APPENDIX H

Transportation Impact Analysis

LINSCOTT LAW & GREENSPAN engineers

TRANSPORTATION IMPACT ANALYSIS

CAMPO WIND PROJECT WITH BOULDER BRUSH FACILITIES

San Diego County, California
November 8, 2019

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TRANSPORTATION IMPACT ANALYSIS

CAMPO WIND PROJECT WITH BOULDER BRUSH FACILITIES

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1.0 INTRODUCTION

The purpose of this Traffic Impact Analysis (TIA) is to identify potential construction-related traffic impacts associated with the proposed Campo Wind Project with Boulder Brush Facilities (together, the "Project"). The purpose of this TIA is to evaluate the Project's construction-related impacts related to the Project components, including the wind turbine sites, gen-tie line, and supporting infrastructure. Operational impacts are not analyzed because estimated trips generated from Project operations and maintenance will be negligible.

This study will include the following:

- Project Description
- Existing Conditions
- Analysis Approach and Methodology
- Significance Criteria
- Analysis of Existing Conditions
- Trip Generation/Distribution/Assignment
- Analysis of Existing + Project Conditions (Peak Construction) – Campo Wind Project with Boulder Brush Facilities
- Cumulative Projects
- Analysis of Construction Year Scenarios – Campo Wind Project with Boulder Brush Facilities
- Analysis of Construction Year Scenarios – Boulder Brush Facilities Peak Construction
- Truck Height, Length, turn radii and Vertical Clearance
- Mitigation Measures
- Findings and Recommendations

2.0 PROJECT DESCRIPTION

Terra-Gen Development Company, LLC (Terra-Gen or Developer) proposes to develop, finance, construct, own, operate, maintain and, ultimately decommission a wind energy project on the Campo Band of Diegueno Mission Indians (Tribe) Reservation (Reservation) in southeastern San Diego County. Boulder Brush, LLC, (Boulder Brush Developer) proposes to develop, finance, construct, own, operate, maintain, and, ultimately decommission supporting transmission infrastructure on private lands in southeastern San Diego County. Together, these comprise the Campo Wind Project with Boulder Brush Facilities, or "Project" for short.

The Project consists of both the Campo Wind Facilities that would be located on land leased from the Tribe within the Reservation Boundary and the Boulder Brush Facilities that would be located on adjacent land leased from a private landowner within the Boulder Brush Boundary. Collectively, the entire land within both Reservation Boundary and Boulder Brush Boundary comprise the Project Area (see Figure 1-1, Regional Location Map and Figure 1-2, Specific Location Map of the Draft EIR). Throughout this document, the term "On-Reservation" refers to anything within the Reservation Boundary while the term "Off-Reservation" refers to anything outside of the Reservation Boundary.

The Campo Wind Facilities, which would consist of 60 wind turbines and associated infrastructure, would be located within a corridor of approximately 2,200 acres of land (Campo Corridor) within the approximately 16,000 acres of Reservation land inside the Reservation Boundary. The Boulder Brush Facilities, which would consist of a portion of the Project generation transmission line and related facilities to connect energy generated by the Project to the existing San Diego Gas & Electric Company (SDG&E) Sunrise Powerlink, would be located within a corridor of approximately 320 acres of land (Boulder Brush Corridor) within the approximately 2,000-acre Boulder Brush Boundary, located adjacent to the northeast portion of the Reservation. The Boulder Brush Boundary is under the land use and permitting jurisdiction of the County. Collectively, the Campo Corridor and the Boulder Brush Corridor comprise the approximately 2,520-acre Project Site.

As part of standard practice, the following traffic control and management measures will be implemented by the Developer and Boulder Brush Developer during construction of the Project:

- Temporary traffic control devices in accordance with Caltrans' California Manual on Uniform Traffic Control Device (CAMUTCD) to identify locations/sections where construction is ongoing. This may include slow-moving-vehicle warning signs, signage to warn of merging trucks, barriers for separating construction and non-construction traffic, use of traffic control flagmen, and any additional measures required for the sole convenience of safely passing non-construction traffic through and around construction areas.
- The Developer will need to coordinate with Caltrans in order to secure the necessary encroachment and trip permits necessary for specialized haul trucks. Also, any excessive height/length vehicles should consider the need to use pilot car services to provide safe over-the-road operations and overhead height warnings, if necessary.

- Coordination with Caltrans and California Highway Patrol in order to secure necessary encroachment permit for overnight freeway closure along I-8 to string the On-Reservation gen-tie line across the freeway.
- California Highway Patrol (CHP) may also be notified in order to facilitate slowing freeway traffic to ensure safe access for motorists.
- Coordination with Caltrans, California Highway Patrol, and County officials, including the Sheriff's department.
- Employ a contract transport company that would be responsible for surveying the route to determine how turns on existing roads would be accomplished; ensure that analysis is reflected in the traffic control and management plan.
- Establish procedures for coordinating with local emergency response agencies to ensure dissemination of information regarding emergency response vehicle routes affected by construction activities.
- Encourage carpooling among workers to reduce worker commute trips entering and exiting the study area.

Figure 2-1 shows the Project's regional location, preliminary wind turbine layout, gen-tie route, other Project components, and the Traffic Study Area. The Project is located in the southeastern portion of the County. Major highways in the Project Vicinity include Interstate 8 (I-8), and State Road 94 (SR-94) that provide access to the Project via Crestwood Road, Ribbonwood Road, Church Road, Old Highway 80, and Live Oak Trail.

2.1 Construction of Campo Wind Project with Boulder Brush Facilities

Construction activities, phasing schedule and an estimate of related workers and trucks for the Project are shown in ***Table 2-1***. The proposed schedule for construction is approximately 14 months. Project construction would include several simultaneous phases: wind turbines including the assembly of turbines, installation of foundations, placement of turbines on foundations, and trenching and installation of underground electrical equipment for turbines; electrical facilities including the construction of a collector substation, an approximately 8.5 mile gen-tie line and associated pole structures, a high-voltage substation and 500-kV switchyard; an O&M facility, temporary and permanent meteorological towers; and grading/construction of access roads. The length of each phase over the 14-month construction period was evaluated to identify which phases could occur concurrently to determine peak worker and truck traffic, since traffic during these overlapping phases would be additive. Overlap of Phases 2, 4, 6, 7, 8, 9, 12, 15, and 16 during Project construction is estimated to generate peak worker and truck traffic (i.e., 561 workers, 29 vendor trucks and 29 haul trucks). Based on *Table 2-1*, the peak construction period for the Project traffic analysis is identified as overlap of phases 2, 4, 6, 7, 8 and 9 of Campo Wind Facilities construction with phases 12, 15 and 16 of Boulder Brush Facilities construction.

2.2 Operation and Maintenance of the Project

Operation and maintenance (O&M) of the turbines, substations, and transmission lines would require trucks, forklifts, and loaders for routine and unscheduled maintenance. The Developer anticipates that approximately 10 to 12 O&M staff would be employed at a time throughout the life of the Project, with one on-call emergency staff at all times.

Activities associated with the operation and maintenance of the approximately 8.5-mile long gen-tie line would be only as needed and are not likely to generate significant daily or peak hour traffic. Hence, this study focusses only on traffic impacts related to the peak construction period of the Project (i.e., 561 workers, 29 vendor trucks and 29 haul trucks).

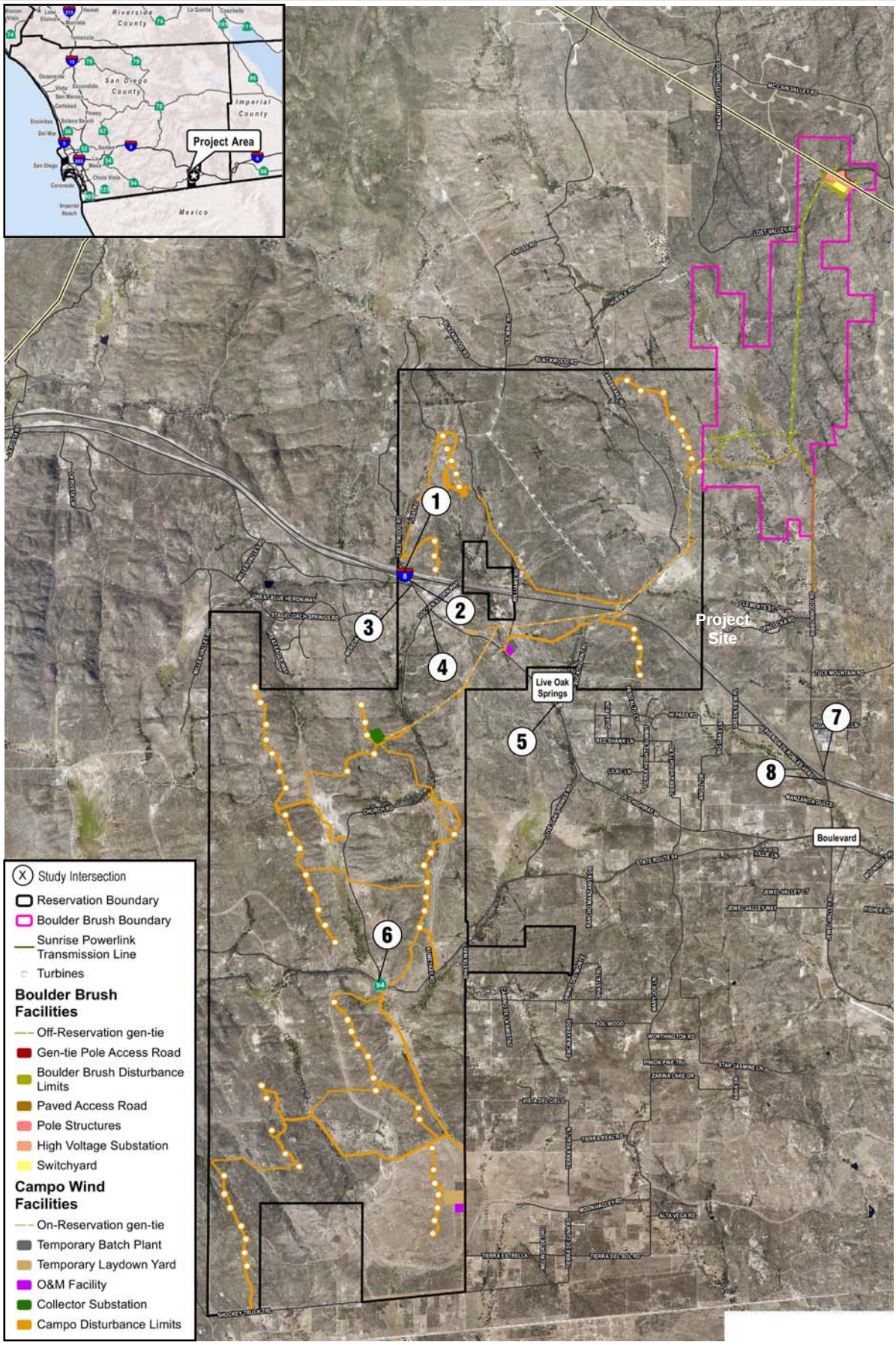
TABLE 2-1
ESTIMATED CONSTRUCTION PHASING

No.	Phase	No. of Workers	Daily Vendor Trucks	Daily Haul Trucks
CAMPO WIND FACILITIES				
1.	Clearing and grading	36	54	6
2.	Construction of access roads	60	0	0
3.	On-Reservation gen-tie foundation construction and pole erection	48	5	1
4.	Wind turbine foundation construction	84	10	22
5.	On-Reservation gen-tie stringing and pulling	36	5	0
6.	Construction of underground electrical collection systems	120	6	2
7.	Wind turbine erection	72	0	3
8.	Operations and maintenance facility	60	2	0
9.	Construction of collector substation	24	2	1
10.	Meteorological Towers	12	2	0
	Peak Construction for Campo Wind Facilities only (assuming overlap of Phases (2,4,6,7, 8 and 9)	*420*	*20*	*27*
BOULDER BRUSH FACILITIES				
11.	Clearing and grading	24	10	0
12.	High voltage substation and switchyard	72	4	1
13.	Construction of access roads	24	5	0
14.	Off-Reservation gen-tie foundation construction and pole erection	48	5	1
15.	Off-Reservation gen-tie stringing and pulling	36	5	0
16.	Paving of switchyard access road	33	0	0
Peak Construction for Boulder Brush Facilities only (assuming overlap of Phases–12-14)		*144*	*14*	*2*
Peak Construction Scenario for Boulder Brush Facilities (overlap of Phases 1, 2, 12, 13 and 14) [a]		**240**	**68**	**8**
Peak Construction Scenario for the Project (Overlap of Phases –2, 4, 6, 7, 8, 9, 12, 15, and 16) [b]		**561**	**29**	**29**

Footnotes:

a. Indicates the peak scenario during which construction of the Boulder Brush Facilities is occurring simultaneously with construction of the Campo Wind Facilities.

b. Indicates the peak scenario during which the maximum worker and truck trips occur throughout all construction phases of the Project. This is the peak construction scenario for the Project only.



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Figure 2-1

Regional Location and Traffic Study Area

CAMPO WIND WITH BOULDER BRUSH FACILITIES PROJECT

3.0 EXISTING CONDITIONS

This section describes existing conditions within the identified Traffic Study Area. Characteristics are provided for the existing street system, daily roadway segment traffic volumes, peak hour traffic volumes, and traffic operations.

3.1 Existing Street System

The existing traffic controls and geometrics at the Traffic Study Area intersections are shown in ***Figure 3-1***. All the intersections identified in the Traffic Study Area are unsignalized. Characteristics of the existing street system in the study are described below.

Interstate 8 (I-8)

I-8 is currently built as a 4-lane east-west freeway connecting the San Diego area to the California-Arizona border and beyond. It provides 2-lanes in each direction in the project area. The posted speed limit is 70 miles per hour (mph), and an interchange is provided at Crestwood Road and Ribbonwood Road in the Traffic Study Area. Project traffic would access the Traffic Study Area via I-8 and its interchange at Crestwood Road as well as Ribbonwood Road.

Crestwood Road

Crestwood Road is an unclassified roadway in the Mountain Empire Mobility Network and is currently built as a 2-lane roadway in the project area. South of I-8, Crestwood Road turns into Old Highway 80. Parking is prohibiting on Crestwood Road.

Old Highway 80

Old Highway 80 is classified as a 2.2E Light Collector from southern boundary Central Mountain Subregion boundary to SR-94 on the County of San Diego's Mobility and Infrastructure Element. Within the Traffic Study Area, Old Highway 80 is a 2-lane undivided roadway. Bike lanes are provided in both directions.

Church Road

Church Road is an unclassified roadway on the Mountain Empire Mobility Network and currently built as a 2-lane roadway in the project area. Parking is prohibited on Church Road.

Ribbonwood Road

Ribbonwood Road is an unclassified roadway on the Mountain Mobility Network and is currently constructed as a two-lane roadway in the Traffic Study Area. Ribbonwood Road is paved for approximately 1.5 miles north of I-8, then becomes a graded dirt road, north of Opalocka Road.

Campo Road/State Road 94 (SR-94)

SR-94 is classified as a 2.1D Community Collector (Improvement Options on passing lanes) on the County of San Diego's Mobility and Infrastructure Element. Within the Traffic Study Area, SR-94 is a 2-lane undivided roadway. Bike lanes are provided in both directions.

3.2 Transit System

The San Diego Metropolitan Transit System (SDMTS) provides passenger bus service between, and within, the rural communities of San Diego County. The transit system offers intercity service along with local and regional transit service. Currently, there are four bus stops located in the Traffic Study Area served by bus route 888 that operates on Mondays and Fridays only. Route 888 provides service between the Westfield Parkway Plaza in El Cajon and the end of the line in Jacumba Hot Springs/Old Highway 80 and Campo Street.

3.3 Existing Traffic Volumes

Existing peak hour counts and average daily traffic (ADT) counts at the study intersections and roadway segments were conducted in September 2018 during a typical non-holiday week. The ADT count along Ribbonwood Road was conducted in January 2019. Detailed vehicle axle classification was also collected and was used to calculate heavy vehicle percentages. The existing volumes were adjusted to include a "heavy vehicle percentage" within Synchro. Use of the heavy vehicle percentage factor within Synchro more accurately estimates the operation of an intersection that is being evaluated with the HCM methodology. Existing annual average daily traffic (AADT) and peak hour volumes for freeway segments were obtained from the Caltrans *Traffic Census Program* webpage for the year 2017 (most recent available). These values were then adjusted via the K and D factors located in the *2017 Peak Hour Volume Data Report* for the nearest freeway segment, thereby calculating peak hour volumes for the freeway analysis.

Table 3-1 summarizes the Existing traffic volumes.

Raw traffic count worksheets are provided in ***Appendix A***. Existing weekday AM and PM peak hour traffic volumes and ADTs are shown on ***Figure 3-2***.

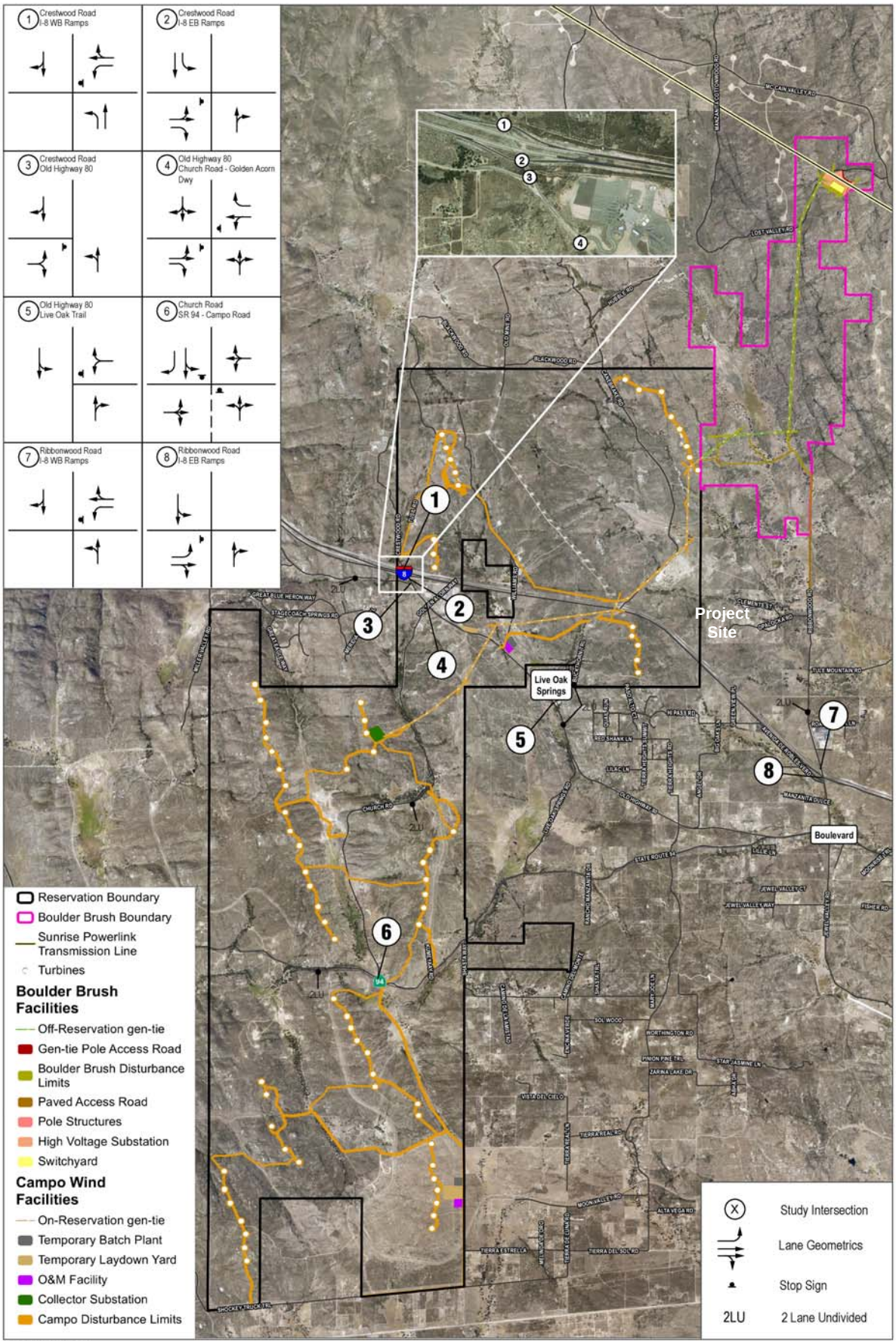
TABLE 3–1
EXISTING TRAFFIC VOLUMES

Street Segment	ADT [a]	Date
Crestwood Road		
I-8 WB to I-8 EB ramps	2,212	September 29, 2018
Old Hwy 80 to Church Rd	4,132	September 29, 2018
Old Highway 80		
Church Rd to Live Oak Tr	1,646	September 29, 2018
Live Oak Tr to Campo Rd (SR-94)	1,411	September 29, 2018
Church Road		
Old Highway 80 to Campo Rd	677	September 29, 2018
Ribbonwood Road		
N/O I-8	579	January 22, 2019
Campo Road (SR-94)		
Buckman Springs Rd to Live Oak Springs Rd [b]	1,900	2017

Footnotes:

a. Average Daily Traffic Volumes.

b. Caltrans Traffic Census.



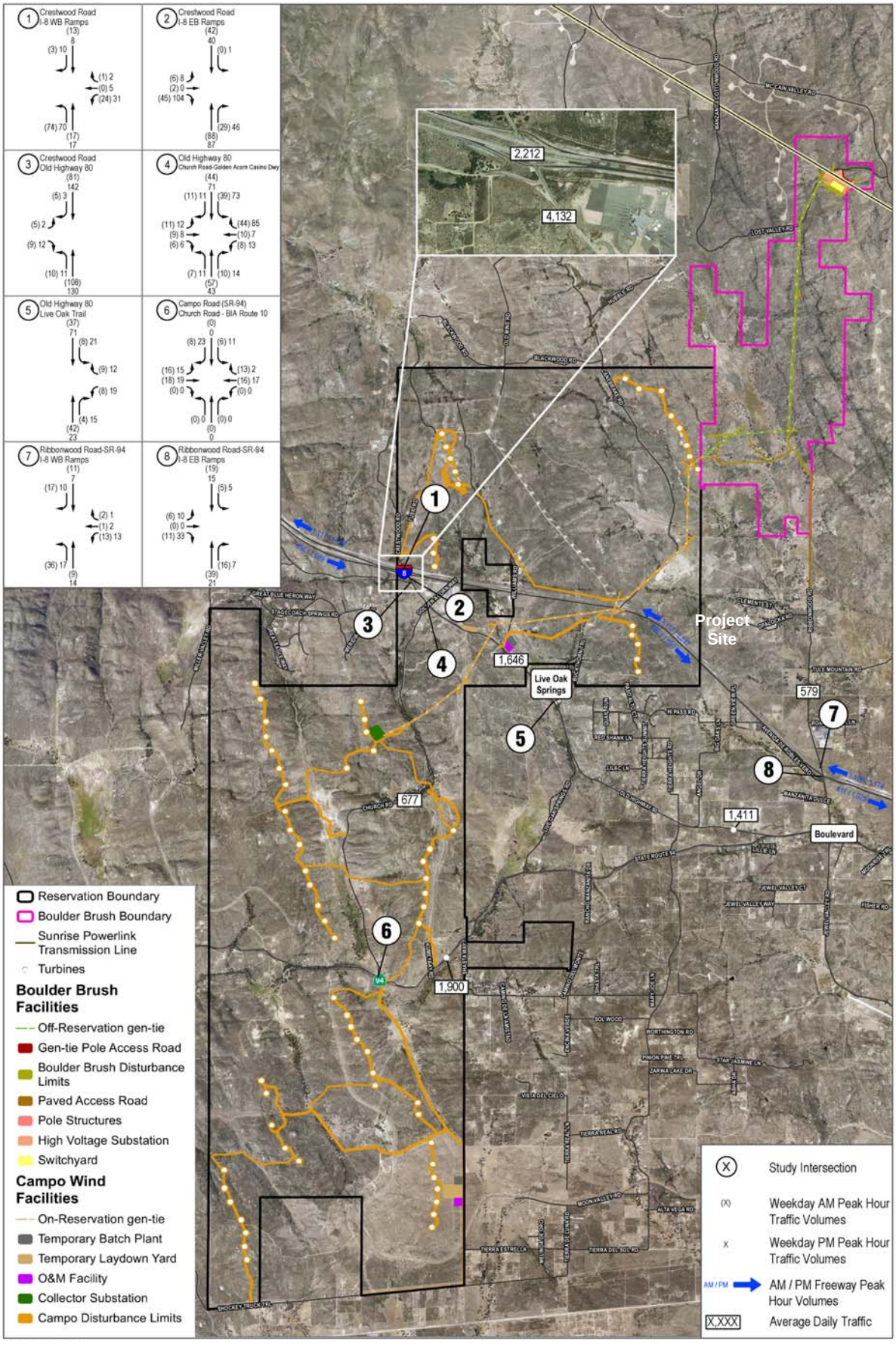
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Figure 3-1

Existing Roadways and Intersection Conditions

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Figure 3-2

Existing Traffic Volumes

CAMPO WIND WITH BOULDER BRUSH FACILITIES PROJECT

4.0 ANALYSIS APPROACH AND METHODOLOGY

Level of service (LOS) is commonly used as a qualitative description of roadway segments and intersection operations and is based on the capacity and the volume of traffic using the segment or the intersection.

4.1 Intersections

San Diego County and Caltrans utilize the Highway Capacity Manual (HCM) intersection analysis methodology to analyze the operation of signalized and unsignalized study intersections. It should be noted that all study intersections are currently unsignalized. The HCM analysis methodology describes the operation of an intersection using a range of LOS from LOS A (free-flow conditions) to LOS F (severely congested conditions), based on the corresponding control delay experienced per vehicle for unsignalized intersections.

At unsignalized intersections, as well as all Caltrans Traffic Study Area intersections, the level of service was calculated using the HCM 6th methodology. The Synchro 10 LOS software was used to determine intersection LOS for all study scenarios. Synchro is consistent with the HCM 6th methodology (Transportation Research Board 2016). ***Table 4-1*** shows the LOS for unsignalized and signalized intersections under the HCM methodology (delay).

TABLE 4-1
LEVELS OF SERVICE FOR INTERSECTIONS USING HCM METHODOLOGY

Level of Service	Unsignalized Intersections Control Delay (in seconds/vehicle)	Signalized Intersections Control Delay (in seconds)
A	0-10	< 10
B	> 10-15	> 10-20
C	> 15-25	> 20-35
D	> 25-35	> 35-55
E	> 35-50	> 55-80
F	> 50.0	> 80.0

Source: HCM 2016

4.2 Roadway Segments

Roadway segment analysis is based upon the comparison of daily traffic volumes to the County of San Diego's Public Road Standards, March 2012, Average Daily Vehicle Trips (Table 1). This table provides level of service thresholds for different street classifications, based on traffic volumes, and travel lanes. ***Table 4-2*** presents the relevant roadway segment LOS thresholds by facility type in the Project Traffic Study Area per County of San Diego's Public Road standards.

TABLE 4-2
COUNTY OF SAN DIEGO DAILY ROADWAY SEGMENT LOS THRESHOLDS

Roadway Classification	No. of Travel Lanes	Levels of Service				
		LOS A	LOS B	LOS C	LOS D	LOS E
Community Collector (w/Passing Lane 2.1 D)	2	<3,000	<6,000	<9,500	<13,500	<19,000
Light Collector (No Median 2.2E)	2	<1,900	<4,100	<7,100	<10,900	<16,200
Rural Residential Collector	2	-	-	<4,500	-	-

Source: County of San Diego Public Road Standards, Average Daily Vehicle Trips Table 1

4.3 Freeway Segments

All freeway mainline segments analyzed in this TIA are under the jurisdiction of Caltrans. Per Caltrans requirements, Caltrans facilities were analyzed using the *Highway Capacity Manual* (HCM) methodology with the *Highway Capacity Software 7.5* (HCS).

The freeway analysis is based on assessing freeway operations based on traffic volumes, freeway network and other segment-specific characteristics and reporting freeway volume-to-capacity ratio (V/C), speed, and density. Density is a measure of the flow rate (in passenger cars per hour, per lane) which is used to determine LOS. ***Table 4-3*** presents the freeway segment criteria based on the service measure of density.

TABLE 4-3
LEVELS OF SERVICE FOR FREEWAY SEGMENTS USING HCM METHODOLOGY

Level of Service	Density Range (in pc/mi/In) [a]
A	0-11
B	> 11-18
C	> 18-26
D	> 26-35
E	> 35-45
F	> 45

Source: HCM 2016

a. pc/mi/ln– Passenger car per mile per lane

5.0 SIGNIFICANCE CRITERIA

A project would result in an impact with respect to traffic and transportation if it would:

- Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system;
- Degrade road conditions as a result of construction; or
- Result in hazardous traffic conditions.

To further assess whether these indicators are triggered, criterion based on the County of San Diego General Plan Mobility Element, County's *Guidelines for Determining Significance* updated on August 24, 2011 and SANTEC/ITE *Guidelines for Traffic Impact Studies in the San Diego Region*, March 2002, was used for the roadways within the County of San Diego.

5.1 Roadway Segments

Pursuant to the County's General Plan Mobility Element (ME), development projects must provide improvements or other measures to mitigate traffic impacts to avoid achieve a LOS D or higher on all Mobility Element roads except for those where a failing level of service has been accepted by the County.

The County has created the following guidelines to evaluate likely traffic impacts of a proposed project for road segments and intersections serving that project site, for purposes of determining whether the development would "significantly impact congestion" on the referenced LOS E and F roads. The allowable increases shown in the County of San Diego Guidelines for Determining Significance and Report Format and Content Requirement are listed in Table 5, Measure of Significant Project Impacts to Congestion of Road Segments, shown below as ***Table 5-1***.

The thresholds in *Table 5-1* are based upon average operating conditions on County roadways.

TABLE 5-1
MEASURES OF SIGNIFICANT PROJECT IMPACTS TO CONGESTION ON CIRCULATION ELEMENT ROAD

Level of Service	Two-Lane Road	Four-Lane Road	Six-Lane Road
LOS E	200 ADT	400 ADT	600 ADT
LOS F	100 ADT	200 ADT	300 ADT

Notes:

a. By adding proposed project trips to all other trips from a list of projects, this same table must be used to determine if total cumulative impacts are significant. If cumulative impacts are found to be significant, each project that contributes additional trips must mitigate a share of the cumulative impacts.

b. The County may also determine impacts have occurred on roads even when a project's traffic or cumulative impacts do not trigger an unacceptable level of service, when such traffic uses a significant amount of remaining road capacity.

5.2 Intersections

All of the Traffic Study Area intersections are unsignalized. This section provides guidance for evaluating potential significant impacts a project may have on unsignalized intersections. ***Table 5-2*** was obtained from the County Guidelines and summarizes allowable increases and measures of significant project impacts for unsignalized intersections.

TABLE 5-2
MEASURES OF SIGNIFICANT PROJECT IMPACTS TO CONGESTION ON INTERSECTIONS

Level of Service	Unsignalized
LOS E	20 or less peak hour trips on a critical movement
LOS F	5 or less peak hour trips on a critical movement

Notes:

a. A critical movement is an intersection movement (right turn, left turn, through-movement) that experiences excessive queues, which typically operate at LOS F. Also, if a project adds significant volume to a minor roadway approach, a gap study should be provided that details the headways between vehicles on the major roadway.
b. By adding proposed project trips to all other trips from a list of projects, these same tables are used to determine if total cumulative impacts are significant. If cumulative impacts are found to be significant, each project is responsible for mitigating its share of the cumulative impact.
c. The County may also determine impacts have occurred on roads even when a project's direct or cumulative impacts do not trigger an unacceptable level of service, when such traffic uses a significant amount of remaining road capacity.

5.2.1 *Unsignalized Intersections*

Traffic volume increases from public or private projects that result in one or more of the following criteria will have a significant traffic impact on an unsignalized intersection as listed in *Table 5-2* and described below:

- The additional or redistributed ADT generated by the proposed project will add 21 or more peak hour trips to a critical movement of an unsignalized intersection, and cause an unsignalized intersection to operate below LOS D;
- The additional or redistributed ADT generated by the proposed project will add 21 or more peak hour trips to a critical movement of an unsignalized intersection currently operating at LOS E;
- The additional or redistributed ADT generated by the proposed project will add 6 or more peak hour trips to a critical movement of an unsignalized intersection, and cause the unsignalized intersection to operate at LOS F;
- The additional or redistributed ADT generated by the proposed project will add 6 or more peak hour trips to a critical movement of an unsignalized intersection currently operating at LOS F; or
- Based upon an evaluation of existing accident rates, the signal priority list, intersection geometrics, proximity of adjacent driveways, sight distance or other factors, the project would significantly impact the operations of the intersection.

The operating parameters and conditions for unsignalized intersections differ dramatically from those of signalized intersections. Very small volume increases on one leg or turn and/or through movement of an unsignalized intersection can substantially affect the calculated delay for the entire intersection. Significance criteria for unsignalized intersections are based upon a minimum number of trips added to a critical movement at an unsignalized intersection.

5.3 Caltrans

The freeway facility of I-8 and its intersection with Crestwood Road and Ribbonwood, as well as SR-94 and its intersection with Church Road in the Traffic Study Area are under the jurisdiction of Caltrans. As stated in the Caltrans Guide for the Preparation of Traffic Impact Studies (December 2002), the level of service for operating State highway facilities is based upon measures of effectiveness (MOEs). These MOEs describe the measures best suited for analyzing State highway facilities (i.e., freeway segments, signalized intersections, on- or off-ramps, etc.). Caltrans endeavors to maintain a target LOS at the transition between LOS C and LOS D on State highway facilities; however, Caltrans acknowledges that this may not always be feasible and if an existing State highway facility is operating at less than the appropriate target LOS, the existing MOE should be maintained.

For the San Diego region, LOS D or better is considered acceptable and the SANTEC/ITE Guidelines for Traffic Impact Studies in the San Diego Region (March 2000, is used for the determination of the significance of impacts for Caltrans maintained facilities. The SANTEC/ITE traffic impact significance thresholds are provided in ***Table 5-3***.

TABLE 5-3
MEASURES OF SIGNIFICANT PROJECT IMPACTS

Level of Service with Project [a]	Allowable Change due to Project Impacts [b]					
	Freeways		Roadway Segments		Intersections	
	V/C	Speed (mph)	V/C	Speed (mph)	Delay (sec.)	Delay (min.)
D, E, and F	0.01	1	0.02	1	2	2

Source: SANTEC/ITE 2000.

a. All level of service measurements are based upon HCM procedures for peak-hour conditions. However, V/C ratios for Roadway Segments may be estimated on an ADT/24-hour traffic volume basis. The acceptable LOS for freeways, roadways, and intersections is generally "D" ("C" for undeveloped or not densely developed locations per jurisdiction definitions). For metered freeway ramps, LOS does not apply. However, ramp meter delays above 15 minutes are considered excessive.

b. If a proposed project's traffic causes the values shown in the table to be exceeded, the impacts are deemed to be significant. These impact changes may be measured from appropriate computer programs or expanded manual spreadsheets. The project applicant shall then identify feasible mitigations (within the Traffic Impact Study [TIS] report) that will maintain the traffic facility at an acceptable LOS. If the LOS with the proposed project becomes unacceptable (see note "a" above), the project applicant shall be responsible for mitigating significant impact changes.

General Notes:

V/C = Volume to Capacity Ratio
Speed = Arterial speed measured in miles per hour
Delay = Average stopped delay per vehicle measured in seconds for intersections.
LOS = Level of Service

6.0 ANALYSIS OF EXISTING CONDITIONS

6.1 Peak Hour Intersection Levels of Service

An intersection LOS analysis was prepared for the existing conditions using HCM 2010 methodology via the Synchro LOS software as discussed in Section 4.0 Methodology. ***Table 6-1*** shows the results of the existing conditions LOS analysis. As shown in the *Table 6-1*, all Traffic Study Area intersections are calculated to currently operate at LOS B or better under Existing conditions, during both peak hours.

LOS worksheets are provided in ***Appendix B***.

6.2 Daily Street Segment Levels of Service

A roadway segment LOS analysis was prepared for the existing conditions using the roadway segment LOS methodologies as discussed in Section 4.0 Methodology. ***Table 6-2*** shows the results of the existing conditions LOS analysis for the study roadway segments. As shown in the *Table 6-2*, all Traffic Study Area roadway segments are calculated to currently operate at LOS C or better under existing conditions.

6.3 Existing Freeway Segment Conditions

A mainline freeway segment analysis was prepared for the existing conditions weekday AM and PM peak hour conditions. The analyses were calculated using HCS 7 software which utilizes the HCM 6th methodology described in Section 4.0 Methodology. ***Table 6-3*** shows the results of the existing conditions LOS analysis for the study freeway segments. As shown in the *Table 6-3*, all Traffic Study Area freeway segments are calculated to currently operate at LOS B or better under existing conditions.

Detailed LOS worksheets are included in ***Appendix C***.

TABLE 6-1
EXISTING WEEKDAY PEAK HOUR INTERSECTION LOS

Intersection	Peak Hour	LOS Method	Critical Movement	Delay [a]	LOS [b]
1. Crestwood Rd/I-8 WB Ramps	AM	HCM	WBL	10.2	B
	PM			10.6	B
2. Crestwood Rd/I-8 EB Ramps	AM	HCM	EBL	9.4	A
	PM			9.8	A
3. Crestwood Rd/Old Hwy 80	AM	HCM	EBL	9.4	A
	PM			9.4	A
4. Old Hwy 80/Church Rd-Golden Acorn Casino	AM	HCM	EBL	11	B
	PM			12.6	B
5. Old Hwy 80/Live Oak Trail	AM	HCM	WBL	9.1	A
	PM			9.3	A
6. Campo Rd (SR-94)/Church Rd-BIA Route 10	AM	HCM	SBL	9.3	A
	PM			9.1	A
7. Ribbonwood Rd-SR-94/I-8 WB Ramps	AM	HCM	WBL	9.3	A
	PM			9.0	A
8. Ribbonwood Rd-SR-94/I-8 EB Ramps	AM	HCM	EBL	9.1	A
	PM			8.9	A

Footnotes:

a. Average delay expressed in seconds per vehicle.
b. Level of Service.

General Note:

All intersections are Two-Way Stop Controlled intersection. Minor street left turn delay is reported.

UNSIGNALIZED

Delay	LOS
0.0 ≤ 10.0	A
10.1 to 15.0	B
15.1 to 25.0	C
25.1 to 35.0	D
35.1 to 50.0	E
≥ 50.1	F

TABLE 6-2
EXISTING DAILY ROADWAY SEGMENT LEVEL OF SERVICE

Roadway Segment	Classification	Capacity at LOS E [a]	ADT [b]	V/C [c]	LOS [d]
Crestwood Road					
I-8 WB to I-8 EB ramps	2 Lane undivided	16,200	2,212	0.140	B
Old Hwy 80 to Church Rd	2 Lane undivided	16,200	4,132	0.260	C
Old Highway 80					
Church Rd to Live Oak Tr	2 Lane undivided	16,200	1,646	0.100	A
Live Oak Tr to Campo Rd (SR-94)	2 Lane undivided	16,200	1,411	0.090	A
Church Road					
Old Highway 80 to Campo Rd	2 Lane undivided	16,200	677	0.040	A
Ribbonwood Road					
N/O I-8	2 Lane undivided	4,500	579	0.130	<C
Campo Road (SR-94)					
Buckman Springs Rd to Live Oak Springs Rd	2 Lane undivided	19,000	1,900	0.100	A

Footnotes:

a. Capacities based on *Table 4-2*.
b. Average Daily Traffic Volumes.
c. Volume to Capacity.
d. Level of Service.

TABLE 6-3
EXISTING FREEWAY MAINLINE SEGMENT LOS

Freeway Segment	Dir.	Mainline Lanes [a]	Average Daily Traffic [b]	Peak Hour Volume [c]		V/C [d]		Density (pc/ln/mi) [e]		LOS [f]	
				AM	PM	AM	PM	AM	PM	AM	PM
Interstate 8											
Cameron Rd to Crestwood Rd (Old Hwy 80	EB	2	18,000	656	1,089	0.20	0.34	6.7	11.1	A	B
	WB	2		1,177	1,247	0.37	0.39	12.0	12.7	B	B
Crestwood Rd-Old Hwy 80 to Ribbonwood Rd (SR-94)	EB	2	17,100	656	1,089	0.20	0.34	6.7	11.1	A	B
	WB	2		1,177	1,247	0.37	0.39	12.0	12.7	B	B
Ribbonwood Rd (SR-94) to Carrizo Gorge	EB	2	16,100	617	1,025	0.19	0.32	6.3	10.5	A	A
	WB	2		1,109	1,174	0.35	0.37	11.3	11.9	B	B

Footnotes:

a. Lane geometry taken from PeMS lane configurations at corresponding postmile.
b. Existing ADT volumes from most recent Caltrans Traffic Census Program (2017).
c. Peak hour volumes calculated from Caltrans Traffic Census Program Peak Hour Volume Data (2017).
d. V/C = (Peak Hour Volume/Hourly Capacity)
e. Density is presented in "passenger cars per lane per mile."
f. LOS = Level of Service

General Notes:

LOS based on HCM methodology, analyzed in the *2016 Highway Capacity Software* (HCS).

7.0 TRIP GENERATION/DISTRIBUTION/ASSIGNMENT

7.1 Trip Generation

Trip generation estimates for the construction phase of the Project were calculated based on the peak construction traffic during Project construction. Construction traffic includes the estimated number of workers, and the estimated amount of delivery and haul truck traffic generated to and from the Project Site daily and during the AM and PM peak hours. Construction activities will occur during the daylight hours for approximately 12 hours over the weekdays, Monday through Friday.

As discussed previously, construction of the Campo Wind Facilities is estimated to require approximately 420 workers, 20 vendor trucks (trucks delivering water), and 27 haul trucks (trucks delivering water and/or materials from off-site locations) per day. Construction of the Boulder Brush Facilities is estimated to require approximately 144 workers, 14 vendor trucks (trucks delivering water), and two haul trucks per day. Since the work shift would begin before the AM peak period (7:00 a.m. – 9:00 a.m.), and workers would likely arrive before the AM peak hour starts, approximately 50% of the workers estimated to arrive during the AM peak hour. However, 100% of the workers were estimated to depart during the PM peak hour. It is expected that some carpooling will occur, however, to provide a conservative analysis no credits for carpooling among workers were assumed.

Truck traffic (vendor and haul) to and from the site was evenly distributed assuming a 9-hour workday, as there may be some peak hour restrictions to transport oversized equipment truck loads. Passenger car equivalent (PCE) factors were used to account for the project's truck traffic and provide a more realistic measurement in terms of the impact of project-related truck traffic.

Campo Wind Facilities and Boulder Brush Facilities trip generation estimates are summarized in ***Tables 7-1 and 7-2*** respectively. As shown in *Table 7-1*, construction of the Campo Wind Facilities (i.e. Phases 2, 4, 6, 7, 8 and 9) is estimated to generate approximately 934 total daily trips, 215 AM peak hour trips (210 inbound and 5 outbound), and 430 PM peak hour trips (5 inbound and 425 outbound). With the application of PCE factors to truck trips, construction of the Campo Wind Facilities is estimated to generate approximately 1,075 total PCE daily trips, and 235 PCE trips during the AM peak hour (223 inbound and 12 outbound) and 445 PCE trips during the PM peak hour (12 inbound and 433 outbound).

As shown in *Table 7-2*, construction of the Boulder Brush Facilities (i.e. Phases 12, 13 and 14) is estimated to generate 320 total daily trips, 76 AM peak hour trips (74 inbound and 2 outbound), and 146 PM peak hour trips (2 inbound and 144 outbound). With the application of PCE factors to truck trips, construction of the Boulder Brush Facilities is estimated to generate 368 total PCE daily trips, and 82 PCE trips during the AM peak hour (77 inbound and 5 outbound) and 154 PCE trips during the PM peak hour (5 inbound and 149 outbound).

TABLE 7-1
ESTIMATED TRIP GENERATION FOR CAMPO WIND FACILITIES

Vehicle Type	Number	Daily Trips	PCE [a]	Trips With PCE	AM Peak Hour			PM Peak Hour		
					In	Out	Total	In	Out	Total
Workers	420	840	1	840	210	0	210	0	420	420
Vendor Trucks	20	40	2.5	100	2(5)	2(5)	4(10)	2(5)	2(5)	4(10)
Haul Trucks	27	54	2.5	135	3(8)	3(7)	6(15)	3(7)	3(8)	6(15)
Total		**934**		**(1,075)**	**215(223)**	**5(12)**	**220(235)**	**5(12)**	**425(433)**	**430(445)**

Footnotes:

a. PCE factor of 1 was utilized for worker passenger cars and 2.5 was utilized for vendor and haul trucks

General Note:

PCE – Passenger Car Equivalent

Values in parentheses are PCE trips.

TABLE 7-2
ESTIMATED TRIP GENERATION FOR BOULDER BRUSH FACILITIES

Vehicle Type	Number	Daily Trips	PCE	Trips With PCE	AM Peak Hour			PM Peak Hour		
					In	Out	Total	In	Out	Total
Workers	144	288	1	288	72	0	72	0	144	144
Vendor Trucks	14	28	2.5	70	2(5)	2(5)	5(10)	2(5)	2(5)	5(10)
Haul Trucks	2	4	2.5	10	0	0	0	0	0	0
Total		**320**		**368**	**74(77)**	**2(5)**	**76(82)**	**(2)5**	**144(149)**	**146(154)**

Footnotes:

a. PCE factor of 1 was utilized for worker passenger cars and 2.5 was utilized for vendor and haul trucks

General Note:

PCE – Passenger Car Equivalent

Values in parentheses are PCE trips.

Table 7-1 represents the peak construction activity for Campo Wind Facilities (420 workers, 20 vendor trucks and 27 haul trucks), whereas *Table 7-2* represents the peak construction activity for the Boulder Brush Facilities (144 workers, 14 vendor trucks and 2 haul trucks). However, as shown in *Table 2-1*, construction phases of Campo Wind Facilities and Boulder Brush Facilities do overlap, but the peaks do not. The peak construction period for traffic analysis of the Project is identified as overlap of Phases 2, 4, 6, 7, 8 and 9 (i.e. 420 workers, 20 vendor trucks and 27 haul trucks) of Campo Wind Facilities

construction with Phases 12, 15 and 16 (includes 141 workers, 9 vendor trucks and 2 haul trucks, less than that in *Table 7-2*) of Boulder Brush Facilities construction. The addition of workers and trucks for these construction phases would result in trips from a total of 561 workers, 29 vendor trucks and 29 haul trucks. Since the peak construction of Boulder Brush Facilities by itself occurs with the overlap of Phase 12, 13, and 14, the estimated trip generation shown in *Table 7-3* is not a sum total of trip generation in *Tables 7-1* and *7-2*.

Table 7-3 provides the trip generation estimate for the Campo Wind Project with Boulder Brush Facilities. As shown in *Table 7-3*, construction of the Campo Wind Project with Boulder Brush Facilities is estimated to generate approximately 1,238 total daily trips, 293 AM peak hour trips (287 inbound and 6 outbound), and 573 PM peak hour trips (6 inbound and 567 outbound). With the application of PCE factors to truck trips, construction of the Campo Wind Project with Boulder Brush Facilities is estimated to generate approximately 1,412 total PCE daily trips, and 311 PCE trips during the AM peak hour (297 inbound and 14 outbound) and 591 PCE trips during the PM peak hour (14 inbound and 577 outbound).

TABLE 7-3
ESTIMATED TRIP GENERATION FOR CAMPO WIND PROJECT WITH BOULDER BRUSH FACILITIES

Vehicle Type	Number	Daily Trips	PCE	Trips With PCE	AM Peak Hour			PM Peak Hour		
					In	Out	Total	In	Out	Total
Workers	561	1,122	1	1,122	281	0	281	0	561	561
Vendor Trucks	29	58	2.5	145	3(8)	3(7)	6(15)	3(7)	3(8)	6(15)
Haul Trucks	29	58	2.5	145	3(8)	3(7)	6(15)	3(7)	3(8)	6(15)
Total		**1,238**		**(1,412)**	**287(297)**	**6(14)**	**293(311)**	**6(14)**	**567(577)**	**573(591)**

Footnotes:

a. PCE factor of 1 was utilized for worker passenger cars and 2.5 was utilized for vendor and haul trucks

Footnotes:

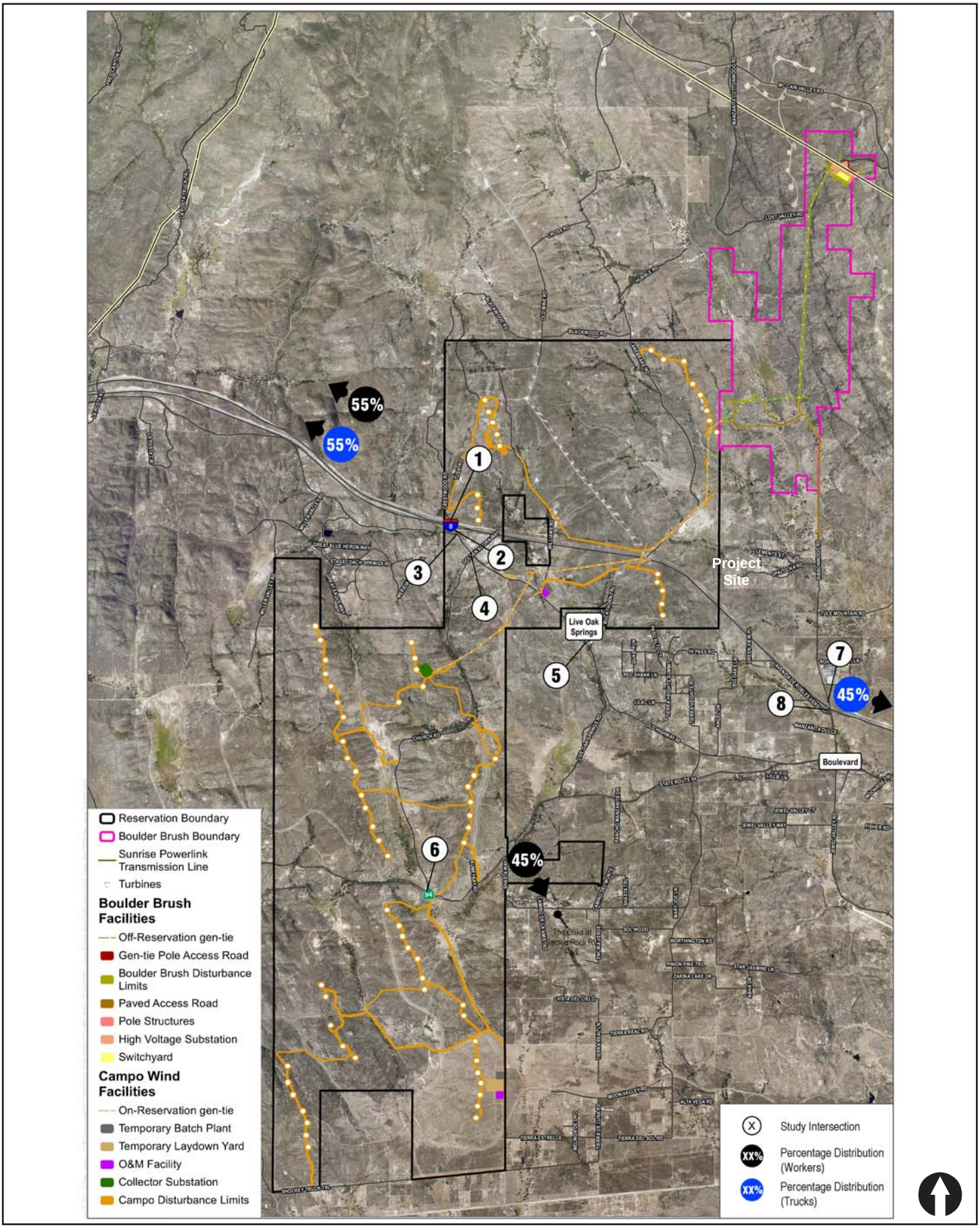
PCE – Passenger Car Equivalent
Values in parentheses are PCE trips.

7.2 Trip Distribution and Assignment

Project trips were distributed to the Traffic Study Area intersections and roadway segments using the regional location of the Project, logical commute routes for workers, and available truck routes for Project-related trucks. Construction-related Project traffic (workers and trucks) will access the Traffic Study Area via I-8, at its existing interchange with Crestwood Road and utilize Old Highway 80, Live Oak Trail, and SR-94. The existing I-8 interchange with Ribbonwood Road will also be utilized to access the Traffic Study Area, primarily for Boulder Brush Facilities. Project traffic utilizing I-8 will consist of material and equipment delivery trucks, and construction workers accessing the Project Site.

Based on the information provided by the Developer and Dudek's air quality construction data analysis, approximately 45% of the truck traffic would access the Project Site from the east (Imperial County area), and approximately 55% of the truck and worker traffic would access the Project Site from the west (San Diego County area). A temporary house site is located at the Sacred Rock RV Park, south of the Project Site. Approximately 45% of the workers would access the Project Site from this location. Project trips were assigned to the Traffic Study Area intersections by applying the Project trip generation estimates to the trip distribution percentages at each Traffic Study Area intersection and roadway segments. Based on the location and number of wind turbines, location of the substations, switchyard and alignment of the approximately 8.5-mile long gen-tie line, the worker and truck traffic was distributed across the Project Area.

The Project trip distribution for workers and trucks is shown on ***Figure 7-1***. The Project trucks and workers trip assignments are shown on ***Figures 7-2*** and ***Figure 7-3*** respectively. ***Figure 7-4*** depicts the Project trucks and workers traffic volumes. ***Figure 7-5*** depicts the Existing + Project (Peak Construction) Traffic Volumes.



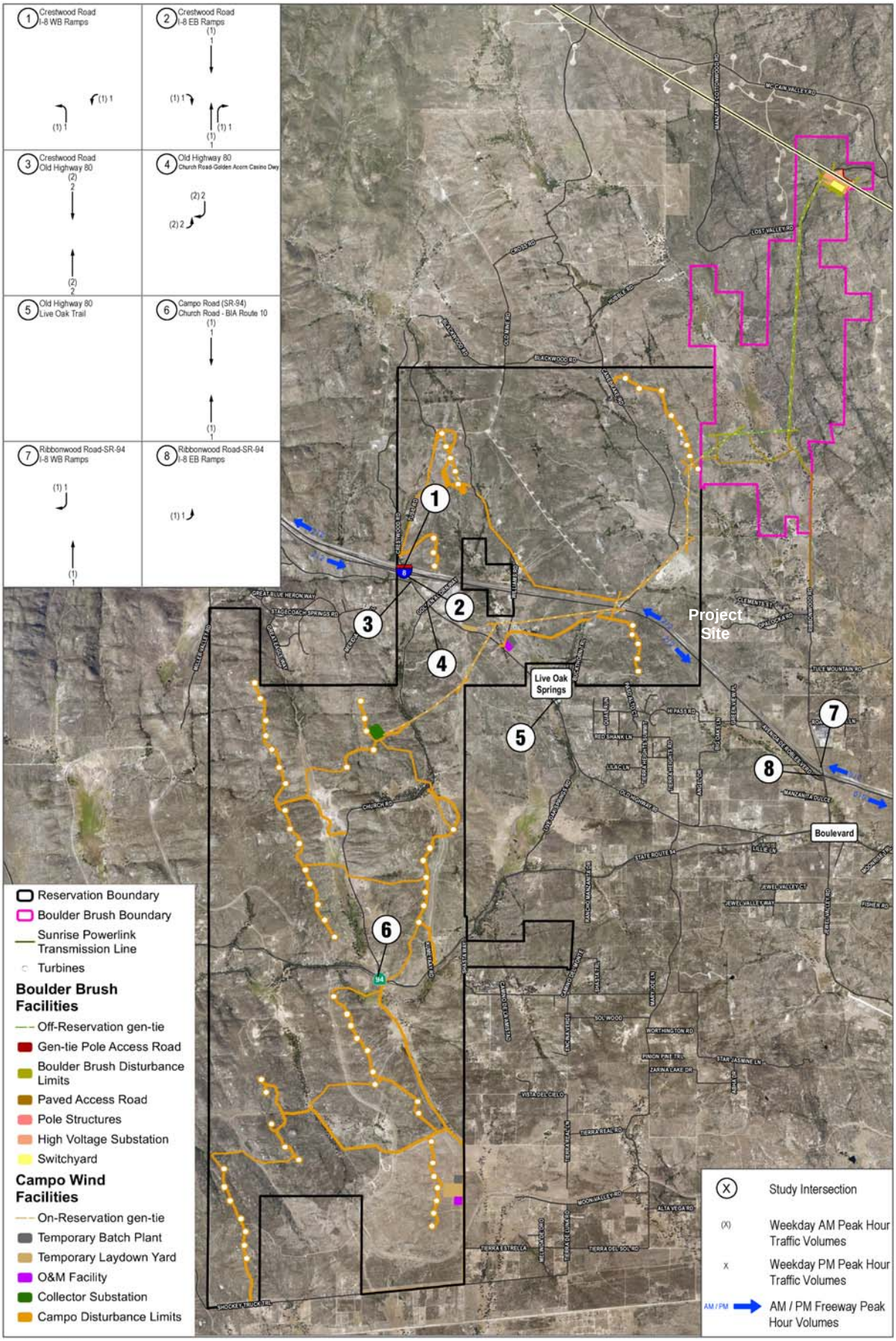
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Figure 7-1

Project Trip Distribution

CAMPO WIND WITH BOULDER BRUSH FACILITIES PROJECT



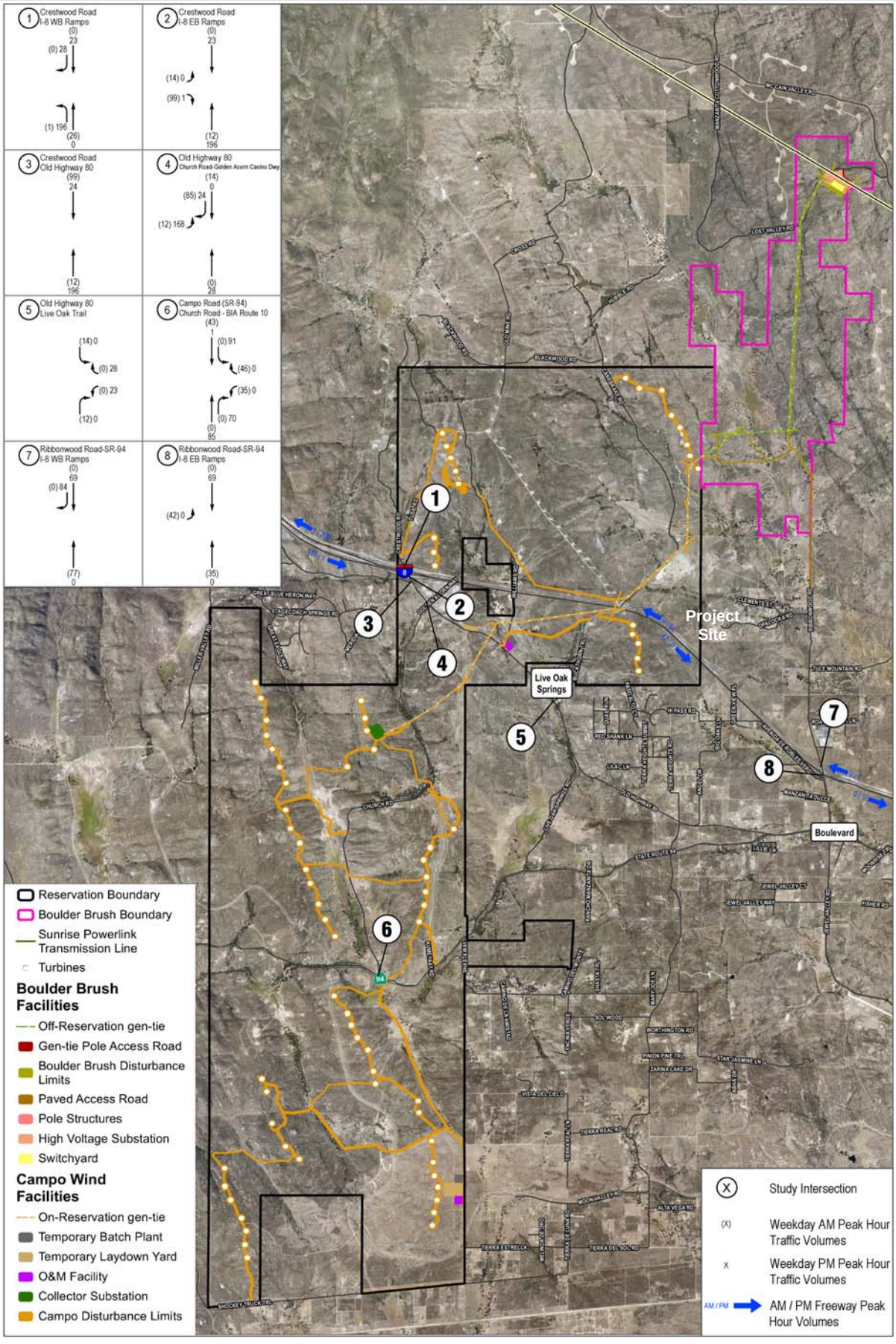
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Figure 7-2

Project Trip Assignment - Trucks (Peak Construction)

CAMPO WIND WITH BOULDER BRUSH FACILITIES PROJECT



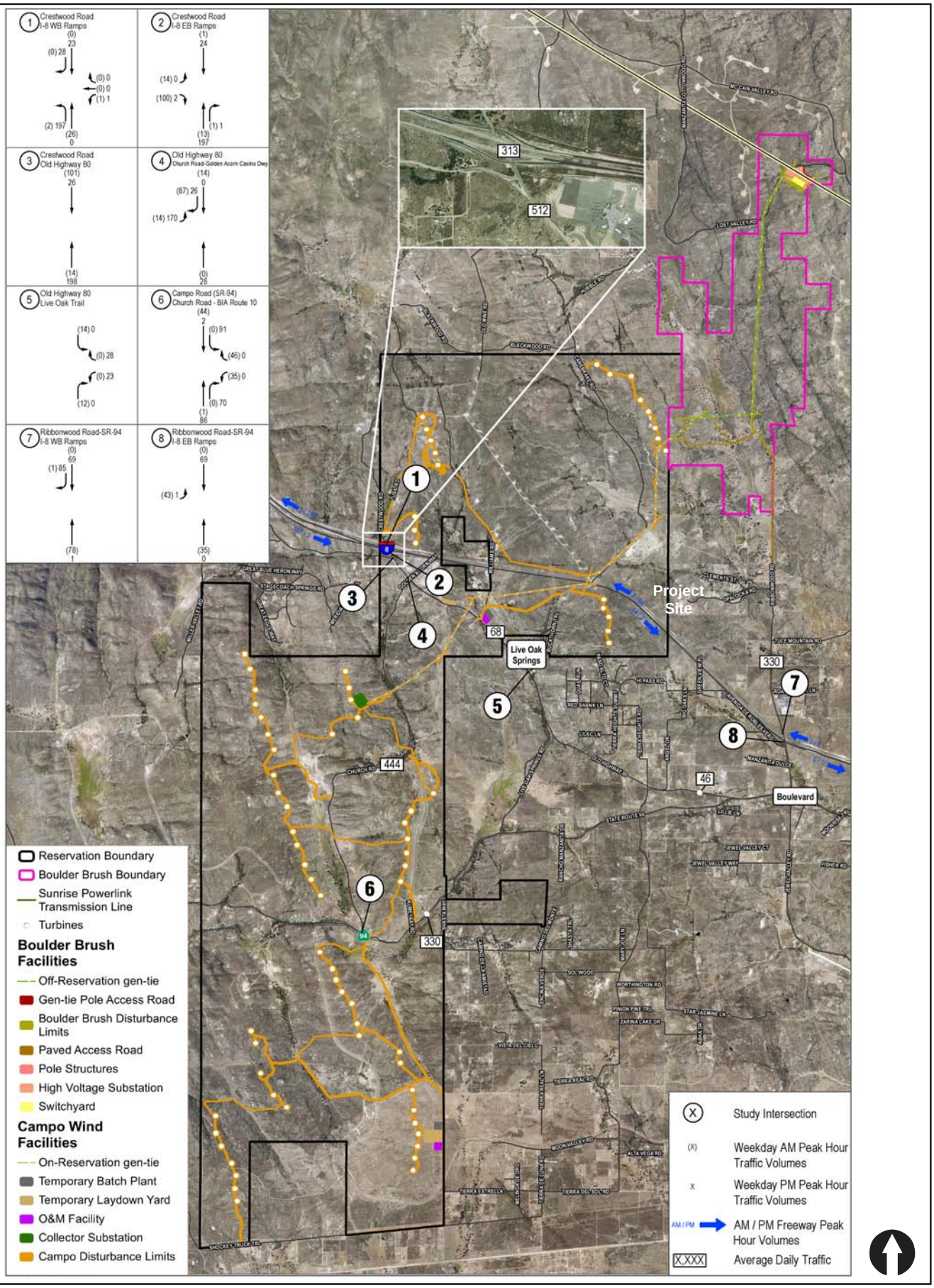
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Figure 7-3

Project Trip Assignment - Workers (Peak Construction)

CAMPO WIND WITH BOULDER BRUSH FACILITIES PROJECT



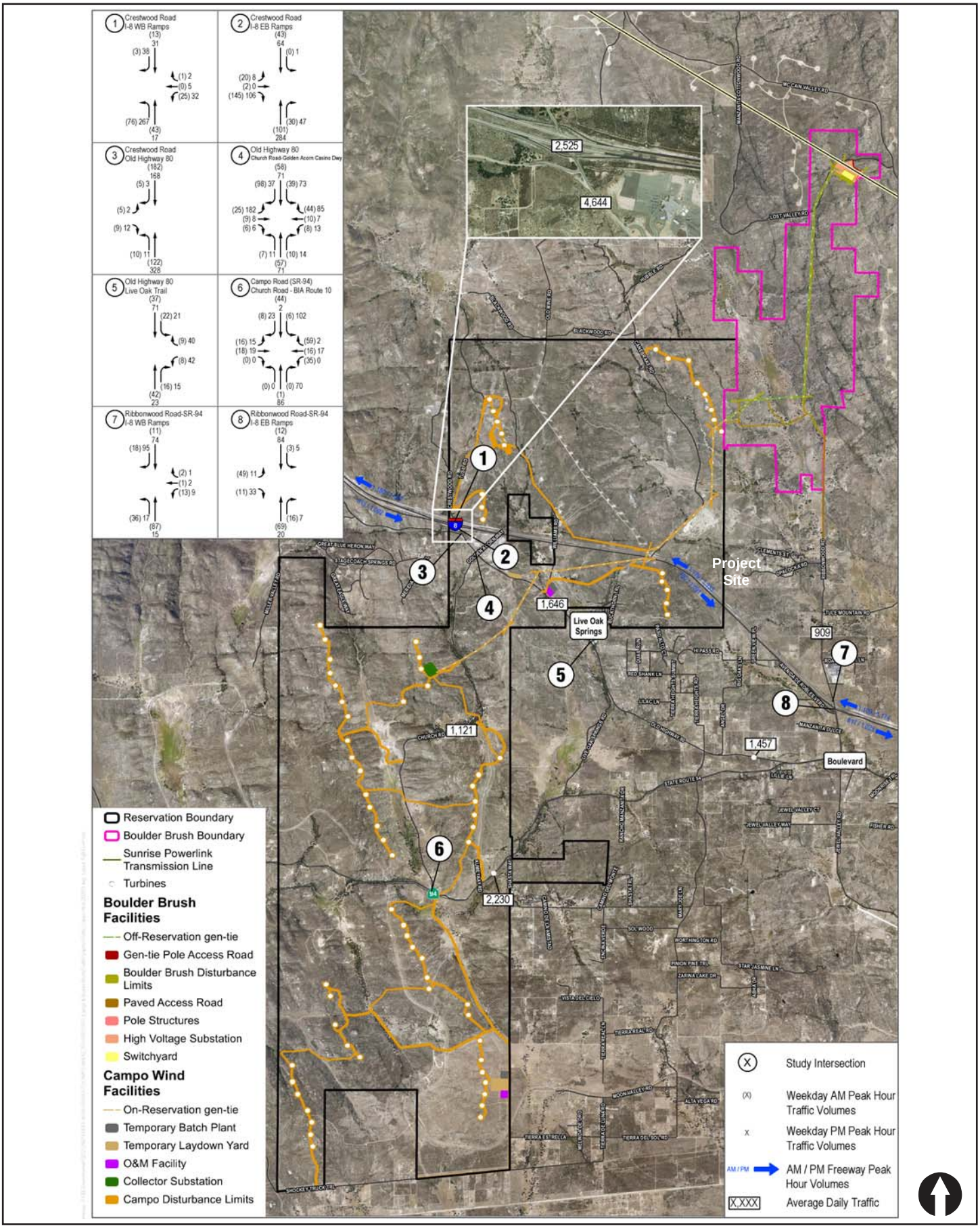
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Figure 7-4

Project Trip Assignment - Trucks and Workers (Peak Construction)

CAMPO WIND WITH BOULDER BRUSH FACILITIES PROJECT



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Figure 7-5

Existing plus Project (Peak Construction) Traffic Volumes

CAMPO WIND WITH BOULDER BRUSH FACILITIES PROJECT

8.0 ANALYSIS OF EXISTING + PROJECT CONDITIONS (PEAK CONSTRUCTION) – CAMPO WIND PROJECT WITH BOULDER BRUSH FACILITIES

8.1 Intersection Analysis

Intersection operations were calculated using the LOS methodology described in Section 4.0 Methodology. ***Table 8-1*** summarizes the results of the Existing plus Project (Peak Construction) LOS analysis and provides a comparison to the Existing conditions for the weekday peak hours using HCM methodology for unsignalized intersections. Based on the appropriate significance criteria, all intersections are forecast to continue to operate at LOS C or better with the addition of the peak construction Project traffic. Therefore, the Project would not have any impact on LOS at any intersection analyzed in the Traffic Study Area under Existing plus Project (Peak Construction) conditions.

Level of Service worksheets are included in ***Appendix D***.

Construction-related activities across SR-94, and any other State highway facilities, will be required to follow the Caltrans Encroachment Permit process in the case of oversized vehicles. As shown in *Table 8-1*, the Caltrans intersection of SR-94/Church Road intersection operates at LOS B or better under Existing plus Project conditions.

8.2 Segment Operations

The Traffic Study Area roadway segments were analyzed using the methodology described in Section 4.0 Methodology. ***Table 8-2*** shows the results of the Existing plus Project (Peak Construction) segment LOS analysis and provides a comparison to the Existing conditions for average daily traffic volumes. Based on the appropriate significance criteria, all roadway segments are forecast to continue to operate at LOS C or better with the addition of the peak construction-related Project traffic.

8.3 Freeway Segment Operations

The analyses were calculated using HCS 7 software which utilizes the HCM 6th methodology described in Section 4.0 Methodology. ***Table 8-3*** shows the results of the Existing plus Project (Peak Construction) LOS analysis for the study freeway segments and provides a comparison to the existing (without project) conditions for peak hour traffic volumes. Based on the appropriate significance criteria, all freeway segments are forecast to continue to operate at LOS B or better with the addition of the peak construction-related Project traffic.

Level of Service worksheets are included in *Appendix C*.

TABLE 8-1
EXISTING PLUS PROJECT (PEAK CONSTRUCTION) PEAK HOUR INTERSECTION LEVEL OF SERVICE – CAMPO WIND PROJECT WITH BOULDER BRUSH FACILITIES

Intersection	Peak Hour	LOS Method	Critical Movement	Existing		Existing plus Project (Peak Construction)		Δ Delay [c]	Significant Impact?
				Delay [a]	LOS [b]	Delay	LOS		
1. Crestwood Rd/I-8 WB Ramps	AM	HCM	WBL	10.2	B	10.6	B	0.4	No
	PM			10.6	B	21.8	C	11.2	No
2. Crestwood Rd/I-8 EB Ramps	AM	HCM	EBL	9.4	A	9.6	A	0.2	No
	PM			9.8	A	12.0	B	2.2	No
3. Crestwood Rd/Old Hwy 80	AM	HCM	EBL	9.4	A	10.1	B	0.7	No
	PM			9.4	A	9.9	B	0.5	No
4. Old Hwy 80/Church Rd-Golden Acorn Casino	AM	HCM	EBL	11.0	B	12.3	B	1.3	No
	PM			12.6	B	20.6	C	8.0	No
5. Old Hwy 80/Live Oak Trail	AM	HCM	WBL	9.1	A	9.3	A	0.2	No
	PM			9.3	A	9.5	A	0.2	No
6. Campo Rd (SR-94)/Church Rd-BIA Route 10	AM	HCM	SBL	9.3	A	12.3	B	3.0	No
	PM			9.1	A	12.1	B	3.0	No
7. Ribbonwood Rd-SR-94/I-8 WB Ramps	AM	HCM	WBL	9.3	A	9.9	A	0.61	No
	PM			9.0	A	9.9	A	0.9	No

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TABLE 8-1 (CONTINUED)
EXISTING PLUS PROJECT (PEAK CONSTRUCTION) PEAK HOUR INTERSECTION LEVEL OF SERVICE – CAMPO WIND PROJECT WITH BOULDER BRUSH FACILITIES

Intersection	Peak Hour	LOS Method	Critical Movement	Existing		Existing plus Project (Peak Construction)		Δ Delay [c]	Significant Impact?
				Delay [a]	LOS [b]	Delay	LOS		
8. Ribbonwood Rd-SR-94/I-8 EB Ramps	AM	HCM	EBL	9.1	A	9.5	A	0.4	No
	PM			8.9	A	9.3	A	0.4	No

Footnotes:

a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. Increase in delay due to Project traffic.

General Note:

All intersections are Two-Way Stop Controlled intersection. Minor street left turn delay is reported.

UNSIGNALIZED

Delay	LOS
0.0 ≤ 10.0	A
10.1 to 15.0	B
15.1 to 25.0	C
25.1 to 35.0	D
35.1 to 50.0	E
≥ 50.1	F

TABLE 8-2
EXISTING PLUS PROJECT (PEAK CONSTRUCTION) ROADWAY SEGMENT LEVEL OF SERVICE – CAMPO WIND PROJECT WITH BOULDER BRUSH FACILITIES

Roadway Segment	Classification	LOS "E" Capacity [a]	Existing			Project Traffic	Existing plus Project (Peak Construction)			Δ [e] ADT
			ADT [b]	V/C [c]	LOS [d]		ADT	V/C	LOS	
Crestwood Road										
I-8 WB to I-8 EB ramps	2 Lane undivided	16,200	2,212	0.14	B	313	2,525	0.16	B	313
Old Hwy 80 to Church Rd	2 Lane undivided	16,200	4,132	0.26	C	512	4,644	0.29	C	512
Old Highway 80										
Church Rd to Live Oak Tr	2 Lane undivided	16,200	1,646	0.10	A	68	1,714	0.11	A	68
Live Oak Tr to Campo Rd (SR-94)	2 Lane undivided	16,200	1,411	0.09	A	46	1,457	0.09	A	46
Church Road										
Old Highway 80 to Campo Rd	2 Lane undivided	16,200	677	0.04	A	444	1,121	0.07	A	444
Ribbonwood Road										
N/O I-8	2 Lane undivided	4,500	579	0.13	<C	330	909	0.20	<C	330
Campo Road (SR-94)										
Buckman Springs Rd to Live Oak Springs Rd	2 Lane undivided	19,000	1,900	0.10	A	330	2,230	0.12	A	330

Footnotes:

a. Capacities based on *Table 4-2*.
b. Average Daily Traffic Volumes.
c. Volume to Capacity ratio.
d. Level of Service.
e. Increase in ADT due to Project traffic.

TABLE 8-3
EXISTING PLUS PROJECT (PEAK CONSTRUCTION) FREEWAY SEGMENT OPERATIONS – CAMPO WIND PROJECT WITH BOULDER BRUSH FACILITIES

Freeway Segment	Dir.	Mainline Lanes [a]	Existing								Existing plus Project (Peak Construction)								Δ V/C [f]		Sig? [g]
			Volume [b]		V/C [c]		Density [d]		LOS [e]		Volume		V/C		Density		LOS				
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	
Interstate 8																					
Cameron Rd to Crestwood Rd-Old Hwy 80	EB	2	656	1,089	0.20	0.34	6.7	11.1	A	B	813	1,092	0.25	0.34	8.3	11.1	A	B	0.05	0.00	No
	WB	2	1,177	1,247	0.37	0.39	12.0	12.7	B	B	1,180	1,557	0.37	0.49	12.0	15.8	B	B	0.00	0.01	No
Crestwood Rd-Old Hwy 80 to Ribbonwood Rd-SR-94	EB	2	656	1,089	0.20	0.34	6.7	11.1	A	B	700	1091	0.22	0.34	7.1	11.1	A	B	0.02	0.00	No
	WB	2	1,177	1,247	0.37	0.39	12.0	12.7	B	B	1,179	1,333	0.37	0.42	12.0	13.6	B	B	0.00	0.03	No
Ribbonwood Rd-SR-94 to Carrizo Gorge	EB	2	617	1,025	0.19	0.32	6.3	10.5	A	A	619	1,027	0.19	0.32	6.3	10.5	A	A	0.00	0.00	No
	WB	2	1,109	1,174	0.35	0.37	11.3	11.9	B	B	1,111	1,176	0.35	0.37	11.4	12.0	B	B	0.00	0.00	No

Footnotes:

a. Lane geometry from PeMS lane configurations at corresponding postmile.
b. Peak hour volumes calculated from Caltrans Traffic Census Program Peak Hour Volume Data (2017).
c. V/C = Peak Hour Volume/Hourly Capacity
d. Density is presented in "passenger cars per lane per mile."
e. LOS = Level of Service
f. Increase in V/C ratio due to Project traffic.
g. Sig? - Significant Impact?

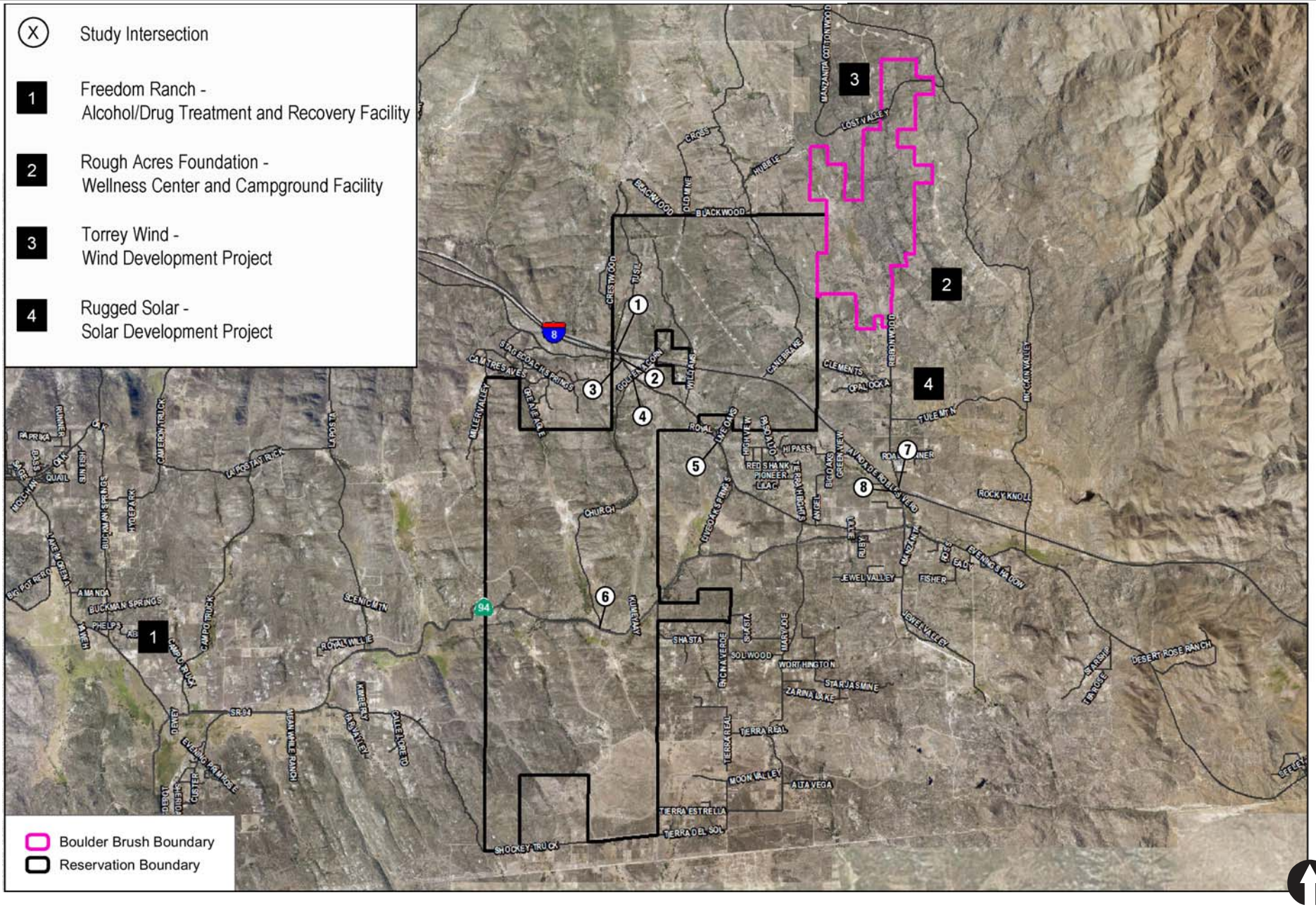
General Notes:

LOS based on HCM methodology, analyzed in the *2010 Highway Capacity Software* (HCS).

9.0 CUMULATIVE PROJECTS

Cumulative traffic volumes for the freeway segments of I-8 in the Traffic Study Area were estimated by applying a growth rate based on review of historical data (conservatively, estimated to be 10% over existing volumes). Cumulative traffic volumes for the roadway segments and intersections were estimated by applying an annual ambient growth rate of one percent (1%) per year for a period of two years, plus the addition of traffic from cumulative projects, to the existing traffic volumes.

Figure 9-1 depicts the locations of the cumulative projects. ***Figure 9-2*** depicts the Construction Year or Existing plus Cumulative Projects daily and peak hour traffic volumes, while ***Figure 9-3*** depicts the same for the Construction or Existing plus Project plus Cumulative projects daily and peak hour traffic volumes.



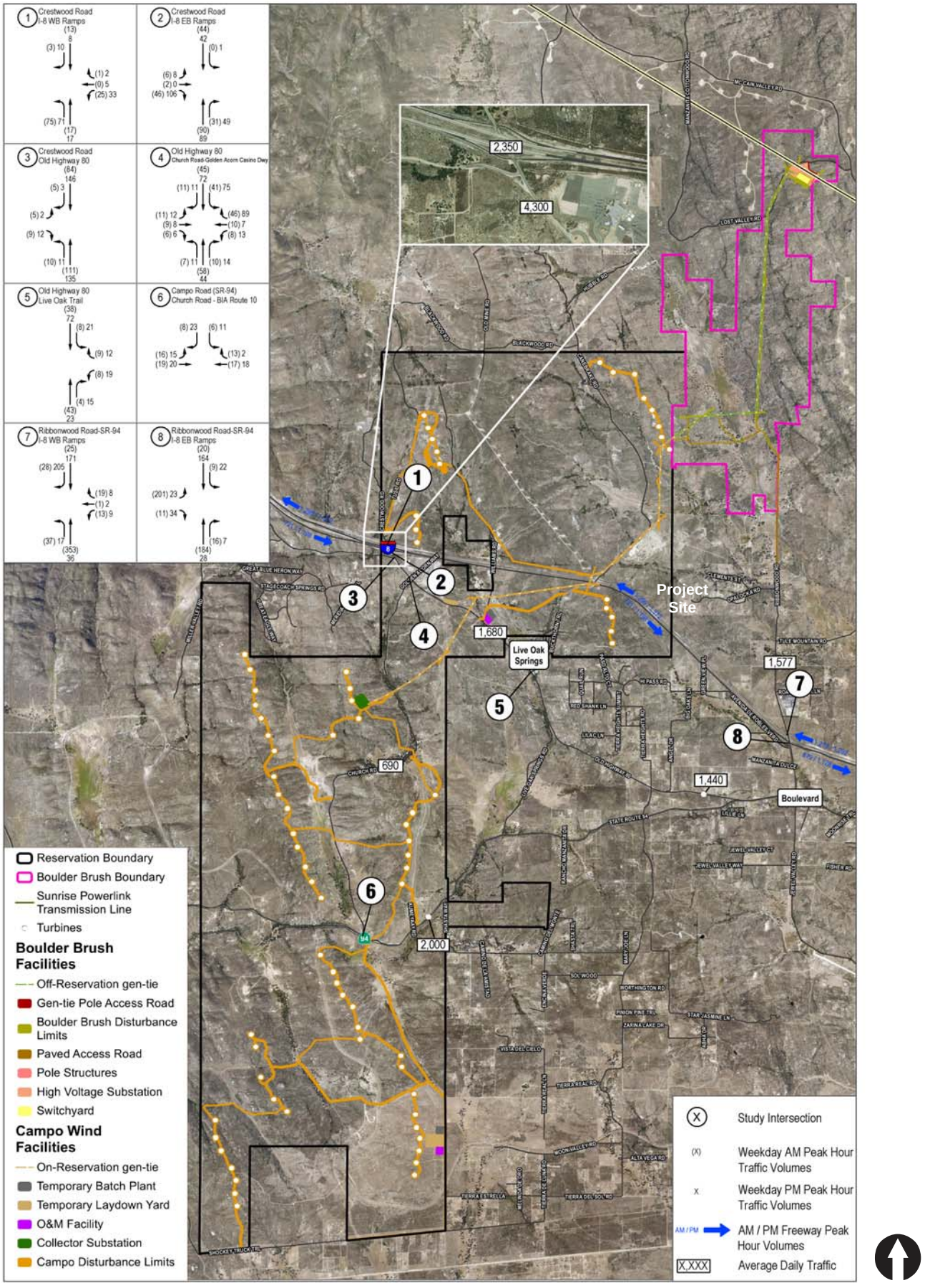
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Figure 9-1

Locations of Cumulative Projects

CAMPO WIND WITH BOULDER BRUSH FACILITIES PROJECT



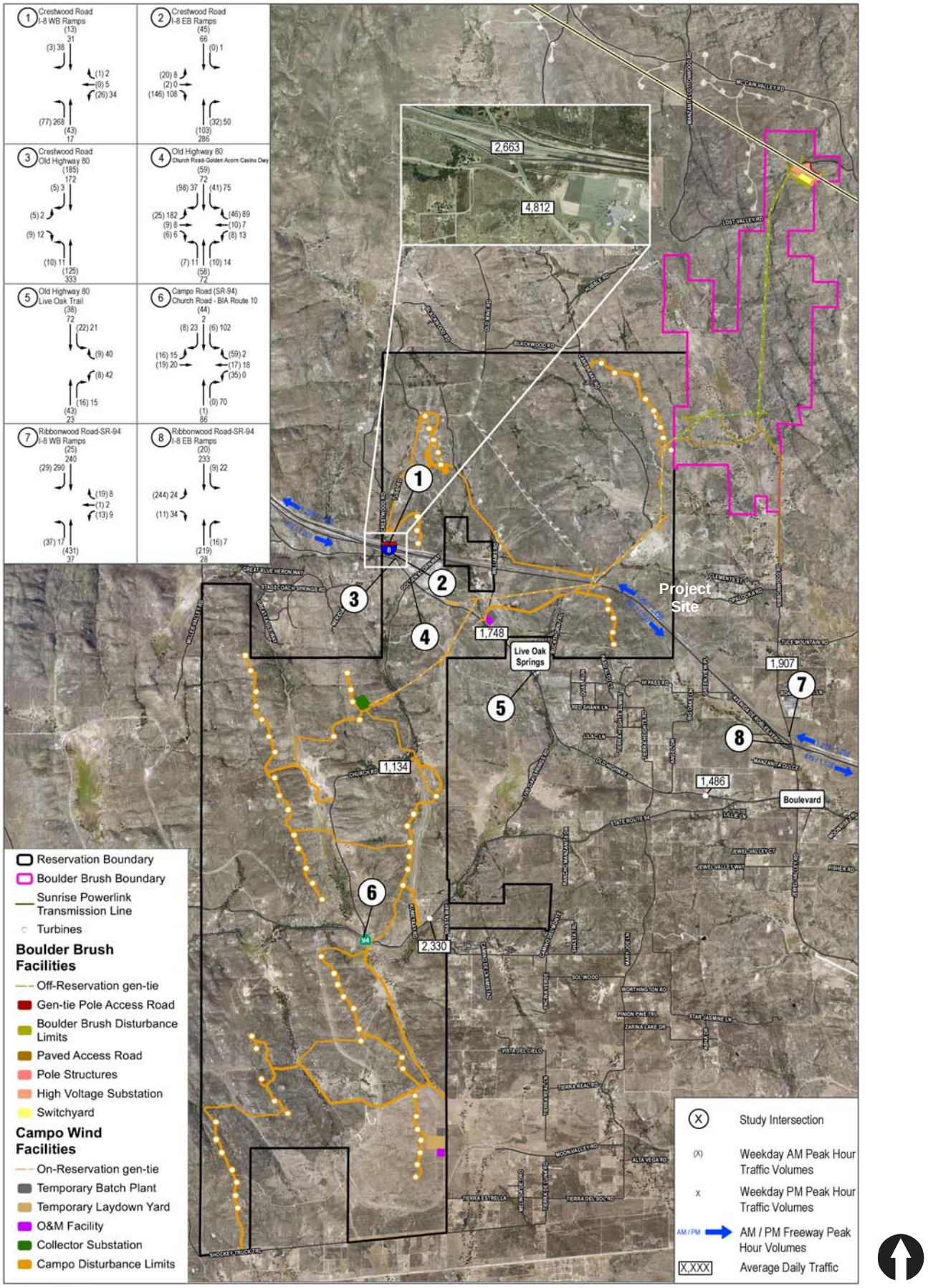
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Figure 9-2

Existing plus Cumulative Projects Traffic Volumes

CAMPO WIND WITH BOULDER BRUSH FACILITIES PROJECT



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Figure 9-3

Existing plus Project (Peak Construction) plus Cumulative Projects Traffic Volumes

CAMPO WIND WITH BOULDER BRUSH FACILITIES PROJECT

10.0 ANALYSIS OF CONSTRUCTION YEAR/CUMULATIVE SCENARIOS – CAMPO WIND PROJECT WITH BOULDER BRUSH FACILITIES

10.1 Existing plus Cumulative Projects Traffic Operations

An intersection operations analysis was conducted for the Traffic Study Area to evaluate the Existing plus Project (Peak Construction) plus Cumulative projects weekday AM and PM peak hour conditions. Intersection operations were calculated using the LOS methodology described in Chapter 1. The following presents the results of the Project analysis.

10.2 Intersection Analysis

Table 10-1 summarizes the results of the Existing plus Project (Peak Construction) plus Cumulative projects intersection LOS analysis and provides a comparison to the Existing and Existing plus Project (Peak Construction) conditions. Based on the appropriate significance criteria, all intersections are forecast to continue to operate at LOS C or better with the addition of the peak Cumulative projects traffic. Therefore, the Project would not have any impact at any intersection analyzed in the Traffic Study Area under the Existing plus Project (Peak Construction) plus Cumulative projects.

The peak hour intersection analysis worksheets for the Existing plus Project (Peak Construction) plus Cumulative projects scenario are included in ***Appendix E***.

10.2.1 *Segment Operations*

Table 10-2 summarizes the results of the Existing plus Project (Peak Construction) plus Cumulative projects segment LOS analysis and provides a comparison to the Existing and Existing plus Project (Peak Construction) conditions. Based on the appropriate significance criteria, all roadway segments are forecast to continue to operate at LOS C or better with the addition of the peak Cumulative projects traffic in the Existing and Existing plus Project (Peak Construction) conditions.

10.2.2 *Freeway Operations*

Table 10-3 summarizes the results of the Existing and Existing plus Project (Peak Construction) conditions freeway segments LOS analysis and provides a comparison to the Existing plus Project (Peak Construction) conditions. Based on the appropriate significance criteria, all freeway segments are forecast to continue to operate at LOS B or better during both the peak hours, with the addition of the peak cumulative projects traffic.

The peak hour LOS analysis worksheets are included in *Appendix C.*

TABLE 10-1
EXISTING PLUS PROJECT (PEAK CONSTRUCTION) PLUS CUMULATIVE PROJECTS PEAK HOUR INTERSECTION LEVEL OF SERVICE
CAMPO WIND PROJECT WITH BOULDER BRUSH FACILITIES

Intersection	Peak Hour	LOS Method	Critical Movement	Existing		Existing plus Project (Peak Construction)		Existing plus Project (Peak Construction) plus Cumulative Projects		Δ [c] Delay	Significant Impact?
				Delay [a]	LOS [b]	Delay	LOS	Delay	LOS		
1. Crestwood Rd/ I-8 WB Ramps	AM	HCM	WBL	10.2	B	10.6	B	10.6	B	0.4	No
	PM			10.6	B	21.8	C	22.1	C	11.5	No
2. Crestwood Road/ I-8 EB Ramps	AM	HCM	EBL	9.4	A	9.6	A	9.6	A	0.2	No
	PM			9.8	A	12.0	B	12.1	B	2.3	No
3. Crestwood Rd/ Old Hwy 80	AM	HCM	EBL	9.4	A	10.1	B	10.2	B	0.8	No
	PM			9.4	A	9.9	A	10.0	B	0.6	No
4. Old Hwy 80/Church Rd-Golden Acorn Casino	AM	HCM	EBL	11	B	12.3	B	12.4	B	1.4	No
	PM			12.6	B	20.6	C	21.1	C	8.5	No
5. Old Hwy 80/ Live Oak Trail	AM	HCM	WBL	9.1	A	9.3	A	9.3	A	0.2	No
	PM			9.3	A	9.5	A	9.5	A	0.2	No
6. Campo Rd (SR-94)/ Church Rd-BIA Rte 10	AM	HCM	SBL	9.3	A	12.3	B	12.3	B	3.0	No
	PM			9.1	A	12.1	B	12.1	B	3.0	No

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TABLE 10-1 (CONTINUED)
EXISTING PLUS PROJECT (PEAK CONSTRUCTION) PLUS CUMULATIVE PROJECTS PEAK HOUR INTERSECTION LEVEL OF SERVICE
CAMPO WIND PROJECT WITH BOULDER BRUSH FACILITIES

Intersection	Peak Hour	LOS Method	Critical Movement	Existing		Existing plus Project (Peak Construction)		Existing plus Project (Peak Construction) plus Cumulative Projects		Δ [c] Delay	Significant Impact?
				Delay [a]	LOS [b]	Delay	LOS	Delay	LOS		
7. Ribbonwood Rd-SR-94/ I-8 WB Ramps	AM	HCM	WBL	9.3	A	9.9	A	14.2	B	4.9	No
	PM			9	A	9.9	A	13.2	B	4.2	No
8. Ribbonwood Rd-SR-94/ I-8 EB Ramps	AM	HCM	EBL	9.1	A	9.5	A	16.1	C	7.0	No
	PM			8.9	A	9.3	A	11.3	B	2.4	No

Footnotes:

a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. Increase in delay due to Project traffic.

General Note:

All intersections are Two-Way Stop Controlled intersection. Minor street left turn delay is reported.

UNSIGNALIZED

Delay	LOS
0.0 ≤ 10.0	A
10.1 to 15.0	B
15.1 to 25.0	C
25.1 to 35.0	D
35.1 to 50.0	E
≥ 50.1	F

TABLE 10-2
EXISTING PLUS PROJECT (PEAK CONSTRUCTION) PLUS CUMULATIVE PROJECTS ROADWAY SEGMENT LEVEL OF SERVICE
CAMPO WIND PROJECT WITH BOULDER BRUSH FACILITIES

Roadway Segment	LOS "E" ADT [a]	Existing			Existing plus Project (Peak Construction)			Δ [e] ADT	Existing plus Project (Peak Construction) plus Cumulative Projects			Δ [e] ADT
		ADT [b]	V/C [c]	LOS [d]	ADT	V/C	LOS		ADT	V/C	LOS	
Crestwood Road												
I-8 WB to I-8 EB ramps	16,200	2,212	0.14	B	2,5,25	0.16	B	313	2,663	0.16	B	313
Old Hwy 80 to Church Rd	16,200	4,132	0.26	C	4,644	0.29	C	512	4,812	0.30	C	512
Old Highway 80												
Church Rd to Live Oak Tr	16,200	1,646	0.10	A	1,714	0.11	A	68	1,748	0.11	A	68
Live Oak Tr to Campo Rd (SR-94)	16,200	1,411	0.09	A	1,457	0.09	A	46	1,486	0.09	A	46
Church Road												
Old Highway 80 to Campo Rd	16,200	677	0.04	A	1,121	0.07	A	444	1,134	0.07	A	444
Ribbonwood Road												
N/O I-8	4,500	579	0.13	<C	909	0.20	<C	330	1,907	0.36	<C	330
Campo Road (SR-94)												
Buckman Springs Rd to Live Oak Springs Rd	19,000	1,900	0.10	A	2,230	0.12	A	330	2,330	0.13	A	330

Footnotes:

a. Capacities based on *Table 4-2*.
b. Average Daily Traffic Volumes.
c. Volume to Capacity.
d. Level of Service.
e. Increase in ADT due to Project traffic.

TABLE 10-3
EXISTING PLUS PROJECT (PEAK CONSTRUCTION) PLUS CUMULATIVE PROJECTS FREEWAY SEGMENT OPERATIONS
CAMPO WIND PROJECT WITH BOULDER BRUSH FACILITIES

Freeway Segment	Dir.	Mainline Lanes [a]	Existing plus Project (Peak Construction)								Existing plus Project (Peak Construction) plus Cumulative Projects								Δ V/C [f]		Sig? [g]
			Volume [b]		V/C [c]		Density [d]		LOS [e]		Volume		V/C		Density		LOS[5]				
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	
Interstate 8																					
Cameron Rd to Crestwood Rd-Old Hwy 80	EB	2	813	1,092	0.25	0.34	8.3	11.1	A	B	878	1,201	0.27	0.38	8.9	12.2	A	B	0.02	0.04	No
	WB	2	1,180	1,557	0.37	0.49	12.0	15.8	B	B	1,298	1,682	0.41	0.53	13.2	17.2	B	B	0.04	0.04	No
Crestwood Rd-Old Hwy 80 to Ribbonwood Rd-SR-94	EB	2	700	1091	0.22	0.34	7.1	11.1	A	B	765	1,200	0.24	0.37	7.8	12.2	A	B	0.02	0.03	No
	WB	2	1,179	1,333	0.37	0.42	12.0	13.6	B	B	1,297	1,458	0.41	0.46	13.2	14.8	B	B	0.04	0.04	No
Ribbonwood Rd-SR-94 to Carrizo Gorge	EB	2	617	1025	0.19	0.32	6.3	10.5	A	A	679	1,128	0.21	0.35	6.9	11.5	A	B	0.02	0.03	No
	WB	2	1,109	1,174	0.35	0.37	11.3	12.0	B	B	1,219	1,292	0.38	0.41	12.5	13.2	B	B	0.03	0.04	No

Footnotes:

a. Lane geometry from PeMS lane configurations at corresponding postmile.
b. Peak hour volumes calculated from Caltrans Traffic Census Program Peak Hour Volume Data (2017).
c. V/C = Peak Hour Volume/Hourly Capacity
d. Density is presented in "passenger cars per lane per mile."
e. LOS = Level of Service
f. Increase in V/C ratio due to Project traffic.
g. Sig? - Significant Impact?

General Notes:

LOS based on HCM methodology, analyzed in the *2010 Highway Capacity Software* (HCS).

11.0 ANALYSIS OF EXISTING PLUS PROJECT AND EXISTING PLUS PROJECT PLUS CUMULATIVE PROJECTS SCENARIOS – BOULDER BRUSH FACILITIES

11.1 Description

The Boulder Brush Facilities, which primarily consists of a 3.5-mile segment of the gen-tie line and associated pole structures and access roads, the high voltage substation, the 500-kV switchyard, and an up to 30-foot wide paved access road, are located north of I-8. Construction-related traffic (i.e., workers and truck traffic) of the Boulder Brush Facilities would access the Traffic Study Area via the I-8/ Ribbonwood Road interchange and Ribbonwood Road. A majority of construction traffic would travel along access roads constructed within the Boulder Brush Boundary.

11.2 Trip Generation

As shown in *Table 7-2*, construction of the Boulder Brush Facilities is estimated to generate approximately 320 total daily trips, 76 AM peak hour trips (74 inbound and 2 outbound), and 148 PM peak hour trips (2 inbound and 144 outbound). With the application of PCE factors to truck trips, construction of the Boulder Brush Facilities is estimated to generate approximately 368 total PCE daily trips, 82 PCE trips during the AM peak hour (77 inbound and 5 outbound) and 154 PCE trips during the PM peak hour (5 inbound and 149 outbound).

However, peak construction of the Boulder Brush Facilities would overlap with construction of the Campo Wind Facilities and as shown in ***Table 11-1*** is estimated to generate approximately 632 total daily trips, 138 AM peak hour trips (129 inbound and 9 outbound), and 246 PM peak hour trips (3 inbound and 243 outbound). With the application of PCE factors to truck trips, Boulder Brush Facilities construction including overlap with construction of Campo Wind Facilities is estimated to generate approximately 860 total PCE daily trips, 163 PCE trips during the AM peak hour (142 inbound and 21 outbound) and 283 PCE trips during the PM peak hour (21 inbound and 262 outbound).

TABLE 11-1
ESTIMATED TRIP GENERATION FOR BOULDER BRUSH FACILITIES PEAK CONSTRUCTION

Vehicle Type	Number	Daily Trips	PCE	Trips With PCE	AM Peak Hour			PM Peak Hour		
					In	Out	Total	In	Out	Total
Workers	240	480	1	480	120	0	120	0	240	240
Vendor Trucks	68	136	2.5	340	20	20	40	20	20	40
Haul Trucks	8	16	2.5	40	2	1	3	1	2	3
Total		**632**		**860**	**142**	**21**	**163**	**21**	**262**	**283**

Footnotes:

a. PCE factor of 1 was utilized for worker passenger cars and 2.5 for vendor and haul trucks

Note:

PCE – Passenger Car Equivale

Figure 11-1 depicts the peak construction-related trip assignment (workers and trucks) for the Boulder Brush Facilities. ***Figure 11-2*** depicts the Existing plus Boulder Brush Peak Construction traffic volumes and is derived by adding the Boulder Brush peak construction traffic volumes (*Figure 11-1*) to the Existing traffic volumes (*Figure 3-2)*. ***Figure 11-3*** depicts the Construction Year plus Boulder Brush Peak Construction traffic volumes and is derived by adding the Boulder Brush peak construction traffic volumes (*Figure 11-1*) to the Construction Year traffic volumes (*Figure 9-2)*.

It should be noted that the peak construction phase of the Boulder Brush Facilities generates significantly less trips as compared to the peak construction phase of the Campo Wind Project with Boulder Brush Facilities as a whole. However, a level of service analysis of traffic generated by Boulder Brush Facilities is provided to assess if any intersections, roadway or freeway segments would be impacted under Existing and Construction Year/Cumulative conditions.

11.3 Boulder Brush Peak Construction Traffic Analysis

11.3.1 *Intersection Analysis*

As shown in ***Table 11-2***, all intersections operate at LOS C or better during both peak hours under Existing and Existing plus Cumulative projects conditions with addition of peak construction traffic from the Boulder Brush Facilities. Therefore, Boulder Brush Facilities would not cause any intersection in the Traffic Study Area to operate at an unacceptable LOS under Existing and Construction Year traffic conditions.

Since the Boulder Brush Facilities would be within the jurisdiction of the County, to mitigate any potential cumulative impact, the Boulder Brush Developer would participate in the County's Transportation Impact Fee (TIF) program by paying into the program based on the projected use and new trips to local and regional roads associated with it. The AM and PM peak hour intersection analysis for the Existing plus Boulder Brush Peak Construction Traffic and Construction Year with Boulder Brush Peak Construction Traffic worksheets are included in ***Appendix F***.

11.3.2 *Segment Operations*

Table 11-3 summarizes the results of the Existing plus Cumulative projects plus Boulder Brush Peak Construction Traffic segment LOS analysis and provides a comparison to the Existing and Existing plus Boulder Brush Peak Construction conditions. Based on the appropriate significance criteria, all roadway segments are forecast to continue to operate at LOS C or better with the addition of the Boulder Brush peak construction traffic under Existing and Construction Year conditions Traffic conditions.

11.3.3 *Freeway Operations*

Table 11-4 summarizes the results of the Existing plus Cumulative projects plus Boulder Brush Peak Construction Traffic freeway segments LOS analysis and provides a comparison to the Existing plus Boulder Brush Peak Construction conditions. Based on the appropriate significance criteria, all freeway segments are forecast to continue to operate at LOS B or better during both the peak hours, with the addition of the Boulder Brush peak construction traffic under Existing and Existing plus Cumulative projects conditions.

TABLE 11-2
EXISTING PLUS BOULDER BRUSH PEAK CONSTRUCTION AND EXISTING PLUS BOULDER BRUSH PEAK CONSTRUCTION PLUS CUMULATIVE PROJECTS
PEAK HOUR INTERSECTION LEVEL OF SERVICE

Intersection	Peak Hour	LOS Method	Critical Movement	Existing		Existing plus Boulder Brush (Peak Construction)		Existing plus Boulder Brush (Peak Construction) plus Cumulative Projects		Δ [c] Delay	Significant Impact?
				Delay [a]	LOS [b]	Delay	LOS	Delay	LOS		
1. Crestwood Rd/ I-8 WB Ramps	AM	HCM	WBL	10.2	B	10.5	B	10.5	B	0.3	No
	PM			10.6	B	12.3	B	12.3	B	1.7	No
2. Crestwood Road/ I-8 EB Ramps	AM	HCM	EBL	9.4	A	9.5	A	9.5	A	0.1	No
	PM			9.8	A	10.3	B	10.4	B	0.6	No
3. Crestwood Rd/ Old Hwy 80	AM	HCM	EBL	9.4	A	9.6	A	9.6	A	0.2	No
	PM			9.4	A	9.6	A	9.6	A	0.2	No
4. Old Hwy 80/Church Rd-Golden Acorn Casino	AM	HCM	EBL	11.0	B	11.8	B	11.9	B	0.9	No
	PM			12.6	B	14.1	B	14.3	B	1.7	No
5. Old Hwy 80/ Live Oak Trail	AM	HCM	WBL	9.1	A	9.2	A	9.2	A	0.1	No
	PM			9.3	A	9.3	A	9.3	A	0.0	No
6. Campo Rd (SR-94)/ Church Rd-BIA Rte 10	AM	HCM	SBL	9.3	A	10.7	B	10.4	B	1.1	No
	PM			9.1	A	9.7	A	9.7	A	0.6	No

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TABLE 11-2 (CONTINUED)
EXISTING PLUS BOULDER BRUSH PEAK CONSTRUCTION AND EXISTING PLUS BOULDER BRUSH PEAK CONSTRUCTION PLUS CUMULATIVE PROJECTS
PEAK HOUR INTERSECTION LEVEL OF SERVICE

Intersection	Peak Hour	LOS Method	Critical Movement	Existing		Existing plus Boulder Brush (Peak Construction)		Existing plus Boulder Brush (Peak Construction) plus Cumulative Projects		Δ [c] Delay	Significant Impact?
				Delay [a]	LOS [b]	Delay	LOS	Delay	LOS		
7. Ribbonwood Rd-SR-94/ I-8 WB Ramps	AM	HCM	WBL	9.3	A	9.9	A	14.2	B	4.9	No
	PM			9.0	A	9.8	A	13.1	B	4.1	No
8. Ribbonwood Rd-SR-94/ I-8 EB Ramps	AM	HCM	EBL	9.1	A	9.5	A	16.1	C	7.0	No
	PM			8.9	A	9.4	A	11.3	B	2.4	No

Footnotes:

a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. Increase in delay due to Project traffic.

General Note:

All intersections are Two-Way Stop Controlled intersection. Minor street left turn delay is reported.

UNSIGNALIZED

Delay	LOS
0.0 ≤ 10.0	A
10.1 to 15.0	B
15.1 to 25.0	C
25.1 to 35.0	D
35.1 to 50.0	E
≥ 50.1	F

TABLE 11-4
EXISTING PLUS BOULDER BRUSH PEAK CONSTRUCTION AND EXISTING PLUS BOULDER BRUSH PEAK CONSTRUCTION PLUS CUMULATIVE PROJECTS
ROADWAY SEGMENT LEVEL OF SERVICE

Roadway Segment	LOS "E" Capacity [a]	Existing			Existing plus Boulder Brush (Peak Construction)			Δ [e] ADT	Existing plus Boulder Brush (Peak Construction) plus Cumulative Projects			Δ ADT
		ADT [b]	V/C [c]	LOS [d]	ADT	V/C	LOS		ADT	V/C	LOS	
Crestwood Road												
I-8 WB to I-8 EB ramps	16,200	2,212	0.14	B	2,329	0.14	B	117	2,467	0.15	B	117
Old Hwy 80 to Church Rd	16,200	4,132	0.26	C	4,326	0.27	C	194	4,494	0.28	C	194
Old Highway 80												
Church Rd to Live Oak Tr	16,200	1,646	0.10	A	1,674	0.10	A	28	1,708	0.11	A	28
Live Oak Tr to Campo Rd (SR-94)	16,200	1,411	0.09	A	1,421	0.09	A	10	1,450	0.09	A	10
Church Road												
Old Highway 80 to Campo Rd	16,200	677	0.04	A	843	0.05	A	166	856	0.05	A	166
Ribbonwood Road												
N/O I-8	4,500	579	0.13	<C	939	0.21	<C	360	1,937	0.43	<C	360
Campo Road (SR-94)												
Buckman Springs Rd to Live Oak Springs Rd	19,000	1,900	0.10	A	1,984	0.10	A	84	2,084	0.11	A	84

Footnotes:

a. Capacities based on *Table 4-2*.
b. Average Daily Traffic Volumes.
c. Volume to Capacity.
d. Level of Service.
e. Increase in ADT due to Project traffic.

TABLE 11-5
EXISTING PLUS BOULDER BRUSH PEAK CONSTRUCTION AND EXISTING PLUS BOULDER BRUSH PEAK CONSTRUCTION PLUS CUMULATIVE PROJECTS
FREEWAY SEGMENT OPERATIONS

Freeway Segment	Dir.	Mainline Lanes [a]	Existing plus Boulder Brush (Peak Construction)								Existing plus Boulder Brush (Peak Construction) plus Cumulative Projects								Δ V/C [e]		Sig? [f]
			Volume		V/C [b]		Density [c]		LOS [d]		Volume		V/C		Density		LOS				
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	
Interstate 8																					
Cameron Rd to Crestwood Rd-Old Hwy 80	EB	2	725	1,093	0.23	0.34	7.4	11.1	A	B	790	1,202	0.25	0.38	8.1	12.2	A	B	0.02	0.04	No
	WB	2	1,181	1,383	0.37	0.43	12.0	14.1	B	B	1,299	1,508	0.41	0.47	13.2	15.3	B	B	0.04	0.04	No
Crestwood Rd-Old Hwy 80 to Ribbonwood Rd-SR-94	EB	2	699	1092	0.22	0.34	7.1	11.1	A	B	764	1,201	0.24	0.38	7.8	12.2	A	B	0.02	0.04	No
	WB	2	1,180	1,331	0.37	0.42	12.0	13.5	B	B	1,298	1,456	0.41	0.45	13.2	14.8	B	B	0.04	0.03	No
Ribbonwood Rd-SR-94 to Carrizo Gorge	EB	2	620	1027	0.19	0.32	6.3	10.5	A	A	682	1,130	0.21	0.35	7.0	11.6	A	B	0.02	0.03	No
	WB	2	1,112	1,176	0.35	0.37	11.4	12.0	B	B	1,222	1,294	0.38	0.41	12.5	13.2	B	B	0.03	0.04	No

Footnotes:

a. Lane geometry from PeMS lane configurations at corresponding postmile.
b. V/C = Peak Hour Volume/Hourly Capacity
c. Density is presented in "passenger cars per lane per mile."
d. LOS = Level of Service
e. Increase in V/C ratio due to Project traffic.
f. Sig? - Significant Impact?

General Notes:

LOS based on HCM methodology, analyzed in the *2010 Highway Capacity Software* (HCS).

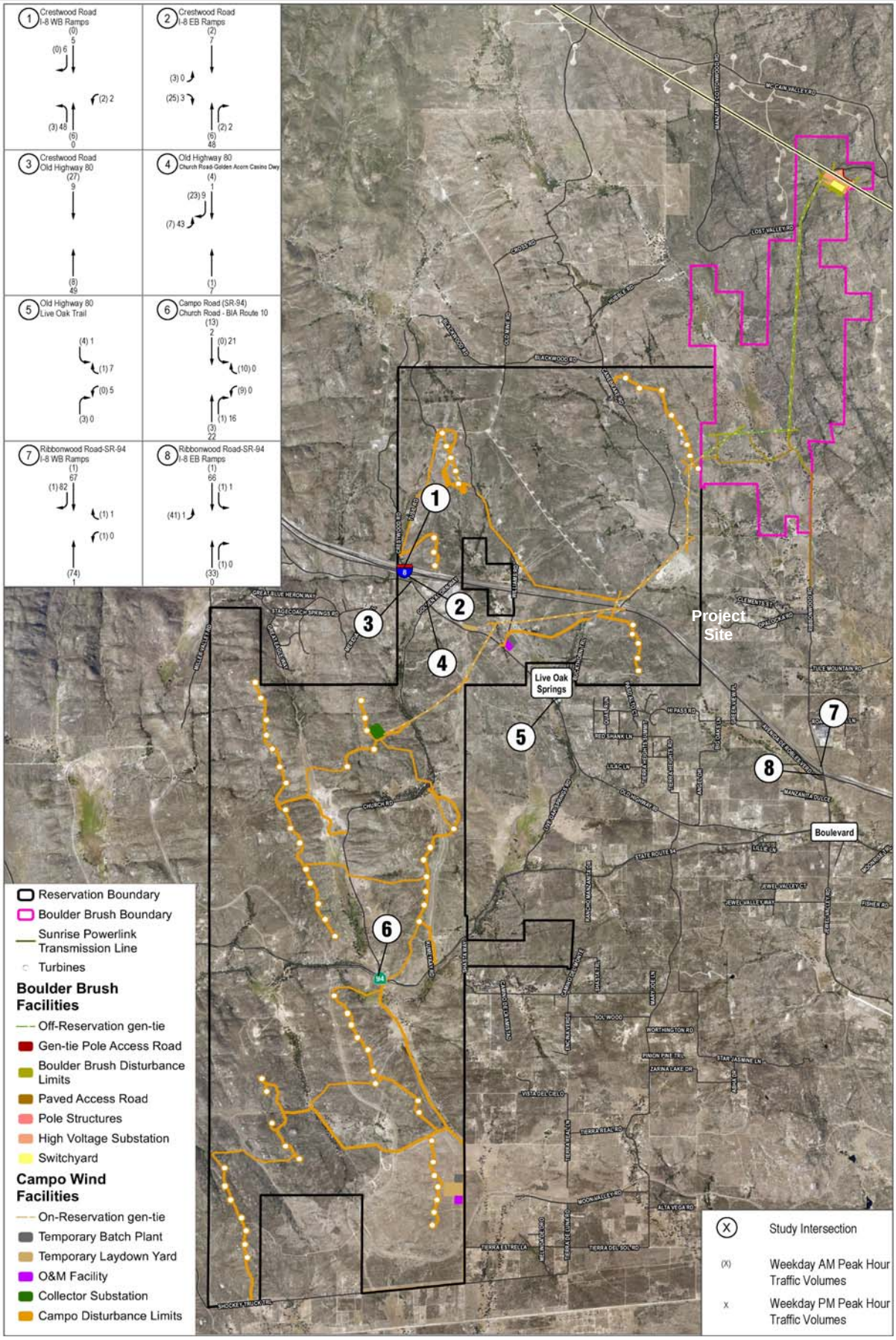
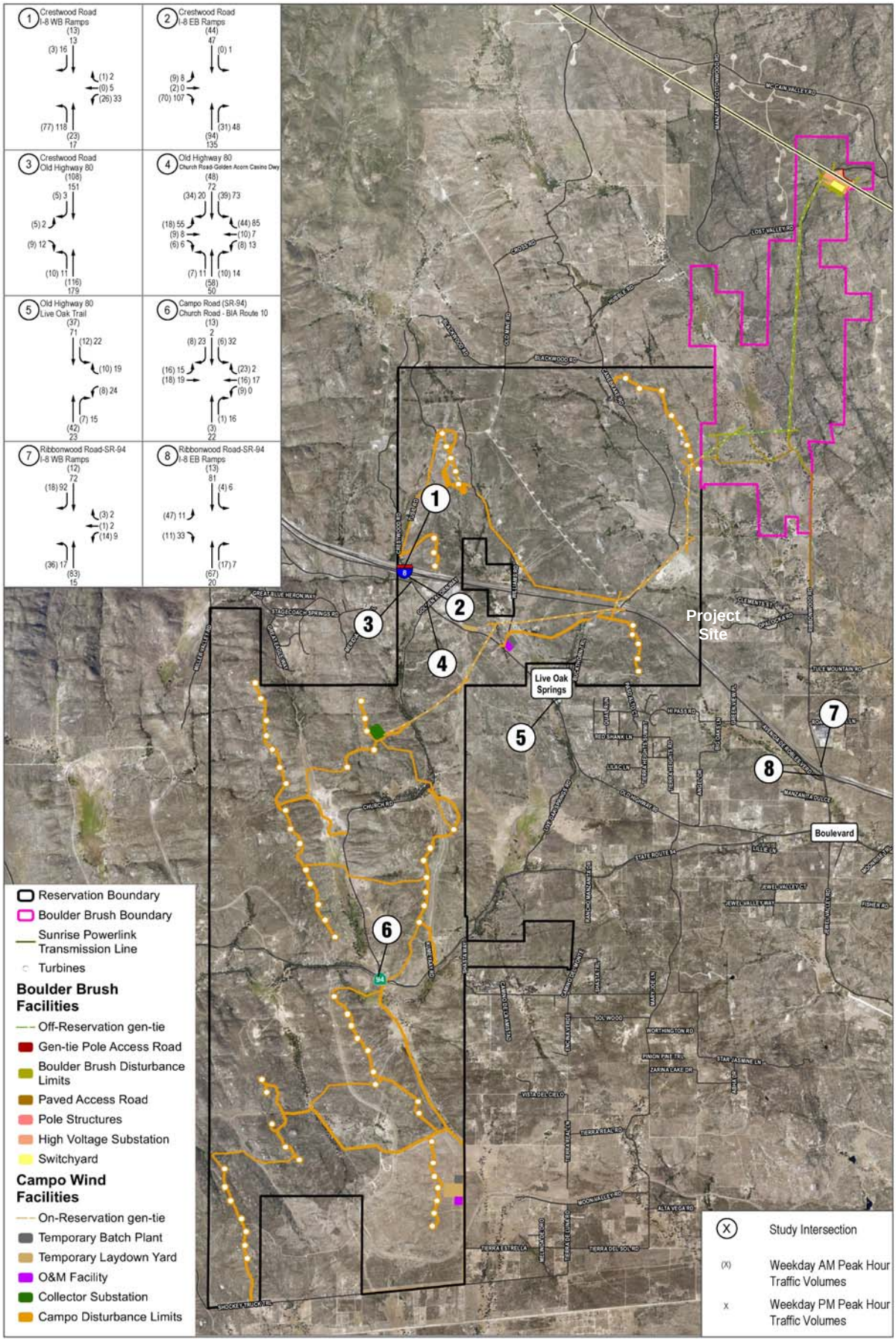


Figure 11-1

N:\3074\Figures
Date: 11/07/19

Trip Assignment - Trucks and Workers (Boulder Brush Peak Construction)



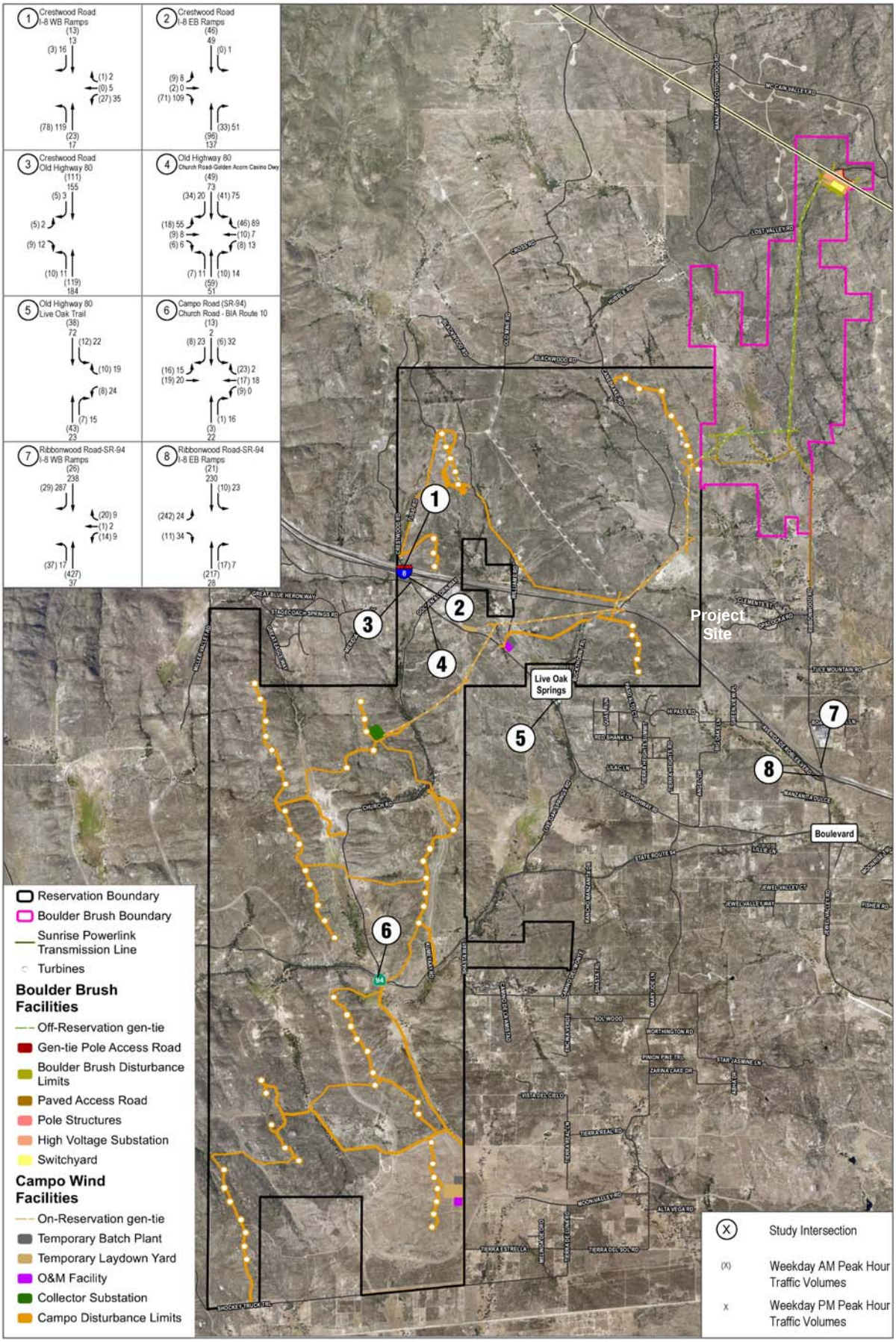
LINSCOTT LAW & GREENSPAN engineers

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Date: 11/07/19

Figure 11-2

Existing plus Boulder Brush Construction Traffic Volumes

CAMPO WIND WITH BOULDER BRUSH FACILITIES PROJECT



LINSCOTT LAW & GREENSPAN engineers

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Date: 11/07/19

Figure 11-3

Existing plus Boulder Brush Peak Construction plus Cumulative Projects Traffic Volumes

CAMPO WIND WITH BOULDER BRUSH FACILITIES PROJECT

12.0 TRUCK HEIGHT, LENGTH, TURN RADII AND VERTICAL CLEARANCE

As shown in Section 3, the peak construction phase for the Project is estimated to require the use of approximately 76 trucks per day. These trucks would be utilized for transportation of steel pipe, movement of heavy equipment for turbine construction, dump trucks, concrete trucks, water trucks and subcontractor trucks. These trucks are expected to use most of the roads analyzed in the Traffic Study Area.

Field surveys were conducted for a previous wind project (Tule Wind) to determine the height of the Crestwood Road and Ribbonwood Road under-crossings on I-8 to determine the maximum height of the trucks that can possibly use these access roads. As-builts of the under-crossings to determine the vertical clearances obtained from Caltrans and are provided in ***Appendix G***.

Based on review of the as-builts at the I-8/Crestwood Road and Ribbonwood Road interchanges, the Crestwood Road under-crossing has a minimum vertical clearance of 16 feet and 11 inches; and Ribbonwood Road undercrossing has a minimum vertical clearance of 19 feet and 1 inch.

The California vehicle code (Section 35250) suggests that the maximum height of a vehicle cannot exceed 14 feet. Per the Caltrans Encroachment Permit process, the Developer and Boulder Brush Developer would be required to coordinate with Caltrans and obtain special permits for oversized vehicles that exceed 14 feet in height. Also, large wind turbine components may be delivered on specialized trucks of up to 180 feet in length when loaded, with steering capabilities on rear axles to maneuver around corners. As part of the Caltrans permit process, any vehicles with excessive height and length are expected to require pilot cars, which typically provide overhead height warning devices to ensure oversized loads do not exceed undercrossing height limits. Modifications to proposed roads to provide sufficient turn radii and pavement within the reservation to accommodate the delivery of wind turbine components may be required. The turn for these specialized trucks would require use of the entire available pavement, requiring all other traffic to be stopped to ensure safe conditions.

As mentioned previously, the Developer and Boulder Brush Developer would implement a traffic control and management plan that would ensure coordination with Caltrans, California Highway Patrol, and County officials, including the Sheriff's department.

13.0 MITIGATION MEASURES

As shown in the TIA, all the Traffic Study Area intersections, roadway segments and freeway segments are operating at acceptable level of service under existing conditions. The level of service analysis provided above demonstrates that with the peak level of construction-related traffic added to the Traffic Study Area, all intersections, roadway and freeway segments would operate under acceptable LOS and not be significantly impacted by the Project.

No mitigation measures would be required. However, as part of standard practice, traffic control and management measures will be implemented by the Developer and Boulder Brush Developer during construction of the Project.

14.0 FINDINGS AND RECOMMENDATIONS

Based on the results of the traffic analysis in this TIA, the following summarizes the results of the intersection, segment and freeway mainline analyses with the addition of the Project construction traffic. As seen below, no Project related impacts were calculated.

- Construction of the Campo Wind Facilities is estimated to generate approximately 934 total daily trips, 215 AM peak hour trips (210 inbound and 5 outbound), and 430 PM peak hour trips (5 inbound and 425 outbound). With the application of PCE factors to truck trips, construction of the Campo Wind Facilities is estimated to generate 1,075 total PCE daily trips, and 235 PCE trips during the AM peak hour (223 inbound and 12 outbound) and 445 PCE trips during the PM peak hour (12 inbound and 433 outbound).

- Construction of the Boulder Brush Facilities is estimated to generate 320 total daily trips, 76 AM peak hour trips (74 inbound and 2 outbound), and 146 PM peak hour trips (2 inbound and 144 outbound). With the application of PCE factors to truck trips, construction of the Boulder Brush Facilities is estimated to generate 368 total PCE daily trips, and 82 PCE trips during the AM peak hour (77 inbound and 5 outbound) and 154 PCE trips during the PM peak hour (5 inbound and 149 outbound).

- Construction of the Campo Wind Project with Boulder Brush Facilities is estimated to generate 1,238 total daily trips, 293 AM peak hour trips (287 inbound and 6 outbound), and 573 PM peak hour trips (6 inbound and 567 outbound). With the application of PCE factors to truck trips, construction of the Campo Wind Project with Boulder Brush Facilities is estimated to generate 1,412 total PCE daily trips, and 311 PCE trips during the AM peak hour (297 inbound and 14 outbound) and 591 PCE trips during the PM peak hour (14 inbound and 577 outbound).

- All of the Traffic Study Area intersections and roadway segments currently operate at LOS B (intersections) or better or at LOS C (roadway segments) under existing conditions during both the peak hour and daily traffic conditions.
- All the Traffic Study Area intersections and roadway segments are calculated to operate at LOS C or better, and the freeway segments are calculated to operate at LOS B or better during both the peak hours and daily traffic conditions under Existing plus Project condition and Existing plus Project plus Cumulative projects conditions. The Campo Wind Project with Boulder Brush facilities would not have a significant direct impact at any intersection, roadway segment or freeway segment analyzed in the Traffic Study Area.
- There would be no significant direct impact during the peak construction phase of Boulder Brush Facilities under Existing or Construction Year/Cumulative conditions at any intersection, roadway segment or freeway segment analyzed in the Traffic Study Area.

LINSCOTT LAW & GREENSPAN
engineers

TECHNICAL APPENDICES

CAMPO WIND WITH BOULDER BRUSH FACILITIES PROJECT

San Diego County, California
November 8, 2019

LLG Ref. 3-19-3074

Linscott, Law & Greenspan, Engineers
4542 Ruffner Street
Suite 100
San Diego, CA 92111
858.300.8800 T
858.300.8810 F
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APPENDIX A

INTERSECTION AND SEGMENT MANUAL COUNT SHEETS

Prepared by NDS/ATD

Prepared by National Data & Surveying Services

VOLUME

Crestwood Rd Bet. I-80 WB Ramps & I-8 EB Ramps

Day: Thursday
Date: 9/13/2018

City: Campo
Project #: CA18_4267_001

DAILY TOTALS	NB	SB	EB	WB	Total
	1,316	896	0	0	2,212

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	0		4		0	0	4		12:00	20		16		0	0	36	
00:15	1		1		0	0	2		12:15	20		12		0	0	32	
00:30	2		0		0	0	2		12:30	24		14		0	0	38	
00:45	3	6	1	6	0	0	4	12	12:45	21	85	8	50	0	0	29	135
01:00	1		4		0	0	5		13:00	15		10		0	0	25	
01:15	0		4		0	0	4		13:15	26		22		0	0	48	
01:30	3		1		0	0	4		13:30	25		14		0	0	39	
01:45	1	5	2	11	0	0	3	16	13:45	26	92	8	54	0	0	34	146
02:00	3		6		0	0	9		14:00	24		15		0	0	39	
02:15	2		2		0	0	4		14:15	14		11		0	0	25	
02:30	6		3		0	0	9		14:30	18		16		0	0	34	
02:45	1	12	0	11	0	0	1	23	14:45	13	69	17	59	0	0	30	128
03:00	8		4		0	0	12		15:00	30		12		0	0	42	
03:15	4		0		0	0	4		15:15	16		16		0	0	32	
03:30	5		4		0	0	9		15:30	17		10		0	0	27	
03:45	7	24	0	8	0	0	7	32	15:45	22	85	18	56	0	0	40	141
04:00	6		2		0	0	8		16:00	17		7		0	0	24	
04:15	11		2		0	0	13		16:15	20		14		0	0	34	
04:30	9		7		0	0	16		16:30	32		15		0	0	47	
04:45	12	38	4	15	0	0	16	53	16:45	20	89	11	47	0	0	31	136
05:00	12		3		0	0	15		17:00	13		7		0	0	20	
05:15	20		2		0	0	22		17:15	13		19		0	0	32	
05:30	10		3		0	0	13		17:30	18		23		0	0	41	
05:45	19	61	12	20	0	0	31	81	17:45	15	59	17	66	0	0	32	125
06:00	15		2		0	0	17		18:00	16		21		0	0	37	
06:15	17		14		0	0	31		18:15	15		17		0	0	32	
06:30	21		8		0	0	29		18:30	16		10		0	0	26	
06:45	21	74	9	33	0	0	30	107	18:45	9	56	9	57	0	0	18	113
07:00	18		8		0	0	26		19:00	14		11		0	0	25	
07:15	13		5		0	0	18		19:15	6		10		0	0	16	
07:30	21		15		0	0	36		19:30	7		14		0	0	21	
07:45	26	78	7	35	0	0	33	113	19:45	10	37	10	45	0	0	20	82
08:00	23		12		0	0	35		20:00	10		8		0	0	18	
08:15	20		10		0	0	30		20:15	10		16		0	0	26	
08:30	21		11		0	0	32		20:30	11		10		0	0	21	
08:45	25	89	15	48	0	0	40	137	20:45	17	48	9	43	0	0	26	91
09:00	22		18		0	0	40		21:00	11		11		0	0	22	
09:15	16		10		0	0	26		21:15	12		8		0	0	20	
09:30	28		15		0	0	43		21:30	7		10		0	0	17	
09:45	19	85	9	52	0	0	28	137	21:45	8	38	8	37	0	0	16	75
10:00	29		17		0	0	46		22:00	7		3		0	0	10	
10:15	21		8		0	0	29		22:15	6		4		0	0	10	
10:30	21		12		0	0	33		22:30	5		4		0	0	9	
10:45	14	85	10	47	0	0	24	132	22:45	5	23	1	12	0	0	6	35
11:00	20		16		0	0	36		23:00	2		7		0	0	9	
11:15	14		23		0	0	37		23:15	2		5		0	0	7	
11:30	17		12		0	0	29		23:30	2		1		0	0	3	
11:45	16	67	14	65	0	0	30	132	23:45	5	11	6	19	0	0	11	30
TOTALS		624		351				975	TOTALS		692		545				1237
SPLIT %		64.0%		36.0%				44.1%	SPLIT %		55.9%		44.1%				55.9%

DAILY TOTALS	NB	SB	EB	WB	Total
	1,316	896	0	0	2,212

AM Peak Hour	09:30	11:00					08:45		PM Peak Hour	13:15	17:15					13:15		
AM Pk Volume	97	65					149		PM Pk Volume	101	80					160		
Pk Hr Factor	0.836	0.707					0.866		Pk Hr Factor	0.971	0.870					0.833		
7 - 9 Volume	167	83	0	0			250		4 - 6 Volume	148	113			0	0	261		
7 - 9 Peak Hour	07:30	08:00					08:00		4 - 6 Peak Hour	16:00	17:00					16:00		
7 - 9 Pk Volume	90	48	0	0			137		4 - 6 Pk Volume	89	66			0	0	136		
Pk Hr Factor	0.865	0.800	0.000	0.000			0.856		Pk Hr Factor	0.695	0.717			0.000	0.000	0.723		

Prepared by NDS/ATD

Prepared by National Data & Surveying Services

VOLUME

Crestwood Rd Bet. Old Hwy 80 & Church Rd

Day: Thursday
Date: 9/13/2018

City: Campo
Project #: CA18_4267_002

DAILY TOTALS	NB	SB	EB	WB	Total
	2,060	2,072	0	0	4,132

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	3		5		0	0	8		12:00	37		37		0	0	74	
00:15	5		9		0	0	14		12:15	33		30		0	0	63	
00:30	6		4		0	0	10		12:30	36		37		0	0	73	
00:45	8	22	5	23	0	0	13	45	12:45	30	136	26	130	0	0	56	266
01:00	5		7		0	0	12		13:00	23		34		0	0	57	
01:15	4		6		0	0	10		13:15	34		50		0	0	84	
01:30	9		3		0	0	12		13:30	38		34		0	0	72	
01:45	4	22	4	20	0	0	8	42	13:45	39	134	24	142	0	0	63	276
02:00	6		4		0	0	10		14:00	40		31		0	0	71	
02:15	1		3		0	0	4		14:15	32		25		0	0	57	
02:30	10		5		0	0	15		14:30	30		42		0	0	72	
02:45	1	18	2	14	0	0	3	32	14:45	35	137	34	132	0	0	69	269
03:00	9		3		0	0	12		15:00	46		39		0	0	85	
03:15	5		3		0	0	8		15:15	28		48		0	0	76	
03:30	5		3		0	0	8		15:30	33		28		0	0	61	
03:45	8	27	0	9	0	0	8	36	15:45	32	139	32	147	0	0	64	286
04:00	10		2		0	0	12		16:00	26		34		0	0	60	
04:15	13		3		0	0	16		16:15	35		42		0	0	77	
04:30	10		7		0	0	17		16:30	43		45		0	0	88	
04:45	13	46	3	15	0	0	16	61	16:45	31	135	33	154	0	0	64	289
05:00	17		8		0	0	25		17:00	18		34		0	0	52	
05:15	26		3		0	0	29		17:15	21		44		0	0	65	
05:30	13		5		0	0	18		17:30	31		40		0	0	71	
05:45	21	77	17	33	0	0	38	110	17:45	26	96	40	158	0	0	66	254
06:00	22		14		0	0	36		18:00	26		47		0	0	73	
06:15	27		15		0	0	42		18:15	25		42		0	0	67	
06:30	29		16		0	0	45		18:30	27		24		0	0	51	
06:45	32	110	22	67	0	0	54	177	18:45	18	96	18	131	0	0	36	227
07:00	31		13		0	0	44		19:00	22		24		0	0	46	
07:15	24		20		0	0	44		19:15	16		33		0	0	49	
07:30	29		20		0	0	49		19:30	16		24		0	0	40	
07:45	27	111	26	79	0	0	53	190	19:45	20	74	29	110	0	0	49	184
08:00	31		21		0	0	52		20:00	23		19		0	0	42	
08:15	31		17		0	0	48		20:15	12		35		0	0	47	
08:30	22		23		0	0	45		20:30	21		27		0	0	48	
08:45	26	110	19	80	0	0	45	190	20:45	19	75	21	102	0	0	40	177
09:00	32		28		0	0	60		21:00	12		22		0	0	34	
09:15	22		27		0	0	49		21:15	15		17		0	0	32	
09:30	37		29		0	0	66		21:30	13		14		0	0	27	
09:45	22	113	24	108	0	0	46	221	21:45	15	55	20	73	0	0	35	128
10:00	30		28		0	0	58		22:00	11		17		0	0	28	
10:15	29		27		0	0	56		22:15	14		9		0	0	23	
10:30	33		33		0	0	66		22:30	18		9		0	0	27	
10:45	29	121	26	114	0	0	55	235	22:45	13	56	14	49	0	0	27	105
11:00	39		26		0	0	65		23:00	15		15		0	0	30	
11:15	18		44		0	0	62		23:15	11		10		0	0	21	
11:30	29		32		0	0	61		23:30	6		11		0	0	17	
11:45	28	114	39	141	0	0	67	255	23:45	4	36	5	41	0	0	9	77
TOTALS		891		703				1594	TOTALS		1169		1369				2538
SPLIT %		55.9%		44.1%				38.6%	SPLIT %		46.1%		53.9%				61.4%

DAILY TOTALS	NB	SB	EB	WB	Total
	2,060	2,072	0	0	4,132

AM Peak Hour	11:45	11:15					11:45		PM Peak Hour	13:15	17:15					14:30		
AM Pk Volume	134	152					277		PM Pk Volume	151	171					302		
Pk Hr Factor	0.905	0.864					0.936		Pk Hr Factor	0.944	0.910					0.888		
7 - 9 Volume	221	159	0	0			380		4 - 6 Volume	231	312	0	0			543		
7 - 9 Peak Hour	07:30	07:15					07:30		4 - 6 Peak Hour	16:00	17:00					16:00		
7 - 9 Pk Volume	118	87	0	0			202		4 - 6 Pk Volume	135	158	0	0			289		
Pk Hr Factor	0.952	0.837	0.000	0.000			0.953		Pk Hr Factor	0.785	0.898	0.000	0.000			0.821		

Prepared by NDS/ATD

Prepared by National Data & Surveying Services

VOLUME

Old Hwy 80 Bet. Church Rd & Live Oak Trail

Day: Thursday
Date: 9/13/2018

City: Campo
Project #: CA18_4267_003

DAILY TOTALS	NB	SB	EB	WB	Total
	819	827	0	0	1,646

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	1		4		0	0	5		12:00	11		10		0	0	21	
00:15	1		4		0	0	5		12:15	12		10		0	0	22	
00:30	1		3		0	0	4		12:30	9		8		0	0	17	
00:45	2	5	1	12	0	0	3	17	12:45	14	46	11	39	0	0	25	85
01:00	0		3		0	0	3		13:00	10		10		0	0	20	
01:15	1		4		0	0	5		13:15	9		15		0	0	24	
01:30	4		0		0	0	4		13:30	12		10		0	0	22	
01:45	1	6	1	8	0	0	2	14	13:45	17	48	10	45	0	0	27	93
02:00	1		0		0	0	1		14:00	13		12		0	0	25	
02:15	0		1		0	0	1		14:15	7		5		0	0	12	
02:30	3		2		0	0	5		14:30	10		25		0	0	35	
02:45	2	6	1	4	0	0	3	10	14:45	11	41	12	54	0	0	23	95
03:00	3		2		0	0	5		15:00	16		18		0	0	34	
03:15	3		0		0	0	3		15:15	14		25		0	0	39	
03:30	4		1		0	0	5		15:30	15		22		0	0	37	
03:45	5	15	1	4	0	0	6	19	15:45	18	63	10	75	0	0	28	138
04:00	3		0		0	0	3		16:00	9		13		0	0	22	
04:15	8		1		0	0	9		16:15	12		23		0	0	35	
04:30	8		1		0	0	9		16:30	15		25		0	0	40	
04:45	10	29	0	2	0	0	10	31	16:45	8	44	16	77	0	0	24	121
05:00	13		2		0	0	15		17:00	7		22		0	0	29	
05:15	11		0		0	0	11		17:15	3		22		0	0	25	
05:30	11		0		0	0	11		17:30	12		23		0	0	35	
05:45	16	51	4	6	0	0	20	57	17:45	12	34	24	91	0	0	36	125
06:00	14		1		0	0	15		18:00	9		16		0	0	25	
06:15	23		4		0	0	27		18:15	7		17		0	0	24	
06:30	14		4		0	0	18		18:30	7		17		0	0	24	
06:45	25	76	6	15	0	0	31	91	18:45	4	27	12	62	0	0	16	89
07:00	18		5		0	0	23		19:00	10		10		0	0	20	
07:15	8		9		0	0	17		19:15	7		10		0	0	17	
07:30	14		5		0	0	19		19:30	3		11		0	0	14	
07:45	16	56	5	24	0	0	21	80	19:45	9	29	10	41	0	0	19	70
08:00	14		10		0	0	24		20:00	7		14		0	0	21	
08:15	12		11		0	0	23		20:15	5		14		0	0	19	
08:30	11		10		0	0	21		20:30	8		14		0	0	22	
08:45	20	57	14	45	0	0	34	102	20:45	3	23	10	52	0	0	13	75
09:00	15		8		0	0	23		21:00	6		7		0	0	13	
09:15	10		5		0	0	15		21:15	1		8		0	0	9	
09:30	18		6		0	0	24		21:30	3		7		0	0	10	
09:45	9	52	7	26	0	0	16	78	21:45	2	12	11	33	0	0	13	45
10:00	9		4		0	0	13		22:00	2		3		0	0	5	
10:15	14		6		0	0	20		22:15	2		3		0	0	5	
10:30	8		11		0	0	19		22:30	5		7		0	0	12	
10:45	14	45	10	31	0	0	24	76	22:45	7	16	9	22	0	0	16	38
11:00	7		5		0	0	12		23:00	5		4		0	0	9	
11:15	9		12		0	0	21		23:15	1		11		0	0	12	
11:30	4		9		0	0	13		23:30	0		1		0	0	1	
11:45	11	31	12	38	0	0	23	69	23:45	1	7	5	21	0	0	6	28
TOTALS		429		215				644	TOTALS		390		612				1002
SPLIT %		66.6%		33.4%				39.1%	SPLIT %		38.9%		61.1%				60.9%

DAILY TOTALS	NB	SB	EB	WB	Total
	819	827	0	0	1,646

AM Peak Hour	06:15		08:00					08:00	PM Peak Hour	15:00		17:00					15:00
AM Pk Volume	80		45					102	PM Pk Volume	63		91					138
Pk Hr Factor	0.800		0.804					0.750	Pk Hr Factor	0.875		0.948					0.885
7 - 9 Volume	113		69		0	0		182	4 - 6 Volume	78		168		0	0		246
7 - 9 Peak Hour	08:00		08:00					08:00	4 - 6 Peak Hour	16:00		17:00					16:15
7 - 9 Pk Volume	57		45		0	0		102	4 - 6 Pk Volume	44		91		0	0		128
Pk Hr Factor	0.713		0.804		0.000	0.000		0.750	Pk Hr Factor	0.733		0.948		0.000	0.000		0.800

Prepared by NDS/ATD

Prepared by National Data & Surveying Services

VOLUME

Old Hwy 80 Bet. Live Oak Trail & Campo Rd (SR-94)

Day: Thursday
Date: 9/13/2018

City: Campo
Project #: CA18_4267_004

DAILY TOTALS	NB	SB	EB	WB	Total
	709	702	0	0	1,411

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	0		2		0	0	2		12:00	7		7		0	0	14	
00:15	2		2		0	0	4		12:15	7		12		0	0	19	
00:30	0		1		0	0	1		12:30	13		7		0	0	20	
00:45	2	4	2	7	0	0	4	11	12:45	8	35	6	32	0	0	14	67
01:00	0		2		0	0	2		13:00	11		14		0	0	25	
01:15	2		1		0	0	3		13:15	10		11		0	0	21	
01:30	1		1		0	0	2		13:30	7		9		0	0	16	
01:45	0	3	1	5	0	0	1	8	13:45	14	42	7	41	0	0	21	83
02:00	1		0		0	0	1		14:00	13		12		0	0	25	
02:15	1		1		0	0	2		14:15	11		7		0	0	18	
02:30	2		0		0	0	2		14:30	11		18		0	0	29	
02:45	1	5	3	4	0	0	4	9	14:45	19	54	15	52	0	0	34	106
03:00	2		1		0	0	3		15:00	13		18		0	0	31	
03:15	3		0		0	0	3		15:15	12		25		0	0	37	
03:30	2		0		0	0	2		15:30	17		23		0	0	40	
03:45	4	11	1	2	0	0	5	13	15:45	14	56	8	74	0	0	22	130
04:00	5		1		0	0	6		16:00	11		11		0	0	22	
04:15	7		0		0	0	7		16:15	10		17		0	0	27	
04:30	8		2		0	0	10		16:30	14		21		0	0	35	
04:45	8	28	0	3	0	0	8	31	16:45	5	40	13	62	0	0	18	102
05:00	12		2		0	0	14		17:00	7		21		0	0	28	
05:15	8		0		0	0	8		17:15	9		23		0	0	32	
05:30	10		1		0	0	11		17:30	10		19		0	0	29	
05:45	10	40	3	6	0	0	13	46	17:45	7	33	16	79	0	0	23	112
06:00	14		1		0	0	15		18:00	7		11		0	0	18	
06:15	12		2		0	0	14		18:15	2		12		0	0	14	
06:30	15		2		0	0	17		18:30	9		11		0	0	20	
06:45	15	56	3	8	0	0	18	64	18:45	4	22	15	49	0	0	19	71
07:00	11		2		0	0	13		19:00	9		7		0	0	16	
07:15	11		8		0	0	19		19:15	5		12		0	0	17	
07:30	13		5		0	0	18		19:30	1		9		0	0	10	
07:45	11	46	3	18	0	0	14	64	19:45	7	22	7	35	0	0	14	57
08:00	12		6		0	0	18		20:00	5		6		0	0	11	
08:15	9		6		0	0	15		20:15	6		12		0	0	18	
08:30	12		10		0	0	22		20:30	3		10		0	0	13	
08:45	10	43	19	41	0	0	29	84	20:45	2	16	10	38	0	0	12	54
09:00	17		8		0	0	25		21:00	2		9		0	0	11	
09:15	10		2		0	0	12		21:15	2		5		0	0	7	
09:30	17		8		0	0	25		21:30	4		4		0	0	8	
09:45	6	50	4	22	0	0	10	72	21:45	3	11	9	27	0	0	12	38
10:00	10		5		0	0	15		22:00	2		4		0	0	6	
10:15	12		7		0	0	19		22:15	1		4		0	0	5	
10:30	10		7		0	0	17		22:30	5		4		0	0	9	
10:45	8	40	12	31	0	0	20	71	22:45	5	13	8	20	0	0	13	33
11:00	9		4		0	0	13		23:00	2		4		0	0	6	
11:15	8		14		0	0	22		23:15	0		8		0	0	8	
11:30	10		4		0	0	14		23:30	1		3		0	0	4	
11:45	8	35	7	29	0	0	15	64	23:45	1	4	2	17	0	0	3	21
TOTALS		361		176				537	TOTALS		348		526				874
SPLIT %		67.2%		32.8%				38.1%	SPLIT %		39.8%		60.2%				61.9%

DAILY TOTALS	NB	SB	EB	WB	Total
	709	702	0	0	1,411

AM Peak Hour	06:00	08:15					08:15		PM Peak Hour	14:45	14:45					14:45		
AM Pk Volume	56	43					91		PM Pk Volume	61	81					142		
Pk Hr Factor	0.933	0.566					0.784		Pk Hr Factor	0.803	0.810					0.888		
7 - 9 Volume	89	59	0	0			148		4 - 6 Volume	73	141	0	0			214		
7 - 9 Peak Hour	07:15	08:00					08:00		4 - 6 Peak Hour	16:00	17:00					16:30		
7 - 9 Pk Volume	47	41	0	0			84		4 - 6 Pk Volume	40	79	0	0			113		
Pk Hr Factor	0.904	0.539	0.000	0.000			0.724		Pk Hr Factor	0.714	0.859	0.000	0.000			0.807		

Prepared by NDS/ATD

Prepared by National Data & Surveying Services

VOLUME

Church Rd Bet. Old Hwy 80 & Campo Rd (SR-94)

Day: Thursday
Date: 9/13/2018

City: Campo
Project #: CA18_4267_005

DAILY TOTALS	NB	SB	EB	WB	Total
	349	328	0	0	677

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	0		1		0	0	1		12:00	6		7		0	0	13	
00:15	0		0		0	0			12:15	4		4		0	0	8	
00:30	1		2		0	0	3		12:30	3		6		0	0	9	
00:45	2	3	1	4	0	0	3	7	12:45	4	17	2	19	0	0	6	36
01:00	0		1		0	0	1		13:00	5		10		0	0	15	
01:15	1		1		0	0	2		13:15	5		4		0	0	9	
01:30	0		1		0	0	1		13:30	2		4		0	0	6	
01:45	1	2	1	4	0	0	2	6	13:45	5	17	7	25	0	0	12	42
02:00	0		1		0	0	1		14:00	7		2		0	0	9	
02:15	1		0		0	0	1		14:15	5		3		0	0	8	
02:30	1		0		0	0	1		14:30	9		3		0	0	12	
02:45	0	2	0	1	0	0		3	14:45	8	29	2	10	0	0	10	39
03:00	1		0		0	0	1		15:00	8		6		0	0	14	
03:15	0		0		0	0			15:15	6		17		0	0	23	
03:30	0		1		0	0	1		15:30	8		6		0	0	14	
03:45	0	1	0	1	0	0		2	15:45	7	29	6	35	0	0	13	64
04:00	2		0		0	0	2		16:00	5		5		0	0	10	
04:15	1		0		0	0	1		16:15	5		9		0	0	14	
04:30	1		1		0	0	2		16:30	11		8		0	0	19	
04:45	0	4	0	1	0	0		5	16:45	7	28	6	28	0	0	13	56
05:00	1		0		0	0	1		17:00	6		5		0	0	11	
05:15	3		0		0	0	3		17:15	5		4		0	0	9	
05:30	2		1		0	0	3		17:30	4		8		0	0	12	
05:45	1	7	4	5	0	0	5	12	17:45	5	20	2	19	0	0	7	39
06:00	3		0		0	0	3		18:00	4		5		0	0	9	
06:15	4		3		0	0	7		18:15	4		3		0	0	7	
06:30	3		2		0	0	5		18:30	4		3		0	0	7	
06:45	4	14	4	9	0	0	8	23	18:45	2	14	4	15	0	0	6	29
07:00	8		2		0	0	10		19:00	1		3		0	0	4	
07:15	2		1		0	0	3		19:15	2		5		0	0	7	
07:30	3		2		0	0	5		19:30	4		2		0	0	6	
07:45	8	21	10	15	0	0	18	36	19:45	6	13	5	15	0	0	11	28
08:00	7		9		0	0	16		20:00	5		7		0	0	12	
08:15	6		4		0	0	10		20:15	1		7		0	0	8	
08:30	4		3		0	0	7		20:30	3		4		0	0	7	
08:45	1	18	2	18	0	0	3	36	20:45	3	12	8	26	0	0	11	38
09:00	2		7		0	0	9		21:00	3		2		0	0	5	
09:15	7		3		0	0	10		21:15	3		4		0	0	7	
09:30	6		2		0	0	8		21:30	3		2		0	0	5	
09:45	5	20	1	13	0	0	6	33	21:45	2	11	5	13	0	0	7	24
10:00	4		2		0	0	6		22:00	1		4		0	0	5	
10:15	7		5		0	0	12		22:15	2		1		0	0	3	
10:30	2		2		0	0	4		22:30	3		0		0	0	3	
10:45	9	22	2	11	0	0	11	33	22:45	3	9	1	6	0	0	4	15
11:00	7		7		0	0	14		23:00	3		1		0	0	4	
11:15	6		7		0	0	13		23:15	3		4		0	0	7	
11:30	8		7		0	0	15		23:30	0		3		0	0	3	
11:45	5	26	4	25	0	0	9	51	23:45	4	10	2	10	0	0	6	20
TOTALS		140		107				247	TOTALS		209		221				430
SPLIT %		56.7%		43.3%				36.5%	SPLIT %		48.6%		51.4%				63.5%

DAILY TOTALS	NB	SB	EB	WB	Total
	349	328	0	0	677

AM Peak Hour	10:45		07:45					10:45	PM Peak Hour	14:30		15:00					15:00
AM Pk Volume	30		26					53	PM Pk Volume	31		35					64
Pk Hr Factor	0.833		0.650					0.883	Pk Hr Factor	0.861		0.515					0.696
7 - 9 Volume	39		33		0	0		72	4 - 6 Volume	48		47		0	0		95
7 - 9 Peak Hour	07:45		07:45					07:45	4 - 6 Peak Hour	16:15		16:00					16:15
7 - 9 Pk Volume	25		26		0	0		51	4 - 6 Pk Volume	29		28		0	0		57
Pk Hr Factor	0.781		0.650		0.000	0.000		0.708	Pk Hr Factor	0.659		0.778		0.000	0.000		0.750

Prepared by NDS

VOLUME

Ribbonwood Rd N/O I-8 WB Ramps

Day: Tuesday
Date: 1/22/2019

City: Boulevard
Project #: CA19_4028_001

DAILY TOTALS	NB	SB	EB	WB	Total
	291	288	0	0	579

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00	0		2						2		12:00	3		3						6	
00:15	0		0						0		12:15	4		9						13	
00:30	1		3						4		12:30	7		5						12	
00:45	1	2	0	5					1	7	12:45	1	15	3	20					4	35
01:00	0		2						2		13:00	3		2						5	
01:15	0		0						0		13:15	5		3						8	
01:30	0		0						0		13:30	11		4						15	
01:45	1	1	0	2					1	3	13:45	5	24	6	15					11	39
02:00	0		0						0		14:00	5		3						8	
02:15	0		0						0		14:15	4		3						7	
02:30	0		0						0		14:30	2		9						11	
02:45	0		0						0		14:45	5	16	8	23					13	39
03:00	1		0						1		15:00	8		5						13	
03:15	0		0						0		15:15	7		5						12	
03:30	2		0						2		15:30	8		16						24	
03:45	1	4	1	1					2	5	15:45	5	28	8	34					13	62
04:00	1		1						2		16:00	7		4						11	
04:15	0		2						2		16:15	1		2						3	
04:30	0		1						1		16:30	4		5						9	
04:45	1	2	4	8					5	10	16:45	6	18	4	15					10	33
05:00	1		2						3		17:00	4		4						8	
05:15	4		1						5		17:15	7		2						9	
05:30	8		1						9		17:30	2		3						5	
05:45	13	26	2	6					15	32	17:45	3	16	0	9					3	25
06:00	5		0						5		18:00	1		3						4	
06:15	0		6						6		18:15	8		3						11	
06:30	4		4						8		18:30	1		4						5	
06:45	12	21	5	15					17	36	18:45	4	14	0	10					4	24
07:00	1		7						8		19:00	3		1						4	
07:15	3		3						6		19:15	4		0						4	
07:30	1		7						8		19:30	2		2						4	
07:45	2	7	6	23					8	30	19:45	2	11	3	6					5	17
08:00	3		6						9		20:00	7		5						12	
08:15	1		4						5		20:15	2		0						2	
08:30	0		2						2		20:30	2		2						4	
08:45	2	6	2	14					4	20	20:45	2	13	2	9					4	22
09:00	1		0						1		21:00	4		1						5	
09:15	1		3						4		21:15	2		2						4	
09:30	5		3						8		21:30	2		4						6	
09:45	7	14	5	11					12	25	21:45	8	16	1	8					9	24
10:00	3		3						6		22:00	2		2						4	
10:15	2		1						3		22:15	2		5						7	
10:30	2		3						5		22:30	4		4						8	
10:45	2	9	4	11					6	20	22:45	3	11	3	14					6	25
11:00	3		4						7		23:00	1		2						3	
11:15	2		1						3		23:15	1		9						10	
11:30	3		6						9		23:30	2		1						3	
11:45	4	12	5	16					9	28	23:45	1	5	1	13					2	18
TOTALS		104		112						216	TOTALS		187		176						363
SPLIT %		48.1%		51.9%						37.3%	SPLIT %		51.5%		48.5%						62.7%

DAILY TOTALS	NB	SB	EB	WB	Total
	291	288	0	0	579

AM Peak Hour	05:15	07:00			11:45	PM Peak Hour	14:45	14:45		14:45
AM Pk Volume	30	23			40	PM Pk Volume	28	34		62
Pk Hr Factor	0.577	0.821			0.769	Pk Hr Factor	0.875	0.531		0.646
7 - 9 Volume	13	37	0	0	50	4 - 6 Volume	34	24	0	0	58
7 - 9 Peak Hour	07:15	07:00			07:15	4 - 6 Peak Hour	16:30	16:00			16:30
7 - 9 Pk Volume	9	23	0	0	31	4 - 6 Pk Volume	21	15	0	0	36
Pk Hr Factor	0.750	0.821	0.000	0.000	0.861	Pk Hr Factor	0.750	0.750	0.000	0.000	0.900

National Data & Surveying Services

Intersection Turning Movement Count

Location: Crestwood Rd & I-8 WB ramps
City: Campo
Control: 1-Way Stop(WB)

Project ID: 18-04266-004
Date: 9/13/2018

Total

NS/EW Streets:	Crestwood Rd				Crestwood Rd				I-8 WB ramps				I-8 WB ramps				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	1	0	0	0	1	0	0	0	0	0	0	1	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	11	3	0	0	0	2	3	0	0	0	0	0	7	0	0	0	26
7:15 AM	23	1	0	0	0	2	1	0	0	0	0	0	9	0	1	0	37
7:30 AM	11	7	0	0	0	4	0	0	0	0	0	0	7	0	0	0	29
7:45 AM	20	7	0	0	0	3	0	0	0	0	0	0	3	0	0	0	33
8:00 AM	20	2	0	0	0	4	2	0	0	0	0	0	5	0	0	0	33
8:15 AM	14	3	0	0	0	1	0	0	0	0	0	0	7	0	0	0	25
8:30 AM	24	5	0	0	0	5	0	0	0	0	0	0	7	0	0	0	41
8:45 AM	11	5	0	0	0	2	0	0	0	0	0	0	13	0	0	0	31
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	134	33	0	0	0	23	6	0	0	0	0	0	58	0	1	0	255
APPROACH %'s :	80.24%	19.76%	0.00%	0.00%	0.00%	79.31%	20.69%	0.00%					98.31%	0.00%	1.69%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	74	17	0	0	0	13	3	0	0	0	0	0	24	0	1	0	132
PEAK HR FACTOR :	0.804	0.607	0.000	0.000	0.000	0.813	0.375	0.000	0.000	0.000	0.000	0.000	0.667	0.000	0.250	0.000	0.892
	0.843				0.667								0.625				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	1	0	0	0	1	0	0	0	0	0	0	1	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	12	4	0	0	0	1	1	0	0	0	0	0	8	1	0	0	27
4:15 PM	26	5	0	0	0	3	1	0	0	0	0	0	11	1	0	0	47
4:30 PM	19	6	0	0	0	2	3	0	0	0	0	0	7	3	1	0	41
4:45 PM	13	2	0	0	0	2	5	0	0	0	0	0	5	0	1	0	28
5:00 PM	10	3	0	0	0	1	2	0	0	0	0	0	10	0	0	0	26
5:15 PM	11	7	0	0	0	2	0	0	0	0	0	0	13	0	1	0	34
5:30 PM	10	4	0	0	0	2	1	0	0	0	0	0	12	0	0	0	29
5:45 PM	16	6	0	0	0	4	0	0	0	0	0	0	10	0	0	0	36
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	117	37	0	0	0	17	13	0	0	0	0	0	76	5	3	0	268
APPROACH %'s :	75.97%	24.03%	0.00%	0.00%	0.00%	56.67%	43.33%	0.00%					90.48%	5.95%	3.57%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	70	17	0	0	0	8	10	0	0	0	0	0	31	5	2	0	143
PEAK HR FACTOR :	0.673	0.708	0.000	0.000	0.000	0.667	0.500	0.000	0.000	0.000	0.000	0.000	0.705	0.417	0.500	0.000	0.761
	0.702				0.643								0.792				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Crestwood Rd & I-8 WB ramps
City: Campo
Control: 1-Way Stop(WB)

Project ID: 18-04266-004
Date: 9/13/2018

Cars

NS/EW Streets:	Crestwood Rd				Crestwood Rd				I-8 WB ramps				I-8 WB ramps				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	1	0	0	0	1	0	0	0	0	0	0	1	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	10	3	0	0	0	2	3	0	0	0	0	0	5	0	0	0	23
7:15 AM	18	1	0	0	0	2	1	0	0	0	0	0	6	0	1	0	29
7:30 AM	10	7	0	0	0	4	0	0	0	0	0	0	7	0	0	0	28
7:45 AM	17	6	0	0	0	3	0	0	0	0	0	0	3	0	0	0	29
8:00 AM	17	1	0	0	0	4	2	0	0	0	0	0	4	0	0	0	28
8:15 AM	13	3	0	0	0	1	0	0	0	0	0	0	5	0	0	0	22
8:30 AM	20	5	0	0	0	5	0	0	0	0	0	0	5	0	0	0	35
8:45 AM	10	5	0	0	0	2	0	0	0	0	0	0	10	0	0	0	27
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	115	31	0	0	0	23	6	0	0	0	0	0	45	0	1	0	221
APPROACH %'s :	78.77%	21.23%	0.00%	0.00%	0.00%	79.31%	20.69%	0.00%					97.83%	0.00%	2.17%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	62	15	0	0	0	13	3	0	0	0	0	0	20	0	1	0	114
PEAK HR FACTOR :	0.86	0.536	0.000	0.000	0.000	0.813	0.375	0.000	0.000	0.000	0.000	0.000	0.714	0.000	0.250	0.000	0.983
	0.837				0.667								0.750				

NS/EW Streets:	Crestwood Rd				Crestwood Rd				I-8 WB ramps				I-8 WB ramps				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	1	0	0	0	1	0	0	0	0	0	0	1	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	10	4	0	0	0	1	1	0	0	0	0	0	6	1	0	0	23
4:15 PM	23	5	0	0	0	2	1	0	0	0	0	0	10	0	0	0	41
4:30 PM	18	5	0	0	0	2	3	0	0	0	0	0	6	3	1	0	38
4:45 PM	13	2	0	0	0	2	4	0	0	0	0	0	3	0	1	0	25
5:00 PM	9	3	0	0	0	1	2	0	0	0	0	0	5	0	0	0	20
5:15 PM	10	6	0	0	0	2	0	0	0	0	0	0	7	0	1	0	26
5:30 PM	9	4	0	0	0	2	0	0	0	0	0	0	9	0	0	0	24
5:45 PM	13	6	0	0	0	4	0	0	0	0	0	0	7	0	0	0	30
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	105	35	0	0	0	16	11	0	0	0	0	0	53	4	3	0	227
APPROACH %'s :	75.00%	25.00%	0.00%	0.00%	0.00%	59.26%	40.74%	0.00%					88.33%	6.67%	5.00%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	64	16	0	0	0	7	9	0	0	0	0	0	25	4	2	0	127
PEAK HR FACTOR :	0.70	0.800	0.000	0.000	0.000	0.875	0.563	0.000	0.000	0.000	0.000	0.000	0.625	0.333	0.500	0.000	0.774
	0.714				0.667								0.775				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Crestwood Rd & I-8 WB ramps
City: Campo
Control: 1-Way Stop(WB)

Project ID: 18-04266-004
Date: 9/13/2018

2axle

NS/EW Streets:	Crestwood Rd				Crestwood Rd				I-8 WB ramps				I-8 WB ramps				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	1	0	0	0	1	0	0	0	0	0	0	1	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
8:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	2	2	0	0	0	0	0	0	0	0	0	0	3	0	0	0	7
APPROACH %'s :	50.00%	50.00%	0.00%	0.00%									100.00%	0.00%	0.00%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	2	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	6
PEAK HR FACTOR :	0.250	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.500
		0.333												0.250			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	1	0	0	0	1	0	0	0	0	0	0	1	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3
4:30 PM	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	2	0	0	0	3
5:30 PM	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	5	2	0	0	0	1	2	0	0	0	0	0	2	0	0	0	12
APPROACH %'s :	71.43%	28.57%	0.00%	0.00%	0.00%	33.33%	66.67%	0.00%					100.00%	0.00%	0.00%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	4	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	7
PEAK HR FACTOR :	0.50	0.250	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.583
		0.625				0.500											

National Data & Surveying Services

Intersection Turning Movement Count

Location: Crestwood Rd & I-8 WB ramps
City: Campo
Control: 1-Way Stop(WB)

Project ID: 18-04266-004
Date: 9/13/2018

3axle+

NS/EW Streets:	Crestwood Rd				Crestwood Rd				I-8 WB ramps				I-8 WB ramps				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	1	0	0	0	1	0	0	0	0	0	0	1	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	3
7:15 AM	5	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	6
7:30 AM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:45 AM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	3	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	4
8:15 AM	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	3
8:30 AM	4	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	5
8:45 AM	1	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	4
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	17	0	0	0	0	0	0	0	0	0	0	0	10	0	0	0	27
APPROACH %'s :	100.00%	0.00%	0.00%	0.00%									100.00%	0.00%	0.00%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	10	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	12
PEAK HR FACTOR :	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.500
		0.500												0.500			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	1	0	0	0	1	0	0	0	0	0	0	1	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	3
4:15 PM	1	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	3
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
5:00 PM	1	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	6
5:15 PM	1	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	5
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3
5:45 PM	3	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	6
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	7	0	0	0	0	0	0	0	0	0	0	0	21	1	0	0	29
APPROACH %'s :	100.00%	0.00%	0.00%	0.00%									95.45%	4.55%	0.00%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	2	0	0	0	0	0	0	0	0	0	0	0	6	1	0	0	9
PEAK HR FACTOR :	0.50	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.750	0.250	0.000	0.000	0.750
		0.500												0.875			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Crestwood Rd & I-8 EB ramps
City: Campo
Control: 1-Way Stop(EB)

Project ID: 18-04266-005
Date: 9/13/2018

Total

NS/EW Streets:	Crestwood Rd				Crestwood Rd				I-8 EB ramps				I-8 EB ramps				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	1	1	0	0	0	1	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	17	6	0	0	10	0	0	0	1	6	0	0	0	0	0	40
7:15 AM	0	10	8	0	1	6	0	0	1	0	11	0	0	0	0	0	37
7:30 AM	0	27	6	0	0	10	0	0	0	1	10	0	0	0	0	0	54
7:45 AM	0	20	9	0	0	11	0	0	3	0	18	0	0	0	0	0	61
8:00 AM	0	19	7	0	0	12	0	0	2	0	8	0	0	0	0	0	48
8:15 AM	0	22	7	0	0	9	0	0	1	1	9	0	0	0	0	0	49
8:30 AM	0	19	9	0	0	8	0	0	1	0	10	0	0	0	0	0	47
8:45 AM	0	24	4	0	0	13	0	0	0	0	6	0	0	0	0	0	47
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	158	56	0	1	79	0	0	8	3	78	0	0	0	0	0	383
APPROACH %'s :	0.00%	73.83%	26.17%	0.00%	1.25%	98.75%	0.00%	0.00%	8.99%	3.37%	87.64%	0.00%					
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	0	88	29	0	0	42	0	0	6	2	45	0	0	0	0	0	212
PEAK HR FACTOR :	0.000	0.815	0.806	0.000	0.000	0.875	0.000	0.000	0.500	0.500	0.625	0.000	0.000	0.000	0.000	0.000	0.869
		0.886				0.875				0.631							

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	1	1	0	0	0	1	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	20	9	0	0	9	0	0	4	0	24	0	0	0	0	0	66
4:15 PM	0	18	14	0	0	11	0	0	1	0	31	0	0	0	0	0	75
4:30 PM	0	26	15	0	1	12	0	0	3	0	30	0	0	0	0	0	87
4:45 PM	0	23	8	0	0	8	0	0	0	0	19	0	0	0	0	0	58
5:00 PM	0	15	6	0	0	6	0	0	0	0	26	0	0	0	0	0	53
5:15 PM	0	11	10	0	0	12	0	0	1	0	32	0	0	0	0	0	66
5:30 PM	0	19	13	0	0	19	0	0	1	0	25	0	0	0	0	0	77
5:45 PM	0	12	10	0	0	14	0	0	1	0	26	0	0	0	0	0	63
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	144	85	0	1	91	0	0	11	0	213	0	0	0	0	0	545
APPROACH %'s :	0.00%	62.88%	37.12%	0.00%	1.09%	98.91%	0.00%	0.00%	4.91%	0.00%	95.09%	0.00%					
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	87	46	0	1	40	0	0	8	0	104	0	0	0	0	0	286
PEAK HR FACTOR :	0.000	0.837	0.767	0.000	0.250	0.833	0.000	0.000	0.500	0.000	0.839	0.000	0.000	0.000	0.000	0.000	0.822
		0.811				0.788				0.848							

National Data & Surveying Services

Intersection Turning Movement Count

Location: Crestwood Rd & I-8 EB ramps
City: Campo
Control: 1-Way Stop(EB)

Project ID: 18-04266-005
Date: 9/13/2018

Cars

NS/EW Streets:	Crestwood Rd				Crestwood Rd				I-8 EB ramps				I-8 EB ramps				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	1	1	0	0	0	1	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	16	6	0	0	9	0	0	0	1	6	0	0	0	0	0	38
7:15 AM	0	8	6	0	1	5	0	0	1	0	8	0	0	0	0	0	29
7:30 AM	0	23	6	0	0	7	0	0	0	1	10	0	0	0	0	0	47
7:45 AM	0	19	7	0	0	10	0	0	3	0	13	0	0	0	0	0	52
8:00 AM	0	15	3	0	0	11	0	0	2	0	7	0	0	0	0	0	38
8:15 AM	0	18	6	0	0	6	0	0	1	1	7	0	0	0	0	0	39
8:30 AM	0	17	5	0	0	8	0	0	1	0	10	0	0	0	0	0	41
8:45 AM	0	21	4	0	0	10	0	0	0	0	5	0	0	0	0	0	40
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	137	43	0	1	66	0	0	8	3	66	0	0	0	0	0	324
APPROACH %'s :	0.00%	76.11%	23.89%	0.00%	1.49%	98.51%	0.00%	0.00%	10.39%	3.90%	85.71%	0.00%					
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	0	75	22	0	0	34	0	0	6	2	37	0	0	0	0	0	176
PEAK HR FACTOR :	0.00	0.815	0.786	0.000	0.000	0.773	0.000	0.000	0.500	0.500	0.712	0.000	0.000	0.000	0.000	0.000	0.846
		0.836				0.773				0.703							

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	1	1	0	0	0	1	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	19	7	0	0	6	0	0	3	0	22	0	0	0	0	0	57
4:15 PM	0	14	12	0	0	9	0	0	1	0	28	0	0	0	0	0	64
4:30 PM	0	25	15	0	1	10	0	0	2	0	30	0	0	0	0	0	83
4:45 PM	0	21	7	0	0	7	0	0	0	0	18	0	0	0	0	0	53
5:00 PM	0	15	6	0	0	3	0	0	0	0	25	0	0	0	0	0	49
5:15 PM	0	10	9	0	0	7	0	0	1	0	31	0	0	0	0	0	58
5:30 PM	0	17	13	0	0	13	0	0	0	0	22	0	0	0	0	0	65
5:45 PM	0	12	9	0	0	12	0	0	1	0	25	0	0	0	0	0	59
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	133	78	0	1	67	0	0	8	0	201	0	0	0	0	0	488
APPROACH %'s :	0.00%	63.03%	36.97%	0.00%	1.47%	98.53%	0.00%	0.00%	3.83%	0.00%	96.17%	0.00%					
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	79	41	0	1	32	0	0	6	0	98	0	0	0	0	0	257
PEAK HR FACTOR :	0.00	0.790	0.683	0.000	0.250	0.800	0.000	0.000	0.500	0.000	0.817	0.000	0.000	0.000	0.000	0.000	0.774
		0.750				0.750				0.813							

National Data & Surveying Services

Intersection Turning Movement Count

Location: Crestwood Rd & I-8 EB ramps
City: Campo
Control: 1-Way Stop(EB)

Project ID: 18-04266-005
Date: 9/13/2018

2axle

NS/EW Streets:	Crestwood Rd				Crestwood Rd				I-8 EB ramps				I-8 EB ramps				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	1	1	0	0	0	1	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
7:45 AM	0	0	1	0	0	0	0	0	0	0	2	0	0	0	0	0	3
8:00 AM	0	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	5
8:15 AM	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0	3
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	4	3	0	0	3	0	0	0	0	4	0	0	0	0	0	14
APPROACH %'s :	0.00%	57.14%	42.86%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%					
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	0	4	3	0	0	3	0	0	0	0	3	0	0	0	0	0	13
PEAK HR FACTOR :	0.000	0.333	0.375	0.000	0.000	0.375	0.000	0.000	0.000	0.000	0.375	0.000	0.000	0.000	0.000	0.000	0.650
		0.350				0.375				0.375							

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	1	1	0	0	0	1	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	0	3
4:30 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
4:45 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	1	0	0	0	2	0	0	1	0	0	0	0	0	0	0	4
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	6	0	0	0	3	0	0	1	0	1	0	0	0	0	0	11
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	50.00%	0.00%	50.00%	0.00%					
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	5	0	0	0	1	0	0	0	0	1	0	0	0	0	0	7
PEAK HR FACTOR :	0.00	0.625	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.583
		0.625				0.250				0.250							

National Data & Surveying Services

Intersection Turning Movement Count

Location: Crestwood Rd & I-8 EB ramps
City: Campo
Control: 1-Way Stop(EB)

Project ID: 18-04266-005
Date: 9/13/2018

3axle+

NS/EW Streets:	Crestwood Rd				Crestwood Rd				I-8 EB ramps				I-8 EB ramps				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	1	1	0	0	0	1	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
7:15 AM	0	2	2	0	0	1	0	0	0	0	2	0	0	0	0	0	7
7:30 AM	0	4	0	0	0	1	0	0	0	0	0	0	0	0	0	0	5
7:45 AM	0	1	1	0	0	1	0	0	0	0	3	0	0	0	0	0	6
8:00 AM	0	1	2	0	0	1	0	0	0	0	1	0	0	0	0	0	5
8:15 AM	0	3	1	0	0	2	0	0	0	0	1	0	0	0	0	0	7
8:30 AM	0	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	6
8:45 AM	0	3	0	0	0	3	0	0	0	0	1	0	0	0	0	0	7
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	17	10	0	0	10	0	0	0	0	8	0	0	0	0	0	45
APPROACH %'s :	0.00%	62.96%	37.04%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%					
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	0	9	4	0	0	5	0	0	0	0	5	0	0	0	0	0	23
PEAK HR FACTOR :	0.000	0.563	0.500	0.000	0.000	0.625	0.000	0.000	0.000	0.000	0.417	0.000	0.000	0.000	0.000	0.000	0.821
		0.813				0.625				0.417							

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	1	1	0	0	0	1	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	1	2	0	0	3	0	0	1	0	2	0	0	0	0	0	9
4:15 PM	0	2	2	0	0	2	0	0	0	0	2	0	0	0	0	0	8
4:30 PM	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	2
4:45 PM	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	3
5:00 PM	0	0	0	0	0	3	0	0	0	0	1	0	0	0	0	0	4
5:15 PM	0	1	1	0	0	5	0	0	0	0	1	0	0	0	0	0	8
5:30 PM	0	1	0	0	0	4	0	0	0	0	3	0	0	0	0	0	8
5:45 PM	0	0	1	0	0	2	0	0	0	0	1	0	0	0	0	0	4
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	5	7	0	0	21	0	0	2	0	11	0	0	0	0	0	46
APPROACH %'s :	0.00%	41.67%	58.33%	0.00%	0.00%	100.00%	0.00%	0.00%	15.38%	0.00%	84.62%	0.00%					
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	3	5	0	0	7	0	0	2	0	5	0	0	0	0	0	22
PEAK HR FACTOR :	0.00	0.375	0.625	0.000	0.000	0.583	0.000	0.000	0.500	0.000	0.625	0.000	0.000	0.000	0.000	0.000	0.611
		0.500				0.583				0.583							

National Data & Surveying Services

Intersection Turning Movement Count

Location: Crestwood Rd & Old Hwy 80
City: Campo
Control: 1-Way Stop(EB)

Project ID: 18-04266-006
Date: 9/13/2018

Total

NS/EW Streets:	Crestwood Rd				Crestwood Rd				Old Hwy 80				Old Hwy 80				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	9	23	0	0	0	14	0	0	1	0	0	0	0	0	0	0	47
7:15 AM	4	20	0	0	0	18	0	0	0	0	3	0	0	0	0	0	45
7:30 AM	1	27	0	0	0	23	2	0	1	0	1	0	0	0	0	0	55
7:45 AM	1	29	0	0	0	24	1	0	1	0	3	0	0	0	0	0	59
8:00 AM	3	26	0	0	0	18	1	0	1	0	3	0	0	0	0	0	52
8:15 AM	5	26	0	0	0	16	1	0	2	0	2	0	0	0	0	0	52
8:30 AM	0	23	0	0	0	19	0	0	4	0	4	0	0	0	0	0	50
8:45 AM	0	27	0	0	0	17	2	0	2	0	4	0	0	0	0	0	52
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	23	201	0	0	0	149	7	0	12	0	20	0	0	0	0	0	412
APPROACH %'s :	10.27%	89.73%	0.00%	0.00%	0.00%	95.51%	4.49%	0.00%	37.50%	0.00%	62.50%	0.00%					
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	10	108	0	0	0	81	5	0	5	0	9	0	0	0	0	0	218
PEAK HR FACTOR :	0.500	0.931	0.000	0.000	0.000	0.844	0.625	0.000	0.625	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.924
		0.952				0.860				0.875							

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	2	25	0	0	0	31	1	0	0	0	1	0	0	0	0	0	60
4:15 PM	5	33	0	0	0	42	0	0	2	0	3	0	0	0	0	0	85
4:30 PM	1	43	0	0	0	38	2	0	0	0	6	0	0	0	0	0	90
4:45 PM	3	29	0	0	0	31	0	0	0	0	2	0	0	0	0	0	65
5:00 PM	2	17	0	0	0	32	0	0	1	0	4	0	0	0	0	0	56
5:15 PM	1	23	0	0	0	41	2	0	1	0	3	0	0	0	0	0	71
5:30 PM	4	28	0	0	0	43	2	0	1	0	3	0	0	0	0	0	81
5:45 PM	3	24	0	0	0	38	0	0	1	0	1	0	0	0	0	0	67
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	21	222	0	0	0	296	7	0	6	0	23	0	0	0	0	0	575
APPROACH %'s :	8.64%	91.36%	0.00%	0.00%	0.00%	97.69%	2.31%	0.00%	20.69%	0.00%	79.31%	0.00%					
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	11	130	0	0	0	142	3	0	2	0	12	0	0	0	0	0	300
PEAK HR FACTOR :	0.550	0.756	0.000	0.000	0.000	0.845	0.375	0.000	0.250	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.833
		0.801				0.863				0.583							

National Data & Surveying Services

Intersection Turning Movement Count

Location: Crestwood Rd & Old Hwy 80
City: Campo
Control: 1-Way Stop(EB)

Project ID: 18-04266-006
Date: 9/13/2018

Cars

NS/EW Streets:	Crestwood Rd				Crestwood Rd				Old Hwy 80				Old Hwy 80				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	9	22	0	0	0	13	0	0	1	0	0	0	0	0	0	0	45
7:15 AM	4	15	0	0	0	14	0	0	0	0	3	0	0	0	0	0	36
7:30 AM	1	23	0	0	0	18	2	0	1	0	1	0	0	0	0	0	46
7:45 AM	0	26	0	0	0	19	1	0	1	0	1	0	0	0	0	0	48
8:00 AM	3	18	0	0	0	16	1	0	1	0	2	0	0	0	0	0	41
8:15 AM	4	21	0	0	0	11	1	0	2	0	2	0	0	0	0	0	41
8:30 AM	0	18	0	0	0	18	0	0	4	0	4	0	0	0	0	0	44
8:45 AM	0	24	0	0	0	15	2	0	2	0	4	0	0	0	0	0	47
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	21	167	0	0	0	124	7	0	12	0	17	0	0	0	0	0	348
APPROACH %'s :	11.17%	88.83%	0.00%	0.00%	0.00%	94.66%	5.34%	0.00%	41.38%	0.00%	58.62%	0.00%					
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	8	88	0	0	0	64	5	0	5	0	6	0	0	0	0	0	176
PEAK HR FACTOR :	0.50	0.846	0.000	0.000	0.000	0.842	0.625	0.000	0.625	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.917
		0.923				0.863				0.688							

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	2	22	0	0	0	27	1	0	0	0	1	0	0	0	0	0	53
4:15 PM	5	29	0	0	0	38	0	0	2	0	3	0	0	0	0	0	77
4:30 PM	1	40	0	0	0	37	1	0	0	0	6	0	0	0	0	0	85
4:45 PM	3	27	0	0	0	28	0	0	0	0	2	0	0	0	0	0	60
5:00 PM	2	17	0	0	0	27	0	0	1	0	4	0	0	0	0	0	51
5:15 PM	1	21	0	0	0	35	2	0	1	0	3	0	0	0	0	0	63
5:30 PM	4	26	0	0	0	35	2	0	1	0	3	0	0	0	0	0	71
5:45 PM	3	22	0	0	0	34	0	0	1	0	1	0	0	0	0	0	61
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	21	204	0	0	0	261	6	0	6	0	23	0	0	0	0	0	521
APPROACH %'s :	9.33%	90.67%	0.00%	0.00%	0.00%	97.75%	2.25%	0.00%	20.69%	0.00%	79.31%	0.00%					
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	11	118	0	0	0	130	2	0	2	0	12	0	0	0	0	0	275
PEAK HR FACTOR :	0.55	0.738	0.000	0.000	0.000	0.855	0.500	0.000	0.250	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.809
		0.787				0.868				0.583							

National Data & Surveying Services

Intersection Turning Movement Count

Location: Crestwood Rd & Old Hwy 80
City: Campo
Control: 1-Way Stop(EB)

Project ID: 18-04266-006
Date: 9/13/2018

2axle

NS/EW Streets:	Crestwood Rd				Crestwood Rd				Old Hwy 80				Old Hwy 80				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	3
7:45 AM	1	1	0	0	0	2	0	0	0	0	1	0	0	0	0	0	5
8:00 AM	0	4	0	0	0	0	0	0	0	0	1	0	0	0	0	0	5
8:15 AM	1	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	4
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	2	7	0	0	0	7	0	0	0	0	2	0	0	0	0	0	18
APPROACH %'s :	22.22%	77.78%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%					
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	2	7	0	0	0	6	0	0	0	0	2	0	0	0	0	0	17
PEAK HR FACTOR :	0.500	0.438	0.000	0.000	0.000	0.750	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.850
		0.563				0.750				0.500							

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3
4:30 PM	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	3
4:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	6	0	0	0	3	1	0	0	0	0	0	0	0	0	0	10
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	0.00%	75.00%	25.00%	0.00%									
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	5	0	0	0	1	1	0	0	0	0	0	0	0	0	0	7
PEAK HR FACTOR :	0.00	0.625	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.583
		0.625				0.500											

National Data & Surveying Services

Intersection Turning Movement Count

Location: Crestwood Rd & Old Hwy 80
City: Campo
Control: 1-Way Stop(EB)

Project ID: 18-04266-006
Date: 9/13/2018

3axle+

NS/EW Streets:	Crestwood Rd				Crestwood Rd				Old Hwy 80				Old Hwy 80				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
7:15 AM	0	5	0	0	0	3	0	0	0	0	0	0	0	0	0	0	8
7:30 AM	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	6
7:45 AM	0	2	0	0	0	3	0	0	0	0	1	0	0	0	0	0	6
8:00 AM	0	4	0	0	0	2	0	0	0	0	0	0	0	0	0	0	6
8:15 AM	0	4	0	0	0	3	0	0	0	0	0	0	0	0	0	0	7
8:30 AM	0	5	0	0	0	1	0	0	0	0	0	0	0	0	0	0	6
8:45 AM	0	3	0	0	0	2	0	0	0	0	0	0	0	0	0	0	5
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	27	0	0	0	18	0	0	0	0	1	0	0	0	0	0	46
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%					
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	0	13	0	0	0	11	0	0	0	0	1	0	0	0	0	0	25
PEAK HR FACTOR :	0.000	0.813	0.000	0.000	0.000	0.917	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.893
		0.813				0.917				0.250							

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	3	0	0	0	4	0	0	0	0	0	0	0	0	0	0	7
4:15 PM	0	2	0	0	0	3	0	0	0	0	0	0	0	0	0	0	5
4:30 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
4:45 PM	0	1	0	0	0	3	0	0	0	0	0	0	0	0	0	0	4
5:00 PM	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	5
5:15 PM	0	2	0	0	0	5	0	0	0	0	0	0	0	0	0	0	7
5:30 PM	0	1	0	0	0	7	0	0	0	0	0	0	0	0	0	0	8
5:45 PM	0	2	0	0	0	4	0	0	0	0	0	0	0	0	0	0	6
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	12	0	0	0	32	0	0	0	0	0	0	0	0	0	0	44
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%									
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	7	0	0	0	11	0	0	0	0	0	0	0	0	0	0	18
PEAK HR FACTOR :	0.00	0.583	0.000	0.000	0.000	0.688	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.643
		0.583				0.688											

National Data & Surveying Services

Intersection Turning Movement Count

Location: Old Hwy 80 & Church Rd/Golden Acorn Way
City: Campo
Control: 2-Way Stop(EB/WB)

Project ID: 18-04266-001
Date: 9/13/2018

Total

NS/EW Streets:	Old Hwy 80				Old Hwy 80				Church Rd/Golden Acorn Way				Church Rd/Golden Acorn Way				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	0.5	0.5	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	18	1	0	9	4	0	0	3	4	1	0	3	1	9	0	53
7:15 AM	0	10	2	0	11	10	1	0	0	2	2	0	1	1	11	0	51
7:30 AM	0	20	0	0	13	3	0	0	1	0	0	0	1	1	12	0	51
7:45 AM	2	12	4	0	13	13	7	0	5	4	1	0	2	2	11	1	77
8:00 AM	2	10	1	0	8	8	3	0	2	2	2	0	2	4	14	0	58
8:15 AM	3	21	1	0	7	12	0	0	4	2	2	0	3	2	11	0	68
8:30 AM	0	14	4	0	11	11	1	0	0	1	1	0	0	2	8	0	53
8:45 AM	0	19	1	0	7	13	1	0	2	0	1	0	2	1	9	0	56
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	7	124	14	0	79	74	13	0	17	15	10	0	14	14	85	1	467
APPROACH %'s :	4.83%	85.52%	9.66%	0.00%	47.59%	44.58%	7.83%	0.00%	40.48%	35.71%	23.81%	0.00%	12.28%	12.28%	74.56%	0.88%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	7	57	10	0	39	44	11	0	11	9	6	0	7	10	44	1	256
PEAK HR FACTOR :	0.583	0.679	0.625	0.000	0.750	0.846	0.393	0.000	0.550	0.563	0.750	0.000	0.583	0.625	0.786	0.250	0.831
	0.740				0.712				0.650				0.775				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	0.5	0.5	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	2	12	4	0	18	16	0	0	0	3	1	0	2	4	19	0	81
4:15 PM	6	9	4	0	19	24	3	0	3	1	2	0	4	1	22	0	98
4:30 PM	2	11	6	0	21	23	3	0	5	2	1	0	2	1	25	0	102
4:45 PM	1	11	0	0	15	8	5	0	4	2	2	0	5	1	19	0	73
5:00 PM	0	2	2	0	9	23	4	0	5	2	1	0	4	2	16	0	70
5:15 PM	1	4	5	0	19	22	3	0	3	0	1	0	5	2	14	0	79
5:30 PM	0	10	6	0	16	23	3	0	3	1	3	0	4	3	21	0	93
5:45 PM	1	8	7	0	19	22	3	0	1	0	3	0	6	0	14	0	84
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	13	67	34	0	136	161	24	0	24	11	14	0	32	14	150	0	680
APPROACH %'s :	11.40%	58.77%	29.82%	0.00%	42.37%	50.16%	7.48%	0.00%	48.98%	22.45%	28.57%	0.00%	16.33%	7.14%	76.53%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	11	43	14	0	73	71	11	0	12	8	6	0	13	7	85	0	354
PEAK HR FACTOR :	0.458	0.896	0.583	0.000	0.869	0.740	0.550	0.000	0.600	0.667	0.750	0.000	0.650	0.438	0.850	0.000	0.868
	0.895				0.824				0.813				0.938				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Old Hwy 80 & Church Rd/Golden Acorn Way
City: Campo
Control: 2-Way Stop(EB/WB)

Project ID: 18-04266-001
Date: 9/13/2018

Cars

NS/EW Streets:	Old Hwy 80				Old Hwy 80				Church Rd/Golden Acorn Way				Church Rd/Golden Acorn Way				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	0.5	0.5	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	16	1	0	9	3	0	0	3	4	1	0	3	1	9	0	50
7:15 AM	0	6	2	0	10	7	1	0	0	2	2	0	1	1	11	0	43
7:30 AM	0	16	0	0	11	2	0	0	1	0	0	0	1	1	12	0	44
7:45 AM	2	9	4	0	13	8	5	0	5	4	1	0	2	2	11	1	67
8:00 AM	2	6	1	0	8	5	3	0	1	2	2	0	2	4	11	0	47
8:15 AM	3	15	1	0	7	7	0	0	3	2	2	0	3	2	10	0	55
8:30 AM	0	9	4	0	11	9	1	0	0	1	1	0	0	2	8	0	46
8:45 AM	0	16	1	0	7	10	1	0	2	0	0	0	2	1	9	0	49
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	7	93	14	0	76	51	11	0	15	15	9	0	14	14	81	1	401
APPROACH %'s :	6.14%	81.58%	12.28%	0.00%	55.07%	36.96%	7.97%	0.00%	38.46%	38.46%	23.08%	0.00%	12.73%	12.73%	73.64%	0.91%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	7	39	10	0	39	29	9	0	9	9	6	0	7	10	40	1	215
PEAK HR FACTOR :	0.58	0.650	0.625	0.000	0.750	0.806	0.450	0.000	0.450	0.563	0.750	0.000	0.583	0.625	0.909	0.250	0.802
	0.737				0.740				0.600				0.853				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	0.5	0.5	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	2	10	4	0	18	10	0	0	0	3	1	0	2	4	19	0	73
4:15 PM	5	5	4	0	19	19	3	0	3	1	2	0	3	1	21	0	86
4:30 PM	2	10	6	0	21	22	3	0	4	2	1	0	2	1	25	0	99
4:45 PM	1	8	0	0	14	7	5	0	4	2	2	0	4	1	19	0	67
5:00 PM	0	1	2	0	9	19	4	0	5	2	1	0	4	2	16	0	65
5:15 PM	1	2	5	0	19	17	3	0	3	0	1	0	5	2	14	0	72
5:30 PM	0	8	6	0	14	17	3	0	3	1	3	0	3	3	21	0	82
5:45 PM	1	7	7	0	19	18	3	0	1	0	3	0	6	0	14	0	79
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	12	51	34	0	133	129	24	0	23	11	14	0	29	14	149	0	623
APPROACH %'s :	12.37%	52.58%	35.05%	0.00%	46.50%	45.10%	8.39%	0.00%	47.92%	22.92%	29.17%	0.00%	15.10%	7.29%	77.60%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	10	33	14	0	72	58	11	0	11	8	6	0	11	7	84	0	325
PEAK HR FACTOR :	0.50	0.825	0.583	0.000	0.857	0.659	0.550	0.000	0.688	0.667	0.750	0.000	0.688	0.438	0.840	0.000	0.821
	0.792				0.766				0.781				0.911				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Old Hwy 80 & Church Rd/Golden Acorn Way
City: Campo
Control: 2-Way Stop(EB/WB)

Project ID: 18-04266-001
Date: 9/13/2018

2axle

NS/EW Streets:	Old Hwy 80				Old Hwy 80				Church Rd/Golden Acorn Way				Church Rd/Golden Acorn Way				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	0.5	0.5	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
7:45 AM	0	1	0	0	0	2	1	0	0	0	0	0	0	0	0	0	4
8:00 AM	0	1	0	0	0	1	0	0	1	0	0	0	0	0	3	0	6
8:15 AM	0	1	0	0	0	2	0	0	1	0	0	0	0	0	1	0	5
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	3	0	0	3	5	1	0	2	0	1	0	0	0	4	0	19
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	33.33%	55.56%	11.11%	0.00%	66.67%	0.00%	33.33%	0.00%	0.00%	0.00%	100.00%	0.00%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	0	3	0	0	0	5	1	0	2	0	0	0	0	0	4	0	15
PEAK HR FACTOR :	0.000	0.750	0.000	0.000	0.000	0.625	0.250	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.333	0.000	0.625
		0.750				0.500				0.500				0.333			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	0.5	0.5	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	1	0	0	0	1	0	0	0	0	0	0	1	0	1	0	4
4:30 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
4:45 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	3
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	4	0	0	1	2	0	0	1	0	0	0	1	0	1	0	10
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	33.33%	66.67%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	50.00%	0.00%	50.00%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	3	0	0	0	1	0	0	1	0	0	0	1	0	1	0	7
PEAK HR FACTOR :	0.00	0.375	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.438
		0.375				0.250				0.250				0.250			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Old Hwy 80 & Church Rd/Golden Acorn Way
City: Campo
Control: 2-Way Stop(EB/WB)

Project ID: 18-04266-001
Date: 9/13/2018

3axle+

NS/EW Streets:	Old Hwy 80				Old Hwy 80				Church Rd/Golden Acorn Way				Church Rd/Golden Acorn Way				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	0.5	0.5	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3
7:15 AM	0	4	0	0	0	3	0	0	0	0	0	0	0	0	0	0	7
7:30 AM	0	4	0	0	0	1	0	0	0	0	0	0	0	0	0	0	5
7:45 AM	0	2	0	0	0	3	1	0	0	0	0	0	0	0	0	0	6
8:00 AM	0	3	0	0	0	2	0	0	0	0	0	0	0	0	0	0	5
8:15 AM	0	5	0	0	0	3	0	0	0	0	0	0	0	0	0	0	8
8:30 AM	0	5	0	0	0	2	0	0	0	0	0	0	0	0	0	0	7
8:45 AM	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	6
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	28	0	0	0	18	1	0	0	0	0	0	0	0	0	0	47
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	0.00%	94.74%	5.26%	0.00%									
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	0	15	0	0	0	10	1	0	0	0	0	0	0	0	0	0	26
PEAK HR FACTOR :	0.000	0.750	0.000	0.000	0.000	0.833	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.813
		0.750				0.688											

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	0.5	0.5	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	2	0	0	0	6	0	0	0	0	0	0	0	0	0	0	8
4:15 PM	1	3	0	0	0	4	0	0	0	0	0	0	0	0	0	0	8
4:30 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
4:45 PM	0	1	0	0	1	1	0	0	0	0	0	0	1	0	0	0	4
5:00 PM	0	1	0	0	0	4	0	0	0	0	0	0	0	0	0	0	5
5:15 PM	0	2	0	0	0	5	0	0	0	0	0	0	0	0	0	0	7
5:30 PM	0	1	0	0	1	5	0	0	0	0	0	0	1	0	0	0	8
5:45 PM	0	1	0	0	0	4	0	0	0	0	0	0	0	0	0	0	5
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	1	12	0	0	2	30	0	0	0	0	0	0	2	0	0	0	47
APPROACH %'s :	7.69%	92.31%	0.00%	0.00%	6.25%	93.75%	0.00%	0.00%					100.00%	0.00%	0.00%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	1	7	0	0	1	12	0	0	0	0	0	0	1	0	0	0	22
PEAK HR FACTOR :	0.25	0.583	0.000	0.000	0.250	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.688
		0.500				0.542								0.250			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Old Hwy 80 & Live Oak Trail
City: Campo
Control: 1-Way Stop(WB)

Project ID: 18-04266-002
Date: 9/13/2018

Total

NS/EW Streets:	Old Hwy 80				Old Hwy 80				Live Oak Trail				Live Oak Trail				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	14	1	0	2	2	0	1	0	0	0	0	0	0	3	0	23
7:15 AM	0	9	1	0	4	5	0	2	0	0	0	0	4	0	2	0	27
7:30 AM	0	10	2	0	1	4	0	0	0	0	0	0	2	0	2	0	21
7:45 AM	0	8	4	0	1	1	0	1	0	0	0	0	1	0	4	0	20
8:00 AM	0	11	1	0	2	7	0	0	0	0	0	0	0	0	0	1	22
8:15 AM	0	10	0	0	3	9	0	0	0	0	0	0	0	0	4	0	26
8:30 AM	0	9	1	0	2	7	0	0	0	0	0	0	2	0	2	0	23
8:45 AM	0	12	2	0	0	14	0	1	0	0	0	0	5	0	3	0	37
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	83	12	0	15	49	0	5	0	0	0	0	14	0	20	1	199
APPROACH %'s :	0.00%	87.37%	12.63%	0.00%	21.74%	71.01%	0.00%	7.25%					40.00%	0.00%	57.14%	2.86%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	0	42	4	0	7	37	0	1	0	0	0	0	7	0	9	1	108
PEAK HR FACTOR :	0.000	0.875	0.500	0.000	0.583	0.661	0.000	0.250	0.000	0.000	0.000	0.000	0.350	0.000	0.563	0.250	0.730
		0.821				0.750								0.531			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	8	4	0	5	7	0	0	0	0	0	0	1	0	0	0	25
4:15 PM	0	10	1	0	4	17	0	0	0	0	0	0	3	0	4	0	39
4:30 PM	0	8	4	0	4	13	0	0	0	0	0	0	2	0	4	0	35
4:45 PM	0	5	1	0	7	13	0	0	0	0	0	0	5	0	3	0	34
5:00 PM	0	2	4	0	2	16	0	0	0	0	0	0	7	0	1	0	32
5:15 PM	0	5	5	0	6	19	0	0	0	0	0	0	5	0	2	0	42
5:30 PM	0	6	5	0	7	21	0	0	0	0	0	0	5	0	6	0	50
5:45 PM	0	10	1	0	6	15	0	0	0	0	0	0	2	0	3	0	37
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	54	25	0	41	121	0	0	0	0	0	0	30	0	23	0	294
APPROACH %'s :	0.00%	68.35%	31.65%	0.00%	25.31%	74.69%	0.00%	0.00%					56.60%	0.00%	43.40%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	0	23	15	0	21	71	0	0	0	0	0	0	19	0	12	0	161
PEAK HR FACTOR :	0.000	0.575	0.750	0.000	0.750	0.845	0.000	0.000	0.000	0.000	0.000	0.000	0.679	0.000	0.500	0.000	0.805
		0.864				0.821								0.705			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Old Hwy 80 & Live Oak Trail
City: Campo
Control: 1-Way Stop(WB)

Project ID: 18-04266-002
Date: 9/13/2018

Cars

NS/EW Streets:	Old Hwy 80				Old Hwy 80				Live Oak Trail				Live Oak Trail				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	14	1	0	2	2	0	1	0	0	0	0	0	0	3	0	23
7:15 AM	0	9	1	0	3	5	0	2	0	0	0	0	4	0	2	0	26
7:30 AM	0	9	2	0	1	4	0	0	0	0	0	0	2	0	2	0	20
7:45 AM	0	8	4	0	1	1	0	1	0	0	0	0	1	0	4	0	20
8:00 AM	0	10	1	0	2	5	0	0	0	0	0	0	0	0	0	1	19
8:15 AM	0	10	0	0	2	8	0	0	0	0	0	0	0	0	4	0	24
8:30 AM	0	9	1	0	2	6	0	0	0	0	0	0	1	0	2	0	21
8:45 AM	0	12	2	0	0	14	0	1	0	0	0	0	4	0	3	0	36
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	81	12	0	13	45	0	5	0	0	0	0	12	0	20	1	189
APPROACH %'s :	0.00%	87.10%	12.90%	0.00%	20.63%	71.43%	0.00%	7.94%					36.36%	0.00%	60.61%	3.03%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	0	41	4	0	6	33	0	1	0	0	0	0	5	0	9	1	100
PEAK HR FACTOR :	0.00	0.854	0.500	0.000	0.750	0.589	0.000	0.250	0.000	0.000	0.000	0.000	0.313	0.000	0.563	0.250	0.694
		0.804				0.667								0.536			

NS/EW Streets:	Old Hwy 80				Old Hwy 80				Live Oak Trail				Live Oak Trail				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	8	4	0	5	6	0	0	0	0	0	0	1	0	0	0	24
4:15 PM	0	8	1	0	4	16	0	0	0	0	0	0	3	0	4	0	36
4:30 PM	0	7	4	0	4	12	0	0	0	0	0	0	2	0	4	0	33
4:45 PM	0	4	1	0	7	13	0	0	0	0	0	0	5	0	3	0	33
5:00 PM	0	2	4	0	2	16	0	0	0	0	0	0	7	0	1	0	32
5:15 PM	0	5	5	0	6	19	0	0	0	0	0	0	5	0	2	0	42
5:30 PM	0	6	5	0	7	21	0	0	0	0	0	0	5	0	6	0	50
5:45 PM	0	10	1	0	6	15	0	0	0	0	0	0	2	0	3	0	37
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	50	25	0	41	118	0	0	0	0	0	0	30	0	23	0	287
APPROACH %'s :	0.00%	66.67%	33.33%	0.00%	25.79%	74.21%	0.00%	0.00%					56.60%	0.00%	43.40%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	0	23	15	0	21	71	0	0	0	0	0	0	19	0	12	0	161
PEAK HR FACTOR :	0.00	0.575	0.750	0.000	0.750	0.845	0.000	0.000	0.000	0.000	0.000	0.000	0.679	0.000	0.500	0.000	0.805
		0.864				0.821								0.705			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Old Hwy 80 & Live Oak Trail
City: Campo
Control: 1-Way Stop(WB)

Project ID: 18-04266-002
Date: 9/13/2018

2axle

NS/EW Streets:	Old Hwy 80				Old Hwy 80				Live Oak Trail				Live Oak Trail				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
8:15 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	2
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	2	0	0	1	3	0	0	0	0	0	0	1	0	0	0	7
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	25.00%	75.00%	0.00%	0.00%					100.00%	0.00%	0.00%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	0	1	0	0	0	3	0	0	0	0	0	0	1	0	0	0	5
PEAK HR FACTOR :	0.000	0.250	0.000	0.000	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.625
		0.250				0.750								0.250			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
4:30 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
4:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	6
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%									
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

National Data & Surveying Services

Intersection Turning Movement Count

Location: Old Hwy 80 & Live Oak Trail
City: Campo
Control: 1-Way Stop(WB)

Project ID: 18-04266-002
Date: 9/13/2018

3axle+

NS/EW Streets:	Old Hwy 80				Old Hwy 80				Live Oak Trail				Live Oak Trail				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	1	1	0	0	0	0	0	0	1	0	0	0	3
APPROACH %'s :					50.00%	50.00%	0.00%	0.00%					100.00%	0.00%	0.00%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	0	0	0	0	1	1	0	0	0	0	0	0	1	0	0	0	3
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.750
					0.500								0.250				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%													
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

National Data & Surveying Services

Intersection Turning Movement Count

Location: Church Rd/BIA Route 10 & Campo Rd/SR-94
City: Campo
Control: 1-Way Stop(SB)

Project ID: 18-04266-003
Date: 9/13/2018

Total

NS/EW Streets:	Church Rd/BIA Route 10				Church Rd/BIA Route 10				Campo Rd/SR-94				Campo Rd/SR-94				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0.5	0.5	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	1	0	5	0	0	0	0	1	3	0	10
7:15 AM	0	0	0	0	0	0	4	0	1	3	0	0	0	6	0	0	14
7:30 AM	0	0	0	0	0	0	3	0	1	3	0	0	0	8	7	0	22
7:45 AM	0	0	0	0	1	0	1	0	3	6	0	0	0	4	7	0	22
8:00 AM	0	0	0	0	3	0	2	0	2	3	0	0	0	1	4	0	15
8:15 AM	0	0	0	0	1	0	3	0	4	1	0	0	0	5	2	0	16
8:30 AM	0	0	0	0	1	0	2	0	7	8	0	0	0	6	0	0	24
8:45 AM	0	0	0	0	1	0	1	0	4	3	0	0	0	1	3	0	13
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	7	0	17	0	27	27	0	0	0	32	26	0	136
APPROACH %'s :					29.17%	0.00%	70.83%	0.00%	50.00%	50.00%	0.00%	0.00%	0.00%	55.17%	44.83%	0.00%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	0	0	0	0	6	0	8	0	16	18	0	0	0	16	13	0	77
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.500	0.000	0.667	0.000	0.571	0.563	0.000	0.000	0.000	0.667	0.464	0.000	0.802
					0.700				0.567				0.659				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0.5	0.5	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	4	0	3	0	5	9	0	0	0	6	2	0	29
4:15 PM	0	0	0	0	3	0	4	0	4	5	0	0	0	5	1	0	22
4:30 PM	0	0	0	0	1	0	8	0	1	3	0	0	0	3	4	0	20
4:45 PM	0	0	0	0	3	0	8	0	5	2	0	0	0	3	1	0	22
5:00 PM	0	0	0	0	2	0	6	0	0	4	0	0	0	1	4	0	17
5:15 PM	0	0	0	0	3	0	2	0	0	9	0	0	0	3	2	0	19
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	16	0	31	0	15	32	0	0	0	21	14	0	129
APPROACH %'s :					34.04%	0.00%	65.96%	0.00%	31.91%	68.09%	0.00%	0.00%	0.00%	60.00%	40.00%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	0	0	0	11	0	23	0	15	19	0	0	0	17	8	0	93
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.688	0.000	0.719	0.000	0.750	0.528	0.000	0.000	0.000	0.708	0.500	0.000	0.802
					0.773				0.607				0.781				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Church Rd/BIA Route 10 & Campo Rd/SR-94
City: Campo
Control: 1-Way Stop(SB)

Project ID: 18-04266-003
Date: 9/13/2018

Cars

NS/EW Streets:	Church Rd/BIA Route 10				Church Rd/BIA Route 10				Campo Rd/SR-94				Campo Rd/SR-94				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0.5	0.5	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	1	0	5	0	0	0	0	1	3	0	10
7:15 AM	0	0	0	0	0	0	4	0	1	2	0	0	0	5	0	0	12
7:30 AM	0	0	0	0	0	0	3	0	1	3	0	0	0	8	7	0	22
7:45 AM	0	0	0	0	1	0	1	0	3	4	0	0	0	4	7	0	20
8:00 AM	0	0	0	0	2	0	2	0	2	2	0	0	0	1	3	0	12
8:15 AM	0	0	0	0	1	0	3	0	4	1	0	0	0	3	2	0	14
8:30 AM	0	0	0	0	1	0	2	0	7	3	0	0	0	5	0	0	18
8:45 AM	0	0	0	0	1	0	1	0	4	1	0	0	0	1	2	0	10
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	6	0	17	0	27	16	0	0	0	28	24	0	118
APPROACH %'s :					26.09%	0.00%	73.91%	0.00%	62.79%	37.21%	0.00%	0.00%	0.00%	53.85%	46.15%	0.00%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	0	0	0	0	5	0	8	0	16	10	0	0	0	13	12	0	64
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.625	0.000	0.667	0.000	0.571	0.625	0.000	0.000	0.000	0.650	0.429	0.000	0.800
					0.813				0.650				0.568				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0.5	0.5	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	4	0	3	0	5	7	0	0	0	5	2	0	26
4:15 PM	0	0	0	0	3	0	4	0	4	4	0	0	0	4	0	0	19
4:30 PM	0	0	0	0	1	0	7	0	1	3	0	0	0	3	4	0	19
4:45 PM	0	0	0	0	3	0	8	0	5	2	0	0	0	2	1	0	21
5:00 PM	0	0	0	0	2	0	6	0	0	4	0	0	0	1	4	0	17
5:15 PM	0	0	0	0	3	0	2	0	0	9	0	0	0	3	2	0	19
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	16	0	30	0	15	29	0	0	0	18	13	0	121
APPROACH %'s :					34.78%	0.00%	65.22%	0.00%	34.09%	65.91%	0.00%	0.00%	0.00%	58.06%	41.94%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	0	0	0	11	0	22	0	15	16	0	0	0	14	7	0	85
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.688	0.000	0.688	0.000	0.750	0.571	0.000	0.000	0.000	0.700	0.438	0.000	0.817
					0.750				0.646				0.750				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Church Rd/BIA Route 10 & Campo Rd/SR-94
City: Campo
Control: 1-Way Stop(SB)

Project ID: 18-04266-003
Date: 9/13/2018

2axle

NS/EW Streets:	Church Rd/BIA Route 10				Church Rd/BIA Route 10				Campo Rd/SR-94				Campo Rd/SR-94				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0.5	0.5	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2
8:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	2
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	4	0	0	0	2	2	0	8
APPROACH %'s :									0.00%	100.00%	0.00%	0.00%	0.00%	50.00%	50.00%	0.00%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	2	0	0	0	2	1	0	5
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.500	0.250	0.000	0.625
									0.500				0.750				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0.5	0.5	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2
4:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	2
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	2	0	0	0	1	1	0	4
APPROACH %'s :									0.00%	100.00%	0.00%	0.00%	0.00%	50.00%	50.00%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	2	0	0	0	1	1	0	4
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.250	0.250	0.000	0.500
									0.500				0.500				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Church Rd/BIA Route 10 & Campo Rd/SR-94
City: Campo
Control: 1-Way Stop(SB)

Project ID: 18-04266-003
Date: 9/13/2018

3axle+

NS/EW Streets:	Church Rd/BIA Route 10				Church Rd/BIA Route 10				Campo Rd/SR-94				Campo Rd/SR-94				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0.5	0.5	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	2
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4
8:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	1	0	0	0	0	7	0	0	0	2	0	0	10
APPROACH %'s :					100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	07:45 AM - 08:45 AM				07:45 AM												TOTAL
PEAK HR VOL :	0	0	0	0	1	0	0	0	0	6	0	0	0	1	0	0	8
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.375	0.000	0.000	0.000	0.250	0.000	0.000	0.500
					0.250				0.375				0.250				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0.5	0.5	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
4:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	1	0	0	1	0	0	0	2	0	0	4
APPROACH %'s :					0.00%	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	1	0	0	1	0	0	0	2	0	0	4
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.500	0.000	0.000	1.000
					0.250				0.250				0.500				

Existing AM - Truck Percentage Calculations														
			Movement											PHF
Int. ID	N/S Street Name	E/W Street Name	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	PHF
1	Crestwood Road	I-8 WB Ramps													
		PV	62	15	0	0	13	3	0	0	0	20	0	1	0.983
		MT	2	2	0	0	0	0	0	0	0	2	0	0	0.500
		HT	10	0	0	0	0	0	0	0	0	2	0	0	0.500
		Truck %	16.2%	11.8%	N/A	N/A	0.0%	0.0%	N/A	N/A	N/A	16.7%	N/A	0.0%	
		HT only %	13.5%	0.0%	N/A	N/A	0.0%	0.0%	N/A	N/A	N/A	8.3%	N/A	0.0%	
		Total	**74**	**17**	**0**	**0**	**13**	**3**	**0**	**0**	**0**	**24**	**0**	**1**	**0.892**
2	Crestwood Road	I-8 EB Ramps													
		PV	0	75	22	0	34	0	6	2	37	0	0	0	0.846
		MT	0	4	3	0	3	0	0	0	3	0	0	0	0.650
		HT	0	9	4	0	5	0	0	0	5	0	0	0	0.821
		Truck %	N/A	14.8%	24.1%	N/A	19.0%	N/A	0.0%	0.0%	17.8%	N/A	N/A	N/A	
		HT only %	N/A	10.2%	13.8%	N/A	11.9%	N/A	0.0%	0.0%	11.1%	N/A	N/A	N/A	
		Total	**0**	**88**	**29**	**0**	**42**	**0**	**6**	**2**	**45**	**0**	**0**	**0**	**0.869**
3	Crestwood Road	Old Highway 80													
		PV	8	88	0	0	64	5	5	0	6	0	0	0	0.917
		MT	2	7	0	0	6	0	0	0	2	0	0	0	0.850
		HT	0	13	0	0	11	0	0	0	1	0	0	0	0.893
		Truck %	20.0%	18.5%	N/A	N/A	21.0%	0.0%	0.0%	N/A	33.3%	N/A	N/A	N/A	
		HT only %	0.0%	12.0%	N/A	N/A	13.6%	0.0%	0.0%	N/A	11.1%	N/A	N/A	N/A	
		Total	**10**	**108**	**0**	**0**	**81**	**5**	**5**	**0**	**9**	**0**	**0**	**0**	**0.924**
4	Old Highway 80	Church Road-Golden Acorn Casino Dwy													
		PV	7	39	10	39	29	9	9	9	6	8	10	40	0.802
		MT	0	3	0	0	5	1	2	0	0	0	0	4	0.625
		HT	0	15	0	0	10	1	0	0	0	0	0	0	0.812
		Truck %	0.0%	31.6%	0.0%	0.0%	34.1%	18.2%	18.2%	0.0%	0.0%	0.0%	0.0%	9.1%	
		HT only %	0.0%	26.3%	0.0%	0.0%	22.7%	9.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
		Total	**7**	**57**	**10**	**39**	**44**	**11**	**11**	**9**	**6**	**8**	**10**	**44**	**0.831**
5	Old Highway 80	Live Oak Trail													
		PV	0	41	4	7	33	0	0	0	0	6	0	9	0.694
		MT	0	1	0	0	3	0	0	0	0	1	0	0	0.625
		HT	0	0	0	1	1	0	0	0	0	1	0	0	0.750
		Truck %	N/A	2.4%	0.0%	12.5%	10.8%	N/A	N/A	N/A	N/A	25.0%	N/A	0.0%	
		HT only %	N/A	0.0%	0.0%	12.5%	2.7%	N/A	N/A	N/A	N/A	12.5%	N/A	0.0%	
		Total	**0**	**42**	**4**	**8**	**37**	**0**	**0**	**0**	**0**	**8**	**0**	**9**	**0.730**
6	Campo Road (SR-94)	Church Road - BIA Route 10													
		PV	0	0	0	5	0	8	16	10	0	0	13	12	0.800
		MT	0	0	0	0	0	0	0	2	0	0	2	1	0.625
		HT	0	0	0	1	0	0	0	6	0	0	1	0	0.500
		Truck %	N/A	N/A	N/A	16.7%	N/A	0.0%	0.0%	44.4%	N/A	N/A	18.8%	7.7%	
		HT only %	N/A	N/A	N/A	16.7%	N/A	0.0%	0.0%	33.3%	N/A	N/A	6.3%	0.0%	
		Total	**0**	**0**	**0**	**6**	**0**	**8**	**16**	**18**	**0**	**0**	**16**	**13**	**0.802**

Source: National Data & Surveying Services (NDS), 2018

Existing PM - Truck Percentage Calculations														
			Movement											PHF
Int. ID	N/S Street Name	E/W Street Name	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	PHF
1	Crestwood Road	I-8 WB Ramps													
		PV	64	16	0	0	7	9	0	0	0	25	4	2	0.774
		MT	4	1	0	0	1	1	0	0	0	0	0	0	0.583
		HT	2	0	0	0	0	0	0	0	0	6	1	0	0.750
		Truck %	8.6%	5.9%	N/A	N/A	12.5%	10.0%	N/A	N/A	N/A	19.4%	20.0%	0.0%	
		HT only %	2.9%	0.0%	N/A	N/A	0.0%	0.0%	N/A	N/A	N/A	19.4%	20.0%	0.0%	
		Total	**70**	**17**	**0**	**0**	**8**	**10**	**0**	**0**	**0**	**31**	**5**	**2**	**0.761**
2	Crestwood Road	I-8 EB Ramps													
		PV	0	79	41	1	32	0	6	0	98	0	0	0	0.774
		MT	0	5	0	0	1	0	0	0	1	0	0	0	0.583
		HT	0	3	5	0	7	0	2	0	5	0	0	0	0.611
		Truck %	N/A	9.2%	10.9%	0.0%	20.0%	N/A	25.0%	N/A	5.8%	N/A	N/A	N/A	
		HT only %	N/A	3.4%	10.9%	0.0%	17.5%	N/A	25.0%	N/A	4.8%	N/A	N/A	N/A	
		Total	**0**	**87**	**46**	**1**	**40**	**0**	**8**	**0**	**104**	**0**	**0**	**0**	**0.822**
3	Crestwood Road	Old Highway 80													
		PV	11	118	0	0	130	2	2	0	12	0	0	0	0.809
		MT	0	5	0	0	1	1	0	0	0	0	0	0	0.583
		HT	0	7	0	0	11	0	0	0	0	0	0	0	0.643
		Truck %	0.0%	9.2%	N/A	N/A	8.5%	33.3%	0.0%	N/A	0.0%	N/A	N/A	N/A	
		HT only %	0.0%	5.4%	N/A	N/A	7.7%	0.0%	0.0%	N/A	0.0%	N/A	N/A	N/A	
		Total	**11**	**130**	**0**	**0**	**142**	**3**	**2**	**0**	**12**	**0**	**0**	**0**	**0.833**
4	Old Highway 80	Church Road-Golden Acorn Casino Dwy													
		PV	10	33	14	72	58	11	11	8	6	11	7	84	0.821
		MT	0	3	0	0	1	0	1	0	0	1	0	1	0.438
		HT	1	7	0	1	12	0	0	0	0	1	0	0	0.688
		Truck %	9.1%	23.3%	0.0%	1.4%	18.3%	0.0%	8.3%	0.0%	0.0%	15.4%	0.0%	1.2%	
		HT only %	9.1%	16.3%	0.0%	1.4%	16.9%	0.0%	0.0%	0.0%	0.0%	7.7%	0.0%	0.0%	
		Total	**11**	**43**	**14**	**73**	**71**	**11**	**12**	**8**	**6**	**13**	**7**	**85**	**0.868**
5	Old Highway 80	Live Oak Trail													
		PV	0	23	15	21	71	0	0	0	0	19	0	12	0.805
		MT	0	0	0	0	0	0	0	0	0	0	0	0	0.000
		HT	0	0	0	0	0	0	0	0	0	0	0	0	0.000
		Truck %	N/A	0.0%	0.0%	0.0%	0.0%	N/A	N/A	N/A	N/A	0.0%	N/A	0.0%	
		HT only %	N/A	0.0%	0.0%	0.0%	0.0%	N/A	N/A	N/A	N/A	0.0%	N/A	0.0%	
		Total	**0**	**23**	**15**	**21**	**71**	**0**	**0**	**0**	**0**	**19**	**0**	**12**	**0.805**
6	Campo Road (SR-94)	Church Road - BIA Route 10													
		PV	0	0	0	11	0	22	15	16	0	0	14	1	0.817
		MT	0	0	0	0	0	0	0	2	0	0	1	1	0.500
		HT	0	0	0	0	0	1	0	1	0	0	2	0	1.000
		Truck %	N/A	N/A	N/A	0.0%	N/A	4.3%	0.0%	15.8%	N/A	N/A	17.6%	50.0%	
		HT only %	N/A	N/A	N/A	0.0%	N/A	4.3%	0.0%	5.3%	N/A	N/A	11.8%	0.0%	
		Total	**0**	**0**	**0**	**11**	**0**	**23**	**15**	**19**	**0**	**0**	**17**	**2**	**0.802**

Source: National Data & Surveying Services (NDS), 2018

National Data & Surveying Services

Intersection Turning Movement Count

Location: Ribbonwood Rd & I-8 WB Ramps
City: Boulevard
Control: 1-Way Stop (WB)

Project ID: 18-04268-001
Date: 7/19/2018

Total

NS/EW Streets:	Ribbonwood Rd				Ribbonwood Rd				I-8 WB Ramps				I-8 WB Ramps				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	0	0	0	1	0	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	8	4	0	0	0	2	10	0	0	0	0	0	3	0	0	0	27
7:15 AM	10	1	0	0	0	4	3	0	0	0	0	0	4	1	2	0	25
7:30 AM	11	1	0	0	0	1	1	0	0	0	0	0	2	0	0	0	16
7:45 AM	7	3	0	0	0	4	3	0	0	0	0	0	4	0	0	0	21
8:00 AM	7	2	0	0	0	0	2	0	0	0	0	0	4	1	0	0	16
8:15 AM	6	1	0	0	0	0	2	0	0	0	0	0	3	0	0	0	12
8:30 AM	6	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	9
8:45 AM	5	5	0	0	0	3	2	0	0	0	0	0	1	0	1	0	17
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	60	18	0	0	0	15	24	0	0	0	0	0	21	2	3	0	143
APPROACH %'s :	76.92%	23.08%	0.00%	0.00%	0.00%	38.46%	61.54%	0.00%					80.77%	7.69%	11.54%	0.00%	
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	36	9	0	0	0	11	17	0	0	0	0	0	13	1	2	0	89
PEAK HR FACTOR :	0.818	0.563	0.000	0.000	0.000	0.688	0.425	0.000	0.000	0.000	0.000	0.000	0.813	0.250	0.250	0.000	0.824
	0.938				0.583								0.571				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	0	0	0	1	0	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	3	9	0	0	0	1	3	0	0	0	0	0	2	1	0	0	19
4:15 PM	5	1	0	0	0	2	2	0	0	0	0	0	2	0	0	0	12
4:30 PM	5	3	0	0	0	1	3	0	0	0	0	0	3	1	0	0	16
4:45 PM	4	1	0	0	0	1	2	0	0	0	0	0	2	0	1	0	11
5:00 PM	4	4	0	0	0	1	0	0	0	0	0	0	6	0	1	0	16
5:15 PM	2	2	0	0	0	1	2	0	0	0	0	0	3	1	0	0	11
5:30 PM	3	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	7
5:45 PM	1	6	0	0	0	1	0	0	0	0	0	0	3	0	3	0	14
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	27	28	0	0	0	8	12	0	0	0	0	0	23	3	5	0	106
APPROACH %'s :	49.09%	50.91%	0.00%	0.00%	0.00%	40.00%	60.00%	0.00%					74.19%	9.68%	16.13%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	17	14	0	0	0	5	10	0	0	0	0	0	9	2	1	0	58
PEAK HR FACTOR :	0.850	0.389	0.000	0.000	0.000	0.625	0.833	0.000	0.000	0.000	0.000	0.000	0.750	0.500	0.250	0.000	0.763
	0.646				0.938								0.750				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Ribbonwood Rd & I-8 EB Ramps
City: Boulevard
Control: 1-Way Stop (EB)

Project ID: 18-04268-002
Date: 7/19/2018

Total

NS/EW Streets:	Ribbonwood Rd				Ribbonwood Rd				I-8 EB Ramps				I-8 EB Ramps				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	1	0	1	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	9	1	0	2	3	0	0	2	0	6	0	0	0	0	0	23
7:15 AM	0	10	2	0	0	3	0	0	1	0	4	0	0	0	0	0	20
7:30 AM	0	7	2	0	0	3	0	0	0	0	2	0	0	0	0	0	14
7:45 AM	0	2	1	0	1	5	0	0	4	0	2	0	0	0	0	0	15
8:00 AM	0	10	3	0	1	1	0	0	2	0	1	0	0	0	0	0	18
8:15 AM	0	7	3	0	1	1	0	0	1	0	4	0	0	0	0	0	17
8:30 AM	0	10	1	0	0	5	0	0	2	0	2	0	0	0	0	0	20
8:45 AM	0	7	9	0	1	5	0	0	1	0	4	0	0	0	0	0	27
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	62	22	0	6	26	0	0	13	0	25	0	0	0	0	0	154
APPROACH %'s :	0.00%	73.81%	26.19%	0.00%	18.75%	81.25%	0.00%	0.00%	34.21%	0.00%	65.79%	0.00%					
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	0	34	16	0	3	12	0	0	6	0	11	0	0	0	0	0	82
PEAK HR FACTOR :	0.000	0.850	0.444	0.000	0.750	0.600	0.000	0.000	0.750	0.000	0.688	0.000	0.000	0.000	0.000	0.000	0.759
		0.781				0.625				0.850							

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	1	0	1	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	6	1	0	1	2	0	0	5	0	4	0	0	0	0	0	19
4:15 PM	0	6	2	0	2	2	0	0	1	0	3	0	0	0	0	0	16
4:30 PM	0	5	3	0	3	3	0	0	3	0	11	0	0	0	0	0	28
4:45 PM	0	5	1	0	0	2	0	0	0	0	12	0	0	0	0	0	20
5:00 PM	0	4	1	0	0	8	0	0	6	0	7	0	0	0	0	0	26
5:15 PM	0	2	1	0	0	3	0	0	1	0	3	0	0	0	0	0	10
5:30 PM	0	6	5	0	0	2	0	0	1	0	3	0	0	0	0	0	17
5:45 PM	0	2	1	0	0	6	0	0	4	1	6	0	0	0	0	0	20
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	36	15	0	6	28	0	0	21	1	49	0	0	0	0	0	156
APPROACH %'s :	0.00%	70.59%	29.41%	0.00%	17.65%	82.35%	0.00%	0.00%	29.58%	1.41%	69.01%	0.00%					
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	0	20	7	0	5	15	0	0	10	0	33	0	0	0	0	0	90
PEAK HR FACTOR :	0.000	0.833	0.583	0.000	0.417	0.469	0.000	0.000	0.417	0.000	0.688	0.000	0.000	0.000	0.000	0.000	0.804
		0.844				0.625				0.768							

APPENDIX B

INTERSECTION ANALYSIS WORKSHEETS – EXISTING

Intersection	
Int Delay, s/veh	6.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	24	0	1	74	17	0	0	13	3
Future Vol, veh/h	0	0	0	24	0	1	74	17	0	0	13	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	50	-	-	320	-	-	-	-	-
Veh in Median Storage, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	16	0	0	16	11	0	0	0	0
Mvmt Flow	0	0	0	27	0	1	83	19	0	0	15	3

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	202	203	19	18	0	-	-	-	0
Stage 1	185	185	-	-	-	-	-	-	-
Stage 2	17	18	-	-	-	-	-	-	-
Critical Hdwy	6.56	6.5	6.2	4.26	-	-	-	-	-
Critical Hdwy Stg 1	5.56	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.56	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.644	4	3.3	2.344	-	-	-	-	-
Pot Cap-1 Maneuver	756	697	1065	1512	-	0	0	-	-
Stage 1	814	751	-	-	-	0	0	-	-
Stage 2	971	884	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	714	0	1065	1512	-	-	-	-	-
Mov Cap-2 Maneuver	714	0	-	-	-	-	-	-	-
Stage 1	769	0	-	-	-	-	-	-	-
Stage 2	971	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.1	6.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	1512	-	714	1065	-	-
HCM Lane V/C Ratio	0.055	-	0.038	0.001	-	-
HCM Control Delay (s)	7.5	-	10.2	8.4	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q(veh)	0.2	-	0.1	0	-	-

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	2	45	0	0	0	0	88	29	0	42	0
Future Vol, veh/h	6	2	45	0	0	0	0	88	29	0	42	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	15	-	-	-	-	-	-	145	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	0	17	0	0	0	0	14	24	0	19	0
Mvmt Flow	7	2	52	0	0	0	0	101	33	0	48	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	166	182	48	-	0	0	134	0	0
Stage 1	48	48	-	-	-	-	-	-	-
Stage 2	118	134	-	-	-	-	-	-	-
Critical Hdwy	6.4	6.5	6.37	-	-	-	4.1	-	-
Critical Hdwy Stg 1	5.4	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.4	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.453	-	-	-	2.2	-	-
Pot Cap-1 Maneuver	829	716	980	0	-	-	1463	-	0
Stage 1	980	859	-	0	-	-	-	-	0
Stage 2	912	789	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	829	0	980	-	-	-	1463	-	-
Mov Cap-2 Maneuver	829	0	-	-	-	-	-	-	-
Stage 1	980	0	-	-	-	-	-	-	-
Stage 2	912	0	-	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	829	980	1463	-
HCM Lane V/C Ratio	-	-	0.011	0.053	-	-
HCM Control Delay (s)	-	-	9.4	8.9	0	-
HCM Lane LOS	-	-	A	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0.2	0	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	9	10	108	81	5
Future Vol, veh/h	5	9	10	108	81	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	33	20	18	21	0
Mvmt Flow	5	10	11	117	88	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	230	91	93	0	-	0
Stage 1	91	-	-	-	-	-
Stage 2	139	-	-	-	-	-
Critical Hdwy	6.4	6.53	4.3	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.597	2.38	-	-	-
Pot Cap-1 Maneuver	763	888	1396	-	-	-
Stage 1	938	-	-	-	-	-
Stage 2	893	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	757	888	1396	-	-	-
Mov Cap-2 Maneuver	757	-	-	-	-	-
Stage 1	930	-	-	-	-	-
Stage 2	893	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.4	0.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1396	-	836	-	-
HCM Lane V/C Ratio	0.008	-	0.018	-	-
HCM Control Delay (s)	7.6	0	9.4	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	9	6	8	10	44	7	57	10	39	44	11
Future Vol, veh/h	11	9	6	8	10	44	7	57	10	39	44	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	10	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	9	0	31	0	0	34	18
Mvmt Flow	13	11	7	10	12	53	8	69	12	47	53	13

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	278	251	60	254	251	75	66	0	0	81	0	0
Stage 1	154	154	-	91	91	-	-	-	-	-	-	-
Stage 2	124	97	-	163	160	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.29	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.381	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	678	656	1011	703	656	967	1549	-	-	1529	-	-
Stage 1	853	774	-	921	823	-	-	-	-	-	-	-
Stage 2	885	819	-	844	769	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	614	632	1011	669	632	967	1549	-	-	1529	-	-
Mov Cap-2 Maneuver	614	632	-	669	632	-	-	-	-	-	-	-
Stage 1	849	749	-	916	819	-	-	-	-	-	-	-
Stage 2	820	815	-	799	744	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.4	9.4	0.7	3.1
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1549	-	-	622	1011	648	967	1529	-	-
HCM Lane V/C Ratio	0.005	-	-	0.039	0.007	0.033	0.055	0.031	-	-
HCM Control Delay (s)	7.3	0	-	11	8.6	10.7	8.9	7.4	0	-
HCM Lane LOS	A	A	-	B	A	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0.1	0.2	0.1	-	-

Intersection	
Int Delay, s/veh	2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	9	42	4	8	37
Future Vol, veh/h	8	9	42	4	8	37
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	73	73	73	73	73	73
Heavy Vehicles, %	25	0	0	0	12	10
Mvmt Flow	11	12	58	5	11	51

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	134	61	0	0	63	0
Stage 1	61	-	-	-	-	-
Stage 2	73	-	-	-	-	-
Critical Hdwy	6.65	6.2	-	-	4.22	-
Critical Hdwy Stg 1	5.65	-	-	-	-	-
Critical Hdwy Stg 2	5.65	-	-	-	-	-
Follow-up Hdwy	3.725	3.3	-	-	2.308	-
Pot Cap-1 Maneuver	808	1010	-	-	1478	-
Stage 1	906	-	-	-	-	-
Stage 2	895	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	802	1010	-	-	1478	-
Mov Cap-2 Maneuver	802	-	-	-	-	-
Stage 1	899	-	-	-	-	-
Stage 2	895	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.1	0	1.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	900	1478	-
HCM Lane V/C Ratio	-	-	0.026	0.007	-
HCM Control Delay (s)	-	-	9.1	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	18	0	0	16	13	0	0	0	6	0	8
Future Vol, veh/h	16	18	0	0	16	13	0	0	0	6	0	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	25
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	0	44	0	0	18	7	0	0	0	16	0	0
Mvmt Flow	20	23	0	0	20	16	0	0	0	8	0	10

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	36	0	0	23	0	0	96	99	23	91	91	28
Stage 1	-	-	-	-	-	-	63	63	-	28	28	-
Stage 2	-	-	-	-	-	-	33	36	-	63	63	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.26	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.26	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.26	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.644	4	3.3
Pot Cap-1 Maneuver	1588	-	-	1605	-	-	891	795	1060	861	803	1053
Stage 1	-	-	-	-	-	-	953	846	-	954	876	-
Stage 2	-	-	-	-	-	-	988	869	-	914	846	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1588	-	-	1605	-	-	874	785	1060	852	793	1053
Mov Cap-2 Maneuver	-	-	-	-	-	-	874	785	-	852	793	-
Stage 1	-	-	-	-	-	-	941	835	-	942	876	-
Stage 2	-	-	-	-	-	-	979	869	-	902	835	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.4	0	0	8.8
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	1588	-	-	1605	-	-	852	1053
HCM Lane V/C Ratio	-	0.013	-	-	-	-	-	0.009	0.009
HCM Control Delay (s)	0	7.3	0	-	0	-	-	9.3	8.5
HCM Lane LOS	A	A	A	-	A	-	-	A	A
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	0	0

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	13	1	2	36	9	0	0	11	17
Future Vol, veh/h	0	0	0	13	1	2	36	9	0	0	11	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	16	1	2	44	11	0	0	13	21

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	123	133	11	34	0	-	-	-	0
Stage 1	99	99	-	-	-	-	-	-	-
Stage 2	24	34	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	872	758	1070	1578	-	0	0	-	-
Stage 1	925	813	-	-	-	0	0	-	-
Stage 2	999	867	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	848	0	1070	1578	-	-	-	-	-
Mov Cap-2 Maneuver	848	0	-	-	-	-	-	-	-
Stage 1	899	0	-	-	-	-	-	-	-
Stage 2	999	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.1	5.9	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	1578	-	848	1070	-	-
HCM Lane V/C Ratio	0.028	-	0.019	0.003	-	-
HCM Control Delay (s)	7.3	0	9.3	8.4	-	-
HCM Lane LOS	A	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	0	-	-

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	0	11	0	0	0	0	39	16	5	19	0
Future Vol, veh/h	6	0	11	0	0	0	0	39	16	5	19	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	0	14	0	0	0	0	51	21	7	25	0

Major/Minor	Minor2					Major1			Major2		
Conflicting Flow All	101	111	25			-	0	0	72	0	0
Stage 1	39	39	-			-	-	-	-	-	-
Stage 2	62	72	-			-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22			-	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-			-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-			-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318			-	-	-	2.218	-	-
Pot Cap-1 Maneuver	898	779	1051			0	-	-	1528	-	0
Stage 1	983	862	-			0	-	-	-	-	0
Stage 2	961	835	-			0	-	-	-	-	0
Platoon blocked, %							-	-		-	
Mov Cap-1 Maneuver	894	0	1051			-	-	-	1528	-	-
Mov Cap-2 Maneuver	894	0	-			-	-	-	-	-	-
Stage 1	978	0	-			-	-	-	-	-	-
Stage 2	961	0	-			-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	0	1.5
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	894	1051	1528	-
HCM Lane V/C Ratio	-	-	0.009	0.014	0.004	-
HCM Control Delay (s)	-	-	9.1	8.5	7.4	0
HCM Lane LOS	-	-	A	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	0	-

Intersection	
Int Delay, s/veh	6.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	31	5	2	70	17	0	0	8	10
Future Vol, veh/h	0	0	0	31	5	2	70	17	0	0	8	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	50	-	-	320	-	-	-	-	-
Veh in Median Storage, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	19	20	0	8	5	0	0	12	10
Mvmt Flow	0	0	0	41	7	3	92	22	0	0	11	13

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	224	230	22	24	0	-	-	-	0
Stage 1	206	206	-	-	-	-	-	-	-
Stage 2	18	24	-	-	-	-	-	-	-
Critical Hdwy	6.59	6.7	6.2	4.18	-	-	-	-	-
Critical Hdwy Stg 1	5.59	5.7	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.59	5.7	-	-	-	-	-	-	-
Follow-up Hdwy	3.671	4.18	3.3	2.272	-	-	-	-	-
Pot Cap-1 Maneuver	728	640	1061	1553	-	0	0	-	-
Stage 1	790	699	-	-	-	0	0	-	-
Stage 2	962	841	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	685	0	1061	1553	-	-	-	-	-
Mov Cap-2 Maneuver	685	0	-	-	-	-	-	-	-
Stage 1	743	0	-	-	-	-	-	-	-
Stage 2	962	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.2	6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	1553	-	685	1061	-	-
HCM Lane V/C Ratio	0.059	-	0.06	0.009	-	-
HCM Control Delay (s)	7.5	-	10.6	8.4	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q(veh)	0.2	-	0.2	0	-	-

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	0	104	0	0	0	0	87	46	1	40	0
Future Vol, veh/h	8	0	104	0	0	0	0	87	46	1	40	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	15	-	-	-	-	-	-	145	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	25	0	5	0	0	0	0	9	10	0	20	0
Mvmt Flow	10	0	127	0	0	0	0	106	56	1	49	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	185	213	49	-	0	0	162	0	0
Stage 1	51	51	-	-	-	-	-	-	-
Stage 2	134	162	-	-	-	-	-	-	-
Critical Hdwy	6.65	6.5	6.25	-	-	-	4.1	-	-
Critical Hdwy Stg 1	5.65	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.65	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.725	4	3.345	-	-	-	2.2	-	-
Pot Cap-1 Maneuver	755	688	1011	0	-	-	1429	-	0
Stage 1	916	856	-	0	-	-	-	-	0
Stage 2	839	768	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	754	0	1011	-	-	-	1429	-	-
Mov Cap-2 Maneuver	754	0	-	-	-	-	-	-	-
Stage 1	915	0	-	-	-	-	-	-	-
Stage 2	839	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.2	0	0.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	754	1011	1429	-
HCM Lane V/C Ratio	-	-	0.013	0.125	0.001	-
HCM Control Delay (s)	-	-	9.8	9.1	7.5	-
HCM Lane LOS	-	-	A	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0.4	0	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	12	11	130	142	3
Future Vol, veh/h	2	12	11	130	142	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	9	8	33
Mvmt Flow	2	14	13	157	171	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	356	173	175	0	-	0
Stage 1	173	-	-	-	-	-
Stage 2	183	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	646	876	1414	-	-	-
Stage 1	862	-	-	-	-	-
Stage 2	853	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	640	876	1414	-	-	-
Mov Cap-2 Maneuver	640	-	-	-	-	-
Stage 1	853	-	-	-	-	-
Stage 2	853	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.4	0.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1414	-	832	-	-
HCM Lane V/C Ratio	0.009	-	0.02	-	-
HCM Control Delay (s)	7.6	0	9.4	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	5.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	8	6	13	7	85	11	43	14	73	71	11
Future Vol, veh/h	12	8	6	13	7	85	11	43	14	73	71	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	10	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	8	0	0	15	0	1	9	23	0	1	18	0
Mvmt Flow	14	9	7	15	8	98	13	49	16	84	82	13

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	393	348	89	348	346	57	95	0	0	65	0	0
Stage 1	257	257	-	83	83	-	-	-	-	-	-	-
Stage 2	136	91	-	265	263	-	-	-	-	-	-	-
Critical Hdwy	7.18	6.5	6.2	7.25	6.5	6.21	4.19	-	-	4.11	-	-
Critical Hdwy Stg 1	6.18	5.5	-	6.25	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.18	5.5	-	6.25	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.572	4	3.3	3.635	4	3.309	2.281	-	-	2.209	-	-
Pot Cap-1 Maneuver	556	579	975	583	580	1012	1456	-	-	1544	-	-
Stage 1	734	699	-	894	830	-	-	-	-	-	-	-
Stage 2	853	823	-	713	694	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	472	541	975	543	542	1012	1456	-	-	1544	-	-
Mov Cap-2 Maneuver	472	541	-	543	542	-	-	-	-	-	-	-
Stage 1	727	659	-	886	823	-	-	-	-	-	-	-
Stage 2	756	816	-	658	654	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.7	9.5	1.2	3.5
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1456	-	-	497	975	543	1012	1544	-	-
HCM Lane V/C Ratio	0.009	-	-	0.046	0.007	0.042	0.097	0.054	-	-
HCM Control Delay (s)	7.5	0	-	12.6	8.7	11.9	8.9	7.5	0	-
HCM Lane LOS	A	A	-	B	A	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0.1	0.3	0.2	-	-

Intersection	
Int Delay, s/veh	2.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	19	12	23	15	21	71
Future Vol, veh/h	19	12	23	15	21	71
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	23	15	28	19	26	88

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	178	38	0	0	47	0
Stage 1	38	-	-	-	-	-
Stage 2	140	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	816	1040	-	-	1573	-
Stage 1	990	-	-	-	-	-
Stage 2	892	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	802	1040	-	-	1573	-
Mov Cap-2 Maneuver	802	-	-	-	-	-
Stage 1	973	-	-	-	-	-
Stage 2	892	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.3	0	1.7
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	880	1573	-
HCM Lane V/C Ratio	-	-	0.043	0.016	-
HCM Control Delay (s)	-	-	9.3	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-

Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	19	0	0	17	2	0	0	0	11	0	23
Future Vol, veh/h	15	19	0	0	17	2	0	0	0	11	0	23
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	25
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	0	15	0	0	17	50	0	0	0	0	0	4
Mvmt Flow	19	24	0	0	21	3	0	0	0	14	0	29

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	24	0	0	24	0	0	99	86	24	85	85	23
Stage 1	-	-	-	-	-	-	62	62	-	23	23	-
Stage 2	-	-	-	-	-	-	37	24	-	62	62	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.24
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.336
Pot Cap-1 Maneuver	1604	-	-	1604	-	-	888	808	1058	906	809	1048
Stage 1	-	-	-	-	-	-	954	847	-	1000	880	-
Stage 2	-	-	-	-	-	-	984	879	-	954	847	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1604	-	-	1604	-	-	856	798	1058	898	799	1048
Mov Cap-2 Maneuver	-	-	-	-	-	-	856	798	-	898	799	-
Stage 1	-	-	-	-	-	-	943	837	-	988	880	-
Stage 2	-	-	-	-	-	-	957	879	-	943	837	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.2	0	0	8.7
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	1604	-	-	1604	-	-	898	1048
HCM Lane V/C Ratio	-	0.012	-	-	-	-	-	0.015	0.027
HCM Control Delay (s)	0	7.3	0	-	0	-	-	9.1	8.5
HCM Lane LOS	A	A	A	-	A	-	-	A	A
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	0	0.1

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	13	2	1	17	14	0	0	7	10
Future Vol, veh/h	0	0	0	13	2	1	17	14	0	0	7	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	17	3	1	22	18	0	0	9	13

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	78	84	18	22	0	-	-	-	0
Stage 1	62	62	-	-	-	-	-	-	-
Stage 2	16	22	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	925	806	1061	1593	-	0	0	-	-
Stage 1	961	843	-	-	-	0	0	-	-
Stage 2	1007	877	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	912	0	1061	1593	-	-	-	-	-
Mov Cap-2 Maneuver	912	0	-	-	-	-	-	-	-
Stage 1	948	0	-	-	-	-	-	-	-
Stage 2	1007	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.9	4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	1593	-	912	1061	-	-
HCM Lane V/C Ratio	0.014	-	0.019	0.004	-	-
HCM Control Delay (s)	7.3	0	9	8.4	-	-
HCM Lane LOS	A	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	0	-	-

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	0	33	0	0	0	0	21	7	5	15	0
Future Vol, veh/h	10	0	33	0	0	0	0	21	7	5	15	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	0	41	0	0	0	0	26	9	6	19	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	62	66	19	-	0	0	35	0	0
Stage 1	31	31	-	-	-	-	-	-	-
Stage 2	31	35	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	-	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	-	-	-	2.218	-	-
Pot Cap-1 Maneuver	944	825	1059	0	-	-	1576	-	0
Stage 1	992	869	-	0	-	-	-	-	0
Stage 2	992	866	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	940	0	1059	-	-	-	1576	-	-
Mov Cap-2 Maneuver	940	0	-	-	-	-	-	-	-
Stage 1	988	0	-	-	-	-	-	-	-
Stage 2	992	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.6	0	1.8
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	940	1059	1576	-
HCM Lane V/C Ratio	-	-	0.013	0.039	0.004	-
HCM Control Delay (s)	-	-	8.9	8.5	7.3	0
HCM Lane LOS	-	-	A	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0.1	0	-

APPENDIX C

FREEWAY ANALYSIS WORKSHEETS

									AM PEAK							PM PEAK						
DI	RTE	CO	PRE	PM	CS	LEG	YR	Dir	1 WAY PHV	% K	% D	% KD	HR	DAY	MNTH	Dir	1 WAY PHV	% K	% D	% KD	HR	DAY	MNTH
11	008	SD	R	20.04	888	B	17	W	3726	6.42	68.43	4.4	7	TUE	MAY	E	3772	7.55	58.91	4.45	16	TUE	DEC
11	008	SD	R	51.98	621	B	17	W	1191	13.18	53.46	7.04	12	MON	DEC	E	1378	14.61	55.79	8.15	14	MON	SEP
11	008	SD	R	65.90	981	A	17	W	1106	10.72	64.23	6.88	12	SAT	MAY	W	1172	13.66	53.39	7.29	14	FRI	MAY
11	008	IMP	R	10.29	993	B	17	W	1094	12.26	58.69	7.2	10	SAT	JUL	W	1266	12.4	67.16	8.33	17	SUN	NOV
11	008	IMP	R	10.29	994	A	17	W	1030	12.97	58.13	7.54	12	SAT	NOV	W	1176	12.14	70.89	8.61	18	SUN	NOV
11	008	IMP	R	23.48	624	A	17	W	1021	12.53	56.41	7.07	12	SAT	JUL	W	1152	11.38	70.03	7.97	18	SUN	NOV
04	009	SCL		0	50	A	16	N	288	13.85	64.29	8.91	12	SAT	JUN	S	337	13.27	78.56	10.42	17	SUN	JUN
04	009	SCL		7.09	170	A	16	N	533	11.65	67.21	7.83	11	SAT	DEC	N	685	15.41	65.3	10.06	14	SUN	SEP
04	009	SCL		11.45	171	B	16	N	1633	7.88	64.32	5.06	8	WED	DEC	S	1748	8.34	64.98	5.42	17	TUE	DEC
07	010	LA		18.41	456	B	15	W	1558	13.19	96.35	12.7	7	MON	DEC	E	1308	12.93	82.47	10.67	17	WED	JUL
07	010	LA		19.71	783	O	17	W	1598	12.09	96.21	11.63	7	WED	MAY	E	1312	12.02	79.42	9.55	17	THU	SEP
07	010	LA		24.31	785	A	15	W	3325	11.87	92.52	10.98	7	WED	OCT	E	2694	10.73	82.94	8.9	16	WED	SEP
07	010	LA		19.67	752	O	17	E	8064	6.33	58.28	3.69	12	FRI	MAY	E	9022	6.62	62.43	4.13	16	FRI	MAR
07	010	LA		24.32	721	A	15	E	7000	6.25	51.32	3.21	11	SAT	FEB	E	6963	6.09	52.39	3.19	17	THU	MAY
07	010	LA		30.3	429	A	17	W	8875	6.51	61.47	4	8	TUE	JAN	W	8569	7.07	54.65	3.86	14	SAT	MAY
07	010	LA		34.28	48	O	15	W	6826	5.37	72.81	3.91	5	FRI	OCT	E	6533	5.73	65.27	3.74	14	SUN	MAY
07	010	LA		47.11	54	B	16	E	9730	6.31	55.47	3.5	11	SAT	APR	E	9876	6.26	56.78	3.55	13	THU	APR
08	010	SBD		9.176	102	B	17	W	8821	6.7	51.34	3.44	7	THU	AUG	E	8580	6.39	52.34	3.34	14	SAT	FEB
08	010	SBD		31.41	150	B	17	W	7791	6.71	67.54	4.53	7	TUE	AUG	E	7116	6.82	60.72	4.14	16	THU	JUL
08	010	RIV	R	3.048	862	A	17	W	4345	6.16	66.14	4.08	6	MON	APR	W	4337	7.12	57.1	4.07	13	MON	SEP
08	010	RIV		8.205	865	B	17	E	6066	7.54	61.56	4.64	11	SAT	MAR	W	5738	8.32	52.77	4.39	13	SUN	JUN
08	010	RIV	R	19.4	808	A	17	W	5738	9.06	58.47	5.3	11	SUN	JUN	E	5183	8.52	56.22	4.79	14	FRI	APR
08	010	RIV	R	149.2	908	A	17	W	1742	9.73	63.76	6.2	10	SUN	MAR	W	1757	10.7	58.49	6.26	13	SUN	JAN
08	010	RIV	R	156.5	909	O	17	E	2686	9.4	91.33	8.58	4	MON	DEC	E	1874	10.1	59.3	5.99	15	FRI	DEC
04	012	NAP		2.3	906	B	17	W	2411	7.8	73.96	5.77	6	WED	AUG	E	1947	7.42	62.83	4.66	15	THU	APR
04	012	SOL		19.17	315	B	17	W	759	7.85	73.55	5.78	7	THU	JUL	E	850	8.53	75.83	6.47	16	THU	OCT
10	012	CAL		13.87	155	A	15	E	489	11.91	68.49	8.16	8	MON	JAN	W	431	11.62	61.84	7.19	15	TUE	JAN
04	013	ALA		4.262	27	A	15	N	2998	10.02	55.03	5.52	8	TUE	SEP	N	2653	8.78	55.61	4.88	17	TUE	SEP
04	013	ALA		13.91	240	B	15	S	1871	8.51	64.43	5.48	8	THU	SEP	S	1668	9.49	51.55	4.89	15	SAT	JUN
07	014	LA	R	26	779	A	16	S	8746	6.43	75.27	4.84	6	FRI	MAR	N	8241	6.81	67	4.56	16	TUE	MAR
07	014	LA	R	54.2	712	B	17	S	5067	4.94	91.23	4.51	4	TUE	JAN	N	5061	6.74	66.88	4.51	18	FRI	MAR
07	014	LA	R	73	63	O	15	N	1634	6.79	67.11	4.56	6	THU	OCT	S	1934	9.6	56.19	5.39	17	THU	DEC
09	014	KER	R	0	927	A	17	N	1506	6.22	68.83	4.28	5	FRI	AUG	S	1967	9.49	58.93	5.59	16	MON	SEP

DIST	RTE	RTE	CNTY	PM_PM		PM	DESCRIPTION	BACK_P	BACK_PE	BACK_A	AHEAD_PEA	AHEAD_PEAK	AHEAD_AADT
11	008		SD	T	0.407		SAN DIEGO, SUNSET CLIFFS BOULEVARD				890	13100	12500
11	008		SD	T	0.466		EB RIGHT TURN FR NIMITZ BLVD	960	14100	13500	3900	51000	48000
11	008		SD	L	1.213		MIDWAY DRIVE	3900	51000	48000	7900	116000	103000
11	008		SD	L	2.379		JCT. RTE. 5	7900	116000	103000	11200	147000	135000
11	008		SD	R	0.364		SAN DIEGO, MORENA BOULEVARD	11200	147000	135000	15000	205000	196000
11	008		SD		0.946		HOTEL CIRCLE/TAYLOR STREET	15000	205000	196000	15100	213000	201000
11	008		SD		2.230		SAN DIEGO, HOTEL CIRCLE	15100	213000	201000	17700	234000	217000
11	008		SD		2.410		SAN DIEGO, JCT. RTE. 163	17700	234000	217000	18100	240000	223000
11	008		SD		3.040		SAN DIEGO, MISSION CENTER ROAD	18100	240000	223000	19500	257000	239000
11	008		SD		3.902		SAN DIEGO, TEXAS STREET	19500	257000	239000	17300	228000	212000
11	008		SD		4.378		SAN DIEGO, JCT. RTE. 805	17300	228000	212000	18800	252000	248000
11	008		SD		5.638		JCT. RTE. 15	18800	252000	248000	17500	230000	226000
11	008		SD		6.271		SAN DIEGO, FAIRMOUNT AVENUE	17500	230000	226000	19700	254000	249000
11	008		SD		7.060		SAN DIEGO, WARING ROAD	19700	254000	249000	18100	236000	228000
11	008		SD		8.336		COLLEGE AVENUE	18100	236000	228000	16100	210000	203000
11	008		SD		9.591		LA MESA, LAKE MURRAY BOULEVARD	16100	210000	203000	16300	212000	208000
11	008		SD		10.570		FLETCHER PARKWAY	15800	205000	201000	14900	192000	190000
11	008		SD		10.967		SPRING STREET	14400	185000	183000	16200	207000	203000
11	008		SD		11.101		LA MESA, EL CAJON BOULEVARD	16200	207000	203000	15300	191000	188000
11	008		SD		11.764		JACKSON DRIVE	15300	191000	188000	15100	189000	185000
11	008		SD		12.240		LA MESA, JCT. RTE. 125 SOUTH	15100	189000	185000	19000	238000	228000
11	008		SD		12.654		LA MESA, SEVERIN/ FUERTE DRIVES	19000	238000	228000	20100	250000	239000
11	008		SD		13.658		EL CAJON, EL CAJON BOULEVARD	20100	250000	239000	14300	182000	177000
11	008		SD		14.594		WEST MAIN STREET	14300	182000	177000	13500	173000	169000
11	008		SD		15.300		EL CAJON, JOHNSON AVENUE	13500	173000	169000	11800	154000	150000
11	008		SD		15.800		EL CAJON, JCT. RTE. 67 NORTH	11800	154000	150000	9400	120000	117000
11	008		SD		16.467		EL CAJON, MOLLISON AVENUE	9400	120000	117000	8000	108000	102000
11	008		SD		17.360		EL CAJON, JCT. RTE. 54 SOUTH	8000	108000	102000	5300	70000	67000
11	008		SD		17.829		EL CAJON, EAST MAIN STREET	5300	70000	67000	14800	100000	97000
11	008		SD	R	18.727		GREENFIELD DRIVE	14800	100000	97000	6900	87000	85000
11	008		SD	R	20.041		LOS COCHES UC	6900	87000	85000	5800	81000	77000
11	008		SD	R	21.508		LOS COCHES CRK BRIDGE	5800	81000	77000	5800	81000	77000
11	008		SD	R	21.815		HARRITT ROAD / LAKE JENNINGS PARK ROAD	5800	81000	77000	5300	62000	59000
11	008		SD	R	25.685		HARBISON CANYON	5300	62000	59000	4750	56000	55000
11	008		SD	R	28.464		TAVERN ROAD	4750	56000	55000	3350	39000	38500
11	008		SD	R	31.343		WEST WILLOWS ROAD	3350	39000	38500	2350	29000	28500
11	008		SD	R	34.326		EAST WILLOWS ROAD	2350	29000	28500	2300	28000	27500
11	008		SD	R	37.831		JCT. RTE. 79 NORTH, JAPATUL VALLEY ROAD	2000	24800	24600	3000	53000	22200
11	008		SD	R	43.532		PINE VALLEY ROAD	3000	27500	24400	2400	23700	22300
11	008		SD	R	44.931		SUNRISE HIGHWAY (LUGUNA JUNCTION)	2400	23700	22300	2400	23200	21200
11	008		SD	R	51.980		CAMERON ROAD	2350	18400	16900	2450	20400	18000
11	008		SD	R	61.147	R	CRESTWOOD ROAD, RIGHT ALIGN	1200	10200	9000	1050	8500	7700
11	008		SD	R	61.183	L	CRESTWOOD ROAD UC, LEFT ALIGN	1100	9400	8100	1100	9400	8100
11	008		SD	R	65.904		JCT. RTE. 94 SOUTH	2300	19600	17100	2250	18000	16100
11	008		SD	R	73.951		CARRIZO GORGE	2250	18000	16100	1900	20000	17600
11	008		SD	R	77.576		IN KO PAH	1900	20000	17600	1900	19300	17900
11	008		SD	R	77.765	R	SAN DIEGO/IMPERIAL COUNTY LINE, RIGHT ALIGN	850	8600	8000			
11	008		SD	R	77.770	L	SAN DIEGO/IMPERIAL COUNTY LINE	850	8700	8000			

RTE	DIST	CNTY	POST MILE	LEG	DESCRIPTION	VEHICLE AADT TOTAL	TRUCK AADT TOTAL	TRUCK % TOT VEH	TRUCK ---------- 2	TRUCK ----------By 3	AADT Axle---- 4	TOTAL ---------- 5+	% ---------- 2	TRUCK ----------By 3	AADT Axle----- 4	---------- 5+	EAL 2-WAY (1000)	YEAR VER/ EST
8	11	SD	2.41	A	SAN DIEGO, JCT. RTE. 163	221000	6189	2.80	4833	619	149	588	78.10	10	2	10	451	83E
8	11	SD	4.378	B	SAN DIEGO, JCT. RTE. 805	210000	6720	3.20	5047	665	228	780	75.10	10	3	12	540	83E
8	11	SD	5.638	B	JCT. RTE. 15	246000	7379	3.00	4317	937	310	1815	58.50	13	4	25	909	83V
8	11	SD	5.638	A	JCT. RTE. 15	224000	7841	3.50	5018	902	353	1568	64.00	12	5	20	851	84E
8	11	SD	10.57	B	FLETCHER PARKWAY	201000	7436	3.70	4447	944	260	1785	59.80	13	4	24	897	84V
8	11	SD	10.57	A	FLETCHER PARKWAY	190000	8359	4.40	4723	1287	426	1923	56.50	15	5	23	1010	78V
8	11	SD	15.8	B	EL CAJON, JCT. RTE. 67 NORTH	148000	6956	4.70	3749	911	320	1976	53.90	13	5	28	944	78V
8	11	SD	15.8	A	EL CAJON, JCT. RTE. 67 NORTH	116000	3364	2.90	1864	380	118	1002	55.40	11	4	30	463	78V
8	11	SD	R18.727	B	GREENFIELD DR	95000	11039	11.62	8291	761	586	1401	75.11	7	5	13	930	16V
8	11	SD	R18.727	A	GREENFIELD DR	85000	5865	6.90	3091	457	141	2176	52.70	8	2	37	922	86V
8	11	SD	R37.831	B	JCT. RTE. 79 NORTH, JAPATUL VALLEY RD	24600	2952	12.00	1160	174	89	1529	39.30	6	3	52	597	86E
8	11	SD	R37.831	A	JCT. RTE. 79 NORTH, JAPATUL VALLEY RD	21600	2938	13.60	955	229	85	1669	32.50	8	3	57	643	00E
8	11	SD	R51.98	B	CAMERON RD	16900	2050	12.13	877	91	38	1044	42.78	4	2	51	405	16V
8	11	SD	R65.904	B	JCT. RTE. 94 SOUTH	17100	2375	13.89	850	109	54	1362	35.78	5	2	57	518	05V
8	11	SD	R65.904	A	JCT. RTE. 94 SOUTH	14700	2083	14.16	745	96	48	1194	35.78	5	2	57	454	05V
8	11	IMP	R10.01	B	JCT. RTE. 98	14100	2265	13.90	811	104	52	1298	35.80	5	2	57	493	05E
8	11	IMP	R10.01	A	JCT. RTE. 98	12700	1807	13.90	647	83	42	1035	35.80	5	2	57	394	05E

- Existing Conditions

HCS7 Basic Freeway Report

Project Information

Analyst	Amanda Meroux	Date	2/8/2019
Agency	Dudek	Analysis Year	2019
Jurisdiction	Caltrans	Time Period Analyzed	Existing AM
Project Description	I-8: Cameron Road to Crestwood Road EB		

Geometric Data

Number of Lanes, ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	656	Heavy Vehicle Adjustment Factor (f_{HV})	0.783
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	476
Total Trucks, %	13.89	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.20
Passenger Car Equivalent (E_T)	3.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	6.7
Total Ramp Density Adjustment	2.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	71.3		

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HCS7 Basic Freeway Report

Project Information

Analyst	Amanda Meroux	Date	2/8/2019
Agency	Dudek	Analysis Year	2019
Jurisdiction	Caltrans	Time Period Analyzed	Existing PM
Project Description	I-8: Cameron Road to Crestwood Road EB		

Geometric Data

Number of Lanes, ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1089	Heavy Vehicle Adjustment Factor (f_{HV})	0.783
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	790
Total Trucks, %	13.89	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.34
Passenger Car Equivalent (E_T)	3.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	11.1
Total Ramp Density Adjustment	2.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	71.3		

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HCS7 Basic Freeway Report

Project Information

Analyst	Amanda Meroux	Date	2/8/2019
Agency	Dudek	Analysis Year	2019
Jurisdiction	Caltrans	Time Period Analyzed	Existing AM
Project Description	I-8: Crestwood Road to Ribbonwood Road EB		

Geometric Data

Number of Lanes, ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	656	Heavy Vehicle Adjustment Factor (f_{HV})	0.783
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	476
Total Trucks, %	13.89	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.20
Passenger Car Equivalent (E_T)	3.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	6.7
Total Ramp Density Adjustment	2.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	71.3		

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HCS7 Basic Freeway Report

Project Information

Analyst	Amanda Meroux	Date	2/8/2019
Agency	Dudek	Analysis Year	2019
Jurisdiction	Caltrans	Time Period Analyzed	Existing PM
Project Description	I-8: Crestwood Road to Ribbonwood Road EB		

Geometric Data

Number of Lanes, ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1089	Heavy Vehicle Adjustment Factor (f_{HV})	0.783
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	790
Total Trucks, %	13.89	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.34
Passenger Car Equivalent (E_T)	3.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	11.1
Total Ramp Density Adjustment	2.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	71.3		

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HCS7 Basic Freeway Report

Project Information

Analyst	Amanda Meroux	Date	2/8/2019
Agency	Dudek	Analysis Year	2019
Jurisdiction	Caltrans	Time Period Analyzed	Existing AM
Project Description	I-8: Ribbonwood Road to Carrizo Gorge EB		

Geometric Data

Number of Lanes, ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	617	Heavy Vehicle Adjustment Factor (f_{HV})	0.779
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	450
Total Trucks, %	14.16	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.19
Passenger Car Equivalent (E_T)	3.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	6.3
Total Ramp Density Adjustment	2.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	71.3		

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Project Information

Analyst	Amanda Meroux	Date	2/8/2019
Agency	Dudek	Analysis Year	2019
Jurisdiction	Caltrans	Time Period Analyzed	Existing PM
Project Description	I-8: Ribbonwood Road to Carrizo Gorge EB		

Geometric Data

Number of Lanes, ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1025	Heavy Vehicle Adjustment Factor (f_{HV})	0.779
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	748
Total Trucks, %	14.16	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.32
Passenger Car Equivalent (E_T)	3.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	10.5
Total Ramp Density Adjustment	2.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	71.3		

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Project Information

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Agency	Dudek	Analysis Year	2019
Jurisdiction	Caltrans	Time Period Analyzed	Existing AM
Project Description	I-8: Cameron Road to Crestwood Road WB		

Geometric Data

Number of Lanes, ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1177	Heavy Vehicle Adjustment Factor (f_{HV})	0.783
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	854
Total Trucks, %	13.89	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.37
Passenger Car Equivalent (E_T)	3.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	12.0
Total Ramp Density Adjustment	2.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	71.3		

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HCS7 Basic Freeway Report

Project Information

Analyst	Amanda Meroux	Date	2/8/2019
Agency	Dudek	Analysis Year	2019
Jurisdiction	Caltrans	Time Period Analyzed	Existing PM
Project Description	I-8: Cameron Road to Crestwood Road WB		

Geometric Data

Number of Lanes, ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1247	Heavy Vehicle Adjustment Factor (f_{HV})	0.783
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	905
Total Trucks, %	13.89	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.39
Passenger Car Equivalent (E_T)	3.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	12.7
Total Ramp Density Adjustment	2.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	71.3		

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Project Information

Analyst	Amanda Meroux	Date	2/8/2019
Agency	Dudek	Analysis Year	2019
Jurisdiction	Caltrans	Time Period Analyzed	Existing AM
Project Description	I-8: Crestwood Road to Ribbonwood Road WB		

Geometric Data

Number of Lanes, ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1177	Heavy Vehicle Adjustment Factor (f_{HV})	0.783
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	854
Total Trucks, %	13.89	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.37
Passenger Car Equivalent (E_T)	3.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	12.0
Total Ramp Density Adjustment	2.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	71.3		

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Project Information

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Jurisdiction	Caltrans	Time Period Analyzed	Existing PM
Project Description	I-8: Crestwood Road to Ribbonwood Road WB		

Geometric Data

Number of Lanes, ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1247	Heavy Vehicle Adjustment Factor (f_{HV})	0.783
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	905
Total Trucks, %	13.89	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.39
Passenger Car Equivalent (E_T)	3.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	12.7
Total Ramp Density Adjustment	2.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	71.3		

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Project Information

Analyst	Amanda Meroux	Date	2/8/2019
Agency	Dudek	Analysis Year	2019
Jurisdiction	Caltrans	Time Period Analyzed	Existing AM
Project Description	I-8: Ribbonwood Road to Carrizo Gorge WB		

Geometric Data

Number of Lanes, ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1109	Heavy Vehicle Adjustment Factor (f_{HV})	0.779
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	809
Total Trucks, %	14.16	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.35
Passenger Car Equivalent (E_T)	3.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	11.3
Total Ramp Density Adjustment	2.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	71.3		

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Project Information

Analyst	Amanda Meroux	Date	2/8/2019
Agency	Dudek	Analysis Year	2019
Jurisdiction	Caltrans	Time Period Analyzed	Existing PM
Project Description	I-8: Ribbonwood Road to Carrizo Gorge WB		

Geometric Data

Number of Lanes, ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1174	Heavy Vehicle Adjustment Factor (f_{HV})	0.779
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	856
Total Trucks, %	14.16	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.37
Passenger Car Equivalent (E_T)	3.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	12.0
Total Ramp Density Adjustment	2.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	71.3		

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- Existing plus Project Conditions

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Project Information

Analyst	Amanda Meroux	Date	2/8/2019
Agency	Dudek	Analysis Year	2019
Jurisdiction	Caltrans	Time Period Analyzed	Existing plus Project AM
Project Description	I-8: Cameron Road to Crestwood Road EB	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	813	Heavy Vehicle Adjustment Factor (f_{HV})	0.783
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	590
Total Trucks, %	13.89	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.25
Passenger Car Equivalent (E_T)	3.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	8.3
Total Ramp Density Adjustment	2.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	71.3		

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Project Information

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Agency	Dudek	Analysis Year	2019
Jurisdiction	Caltrans	Time Period Analyzed	Existing plus Project PM
Project Description	I-8: Cameron Road to Crestwood Road EB	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1092	Heavy Vehicle Adjustment Factor (f_{HV})	0.783
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	792
Total Trucks, %	13.89	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.34
Passenger Car Equivalent (E_T)	3.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	11.1
Total Ramp Density Adjustment	2.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	71.3		

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HCS7 Basic Freeway Report

Project Information

Analyst	Amanda Meroux	Date	2/8/2019
Agency	Dudek	Analysis Year	2019
Jurisdiction	Caltrans	Time Period Analyzed	Existing plus Project AM
Project Description	I-8: Crestwood Road to Ribbonwood Road EB	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	700	Heavy Vehicle Adjustment Factor (f_{HV})	0.783
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	508
Total Trucks, %	13.89	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.22
Passenger Car Equivalent (E_T)	3.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	7.1
Total Ramp Density Adjustment	2.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	71.3		

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HCS7 Basic Freeway Report

Project Information

Analyst	Amanda Meroux	Date	2/8/2019
Agency	Dudek	Analysis Year	2019
Jurisdiction	Caltrans	Time Period Analyzed	Existing plus Project PM
Project Description	I-8: Crestwood Road to Ribbonwood Road EB	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1091	Heavy Vehicle Adjustment Factor (f_{HV})	0.783
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	792
Total Trucks, %	13.89	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.34
Passenger Car Equivalent (E_T)	3.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	11.1
Total Ramp Density Adjustment	2.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	71.3		

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HCS7 Basic Freeway Report

Project Information

Analyst	Amanda Meroux	Date	2/8/2019
Agency	Dudek	Analysis Year	2019
Jurisdiction	Caltrans	Time Period Analyzed	Existing plus Project AM
Project Description	I-8: Ribbonwood Road to Carrizo Gorge EB	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	617	Heavy Vehicle Adjustment Factor (f_{HV})	0.779
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	450
Total Trucks, %	14.16	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.19
Passenger Car Equivalent (E_T)	3.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	6.3
Total Ramp Density Adjustment	2.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	71.3		

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HCS7 Basic Freeway Report

Project Information

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Agency	Dudek	Analysis Year	2019
Jurisdiction	Caltrans	Time Period Analyzed	Existing plus Project PM
Project Description	I-8: Ribbonwood Road to Carrizo Gorge EB	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1025	Heavy Vehicle Adjustment Factor (f_{HV})	0.779
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	748
Total Trucks, %	14.16	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.32
Passenger Car Equivalent (E_T)	3.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	10.5
Total Ramp Density Adjustment	2.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	71.3		

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HCS7 Basic Freeway Report

Project Information

Analyst	Amanda Meroux	Date	2/8/2019
Agency	Dudek	Analysis Year	2019
Jurisdiction	Caltrans	Time Period Analyzed	Existing plus Project AM
Project Description	I-8: Cameron Road to Crestwood Road WB	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1180	Heavy Vehicle Adjustment Factor (f_{HV})	0.783
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	856
Total Trucks, %	13.89	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.37
Passenger Car Equivalent (E_T)	3.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	12.0
Total Ramp Density Adjustment	2.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	71.3		

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HCS7 Basic Freeway Report

Project Information

Analyst	Amanda Meroux	Date	2/8/2019
Agency	Dudek	Analysis Year	2019
Jurisdiction	Caltrans	Time Period Analyzed	Existing plus Project PM
Project Description	I-8: Cameron Road to Crestwood Road WB	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1557	Heavy Vehicle Adjustment Factor (f_{HV})	0.783
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	1130
Total Trucks, %	13.89	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.49
Passenger Car Equivalent (E_T)	3.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	15.8
Total Ramp Density Adjustment	2.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	71.3		

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HCS7 Basic Freeway Report

Project Information

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Jurisdiction	Caltrans	Time Period Analyzed	Existing plus Project AM
Project Description	I-8: Crestwood Road to Ribbonwood Road WB	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1179	Heavy Vehicle Adjustment Factor (f_{HV})	0.783
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	856
Total Trucks, %	13.89	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.37
Passenger Car Equivalent (E_T)	3.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	12.0
Total Ramp Density Adjustment	2.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	71.3		

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HCS7 Basic Freeway Report

Project Information

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Jurisdiction	Caltrans	Time Period Analyzed	Existing plus Project PM
Project Description	I-8: Crestwood Road to Ribbonwood Road WB	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1333	Heavy Vehicle Adjustment Factor (f_{HV})	0.783
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	968
Total Trucks, %	13.89	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.42
Passenger Car Equivalent (E_T)	3.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	13.6
Total Ramp Density Adjustment	2.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	71.3		

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HCS7 Basic Freeway Report

Project Information

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Agency	Dudek	Analysis Year	2019
Jurisdiction	Caltrans	Time Period Analyzed	Existing plus Project AM
Project Description	I-8: Ribbonwood Road to Carrizo Gorge WB	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1109	Heavy Vehicle Adjustment Factor (f_{HV})	0.779
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	809
Total Trucks, %	14.16	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.35
Passenger Car Equivalent (E_T)	3.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	11.3
Total Ramp Density Adjustment	2.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	71.3		

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HCS7 Basic Freeway Report

Project Information

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Jurisdiction	Caltrans	Time Period Analyzed	Existing plus Project PM
Project Description	I-8: Ribbonwood Road to Carrizo Gorge WB	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1174	Heavy Vehicle Adjustment Factor (f_{HV})	0.779
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	856
Total Trucks, %	14.16	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.37
Passenger Car Equivalent (E_T)	3.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	12.0
Total Ramp Density Adjustment	2.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	71.3		

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- Existing plus Project plus Cumulative Projects Conditions

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Project Information

Analyst	Amanda Meroux	Date	2/8/2019
Agency	Dudek	Analysis Year	2019
Jurisdiction	Caltrans	Time Period Analyzed	Existing plus Cumulative plus Project AM
Project Description	I-8: Cameron Road to Crestwood Road EB	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	878	Heavy Vehicle Adjustment Factor (f_{HV})	0.783
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	637
Total Trucks, %	13.89	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.27
Passenger Car Equivalent (E_T)	3.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	8.9
Total Ramp Density Adjustment	2.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	71.3		

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HCS7 Basic Freeway Report

Project Information

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Agency	Dudek	Analysis Year	2019
Jurisdiction	Caltrans	Time Period Analyzed	Existing plus Cumulative plus Project PM
Project Description	I-8: Cameron Road to Crestwood Road EB	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1201	Heavy Vehicle Adjustment Factor (f_{HV})	0.783
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	872
Total Trucks, %	13.89	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.38
Passenger Car Equivalent (E_T)	3.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	12.2
Total Ramp Density Adjustment	2.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	71.3		

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Project Information

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Jurisdiction	Caltrans	Time Period Analyzed	Existing plus Cumulative plus Project AM
Project Description	I-8: Crestwood Road to Ribbonwood Road EB	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	765	Heavy Vehicle Adjustment Factor (f_{HV})	0.783
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	555
Total Trucks, %	13.89	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.24
Passenger Car Equivalent (E_T)	3.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	7.8
Total Ramp Density Adjustment	2.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	71.3		

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HCS7 Basic Freeway Report

Project Information

Analyst	Amanda Meroux	Date	2/8/2019
Agency	Dudek	Analysis Year	2019
Jurisdiction	Caltrans	Time Period Analyzed	Existing plus Cumulative plus Project PM
Project Description	I-8: Crestwood Road to Ribbonwood Road EB	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1200	Heavy Vehicle Adjustment Factor (f_{HV})	0.783
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	871
Total Trucks, %	13.89	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.37
Passenger Car Equivalent (E_T)	3.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	12.2
Total Ramp Density Adjustment	2.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	71.3		

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HCS7 Basic Freeway Report

Project Information

Analyst	Amanda Meroux	Date	2/8/2019
Agency	Dudek	Analysis Year	2019
Jurisdiction	Caltrans	Time Period Analyzed	Existing plus Cumulative plus Project AM
Project Description	I-8: Ribbonwood Road to Carrizo Gorge EB	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	679	Heavy Vehicle Adjustment Factor (f_{HV})	0.779
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	495
Total Trucks, %	14.16	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.21
Passenger Car Equivalent (E_T)	3.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	6.9
Total Ramp Density Adjustment	2.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	71.3		

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HCS7 Basic Freeway Report

Project Information

Analyst	Amanda Meroux	Date	2/8/2019
Agency	Dudek	Analysis Year	2019
Jurisdiction	Caltrans	Time Period Analyzed	Existing plus Cumulative plus Project PM
Project Description	I-8: Ribbonwood Road to Carrizo Gorge EB	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1128	Heavy Vehicle Adjustment Factor (f_{HV})	0.779
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	822
Total Trucks, %	14.16	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.35
Passenger Car Equivalent (E_T)	3.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	11.5
Total Ramp Density Adjustment	2.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	71.3		

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HCS7 Basic Freeway Report

Project Information

Analyst	Amanda Meroux	Date	2/8/2019
Agency	Dudek	Analysis Year	2019
Jurisdiction	Caltrans	Time Period Analyzed	Existing plus Cumulative plus Project AM
Project Description	I-8: Cameron Road to Crestwood Road WB	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1298	Heavy Vehicle Adjustment Factor (f_{HV})	0.783
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	942
Total Trucks, %	13.89	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.41
Passenger Car Equivalent (E_T)	3.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	13.2
Total Ramp Density Adjustment	2.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	71.3		

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HCS7 Basic Freeway Report

Project Information

Analyst	Amanda Meroux	Date	2/8/2019
Agency	Dudek	Analysis Year	2019
Jurisdiction	Caltrans	Time Period Analyzed	Existing plus Cumulative plus Project PM
Project Description	I-8: Cameron Road to Crestwood Road WB	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1682	Heavy Vehicle Adjustment Factor (f_{HV})	0.783
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	1220
Total Trucks, %	13.89	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.53
Passenger Car Equivalent (E_T)	3.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	17.2
Total Ramp Density Adjustment	2.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	71.3		

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HCS7 Basic Freeway Report

Project Information

Analyst	Amanda Meroux	Date	2/8/2019
Agency	Dudek	Analysis Year	2019
Jurisdiction	Caltrans	Time Period Analyzed	Existing plus Cumulative plus Project AM
Project Description	I-8: Crestwood Road to Ribbonwood Road WB	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1297	Heavy Vehicle Adjustment Factor (f_{HV})	0.783
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	941
Total Trucks, %	13.89	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.41
Passenger Car Equivalent (E_T)	3.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	13.2
Total Ramp Density Adjustment	2.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	71.3		

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HCS7 Basic Freeway Report

Project Information

Analyst	Amanda Meroux	Date	2/8/2019
Agency	Dudek	Analysis Year	2019
Jurisdiction	Caltrans	Time Period Analyzed	Existing plus Cumulative plus Project PM
Project Description	I-8: Crestwood Road to Ribbonwood Road WB	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1458	Heavy Vehicle Adjustment Factor (f_{HV})	0.783
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	1058
Total Trucks, %	13.89	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.46
Passenger Car Equivalent (E_T)	3.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	14.8
Total Ramp Density Adjustment	2.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	71.3		

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HCS7 Basic Freeway Report

Project Information

Analyst	Amanda Meroux	Date	2/8/2019
Agency	Dudek	Analysis Year	2019
Jurisdiction	Caltrans	Time Period Analyzed	Existing plus Cumulative plus Project AM
Project Description	I-8: Ribbonwood Road to Carrizo Gorge WB	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1219	Heavy Vehicle Adjustment Factor (f_{HV})	0.779
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	889
Total Trucks, %	14.16	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.38
Passenger Car Equivalent (E_T)	3.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	12.5
Total Ramp Density Adjustment	2.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	71.3		

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HCS7 Basic Freeway Report

Project Information

Analyst	Amanda Meroux	Date	2/8/2019
Agency	Dudek	Analysis Year	2019
Jurisdiction	Caltrans	Time Period Analyzed	Existing plus Cumulative plus Project PM
Project Description	I-8: Ribbonwood Road to Carrizo Gorge WB	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1292	Heavy Vehicle Adjustment Factor (f_{HV})	0.779
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	942
Total Trucks, %	14.16	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.41
Passenger Car Equivalent (E_T)	3.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	13.2
Total Ramp Density Adjustment	2.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	71.3		

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- ***Boulder Brush Peak Construction***

- ***Existing plus Boulder Brush Peak Construction***

HCS7 Basic Freeway Report

Project Information

Analyst	Amanda Meroux	Date	2/8/2019
Agency	Dudek	Analysis Year	2019
Jurisdiction	Caltrans	Time Period Analyzed	Existing plus Project AM (BB Peak)
Project Description	I-8: Cameron Road to Crestwood Road EB	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	725	Heavy Vehicle Adjustment Factor (f_{HV})	0.783
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	526
Total Trucks, %	13.89	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.23
Passenger Car Equivalent (E_T)	3.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	7.4
Total Ramp Density Adjustment	2.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	71.3		

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HCS7 Basic Freeway Report

Project Information

Analyst	Amanda Meroux	Date	2/8/2019
Agency	Dudek	Analysis Year	2019
Jurisdiction	Caltrans	Time Period Analyzed	Existing plus Project PM (BB Peak)
Project Description	I-8: Cameron Road to Crestwood Road EB	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1093	Heavy Vehicle Adjustment Factor (f_{HV})	0.783
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	793
Total Trucks, %	13.89	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.34
Passenger Car Equivalent (E_T)	3.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	11.1
Total Ramp Density Adjustment	2.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	71.3		

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HCS7 Basic Freeway Report

Project Information

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Agency	Dudek	Analysis Year	2019
Jurisdiction	Caltrans	Time Period Analyzed	Existing plus Project AM (BB Peak)
Project Description	I-8: Crestwood Road to Ribbonwood Road EB	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	699	Heavy Vehicle Adjustment Factor (f_{HV})	0.783
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	507
Total Trucks, %	13.89	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.22
Passenger Car Equivalent (E_T)	3.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	7.1
Total Ramp Density Adjustment	2.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	71.3		

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HCS7 Basic Freeway Report

Project Information

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Agency	Dudek	Analysis Year	2019
Jurisdiction	Caltrans	Time Period Analyzed	Existing plus Project PM (BB Peak)
Project Description	I-8: Crestwood Road to Ribbonwood Road EB	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1092	Heavy Vehicle Adjustment Factor (f_{HV})	0.783
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	792
Total Trucks, %	13.89	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.34
Passenger Car Equivalent (E_T)	3.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	11.1
Total Ramp Density Adjustment	2.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	71.3		

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HCS7 Basic Freeway Report

Project Information

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Agency	Dudek	Analysis Year	2019
Jurisdiction	Caltrans	Time Period Analyzed	Existing plus Project AM (BB Peak)
Project Description	I-8: Ribbonwood Road to Carrizo Gorge EB	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	620	Heavy Vehicle Adjustment Factor (f_{HV})	0.779
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	452
Total Trucks, %	14.16	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.19
Passenger Car Equivalent (E_T)	3.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	6.3
Total Ramp Density Adjustment	2.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	71.3		

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HCS7 Basic Freeway Report

Project Information

Analyst	Amanda Meroux	Date	2/8/2019
Agency	Dudek	Analysis Year	2019
Jurisdiction	Caltrans	Time Period Analyzed	Existing plus Project PM (BB Peak)
Project Description	I-8: Ribbonwood Road to Carrizo Gorge EB	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1027	Heavy Vehicle Adjustment Factor (f_{HV})	0.779
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	749
Total Trucks, %	14.16	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.32
Passenger Car Equivalent (E_T)	3.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	10.5
Total Ramp Density Adjustment	2.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	71.3		

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HCS7 Basic Freeway Report

Project Information

Analyst	Amanda Meroux	Date	2/8/2019
Agency	Dudek	Analysis Year	2019
Jurisdiction	Caltrans	Time Period Analyzed	Existing plus Project AM (BB Peak)
Project Description	I-8: Cameron Road to Crestwood Road WB	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1181	Heavy Vehicle Adjustment Factor (f_{HV})	0.783
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	857
Total Trucks, %	13.89	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.37
Passenger Car Equivalent (E_T)	3.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	12.0
Total Ramp Density Adjustment	2.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	71.3		

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HCS7 Basic Freeway Report

Project Information

Analyst	Amanda Meroux	Date	2/8/2019
Agency	Dudek	Analysis Year	2019
Jurisdiction	Caltrans	Time Period Analyzed	Existing plus Project PM (BB Peak)
Project Description	I-8: Cameron Road to Crestwood Road WB	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1383	Heavy Vehicle Adjustment Factor (f_{HV})	0.783
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	1004
Total Trucks, %	13.89	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.43
Passenger Car Equivalent (E_T)	3.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	14.1
Total Ramp Density Adjustment	2.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	71.3		

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HCS7 Basic Freeway Report

Project Information

Analyst	Amanda Meroux	Date	2/8/2019
Agency	Dudek	Analysis Year	2019
Jurisdiction	Caltrans	Time Period Analyzed	Existing plus Project AM (BB Peak)
Project Description	I-8: Crestwood Road to Ribbonwood Road WB	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1180	Heavy Vehicle Adjustment Factor (f_{HV})	0.783
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	856
Total Trucks, %	13.89	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.37
Passenger Car Equivalent (E_T)	3.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	12.0
Total Ramp Density Adjustment	2.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	71.3		

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HCS7 Basic Freeway Report

Project Information

Analyst	Amanda Meroux	Date	2/8/2019
Agency	Dudek	Analysis Year	2019
Jurisdiction	Caltrans	Time Period Analyzed	Existing plus Project PM (BB Peak)
Project Description	I-8: Crestwood Road to Ribbonwood Road WB	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1331	Heavy Vehicle Adjustment Factor (f_{HV})	0.783
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	966
Total Trucks, %	13.89	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.42
Passenger Car Equivalent (E_T)	3.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	13.5
Total Ramp Density Adjustment	2.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	71.3		

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HCS7 Basic Freeway Report

Project Information

Analyst	Amanda Meroux	Date	2/8/2019
Agency	Dudek	Analysis Year	2019
Jurisdiction	Caltrans	Time Period Analyzed	Existing plus Project AM (BB Peak)
Project Description	I-8: Ribbonwood Road to Carrizo Gorge WB	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1112	Heavy Vehicle Adjustment Factor (f_{HV})	0.779
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	811
Total Trucks, %	14.16	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.35
Passenger Car Equivalent (E_T)	3.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	11.4
Total Ramp Density Adjustment	2.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	71.3		

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HCS7 Basic Freeway Report

Project Information

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Jurisdiction	Caltrans	Time Period Analyzed	Existing plus Project PM (BB Peak)
Project Description	I-8: Ribbonwood Road to Carrizo Gorge WB	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1176	Heavy Vehicle Adjustment Factor (f_{HV})	0.779
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	858
Total Trucks, %	14.16	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.37
Passenger Car Equivalent (E_T)	3.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	12.0
Total Ramp Density Adjustment	2.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	71.3		

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- ***Existing plus Boulder Brush Peak Construction plus Cumulative Projects***

HCS7 Basic Freeway Report

Project Information

Analyst	Amanda Meroux	Date	2/8/2019
Agency	Dudek	Analysis Year	2019
Jurisdiction	Caltrans	Time Period Analyzed	Existing plus Cumulative plus Project AM (BB Peak)
Project Description	I-8: Cameron Road to Crestwood Road EB	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	790	Heavy Vehicle Adjustment Factor (f_{HV})	0.783
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	574
Total Trucks, %	13.89	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.25
Passenger Car Equivalent (E_T)	3.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	8.1
Total Ramp Density Adjustment	2.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	71.3		

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HCS7 Basic Freeway Report

Project Information

Analyst	Amanda Meroux	Date	2/8/2019
Agency	Dudek	Analysis Year	2019
Jurisdiction	Caltrans	Time Period Analyzed	Existing plus Cumulative plus Project PM (BB Peak)
Project Description	I-8: Cameron Road to Crestwood Road EB	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1202	Heavy Vehicle Adjustment Factor (f_{HV})	0.783
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	872
Total Trucks, %	13.89	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.38
Passenger Car Equivalent (E_T)	3.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	12.2
Total Ramp Density Adjustment	2.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	71.3		

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HCS7 Basic Freeway Report

Project Information

Analyst	Amanda Meroux	Date	2/8/2019
Agency	Dudek	Analysis Year	2019
Jurisdiction	Caltrans	Time Period Analyzed	Existing plus Cumulative plus Project AM (BB Peak)
Project Description	I-8: Crestwood Road to Ribbonwood Road EB	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	764	Heavy Vehicle Adjustment Factor (f_{HV})	0.783
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	554
Total Trucks, %	13.89	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.24
Passenger Car Equivalent (E_T)	3.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	7.8
Total Ramp Density Adjustment	2.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	71.3		

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HCS7 Basic Freeway Report

Project Information

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Agency	Dudek	Analysis Year	2019
Jurisdiction	Caltrans	Time Period Analyzed	Existing plus Cumulative plus Project PM (BB Peak)
Project Description	I-8: Crestwood Road to Ribbonwood Road EB	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1201	Heavy Vehicle Adjustment Factor (f_{HV})	0.783
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	872
Total Trucks, %	13.89	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.38
Passenger Car Equivalent (E_T)	3.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	12.2
Total Ramp Density Adjustment	2.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	71.3		

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HCS7 Basic Freeway Report

Project Information

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Agency	Dudek	Analysis Year	2019
Jurisdiction	Caltrans	Time Period Analyzed	Existing plus Cumulative plus Project AM (BB Peak)
Project Description	I-8: Ribbonwood Road to Carrizo Gorge EB	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	682	Heavy Vehicle Adjustment Factor (f_{HV})	0.779
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	498
Total Trucks, %	14.16	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.21
Passenger Car Equivalent (E_T)	3.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	7.0
Total Ramp Density Adjustment	2.3	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	71.3		

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HCS7 Basic Freeway Report

Project Information

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Project Description	I-8: Ribbonwood Road to Carrizo Gorge EB	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1130	Heavy Vehicle Adjustment Factor (f_{HV})	0.779
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	824
Total Trucks, %	14.16	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.35
Passenger Car Equivalent (E_T)	3.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	11.6
Total Ramp Density Adjustment	2.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	71.3		

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HCS7 Basic Freeway Report

Project Information

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Agency	Dudek	Analysis Year	2019
Jurisdiction	Caltrans	Time Period Analyzed	Existing plus Cumulative plus Project AM (BB Peak)
Project Description	I-8: Cameron Road to Crestwood Road WB	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1299	Heavy Vehicle Adjustment Factor (f_{HV})	0.783
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	942
Total Trucks, %	13.89	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.41
Passenger Car Equivalent (E_T)	3.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	13.2
Total Ramp Density Adjustment	2.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	71.3		

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HCS7 Basic Freeway Report

Project Information

Analyst	Amanda Meroux	Date	2/8/2019
Agency	Dudek	Analysis Year	2019
Jurisdiction	Caltrans	Time Period Analyzed	Existing plus Cumulative plus Project PM (BB Peak)
Project Description	I-8: Cameron Road to Crestwood Road WB	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1508	Heavy Vehicle Adjustment Factor (f_{HV})	0.783
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	1094
Total Trucks, %	13.89	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.47
Passenger Car Equivalent (E_T)	3.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	15.3
Total Ramp Density Adjustment	2.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	71.3		

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HCS7 Basic Freeway Report

Project Information

Analyst	Amanda Meroux	Date	2/8/2019
Agency	Dudek	Analysis Year	2019
Jurisdiction	Caltrans	Time Period Analyzed	Existing plus Cumulative plus Project AM (BB peak)
Project Description	I-8: Crestwood Road to Ribbonwood Road WB	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1298	Heavy Vehicle Adjustment Factor (f_{HV})	0.783
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	942
Total Trucks, %	13.89	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.41
Passenger Car Equivalent (E_T)	3.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	13.2
Total Ramp Density Adjustment	2.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	71.3		

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HCS7 Basic Freeway Report

Project Information

Analyst	Amanda Meroux	Date	2/8/2019
Agency	Dudek	Analysis Year	2019
Jurisdiction	Caltrans	Time Period Analyzed	Existing plus Cumulative plus Project PM (BB Peak)
Project Description	I-8: Crestwood Road to Ribbonwood Road WB	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1456	Heavy Vehicle Adjustment Factor (f_{HV})	0.783
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	1056
Total Trucks, %	13.89	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.45
Passenger Car Equivalent (E_T)	3.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	14.8
Total Ramp Density Adjustment	2.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	71.3		

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HCS7 Basic Freeway Report

Project Information

Analyst	Amanda Meroux	Date	2/8/2019
Agency	Dudek	Analysis Year	2019
Jurisdiction	Caltrans	Time Period Analyzed	Existing plus Cumulative plus Project AM (BB Peak)
Project Description	I-8: Ribbonwood Road to Carrizo Gorge WB	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1222	Heavy Vehicle Adjustment Factor (f_{HV})	0.779
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	892
Total Trucks, %	14.16	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.38
Passenger Car Equivalent (E_T)	3.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	12.5
Total Ramp Density Adjustment	2.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	71.3		

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HCS7 Basic Freeway Report

Project Information

Analyst	Amanda Meroux	Date	2/8/2019
Agency	Dudek	Analysis Year	2019
Jurisdiction	Caltrans	Time Period Analyzed	Existing plus Cumulative plus Project PM (BB Peak)
Project Description	I-8: Ribbonwood Road to Carrizo Gorge WB	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1294	Heavy Vehicle Adjustment Factor (f_{HV})	0.779
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	944
Total Trucks, %	14.16	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2323
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.41
Passenger Car Equivalent (E_T)	3.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	13.2
Total Ramp Density Adjustment	2.3	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	71.3		

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APPENDIX D

INTERSECTION ANALYSIS WORKSHEETS – EXISTING + PROJECT (PEAK CONSTRUCTION)

Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	25	0	1	76	43	0	0	13	3
Future Vol, veh/h	0	0	0	25	0	1	76	43	0	0	13	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	50	-	-	320	-	-	-	-	-
Veh in Median Storage, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	20	0	0	17	4	0	0	0	0
Mvmt Flow	0	0	0	28	0	1	85	48	0	0	15	3

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	235	236	48	18	0	-	-	-	0
Stage 1	218	218	-	-	-	-	-	-	-
Stage 2	17	18	-	-	-	-	-	-	-
Critical Hdwy	6.6	6.5	6.2	4.27	-	-	-	-	-
Critical Hdwy Stg 1	5.6	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.6	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.68	4	3.3	2.353	-	-	-	-	-
Pot Cap-1 Maneuver	715	668	1027	1506	-	0	0	-	-
Stage 1	777	726	-	-	-	0	0	-	-
Stage 2	961	884	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	675	0	1027	1506	-	-	-	-	-
Mov Cap-2 Maneuver	675	0	-	-	-	-	-	-	-
Stage 1	733	0	-	-	-	-	-	-	-
Stage 2	961	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.5	4.8	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	1506	-	675	1027	-	-
HCM Lane V/C Ratio	0.057	-	0.042	0.001	-	-
HCM Control Delay (s)	7.5	-	10.6	8.5	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q(veh)	0.2	-	0.1	0	-	-

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	2	145	0	0	0	0	101	30	0	43	0
Future Vol, veh/h	20	2	145	0	0	0	0	101	30	0	43	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	15	-	-	-	-	-	-	145	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	0	6	0	0	0	0	13	26	0	20	0
Mvmt Flow	23	2	167	0	0	0	0	116	34	0	49	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	182	199	49	-	0	0	150	0	0
Stage 1	49	49	-	-	-	-	-	-	-
Stage 2	133	150	-	-	-	-	-	-	-
Critical Hdwy	6.4	6.5	6.26	-	-	-	4.1	-	-
Critical Hdwy Stg 1	5.4	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.4	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.354	-	-	-	2.2	-	-
Pot Cap-1 Maneuver	812	700	1008	0	-	-	1444	-	0
Stage 1	979	858	-	0	-	-	-	-	0
Stage 2	898	777	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	812	0	1008	-	-	-	1444	-	-
Mov Cap-2 Maneuver	812	0	-	-	-	-	-	-	-
Stage 1	979	0	-	-	-	-	-	-	-
Stage 2	898	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	812	1008	1444	-
HCM Lane V/C Ratio	-	-	0.031	0.165	-	-
HCM Control Delay (s)	-	-	9.6	9.3	0	-
HCM Lane LOS	-	-	A	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0.6	0	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	9	10	122	182	5
Future Vol, veh/h	5	9	10	122	182	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	33	20	18	10	0
Mvmt Flow	5	10	11	133	198	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	356	201	203	0	-	0
Stage 1	201	-	-	-	-	-
Stage 2	155	-	-	-	-	-
Critical Hdwy	6.4	6.53	4.3	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.597	2.38	-	-	-
Pot Cap-1 Maneuver	646	767	1268	-	-	-
Stage 1	838	-	-	-	-	-
Stage 2	878	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	640	767	1268	-	-	-
Mov Cap-2 Maneuver	640	-	-	-	-	-
Stage 1	830	-	-	-	-	-
Stage 2	878	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.1	0.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1268	-	716	-	-
HCM Lane V/C Ratio	0.009	-	0.021	-	-
HCM Control Delay (s)	7.9	0	10.1	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	3.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	9	6	8	10	44	7	57	10	39	58	98
Future Vol, veh/h	25	9	6	8	10	44	7	57	10	39	58	98
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	10	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	16	0	0	0	0	9	0	31	0	0	25	4
Mvmt Flow	30	11	7	10	12	53	8	69	12	47	70	118

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	347	320	129	323	373	75	188	0	0	81	0	0
Stage 1	223	223	-	91	91	-	-	-	-	-	-	-
Stage 2	124	97	-	232	282	-	-	-	-	-	-	-
Critical Hdwy	7.26	6.5	6.2	7.1	6.5	6.29	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.26	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.26	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.644	4	3.3	3.5	4	3.381	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	582	600	926	634	561	967	1398	-	-	1529	-	-
Stage 1	749	723	-	921	823	-	-	-	-	-	-	-
Stage 2	847	819	-	775	681	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	524	575	926	601	538	967	1398	-	-	1529	-	-
Mov Cap-2 Maneuver	524	575	-	601	538	-	-	-	-	-	-	-
Stage 1	745	698	-	915	818	-	-	-	-	-	-	-
Stage 2	784	814	-	731	657	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.8	9.7	0.7	1.5
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1398	-	-	537	926	564	967	1529	-	-
HCM Lane V/C Ratio	0.006	-	-	0.076	0.008	0.038	0.055	0.031	-	-
HCM Control Delay (s)	7.6	0	-	12.3	8.9	11.6	8.9	7.4	0	-
HCM Lane LOS	A	A	-	B	A	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0	0.1	0.2	0.1	-	-

Intersection	
Int Delay, s/veh	2.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	9	42	16	22	37
Future Vol, veh/h	8	9	42	16	22	37
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	73	73	73	73	73	73
Heavy Vehicles, %	25	0	2	0	4	10
Mvmt Flow	11	12	58	22	30	51

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	180	69	0	0	80	0
Stage 1	69	-	-	-	-	-
Stage 2	111	-	-	-	-	-
Critical Hdwy	6.65	6.2	-	-	4.14	-
Critical Hdwy Stg 1	5.65	-	-	-	-	-
Critical Hdwy Stg 2	5.65	-	-	-	-	-
Follow-up Hdwy	3.725	3.3	-	-	2.236	-
Pot Cap-1 Maneuver	760	1000	-	-	1505	-
Stage 1	899	-	-	-	-	-
Stage 2	859	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	744	1000	-	-	1505	-
Mov Cap-2 Maneuver	744	-	-	-	-	-
Stage 1	880	-	-	-	-	-
Stage 2	859	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.3	0	2.8
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	861	1505	-
HCM Lane V/C Ratio	-	-	0.027	0.02	-
HCM Control Delay (s)	-	-	9.3	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-

Intersection	
Int Delay, s/veh	5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	18	0	35	16	59	0	1	0	6	44	8
Future Vol, veh/h	16	18	0	35	16	59	0	1	0	6	44	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	25
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	0	44	0	0	18	1	0	100	0	16	2	0
Mvmt Flow	20	23	0	44	20	74	0	1	0	8	55	10

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	94	0	0	23	0	0	241	245	23	209	208	57
Stage 1	-	-	-	-	-	-	63	63	-	145	145	-
Stage 2	-	-	-	-	-	-	178	182	-	64	63	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	7.5	6.2	7.26	6.52	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	6.5	-	6.26	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	6.5	-	6.26	5.52	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4.9	3.3	3.644	4.018	3.3
Pot Cap-1 Maneuver	1513	-	-	1605	-	-	717	519	1060	719	689	1015
Stage 1	-	-	-	-	-	-	953	684	-	825	777	-
Stage 2	-	-	-	-	-	-	828	597	-	913	842	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1513	-	-	1605	-	-	644	497	1060	695	660	1015
Mov Cap-2 Maneuver	-	-	-	-	-	-	644	497	-	695	660	-
Stage 1	-	-	-	-	-	-	941	675	-	814	754	-
Stage 2	-	-	-	-	-	-	738	580	-	899	831	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.5	2.3	12.3	10.7
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	497	1513	-	-	1605	-	-	664	1015
HCM Lane V/C Ratio	0.003	0.013	-	-	0.027	-	-	0.094	0.01
HCM Control Delay (s)	12.3	7.4	0	-	7.3	0	-	11	8.6
HCM Lane LOS	B	A	A	-	A	A	-	B	A
HCM 95th %tile Q(veh)	0	0	-	-	0.1	-	-	0.3	0

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	13	1	2	36	87	0	0	11	18
Future Vol, veh/h	0	0	0	13	1	2	36	87	0	0	11	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	16	1	2	44	106	0	0	13	22

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	218	229	106	35	0	-	-	-	0
Stage 1	194	194	-	-	-	-	-	-	-
Stage 2	24	35	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	770	671	948	1576	-	0	0	-	-
Stage 1	839	740	-	-	-	0	0	-	-
Stage 2	999	866	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	747	0	948	1576	-	-	-	-	-
Mov Cap-2 Maneuver	747	0	-	-	-	-	-	-	-
Stage 1	814	0	-	-	-	-	-	-	-
Stage 2	999	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.7	2.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	1576	-	747	948	-	-
HCM Lane V/C Ratio	0.028	-	0.021	0.004	-	-
HCM Control Delay (s)	7.4	0	9.9	8.8	-	-
HCM Lane LOS	A	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	0	-	-

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	49	0	11	0	0	0	0	69	16	3	12	0
Future Vol, veh/h	49	0	11	0	0	0	0	69	16	3	12	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	64	0	14	0	0	0	0	91	21	4	16	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	126	136	16	-	0	0	112	0	0
Stage 1	24	24	-	-	-	-	-	-	-
Stage 2	102	112	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	-	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	-	-	-	2.218	-	-
Pot Cap-1 Maneuver	869	755	1063	0	-	-	1478	-	0
Stage 1	999	875	-	0	-	-	-	-	0
Stage 2	922	803	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	866	0	1063	-	-	-	1478	-	-
Mov Cap-2 Maneuver	866	0	-	-	-	-	-	-	-
Stage 1	996	0	-	-	-	-	-	-	-
Stage 2	922	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	0	1.5
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	866	1063	1478	-
HCM Lane V/C Ratio	-	-	0.074	0.014	0.003	-
HCM Control Delay (s)	-	-	9.5	8.4	7.4	0
HCM Lane LOS	-	-	A	A	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	0	-

Intersection	
Int Delay, s/veh	7.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	32	5	2	267	17	0	0	31	38
Future Vol, veh/h	0	0	0	32	5	2	267	17	0	0	31	38
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	50	-	-	320	-	-	-	-	-
Veh in Median Storage, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	21	20	0	2	5	0	0	3	2
Mvmt Flow	0	0	0	42	7	3	351	22	0	0	41	50

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	790	815	22	91	0	-	-	-	0
Stage 1	724	724	-	-	-	-	-	-	-
Stage 2	66	91	-	-	-	-	-	-	-
Critical Hdwy	6.61	6.7	6.2	4.12	-	-	-	-	-
Critical Hdwy Stg 1	5.61	5.7	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.61	5.7	-	-	-	-	-	-	-
Follow-up Hdwy	3.689	4.18	3.3	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	334	292	1061	1504	-	0	0	-	-
Stage 1	447	405	-	-	-	0	0	-	-
Stage 2	911	786	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	256	0	1061	1504	-	-	-	-	-
Mov Cap-2 Maneuver	256	0	-	-	-	-	-	-	-
Stage 1	343	0	-	-	-	-	-	-	-
Stage 2	911	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.4	7.6	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	1504	-	256	1061	-	-
HCM Lane V/C Ratio	0.234	-	0.164	0.009	-	-
HCM Control Delay (s)	8.1	-	21.8	8.4	-	-
HCM Lane LOS	A	-	C	A	-	-
HCM 95th %tile Q(veh)	0.9	-	0.6	0	-	-

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	0	106	0	0	0	0	284	47	1	64	0
Future Vol, veh/h	8	0	106	0	0	0	0	284	47	1	64	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	15	-	-	-	-	-	-	145	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	25	0	6	0	0	0	0	3	12	0	14	0
Mvmt Flow	10	0	129	0	0	0	0	346	57	1	78	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	455	483	78	-	0	0	403	0	0
Stage 1	80	80	-	-	-	-	-	-	-
Stage 2	375	403	-	-	-	-	-	-	-
Critical Hdwy	6.65	6.5	6.26	-	-	-	4.1	-	-
Critical Hdwy Stg 1	5.65	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.65	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.725	4	3.354	-	-	-	2.2	-	-
Pot Cap-1 Maneuver	523	486	972	0	-	-	1167	-	0
Stage 1	888	832	-	0	-	-	-	-	0
Stage 2	647	603	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	522	0	972	-	-	-	1167	-	-
Mov Cap-2 Maneuver	522	0	-	-	-	-	-	-	-
Stage 1	887	0	-	-	-	-	-	-	-
Stage 2	647	0	-	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	522	972	1167	-
HCM Lane V/C Ratio	-	-	0.019	0.133	0.001	-
HCM Control Delay (s)	-	-	12	9.3	8.1	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0.5	0	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	12	11	328	168	3
Future Vol, veh/h	2	12	11	328	168	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	4	8	33
Mvmt Flow	2	14	13	395	202	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	625	204	206	0	-	0
Stage 1	204	-	-	-	-	-
Stage 2	421	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	452	842	1377	-	-	-
Stage 1	835	-	-	-	-	-
Stage 2	667	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	447	842	1377	-	-	-
Mov Cap-2 Maneuver	447	-	-	-	-	-
Stage 1	825	-	-	-	-	-
Stage 2	667	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.9	0.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1377	-	748	-	-
HCM Lane V/C Ratio	0.01	-	0.023	-	-
HCM Control Delay (s)	7.6	0	9.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	9.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	182	8	6	13	7	85	11	71	14	73	71	37
Future Vol, veh/h	182	8	6	13	7	85	11	71	14	73	71	37
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	10	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	1	0	0	15	0	1	9	14	0	1	18	5
Mvmt Flow	209	9	7	15	8	98	13	82	16	84	82	43

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	441	396	104	396	409	90	125	0	0	98	0	0
Stage 1	272	272	-	116	116	-	-	-	-	-	-	-
Stage 2	169	124	-	280	293	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.5	6.2	7.25	6.5	6.21	4.19	-	-	4.11	-	-
Critical Hdwy Stg 1	6.11	5.5	-	6.25	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.5	-	6.25	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4	3.3	3.635	4	3.309	2.281	-	-	2.209	-	-
Pot Cap-1 Maneuver	528	544	956	541	535	971	1419	-	-	1501	-	-
Stage 1	736	688	-	858	803	-	-	-	-	-	-	-
Stage 2	835	797	-	699	674	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	444	506	956	502	498	971	1419	-	-	1501	-	-
Mov Cap-2 Maneuver	444	506	-	502	498	-	-	-	-	-	-	-
Stage 1	729	647	-	849	795	-	-	-	-	-	-	-
Stage 2	736	789	-	643	634	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	20.2	9.7	0.9	3
HCM LOS	C	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1419	-	-	446	956	501	971	1501	-	-
HCM Lane V/C Ratio	0.009	-	-	0.49	0.007	0.046	0.101	0.056	-	-
HCM Control Delay (s)	7.6	0	-	20.6	8.8	12.5	9.1	7.5	0	-
HCM Lane LOS	A	A	-	C	A	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	2.6	0	0.1	0.3	0.2	-	-

Intersection	
Int Delay, s/veh	4.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	42	40	23	15	21	71
Future Vol, veh/h	42	40	23	15	21	71
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	52	49	28	19	26	88

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	178	38	0	0	47	0
Stage 1	38	-	-	-	-	-
Stage 2	140	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	816	1040	-	-	1573	-
Stage 1	990	-	-	-	-	-
Stage 2	892	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	802	1040	-	-	1573	-
Mov Cap-2 Maneuver	802	-	-	-	-	-
Stage 1	973	-	-	-	-	-
Stage 2	892	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.5	0	1.7
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	903	1573	-
HCM Lane V/C Ratio	-	-	0.112	0.016	-
HCM Control Delay (s)	-	-	9.5	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0.1	-

Intersection	
Int Delay, s/veh	9.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	19	0	0	17	2	0	86	70	102	2	23
Future Vol, veh/h	15	19	0	0	17	2	0	86	70	102	2	23
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	25
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	0	15	0	0	17	50	0	1	0	0	50	4
Mvmt Flow	19	24	0	0	21	3	0	108	88	128	3	29

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	24	0	0	24	0	0	101	86	24	183	85	23
Stage 1	-	-	-	-	-	-	62	62	-	23	23	-
Stage 2	-	-	-	-	-	-	39	24	-	160	62	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.51	6.2	7.1	7	6.24
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.51	-	6.1	6	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.51	-	6.1	6	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4.009	3.3	3.5	4.45	3.336
Pot Cap-1 Maneuver	1604	-	-	1604	-	-	885	806	1058	783	722	1048
Stage 1	-	-	-	-	-	-	954	845	-	1000	790	-
Stage 2	-	-	-	-	-	-	981	877	-	847	758	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1604	-	-	1604	-	-	850	796	1058	638	713	1048
Mov Cap-2 Maneuver	-	-	-	-	-	-	850	796	-	638	713	-
Stage 1	-	-	-	-	-	-	943	835	-	988	790	-
Stage 2	-	-	-	-	-	-	951	877	-	669	749	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.2	0	10.1	11.4
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	896	1604	-	-	1604	-	-	639	1048
HCM Lane V/C Ratio	0.218	0.012	-	-	-	-	-	0.203	0.027
HCM Control Delay (s)	10.1	7.3	0	-	0	-	-	12.1	8.5
HCM Lane LOS	B	A	A	-	A	-	-	B	A
HCM 95th %tile Q(veh)	0.8	0	-	-	0	-	-	0.8	0.1

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	9	2	1	17	15	0	0	74	95
Future Vol, veh/h	0	0	0	9	2	1	17	15	0	0	74	95
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	12	3	1	22	20	0	0	97	125

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	224	286	20	222	0	-	-	-	0
Stage 1	64	64	-	-	-	-	-	-	-
Stage 2	160	222	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	764	623	1058	1347	-	0	0	-	-
Stage 1	959	842	-	-	-	0	0	-	-
Stage 2	869	720	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	751	0	1058	1347	-	-	-	-	-
Mov Cap-2 Maneuver	751	0	-	-	-	-	-	-	-
Stage 1	943	0	-	-	-	-	-	-	-
Stage 2	869	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.5	4.1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	1347	-	751	1058	-	-
HCM Lane V/C Ratio	0.017	-	0.016	0.004	-	-
HCM Control Delay (s)	7.7	0	9.9	8.4	-	-
HCM Lane LOS	A	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0	0	-	-

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	0	33	0	0	0	0	20	7	5	84	0
Future Vol, veh/h	11	0	33	0	0	0	0	20	7	5	84	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	0	41	0	0	0	0	25	9	6	105	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	147	151	105	-	0	0	34	0	0
Stage 1	117	117	-	-	-	-	-	-	-
Stage 2	30	34	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	-	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	-	-	-	2.218	-	-
Pot Cap-1 Maneuver	845	741	949	0	-	-	1578	-	0
Stage 1	908	799	-	0	-	-	-	-	0
Stage 2	993	867	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	842	0	949	-	-	-	1578	-	-
Mov Cap-2 Maneuver	842	0	-	-	-	-	-	-	-
Stage 1	904	0	-	-	-	-	-	-	-
Stage 2	993	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.1	0	0.4
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	842	949	1578	-
HCM Lane V/C Ratio	-	-	0.016	0.043	0.004	-
HCM Control Delay (s)	-	-	9.3	9	7.3	0
HCM Lane LOS	-	-	A	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.1	0	-

APPENDIX E

INTERSECTION ANALYSIS WORKSHEETS – EXISTING + PROJECT (PEAK CONSTRUCTION) + CUMULATIVE PROJECTS

Intersection	
Int Delay, s/veh	5.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	26	0	1	77	43	0	0	13	3
Future Vol, veh/h	0	0	0	26	0	1	77	43	0	0	13	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	50	-	-	320	-	-	-	-	-
Veh in Median Storage, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	19	0	0	16	4	0	0	0	0
Mvmt Flow	0	0	0	29	0	1	87	48	0	0	15	3

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	239	240	48	18	0	-	-	-	0
Stage 1	222	222	-	-	-	-	-	-	-
Stage 2	17	18	-	-	-	-	-	-	-
Critical Hdwy	6.59	6.5	6.2	4.26	-	-	-	-	-
Critical Hdwy Stg 1	5.59	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.59	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.671	4	3.3	2.344	-	-	-	-	-
Pot Cap-1 Maneuver	713	665	1027	1512	-	0	0	-	-
Stage 1	776	723	-	-	-	0	0	-	-
Stage 2	963	884	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	672	0	1027	1512	-	-	-	-	-
Mov Cap-2 Maneuver	672	0	-	-	-	-	-	-	-
Stage 1	731	0	-	-	-	-	-	-	-
Stage 2	963	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.5	4.8	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	1512	-	672	1027	-	-
HCM Lane V/C Ratio	0.057	-	0.043	0.001	-	-
HCM Control Delay (s)	7.5	-	10.6	8.5	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q(veh)	0.2	-	0.1	0	-	-

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	2	146	0	0	0	0	103	32	0	45	0
Future Vol, veh/h	20	2	146	0	0	0	0	103	32	0	45	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	15	-	-	-	-	-	-	145	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	0	6	0	0	0	0	13	25	0	20	0
Mvmt Flow	23	2	168	0	0	0	0	118	37	0	52	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	189	207	52	-	0	0	155	0	0
Stage 1	52	52	-	-	-	-	-	-	-
Stage 2	137	155	-	-	-	-	-	-	-
Critical Hdwy	6.4	6.5	6.26	-	-	-	4.1	-	-
Critical Hdwy Stg 1	5.4	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.4	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.354	-	-	-	2.2	-	-
Pot Cap-1 Maneuver	805	693	1004	0	-	-	1438	-	0
Stage 1	976	856	-	0	-	-	-	-	0
Stage 2	895	773	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	805	0	1004	-	-	-	1438	-	-
Mov Cap-2 Maneuver	805	0	-	-	-	-	-	-	-
Stage 1	976	0	-	-	-	-	-	-	-
Stage 2	895	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	805	1004	1438	-
HCM Lane V/C Ratio	-	-	0.031	0.167	-	-
HCM Control Delay (s)	-	-	9.6	9.3	0	-
HCM Lane LOS	-	-	A	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0.6	0	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	9	10	125	185	5
Future Vol, veh/h	5	9	10	125	185	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	33	20	17	10	0
Mvmt Flow	5	10	11	136	201	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	362	204	206	0	-	0
Stage 1	204	-	-	-	-	-
Stage 2	158	-	-	-	-	-
Critical Hdwy	6.4	6.53	4.3	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.597	2.38	-	-	-
Pot Cap-1 Maneuver	641	764	1265	-	-	-
Stage 1	835	-	-	-	-	-
Stage 2	875	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	635	764	1265	-	-	-
Mov Cap-2 Maneuver	635	-	-	-	-	-
Stage 1	827	-	-	-	-	-
Stage 2	875	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.2	0.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1265	-	712	-	-
HCM Lane V/C Ratio	0.009	-	0.021	-	-
HCM Control Delay (s)	7.9	0	10.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	3.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	9	6	8	10	46	7	58	10	41	59	98
Future Vol, veh/h	25	9	6	8	10	46	7	58	10	41	59	98
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	10	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	16	0	0	0	0	8	0	31	0	0	25	4
Mvmt Flow	30	11	7	10	12	55	8	70	12	49	71	118

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	354	326	130	329	379	76	189	0	0	82	0	0
Stage 1	228	228	-	92	92	-	-	-	-	-	-	-
Stage 2	126	98	-	237	287	-	-	-	-	-	-	-
Critical Hdwy	7.26	6.5	6.2	7.1	6.5	6.28	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.26	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.26	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.644	4	3.3	3.5	4	3.372	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	576	596	925	628	556	969	1397	-	-	1528	-	-
Stage 1	744	719	-	920	823	-	-	-	-	-	-	-
Stage 2	845	818	-	771	678	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	517	571	925	595	533	969	1397	-	-	1528	-	-
Mov Cap-2 Maneuver	517	571	-	595	533	-	-	-	-	-	-	-
Stage 1	740	693	-	914	818	-	-	-	-	-	-	-
Stage 2	780	813	-	726	654	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.9	9.7	0.7	1.5
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1397	-	-	530	925	559	969	1528	-	-
HCM Lane V/C Ratio	0.006	-	-	0.077	0.008	0.039	0.057	0.032	-	-
HCM Control Delay (s)	7.6	0	-	12.4	8.9	11.7	8.9	7.4	0	-
HCM Lane LOS	A	A	-	B	A	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0	0.1	0.2	0.1	-	-

Intersection	
Int Delay, s/veh	2.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	9	43	16	22	38
Future Vol, veh/h	8	9	43	16	22	38
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	73	73	73	73	73	73
Heavy Vehicles, %	25	0	2	0	4	10
Mvmt Flow	11	12	59	22	30	52

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	182	70	0	0	81	0
Stage 1	70	-	-	-	-	-
Stage 2	112	-	-	-	-	-
Critical Hdwy	6.65	6.2	-	-	4.14	-
Critical Hdwy Stg 1	5.65	-	-	-	-	-
Critical Hdwy Stg 2	5.65	-	-	-	-	-
Follow-up Hdwy	3.725	3.3	-	-	2.236	-
Pot Cap-1 Maneuver	758	998	-	-	1504	-
Stage 1	898	-	-	-	-	-
Stage 2	859	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	742	998	-	-	1504	-
Mov Cap-2 Maneuver	742	-	-	-	-	-
Stage 1	879	-	-	-	-	-
Stage 2	859	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.3	0	2.7
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	859	1504	-
HCM Lane V/C Ratio	-	-	0.027	0.02	-
HCM Control Delay (s)	-	-	9.3	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-

Intersection	
Int Delay, s/veh	4.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	19	0	35	17	59	0	1	0	6	44	8
Future Vol, veh/h	16	19	0	35	17	59	0	1	0	6	44	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	25
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	0	42	0	0	17	1	0	100	0	16	2	0
Mvmt Flow	20	24	0	44	21	74	0	1	0	8	55	10

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	95	0	0	24	0	0	243	247	24	211	210	58
Stage 1	-	-	-	-	-	-	64	64	-	146	146	-
Stage 2	-	-	-	-	-	-	179	183	-	65	64	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	7.5	6.2	7.26	6.52	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	6.5	-	6.26	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	6.5	-	6.26	5.52	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4.9	3.3	3.644	4.018	3.3
Pot Cap-1 Maneuver	1512	-	-	1604	-	-	715	517	1058	717	687	1014
Stage 1	-	-	-	-	-	-	952	683	-	824	776	-
Stage 2	-	-	-	-	-	-	827	596	-	912	842	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1512	-	-	1604	-	-	642	495	1058	693	658	1014
Mov Cap-2 Maneuver	-	-	-	-	-	-	642	495	-	693	658	-
Stage 1	-	-	-	-	-	-	940	674	-	813	753	-
Stage 2	-	-	-	-	-	-	737	579	-	898	831	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.4	2.3	12.3	10.7
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	495	1512	-	-	1604	-	-	662	1014
HCM Lane V/C Ratio	0.003	0.013	-	-	0.027	-	-	0.094	0.01
HCM Control Delay (s)	12.3	7.4	0	-	7.3	0	-	11	8.6
HCM Lane LOS	B	A	A	-	A	A	-	B	A
HCM 95th %tile Q(veh)	0	0	-	-	0.1	-	-	0.3	0

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	13	1	19	37	431	0	0	25	29
Future Vol, veh/h	0	0	0	13	1	19	37	431	0	0	25	29
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	16	1	23	45	526	0	0	30	35

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	664	681	526	65	0	-	-	-	0
Stage 1	616	616	-	-	-	-	-	-	-
Stage 2	48	65	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	426	373	552	1537	-	0	0	-	-
Stage 1	539	482	-	-	-	0	0	-	-
Stage 2	974	841	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	409	0	552	1537	-	-	-	-	-
Mov Cap-2 Maneuver	409	0	-	-	-	-	-	-	-
Stage 1	517	0	-	-	-	-	-	-	-
Stage 2	974	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.7	0.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	1537	-	409	552	-	-
HCM Lane V/C Ratio	0.029	-	0.039	0.044	-	-
HCM Control Delay (s)	7.4	0	14.2	11.8	-	-
HCM Lane LOS	A	A	B	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	0.1	-	-

Intersection	
Int Delay, s/veh	7.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	244	0	11	0	0	0	0	219	16	9	20	0
Future Vol, veh/h	244	0	11	0	0	0	0	219	16	9	20	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	321	0	14	0	0	0	0	288	21	12	26	0

Major/Minor	Minor2					Major1			Major2		
Conflicting Flow All	349	359	26			-	0	0	309	0	0
Stage 1	50	50	-			-	-	-	-	-	-
Stage 2	299	309	-			-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22			-	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-			-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-			-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318			-	-	-	2.218	-	-
Pot Cap-1 Maneuver	648	568	1050			0	-	-	1252	-	0
Stage 1	972	853	-			0	-	-	-	-	0
Stage 2	752	660	-			0	-	-	-	-	0
Platoon blocked, %							-	-		-	
Mov Cap-1 Maneuver	642	0	1050			-	-	-	1252	-	-
Mov Cap-2 Maneuver	642	0	-			-	-	-	-	-	-
Stage 1	962	0	-			-	-	-	-	-	-
Stage 2	752	0	-			-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.8	0	2.5
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	642	1050	1252	-
HCM Lane V/C Ratio	-	-	0.5	0.014	0.009	-
HCM Control Delay (s)	-	-	16.1	8.5	7.9	0
HCM Lane LOS	-	-	C	A	A	A
HCM 95th %tile Q(veh)	-	-	2.8	0	0	-

Intersection	
Int Delay, s/veh	7.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	34	5	2	268	17	0	0	31	38
Future Vol, veh/h	0	0	0	34	5	2	268	17	0	0	31	38
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	50	-	-	320	-	-	-	-	-
Veh in Median Storage, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	20	20	0	2	5	0	0	3	2
Mvmt Flow	0	0	0	45	7	3	353	22	0	0	41	50

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	794	819	22	91	0	-	-	-	0
Stage 1	728	728	-	-	-	-	-	-	-
Stage 2	66	91	-	-	-	-	-	-	-
Critical Hdwy	6.6	6.7	6.2	4.12	-	-	-	-	-
Critical Hdwy Stg 1	5.6	5.7	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.6	5.7	-	-	-	-	-	-	-
Follow-up Hdwy	3.68	4.18	3.3	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	333	291	1061	1504	-	0	0	-	-
Stage 1	447	403	-	-	-	0	0	-	-
Stage 2	913	786	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	255	0	1061	1504	-	-	-	-	-
Mov Cap-2 Maneuver	255	0	-	-	-	-	-	-	-
Stage 1	342	0	-	-	-	-	-	-	-
Stage 2	913	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.8	7.6	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	1504	-	255	1061	-	-
HCM Lane V/C Ratio	0.234	-	0.175	0.009	-	-
HCM Control Delay (s)	8.1	-	22.1	8.4	-	-
HCM Lane LOS	A	-	C	A	-	-
HCM 95th %tile Q(veh)	0.9	-	0.6	0	-	-

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	0	108	0	0	0	0	286	50	1	66	0
Future Vol, veh/h	8	0	108	0	0	0	0	286	50	1	66	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	15	-	-	-	-	-	-	145	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	25	0	6	0	0	0	0	3	12	0	13	0
Mvmt Flow	10	0	132	0	0	0	0	349	61	1	80	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	462	492	80	-	0	0	410	0	0
Stage 1	82	82	-	-	-	-	-	-	-
Stage 2	380	410	-	-	-	-	-	-	-
Critical Hdwy	6.65	6.5	6.26	-	-	-	4.1	-	-
Critical Hdwy Stg 1	5.65	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.65	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.725	4	3.354	-	-	-	2.2	-	-
Pot Cap-1 Maneuver	518	481	969	0	-	-	1160	-	0
Stage 1	886	831	-	0	-	-	-	-	0
Stage 2	644	599	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	517	0	969	-	-	-	1160	-	-
Mov Cap-2 Maneuver	517	0	-	-	-	-	-	-	-
Stage 1	885	0	-	-	-	-	-	-	-
Stage 2	644	0	-	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	517	969	1160	-
HCM Lane V/C Ratio	-	-	0.019	0.136	0.001	-
HCM Control Delay (s)	-	-	12.1	9.3	8.1	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0.5	0	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	12	11	333	172	3
Future Vol, veh/h	2	12	11	333	172	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	4	8	33
Mvmt Flow	2	14	13	401	207	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	636	209	211	0	-	0
Stage 1	209	-	-	-	-	-
Stage 2	427	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	445	836	1372	-	-	-
Stage 1	831	-	-	-	-	-
Stage 2	662	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	440	836	1372	-	-	-
Mov Cap-2 Maneuver	440	-	-	-	-	-
Stage 1	821	-	-	-	-	-
Stage 2	662	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1372	-	741	-	-
HCM Lane V/C Ratio	0.01	-	0.023	-	-
HCM Control Delay (s)	7.6	0	10	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	9.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	182	8	6	13	7	89	11	72	14	75	72	37
Future Vol, veh/h	182	8	6	13	7	89	11	72	14	75	72	37
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	10	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	1	0	0	15	0	1	9	13	0	1	18	5
Mvmt Flow	209	9	7	15	8	102	13	83	16	86	83	43

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	449	402	105	402	415	91	126	0	0	99	0	0
Stage 1	277	277	-	117	117	-	-	-	-	-	-	-
Stage 2	172	125	-	285	298	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.5	6.2	7.25	6.5	6.21	4.19	-	-	4.11	-	-
Critical Hdwy Stg 1	6.11	5.5	-	6.25	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.5	-	6.25	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4	3.3	3.635	4	3.309	2.281	-	-	2.209	-	-
Pot Cap-1 Maneuver	522	540	955	536	531	969	1418	-	-	1500	-	-
Stage 1	732	685	-	857	803	-	-	-	-	-	-	-
Stage 2	832	796	-	695	671	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	436	502	955	496	493	969	1418	-	-	1500	-	-
Mov Cap-2 Maneuver	436	502	-	496	493	-	-	-	-	-	-	-
Stage 1	725	643	-	848	795	-	-	-	-	-	-	-
Stage 2	729	788	-	638	629	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	20.7	9.8	0.9	3.1
HCM LOS	C	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1418	-	-	438	955	495	969	1500	-	-
HCM Lane V/C Ratio	0.009	-	-	0.499	0.007	0.046	0.106	0.057	-	-
HCM Control Delay (s)	7.6	0	-	21.1	8.8	12.6	9.2	7.5	0	-
HCM Lane LOS	A	A	-	C	A	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	2.7	0	0.1	0.4	0.2	-	-

Intersection	
Int Delay, s/veh	4.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	42	40	23	15	21	72
Future Vol, veh/h	42	40	23	15	21	72
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	52	49	28	19	26	89

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	179	38	0	0	47	0
Stage 1	38	-	-	-	-	-
Stage 2	141	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	815	1040	-	-	1573	-
Stage 1	990	-	-	-	-	-
Stage 2	891	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	801	1040	-	-	1573	-
Mov Cap-2 Maneuver	801	-	-	-	-	-
Stage 1	973	-	-	-	-	-
Stage 2	891	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.5	0	1.7
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	902	1573	-
HCM Lane V/C Ratio	-	-	0.112	0.016	-
HCM Control Delay (s)	-	-	9.5	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0.1	-

Intersection	
Int Delay, s/veh	9.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	20	0	0	18	2	0	86	70	102	2	23
Future Vol, veh/h	15	20	0	0	18	2	0	86	70	102	2	23
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	25
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	0	15	0	0	16	50	0	1	0	0	50	4
Mvmt Flow	19	25	0	0	23	3	0	108	88	128	3	29

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	26	0	0	25	0	0	104	89	25	186	88	25
Stage 1	-	-	-	-	-	-	63	63	-	25	25	-
Stage 2	-	-	-	-	-	-	41	26	-	161	63	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.51	6.2	7.1	7	6.24
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.51	-	6.1	6	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.51	-	6.1	6	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4.009	3.3	3.5	4.45	3.336
Pot Cap-1 Maneuver	1601	-	-	1603	-	-	881	803	1057	779	720	1045
Stage 1	-	-	-	-	-	-	953	844	-	998	788	-
Stage 2	-	-	-	-	-	-	979	875	-	846	757	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1601	-	-	1603	-	-	847	793	1057	635	711	1045
Mov Cap-2 Maneuver	-	-	-	-	-	-	847	793	-	635	711	-
Stage 1	-	-	-	-	-	-	942	834	-	986	788	-
Stage 2	-	-	-	-	-	-	949	875	-	668	748	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.1	0	10.2	11.4
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	893	1601	-	-	1603	-	-	636	1045
HCM Lane V/C Ratio	0.218	0.012	-	-	-	-	-	0.204	0.028
HCM Control Delay (s)	10.2	7.3	0	-	0	-	-	12.1	8.5
HCM Lane LOS	B	A	A	-	A	-	-	B	A
HCM 95th %tile Q(veh)	0.8	0	-	-	0	-	-	0.8	0.1

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	9	2	8	17	37	0	0	240	290
Future Vol, veh/h	0	0	0	9	2	8	17	37	0	0	240	290
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	12	3	11	22	49	0	0	316	382

Major/Minor	Minor1		Major1			Major2			
Conflicting Flow All	600	791	49	698	0	-	-	-	0
Stage 1	93	93	-	-	-	-	-	-	-
Stage 2	507	698	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	464	322	1020	898	-	0	0	-	-
Stage 1	931	818	-	-	-	0	0	-	-
Stage 2	605	442	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	452	0	1020	898	-	-	-	-	-
Mov Cap-2 Maneuver	452	0	-	-	-	-	-	-	-
Stage 1	908	0	-	-	-	-	-	-	-
Stage 2	605	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.8	2.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	898	-	452	1020	-	-
HCM Lane V/C Ratio	0.025	-	0.026	0.013	-	-
HCM Control Delay (s)	9.1	0	13.2	8.6	-	-
HCM Lane LOS	A	A	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	0	-	-

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	24	0	34	0	0	0	0	28	7	22	233	0
Future Vol, veh/h	24	0	34	0	0	0	0	28	7	22	233	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	30	0	43	0	0	0	0	35	9	28	291	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	387	391	291	-	0	0	44	0	0
Stage 1	347	347	-	-	-	-	-	-	-
Stage 2	40	44	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	-	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	-	-	-	2.218	-	-
Pot Cap-1 Maneuver	616	545	748	0	-	-	1564	-	0
Stage 1	716	635	-	0	-	-	-	-	0
Stage 2	982	858	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	603	0	748	-	-	-	1564	-	-
Mov Cap-2 Maneuver	603	0	-	-	-	-	-	-	-
Stage 1	701	0	-	-	-	-	-	-	-
Stage 2	982	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.6	0	0.6
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	603	748	1564	-
HCM Lane V/C Ratio	-	-	0.05	0.057	0.018	-
HCM Control Delay (s)	-	-	11.3	10.1	7.3	0
HCM Lane LOS	-	-	B	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.2	0.1	-

APPENDIX F

INTERSECTION ANALYSIS WORKSHEETS WITH BOULDER BRUSH PEAK CONSTRUCTION

- ***Existing plus Boulder Brush Peak Construction***

Intersection	
Int Delay, s/veh	6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	26	0	1	77	23	0	0	13	3
Future Vol, veh/h	0	0	0	26	0	1	77	23	0	0	13	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	50	-	-	320	-	-	-	-	-
Veh in Median Storage, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	23	0	0	19	8	0	0	0	0
Mvmt Flow	0	0	0	29	0	1	87	26	0	0	15	3

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	217	218	26	18	0	-	-	-	0
Stage 1	200	200	-	-	-	-	-	-	-
Stage 2	17	18	-	-	-	-	-	-	-
Critical Hdwy	6.63	6.5	6.2	4.29	-	-	-	-	-
Critical Hdwy Stg 1	5.63	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.63	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.707	4	3.3	2.371	-	-	-	-	-
Pot Cap-1 Maneuver	727	684	1056	1495	-	0	0	-	-
Stage 1	786	739	-	-	-	0	0	-	-
Stage 2	954	884	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	685	0	1056	1495	-	-	-	-	-
Mov Cap-2 Maneuver	685	0	-	-	-	-	-	-	-
Stage 1	740	0	-	-	-	-	-	-	-
Stage 2	954	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.4	5.8	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	1495	-	685	1056	-	-
HCM Lane V/C Ratio	0.058	-	0.043	0.001	-	-
HCM Control Delay (s)	7.6	-	10.5	8.4	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q(veh)	0.2	-	0.1	0	-	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	2	70	0	0	0	0	94	31	0	44	0
Future Vol, veh/h	9	2	70	0	0	0	0	94	31	0	44	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	15	-	-	-	-	-	-	145	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	0	15	0	0	0	0	17	29	0	22	0
Mvmt Flow	10	2	80	0	0	0	0	108	36	0	51	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	177	195	51	-	0	0	144	0	0
Stage 1	51	51	-	-	-	-	-	-	-
Stage 2	126	144	-	-	-	-	-	-	-
Critical Hdwy	6.4	6.5	6.35	-	-	-	4.1	-	-
Critical Hdwy Stg 1	5.4	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.4	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.435	-	-	-	2.2	-	-
Pot Cap-1 Maneuver	817	704	981	0	-	-	1451	-	0
Stage 1	977	856	-	0	-	-	-	-	0
Stage 2	905	782	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	817	0	981	-	-	-	1451	-	-
Mov Cap-2 Maneuver	817	0	-	-	-	-	-	-	-
Stage 1	977	0	-	-	-	-	-	-	-
Stage 2	905	0	-	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	817	981	1451	-
HCM Lane V/C Ratio	-	-	0.015	0.082	-	-
HCM Control Delay (s)	-	-	9.5	9	0	-
HCM Lane LOS	-	-	A	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0.3	0	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	9	10	116	108	5
Future Vol, veh/h	5	9	10	116	108	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	33	20	21	20	0
Mvmt Flow	5	10	11	126	117	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	268	120	122	0	-	0
Stage 1	120	-	-	-	-	-
Stage 2	148	-	-	-	-	-
Critical Hdwy	6.4	6.53	4.3	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.597	2.38	-	-	-
Pot Cap-1 Maneuver	726	854	1361	-	-	-
Stage 1	910	-	-	-	-	-
Stage 2	884	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	719	854	1361	-	-	-
Mov Cap-2 Maneuver	719	-	-	-	-	-
Stage 1	902	-	-	-	-	-
Stage 2	884	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.6	0.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1361	-	800	-	-
HCM Lane V/C Ratio	0.008	-	0.019	-	-
HCM Control Delay (s)	7.7	0	9.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	9	6	8	10	44	7	58	10	39	48	34
Future Vol, veh/h	18	9	6	8	10	44	7	58	10	39	48	34
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	10	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	33	0	0	0	0	9	0	32	0	0	33	17
Mvmt Flow	22	11	7	10	12	53	8	70	12	47	58	41

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	298	271	79	274	285	76	99	0	0	82	0	0
Stage 1	173	173	-	92	92	-	-	-	-	-	-	-
Stage 2	125	98	-	182	193	-	-	-	-	-	-	-
Critical Hdwy	7.43	6.5	6.2	7.1	6.5	6.29	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.43	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.43	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.797	4	3.3	3.5	4	3.381	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	597	639	987	683	628	966	1507	-	-	1528	-	-
Stage 1	762	760	-	920	823	-	-	-	-	-	-	-
Stage 2	809	818	-	824	745	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	539	614	987	649	604	966	1507	-	-	1528	-	-
Mov Cap-2 Maneuver	539	614	-	649	604	-	-	-	-	-	-	-
Stage 1	757	735	-	914	818	-	-	-	-	-	-	-
Stage 2	749	813	-	779	720	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.2	9.5	0.7	2.4
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1507	-	-	562	987	623	966	1528	-	-
HCM Lane V/C Ratio	0.006	-	-	0.058	0.007	0.035	0.055	0.031	-	-
HCM Control Delay (s)	7.4	0	-	11.8	8.7	11	8.9	7.4	0	-
HCM Lane LOS	A	A	-	B	A	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0	0.1	0.2	0.1	-	-

Intersection	
Int Delay, s/veh	2.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	10	42	7	12	37
Future Vol, veh/h	8	10	42	7	12	37
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	73	73	73	73	73	73
Heavy Vehicles, %	25	10	2	0	16	10
Mvmt Flow	11	14	58	10	16	51

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	146	63	0	0	68	0
Stage 1	63	-	-	-	-	-
Stage 2	83	-	-	-	-	-
Critical Hdwy	6.65	6.3	-	-	4.26	-
Critical Hdwy Stg 1	5.65	-	-	-	-	-
Critical Hdwy Stg 2	5.65	-	-	-	-	-
Follow-up Hdwy	3.725	3.39	-	-	2.344	-
Pot Cap-1 Maneuver	795	980	-	-	1449	-
Stage 1	904	-	-	-	-	-
Stage 2	885	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	786	980	-	-	1449	-
Mov Cap-2 Maneuver	786	-	-	-	-	-
Stage 1	894	-	-	-	-	-
Stage 2	885	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.2	0	1.8
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	883	1449	-
HCM Lane V/C Ratio	-	-	0.028	0.011	-
HCM Control Delay (s)	-	-	9.2	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	18	0	9	16	23	0	3	1	6	13	8
Future Vol, veh/h	16	18	0	9	16	23	0	3	1	6	13	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	25
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	0	44	0	11	18	4	0	100	100	16	23	0
Mvmt Flow	20	23	0	11	20	29	0	4	1	8	16	10

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	49	0	0	23	0	0	133	134	23	123	120	35
Stage 1	-	-	-	-	-	-	63	63	-	57	57	-
Stage 2	-	-	-	-	-	-	70	71	-	66	63	-
Critical Hdwy	4.1	-	-	4.21	-	-	7.1	7.5	7.2	7.26	6.73	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	6.5	-	6.26	5.73	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	6.5	-	6.26	5.73	-
Follow-up Hdwy	2.2	-	-	2.299	-	-	3.5	4.9	4.2	3.644	4.207	3.3
Pot Cap-1 Maneuver	1571	-	-	1536	-	-	844	608	830	820	733	1044
Stage 1	-	-	-	-	-	-	953	684	-	921	808	-
Stage 2	-	-	-	-	-	-	945	678	-	911	803	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1571	-	-	1536	-	-	809	596	830	803	718	1044
Mov Cap-2 Maneuver	-	-	-	-	-	-	809	596	-	803	718	-
Stage 1	-	-	-	-	-	-	941	675	-	909	802	-
Stage 2	-	-	-	-	-	-	911	673	-	893	793	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.4	1.4	10.7	9.6
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	641	1571	-	-	1536	-	-	743	1044
HCM Lane V/C Ratio	0.008	0.013	-	-	0.007	-	-	0.032	0.01
HCM Control Delay (s)	10.7	7.3	0	-	7.4	0	-	10	8.5
HCM Lane LOS	B	A	A	-	A	A	-	B	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1	0

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	14	1	3	36	83	0	0	12	18
Future Vol, veh/h	0	0	0	14	1	3	36	83	0	0	12	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	17	1	4	44	101	0	0	15	22

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	215	226	101	37	0	-	-	-	0
Stage 1	189	189	-	-	-	-	-	-	-
Stage 2	26	37	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	773	673	954	1574	-	0	0	-	-
Stage 1	843	744	-	-	-	0	0	-	-
Stage 2	997	864	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	750	0	954	1574	-	-	-	-	-
Mov Cap-2 Maneuver	750	0	-	-	-	-	-	-	-
Stage 1	818	0	-	-	-	-	-	-	-
Stage 2	997	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.7	2.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	1574	-	750	954	-	-
HCM Lane V/C Ratio	0.028	-	0.023	0.005	-	-
HCM Control Delay (s)	7.4	0	9.9	8.8	-	-
HCM Lane LOS	A	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	0	-	-

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	47	0	11	0	0	0	0	67	17	4	13	0
Future Vol, veh/h	47	0	11	0	0	0	0	67	17	4	13	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	62	0	14	0	0	0	0	88	22	5	17	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	126	137	17	-	0	0	110	0	0
Stage 1	27	27	-	-	-	-	-	-	-
Stage 2	99	110	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	-	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	-	-	-	2.218	-	-
Pot Cap-1 Maneuver	869	754	1062	0	-	-	1480	-	0
Stage 1	996	873	-	0	-	-	-	-	0
Stage 2	925	804	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	866	0	1062	-	-	-	1480	-	-
Mov Cap-2 Maneuver	866	0	-	-	-	-	-	-	-
Stage 1	993	0	-	-	-	-	-	-	-
Stage 2	925	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	0	1.8
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	866	1062	1480	-
HCM Lane V/C Ratio	-	-	0.071	0.014	0.004	-
HCM Control Delay (s)	-	-	9.5	8.4	7.4	0
HCM Lane LOS	-	-	A	A	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	0	-

Intersection	
Int Delay, s/veh	6.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	33	5	2	118	17	0	0	13	16
Future Vol, veh/h	0	0	0	33	5	2	118	17	0	0	13	16
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	50	-	-	320	-	-	-	-	-
Veh in Median Storage, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	24	20	0	7	5	0	0	7	6
Mvmt Flow	0	0	0	43	7	3	155	22	0	0	17	21

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	360	370	22	38	0	-	-	-	0
Stage 1	332	332	-	-	-	-	-	-	-
Stage 2	28	38	-	-	-	-	-	-	-
Critical Hdwy	6.64	6.7	6.2	4.17	-	-	-	-	-
Critical Hdwy Stg 1	5.64	5.7	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.64	5.7	-	-	-	-	-	-	-
Follow-up Hdwy	3.716	4.18	3.3	2.263	-	-	-	-	-
Pot Cap-1 Maneuver	597	532	1061	1541	-	0	0	-	-
Stage 1	680	614	-	-	-	0	0	-	-
Stage 2	941	829	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	537	0	1061	1541	-	-	-	-	-
Mov Cap-2 Maneuver	537	0	-	-	-	-	-	-	-
Stage 1	611	0	-	-	-	-	-	-	-
Stage 2	941	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.6	6.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	1541	-	537	1061	-	-
HCM Lane V/C Ratio	0.101	-	0.081	0.009	-	-
HCM Control Delay (s)	7.6	-	12.3	8.4	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q(veh)	0.3	-	0.3	0	-	-

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	0	107	0	0	0	0	135	48	1	47	0
Future Vol, veh/h	8	0	107	0	0	0	0	135	48	1	47	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	15	-	-	-	-	-	-	145	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	25	0	8	0	0	0	0	8	14	0	21	0
Mvmt Flow	10	0	130	0	0	0	0	165	59	1	57	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	254	283	57	-	0	0	224	0	0
Stage 1	59	59	-	-	-	-	-	-	-
Stage 2	195	224	-	-	-	-	-	-	-
Critical Hdwy	6.65	6.5	6.28	-	-	-	4.1	-	-
Critical Hdwy Stg 1	5.65	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.65	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.725	4	3.372	-	-	-	2.2	-	-
Pot Cap-1 Maneuver	687	629	993	0	-	-	1357	-	0
Stage 1	908	850	-	0	-	-	-	-	0
Stage 2	786	722	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	686	0	993	-	-	-	1357	-	-
Mov Cap-2 Maneuver	686	0	-	-	-	-	-	-	-
Stage 1	907	0	-	-	-	-	-	-	-
Stage 2	786	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	0	0.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	686	993	1357	-
HCM Lane V/C Ratio	-	-	0.014	0.131	0.001	-
HCM Control Delay (s)	-	-	10.3	9.2	7.7	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0.5	0	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	12	11	179	151	3
Future Vol, veh/h	2	12	11	179	151	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	8	10	33
Mvmt Flow	2	14	13	216	182	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	426	184	186	0	-	0
Stage 1	184	-	-	-	-	-
Stage 2	242	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	589	864	1401	-	-	-
Stage 1	852	-	-	-	-	-
Stage 2	803	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	583	864	1401	-	-	-
Mov Cap-2 Maneuver	583	-	-	-	-	-
Stage 1	843	-	-	-	-	-
Stage 2	803	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.6	0.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1401	-	808	-	-
HCM Lane V/C Ratio	0.009	-	0.021	-	-
HCM Control Delay (s)	7.6	0	9.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	6.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	55	8	6	13	7	85	11	50	14	73	72	20
Future Vol, veh/h	55	8	6	13	7	85	11	50	14	73	72	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	10	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	9	0	0	15	0	1	9	22	0	1	19	20
Mvmt Flow	63	9	7	15	8	98	13	57	16	84	83	23

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	407	362	95	362	365	65	106	0	0	73	0	0
Stage 1	263	263	-	91	91	-	-	-	-	-	-	-
Stage 2	144	99	-	271	274	-	-	-	-	-	-	-
Critical Hdwy	7.19	6.5	6.2	7.25	6.5	6.21	4.19	-	-	4.11	-	-
Critical Hdwy Stg 1	6.19	5.5	-	6.25	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.19	5.5	-	6.25	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.581	4	3.3	3.635	4	3.309	2.281	-	-	2.209	-	-
Pot Cap-1 Maneuver	542	569	967	570	566	1002	1442	-	-	1533	-	-
Stage 1	727	694	-	885	823	-	-	-	-	-	-	-
Stage 2	842	817	-	707	687	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	459	531	967	530	529	1002	1442	-	-	1533	-	-
Mov Cap-2 Maneuver	459	531	-	530	529	-	-	-	-	-	-	-
Stage 1	720	654	-	877	816	-	-	-	-	-	-	-
Stage 2	746	810	-	652	647	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.6	9.6	1.1	3.3
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1442	-	-	467	967	530	1002	1533	-	-
HCM Lane V/C Ratio	0.009	-	-	0.155	0.007	0.043	0.098	0.055	-	-
HCM Control Delay (s)	7.5	0	-	14.1	8.8	12.1	9	7.5	0	-
HCM Lane LOS	A	A	-	B	A	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.5	0	0.1	0.3	0.2	-	-

Intersection	
Int Delay, s/veh	3.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	24	19	23	15	22	71
Future Vol, veh/h	24	19	23	15	22	71
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	0	5	0	0	0	4
Mvmt Flow	30	23	28	19	27	88

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	180	38	0	0	47	0
Stage 1	38	-	-	-	-	-
Stage 2	142	-	-	-	-	-
Critical Hdwy	6.4	6.25	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.345	-	-	2.2	-
Pot Cap-1 Maneuver	814	1025	-	-	1573	-
Stage 1	990	-	-	-	-	-
Stage 2	890	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	799	1025	-	-	1573	-
Mov Cap-2 Maneuver	799	-	-	-	-	-
Stage 1	972	-	-	-	-	-
Stage 2	890	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.3	0	1.7
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	885	1573	-
HCM Lane V/C Ratio	-	-	0.06	0.017	-
HCM Control Delay (s)	-	-	9.3	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

Intersection	
Int Delay, s/veh	6.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	19	0	0	17	2	0	22	16	32	2	23
Future Vol, veh/h	15	19	0	0	17	2	0	22	16	32	2	23
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	25
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	0	15	0	0	17	50	0	9	0	0	100	4
Mvmt Flow	19	24	0	0	21	3	0	28	20	40	3	29

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	24	0	0	24	0	0	101	86	24	109	85	23
Stage 1	-	-	-	-	-	-	62	62	-	23	23	-
Stage 2	-	-	-	-	-	-	39	24	-	86	62	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.59	6.2	7.1	7.5	6.24
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.59	-	6.1	6.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.59	-	6.1	6.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4.081	3.3	3.5	4.9	3.336
Pot Cap-1 Maneuver	1604	-	-	1604	-	-	885	791	1058	874	652	1048
Stage 1	-	-	-	-	-	-	954	830	-	1000	716	-
Stage 2	-	-	-	-	-	-	981	861	-	927	685	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1604	-	-	1604	-	-	850	782	1058	827	644	1048
Mov Cap-2 Maneuver	-	-	-	-	-	-	850	782	-	827	644	-
Stage 1	-	-	-	-	-	-	943	820	-	988	716	-
Stage 2	-	-	-	-	-	-	951	861	-	868	677	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.2	0	9.3	9.2
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	878	1604	-	-	1604	-	-	813	1048
HCM Lane V/C Ratio	0.054	0.012	-	-	-	-	-	0.052	0.027
HCM Control Delay (s)	9.3	7.3	0	-	0	-	-	9.7	8.5
HCM Lane LOS	A	A	A	-	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.2	0.1

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	9	2	2	17	15	0	0	72	92
Future Vol, veh/h	0	0	0	9	2	2	17	15	0	0	72	92
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	12	3	3	22	20	0	0	95	121

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	220	280	20	216	0	-	-	-	0
Stage 1	64	64	-	-	-	-	-	-	-
Stage 2	156	216	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	768	628	1058	1354	-	0	0	-	-
Stage 1	959	842	-	-	-	0	0	-	-
Stage 2	872	724	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	756	0	1058	1354	-	-	-	-	-
Mov Cap-2 Maneuver	756	0	-	-	-	-	-	-	-
Stage 1	944	0	-	-	-	-	-	-	-
Stage 2	872	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.4	4.1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	1354	-	756	1058	-	-
HCM Lane V/C Ratio	0.017	-	0.016	0.005	-	-
HCM Control Delay (s)	7.7	0	9.8	8.4	-	-
HCM Lane LOS	A	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0	0	-	-

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	0	33	0	0	0	0	20	7	6	81	0
Future Vol, veh/h	11	0	33	0	0	0	0	20	7	6	81	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	0	41	0	0	0	0	25	9	8	101	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	147	151	101	-	0	0	34	0	0
Stage 1	117	117	-	-	-	-	-	-	-
Stage 2	30	34	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	-	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	-	-	-	2.218	-	-
Pot Cap-1 Maneuver	845	741	954	0	-	-	1578	-	0
Stage 1	908	799	-	0	-	-	-	-	0
Stage 2	993	867	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	841	0	954	-	-	-	1578	-	-
Mov Cap-2 Maneuver	841	0	-	-	-	-	-	-	-
Stage 1	903	0	-	-	-	-	-	-	-
Stage 2	993	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9	0	0.5
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	841	954	1578	-
HCM Lane V/C Ratio	-	-	0.016	0.043	0.005	-
HCM Control Delay (s)	-	-	9.4	8.9	7.3	0
HCM Lane LOS	-	-	A	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.1	0	-

- ***Existing plus Boulder Brush Peak Construction plus Cumulative Projects***

Intersection	
Int Delay, s/veh	6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	27	0	1	78	23	0	0	13	3
Future Vol, veh/h	0	0	0	27	0	1	78	23	0	0	13	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	50	-	-	320	-	-	-	-	-
Veh in Median Storage, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	22	0	0	19	8	0	0	0	0
Mvmt Flow	0	0	0	30	0	1	88	26	0	0	15	3

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	219	220	26	18	0	-	-	-	0
Stage 1	202	202	-	-	-	-	-	-	-
Stage 2	17	18	-	-	-	-	-	-	-
Critical Hdwy	6.62	6.5	6.2	4.29	-	-	-	-	-
Critical Hdwy Stg 1	5.62	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.62	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.698	4	3.3	2.371	-	-	-	-	-
Pot Cap-1 Maneuver	727	682	1056	1495	-	0	0	-	-
Stage 1	786	738	-	-	-	0	0	-	-
Stage 2	956	884	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	684	0	1056	1495	-	-	-	-	-
Mov Cap-2 Maneuver	684	0	-	-	-	-	-	-	-
Stage 1	740	0	-	-	-	-	-	-	-
Stage 2	956	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.4	5.8	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	1495	-	684	1056	-	-
HCM Lane V/C Ratio	0.059	-	0.044	0.001	-	-
HCM Control Delay (s)	7.6	-	10.5	8.4	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q(veh)	0.2	-	0.1	0	-	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	2	71	0	0	0	0	96	33	0	46	0
Future Vol, veh/h	9	2	71	0	0	0	0	96	33	0	46	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	15	-	-	-	-	-	-	145	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	0	15	0	0	0	0	16	27	0	21	0
Mvmt Flow	10	2	82	0	0	0	0	110	38	0	53	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	182	201	53	-	0	0	148	0	0
Stage 1	53	53	-	-	-	-	-	-	-
Stage 2	129	148	-	-	-	-	-	-	-
Critical Hdwy	6.4	6.5	6.35	-	-	-	4.1	-	-
Critical Hdwy Stg 1	5.4	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.4	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.435	-	-	-	2.2	-	-
Pot Cap-1 Maneuver	812	699	979	0	-	-	1446	-	0
Stage 1	975	855	-	0	-	-	-	-	0
Stage 2	902	779	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	812	0	979	-	-	-	1446	-	-
Mov Cap-2 Maneuver	812	0	-	-	-	-	-	-	-
Stage 1	975	0	-	-	-	-	-	-	-
Stage 2	902	0	-	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	812	979	1446	-
HCM Lane V/C Ratio	-	-	0.016	0.083	-	-
HCM Control Delay (s)	-	-	9.5	9	0	-
HCM Lane LOS	-	-	A	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0.3	0	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	9	10	119	111	5
Future Vol, veh/h	5	9	10	119	111	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	33	20	21	19	0
Mvmt Flow	5	10	11	129	121	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	275	124	126	0	-	0
Stage 1	124	-	-	-	-	-
Stage 2	151	-	-	-	-	-
Critical Hdwy	6.4	6.53	4.3	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.597	2.38	-	-	-
Pot Cap-1 Maneuver	719	850	1356	-	-	-
Stage 1	907	-	-	-	-	-
Stage 2	882	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	713	850	1356	-	-	-
Mov Cap-2 Maneuver	713	-	-	-	-	-
Stage 1	899	-	-	-	-	-
Stage 2	882	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.6	0.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1356	-	795	-	-
HCM Lane V/C Ratio	0.008	-	0.019	-	-
HCM Control Delay (s)	7.7	0	9.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	9	6	8	10	46	7	59	10	41	49	34
Future Vol, veh/h	18	9	6	8	10	46	7	59	10	41	49	34
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	10	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	33	0	0	0	0	8	0	32	0	0	32	17
Mvmt Flow	22	11	7	10	12	55	8	71	12	49	59	41

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	305	277	80	280	291	77	100	0	0	83	0	0
Stage 1	178	178	-	93	93	-	-	-	-	-	-	-
Stage 2	127	99	-	187	198	-	-	-	-	-	-	-
Critical Hdwy	7.43	6.5	6.2	7.1	6.5	6.28	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.43	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.43	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.797	4	3.3	3.5	4	3.372	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	591	634	986	676	623	967	1505	-	-	1527	-	-
Stage 1	757	756	-	919	822	-	-	-	-	-	-	-
Stage 2	807	817	-	819	741	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	532	609	986	642	598	967	1505	-	-	1527	-	-
Mov Cap-2 Maneuver	532	609	-	642	598	-	-	-	-	-	-	-
Stage 1	752	730	-	913	817	-	-	-	-	-	-	-
Stage 2	745	812	-	774	716	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.3	9.5	0.7	2.5
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1505	-	-	555	986	617	967	1527	-	-
HCM Lane V/C Ratio	0.006	-	-	0.059	0.007	0.035	0.057	0.032	-	-
HCM Control Delay (s)	7.4	0	-	11.9	8.7	11	8.9	7.4	0	-
HCM Lane LOS	A	A	-	B	A	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0	0.1	0.2	0.1	-	-

Intersection	
Int Delay, s/veh	2.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	10	43	7	12	38
Future Vol, veh/h	8	10	43	7	12	38
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	73	73	73	73	73	73
Heavy Vehicles, %	25	10	2	0	16	10
Mvmt Flow	11	14	59	10	16	52

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	148	64	0	0	69	0
Stage 1	64	-	-	-	-	-
Stage 2	84	-	-	-	-	-
Critical Hdwy	6.65	6.3	-	-	4.26	-
Critical Hdwy Stg 1	5.65	-	-	-	-	-
Critical Hdwy Stg 2	5.65	-	-	-	-	-
Follow-up Hdwy	3.725	3.39	-	-	2.344	-
Pot Cap-1 Maneuver	793	978	-	-	1447	-
Stage 1	903	-	-	-	-	-
Stage 2	884	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	784	978	-	-	1447	-
Mov Cap-2 Maneuver	784	-	-	-	-	-
Stage 1	893	-	-	-	-	-
Stage 2	884	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.2	0	1.8
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	881	1447	-
HCM Lane V/C Ratio	-	-	0.028	0.011	-
HCM Control Delay (s)	-	-	9.2	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	19	0	9	17	23	0	3	1	6	13	8
Future Vol, veh/h	16	19	0	9	17	23	0	3	1	6	13	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	25
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	0	42	0	0	17	1	0	100	0	16	2	0
Mvmt Flow	20	24	0	11	21	29	0	4	1	8	16	10

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	50	0	0	24	0	0	135	136	24	125	122	36
Stage 1	-	-	-	-	-	-	64	64	-	58	58	-
Stage 2	-	-	-	-	-	-	71	72	-	67	64	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	7.5	6.2	7.26	6.52	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	6.5	-	6.26	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	6.5	-	6.26	5.52	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4.9	3.3	3.644	4.018	3.3
Pot Cap-1 Maneuver	1570	-	-	1604	-	-	841	606	1058	817	768	1042
Stage 1	-	-	-	-	-	-	952	683	-	920	847	-
Stage 2	-	-	-	-	-	-	944	677	-	909	842	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1570	-	-	1604	-	-	807	594	1058	800	753	1042
Mov Cap-2 Maneuver	-	-	-	-	-	-	807	594	-	800	753	-
Stage 1	-	-	-	-	-	-	940	674	-	908	841	-
Stage 2	-	-	-	-	-	-	910	672	-	891	831	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.3	1.3	10.4	9.4
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	667	1570	-	-	1604	-	-	767	1042
HCM Lane V/C Ratio	0.007	0.013	-	-	0.007	-	-	0.031	0.01
HCM Control Delay (s)	10.4	7.3	0	-	7.3	0	-	9.8	8.5
HCM Lane LOS	B	A	A	-	A	A	-	A	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1	0

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	14	1	20	37	427	0	0	26	29
Future Vol, veh/h	0	0	0	14	1	20	37	427	0	0	26	29
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	17	1	24	45	521	0	0	32	35

Major/Minor	Minor1		Major1		Major2				
Conflicting Flow All	661	678	521	67	0	-	-	-	0
Stage 1	611	611	-	-	-	-	-	-	-
Stage 2	50	67	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	427	374	555	1535	-	0	0	-	-
Stage 1	542	484	-	-	-	0	0	-	-
Stage 2	972	839	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	409	0	555	1535	-	-	-	-	-
Mov Cap-2 Maneuver	409	0	-	-	-	-	-	-	-
Stage 1	520	0	-	-	-	-	-	-	-
Stage 2	972	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.8	0.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	1535	-	409	555	-	-
HCM Lane V/C Ratio	0.029	-	0.042	0.046	-	-
HCM Control Delay (s)	7.4	0	14.2	11.8	-	-
HCM Lane LOS	A	A	B	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	0.1	-	-

Intersection	
Int Delay, s/veh	7.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	242	0	11	0	0	0	0	217	17	10	21	0
Future Vol, veh/h	242	0	11	0	0	0	0	217	17	10	21	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	318	0	14	0	0	0	0	286	22	13	28	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	351	362	28	-	0	0	308	0	0
Stage 1	54	54	-	-	-	-	-	-	-
Stage 2	297	308	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	-	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	-	-	-	2.218	-	-
Pot Cap-1 Maneuver	646	565	1047	0	-	-	1253	-	0
Stage 1	969	850	-	0	-	-	-	-	0
Stage 2	754	660	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	639	0	1047	-	-	-	1253	-	-
Mov Cap-2 Maneuver	639	0	-	-	-	-	-	-	-
Stage 1	958	0	-	-	-	-	-	-	-
Stage 2	754	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.8	0	2.5
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	639	1047	1253	-
HCM Lane V/C Ratio	-	-	0.498	0.014	0.011	-
HCM Control Delay (s)	-	-	16.1	8.5	7.9	0
HCM Lane LOS	-	-	C	A	A	A
HCM 95th %tile Q(veh)	-	-	2.8	0	0	-

Intersection	
Int Delay, s/veh	6.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	35	5	2	119	17	0	0	13	16
Future Vol, veh/h	0	0	0	35	5	2	119	17	0	0	13	16
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	50	-	-	320	-	-	-	-	-
Veh in Median Storage, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	22	20	0	7	5	0	0	7	6
Mvmt Flow	0	0	0	46	7	3	157	22	0	0	17	21

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	364	374	22	38	0	-	-	-	0
Stage 1	336	336	-	-	-	-	-	-	-
Stage 2	28	38	-	-	-	-	-	-	-
Critical Hdwy	6.62	6.7	6.2	4.17	-	-	-	-	-
Critical Hdwy Stg 1	5.62	5.7	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.62	5.7	-	-	-	-	-	-	-
Follow-up Hdwy	3.698	4.18	3.3	2.263	-	-	-	-	-
Pot Cap-1 Maneuver	597	529	1061	1541	-	0	0	-	-
Stage 1	681	611	-	-	-	0	0	-	-
Stage 2	945	829	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	536	0	1061	1541	-	-	-	-	-
Mov Cap-2 Maneuver	536	0	-	-	-	-	-	-	-
Stage 1	612	0	-	-	-	-	-	-	-
Stage 2	945	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.7	6.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	1541	-	536	1061	-	-
HCM Lane V/C Ratio	0.102	-	0.086	0.009	-	-
HCM Control Delay (s)	7.6	-	12.3	8.4	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q(veh)	0.3	-	0.3	0	-	-

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	0	109	0	0	0	0	137	51	1	49	0
Future Vol, veh/h	8	0	109	0	0	0	0	137	51	1	49	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	15	-	-	-	-	-	-	145	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	25	0	8	0	0	0	0	8	13	0	20	0
Mvmt Flow	10	0	133	0	0	0	0	167	62	1	60	0

Major/Minor	Minor2					Major1			Major2		
Conflicting Flow All	260	291	60			-	0	0	229	0	0
Stage 1	62	62	-			-	-	-	-	-	-
Stage 2	198	229	-			-	-	-	-	-	-
Critical Hdwy	6.65	6.5	6.28			-	-	-	4.1	-	-
Critical Hdwy Stg 1	5.65	5.5	-			-	-	-	-	-	-
Critical Hdwy Stg 2	5.65	5.5	-			-	-	-	-	-	-
Follow-up Hdwy	3.725	4	3.372			-	-	-	2.2	-	-
Pot Cap-1 Maneuver	682	623	989			0	-	-	1351	-	0
Stage 1	905	847	-			0	-	-	-	-	0
Stage 2	783	718	-			0	-	-	-	-	0
Platoon blocked, %							-	-		-	
Mov Cap-1 Maneuver	681	0	989			-	-	-	1351	-	-
Mov Cap-2 Maneuver	681	0	-			-	-	-	-	-	-
Stage 1	904	0	-			-	-	-	-	-	-
Stage 2	783	0	-			-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	0	0.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	681	989	1351	-
HCM Lane V/C Ratio	-	-	0.014	0.134	0.001	-
HCM Control Delay (s)	-	-	10.4	9.2	7.7	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0.5	0	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	12	11	184	155	3
Future Vol, veh/h	2	12	11	184	155	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	8	10	33
Mvmt Flow	2	14	13	222	187	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	437	189	191	0	-	0
Stage 1	189	-	-	-	-	-
Stage 2	248	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	581	858	1395	-	-	-
Stage 1	848	-	-	-	-	-
Stage 2	798	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	575	858	1395	-	-	-
Mov Cap-2 Maneuver	575	-	-	-	-	-
Stage 1	839	-	-	-	-	-
Stage 2	798	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.6	0.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1395	-	802	-	-
HCM Lane V/C Ratio	0.01	-	0.021	-	-
HCM Control Delay (s)	7.6	0	9.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	6.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	55	8	6	13	7	89	11	51	14	75	73	20
Future Vol, veh/h	55	8	6	13	7	89	11	51	14	75	73	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	10	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	9	0	0	15	0	1	9	21	0	1	19	20
Mvmt Flow	63	9	7	15	8	102	13	59	16	86	84	23

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	416	369	96	369	372	67	107	0	0	75	0	0
Stage 1	268	268	-	93	93	-	-	-	-	-	-	-
Stage 2	148	101	-	276	279	-	-	-	-	-	-	-
Critical Hdwy	7.19	6.5	6.2	7.25	6.5	6.21	4.19	-	-	4.11	-	-
Critical Hdwy Stg 1	6.19	5.5	-	6.25	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.19	5.5	-	6.25	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.581	4	3.3	3.635	4	3.309	2.281	-	-	2.209	-	-
Pot Cap-1 Maneuver	535	563	966	564	561	999	1441	-	-	1531	-	-
Stage 1	722	691	-	883	822	-	-	-	-	-	-	-
Stage 2	838	815	-	703	683	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	450	525	966	523	523	999	1441	-	-	1531	-	-
Mov Cap-2 Maneuver	450	525	-	523	523	-	-	-	-	-	-	-
Stage 1	716	650	-	875	815	-	-	-	-	-	-	-
Stage 2	738	808	-	647	642	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.8	9.6	1.1	3.3
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1441	-	-	458	966	523	999	1531	-	-
HCM Lane V/C Ratio	0.009	-	-	0.158	0.007	0.044	0.102	0.056	-	-
HCM Control Delay (s)	7.5	0	-	14.3	8.8	12.2	9	7.5	0	-
HCM Lane LOS	A	A	-	B	A	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.6	0	0.1	0.3	0.2	-	-

Intersection	
Int Delay, s/veh	3.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	24	19	23	15	22	72
Future Vol, veh/h	24	19	23	15	22	72
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	0	5	0	0	0	4
Mvmt Flow	30	23	28	19	27	89

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	181	38	0	0	47	0
Stage 1	38	-	-	-	-	-
Stage 2	143	-	-	-	-	-
Critical Hdwy	6.4	6.25	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.345	-	-	2.2	-
Pot Cap-1 Maneuver	813	1025	-	-	1573	-
Stage 1	990	-	-	-	-	-
Stage 2	889	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	798	1025	-	-	1573	-
Mov Cap-2 Maneuver	798	-	-	-	-	-
Stage 1	972	-	-	-	-	-
Stage 2	889	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.3	0	1.7
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	885	1573	-
HCM Lane V/C Ratio	-	-	0.06	0.017	-
HCM Control Delay (s)	-	-	9.3	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

Intersection	
Int Delay, s/veh	6.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↰	↱
Traffic Vol, veh/h	15	20	0	0	18	2	0	22	16	32	2	23
Future Vol, veh/h	15	20	0	0	18	2	0	22	16	32	2	23
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	25
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	0	15	0	0	16	50	0	9	0	0	100	4
Mvmt Flow	19	25	0	0	23	3	0	28	20	40	3	29

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	26	0	0	25	0	0	104	89	25	112	88	25
Stage 1	-	-	-	-	-	-	63	63	-	25	25	-
Stage 2	-	-	-	-	-	-	41	26	-	87	63	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.59	6.2	7.1	7.5	6.24
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.59	-	6.1	6.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.59	-	6.1	6.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4.081	3.3	3.5	4.9	3.336
Pot Cap-1 Maneuver	1601	-	-	1603	-	-	881	788	1057	870	649	1045
Stage 1	-	-	-	-	-	-	953	829	-	998	714	-
Stage 2	-	-	-	-	-	-	979	860	-	926	684	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1601	-	-	1603	-	-	847	779	1057	823	641	1045
Mov Cap-2 Maneuver	-	-	-	-	-	-	847	779	-	823	641	-
Stage 1	-	-	-	-	-	-	942	819	-	986	714	-
Stage 2	-	-	-	-	-	-	949	860	-	867	676	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.1	0	9.3	9.2
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	876	1601	-	-	1603	-	-	809	1045
HCM Lane V/C Ratio	0.054	0.012	-	-	-	-	-	0.053	0.028
HCM Control Delay (s)	9.3	7.3	0	-	0	-	-	9.7	8.5
HCM Lane LOS	A	A	A	-	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.2	0.1

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	9	2	9	17	37	0	0	238	287
Future Vol, veh/h	0	0	0	9	2	9	17	37	0	0	238	287
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	12	3	12	22	49	0	0	313	378

Major/Minor	Minor1		Major1		Major2				
Conflicting Flow All	595	784	49	691	0	-	-	-	0
Stage 1	93	93	-	-	-	-	-	-	-
Stage 2	502	691	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	467	325	1020	904	-	0	0	-	-
Stage 1	931	818	-	-	-	0	0	-	-
Stage 2	608	446	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	455	0	1020	904	-	-	-	-	-
Mov Cap-2 Maneuver	455	0	-	-	-	-	-	-	-
Stage 1	908	0	-	-	-	-	-	-	-
Stage 2	608	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.6	2.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	904	-	455	1020	-	-
HCM Lane V/C Ratio	0.025	-	0.026	0.014	-	-
HCM Control Delay (s)	9.1	0	13.1	8.6	-	-
HCM Lane LOS	A	A	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	0	-	-

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	24	0	34	0	0	0	0	28	7	23	230	0
Future Vol, veh/h	24	0	34	0	0	0	0	28	7	23	230	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	30	0	43	0	0	0	0	35	9	29	288	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	386	390	288	-	0	0	44	0	0
Stage 1	346	346	-	-	-	-	-	-	-
Stage 2	40	44	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	-	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	-	-	-	2.218	-	-
Pot Cap-1 Maneuver	617	545	751	0	-	-	1564	-	0
Stage 1	716	635	-	0	-	-	-	-	0
Stage 2	982	858	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	603	0	751	-	-	-	1564	-	-
Mov Cap-2 Maneuver	603	0	-	-	-	-	-	-	-
Stage 1	700	0	-	-	-	-	-	-	-
Stage 2	982	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.6	0	0.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	603	751	1564	-
HCM Lane V/C Ratio	-	-	0.05	0.057	0.018	-
HCM Control Delay (s)	-	-	11.3	10.1	7.3	0
HCM Lane LOS	-	-	B	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.2	0.1	-

APPENDIX G

TRUCK HEIGHT CLEARANCE AT CRESTWOOD ROAD AND RIBBONWOOD ROAD UNDER-CROSSINGS ON I-8

DIST.	COUNTY	ROUTE	POST MILE	TOTAL PROJECT	SHEET	TOTAL SHEETS
11	SD	8	R54.9/R61.5		1	168

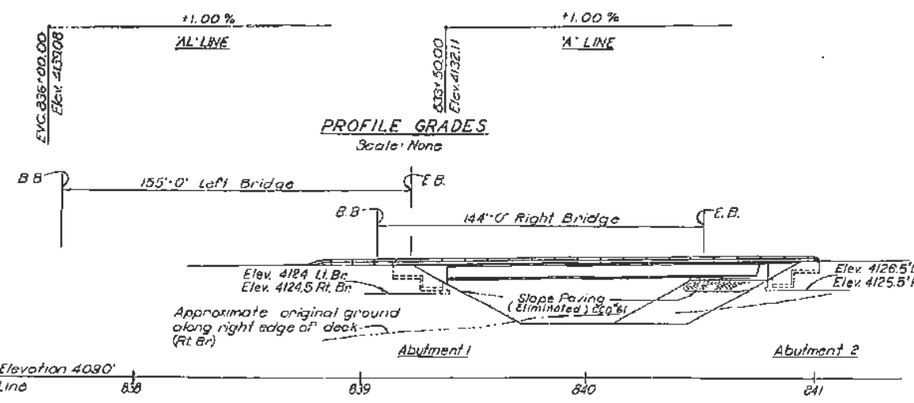
May 17, 1971

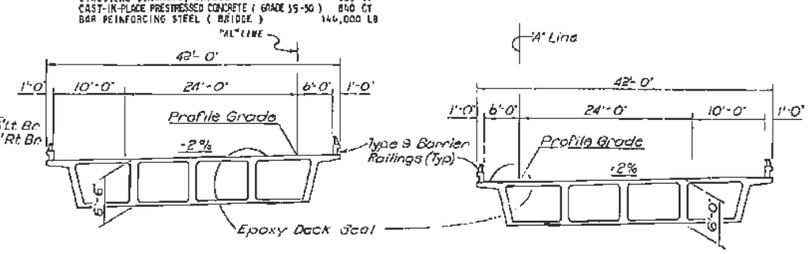
APPROXIMATE QUANTITIES

~~84" CORRUGATED STEEL PIPE (temporary) (0.064")~~ ~~346 LF~~ 0 CCO '81
PRESTRESSING CAST-IN-PLACE CONCRETE 1,099 SUM
~~LINSEED OIL (PENETRATION TREATMENT)~~ ~~12 GAL~~ 0 CCO '74
SEAL BRIDGE DECK (EPOXY) ~~13,320~~ SQ FT 12,489
WATERSTOP 168 LF 81
JOINT SEAL (TYPE B1-50 1") 205 LF 214.9 CCO '67
~~SLOPE PAVING (CONCRETE)~~ ~~18~~ CY 0 CCO '81
BRIDGE APPROACH GUARD RAILING (TYPE 8) ~~298~~ LF 294.3
METAL RAILING (TYPE 9) ~~798~~ LF 797.8
~~DRAINAGE INLET (SLOPE PAVING)~~ ~~8 EA~~ 0 CCO '81

FINAL QUANTITIES

STRUCTURE EXCAVATION (BRIDGE)	675 CY
STRUCTURE BACKFILL (BRIDGE)	620 CY
STRUCTURE CONCRETE, BRIDGE FOOTING	55 CY
STRUCTURE CONCRETE, BRIDGE	235 CY
CAST-IN-PLACE PRESTRESSED CONCRETE (GRADE 35-50)	840 CY
BAR REINFORCING STEEL (BRIDGE)	146,000 LB



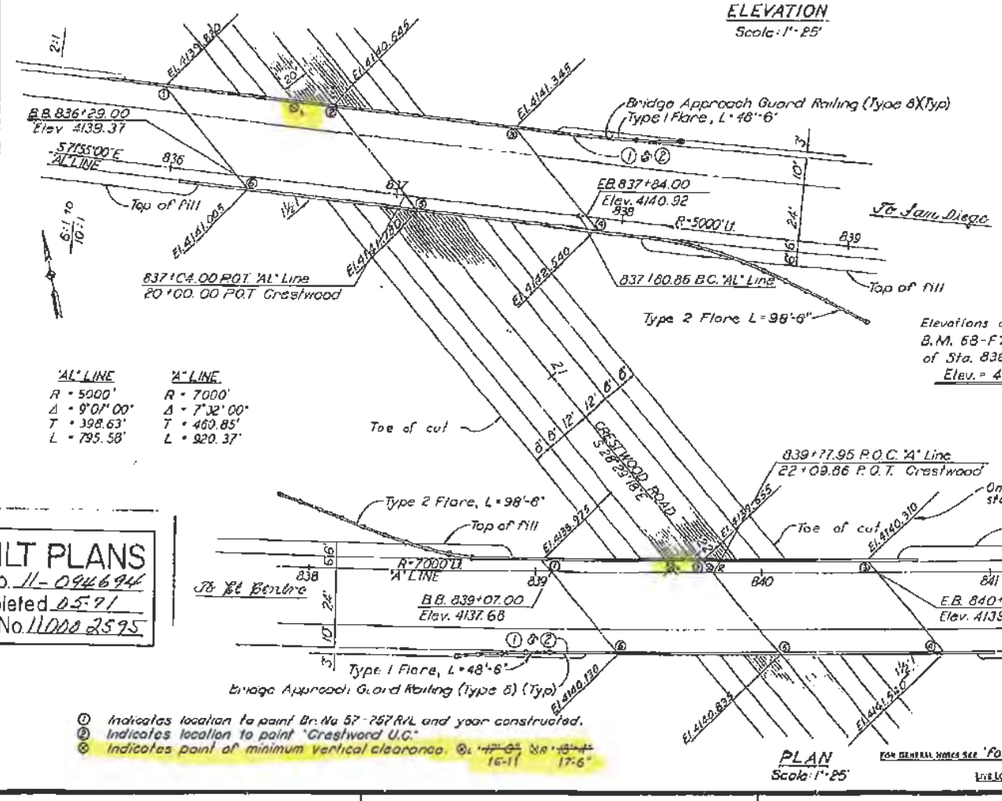


TYPICAL SECTIONS
Scale: 1/8"=1'-0"

Cast-in place, prestressed Box Girder

INDEX TO PLANS

SHEET NO.	TITLE
1.	General Plan
2.	Foundation Plan
3.	Abutment Details - Left Bridge
4.	Abutment Details - Right Bridge
5.	Typical Section
6.	Girder Layout
7	Slope Paving Details - Bib Type
8.	Log of Test Borings



① Indicates location to point Br. No 57-757 R/L and year constructed.
② Indicates location to point "Crestwood U.C."
⊗ Indicates point of minimum vertical clearance. @ L 17'-0" 16'-11" R 17'-6"

Elevations above and below are referenced to:
B.M. 68-F76, 1" Iron Pipe 265' Lt. of Sta. 836+75 "AL", Route 8
Elev. = 4125.450

AS BUILT
Corrections per M.B. Beers
Contract No. 11-094694
Date 1-9-74
As 3-13-74

STANDARD PLANS - JAN 1971

A62-B.2	Exc. & Backfill - Limits of payment
B0-1,3,5	Bridge Details
B3-3	Retaining Wall - Type 1-A
B6-21	Joint Seal Details
B7-1	Box Girder Details
B11-36	BAGR Type 8 (Layout)
B11-37	BAGR Type 8 (Details)
B11-39	Barrier Railing Type 9
B11-43	Barrier Railing Details - Type 9 411
B8-6	CIP Prestressed Girder Details
B11-30	Temporary Railings

AS BUILT PLANS
Contract No. 11-094694
Date Completed 05-71
Document No. 11008-2595

151.

BRIDGE DEPARTMENT
DESIGN SECTION 14
Section Supervisor: Arthur Beers
Project Designer:
DESIGN by: Jimmy Jong
DETAILS by: Jimmy Jong
LAYOUT by:
QUANTITIES by: Ray Yokoyama
SPECIFICATIONS by:
Approved Recommended for:

STATE OF CALIFORNIA
TRANSPORTATION AGENCY
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS

CRESTWOOD ROAD UNDERCROSSING

LOCATED APPROX. 0 L/E M.M. OF CRESTWOOD IN SAN DIEGO COUNTY

GENERAL PLAN

DISTRICT NO.	POST MILE	DRAWING NO.	SHEET	OF
57-757 R/L	56.0		1	

WO 094691
CU 11205

As-record prints bearing mailing revision dates

I HEREBY CERTIFY THAT THIS IS A TRUE AND ACCURATE COPY OF THE ABOVE DOCUMENT TAKEN UNDER MY DIRECTION AND COMPLETED ON THIS DATE IN SACRAMENTO, CALIFORNIA PURSUANT TO AUTHORIZATION OF THE DIRECTOR OF TRANSPORTATION

DATE 2/27/74 SIGNED James C. Conard TITLE Microfilm Supervisor

MICROFILM - STATE OF CALIFORNIA - DEPARTMENT OF PUBLIC WORKS - MICROFILM

ClibPDF - www.fastio.com

I-008-1(29)60

FED. ROAD DIV. NO.	STATE	P. A. PROJECT NO.	SHEET NO.	TOTAL SHEETS
7	CALIF.			

Dist.	County	Route	Postmile	Sheet No.	Total Sheets
11	SD.	8	17.4	77	99

November 19, 1965

Westbound Profile -4.00%
Eastbound Profile -4.00%

790+00 E.V.C. El. 3629.37
780+00 E.V.C. El. 3621.63

800' VC R = .5500% per station
800' VC. R = .5500% per station

798+00 E.V.C. El. 3616.17
+0.40%
+0.40%
798+00 E.V.C. El. 3607.23

B.B. Left Bridge 59'-1 1/4" 75'-6 7/8" 59'-0 1/8" E.B.
B.B. Right Bridge 58'-8 3/8" 72'-6 3/8" 56'-9 1/8"

Total Length 193'-9" measured along the Westbound L.O.L.

186'-0 1/4" Total Length measured along the Eastbound L.O.L.

PROFILE GRADE
No Scale

For Side ①
Near Side ①

Existing ground elevation
Left Bridge: ——
Right Bridge: – – –

Datum El. 3575.0.

788 789 790 791

ELEVATION
Scale 1"=20'

Sta. 789+37.02 P.O.C. Westbound L.O.L.
Sta. 30+27.52 P.O.T. ℄ McCain Valley Rd. Rt. 94
Toe of Fill
Top of fill
Sta. 789+88.78 P.O.C. ℄ Frwy.
Sta. 29+55.74 P.O.T. ℄ McCain Valley Rd. Route 94
Top of fill
Toe of Fill
Top of fill
To San Diego
50' Lt. Sta. 788+40.89 B.B. Elev. 3635.89
Top of fill
Sta. 778+22.07 B.C.
Top of fill
Toe of Fill
R = 5000'
788 789
N15° 21' 41" W 31
46° 08' 32" Skew
45° 32' 57" Skew
44° 46' 25" Skew
Route 94 Separation
℄ McCain Valley Road
℄ Freeway
℄ Westbound L.O.L.
Sta. 790+39.00 P.O.C. Eastbound L.O.L.
Sta. 28+84.71 P.O.T. ℄ McCain Valley Rd. Route 94
Sta. 800+00.00 E.C.
Top of cut
Top of cut
Top of fill
Eastbound L.O.L.
50' Rt. Sta. 789+46.77 B.B. El. 3624.10
50' Rt. Sta. 791+32.79 E.B. El. 3616.84
To El Centro
Top of fill
Top of fill
Toe of fill
Toe of Fill
Toe of fill
Top of fill
Top of fill
Toe of fill
Toe of fill
1½:1
2:1
24'-0"
39'-0"
50'-0"
3'-0"
11'-0"
20'
10'
8,100
8,310
7,800
6,265
6,040
5,040
6,235
1,035
2,380
10,000
8,700
8,515
12,390
5,390
1,675
3,650
2,620
2,880
8,115
8,780
7,630
6,450
5,360
8'
12'
12'
8'
3,390
9,045
2,070
1,805

* Elevations relative to this point Points on outside bolt of rail post stamped with X.

℄ Freeway
R = 5000'
Δ = 24° 54' 00"
T = 1109.90'
L = 2172.94'

PLAN
Scale 1"=20'

FOR GENERAL NOTES, SEE "FOUNDATION PLAN" SHEET.
LIVE LOADING: H S20-44 AND ALTERNATIVE

℄ Freeway
W.B. L.O.L.
E.B. L.O.L.
35'-0" 50'-0" 50'-0"
6'-0" 6'-0"
1'-0" (typ.)
Profile Grade
2'-0" 4'-0"
-2%
Type 1 Barrier Railing
Profile Grade
4'-6"
2'-0"
+2%

Left Bridge Shown Right Bridge Similar

TYPICAL SECTION
Scale ⅜"=1'-0"

APPROXIMATE QUANTITIES

*STRUCTURE EXCAVATION (BRIDGE)	875 C.Y.
*STRUCTURE BACKFILL (BRIDGE)	510 C.Y.
*CLASS "A" CONCRETE (BRIDGE)	1,265 C.Y.
*BAR REINFORCING STEEL (BRIDGE)	367,000 LBS.
CONTRAST TREATMENT	~~6345~~ 6395 S.Y.
BARRIER RAILING (TYPE 1)	~~8719~~ 8734 L.F.

*FINAL QUANTITIES

INDEX TO PLANS

SHEET NO.	TITLE
1.	GENERAL PLAN
2.	GRID GRADES
3.	FOUNDATION PLAN
4.	ABUTMENT DETAILS
5.	BENT DETAILS
6.	TYPICAL SECTION
7.	GIRDER LAYOUT
8.	GIRDER REINFORCEMENT
9.	LOG OF TEST BORINGS

SHEET NUMBERS PREFIXED WITH "B" ARE GROUPED TOGETHER AS "BRIDGE DETAILS" AND APPLY TO SEVERAL STRUCTURES.

B-1.	BARRIER RAILING SHEET 1
B-2.	BARRIER RAILING SHEET 2
B-3.	BOX GIRDER DETAILS NO. 1
B-4.	TEE BEAM DETAILS NO. 1
B-2(Rev)	BARRIER RAILING DETAILS - STEEL POST

AS BUILT
CORRECTIONS BY D. HPR
CONTRACT NO. 11-094664
DATE 8-11-67 10-10-67

① PAINT BRIDGE NO. 57-606 R/L AND YEAR CONSTRUCTED.
② PAINT "~~MC-CAIN VALLEY ROAD-U.C.~~" ROUTE ~~94~~ 94 SEPARATION
③ INDICATES POINT OF MINIMUM VERTICAL CLEARANCE (Min. Vert. Cl. is ~~23'-5"~~ 19'-1")
CONTRAST TREATMENT

SHEET 1 OF ~~137~~ 99

ENGINEER DEPARTMENT
•• DESIGN SECTION ••
14

Project Designer: Wagner
Chief Designer: T. A. Bergren

DESIGN	Abel	Drafted	H. Silverman
DETAILS	Tan "H" Pile 2/16	Checked	T. Bergren
QUANTITIES	M. Milligan	Checked	Wm H. Pile
SPECIFICATIONS	Leonard Nagel	Prep. for Sign	
Approval Recommended by	M. Olson	Civil Dept. Chief Sign.	

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS

ROUTE 8/94 SEPARATION
~~McCAIN VALLEY ROAD UNDERCROSSING~~
LOCATED IN SAN DIEGO COUNTY APPROX. 0.6 MI. E. OF THE JUNCTION OF EXISTING U.S. HIGH ROUTE 80 AND STATE HIGH ROUTE 94 AND 4 MI. N. OF EXISTING U.S. HIGH ROUTE 80 AND JEWELL VALLEY ROAD

GENERAL PLAN

SCALE AS NOTED | BRIDGE 57-606 R/L | FILE | DRAWING 5760d-1

E.A. 094661
C.U. 11-806

Changed plan bearing number dates →

PREL. DRAWING NO. P-

APPROVED
Date of Document

77

Revised system exclusions
12/16.