosions. Properly sealed and approved containers should be used, and transport vehicles should be equipped with safety measures to handle potential leaks.
- **Lubricating oils, grease, hydraulic fluids, and gear oils:** These substances are less volatile but can still pose environmental hazards if spilled. They can contaminate soil and water bodies, affecting local ecosystems. Transportation should ensure that containers are leak-proof and that spills can be promptly contained and cleaned up.
- **Glycol-based antifreeze:** Antifreeze can be toxic to humans and wildlife if ingested. Spills need to be avoided, and appropriate measures should be taken to manage any accidental releases. Containers should be robust and securely sealed.
- **Lead-acid storage batteries and electrolyte solution:** These batteries contain lead and sulfuric acid, both hazardous materials. Spillage of sulfuric acid can cause severe burns and environmental damage. Batteries should be transported upright and secured to prevent tipping and leakage, with appropriate handling and emergency procedures in place.
- **Lithium-ion batteries:** These batteries can pose a fire risk, especially if damaged. They require careful handling to avoid punctures or crushing. Transport regulations specify packaging requirements to minimize the risk of short circuits and fires.
- **Cleaning solvents:** Many organic solvents are flammable and can release harmful vapors. Transportation requires containers that prevent leaks and are resistant to solvent degradation. Adequate ventilation and precautions should be prepared to prevent ignition sources.
- **Dielectric fluids:** While less hazardous than some other materials, dielectric fluids can still pose environmental risks if spilled. Secure containers and proper handling during transport should be utilized to prevent leaks.
- **Herbicides:** These chemicals can be toxic to plants and animals. Secure containers and careful handling are essential to prevent accidental spills and contamination of the surrounding environment.

Carriers should develop and have emergency response plans to address potential spills or accidents, including proper training for personnel. Comprehensive documentation of hazardous materials being transported, such as safety data sheets, is crucial for ensuring appropriate handling and emergency response. Additionally, vehicles used for transporting hazardous materials should be properly maintained and equipped with safety features to prevent accidents and mitigate the impact of any incidents. By implementing these safety measures, the potential hazards associated with transporting these materials can be significantly reduced, thereby protecting both human health and the environment.

Appendix A
Proposed Site Plan



Existing Road

500kV Mead-Adelanto Transmission Line

Rasor Off-Highway Vehicle (OHV) Area

Mojave National Preserve

Proposed Project Components

Access Road

Drainage Canal

Project Site

Proposed BESS Yard

Proposed Box Culverts

Proposed Substation

Proposed Switchyard

Solar Array

San Bernardino County, CA
NAD 1983 UTM Zone 11N
35.1564°N 116.184°W

0 0.35 0.7 Miles

0 0.35 0.7 Kilometers

N

1:50,000

Base Map: Esri ArcGIS Online, accessed March 2024
Updated: 3/6/2024
Project No. 68347
Layout: 68347_Prj_Overview_Site_Plan
Aprx: General

SWCA ENVIRONMENTAL CONSULTANTS

Appendix B
CEC Guidelines

Barclays California Code of Regulations
Title 20. Public Utilities and Energy
Division 2. State Energy Resources Conservation and Development Commission (Refs & Annos)
Chapter 5. Power Plant Site Certification

20 CCR Div. 2 Ch. 5 App. B

Appendix B Information Requirements for an Application for Certification (AFC) or Small Power Plant Exemption (SPPE).

Effective: July 20, 2023
Currentness

Traffic and Transportation

A. A regional transportation setting, on topographic maps (scale of 1:250,000), identifying the project location and major transportation facilities. Include a reference to the transportation element of any applicable local or regional plan.

B. If the proposed project including any linear facility is to be located within four miles of an airport, a planned or proposed airport runway, or an airport runway under construction, discuss the project's compliance with the applicable sections of the current Federal Aviation Regulation Part 77 -- Safe, Efficient Use, and Preservation of the Navigable Airspace, specifically any potential to obstruct or impede air navigation generated by the project during construction or operation; such as, a thermal plume, a visible water vapor plume, glare, electrical interference, or surface structure height. The discussion should include:

   a. A map at a scale of 1:24,000 that displays the airport or airstrip runway configuration, the airport influence area including all safety zones, and the proposed power plant site and related facilities;

   b. A thermal plume analysis that describes the plume's velocity;

   c. A discussion of the project's conformance with applicable Airport Land Use Compatibility Plan policies; and

   d. Copies of FAA Form 7460-1, Notice of Proposed Construction or Alteration, that were submitted or approved for any project component requiring notice.

C. An evaluation of the project's potential impacts related to vehicle miles traveled (VMT) that may include:

   a. The local jurisdiction's thresholds of significance;

   b. Methodologies (such as local VMT Evaluation Tool);

   c. VMT heat maps; and

   d. Transportation demand management plans and any documents supporting the project applicant's CEQA determination.

D. An identification, on topographic maps at a scale of 1:24,000 and a description of existing and planned roads, rail lines (including light rail), bike trails, airports, bus routes serving the project vicinity, pipelines, and canals in the project area affected by or serving the proposed facility. For each road identified, include the following information, where applicable:

   a. Road classification and design capacity;

   b. Current daily average and peak traffic counts;

   c. Current and projected levels of service before project development, during construction, and during project operation;

   d. Weight and load limitations;

   e. Estimated percentage of current traffic flows for passenger vehicles and trucks; and

   f. An identification of any road features affecting public safety.

E. An assessment of the construction and operation impacts of the proposed project on the transportation facilities

identified in subsection (g)(5)(D). Also include anticipated project-specific traffic, estimated changes to daily average and peak traffic counts, levels of service, and traffic/truck mix, and the impact of construction of any facilities identified in subsection (g)(5)(D). Include:

a. Estimated one-way trip lengths for workers, deliveries, and truck haul trips generated by the construction of the project.

b. Description of public roadways and intersections temporarily or permanently altered by construction and operation including the duration of activities.

F. A discussion of project-related hazardous materials to be transported to or from the project during construction and operation of the project, including the types, estimated quantities, estimated number of trips, anticipated routes, means of transportation, and any transportation hazards associated with such transport.

Appendix C
Data Collection

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

County of San Bernardino
N/S: I-15 Northbound Ramps
E/W: Rasor Road
Weather: Clear

File Name : 01_SCB_15N_Rasor AM
Site Code : 99923422
Start Date : 5/4/2023
Page No : 1

Groups Printed- Total Volume

	I-15 Northbound On Ramp Southbound				Rasor Road Westbound				I-15 Northbound Off Ramp Northbound				Rasor Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:00 AM	0	0	0	0	0	1	1	2	0	3	0	3	0	0	0	0	5
06:15 AM	0	0	0	0	0	0	2	2	0	0	3	3	0	0	0	0	5
06:30 AM	0	0	0	0	0	0	2	2	0	2	3	5	0	1	0	1	8
06:45 AM	0	0	0	0	0	1	5	6	0	3	3	6	0	0	0	0	12
Total	0	0	0	0	0	2	10	12	0	8	9	17	0	1	0	1	30
07:00 AM	0	0	0	0	0	0	2	2	0	2	2	4	0	1	0	1	7
07:15 AM	0	0	0	0	0	0	3	3	0	4	4	8	0	0	0	0	11
07:30 AM	0	0	0	0	0	0	3	3	0	1	2	3	0	1	0	1	7
07:45 AM	0	0	0	0	0	3	1	4	0	1	2	3	0	0	0	0	7
Total	0	0	0	0	0	3	9	12	0	8	10	18	0	2	0	2	32
08:00 AM	0	0	0	0	0	0	3	3	0	0	2	2	0	0	0	0	5
08:15 AM	0	0	0	0	0	0	2	2	0	0	1	1	0	0	0	0	3
08:30 AM	0	0	0	0	0	0	2	2	0	1	2	3	0	0	0	0	5
08:45 AM	0	0	0	0	0	0	5	5	0	1	5	6	0	0	0	0	11
Total	0	0	0	0	0	0	12	12	0	2	10	12	0	0	0	0	24
Grand Total	0	0	0	0	0	5	31	36	0	18	29	47	0	3	0	3	86
Apprch %	0	0	0		0	13.9	86.1		0	38.3	61.7		0	100	0		
Total %	0	0	0	0	0	5.8	36	41.9	0	20.9	33.7	54.7	0	3.5	0	3.5	

	I-15 Northbound On Ramp Southbound				Rasor Road Westbound				I-15 Northbound Off Ramp Northbound				Rasor Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 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	0	0	2	2	0	2	3	5	0	**1**	0	**1**	8
06:45 AM	0	0	0	0	0	**1**	**5**	**6**	0	3	3	6	0	0	0	0	**12**
07:00 AM	0	0	0	0	0	0	2	2	0	2	2	4	0	1	0	1	7
07:15 AM	0	0	0	0	0	0	3	3	0	**4**	**4**	**8**	0	0	0	0	11
Total Volume	0	0	0	0	0	1	12	13	0	11	12	23	0	2	0	2	38
% App. Total	0	0	0		0	7.7	92.3		0	47.8	52.2		0	100	0		
PHF	.000	.000	.000	.000	.000	.250	.600	.542	.000	.688	.750	.719	.000	.500	.000	.500	.792

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County of San Bernardino
N/S: I-15 Northbound Ramps
E/W: Rasor Road
Weather: Clear

File Name : 01_SCB_15N_Rasor AM
Site Code : 99923422
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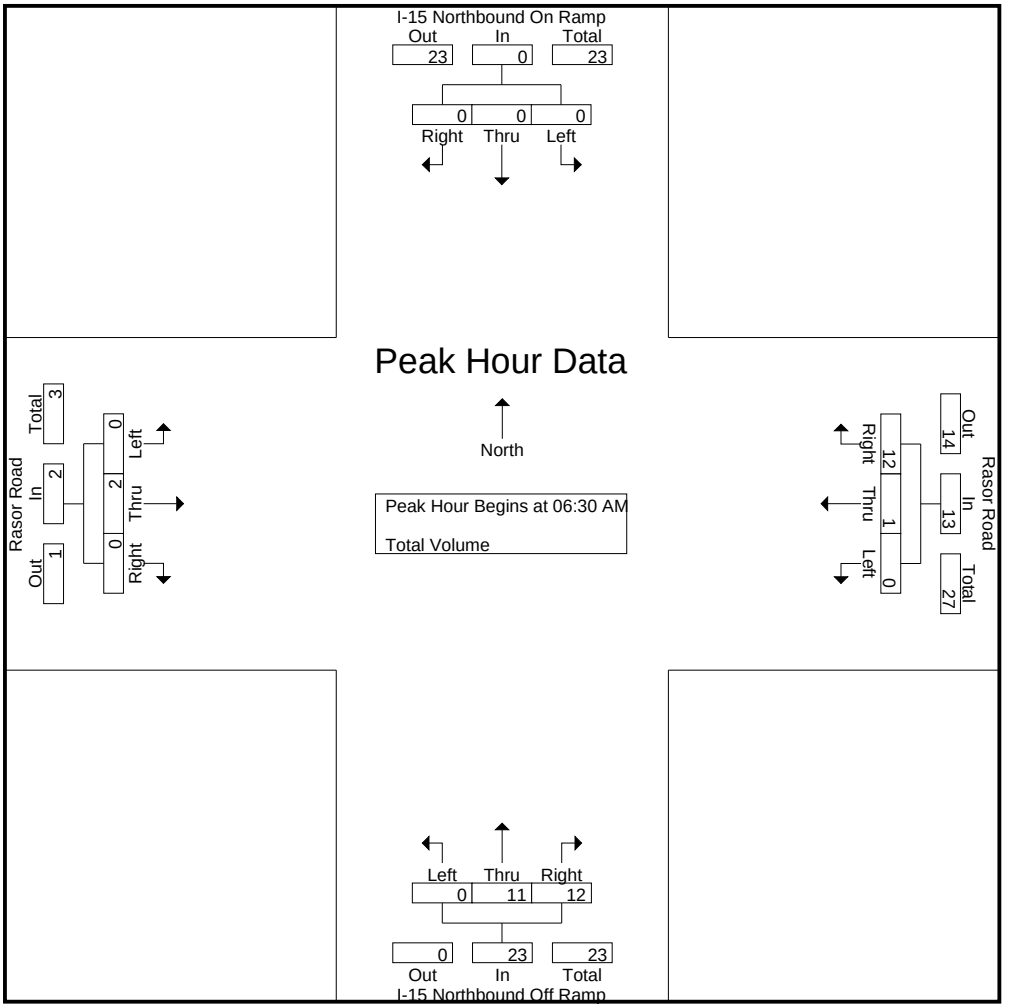

Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	06:00 AM				06:45 AM				06:30 AM				06:15 AM			
+0 mins.	0	0	0	0	0	**1**	**5**	**6**	0	2	3	5	0	0	0	0
+15 mins.	0	0	0	0	0	0	2	2	0	3	3	6	0	**1**	0	**1**
+30 mins.	0	0	0	0	0	0	3	3	0	2	2	4	0	0	0	0
+45 mins.	0	0	0	0	0	0	3	3	0	**4**	**4**	**8**	0	1	0	1
Total Volume	0	0	0	0	0	1	13	14	0	11	12	23	0	2	0	2
% App. Total	0	0	0		0	7.1	92.9		0	47.8	52.2		0	100	0	
PHF	.000	.000	.000	.000	.000	.250	.650	.583	.000	.688	.750	.719	.000	.500	.000	.500

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County of San Bernardino
N/S: I-15 Northbound Ramps
E/W: Rasor Road
Weather: Clear

File Name : 01_SCB_15N_Rasor MD
Site Code : 99923422
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Groups Printed- Total Volume

	I-15 Northbound On Ramp Southbound				Rasor Road Westbound				I-15 Northbound Off Ramp Northbound				Rasor Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
11:00 AM	0	0	0	0	0	1	11	12	0	0	7	7	0	2	0	2	21
11:15 AM	0	0	0	0	0	5	4	9	0	1	10	11	0	4	0	4	24
11:30 AM	0	0	0	0	0	2	10	12	0	1	5	6	0	0	0	0	18
11:45 AM	0	0	0	0	0	1	4	5	1	4	8	13	1	0	0	1	19
Total	0	0	0	0	0	9	29	38	1	6	30	37	1	6	0	7	82
12:00 PM	0	0	0	0	0	0	7	7	1	0	7	8	1	3	0	4	19
12:15 PM	0	0	0	0	0	6	6	12	0	0	8	8	0	3	0	3	23
12:30 PM	0	0	0	0	0	3	9	12	0	3	15	18	0	1	0	1	31
12:45 PM	0	0	0	0	0	3	9	12	0	0	7	7	0	1	0	1	20
Total	0	0	0	0	0	12	31	43	1	3	37	41	1	8	0	9	93
01:00 PM	0	0	0	0	0	1	8	9	0	1	2	3	0	0	0	0	12
01:15 PM	0	0	0	0	0	2	2	4	0	4	3	7	0	2	0	2	13
01:30 PM	0	0	0	0	0	0	5	5	0	1	6	7	0	0	0	0	12
01:45 PM	0	0	0	0	0	1	11	12	0	0	10	10	0	2	0	2	24
Total	0	0	0	0	0	4	26	30	0	6	21	27	0	4	0	4	61
Grand Total	0	0	0	0	0	25	86	111	2	15	88	105	2	18	0	20	236
Apprch %	0	0	0		0	22.5	77.5		1.9	14.3	83.8		10	90	0		
Total %	0	0	0	0	0	10.6	36.4	47	0.8	6.4	37.3	44.5	0.8	7.6	0	8.5	

	I-15 Northbound On Ramp Southbound				Rasor Road Westbound				I-15 Northbound Off Ramp Northbound				Rasor Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:00 PM																	
12:00 PM	0	0	0	0	0	0	7	7	**1**	0	7	8	**1**	**3**	0	**4**	19
12:15 PM	0	0	0	0	0	**6**	6	**12**	0	0	8	8	0	3	0	3	23
12:30 PM	0	0	0	0	0	3	**9**	12	0	**3**	**15**	**18**	0	1	0	1	**31**
12:45 PM	0	0	0	0	0	3	9	12	0	0	7	7	0	1	0	1	20
Total Volume	0	0	0	0	0	12	31	43	1	3	37	41	1	8	0	9	93
% App. Total	0	0	0		0	27.9	72.1		2.4	7.3	90.2		11.1	88.9	0		
PHF	.000	.000	.000	.000	.000	.500	.861	.896	.250	.250	.617	.569	.250	.667	.000	.563	.750

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File Name : 01_SCB_15N_Rasor MD
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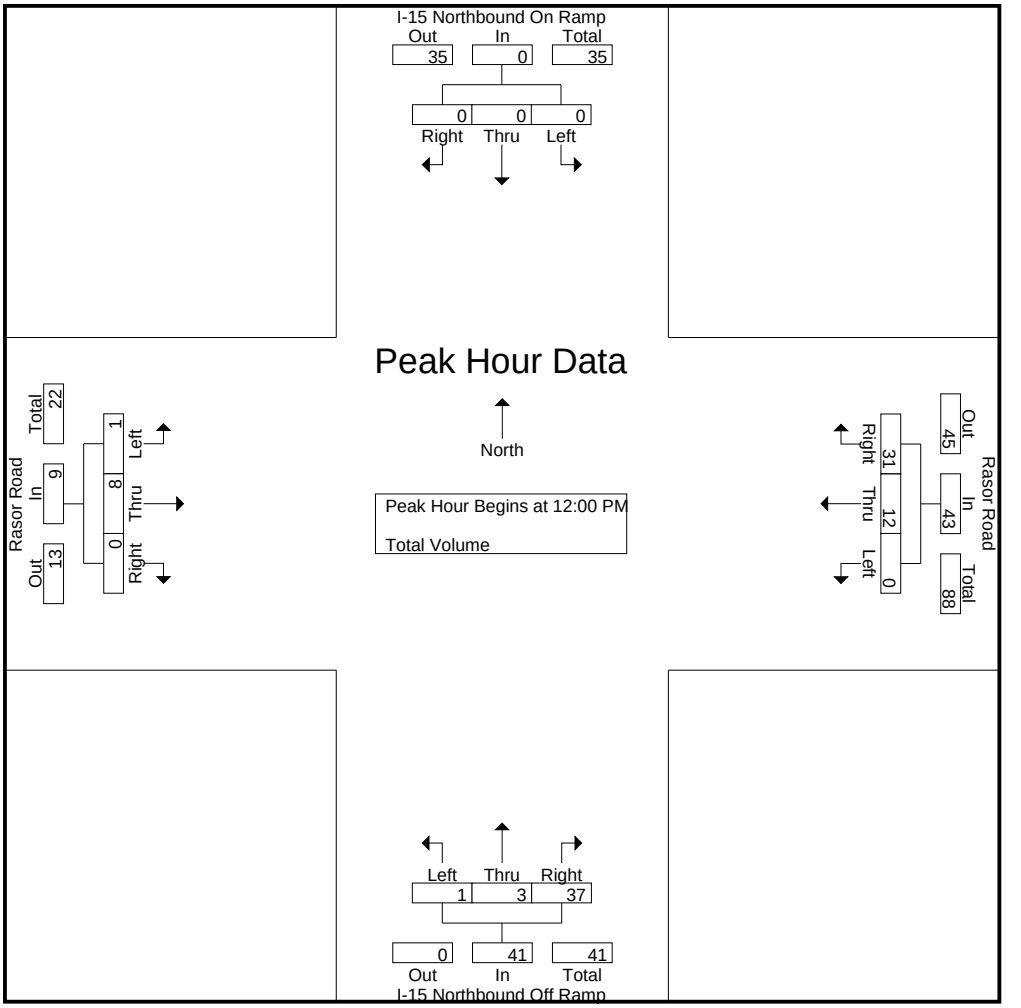

Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	11:00 AM				12:15 PM				11:45 AM				11:15 AM			
+0 mins.	0	0	0	0	0	**6**	6	**12**	**1**	**4**	8	13	0	**4**	0	**4**
+15 mins.	0	0	0	0	0	3	**9**	12	1	0	7	8	0	0	0	0
+30 mins.	0	0	0	0	0	3	9	12	0	0	8	8	**1**	0	0	1
+45 mins.	0	0	0	0	0	1	8	9	0	3	**15**	**18**	1	3	0	4
Total Volume	0	0	0	0	0	13	32	45	2	7	38	47	2	7	0	9
% App. Total	0	0	0		0	28.9	71.1		4.3	14.9	80.9		22.2	77.8	0	
PHF	.000	.000	.000	.000	.000	.542	.889	.938	.500	.438	.633	.653	.500	.438	.000	.563

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County of San Bernardino
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File Name : 01_SCB_15N_Rasor PM
Site Code : 99923422
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Groups Printed- Total Volume

	I-15 Northbound On Ramp Southbound				Rasor Road Westbound				I-15 Northbound Off Ramp Northbound				Rasor Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	0	0	0	0	1	10	11	0	0	6	6	0	2	0	2	19
03:15 PM	0	0	0	0	0	2	9	11	0	3	8	11	0	0	0	0	22
03:30 PM	0	0	0	0	0	0	6	6	0	2	6	8	0	0	0	0	14
03:45 PM	0	0	0	0	0	0	10	10	0	5	9	14	0	1	0	1	25
Total	0	0	0	0	0	3	35	38	0	10	29	39	0	3	0	3	80
04:00 PM	0	0	0	0	0	1	6	7	0	1	9	10	0	0	0	0	17
04:15 PM	0	0	0	0	0	1	6	7	0	3	4	7	0	1	0	1	15
04:30 PM	0	0	0	0	0	2	6	8	0	0	7	7	0	1	0	1	16
04:45 PM	0	0	0	0	0	1	10	11	0	0	8	8	0	1	0	1	20
Total	0	0	0	0	0	5	28	33	0	4	28	32	0	3	0	3	68
05:00 PM	0	0	0	0	0	1	3	4	0	4	4	8	0	0	0	0	12
05:15 PM	0	0	0	0	0	2	3	5	0	0	6	6	0	1	0	1	12
05:30 PM	0	0	0	0	0	1	6	7	0	0	6	6	0	1	0	1	14
05:45 PM	0	0	0	0	0	1	6	7	0	1	4	5	0	1	0	1	13
Total	0	0	0	0	0	5	18	23	0	5	20	25	0	3	0	3	51
Grand Total	0	0	0	0	0	13	81	94	0	19	77	96	0	9	0	9	199
Apprch %	0	0	0		0	13.8	86.2		0	19.8	80.2		0	100	0		
Total %	0	0	0	0	0	6.5	40.7	47.2	0	9.5	38.7	48.2	0	4.5	0	4.5	

	I-15 Northbound On Ramp Southbound				Rasor Road Westbound				I-15 Northbound Off Ramp Northbound				Rasor Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:00 PM																	
03:00 PM	0	0	0	0	0	1	**10**	**11**	0	0	6	6	0	**2**	0	**2**	19
03:15 PM	0	0	0	0	0	**2**	9	11	0	3	8	11	0	0	0	0	22
03:30 PM	0	0	0	0	0	0	6	6	0	2	6	8	0	0	0	0	14
03:45 PM	0	0	0	0	0	0	10	10	0	**5**	**9**	**14**	0	1	0	1	**25**
Total Volume	0	0	0	0	0	3	35	38	0	10	29	39	0	3	0	3	80
% App. Total	0	0	0		0	7.9	92.1		0	25.6	74.4		0	100	0		
PHF	.000	.000	.000	.000	.000	.375	.875	.864	.000	.500	.806	.696	.000	.375	.000	.375	.800

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County of San Bernardino
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File Name : 01_SCB_15N_Rasor PM
Site Code : 99923422
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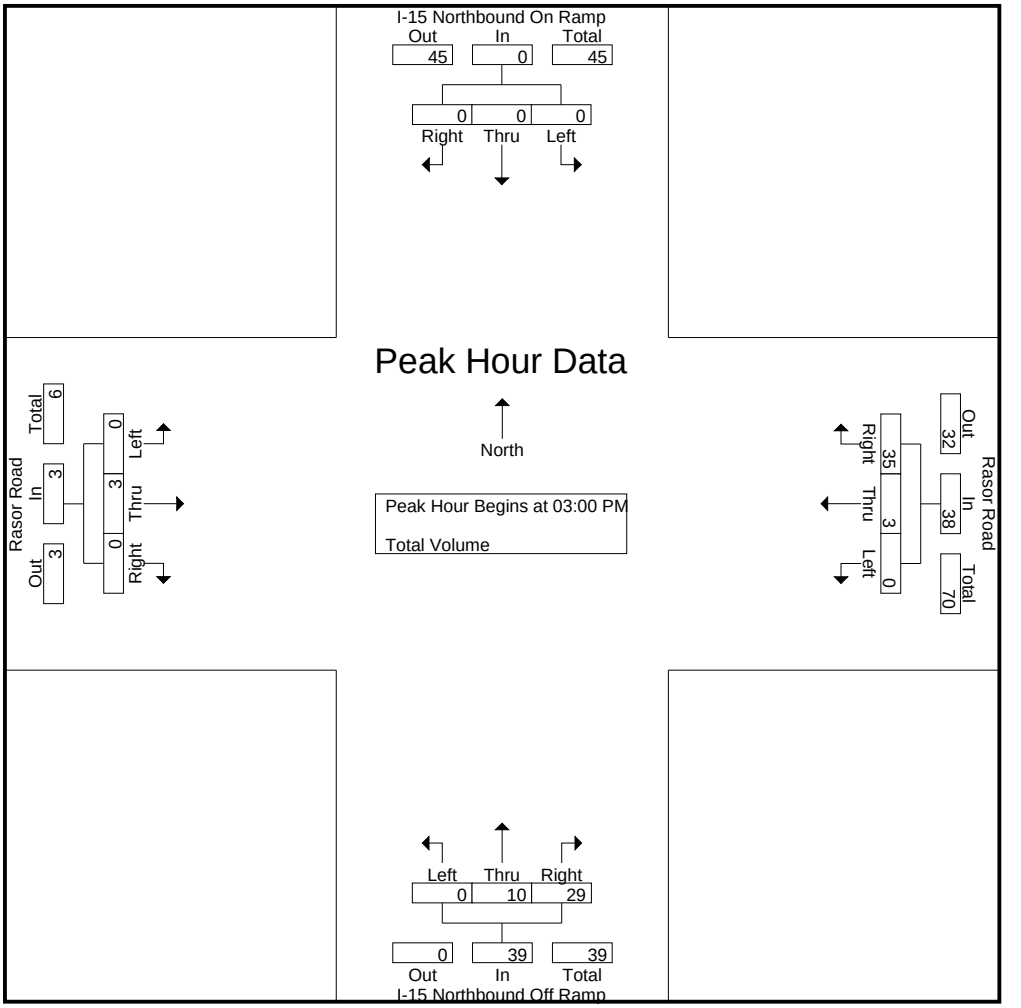

Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	03:00 PM				03:00 PM				03:15 PM				03:00 PM			
+0 mins.	0	0	0	0	0	1	**10**	**11**	0	3	8	11	0	**2**	0	**2**
+15 mins.	0	0	0	0	0	**2**	9	11	0	2	6	8	0	0	0	0
+30 mins.	0	0	0	0	0	0	6	6	0	**5**	**9**	**14**	0	0	0	0
+45 mins.	0	0	0	0	0	0	10	10	0	1	9	10	0	1	0	1
Total Volume	0	0	0	0	0	3	35	38	0	11	32	43	0	3	0	3
% App. Total	0	0	0		0	7.9	92.1		0	25.6	74.4		0	100	0	
PHF	.000	.000	.000	.000	.000	.375	.875	.864	.000	.550	.889	.768	.000	.375	.000	.375

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File Name : 02_SCB_15S_Rasor AM
Site Code : 99923422
Start Date : 5/4/2023
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Groups Printed- Total Volume

	I-15 Southbound Off Ramp Southbound				Rasor Road Westbound				I-15 Southbound On Ramp Northbound				Rasor Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	1	0	1	1	0	0	1	0	0	0	0	0	0	0	0	2
07:15 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	1	0	1	2	1	0	0	1	0	0	0	0	0	0	1	1	4
Total	1	2	1	4	2	0	0	2	0	0	0	0	0	0	1	1	7
08:00 AM	1	1	1	3	0	0	0	0	0	0	0	0	0	0	1	1	4
08:15 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
08:30 AM	0	0	2	2	0	0	0	0	0	0	0	0	0	0	1	1	3
08:45 AM	1	0	0	1	3	0	0	3	0	0	0	0	0	0	1	1	5
Total	2	2	3	7	3	0	0	3	0	0	0	0	0	0	3	3	13
09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 AM	0	1	1	2	0	0	0	0	0	0	0	0	0	0	1	1	3
09:30 AM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
09:45 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	4	1	5	0	0	0	0	0	0	0	0	0	0	1	1	6
Grand Total	3	8	5	16	5	0	0	5	0	0	0	0	0	0	5	5	26
Apprch %	18.8	50	31.2		100	0	0		0	0	0		0	0	100		
Total %	11.5	30.8	19.2	61.5	19.2	0	0	19.2	0	0	0	0	0	0	19.2	19.2	

	I-15 Southbound Off Ramp Southbound				Rasor Road Westbound				I-15 Southbound On Ramp Northbound				Rasor Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	**1**	**1**	1	**3**	0	0	0	0	0	0	0	0	0	0	**1**	**1**	4
08:15 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
08:30 AM	0	0	**2**	2	0	0	0	0	0	0	0	0	0	0	1	1	3
08:45 AM	1	0	0	1	**3**	0	0	**3**	0	0	0	0	0	0	1	1	**5**
Total Volume	2	2	3	7	3	0	0	3	0	0	0	0	0	0	3	3	13
% App. Total	28.6	28.6	42.9		100	0	0		0	0	0		0	0	100		
PHF	.500	.500	.375	.583	.250	.000	.000	.250	.000	.000	.000	.000	.000	.000	.750	.750	.650

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File Name : 02_SCB_15S_Rasor AM
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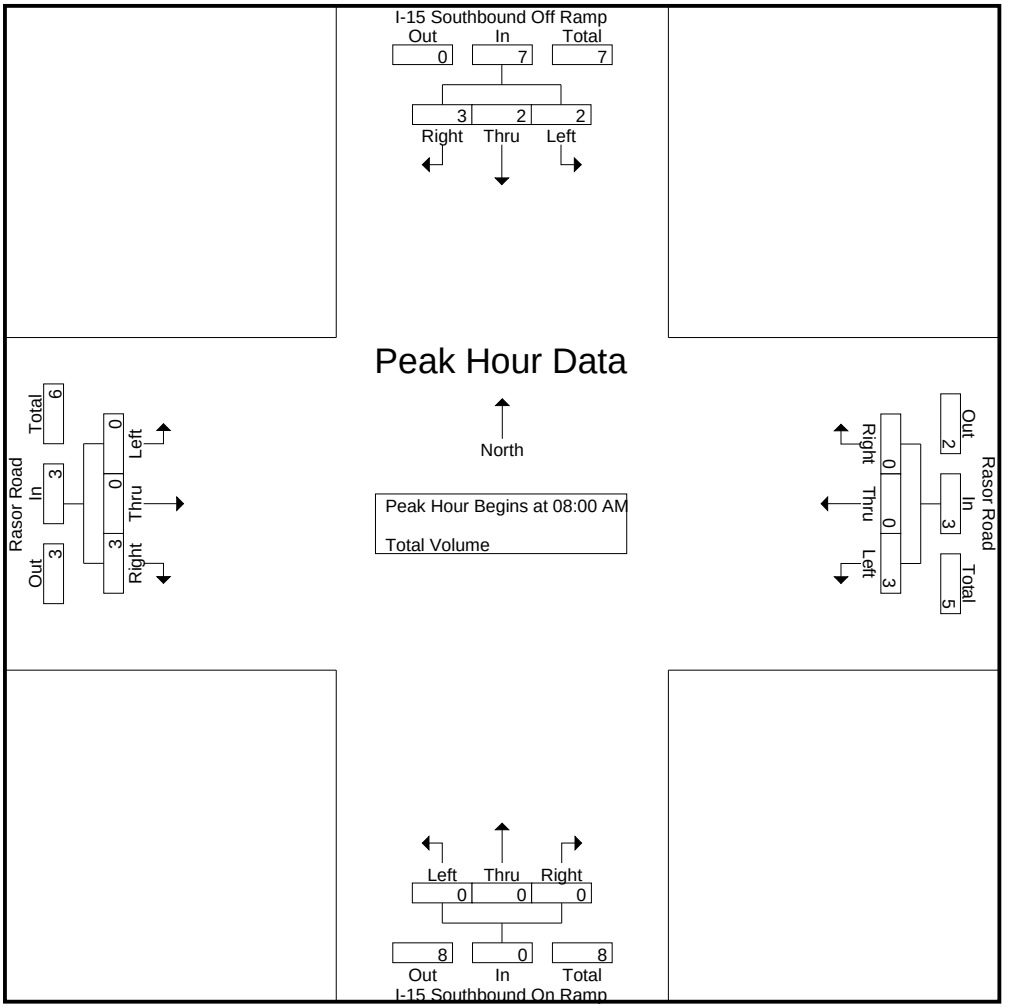

Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM				08:00 AM				07:00 AM				07:45 AM			
+0 mins.	**1**	0	1	2	0	0	0	0	0	0	0	0	0	0	**1**	**1**
+15 mins.	1	**1**	1	**3**	0	0	0	0	0	0	0	0	0	0	1	1
+30 mins.	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	**2**	2	**3**	0	0	**3**	0	0	0	0	0	0	1	1
Total Volume	2	2	4	8	3	0	0	3	0	0	0	0	0	0	3	3
% App. Total	25	25	50		100	0	0		0	0	0		0	0	100	
PHF	.500	.500	.500	.667	.250	.000	.000	.250	.000	.000	.000	.000	.000	.000	.750	.750

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Groups Printed- Total Volume

	I-15 Southbound Off Ramp Southbound				Rasor Road Westbound				I-15 Southbound On Ramp Northbound				Rasor Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
11:00 AM	2	2	0	4	1	0	0	1	0	0	0	0	0	0	0	0	5
11:15 AM	3	5	1	9	4	0	0	4	0	0	0	0	0	0	0	0	13
11:30 AM	0	2	0	2	2	0	0	2	0	0	0	0	0	0	1	1	5
11:45 AM	0	0	0	0	1	1	0	2	0	0	0	0	0	1	1	2	4
Total	5	9	1	15	8	1	0	9	0	0	0	0	0	1	2	3	27
12:00 PM	3	3	2	8	0	1	0	1	0	0	0	0	0	2	1	3	12
12:15 PM	2	3	1	6	5	0	0	5	0	0	0	0	0	0	1	1	12
12:30 PM	1	2	3	6	4	0	0	4	0	0	0	0	0	0	3	3	13
12:45 PM	1	1	2	4	3	0	0	3	0	0	0	0	0	0	3	3	10
Total	7	9	8	24	12	1	0	13	0	0	0	0	0	2	8	10	47
01:00 PM	0	1	1	2	1	0	0	1	0	0	0	0	0	0	0	0	3
01:15 PM	2	0	0	2	2	0	0	2	0	0	0	0	0	0	1	1	5
01:30 PM	0	1	1	2	0	0	0	0	0	0	0	0	0	0	1	1	3
01:45 PM	2	2	1	5	1	0	0	1	0	0	0	0	0	0	1	1	7
Total	4	4	3	11	4	0	0	4	0	0	0	0	0	0	3	3	18
Grand Total	16	22	12	50	24	2	0	26	0	0	0	0	0	3	13	16	92
Apprch %	32	44	24		92.3	7.7	0		0	0	0		0	18.8	81.2		
Total %	17.4	23.9	13	54.3	26.1	2.2	0	28.3	0	0	0	0	0	3.3	14.1	17.4	

	I-15 Southbound Off Ramp Southbound				Rasor Road Westbound				I-15 Southbound On Ramp Northbound				Rasor Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:00 PM																	
12:00 PM	**3**	**3**	2	**8**	0	**1**	0	1	0	0	0	0	0	**2**	1	**3**	12
12:15 PM	2	3	1	6	**5**	0	0	**5**	0	0	0	0	0	0	1	1	12
12:30 PM	1	2	**3**	6	4	0	0	4	0	0	0	0	0	0	**3**	3	**13**
12:45 PM	1	1	2	4	3	0	0	3	0	0	0	0	0	0	3	3	10
Total Volume	7	9	8	24	12	1	0	13	0	0	0	0	0	2	8	10	47
% App. Total	29.2	37.5	33.3		92.3	7.7	0		0	0	0		0	20	80		
PHF	.583	.750	.667	.750	.600	.250	.000	.650	.000	.000	.000	.000	.000	.250	.667	.833	.904

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Corona, CA 92878
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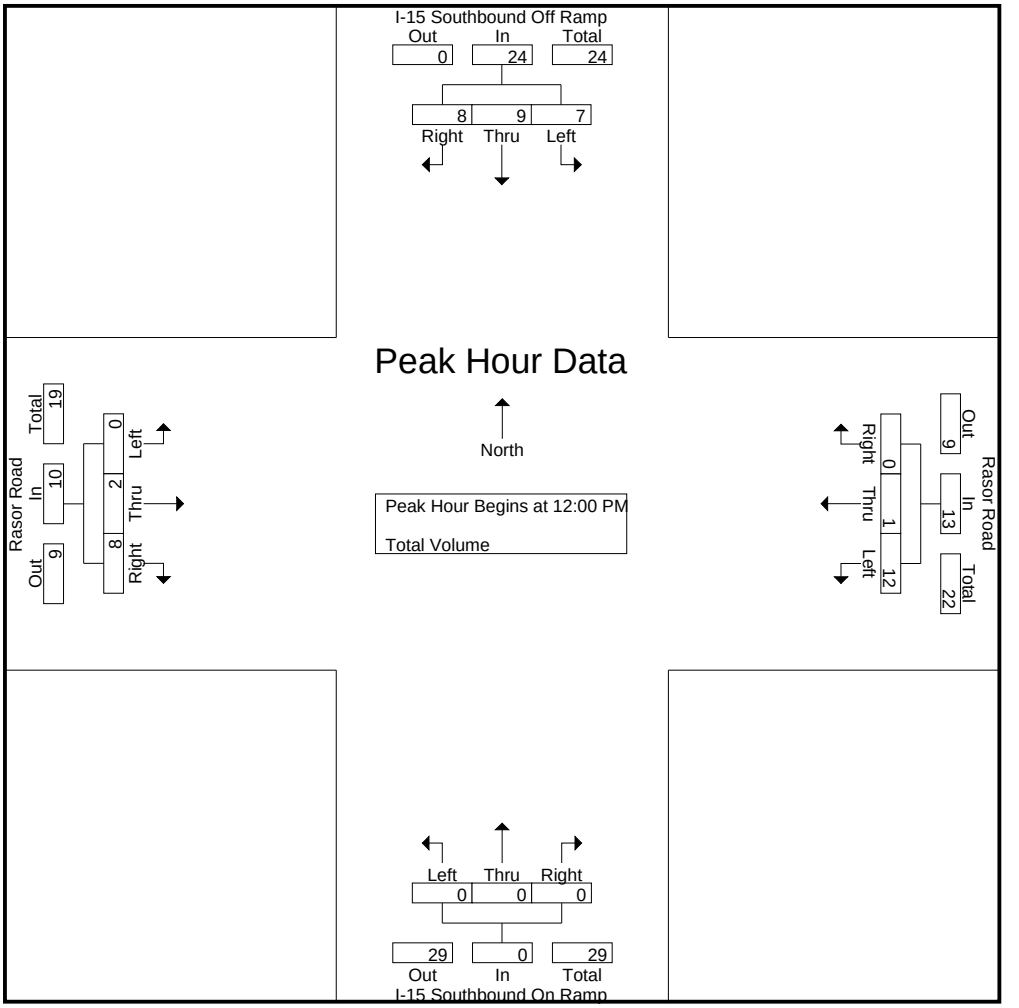
County of San Bernardino
N/S: I-15 Southbound Ramps
E/W: Rasor Road
Weather: Clear

File Name : 02_SCB_15S_Rasor MD
Site Code : 99923422
Start Date : 5/4/2023
Page No : 2



Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	12:00 PM				12:00 PM				11:00 AM				12:00 PM			
+0 mins.	**3**	**3**	2	**8**	0	**1**	0	1	0	0	0	0	0	**2**	1	**3**
+15 mins.	2	3	1	6	**5**	0	0	**5**	0	0	0	0	0	0	1	1
+30 mins.	1	2	**3**	6	4	0	0	4	0	0	0	0	0	0	**3**	3
+45 mins.	1	1	2	4	3	0	0	3	0	0	0	0	0	0	3	3
Total Volume	7	9	8	24	12	1	0	13	0	0	0	0	0	2	8	10
% App. Total	29.2	37.5	33.3		92.3	7.7	0		0	0	0		0	20	80	
PHF	.583	.750	.667	.750	.600	.250	.000	.650	.000	.000	.000	.000	.000	.250	.667	.833

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County of San Bernardino
N/S: I-15 Southbound Ramps
E/W: Rasor Road
Weather: Clear

File Name : 02_SCB_15S_Rasor PM
Site Code : 99923422
Start Date : 5/4/2023
Page No : 1

Groups Printed- Total Volume

	I-15 Southbound Off Ramp Southbound				Rasor Road Westbound				I-15 Southbound On Ramp Northbound				Rasor Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	2	2	0	4	1	0	0	1	0	0	0	0	0	0	0	0	5
03:15 PM	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	2
03:30 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	1	1	3
03:45 PM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	2
Total	3	4	0	7	3	0	0	3	0	0	0	0	0	0	2	2	12
04:00 PM	0	0	2	2	1	0	0	1	0	0	0	0	0	0	2	2	5
04:15 PM	1	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	2
04:30 PM	1	0	0	1	2	0	0	2	0	0	0	0	0	0	0	0	3
04:45 PM	1	2	0	3	1	0	0	1	0	0	0	0	0	0	0	0	4
Total	3	2	2	7	5	0	0	5	0	0	0	0	0	0	2	2	14
05:00 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
05:15 PM	1	0	2	3	2	0	0	2	0	0	0	0	0	0	0	0	5
05:30 PM	1	1	0	2	1	0	0	1	0	0	0	0	0	0	2	2	5
05:45 PM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	3	1	2	6	4	0	0	4	0	0	0	0	0	0	2	2	12
Grand Total	9	7	4	20	12	0	0	12	0	0	0	0	0	0	6	6	38
Apprch %	45	35	20		100	0	0		0	0	0		0	0	100		
Total %	23.7	18.4	10.5	52.6	31.6	0	0	31.6	0	0	0	0	0	0	15.8	15.8	

	I-15 Southbound Off Ramp Southbound				Rasor Road Westbound				I-15 Southbound On Ramp Northbound				Rasor Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	**1**	**2**	0	**3**	1	0	0	1	0	0	0	0	0	0	0	0	4
05:00 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
05:15 PM	1	0	**2**	3	**2**	0	0	**2**	0	0	0	0	0	0	0	0	**5**
05:30 PM	1	1	0	2	1	0	0	1	0	0	0	0	0	0	**2**	**2**	5
Total Volume	3	3	2	8	5	0	0	5	0	0	0	0	0	0	2	2	15
% App. Total	37.5	37.5	25		100	0	0		0	0	0		0	0	100		
PHF	.750	.375	.250	.667	.625	.000	.000	.625	.000	.000	.000	.000	.000	.000	.250	.250	.750

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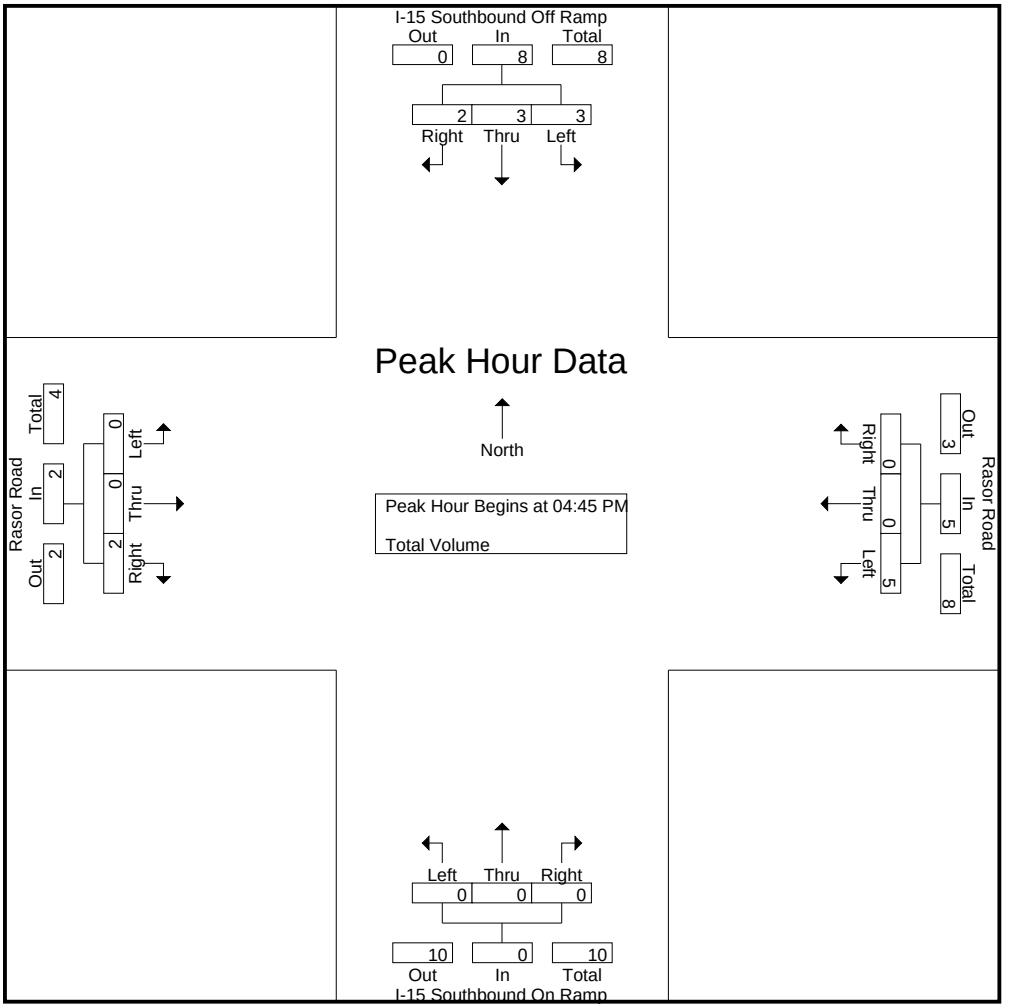
County of San Bernardino
N/S: I-15 Southbound Ramps
E/W: Rasor Road
Weather: Clear

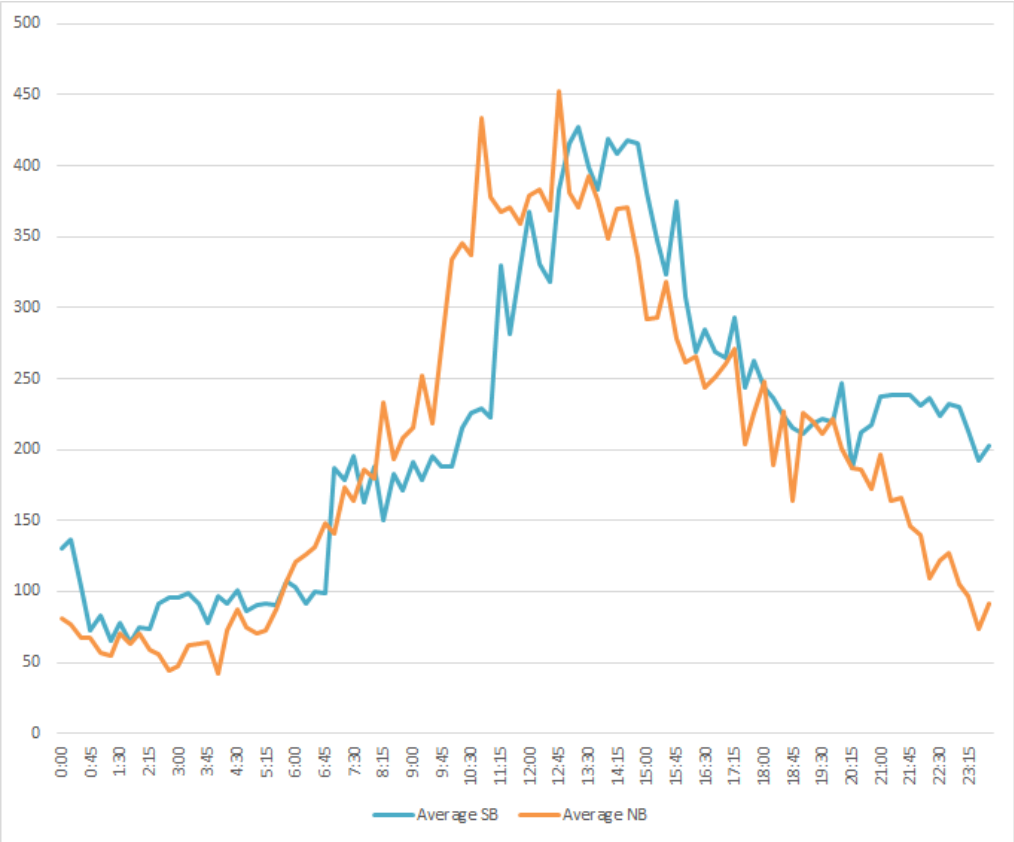
File Name : 02_SCB_15S_Rasor PM
Site Code : 99923422
Start Date : 5/4/2023
Page No : 2



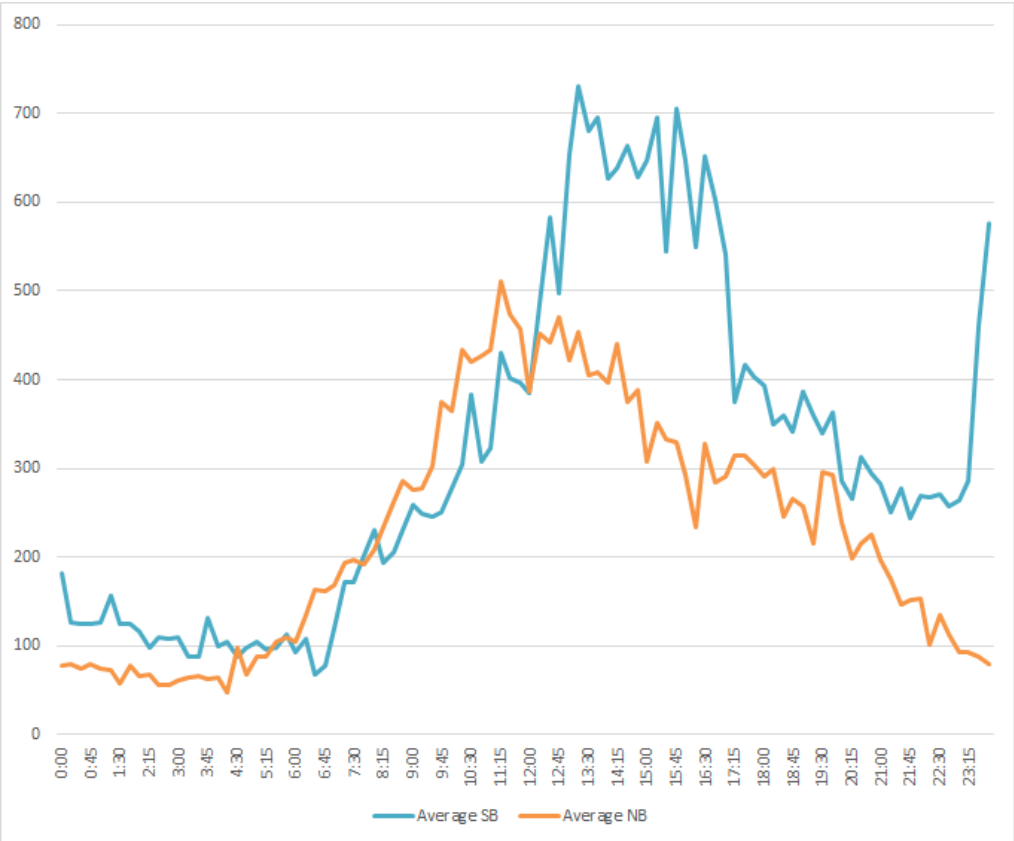
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM				04:30 PM				03:00 PM				03:15 PM			
+0 mins.	**1**	**2**	0	**3**	**2**	0	0	**2**	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	1
+30 mins.	1	0	**2**	3	1	0	0	1	0	0	0	0	0	0	1	1
+45 mins.	1	1	0	2	2	0	0	2	0	0	0	0	0	0	**2**	**2**
Total Volume	3	3	2	8	6	0	0	6	0	0	0	0	0	0	4	4
% App. Total	37.5	37.5	25		100	0	0		0	0	0		0	0	100	
PHF	.750	.375	.250	.667	.750	.000	.000	.750	.000	.000	.000	.000	.000	.000	.500	.500

PeMS THURSDAY (2023/04/20)



PeMS FRIDAY (2023/04/21)



RTE	RTE_SFX	DIST	CNTY	POSTMILE_PFX	POSTMILE	POSTMILE_SFX	LEG	DESCRIPTION	VEHICLE_AADT_TOTA	TRUCK_AADT_TOTAL	TRK_PERCENT_TOT	TRK_2_AXLE	TRK_3_AXLE	TRK_4_AXLE	TRK_5_AXLE	TRK_2_AXLE_PCT	TRK_3_AXLE_PCT	TRK_4_AXLE_PCT	TRK_5_AXLE_PCT	EAL	YEAR_VER	EST
015		08	SBD		2.389		A	JCT. RTE. 10	192000	19872	10.35	5,995	1,208	493	12,176	30.17	6.08	2.48	61.27	4,594	06	E
015		08	SBD		5.306		B	JCT. RTE. 66	186000	15066	8.10	4,545	916	374	9,231	30.17	6.08	2.48	61.27	3,483	15	E
015		08	SBD		5.306		A	JCT. RTE. 66	162000	13252	8.18	4,483	955	314	7,498	33.83	7.21	2.37	56.58	2,878	15	V
015		08	SBD		5.973		A	RANCHO CUCAMONGA, MILLER AVENUE	165000	14388	8.72	5,099	1,058	353	7,880	35.44	7.35	2.45	54.77	3,046	17	V
015		08	SBD		31.813		B	JCT. RTE. 395 NORTH	142000	19213	13.53	4,455	1,299	469	12,990	23.19	6.76	2.44	67.61	4,826	00	E
015		08	SBD		31.813		A	JCT. RTE. 395 NORTH	110000	17193	15.63	3,989	1,169	413	11,622	23.20	6.80	2.40	67.60	4,317	00	E
015		08	SBD		40.509		B	JCT. RTE. 18 SOUTH	94000	16986	18.07	3,927	1,150	406	11,501	23.12	6.77	2.39	67.71	4,271	00	E
015		08	SBD		40.509		A	JCT. RTE. 18 SOUTH	88000	15022	17.07	3,482	1,018	365	10,158	23.18	6.78	2.43	67.62	3,774	00	E
015		08	SBD		43.488		A	VICTORVILLE, JCT. RTE. 18 SOUTHEAST	59000	13959	23.66	3,233	944	342	9,439	23.16	6.76	2.45	67.62	3,507	00	E
015		08	SBD		68.770		B	BARSTOW, LENWOOD ROAD	54000	13495	24.99	3,136	918	325	9,117	23.24	6.80	2.41	67.56	3,387	00	E
015		08	SBD		68.770		A	BARSTOW, LENWOOD ROAD	60000	14346	23.91	3,334	976	346	9,692	23.24	6.80	2.41	67.56	3,601	01	E
015		08	SBD		74.418		B	BARSTOW, JCT. RTE. 40 EAST	68000	13376	19.67	3,102	904	324	9,046	23.19	6.76	2.42	67.63	3,360	01	E
015		08	SBD		74.418		A	BARSTOW, JCT. RTE. 40 EAST	43000	7181	16.70	1,859	199	95	5,027	25.89	2.77	1.32	70.01	1,832	05	E
015		08	SBD		76.883		B	JCT. RTE. 58 WEST	43000	7310	17.00	1,893	202	96	5,118	25.89	2.77	1.32	70.01	1,865	05	E
015		08	SBD		76.883		A	JCT. RTE. 58 WEST	43000	7091	16.49	1,532	203	94	5,262	21.61	2.86	1.32	74.21	1,902	15	V
015		08	SBD	R	81.834		B	GHOST TOWN ROAD		10034	17.06	1,928	396	153	7,557	19.21	3.95	1.52	75.31	2,734	20	V
015		08	SBD	R	87.260		O	YERMO INSPECTION STATION	38000	6973	18.35	1,445	193	92	5,242	20.72	2.77	1.32	75.18	1,890	15	E
015		08	SBD	R	136.574		B	BAKER, JCT. RTE. 127	33000	6600	20.00	1,284	321	182	4,813	19.45	4.86	2.76	72.93	1,762	01	E
015		08	SBD	R	136.574		A	BAKER, JCT. RTE. 127	32000	6733	21.04	1,310	327	186	4,910	19.45	4.86	2.76	72.93	1,797	01	E
015		08	SBD		176.459		B	NIPTON ROAD	37000	6645	17.96	1,701	218	86	4,639	25.60	3.28	1.30	69.81	1,693	01	E
015		08	SBD		186.238		B	NEVADA STATE LINE	38000	6825	17.96	1,747	224	89	4,765	25.60	3.28	1.30	69.81	1,739	01	E

Appendix D
Vistro Reports

Soda Mountain Solar TIA

Vistro File: H:\...\Soda Mountain Vistro.vistro
Report File: H:\...\Exist AM LOS.pdf

Scenario 1 Exist AM
5/31/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Rasor Road/I-15 NB Ramp Intersection	Two-way stop	HCM 7th Edition	EB Thru	0.017	9.4	A
2	Rasor Road/ I-15 SB Ramp Intersection	Two-way stop	HCM 7th Edition	WB Thru	0.004	9.3	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Rasor Road/I-15 NB Ramp Intersection

Control Type:	Two-way stop	Delay (sec / veh):	9.4
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.017

Intersection Setup

Name	Rasor Road			Rasor Road			I-15 NB Off-Ramp			I-15 SB On-Ramp		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			30.00			45.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Rasor Road			Rasor Road			I-15 NB Off-Ramp			I-15 SB On-Ramp		
Base Volume Input [veh/h]	0	1	12	0	2	0	0	11	12	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	20.00	20.00	20.00	20.00	2.00	20.00	20.00	20.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1	12	0	2	0	0	11	12	0	0	0
Peak Hour Factor	1.0000	0.7920	0.7920	0.7920	0.7920	1.0000	0.7920	0.7920	0.7920	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	4	0	1	0	0	3	4	0	0	0
Total Analysis Volume [veh/h]	0	1	15	0	3	0	0	14	15	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	7.41	0.00	0.00	8.87	9.41	8.62	0.00	0.00	0.00
Movement LOS		A	A	A	A		A	A	A			
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.10	0.10	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00	2.41	2.41	2.41	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			0.00			9.00			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	5.44											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 2: Rasor Road/ I-15 SB Ramp Intersection

Control Type:	Two-way stop	Delay (sec / veh):	9.3
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	Rasor Road			Rasor Road			I-15 SB On-Ramp			I-15 SB Off-Ramp		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Rasor Road			Rasor Road			I-15 SB On-Ramp			I-15 SB Off-Ramp		
Base Volume Input [veh/h]	3	0	0	0	0	3	0	0	0	2	2	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	20.00	20.00	2.00	2.00	20.00	20.00	2.00	2.00	2.00	20.00	20.00	20.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	0	0	0	0	3	0	0	0	2	2	3
Peak Hour Factor	0.6500	0.6500	1.0000	1.0000	0.6500	0.6500	1.0000	1.0000	1.0000	0.6500	0.6500	0.6500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	0	0	1	0	0	0	1	1	1
Total Analysis Volume [veh/h]	5	0	0	0	0	5	0	0	0	3	3	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance				No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.81	9.32	8.52
Movement LOS	A	A			A	A				A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.25	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.87	0.87	0.87
d_A, Approach Delay [s/veh]	7.40			0.00			0.00			8.82		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	6.38											
Intersection LOS	A											

Soda Mountain Solar TIA

Vistro File: H:\...\Soda Mountain Vistro.vistro
Report File: H:\...\Exist MD LOS.pdf

Scenario 3 Exist MD
5/31/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Rasor Road/I-15 NB Ramp Intersection	Two-way stop	HCM 7th Edition	EB Thru	0.005	9.8	A
2	Rasor Road/ I-15 SB Ramp Intersection	Two-way stop	HCM 7th Edition	WB Thru	0.012	9.5	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Rasor Road/I-15 NB Ramp Intersection

Control Type:	Two-way stop	Delay (sec / veh):	9.8
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	Rasor Road			Rasor Road			I-15 NB Off-Ramp			I-15 SB On-Ramp		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			45.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Rasor Road			Rasor Road			I-15 NB Off-Ramp			I-15 SB On-Ramp		
Base Volume Input [veh/h]	0	12	31	1	8	0	1	3	37	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	20.00	20.00	20.00	20.00	2.00	20.00	20.00	20.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	12	31	1	8	0	1	3	37	0	0	0
Peak Hour Factor	1.0000	0.7500	0.7500	0.7500	0.7500	1.0000	0.7500	0.7500	0.7500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	4	10	0	3	0	0	1	12	0	0	0
Total Analysis Volume [veh/h]	0	16	41	1	11	0	1	4	49	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.05	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	7.50	0.00	0.00	9.18	9.78	8.74	0.00	0.00	0.00
Movement LOS		A	A	A	A		A	A	A			
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.17	0.17	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.04	0.04	0.00	4.29	4.29	4.29	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			0.63			8.82			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	3.93											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 2: Rasor Road/ I-15 SB Ramp Intersection

Control Type:	Two-way stop	Delay (sec / veh):	9.5
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.012

Intersection Setup

Name	Rasor Road			Rasor Road			I-15 SB On-Ramp			I-15 SB Off-Ramp		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Rasor Road			Rasor Road			I-15 SB On-Ramp			I-15 SB Off-Ramp		
Base Volume Input [veh/h]	12	1	0	0	2	8	0	0	0	7	9	8
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	20.00	20.00	2.00	2.00	20.00	20.00	2.00	2.00	2.00	20.00	20.00	20.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	1	0	0	2	8	0	0	0	7	9	8
Peak Hour Factor	0.9040	0.9040	1.0000	1.0000	0.9040	0.9040	1.0000	1.0000	1.0000	0.9040	0.9040	0.9040
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	0	0	1	2	0	0	0	2	2	2
Total Analysis Volume [veh/h]	13	1	0	0	2	9	0	0	0	8	10	9
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance				No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01
d_M, Delay for Movement [s/veh]	7.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.03	9.55	8.61
Movement LOS	A	A			A	A				A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.09	0.09
95th-Percentile Queue Length [ft/ln]	0.61	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.29	2.29	2.29
d_A, Approach Delay [s/veh]	6.89			0.00			0.00			9.08		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	6.57											
Intersection LOS	A											

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Report File: H:\...\Exist PM LOS.pdf

Scenario 5 Exist PM
5/31/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Rasor Road/I-15 NB Ramp Intersection	Two-way stop	HCM 7th Edition	EB Thru	0.016	9.7	A
2	Rasor Road/ I-15 SB Ramp Intersection	Two-way stop	HCM 7th Edition	WB Thru	0.005	9.3	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Rasor Road/I-15 NB Ramp Intersection

Control Type:	Two-way stop	Delay (sec / veh):	9.7
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.016

Intersection Setup

Name	Rasor Road			Rasor Road			I-15 NB Off-Ramp			I-15 SB On-Ramp		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			45.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Rasor Road			Rasor Road			I-15 NB Off-Ramp			I-15 SB On-Ramp		
Base Volume Input [veh/h]	0	3	35	0	3	0	0	10	29	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	20.00	20.00	20.00	20.00	2.00	20.00	20.00	20.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	3	35	0	3	0	0	10	29	0	0	0
Peak Hour Factor	1.0000	0.8000	0.8000	0.8000	0.8000	1.0000	0.8000	0.8000	0.8000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	11	0	1	0	0	3	9	0	0	0
Total Analysis Volume [veh/h]	0	4	44	0	4	0	0	13	36	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.03	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	7.48	0.00	0.00	9.05	9.67	8.70	0.00	0.00	0.00
Movement LOS		A	A	A	A		A	A	A			
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.16	0.16	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00	4.03	4.03	4.03	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			0.00			8.96			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	4.35											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 2: Rasor Road/ I-15 SB Ramp Intersection

Control Type:	Two-way stop	Delay (sec / veh):	9.3
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	Rasor Road			Rasor Road			I-15 SB On-Ramp			I-15 SB Off-Ramp		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Rasor Road			Rasor Road			I-15 SB On-Ramp			I-15 SB Off-Ramp		
Base Volume Input [veh/h]	5	0	0	0	0	2	0	0	0	3	3	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	20.00	20.00	2.00	2.00	20.00	20.00	2.00	2.00	2.00	20.00	20.00	20.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	0	0	0	0	2	0	0	0	3	3	2
Peak Hour Factor	0.7500	0.7500	1.0000	1.0000	0.7500	0.7500	1.0000	1.0000	1.0000	0.7500	0.7500	0.7500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	0	0	0	0	1	0	0	0	1	1	1
Total Analysis Volume [veh/h]	7	0	0	0	0	3	0	0	0	4	4	3
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance				No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.83	9.34	8.53
Movement LOS	A	A			A	A				A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.04	0.04
95th-Percentile Queue Length [ft/ln]	0.35	0.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.90	0.90	0.90
d_A, Approach Delay [s/veh]	7.40			0.00			0.00			8.93		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	7.14											
Intersection LOS	A											

Soda Mountain Solar TIA

Vistro File: H:\...\Soda Mountain Vistro - Friday.vistro
Report File: H:\...\Fri Exist AM LOS.pdf

Scenario 1 Exist AM
10/3/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Rasor Road/I-15 NB Ramp Intersection	Two-way stop	HCM 7th Edition	EB Thru	0.019	9.5	A
2	Rasor Road/ I-15 SB Ramp Intersection	Two-way stop	HCM 7th Edition	WB Thru	0.004	9.3	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Rasor Road/I-15 NB Ramp Intersection

Control Type:	Two-way stop	Delay (sec / veh):	9.5
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.019

Intersection Setup

Name	Rasor Road			Rasor Road			I-15 NB Off-Ramp			I-15 SB On-Ramp		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			30.00			45.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Rasor Road			Rasor Road			I-15 NB Off-Ramp			I-15 SB On-Ramp		
Base Volume Input [veh/h]	0	1	15	0	2	0	0	13	15	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	20.00	20.00	20.00	20.00	2.00	20.00	20.00	20.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1	15	0	2	0	0	13	15	0	0	0
Peak Hour Factor	1.0000	0.7920	0.7920	0.7920	0.7920	1.0000	0.7920	0.7920	0.7920	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	5	0	1	0	0	4	5	0	0	0
Total Analysis Volume [veh/h]	0	1	19	0	3	0	0	16	19	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	7.42	0.00	0.00	8.91	9.46	8.64	0.00	0.00	0.00
Movement LOS		A	A	A	A		A	A	A			
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.12	0.12	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00	2.92	2.92	2.92	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			0.00			9.02			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	5.44											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 2: Rasor Road/ I-15 SB Ramp Intersection

Control Type:	Two-way stop	Delay (sec / veh):	9.3
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	Rasor Road			Rasor Road			I-15 SB On-Ramp			I-15 SB Off-Ramp		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Rasor Road			Rasor Road			I-15 SB On-Ramp			I-15 SB Off-Ramp		
Base Volume Input [veh/h]	4	0	0	0	0	4	0	0	0	2	2	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	20.00	20.00	2.00	2.00	20.00	20.00	2.00	2.00	2.00	20.00	20.00	20.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	0	0	0	0	4	0	0	0	2	2	4
Peak Hour Factor	0.6500	0.6500	1.0000	1.0000	0.6500	0.6500	1.0000	1.0000	1.0000	0.6500	0.6500	0.6500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	0	0	0	0	2	0	0	0	1	1	2
Total Analysis Volume [veh/h]	6	0	0	0	0	6	0	0	0	3	3	6
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance				No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	7.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.83	9.34	8.53
Movement LOS	A	A			A	A				A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.04	0.04
95th-Percentile Queue Length [ft/ln]	0.30	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.95	0.95	0.95
d_A, Approach Delay [s/veh]	7.40			0.00			0.00			8.81		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	6.25											
Intersection LOS	A											

Soda Mountain Solar TIA

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Report File: H:\...\Fri Exist MD LOS.pdf

Scenario 3 Exist MD
10/3/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Rasor Road/I-15 NB Ramp Intersection	Two-way stop	HCM 7th Edition	EB Thru	0.005	9.8	A
2	Rasor Road/ I-15 SB Ramp Intersection	Two-way stop	HCM 7th Edition	WB Thru	0.018	9.7	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Rasor Road/I-15 NB Ramp Intersection

Control Type:	Two-way stop	Delay (sec / veh):	9.8
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	Rasor Road			Rasor Road			I-15 NB Off-Ramp			I-15 SB On-Ramp		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			45.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Rasor Road			Rasor Road			I-15 NB Off-Ramp			I-15 SB On-Ramp		
Base Volume Input [veh/h]	0	13	34	1	9	0	1	3	41	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	20.00	20.00	20.00	20.00	2.00	20.00	20.00	20.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	13	34	1	9	0	1	3	41	0	0	0
Peak Hour Factor	1.0000	0.7500	0.7500	0.7500	0.7500	1.0000	0.7500	0.7500	0.7500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	4	11	0	3	0	0	1	14	0	0	0
Total Analysis Volume [veh/h]	0	17	45	1	12	0	1	4	55	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.05	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	7.51	0.00	0.00	9.23	9.84	8.77	0.00	0.00	0.00
Movement LOS		A	A	A	A		A	A	A			
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.19	0.19	0.19	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.04	0.04	0.00	4.80	4.80	4.80	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			0.58			8.85			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	3.99											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 2: Rasor Road/ I-15 SB Ramp Intersection

Control Type:	Two-way stop	Delay (sec / veh):	9.7
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.018

Intersection Setup

Name	Rasor Road			Rasor Road			I-15 SB On-Ramp			I-15 SB Off-Ramp		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Rasor Road			Rasor Road			I-15 SB On-Ramp			I-15 SB Off-Ramp		
Base Volume Input [veh/h]	17	1	0	0	3	11	0	0	0	10	13	11
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	20.00	20.00	2.00	2.00	20.00	20.00	2.00	2.00	2.00	20.00	20.00	20.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	17	1	0	0	3	11	0	0	0	10	13	11
Peak Hour Factor	0.9040	0.9040	1.0000	1.0000	0.9040	0.9040	1.0000	1.0000	1.0000	0.9040	0.9040	0.9040
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	0	0	0	1	3	0	0	0	3	4	3
Total Analysis Volume [veh/h]	19	1	0	0	3	12	0	0	0	11	14	12
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance				No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.01
d_M, Delay for Movement [s/veh]	7.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.18	9.71	8.66
Movement LOS	A	A			A	A				A	A	A
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.13	0.13
95th-Percentile Queue Length [ft/ln]	0.92	0.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.24	3.24	3.24
d_A, Approach Delay [s/veh]	7.07			0.00			0.00			9.21		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	6.70											
Intersection LOS	A											

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Report File: H:\...\Fri Exist PM LOS.pdf

Scenario 5 Exist PM
10/3/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Rasor Road/I-15 NB Ramp Intersection	Two-way stop	HCM 7th Edition	EB Thru	0.017	9.7	A
2	Rasor Road/ I-15 SB Ramp Intersection	Two-way stop	HCM 7th Edition	WB Thru	0.005	9.4	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Rasor Road/I-15 NB Ramp Intersection

Control Type:	Two-way stop	Delay (sec / veh):	9.7
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.017

Intersection Setup

Name	Rasor Road			Rasor Road			I-15 NB Off-Ramp			I-15 SB On-Ramp		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			45.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Rasor Road			Rasor Road			I-15 NB Off-Ramp			I-15 SB On-Ramp		
Base Volume Input [veh/h]	0	3	37	0	3	0	0	11	31	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	20.00	20.00	20.00	20.00	2.00	20.00	20.00	20.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	3	37	0	3	0	0	11	31	0	0	0
Peak Hour Factor	1.0000	0.8000	0.8000	0.8000	0.8000	1.0000	0.8000	0.8000	0.8000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	12	0	1	0	0	3	10	0	0	0
Total Analysis Volume [veh/h]	0	4	46	0	4	0	0	14	39	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.04	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	7.49	0.00	0.00	9.08	9.70	8.72	0.00	0.00	0.00
Movement LOS		A	A	A	A		A	A	A			
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.18	0.18	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00	4.38	4.38	4.38	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			0.00			8.98			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	4.45											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 2: Rasor Road/ I-15 SB Ramp Intersection

Control Type:	Two-way stop	Delay (sec / veh):	9.4
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	Rasor Road			Rasor Road			I-15 SB On-Ramp			I-15 SB Off-Ramp		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Rasor Road			Rasor Road			I-15 SB On-Ramp			I-15 SB Off-Ramp		
Base Volume Input [veh/h]	6	0	0	0	0	2	0	0	0	3	3	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	20.00	20.00	2.00	2.00	20.00	20.00	2.00	2.00	2.00	20.00	20.00	20.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	0	0	0	0	2	0	0	0	3	3	2
Peak Hour Factor	0.7500	0.7500	1.0000	1.0000	0.7500	0.7500	1.0000	1.0000	1.0000	0.7500	0.7500	0.7500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	0	0	0	0	1	0	0	0	1	1	1
Total Analysis Volume [veh/h]	8	0	0	0	0	3	0	0	0	4	4	3
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance				No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.85	9.35	8.53
Movement LOS	A	A			A	A				A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.04	0.04
95th-Percentile Queue Length [ft/ln]	0.40	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.90	0.90	0.90
d_A, Approach Delay [s/veh]	7.40			0.00			0.00			8.94		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	7.16											
Intersection LOS	A											

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Scenario 2 ExistProj AM
10/2/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Rasor Road/I-15 NB Ramp Intersection	Two-way stop	HCM 7th Edition	EB Thru	0.018	15.5	C
2	Rasor Road/ I-15 SB Ramp Intersection	Two-way stop	HCM 7th Edition	WB Thru	0.004	9.6	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Rasor Road/I-15 NB Ramp Intersection

Control Type:	Two-way stop	Delay (sec / veh):	15.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.018

Intersection Setup

Name	Rasor Road			Rasor Road			I-15 NB Off-Ramp			I-15 SB On-Ramp		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			45.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Rasor Road			Rasor Road			I-15 NB Off-Ramp			I-15 SB On-Ramp		
Base Volume Input [veh/h]	0	1	12	0	51	0	0	11	451	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	20.00	20.00	20.00	20.00	2.00	20.00	20.00	20.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1	12	0	51	0	0	11	451	0	0	0
Peak Hour Factor	1.0000	0.7920	0.7920	0.7920	0.7920	1.0000	0.7920	0.7920	0.7920	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	4	0	16	0	0	3	142	0	0	0
Total Analysis Volume [veh/h]	0	1	15	0	64	0	0	14	569	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.60	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	7.41	0.00	0.00	15.00	15.52	14.67	0.00	0.00	0.00
Movement LOS		A	A	A	A		B	C	B			
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	4.38	4.38	4.38	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00	109.58	109.58	109.58	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			0.00			14.69			0.00		
Approach LOS	A			A			B			A		
d_I, Intersection Delay [s/veh]	12.92											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 2: Rasor Road/ I-15 SB Ramp Intersection

Control Type:	Two-way stop	Delay (sec / veh):	9.6
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	Rasor Road			Rasor Road			I-15 SB On-Ramp			I-15 SB Off-Ramp		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Rasor Road			Rasor Road			I-15 SB On-Ramp			I-15 SB Off-Ramp		
Base Volume Input [veh/h]	3	0	0	0	0	3	0	0	0	51	2	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	20.00	20.00	2.00	2.00	20.00	20.00	2.00	2.00	2.00	20.00	20.00	20.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	0	0	0	0	3	0	0	0	51	2	3
Peak Hour Factor	0.6500	0.6500	1.0000	1.0000	0.6500	0.6500	1.0000	1.0000	1.0000	0.6500	0.6500	0.6500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	0	0	1	0	0	0	20	1	1
Total Analysis Volume [veh/h]	5	0	0	0	0	5	0	0	0	78	3	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance				No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00
d_M, Delay for Movement [s/veh]	7.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.13	9.65	8.85
Movement LOS	A	A			A	A				A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.30	0.30	0.30
95th-Percentile Queue Length [ft/ln]	0.25	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.39	7.39	7.39
d_A, Approach Delay [s/veh]	7.40			0.00			0.00			9.14		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	8.57											
Intersection LOS	A											

Soda Mountain Solar TIA

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Scenario 4 ExistProj MD
10/2/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Rasor Road/I-15 NB Ramp Intersection	Two-way stop	HCM 7th Edition	EB Thru	0.005	9.9	A
2	Rasor Road/ I-15 SB Ramp Intersection	Two-way stop	HCM 7th Edition	WB Thru	0.013	9.6	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Rasor Road/I-15 NB Ramp Intersection

Control Type:	Two-way stop	Delay (sec / veh):	9.9
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	Rasor Road			Rasor Road			I-15 NB Off-Ramp			I-15 SB On-Ramp		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			45.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Rasor Road			Rasor Road			I-15 NB Off-Ramp			I-15 SB On-Ramp		
Base Volume Input [veh/h]	0	17	32	1	9	0	1	3	42	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	20.00	20.00	20.00	20.00	2.00	20.00	20.00	20.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	17	32	1	9	0	1	3	42	0	0	0
Peak Hour Factor	1.0000	0.7500	0.7500	0.7500	0.7500	1.0000	0.7500	0.7500	0.7500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	6	11	0	3	0	0	1	14	0	0	0
Total Analysis Volume [veh/h]	0	23	43	1	12	0	1	4	56	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.05	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	7.52	0.00	0.00	9.26	9.87	8.77	0.00	0.00	0.00
Movement LOS		A	A	A	A		A	A	A			
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.20	0.20	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.04	0.04	0.00	4.89	4.89	4.89	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			0.58			8.85			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	3.91											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 2: Rasor Road/ I-15 SB Ramp Intersection

Control Type:	Two-way stop	Delay (sec / veh):	9.6
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.013

Intersection Setup

Name	Rasor Road			Rasor Road			I-15 SB On-Ramp			I-15 SB Off-Ramp		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Rasor Road			Rasor Road			I-15 SB On-Ramp			I-15 SB Off-Ramp		
Base Volume Input [veh/h]	17	1	0	0	2	8	0	0	0	8	9	8
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	20.00	20.00	2.00	2.00	20.00	20.00	2.00	2.00	2.00	20.00	20.00	20.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	17	1	0	0	2	8	0	0	0	8	9	8
Peak Hour Factor	0.9040	0.9040	1.0000	1.0000	0.9040	0.9040	1.0000	1.0000	1.0000	0.9040	0.9040	0.9040
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	0	0	0	1	2	0	0	0	2	2	2
Total Analysis Volume [veh/h]	19	1	0	0	2	9	0	0	0	9	10	9
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance				No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01
d_M, Delay for Movement [s/veh]	7.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.12	9.64	8.61
Movement LOS	A	A			A	A				A	A	A
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.10	0.10
95th-Percentile Queue Length [ft/ln]	0.91	0.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.42	2.42	2.42
d_A, Approach Delay [s/veh]	7.06			0.00			0.00			9.15		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	6.73											
Intersection LOS	A											

Soda Mountain Solar TIA

Vistro File: H:\...\Soda Mountain Vistro.vistro
Report File: H:\...\Th ExistProj PM LOS.pdf

Scenario 6 ExistProj PM
10/2/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Rasor Road/I-15 NB Ramp Intersection	Two-way stop	HCM 7th Edition	EB Thru	0.036	15.4	C
2	Rasor Road/ I-15 SB Ramp Intersection	Two-way stop	HCM 6th Edition	WB Left	0.043	46.3	E

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Rasor Road/I-15 NB Ramp Intersection

Control Type:	Two-way stop	Delay (sec / veh):	15.4
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.036

Intersection Setup

Name	Rasor Road			Rasor Road			I-15 NB Off-Ramp			I-15 SB On-Ramp		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			45.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Rasor Road			Rasor Road			I-15 NB Off-Ramp			I-15 SB On-Ramp		
Base Volume Input [veh/h]	0	442	84	0	3	0	0	10	29	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	20.00	20.00	20.00	20.00	2.00	20.00	20.00	20.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	442	84	0	3	0	0	10	29	0	0	0
Peak Hour Factor	1.0000	0.8000	0.8000	0.8000	0.8000	1.0000	0.8000	0.8000	0.8000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	138	26	0	1	0	0	3	9	0	0	0
Total Analysis Volume [veh/h]	0	553	105	0	4	0	0	13	36	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.04	0.03	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	9.24	0.00	0.00	14.83	15.40	8.90	0.00	0.00	0.00
Movement LOS		A	A	A	A		B	C	A			
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.23	0.23	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00	5.72	5.72	5.72	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			0.00			10.62			0.00		
Approach LOS	A			A			B			A		
d_I, Intersection Delay [s/veh]	0.73											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 2: Rasor Road/ I-15 SB Ramp Intersection

Control Type:	Two-way stop	Delay (sec / veh):	46.3
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.043

Intersection Setup

Name	Rasor Road			Rasor Road			I-15 SB On-Ramp			I-15 SB Off-Ramp		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Rasor Road			Rasor Road			I-15 SB On-Ramp			I-15 SB Off-Ramp		
Base Volume Input [veh/h]	444	0	0	0	0	2	0	0	0	3	3	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	20.00	20.00	2.00	2.00	20.00	20.00	2.00	2.00	2.00	20.00	20.00	20.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	444	0	0	0	0	2	0	0	0	3	3	2
Peak Hour Factor	0.7500	0.7500	1.0000	1.0000	0.7500	0.7500	1.0000	1.0000	1.0000	0.7500	0.7500	0.7500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	148	0	0	0	0	1	0	0	0	1	1	1
Total Analysis Volume [veh/h]	592	0	0	0	0	3	0	0	0	4	4	3
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance				No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.04	0.00
d_M, Delay for Movement [s/veh]	8.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	46.34	41.50	10.98
Movement LOS	A	A			A	A				E	E	B
95th-Percentile Queue Length [veh/ln]	1.91	1.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.27	0.27	0.27
95th-Percentile Queue Length [ft/ln]	47.64	47.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.74	6.74	6.74
d_A, Approach Delay [s/veh]	8.92			0.00			0.00			34.94		
Approach LOS	A			A			A			D		
d_I, Intersection Delay [s/veh]	9.35											
Intersection LOS	E											

Soda Mountain Solar TIA

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Report File: H:\...\Fri ExistProj AM LOS.pdf

Scenario 2 ExistProj AM
10/3/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Rasor Road/I-15 NB Ramp Intersection	Two-way stop	HCM 7th Edition	EB Thru	0.021	15.7	C
2	Rasor Road/ I-15 SB Ramp Intersection	Two-way stop	HCM 7th Edition	WB Thru	0.004	9.7	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Rasor Road/I-15 NB Ramp Intersection

Control Type:	Two-way stop	Delay (sec / veh):	15.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.021

Intersection Setup

Name	Rasor Road			Rasor Road			I-15 NB Off-Ramp			I-15 SB On-Ramp		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			45.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Rasor Road			Rasor Road			I-15 NB Off-Ramp			I-15 SB On-Ramp		
Base Volume Input [veh/h]	0	1	15	0	51	0	0	13	454	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	20.00	20.00	20.00	20.00	2.00	20.00	20.00	20.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1	15	0	51	0	0	13	454	0	0	0
Peak Hour Factor	1.0000	0.7920	0.7920	0.7920	0.7920	1.0000	0.7920	0.7920	0.7920	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	5	0	16	0	0	4	143	0	0	0
Total Analysis Volume [veh/h]	0	1	19	0	64	0	0	16	573	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.60	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	7.42	0.00	0.00	15.18	15.72	14.84	0.00	0.00	0.00
Movement LOS		A	A	A	A		C	C	B			
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	4.50	4.50	4.50	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00	112.38	112.38	112.38	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			0.00			14.86			0.00		
Approach LOS	A			A			B			A		
d_I, Intersection Delay [s/veh]	13.01											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 2: Rasor Road/ I-15 SB Ramp Intersection

Control Type:	Two-way stop	Delay (sec / veh):	9.7
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	Rasor Road			Rasor Road			I-15 SB On-Ramp			I-15 SB Off-Ramp		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Rasor Road			Rasor Road			I-15 SB On-Ramp			I-15 SB Off-Ramp		
Base Volume Input [veh/h]	4	0	0	0	0	4	0	0	0	51	2	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	20.00	20.00	2.00	2.00	20.00	20.00	2.00	2.00	2.00	20.00	20.00	20.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	0	0	0	0	4	0	0	0	51	2	4
Peak Hour Factor	0.6500	0.6500	1.0000	1.0000	0.6500	0.6500	1.0000	1.0000	1.0000	0.6500	0.6500	0.6500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	0	0	0	0	2	0	0	0	20	1	2
Total Analysis Volume [veh/h]	6	0	0	0	0	6	0	0	0	78	3	6
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance				No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.01
d_M, Delay for Movement [s/veh]	7.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.16	9.67	8.86
Movement LOS	A	A			A	A				A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.30	0.30	0.30
95th-Percentile Queue Length [ft/ln]	0.30	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.51	7.51	7.51
d_A, Approach Delay [s/veh]	7.40			0.00			0.00			9.16		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	8.49											
Intersection LOS	A											

Soda Mountain Solar TIA

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Report File: H:\...\Fri ExistProj MD LOS.pdf

Scenario 4 ExistProj MD
10/3/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Rasor Road/I-15 NB Ramp Intersection	Two-way stop	HCM 7th Edition	EB Thru	0.005	9.9	A
2	Rasor Road/ I-15 SB Ramp Intersection	Two-way stop	HCM 7th Edition	WB Thru	0.018	9.8	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Rasor Road/I-15 NB Ramp Intersection

Control Type:	Two-way stop	Delay (sec / veh):	9.9
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	Rasor Road			Rasor Road			I-15 NB Off-Ramp			I-15 SB On-Ramp		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			45.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Rasor Road			Rasor Road			I-15 NB Off-Ramp			I-15 SB On-Ramp		
Base Volume Input [veh/h]	0	18	35	1	10	0	1	3	46	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	20.00	20.00	20.00	20.00	2.00	20.00	20.00	20.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	18	35	1	10	0	1	3	46	0	0	0
Peak Hour Factor	1.0000	0.7500	0.7500	0.7500	0.7500	1.0000	0.7500	0.7500	0.7500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	6	12	0	3	0	0	1	15	0	0	0
Total Analysis Volume [veh/h]	0	24	47	1	13	0	1	4	61	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.06	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	7.53	0.00	0.00	9.31	9.93	8.80	0.00	0.00	0.00
Movement LOS		A	A	A	A		A	A	A			
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.21	0.21	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.04	0.04	0.00	5.31	5.31	5.31	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			0.54			8.87			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	3.93											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 2: Rasor Road/ I-15 SB Ramp Intersection

Control Type:	Two-way stop	Delay (sec / veh):	9.8
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.018

Intersection Setup

Name	Rasor Road			Rasor Road			I-15 SB On-Ramp			I-15 SB Off-Ramp		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Rasor Road			Rasor Road			I-15 SB On-Ramp			I-15 SB Off-Ramp		
Base Volume Input [veh/h]	22	1	0	0	3	11	0	0	0	11	13	11
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	20.00	20.00	2.00	2.00	20.00	20.00	2.00	2.00	2.00	20.00	20.00	20.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	22	1	0	0	3	11	0	0	0	11	13	11
Peak Hour Factor	0.9040	0.9040	1.0000	1.0000	0.9040	0.9040	1.0000	1.0000	1.0000	0.9040	0.9040	0.9040
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	0	0	0	1	3	0	0	0	3	4	3
Total Analysis Volume [veh/h]	24	1	0	0	3	12	0	0	0	12	14	12
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance				No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.01
d_M, Delay for Movement [s/veh]	7.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.27	9.80	8.67
Movement LOS	A	A			A	A				A	A	A
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.14	0.14
95th-Percentile Queue Length [ft/ln]	1.18	1.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.38	3.38	3.38
d_A, Approach Delay [s/veh]	7.15			0.00			0.00			9.27		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	6.81											
Intersection LOS	A											

Soda Mountain Solar TIA

Vistro File: H:\...\Soda Mountain Vistro - Friday.vistro
Report File: H:\...\Fri ExistProj PM LOS.pdf

Scenario 6 ExistProj PM
10/3/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Rasor Road/I-15 NB Ramp Intersection	Two-way stop	HCM 7th Edition	EB Thru	0.039	15.5	C
2	Rasor Road/ I-15 SB Ramp Intersection	Two-way stop	HCM 6th Edition	WB Left	0.043	46.5	E

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Rasor Road/I-15 NB Ramp Intersection

Control Type:	Two-way stop	Delay (sec / veh):	15.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.039

Intersection Setup

Name	Rasor Road			Rasor Road			I-15 NB Off-Ramp			I-15 SB On-Ramp		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			45.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Rasor Road			Rasor Road			I-15 NB Off-Ramp			I-15 SB On-Ramp		
Base Volume Input [veh/h]	0	442	86	0	3	0	0	11	31	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	20.00	20.00	20.00	20.00	2.00	20.00	20.00	20.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	442	86	0	3	0	0	11	31	0	0	0
Peak Hour Factor	1.0000	0.8000	0.8000	0.8000	0.8000	1.0000	0.8000	0.8000	0.8000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	138	27	0	1	0	0	3	10	0	0	0
Total Analysis Volume [veh/h]	0	553	108	0	4	0	0	14	39	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.04	0.04	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	9.25	0.00	0.00	14.88	15.48	8.93	0.00	0.00	0.00
Movement LOS		A	A	A	A		B	C	A			
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.25	0.25	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00	6.23	6.23	6.23	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			0.00			10.66			0.00		
Approach LOS	A			A			B			A		
d_I, Intersection Delay [s/veh]	0.79											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 2: Rasor Road/ I-15 SB Ramp Intersection

Control Type:	Two-way stop	Delay (sec / veh):	46.5
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.043

Intersection Setup

Name	Rasor Road			Rasor Road			I-15 SB On-Ramp			I-15 SB Off-Ramp		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Rasor Road			Rasor Road			I-15 SB On-Ramp			I-15 SB Off-Ramp		
Base Volume Input [veh/h]	445	0	0	0	0	2	0	0	0	3	3	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	20.00	20.00	2.00	2.00	20.00	20.00	2.00	2.00	2.00	20.00	20.00	20.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	445	0	0	0	0	2	0	0	0	3	3	2
Peak Hour Factor	0.7500	0.7500	1.0000	1.0000	0.7500	0.7500	1.0000	1.0000	1.0000	0.7500	0.7500	0.7500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	148	0	0	0	0	1	0	0	0	1	1	1
Total Analysis Volume [veh/h]	593	0	0	0	0	3	0	0	0	4	4	3
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance				No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.04	0.00
d_M, Delay for Movement [s/veh]	8.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	46.53	41.65	11.00
Movement LOS	A	A			A	A				E	E	B
95th-Percentile Queue Length [veh/ln]	1.91	1.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.27	0.27	0.27
95th-Percentile Queue Length [ft/ln]	47.77	47.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.77	6.77	6.77
d_A, Approach Delay [s/veh]	8.92			0.00			0.00			35.07		
Approach LOS	A			A			A			E		
d_I, Intersection Delay [s/veh]	9.35											
Intersection LOS	E											

Appendix E
HCS Reports

HCS7 Basic Freeway Report

Project Information

Analyst	KAI - SYL	Date	4/20/2023
Agency	SWCA	Analysis Year	2023
Jurisdiction	Caltrans	Time Analyzed	8:00 - 9:00 AM
Project Description	Thurs AM Peak Hour - NB Existing Conditions	Units	U.S. Customary
Segment Number	1	Segment Name	I15 Basin to Rasor
Analysis Period Number	1	Segment Analysis Period	08:00-08:15

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	8041	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	68.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	814	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor	0.87	Flow Rate (V_p), pc/h/ln	562
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2387
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2387
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.24
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	8.2
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	68.7		

HCS7 Basic Freeway Report

Project Information

Segment Number	5	Segment Name	I15 Rasor to Zzyzx
Analysis Period Number	1	Segment Analysis Period	08:00-08:15

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	13532	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	68.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	814	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor	0.87	Flow Rate (V_p), pc/h/ln	562
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2387
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2387
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.24
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	8.2
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	68.7		

HCS7 Basic Freeway Report

Project Information

Analyst	KAI - SYL	Date	4/20/2023
Agency	SWCA	Analysis Year	2023
Jurisdiction	Caltrans	Time Analyzed	8:00 - 9:00 AM
Project Description	Thurs AM Peak Hour - SB Existing Conditions	Units	U.S. Customary
Segment Number	1	Segment Name	I15 Zzyzx to Rasor
Analysis Period Number	1	Segment Analysis Period	08:00-08:15

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	13532	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	68.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	692	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	452
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2387
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2387
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.19
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	6.6
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	68.7		

HCS7 Basic Freeway Report

Project Information

Segment Number	5	Segment Name	I15 Rasor to Basin
Analysis Period Number	1	Segment Analysis Period	08:00-08:15

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	8041	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	68.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	692	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	452
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2387
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2387
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.19
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	6.6
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	68.7		

HCS7 Basic Freeway Report

Project Information

Analyst	KAI - SYL	Date	4/20/2023
Agency	SWCA	Analysis Year	2023
Jurisdiction	Caltrans	Time Analyzed	12:00 - 1:00 PM
Project Description	Thurs MD Peak Hour - NB Existing Conditions	Units	U.S. Customary
Segment Number	1	Segment Name	I15 Basin to Rasor
Analysis Period Number	1	Segment Analysis Period	12:00-12:15

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	8041	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	68.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1584	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor	0.87	Flow Rate (V_p), pc/h/ln	1093
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2387
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2387
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.46
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	15.9
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	68.7		

HCS7 Basic Freeway Report

Project Information

Segment Number	5	Segment Name	I15 Rasor to Zzyzx
Analysis Period Number	1	Segment Analysis Period	12:00-12:15

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	13532	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	68.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1584	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor	0.87	Flow Rate (V_p), pc/h/ln	1093
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2387
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2387
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.46
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	15.9
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	68.7		

HCS7 Basic Freeway Report

Project Information

Analyst	KAI - SYL	Date	4/20/2023
Agency	SWCA	Analysis Year	2023
Jurisdiction	Caltrans	Time Analyzed	12:00 - 1:00 PM
Project Description	Thurs MD Peak Hour - SB Existing Conditions	Units	U.S. Customary
Segment Number	1	Segment Name	I15 Zzyzx to Rasor
Analysis Period Number	1	Segment Analysis Period	12:00-12:15

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	13532	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	68.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1399	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor	0.91	Flow Rate (V_p), pc/h/ln	923
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2387
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2387
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.39
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	13.4
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	68.7		

HCS7 Basic Freeway Report

Project Information

Segment Number	5	Segment Name	I15 Rasor to Basin
Analysis Period Number	1	Segment Analysis Period	12:00-12:15

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	8041	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	68.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1399	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor	0.91	Flow Rate (V_p), pc/h/ln	923
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2387
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2387
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.39
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	13.4
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	68.7		

HCS7 Basic Freeway Report

Project Information

Analyst	KAI - SYL	Date	4/20/2023
Agency	SWCA	Analysis Year	2023
Jurisdiction	Caltrans	Time Analyzed	3:00 - 4:00 PM
Project Description	Thurs PM Peak Hour - NB Existing Conditions	Units	U.S. Customary
Segment Number	1	Segment Name	I15 Basin to Rasor
Analysis Period Number	1	Segment Analysis Period	15:00-15:15

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	8041	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	68.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1181	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor	0.93	Flow Rate (V_p), pc/h/ln	762
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2387
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2387
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.32
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	11.1
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	68.7		

HCS7 Basic Freeway Report

Project Information

Segment Number	5	Segment Name	I15 Rasor to Zzyzx
Analysis Period Number	1	Segment Analysis Period	15:00-15:15

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	13532	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	68.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1181	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor	0.93	Flow Rate (V_p), pc/h/ln	762
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2387
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2387
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.32
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	11.1
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	68.7		

HCS7 Basic Freeway Report

Project Information

Analyst	KAI - SYL	Date	4/20/2023
Agency	SWCA	Analysis Year	2023
Jurisdiction	Caltrans	Time Analyzed	3:00 - 4:00 PM
Project Description	Thurs PM Peak Hour - SB Existing Conditions	Units	U.S. Customary
Segment Number	1	Segment Name	I15 Zzyzx to Rasor
Analysis Period Number	1	Segment Analysis Period	15:00-15:15

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	13532	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	68.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1427	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	911
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2387
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2387
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.38
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	13.3
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	68.7		

HCS7 Basic Freeway Report

Project Information

Segment Number	5	Segment Name	I15 Rasor to Basin
Analysis Period Number	1	Segment Analysis Period	15:00-15:15

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	8041	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	68.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1427	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	911
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2387
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2387
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.38
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	13.3
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	68.7		

HCS7 Basic Freeway Report

Project Information

Analyst	KAI - SYL	Date	4/20/2023
Agency	SWCA	Analysis Year	2023
Jurisdiction	Caltrans	Time Analyzed	8:00 - 9:00 AM
Project Description	Fri AM Peak Hour - NB Existing Conditions	Units	U.S. Customary
Segment Number	1	Segment Name	I15 Basin to Rasor
Analysis Period Number	1	Segment Analysis Period	08:00-08:15

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	8041	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	68.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	988	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor	0.87	Flow Rate (V_p), pc/h/ln	682
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2387
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2387
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.29
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	9.9
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	68.7		

HCS7 Basic Freeway Report

Project Information

Segment Number	5	Segment Name	I15 Rasor to Zzyzx
Analysis Period Number	1	Segment Analysis Period	08:00-08:15

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	13532	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	68.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	988	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor	0.87	Flow Rate (V_p), pc/h/ln	682
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2387
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2387
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.29
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	9.9
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	68.7		

HCS7 Basic Freeway Report

Project Information

Analyst	KAI - SYL	Date	4/20/2023
Agency	SWCA	Analysis Year	2023
Jurisdiction	Caltrans	Time Analyzed	8:00 - 9:00 AM
Project Description	Fri AM Peak Hour - SB Existing Conditions	Units	U.S. Customary
Segment Number	1	Segment Name	I15 Zzyzx to Rasor
Analysis Period Number	1	Segment Analysis Period	08:00-08:15

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	13532	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	68.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	861	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor	0.93	Flow Rate (V_p), pc/h/ln	556
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2387
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2387
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.23
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	8.1
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	68.7		

HCS7 Basic Freeway Report

Project Information

Segment Number	5	Segment Name	I15 Rasor to Basin
Analysis Period Number	1	Segment Analysis Period	08:00-08:15

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	8041	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	68.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	861	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor	0.93	Flow Rate (V_p), pc/h/ln	556
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2387
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2387
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.23
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	8.1
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	68.7		

HCS7 Basic Freeway Report

Project Information

Analyst	KAI - SYL	Date	4/20/2023
Agency	SWCA	Analysis Year	2023
Jurisdiction	Caltrans	Time Analyzed	12:00 - 1:00 PM
Project Description	Fri MD Peak Hour - NB Existing Conditions	Units	U.S. Customary
Segment Number	1	Segment Name	I15 Basin to Rasor
Analysis Period Number	1	Segment Analysis Period	12:00-12:15

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	8041	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	68.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1750	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor	0.93	Flow Rate (V_p), pc/h/ln	1130
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2387
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2387
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.47
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	16.4
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	68.7		

HCS7 Basic Freeway Report

Project Information

Segment Number	5	Segment Name	I15 Rasor to Zzyzx
Analysis Period Number	1	Segment Analysis Period	12:00-12:15

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	13532	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	68.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1750	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor	0.93	Flow Rate (V_p), pc/h/ln	1130
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2387
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2387
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.47
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	16.4
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	68.7		

HCS7 Basic Freeway Report

Project Information

Analyst	KAI - SYL	Date	4/20/2023
Agency	SWCA	Analysis Year	2023
Jurisdiction	Caltrans	Time Analyzed	12:00 - 1:00 PM
Project Description	Fri MD Peak Hour - SB Existing Conditions	Units	U.S. Customary
Segment Number	1	Segment Name	I15 Zzyzx to Rasor
Analysis Period Number	1	Segment Analysis Period	12:00-12:15

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	13532	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	68.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1951	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor	0.84	Flow Rate (V_p), pc/h/ln	1394
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2387
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2387
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.58
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.5
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	20.4
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	68.7		

HCS7 Basic Freeway Report

Project Information

Segment Number	5	Segment Name	I15 Rasor to Basin
Analysis Period Number	1	Segment Analysis Period	12:00-12:15

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	8041	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	68.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1951	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor	0.84	Flow Rate (V_p), pc/h/ln	1394
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2387
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2387
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.58
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.5
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	20.4
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	68.7		

HCS7 Basic Freeway Report

Project Information

Analyst	KAI - SYL	Date	4/20/2023
Agency	SWCA	Analysis Year	2023
Jurisdiction	Caltrans	Time Analyzed	3:00 - 4:00 PM
Project Description	Fri PM Peak Hour - NB Existing Conditions	Units	U.S. Customary
Segment Number	1	Segment Name	I15 Basin to Rasor
Analysis Period Number	1	Segment Analysis Period	15:00-15:15

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	8041	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	68.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1322	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	844
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2387
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2387
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.35
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	12.3
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	68.7		

HCS7 Basic Freeway Report

Project Information

Segment Number	5	Segment Name	I15 Rasor to Zzyzx
Analysis Period Number	1	Segment Analysis Period	15:00-15:15

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	13532	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	68.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1322	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	844
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2387
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2387
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.35
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	12.3
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	68.7		

HCS7 Basic Freeway Report

Project Information

Analyst	KAI - SYL	Date	4/20/2023
Agency	SWCA	Analysis Year	2023
Jurisdiction	Caltrans	Time Analyzed	3:00 - 4:00 PM
Project Description	Fri PM Peak Hour - SB Existing Conditions	Units	U.S. Customary
Segment Number	1	Segment Name	I15 Zzyzx to Rasor
Analysis Period Number	1	Segment Analysis Period	15:00-15:15

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	13532	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	68.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2593	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	1692
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2387
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2387
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.71
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	66.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	25.5
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	68.7		

HCS7 Basic Freeway Report

Project Information

Segment Number	5	Segment Name	I15 Rasor to Basin
Analysis Period Number	1	Segment Analysis Period	15:00-15:15

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	8041	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	68.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2593	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	1692
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2387
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2387
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.71
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	66.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	25.5
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	68.7		

HCS7 Basic Freeway Report

Project Information

Analyst	KAI - SYL	Date	4/20/2023
Agency	SWCA	Analysis Year	2023
Jurisdiction	Caltrans	Time Analyzed	8:00 - 9:00 AM
Project Description	Thurs AM Peak Hour - NB Project Conditions	Units	U.S. Customary
Segment Number	1	Segment Name	I15 Basin to Rasor
Analysis Period Number	1	Segment Analysis Period	08:00-08:15

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	8041	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	68.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1253	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor	0.87	Flow Rate (V_p), pc/h/ln	864
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2387
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2387
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.36
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	12.6
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	68.7		

HCS7 Basic Freeway Report

Project Information

Segment Number	5	Segment Name	I15 Rasor to Zzyzx
Analysis Period Number	1	Segment Analysis Period	08:00-08:15

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	13532	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	68.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	814	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor	0.87	Flow Rate (V_p), pc/h/ln	562
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2387
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2387
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.24
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	8.2
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	68.7		

HCS7 Basic Freeway Report

Project Information

Analyst	KAI - SYL	Date	4/20/2023
Agency	SWCA	Analysis Year	2023
Jurisdiction	Caltrans	Time Analyzed	8:00 - 9:00 AM
Project Description	Thurs AM Peak Hour - SB Project Conditions	Units	U.S. Customary
Segment Number	1	Segment Name	I15 Zzyzx to Rasor
Analysis Period Number	1	Segment Analysis Period	08:00-08:15

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	13532	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	68.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	741	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	484
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2387
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2387
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.20
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	7.0
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	68.7		

HCS7 Basic Freeway Report

Project Information

Segment Number	5	Segment Name	I15 Rasor to Basin
Analysis Period Number	1	Segment Analysis Period	08:00-08:15

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	8041	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	68.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	692	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	452
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2387
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2387
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.19
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	6.6
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	68.7		

HCS7 Basic Freeway Report

Project Information

Analyst	KAI - SYL	Date	4/20/2023
Agency	SWCA	Analysis Year	2023
Jurisdiction	Caltrans	Time Analyzed	12:00 - 1:00 PM
Project Description	Thurs MD Peak Hour - NB Project Conditions	Units	U.S. Customary
Segment Number	1	Segment Name	I15 Basin to Rasor
Analysis Period Number	1	Segment Analysis Period	12:00-12:15

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	8041	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	68.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1589	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor	0.87	Flow Rate (V_p), pc/h/ln	1096
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2387
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2387
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.46
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	16.0
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	68.7		

HCS7 Basic Freeway Report

Project Information

Segment Number	5	Segment Name	I15 Rasor to Zzyzx
Analysis Period Number	1	Segment Analysis Period	12:00-12:15

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	13532	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	68.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1585	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor	0.87	Flow Rate (V_p), pc/h/ln	1094
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2387
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2387
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.46
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	15.9
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	68.7		

HCS7 Basic Freeway Report

Project Information

Analyst	KAI - SYL	Date	4/20/2023
Agency	SWCA	Analysis Year	2023
Jurisdiction	Caltrans	Time Analyzed	12:00 - 1:00 PM
Project Description	Thurs MD Peak Hour - SB Project Conditions	Units	U.S. Customary
Segment Number	1	Segment Name	I15 Zzyzx to Rasor
Analysis Period Number	1	Segment Analysis Period	12:00-12:15

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	13532	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	68.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1400	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor	0.91	Flow Rate (V_p), pc/h/ln	924
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2387
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2387
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.39
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	13.4
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	68.7		

HCS7 Basic Freeway Report

Project Information

Segment Number	5	Segment Name	I15 Rasor to Basin
Analysis Period Number	1	Segment Analysis Period	12:00-12:15

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	8041	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	68.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1404	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor	0.91	Flow Rate (V_p), pc/h/ln	926
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2387
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2387
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.39
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	13.5
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	68.7		

HCS7 Basic Freeway Report

Project Information

Analyst	KAI - SYL	Date	4/20/2023
Agency	SWCA	Analysis Year	2023
Jurisdiction	Caltrans	Time Analyzed	3:00 - 4:00 PM
Project Description	Thurs PM Peak Hour - NB Project Conditions	Units	U.S. Customary
Segment Number	1	Segment Name	I15 Basin to Rasor
Analysis Period Number	1	Segment Analysis Period	15:00-15:15

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	8041	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	68.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1181	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor	0.93	Flow Rate (V_p), pc/h/ln	762
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2387
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2387
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.32
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	11.1
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	68.7		

HCS7 Basic Freeway Report

Project Information

Segment Number	5	Segment Name	I15 Rasor to Zzyzx
Analysis Period Number	1	Segment Analysis Period	15:00-15:15

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	13532	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	68.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1230	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor	0.93	Flow Rate (V_p), pc/h/ln	794
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2387
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2387
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.33
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	11.6
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	68.7		

HCS7 Basic Freeway Report

Project Information

Analyst	KAI - SYL	Date	4/20/2023
Agency	SWCA	Analysis Year	2023
Jurisdiction	Caltrans	Time Analyzed	3:00 - 4:00 PM
Project Description	Thurs PM Peak Hour - SB Project Conditions	Units	U.S. Customary
Segment Number	1	Segment Name	I15 Zzyzx to Rasor
Analysis Period Number	1	Segment Analysis Period	15:00-15:15

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	13532	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	68.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1427	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	911
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2387
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2387
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.38
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	13.3
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	68.7		

HCS7 Basic Freeway Report

Project Information

Segment Number	5	Segment Name	I15 Rasor to Basin
Analysis Period Number	1	Segment Analysis Period	15:00-15:15

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	8041	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	68.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1866	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1192
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2387
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2387
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.50
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	17.4
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	68.7		

HCS7 Basic Freeway Report

Project Information

Analyst	KAI - SYL	Date	4/20/2023
Agency	SWCA	Analysis Year	2023
Jurisdiction	Caltrans	Time Analyzed	8:00 - 9:00 AM
Project Description	Fri AM Peak Hour - NB Project Conditions	Units	U.S. Customary
Segment Number	1	Segment Name	I15 Basin to Rasor
Analysis Period Number	1	Segment Analysis Period	08:00-08:15

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	8041	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	68.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1427	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor	0.87	Flow Rate (V_p), pc/h/ln	984
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2387
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2387
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.41
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	14.3
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	68.7		

HCS7 Basic Freeway Report

Project Information

Segment Number	5	Segment Name	I15 Rasor to Zzyzx
Analysis Period Number	1	Segment Analysis Period	08:00-08:15

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	13532	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	68.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	988	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor	0.87	Flow Rate (V_p), pc/h/ln	682
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2387
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2387
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.29
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	9.9
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	68.7		

HCS7 Basic Freeway Report

Project Information

Analyst	KAI - SYL	Date	4/20/2023
Agency	SWCA	Analysis Year	2023
Jurisdiction	Caltrans	Time Analyzed	8:00 - 9:00 AM
Project Description	Fri AM Peak Hour - SB Project Conditions	Units	U.S. Customary
Segment Number	1	Segment Name	I15 Zzyzx to Rasor
Analysis Period Number	1	Segment Analysis Period	08:00-08:15

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	13532	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	68.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	910	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor	0.93	Flow Rate (V_p), pc/h/ln	588
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2387
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2387
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.25
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	8.6
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	68.7		

HCS7 Basic Freeway Report

Project Information

Segment Number	5	Segment Name	I15 Rasor to Basin
Analysis Period Number	1	Segment Analysis Period	08:00-08:15

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	8041	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	68.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	861	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor	0.93	Flow Rate (V_p), pc/h/ln	556
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2387
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2387
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.23
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	8.1
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	68.7		

HCS7 Basic Freeway Report

Project Information

Analyst	KAI - SYL	Date	4/20/2023
Agency	SWCA	Analysis Year	2023
Jurisdiction	Caltrans	Time Analyzed	12:00 - 1:00 PM
Project Description	Fri MD Peak Hour - NB Project Conditions	Units	U.S. Customary
Segment Number	1	Segment Name	I15 Basin to Rasor
Analysis Period Number	1	Segment Analysis Period	12:00-12:15

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	8041	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	68.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1755	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor	0.93	Flow Rate (V_p), pc/h/ln	1132
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2387
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2387
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.47
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	16.5
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	68.7		

HCS7 Basic Freeway Report

Project Information

Segment Number	5	Segment Name	I15 Rasor to Zzyzx
Analysis Period Number	1	Segment Analysis Period	12:00-12:15

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	13532	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	68.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1751	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor	0.93	Flow Rate (V_p), pc/h/ln	1130
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2387
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2387
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.47
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	16.4
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	68.7		

HCS7 Basic Freeway Report

Project Information

Analyst	KAI - SYL	Date	4/20/2023
Agency	SWCA	Analysis Year	2023
Jurisdiction	Caltrans	Time Analyzed	12:00 - 1:00 PM
Project Description	Fri MD Peak Hour - SB Project Conditions	Units	U.S. Customary
Segment Number	1	Segment Name	I15 Zzyzx to Rasor
Analysis Period Number	1	Segment Analysis Period	12:00-12:15

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	13532	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	68.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1952	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor	0.84	Flow Rate (V_p), pc/h/ln	1395
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2387
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2387
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.58
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.5
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	20.4
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	68.7		

HCS7 Basic Freeway Report

Project Information

Segment Number	5	Segment Name	I15 Rasor to Basin
Analysis Period Number	1	Segment Analysis Period	12:00-12:15

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	8041	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	68.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1956	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor	0.84	Flow Rate (V_p), pc/h/ln	1398
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2387
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2387
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.59
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.4
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	20.4
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	68.7		

HCS7 Basic Freeway Report

Project Information

Analyst	KAI - SYL	Date	4/20/2023
Agency	SWCA	Analysis Year	2023
Jurisdiction	Caltrans	Time Analyzed	3:00 - 4:00 PM
Project Description	Fri PM Peak Hour - NB Project Conditions	Units	U.S. Customary
Segment Number	1	Segment Name	I15 Basin to Rasor
Analysis Period Number	1	Segment Analysis Period	15:00-15:15

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	8041	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	68.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1322	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	844
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2387
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2387
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.35
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	12.3
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	68.7		

HCS7 Basic Freeway Report

Project Information

Segment Number	5	Segment Name	I15 Rasor to Zzyzx
Analysis Period Number	1	Segment Analysis Period	15:00-15:15

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	13532	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	68.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1371	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	876
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2387
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2387
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.37
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	12.8
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	68.7		

HCS7 Basic Freeway Report

Project Information

Analyst	KAI - SYL	Date	4/20/2023
Agency	SWCA	Analysis Year	2023
Jurisdiction	Caltrans	Time Analyzed	3:00 - 4:00 PM
Project Description	Fri PM Peak Hour - SB Project Conditions	Units	U.S. Customary
Segment Number	1	Segment Name	I15 Zzyzx to Rasor
Analysis Period Number	1	Segment Analysis Period	15:00-15:15

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	13532	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	68.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2593	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	1692
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2387
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2387
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.71
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	66.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	25.5
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	68.7		

HCS7 Basic Freeway Report

Project Information

Segment Number	5	Segment Name	I15 Rasor to Basin
Analysis Period Number	1	Segment Analysis Period	15:00-15:15

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	8041	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	68.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3032	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	1978
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2387
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2387
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.83
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	62.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	31.7
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	68.7		