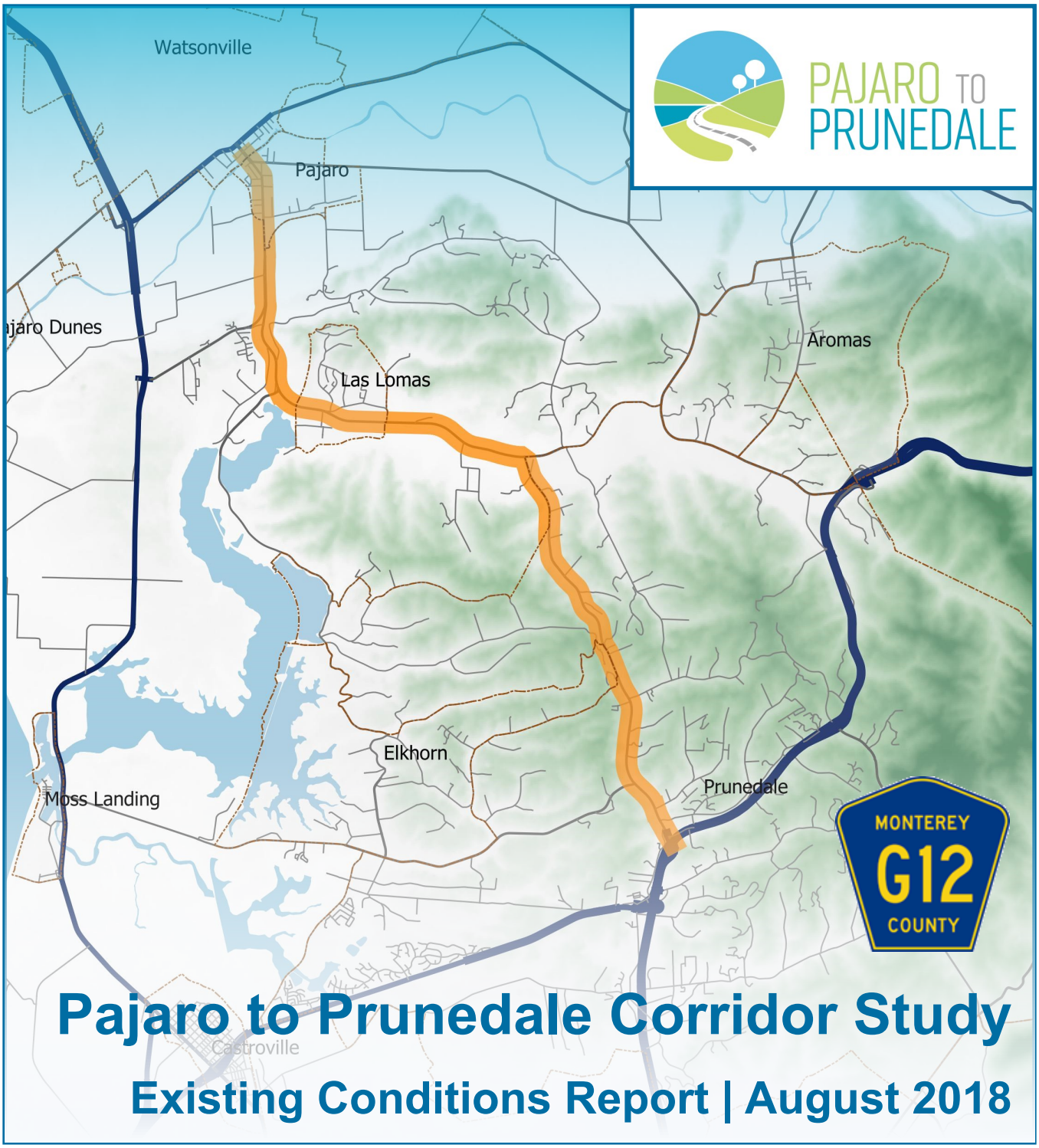
Appendices

Appendix A
Existing Conditions Report



Pajaro to Prunedale Corridor Study

Existing Conditions Report | August 2018

Prepared for:

TAMC
TRANSPORTATION AGENCY FOR MONTEREY COUNTY

Prepared By:

omni·means
A GHD Company

GHD

G12: Pajaro to Prunedale Corridor Study
Existing Conditions Report

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APPENDIX

Introduction

This corridor study was initiated by the Transportation Agency for Monterey County (TAMC) to address congested traffic conditions experienced along a generally north-south travel corridor, known as G12, between Pajaro and Prunedale, in northern Monterey County. In addition to the corridor's growing traffic congestion, the route also is experiencing a particularly high number of collisions, including bicycle and pedestrian incidents and fatalites. Over the past five years, with improved connections to Highway 1 to the northwest and Highway 101, to the south, this route corridor route has become a viable alternative regional north-south route between population centers in Santa Cruz County and Monterey County. Unfortunately, this attractive alternative regional route now competes with the local agricultural and rural travel needs of the communities of Pajaro, Las Lomas and Prunedale along its route.

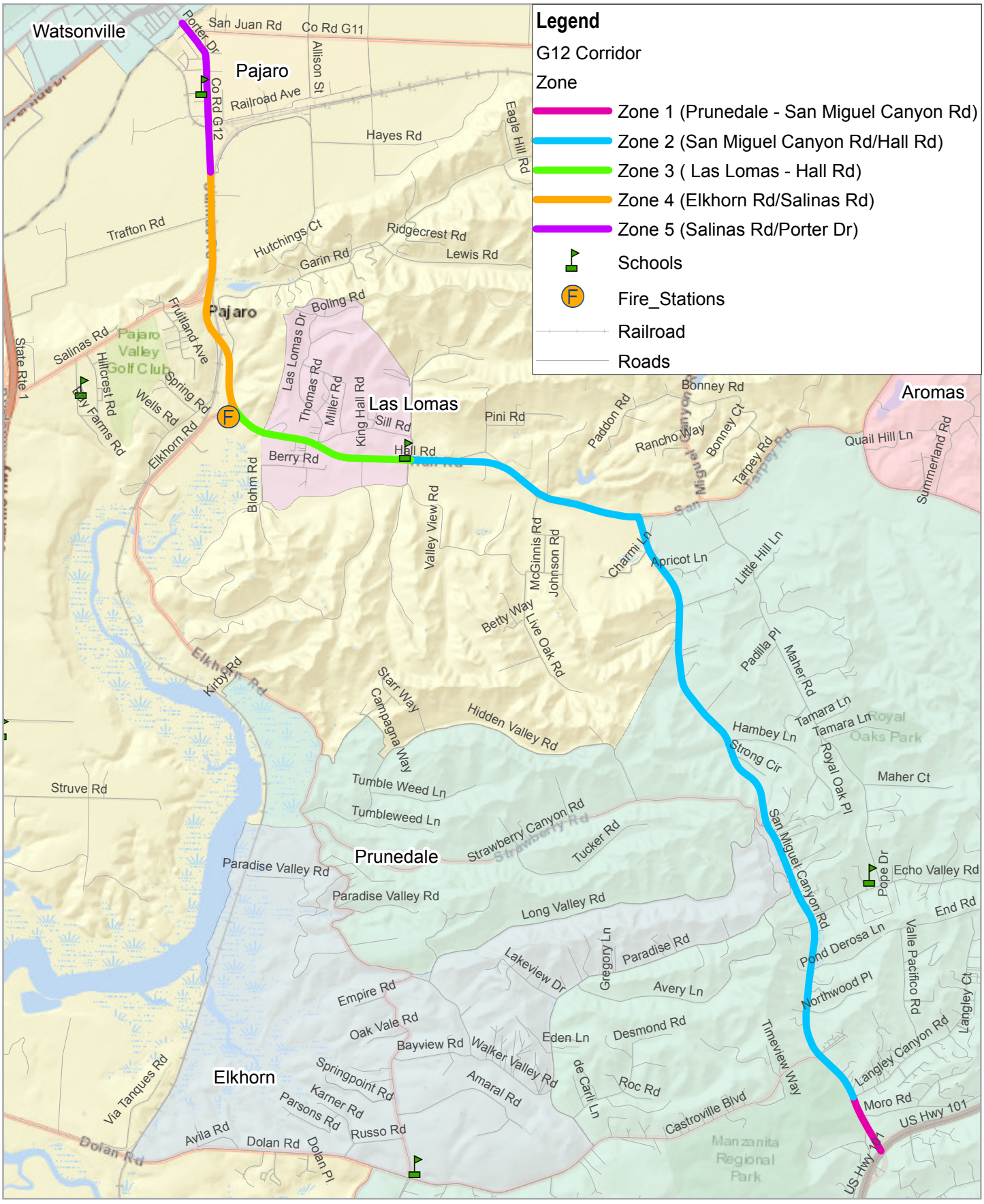
As commissioned, this G12: Pajaro to Prunedale Corridor Study will evaluate how to improve operations, safety, and maintenance to accommodate its current and future travel patterns to achieve and maintain safe and efficient local and regional access between U.S. 101 to the south, State Route 1 to the west, and the Santa Cruz County Line to the north. The G12 corridor is 10.5 miles in length and extends south along Porter Drive and Salinas Road from the Santa Cruz County/City of Watsonville limits, then east on Elkhorn Road and Hall Road, then south again on San Miguel Canyon Road, terminating at U.S. 101 in Prunedale. Figure 1 presents the Study Area Map and identifies the locations of the corridor zones. In addition to operations, addressing the safety concerns along the corridor will also be a key component of this study. Lastly, the G12 corridor traverses the drainage basin for the Elkhorn Slough National Estuarine Reserve, which in turn flows into the Monterey Bay at Moss Landing. The special status of the Elkhorn Slough and Monterey Bay Marine Sanctuary make planning for stormwater management and runoff a high priority.

This report presents the existing conditions along the study corridor and at selected study intersections. The existing conditions summarized in this report establish the baseline conditions and covers the following:

- Existing Setting
  - Socioeconomic Trends
  - Corridor Zones
  - Transit, Pedestrian, and Bicycle Facilities
  - Truck Routes
  - Stormwater Management and Water Quality
- Existing Traffic Data Collection
- Existing Roadway Conditions
- Existing Intersection Operations
- Travel Time Run Analysis
- Traffic Collision Analysis
- Bicycle Level of Traffic Stress

The G12 corridor is segmented into the following five concept zones for this study:

Zone 1. Prunedale Semi-Urban (U.S. 101 to Langley Canyon Road)
Zone 2. Rural 1 (Langley Canyon Road to Sill Road)
Zone 3. Las Lomas Rural Community (Sill Road to Elkhorn Road)
Zone 4. Rural 2 (Elkhorn Road to Lewis Road)
Zone 5. Pajaro Semi-Urban (Lewis Road to Pajaro River)



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GHD

Transportation Agency for Monterey County
G12 Corridor: Pajaro to Prunedale Corridor Study

Project No. **11152201**
Revision No. **-**
Date **03/07/2018**

Study Area Map

FIGURE 1

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Existing Planning Framework

This section summarizes current planning documents that guide or regulate transportation planning decisions related to this corridor study.

TAMC Bicycle and Pedestrian Master Plan (December 2011)

This plan identifies bicycle and pedestrian improvements countywide. For the G12 corridor, improvements include installing sidewalk on Hall Road and on the collector/local roadways in the Las Lomas community. The plan also identifies an improvement for Class II Bike Lanes on Werner Road from Salinas Road to Elkhorn Road, on Salinas Road east of Werner Road, on Sill Road, Las Lomas Drive, Elkhorn Road, and Prunedale North Road. These projects are also identified in the Regional Transportation Plan.

TAMC Regional Roundabout Study (March 2016)

TAMC evaluated the benefit of roundabouts or other alternative control devices to traditional signalized intersections in this study for high priority intersections throughout the County. This study identified San Miguel Canyon Road at Castroville Boulevard as one of the intersections and determined that a roundabout was the preferred control for safety, operations and maintenance costs, emissions, and benefit/cost ratio.

Safe Routes to School Plan

The purpose of the countywide safe routes to school program is to improve the safety and health of children by funding projects (Measure X) and programs (such as sidewalks, bikeways and educational programs) that promote safe walking and bicycling to school and vocational training. Related priority projects (FY 2018-2023) include Pajaro Complete Streets.

2040 Metropolitan Transportation Plan/Sustainable Communities Strategy (MPT/SCS)

The Association of Monterey Bay Area Governments (AMBAG) is the Metropolitan Planning Organization (MPO) for the Monterey Bay area. AMBAG coordinates the development of the MTP with Regional Transportation Planning Agencies, transit providers, the Monterey Bay Unified Air Pollution Control District, state and federal governments, and other organizations that have interest or responsibility for transportation planning and programming. The 2040 MTP/SCS was adopted in June 2018. The 2016 Metropolitan Transportation Improvements Program (MTIP) has programmed improvements related to G12 for transit (MST) facilities and infrastructure, and the Prunedale Improvement Project Landscape Mitigation.

Transportation Agency for Monterey County 2018 Regional Transportation Plan (TAMC RTP)

The TAMC RTP provides a list of projects in the area, including installation of Class II Bike Lanes on Elkhorn Road, Las Lomas Drive, Prunedale North Road, and Hall Road – Salinas Road (G12), Sill Road, and Werner Road. Other Active Transportation projects listed include installing a Class I bikeway along the Pajaro River Levee.

Monterey County General Plan

The Circulation Element of the General Plan identifies the general location and extent of existing and proposed major transportation facilities for all modes of transportation. The Circulation Element also provides transportation goals and policy direction for the transportation systems

that serve the unincorporated lands of Monterey County and describes how the County intends to serve transportation needs for the next twenty years as the County's population grows.

Existing Setting

The G12 Corridor is one of northern Monterey County's important regional routes. It is diverse in terms of its functions and the communities it serves. While the G12 Corridor is made up of County highways, the corridor functions much like a State Highway. It carries a variable mixture of local travelers, regional travelers, and even interregional travelers. Historically, the corridor carried mostly local travelers, but over the years, the mixture of traffic has gone from primarily local in nature to a much wider user base resulting in traffic volumes that have grown to over 25,000 vehicles per day. Only a few short years ago, the corridor primarily served residents in the area who valued the rural lifestyle and still reasonable proximity to jobs and shopping in the Cities of Salinas, Watsonville, Monterey, Santa Cruz, and San Jose. Now, a number of corridor users are going from city to city and region to region. Based on Google Maps directions, and other route-finding programs, the most favorable route today between San Luis Obispo to Santa Cruz, directs you onto the G12 corridor, exiting/entering US 101 at San Miguel Canyon Road in Prunedale.

On the surface, it might appear that travelers choose the G12 Corridor for interregional trips due to ever-increasing congestion on the following State Highways in northern Monterey County: US Route 101, State Route 1, State Route 68, State Route 156, and State Route 183. Congestion and travel time are certainly primary factors in route choice and one reason why Google Maps and other route-finding programs direct users to the G12 Corridor when traveling between Salinas and Santa Cruz. However, State Highway congestion is not the only reason why traffic has increased on G12.

TAMC, in strong partnership with Caltrans District 5 and Monterey County, has implemented a Capital Improvement Program over the last 10 years that has focused on interchange improvements. A new interchange was constructed at Salinas Road/State Route 1, and several interchanges or overcrossings were constructed or improved for the Prunedale Improvement Project along US 101 between San Juan Road and Espinosa Road/Russell Road, including San Miguel Canyon Road. These new interchanges and overcrossings have greatly improved safety, and have made access to and from the G12 Corridor more convenient for motorists. These access improvements have made the G12 Corridor a more attractive alternative to the State Highways that are growing ever more congested.

Socioeconomic Trends

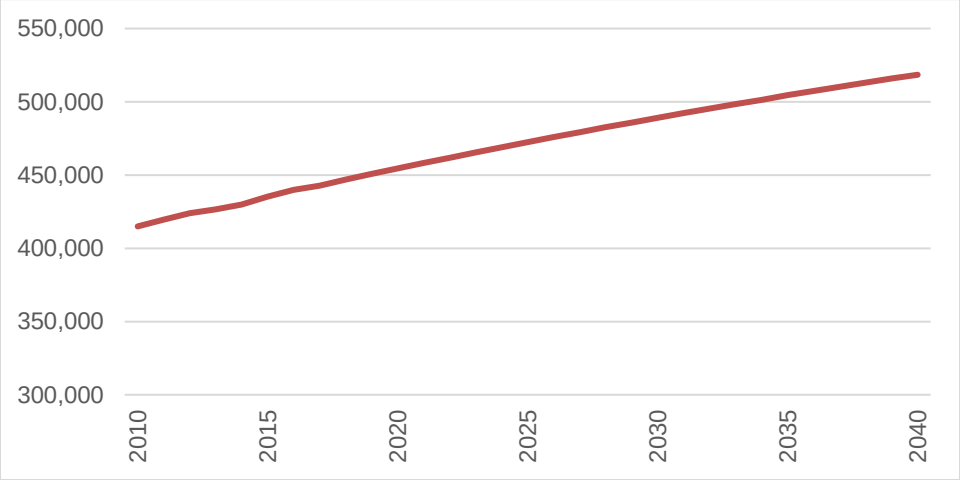
The following section will examine recent trends and current facts regarding population, housing, employment, commuter mode-choice, and travel times within the communities along G12 and for Monterey County. Data from the United States Census Bureau's American Community Survey (ACS) and the Department of Finance (DOF) forms the basis of the following demographic analysis.

Population and Employment

Figure 2 presents the population estimates and projections for Monterey County, prepared by Demographic Research Unit, California Department of Finance, January 2018. The DOF projects the County's population to increase over the next twenty years by approximately 15%. For comparison, the Association of Monterey Bay Area Governments (AMBAG) projected a

16% increase in population for the tri-county region between 2015 and 2040, as documented in the *2018 Regional Growth Forecast*.

FIGURE 2: MONTEREY COUNTY POPULATION ESTIMATES AND PROJECTIONS



Employment

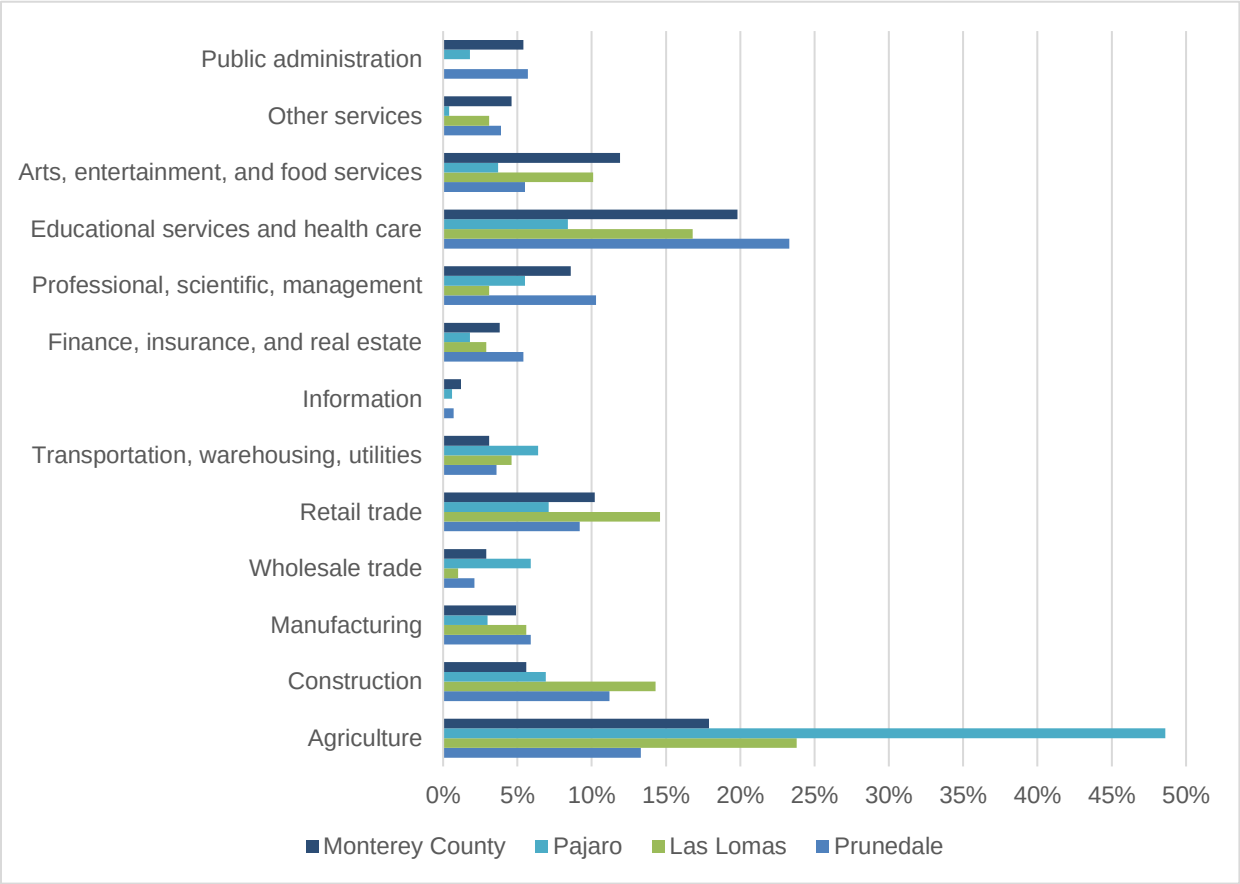
Table 1 presents the employment status for the communities along G12 and for Monterey County. Figure 3 presents the percentage of employment industry by area, for the civilian employed population 16 years and over. Table 1 and Figure 3 are based on the ACS five-year estimates between 2012 and 2016. As shown in Table 1, between 63% and 72% of the population over 16 years of age for the communities of Prunedale, Las Lomas, and Pajaro are in the labor force. This is higher than the countywide percentage of population in labor force. The unemployment rate for Prunedale and Las Lomas are similar to the countywide rate, however Pajaro has a much higher unemployment rate compared to Monterey County.

TABLE 1: EMPLOYMENT STATUS

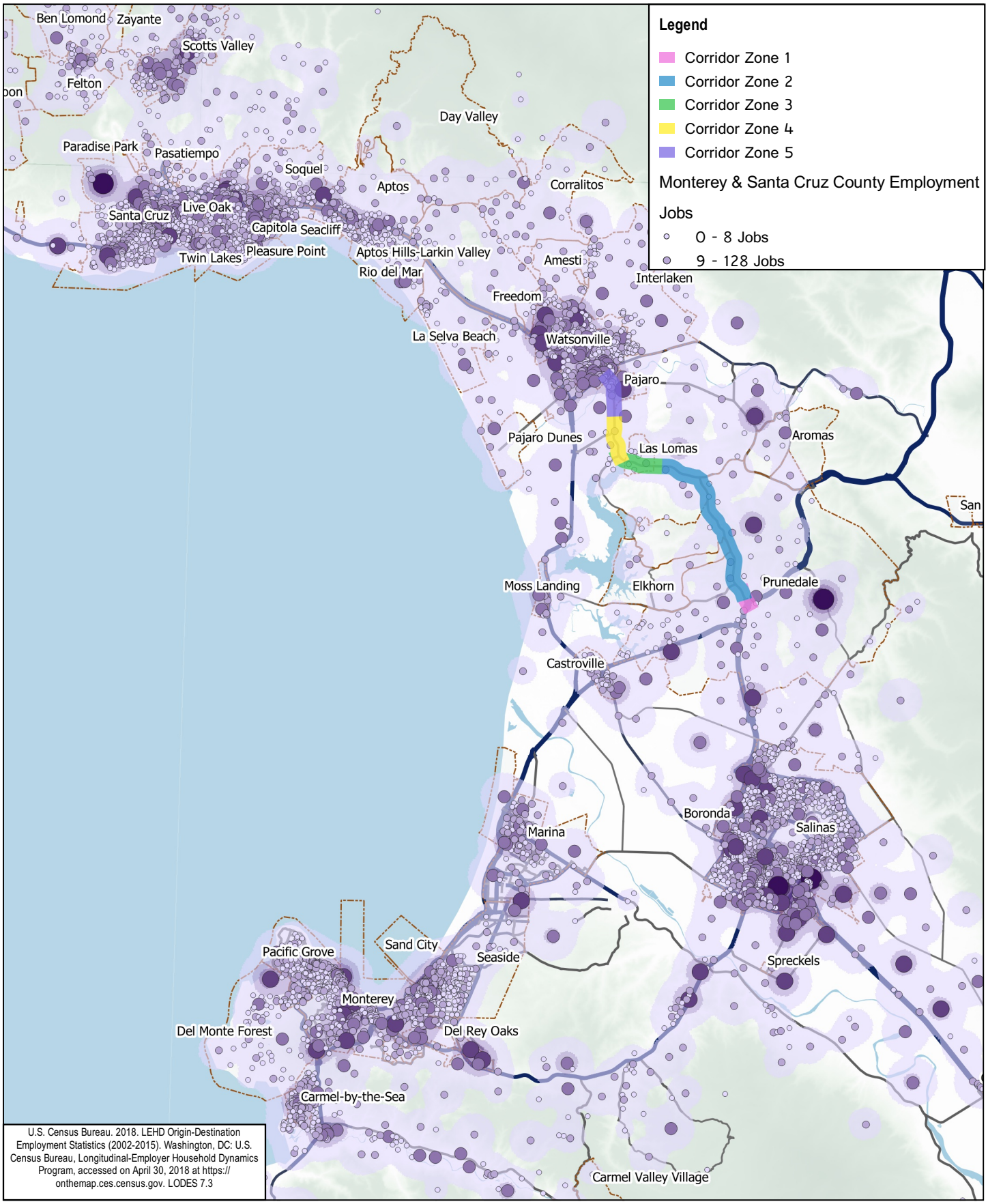
	Prunedale, CDP		Las Lomas, CDP		Pajaro, CDP		Monterey County	
EMPLOYMENT STATUS	Estimate	Percent	Estimate	Percent	Estimate	Percent	Estimate	Percent
Population 16 years and over	15,672		2,156		2,306		328,047	
In labor force	10,010	63.9%	1,545	71.7%	1,593	69.1%	199,749	60.9%
Civilian labor force	10,009	63.9%	1,545	71.7%	1,593	69.1%	193,919	59.1%
Employed	9,262	59.1%	1,442	66.9%	1,313	56.9%	180,631	55.1%
Unemployed	747	4.8%	103	4.8%	280	12.1%	13,288	4.1%
Armed Forces	1	0.0%	0	0.0%	0	0.0%	5,830	1.8%
Not in labor force	5,662	36.1%	611	28.3%	713	30.9%	128,298	39.1%
Civilian labor force	10,009	10,009	1,545	1,545	1,593	1,593	193,919	193,919
Unemployment Rate		7.5%		6.7%		17.6%		6.9%

Source: U.S. Census Bureau; Selected Economic Characteristics, 2012-2016 American Community Survey 5-Year Estimates

FIGURE 3: EMPLOYMENT INDUSTRY PERCENT BY AREA



As shown in Figure 3, the agricultural industry, and the educational services and health care industry are consistently the top two employment industries. The Pajaro community has the highest percentage (48.6%) of agricultural workers. This is due to the community and surrounding region being well known statewide for its berry farms. Figure 4 presents the regional employment data based on where workers are employed (Source: U.S. Census Bureau, Longitudinal-Employer Household Dynamics Program (LEHD) Origin-Destination Employment Statistics for 2015).



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Transportation Agency for Monterey County
G12 CORRIDOR STUDY

Regional Employment Data (Where Workers are Employed)

Project No. **11152201**
Revision No. **R2453RPT001**
Date. **04/12/2018**

FIGURE 4

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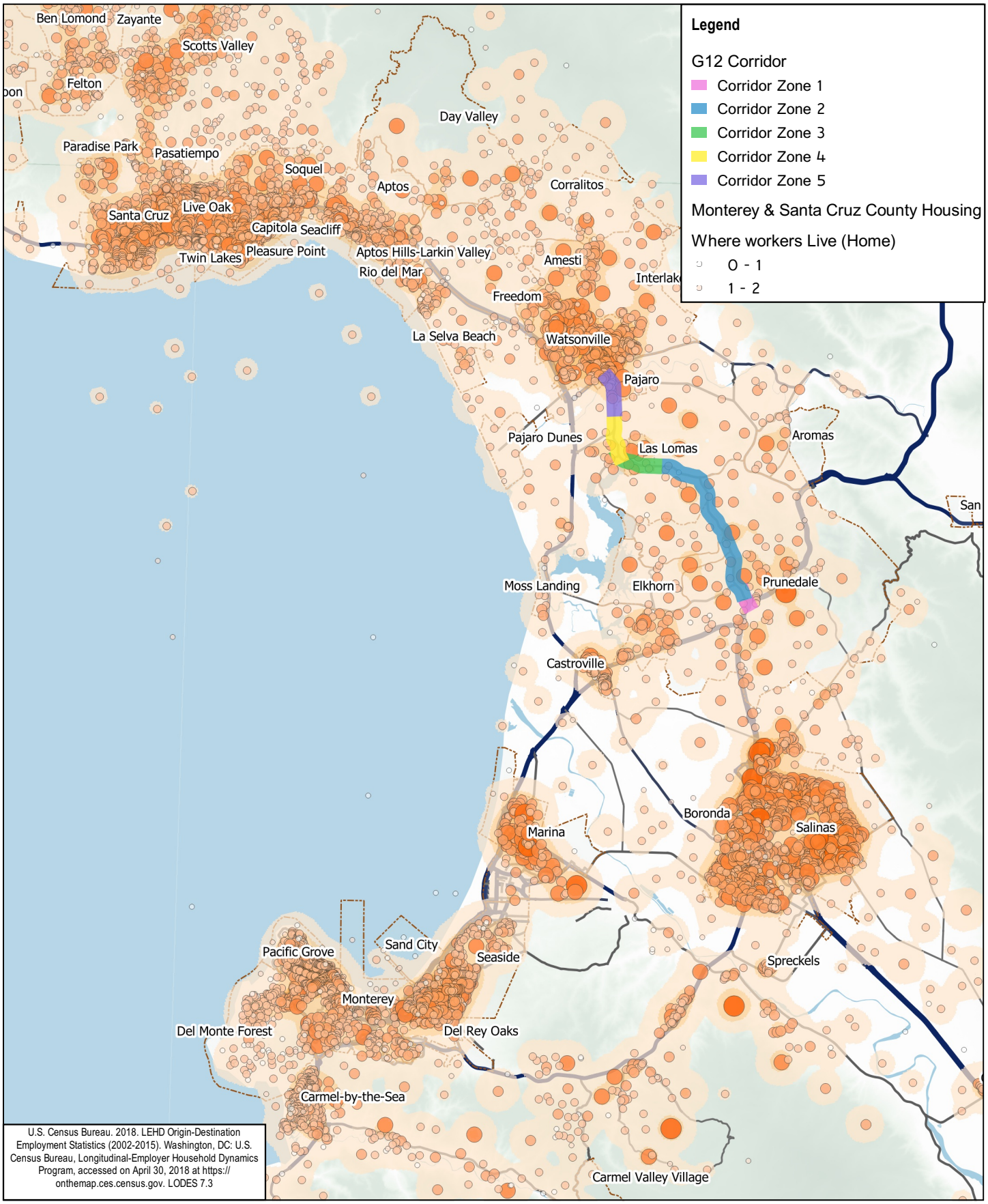
Housing

Table 2 presents the housing characteristics for the communities along G12 and for Monterey County, are based on the ACS five-year estimates between 2012 and 2016. As shown in Table 2, most the housing units in Prunedale and Las Lomas are owned, while in Pajaro most housing units are rented, and countywide there is a split between both. Also, the majority of Prunedale and Las Lomas households have three or more vehicles available, while Pajaro has the highest percentage for number of vehicles available at two vehicles. Additionally, the value of owner-occupied housing units varies between these communities. The majority of Prunedale owner-occupied housing units are valued at $300,000 or higher. The majority of Las Lomas owner-occupied housing units are valued at $200,000 or higher. The majority of Pajaro owner-occupied housing units are valued between $200,000 and $299,999, and with a larger percentage valued at less than $100,000. Figure 5 presents the regional housing data based on where workers live (Source: U.S. Census Bureau, Longitudinal-Employer Household Dynamics Program (LEHD) Origin-Destination Employment Statistics for 2015).

TABLE 2: HOUSING CHARACTERISTICS

	Prunedale, CDP		Las Lomas, CDP		Pajaro, CDP		Monterey County	
Housing Characteristics	**Estimate**	**Percent**	**Estimate**	**Percent**	**Estimate**	**Percent**	**Estimate**	**Percent**
HOUSING OCCUPANCY								
Total housing units	6,324	6,324	572	572	640	640	140,169	140,169
Occupied housing units	5,833	92.2%	549	96.0%	625	97.7%	125,916	89.8%
Vacant housing units	491	7.8%	23	4.0%	15	2.3%	14,253	10.2%
Homeowner vacancy rate	1.1		0		0		1.7	
Rental vacancy rate	5.6		0		0		4.2	
HOUSING TENURE								
Occupied housing units	5,833	5,833	549	549	625	625	125,916	125,916
Owner-occupied	4,369	74.9%	342	62.3%	70	11.2%	62,601	49.7%
Renter-occupied	1,464	25.1%	207	37.7%	555	88.8%	63,315	50.3%
Average household size of owner-occupied unit	3.31		4.9		4.11		3.09	
Average household size of renter-occupied unit	3.51		6.62		5.68		3.45	
VEHICLES AVAILABLE								
Occupied housing units	5,833	5,833	549	549	625	625	125,916	125,916
No vehicles available	58	1.0%	0	0.0%	62	9.9%	6,089	4.8%
1 vehicle available	928	15.9%	97	17.7%	168	26.9%	38,911	30.9%
2 vehicles available	1,904	32.6%	134	24.4%	277	44.3%	47,564	37.8%
3 or more vehicles available	2,943	50.5%	318	57.9%	118	18.9%	33,352	26.5%
VALUE								
Owner-occupied units	4,369	4,369	342	342	70	70	62,601	62,601
Less than $50,000	306	7.0%	12	3.5%	14	20.0%	2,670	4.3%
$50,000 to $99,999	46	1.1%	0	0.0%	16	22.9%	1,450	2.3%
$100,000 to $149,999	109	2.5%	0	0.0%	0	0.0%	2,320	3.7%
$150,000 to $199,999	70	1.6%	11	3.2%	0	0.0%	3,366	5.4%
$200,000 to $299,999	385	8.8%	80	23.4%	30	42.9%	10,535	16.8%
$300,000 to $499,999	1,872	42.8%	149	43.6%	5	7.1%	19,218	30.7%
$500,000 to $999,999	1,525	34.9%	90	26.3%	5	7.1%	16,410	26.2%
$1,000,000 or more	56	1.3%	0	0.0%	0	0.0%	6,632	10.6%
Median (dollars)	398,200		368,700		-		393,300	

Source: U.S. Census Bureau; Selected Housing Characteristics, 2012-2016 American Community Survey 5-Year Estimates



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Transportation Agency for Monterey County
G12 CORRIDOR STUDY

Regional Housing Data (Where Workers Live)

Project No. **11152201**
Revision No. **R2453RPT001**
Date. **04/12/2018**

FIGURE 5

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Commute Trends

Table 3 presents the various means of transportation reported for the communities along the G12 corridor and for the County for the ACS five-year estimates between 2012 and 2016. As shown in Table 3, these statistics indicate a consistent trend of a large percentage of commuters driving alone. Carpooling within Pajaro has a higher percentage compared to the other communities along G12 and the County. Additionally, working at home is less than 10%, and Prunedale is consistent with the County percentage. Walking to work in Pajaro is higher (6.0%) because many people live and work in Pajaro, especially in the local agricultural industry. "Other Means" is also high at 14.6% for Pajaro because it includes motorcycle, taxicab, and bicycles.

TABLE 3: MEANS OF TRANSPORTATION AND CARPOOLING STATISTICS

	Prunedale, CDP		Las Lomas, CDP		Pajaro, CDP		Monterey County	
COMMUTING TO WORK	Estimate	Percent	Estimate	Percent	Estimate	Percent	Estimate	Percent
Workers 16 years and over	9,134		1,396		1,203		182,614	
Car, truck, or van -- drove alone	7,104	77.8%	1,042	74.6%	606	50.4%	128,802	70.5%
Car, truck, or van -- carpooled	1,197	13.1%	131	9.4%	341	28.3%	21,497	11.8%
Public transportation (excluding taxicab)	109	1.2%	10	0.7%	8	0.7%	3,602	2.0%
Walked	83	0.9%	0	0.0%	72	6.0%	5,688	3.1%
Other means	252	2.8%	109	7.8%	176	14.6%	14,850	8.1%
Worked at home	389	4.3%	104	7.4%	0	0.0%	8,175	4.5%

Source: U.S. Census Bureau; Selected Economic Characteristics, 2012-2016 American Community Survey 5-Year Estimates

Table 4 presents the reported travel times for the communities along the G12 corridor and for the County for the ACS five-year estimates between 2012 and 2016. The average travel time to work for Prunedale and Las Lomas workers are consistent, and Pajaro is consistent with the County average. Prunedale and Las Lomas have the majority of commuters spending 15 to 35 minutes, indicating some rush hour congestion or longer distances to larger employment areas. Pajaro and Monterey County have the majority of commuters spending less than 25 minutes commuting, indicating lower congestion and a presumably higher amount of relatively localized employment. Based on ACS data for 2006-2010 five-year estimates, the mean commute time for Monterey County was 22.0 minutes, and 26.5 minutes for Prunedale. Commute travel times did not vary significantly countywide, but for Prunedale they decreased. Recent transportation improvements, including new interchanges in the area, likely are the reason for the decreased commuting time.

TABLE 4: TRAVEL TIME TO WORK

	Prunedale CDP		Las Lomas CDP		Pajaro CDP		Monterey County	
TRAVEL TIME TO WORK	Estimate	Percent	Estimate	Percent	Estimate	Percent	Estimate	Percent
Total:	8,745		1,292		1,203		174,439	
Less than 5 minutes	51	0.6%	0	0.0%	37	3.1%	3,548	2.0%
5 to 9 minutes	400	4.6%	14	1.1%	77	6.4%	17,217	9.9%
10 to 14 minutes	599	6.8%	121	9.4%	168	14.0%	26,142	15.0%
15 to 19 minutes	1,364	15.6%	201	15.6%	354	29.4%	38,635	22.1%
20 to 24 minutes	1,949	22.3%	247	19.1%	221	18.4%	31,876	18.3%
25 to 29 minutes	1,036	11.8%	137	10.6%	106	8.8%	9,487	5.4%
30 to 34 minutes	1,381	15.8%	349	27.0%	20	1.7%	22,044	12.6%
35 to 39 minutes	184	2.1%	8	0.6%	17	1.4%	3,335	1.9%
40 to 44 minutes	307	3.5%	44	3.4%	43	3.6%	6,072	3.5%
45 to 59 minutes	649	7.4%	63	4.9%	105	8.7%	7,353	4.2%
60 to 89 minutes	537	6.1%	62	4.8%	28	2.3%	5,242	3.0%
90 or more minutes	288	3.3%	46	3.6%	27	2.2%	3,488	2.0%
Mean travel time to work (minutes)	28.5		28.3		22.1		22.5	

Source: U.S. Census Bureau; 2012-2016 American Community Survey 5-Year Estimates

Figure 6 presents the origin-destination data between the Santa Cruz area, the Watsonville and Pajaro areas, the Prunedale and Elkhorn areas, and the Monterey and Salinas areas. For each area, the inflow and outflow are shown in terms of job counts. Inflow represents workers employed in the subject area that live outside of the subject area. Outflow represents workers that live in the subject area and work outside of the subject area. The circle represents workers that are employed and that live in the subject area. The arrows do not indicate directionality of worker flow between the areas or home and employment locations. For example, inflows for the Monterey and Salinas areas would be coming from outside of both of these areas.

As shown in Figure 6, the Monterey (and adjacent Cities) and Salinas (City) areas have the highest numbers of all categories, with 44,000-46,000 workers that work or live either inside or outside of these Cities, or both. The Santa Cruz area also has a similar consistency between inflows and outflows (29,000-30,000), but with less people working and living within (26,652). Prunedale, Elkhorn and Castroville areas show a significantly lower number of worker inflow and outflow (9,400-9,700), with only 1,030 workers that live and work within the area. The Pajaro and the Watsonville areas (City and adjacent communities) also show relatively low inflow and outflow (16,140 inflow and 18,953 outflow), with 7,625 workers that live and work within the area. As shown in the employment and housing figures, workers within both Monterey and Santa Cruz Counties are located within or adjacent to the G12 area, with larger concentrations in urbanized areas such as the Cities of Monterey, Salinas, and Santa Cruz. There is a correlation between the location of jobs, where workers live, and the average commute times. The average travel times to work for the areas identified in Table 4 above are between 22 and 29 minutes. The average travel time for the G12 corridor is approximately 15 minutes. Travel time between Watsonville and Salinas is approximately 30 minutes, and the quickest route is via G12.

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Map Projection: Lambert Conformal Conic
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Transportation Agency for Monterey County
G12 CORRIDOR STUDY

Origin-Destination Data for Adjacent Places

Project No. **11152201**
Revision No. **R2453RPT001**
Date. **04/12/2018**

FIGURE 6

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Corridor Zones

As presented in the Introduction, the G12 corridor has been segmented into five Corridor Zones. These corridor zones are further described below, detailing existing roadway characteristics, adjacent land uses, and field observations. The G12 corridor is identified as a major roadway in the County General Plan. The photos included for each Corridor Zone were taken during the field observations, counts, and travel time runs collected (January 31 – February 1, 2018).

Zone 1

Zone 1 (Prunedale) has seen substantial growth in overall traffic volumes and general activity. With the construction of the San Miguel interchange and the recent signalization of the southbound US 101 off-ramp, access to the commercial center just west of US 101 has become easier and traffic has increased in turn. As a result, there has been an increase in traffic using the Prunedale North Road signalized intersection at San Miguel Canyon Road, and the Prunedale North Road/Prunedale South Road corridor that serves as frontage to US 101, which provides access to an increasing number of businesses.

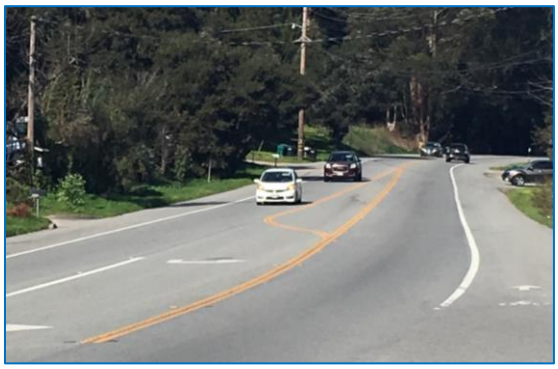
As the southbound motorists enter Zone 1 from the more rural Zone 2, the speed limit transitions from 55 mph to 35 mph at Langley Canyon Road. While some of the southbound motorists on San Miguel Canyon Road are intending to access the commercial businesses clustered near the US 101 interchange, Prunedale Road and Moro Road, a substantial number are intent on accessing US 101 and are focused on transitioning to freeway speed. In the northbound direction, the rightmost through lane turns into a trap right turn lane at Moro Road, forcing through vehicles to merge into the leftmost lane. The County has installed flexible posts at the intersection's approach to delineate traffic, channelizing the right turn lane, and attempting to restrict vehicles from merging at the last moment. Some vehicles choose to merge even before the Prunedale North Road traffic signal. However, most of the delineating posts are missing or damaged, revealing that through vehicles failed to merge at the appropriate location. In the PM peak hour, traffic in the Prunedale area backs up in both directions. Northbound traffic on G12 will back up beyond the US 101 overpass onto 101 North, further congesting traffic at Vierra Canyon Road and SR 156 during the PM peak hour. However, most vehicles are heading to US 101 Southbound, and traffic backs up through the traffic lights and to Langley Canyon Road during both AM and PM peak hours. Zone 1 is approximately 0.3 miles in length.

Zone 2

Zone 2 is largely undeveloped from a commercial/industrial standpoint, but has gradually seen growth in rural residential development. The primary roads intersecting with San Miguel Canyon Road and Hall Road are Castroville Boulevard, Echo Valley Road, Paradise Road, Strawberry Road, and Johnson Road. Each of these intersections has a dedicated left-turn lane, allowing turning traffic to be out of the through lane. Echo Valley Road provides access to Echo Valley Elementary School and continues to U.S. 101. The Castroville Boulevard intersection also has a channelized right turn pocket for southbound traffic on San Miguel Canyon Road that is required to yield the right-of-way to the opposing northbound left-turning traffic. The intersection of San

Miguel Canyon Road at Hall Road is signalized with dedicated left turn lanes, and a channelized right turn lane from eastbound Hall Road to southbound San Miguel Canyon Road.

However, many intersecting local roads do not have dedicated turn lanes on San Miguel Canyon Road and Hall Road. These include Northwood Place, Mathew Lane, Wilson Way, Strong Circle, Hambey Lane, Charles Schell Lane, Apricot Lane, and Pini Road. There is a relatively short continuous left-turn lane extending southerly from Pond Derosa Lane that provides turning refuge for several driveways, but it does not extend to Northwood Place. Additionally, there are quite a few private roads/driveways accessing San Miguel Canyon Road south of Woodland Hills Lane, and on Hall Road west of San Miguel Canyon Road. Each of these uncontrolled intersections creates a conflict point. Zone 2 makes up approximately half of the 10 mile long G12 Corridor at 5.8 miles in length.



Between Wilson Way and Hambey Lane, G12 transitions into steeper, rolling terrain, mostly going downhill in the northbound direction, the posted speed limit for this section is 50 mph. The posted speed limit on San Miguel Canyon Road otherwise in Zone 2 is 55 mph. Passing lanes are provided on San Miguel Canyon Road north of Hambey Lane to approximately 1,100 feet north of Mark Ryan Estates, and between Woodland Hill Lane and Charles Schell Lane. On Hall Road, there is a passing lane located west of San Miguel Canyon Road and east of Johnson Road, and in between Pini Road and Sill Road. The Monterey County Public Works (San Miguel District) Maintenance Yard is also located north of Charles Schell Lane, providing a truck crossing at its intersection with San Miguel Canyon Road.

Zone 3

Zone 3 of the G12 corridor serves the unincorporated community of Las Lomas. For a number of years, there has been a sometimes “over-focus” on motorized traffic in the Las Lomas area. In recent years, there has been an increasing focus on improving safety and mobility for all users of Hall Road (G12). The community of Las Lomas is defined as economically disadvantaged under CalEnviroScreen Version 2.0 and the community is primarily made up of farm worker families with English often being a second language. The majority of the homes are located on the north side of Hall Road, off Las Lomas Drive and Sill Road. Sill Road also provides access to Hall District Elementary School. The Las Lomas Market is the only commercial area for the community, and is located on the south side of Hall Road, between Las Lomas Drive and Willow Road. Crosswalks for Las Lomas are provided at the Las Lomas Drive intersection. The posted speed limit is 45 mph within the Las Lomas community.

Key intersections for Zone 3 include Hall Road at Sill Road, which has an unsignalized school crossing, Hall Road at Las Lomas Drive, which is currently signalized, and Hall Road at Willow Road. Left turn lanes are provided at these major intersections. Numerous private and local

driveways have direct access to Hall Road west of Willow Road in the Las Lomas community. However, Las Lomas Drive, Sill Road, and Willow Road provide access to the majority of the residents within Las Lomas. The intersection of Sill Road at Las Lomas Drive is very close to the Hall Road/Las Lomas Drive intersection, approximately 60 feet from the stop bar. Zone 3 is approximately 1.3 miles in length.

Zone 4

As the communities of Las Lomas and Pajaro grow, Zone 4 is going to have added importance in terms of efficiently moving people and goods. Increasing congestion on the two-lane SR 1 through Moss Landing is also going to influence how much traffic diverts to Salinas Road and Elkhorn Road, a County road that parallels SR 1 to the east. As traffic grows on Elkhorn Road, the volumes and turning movements at the intersection of G12 and Elkhorn Road will also increase. Elkhorn Road at Hall Road (G12) is a large side-street stop-controlled intersection, with channelized right turns southbound and eastbound, and an acceleration lane northbound on G12 for left turning vehicles onto G12. Additionally, the intersections of Garin Road/G12, Hudson Landing Road/G12, Werner Road/G12, Salinas Road/G12, Trafton Road/Salinas Road, and Lewis Road/Salinas Road are also important intersections for Zone 4. Each of these intersections has a dedicated left-turn lane, allowing turning traffic to be out of the through lane.

Werner Road is increasingly used as a "short cut" between the relatively new Salinas Road/SR 1 interchange and the Prunedale interchange constructed in 2013. Motorists use the G12 corridor as an alternate route to SR 1 between Watsonville and Salinas. Traffic currently backs up Werner Road and onto Salinas Road in the PM peak hour, and backs up from Salinas Road to G12 in the AM peak hour. Additionally, eastbound/southbound motorists along Salinas Road were observed to go up Salinas Road, make a U-turn at Trafton Road, and continue south on G12 past Werner Road, as opposed to waiting in the long queue for turning right at Werner Road/G12. Werner Road also has a steep grade going down to G12 from Salinas Road. North of Werner Road, G12 merges with Salinas Road and transitions to a four-lane divided arterial. Southbound motorists who wish to continue on G12 from Pajaro must turn left at the Salinas Road/Elkhorn Road (G12) intersection and yield the right-of-way to oncoming traffic on Salinas Road. Zone 4 is approximately 1.6 miles in length.

Zone 5

Zone 5 of the G12 corridor serves the unincorporated community of Pajaro. Pajaro is identified in the County General Plan to be a Community Planning Area. The population of Pajaro is small and has been subject to some fluctuation in terms of pure numbers. What has remained constant, however, is the large percentage of children and young people in the Community. Another constant has been the large percentage of Hispanic

families. The G12 corridor serves as Pajaro's "Main Street" and is deserving of an impressive makeover. This corridor study can serve as the launch pad for some very nice improvements to their "Main Street" that will promote multi-modal safety and make G12 a "Complete Street".

The Pajaro Middle School is located just about mid-way in Zone 5 and is accessed via a signalized intersection at Matiasevich Lane. Unfortunately, the sidewalks leading to the school, where present, are narrow and obstructed with utility poles, etc. Continuous but narrow sidewalks are provided throughout most of Pajaro. Many of the local businesses are fronting the sidewalk. There are no designated Bike Lanes in Zone 5, which makes biking a difficult and potentially unsafe modal choice for schoolchildren. The large numbers of heavy trucks, mostly related to the surrounding agriculture industry, present a challenge in terms of making this stretch of the G12 "complete" for multimodal options.

The existing roadway in this segment is primarily three lanes, with a northbound lane, a southbound lane, and a continuous center left-turn lane. Parking is generally prohibited through the corridor except around the Stender Avenue/Porter Drive/Salinas Road intersection northbound, and southbound between San Juan Road and Stender Ave/Porter Drive/Salinas Road. Near the northern end of Zone 5, there are two closely-spaced intersecting local streets that access G12 at a significant skew where the road turns. These streets (Stender Avenue and Salinas Road) present operational and safety issues. Zone 5 is approximately 1.0 mile in length.

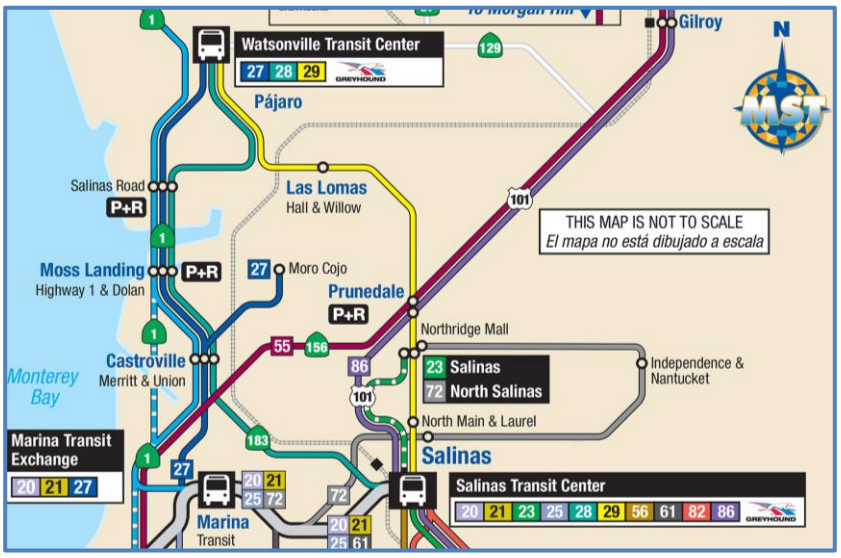
Summary of Zones

In the future, motorists using the G12 Corridor can expect to see increasing delays due to increasing traffic volumes. Due to topographic constraints, the numerous intersecting roads and driveways, fiscal limitations and environmental resources along the roadway, capacity (widening) alternatives may not be viable alternatives to address this future condition. Passing lane alternatives are also not very likely to be viable due to the same constraints noted. Innovative intersection improvements and smaller-scale projects that provide protected turns into the numerous driveways can improve safety for local turning motorists and reduce frustration for the regional and interregional motorists, as the turning traffic would not impede through movement. As the traffic volumes increase throughout the G12 Corridor, it will become increasingly challenging to retain the overall quality of life for residents. A large focus will be on promoting a safer and more aesthetic environment for pedestrians and bicyclists, especially in Prunedale, Las Lomas, and Pajaro corridor zones.

Transit, Pedestrian, and Bicycle Facilities

The Monterey-Salinas Transit (MST) operates two fixed transit routes that have stops along the G12 corridor. MST Route 28 provides service between Salinas and Watsonville via SR 1 and Salinas Road with two-hour headways in each direction, between 6:21 am and 10:36 pm on weekdays. MST Route 29 provides service between Salinas and Watsonville via G12 with two-hour headways in each direction, between 5:45 am and 8:29 pm on weekdays. Additionally, the Santa Cruz METRO Transit District (SCMTD) provides one fixed-route, Route 79 (East Lake), which provides service between Pajaro, Watsonville, East Lake Avenue, and College Road with one-hour headways between 7:25 am and 6:00 pm (weekdays). Within Pajaro, SCMTD Route 79 provides service to Johnathan Street. All routes have limited service on the weekends. Inset A provides the MST Regional Map for the G12 area. Inset B provides the SCMTD Route 79 Map.

Inset A: MST Regional Route Map for G12 Area



Inset B: Santa Cruz Metro Route 79

Corridor Zone 1:

North of Prunedale North Road, there are two bus stops, one in each direction, that provide service for the fixed transit Route 29 (MST). The northbound bus stop has a bus turnout, shelter and bench. The southbound bus stop has a shelter and bench, and provides service to the Prunedale Park & Ride lot on Prunedale North Road. Additionally in Zone 1, there is a bus stop northbound at Langley Canyon Road that does not provide shelter or a bench. Zone 1 currently has sidewalks adjacent to the Prunedale Shopping Center, but is incomplete with missing sidewalk segments connecting up to Langley Canyon Road. South of Moro Road, there are no dedicated bicycle lanes in Zone 1 and cyclists must compete with motorized vehicles. The Class 2 southbound bike lane on San Miguel Canyon Road ends just south of the signalized intersection at Moro Road, and continues as a Class III Bike Route on Prunedale North Road.

Corridor Zone 2:

There are no sidewalks but various bus stops are provided for MST Route 29. The bus stops in Zone 2 do not have shelters or benches, and are usually located off the roadway, in the gravel or grass. Zone 2 has dedicated Class II Bike Lanes along the shoulders for the majority of its length, apart from at the intersection of San Miguel Canyon Road at Hall Road.

Corridor Zone 3:

There is a bus stop with a shelter and bench on the opposite side of Willow Road, going Northbound. Pedestrians cross Hall Road at Willow Drive to access this bus stop, but a marked crosswalk is not currently present. Access to this bus stop along the north side of Hall Road is blocked by guardrail and a drainage structure. Pedestrians have made evident pathways through the grass/dirt where sidewalks are needed. A bus stop is also provided in the southbound direction, located on the near side of the Las Lomas Drive intersection, adjacent to the Las Lomas Market, but without a shelter or bench. Zone 3 has dedicated Class II Bike Lanes along the shoulders. Sidewalks are only provided on the west side of the Las Lomas Drive intersection, but do not connect anywhere to the adjacent land uses.

Corridor Zone 4:

There are no sidewalks but various bus stops are provided for MST Route 28 and Route 29. Route 28 provides access between Watsonville and Salinas via SR 1 and Salinas Road. The bus stops in Zone 4 do not have shelters or benches, and are usually located off the roadway, in the gravel or grass. Class II Bike Lanes are provided within the shoulders throughout most of Zone 4. A narrow bridge over the railroad, just west of Hudson Landing Road, does not provide room for Class II Bike Lanes, but “Share the Road” bicycle-warning signs are posted in both directions prior to the bridge. At Werner Road, the paved shoulder width diminishes in the northbound direction, and could be a potential issue for cyclists competing with motorists for the roadway. Additionally, the four-lane section of Salinas Road has “Share the Road” bicycle-warning signs posted, shoulder widths are minimal if none, and a section of guardrail is at the edge of pavement in the northbound direction. There is a warning sign prior to the railroad crossing that says, “Slow, Flooded”, indicating that the road may flood when it rains.

Corridor Zone 5:

Within Pajaro, bus stops for MST Route 28 and SCMTD Route 79 are provided at various locations; signs are posted along the sidewalk, but no bus shelters or benches are provided. There is a marked, mid-block crosswalk between Jonathan Street and Bishop Street. This crosswalk also has overhead flashing beacons that are actuated by pedestrian pushbuttons.

Other marked crosswalks are provided at the signalized intersections of San Juan Road/Porter Drive and Salinas Road/Pajaro Middle School, which are far apart. Pedestrians have been observed to cross the road midblock or at unmarked crossings. The shoulders are generally wide enough to accommodate cyclists, but are not designated as Class II Bike Lanes.

Truck Routes

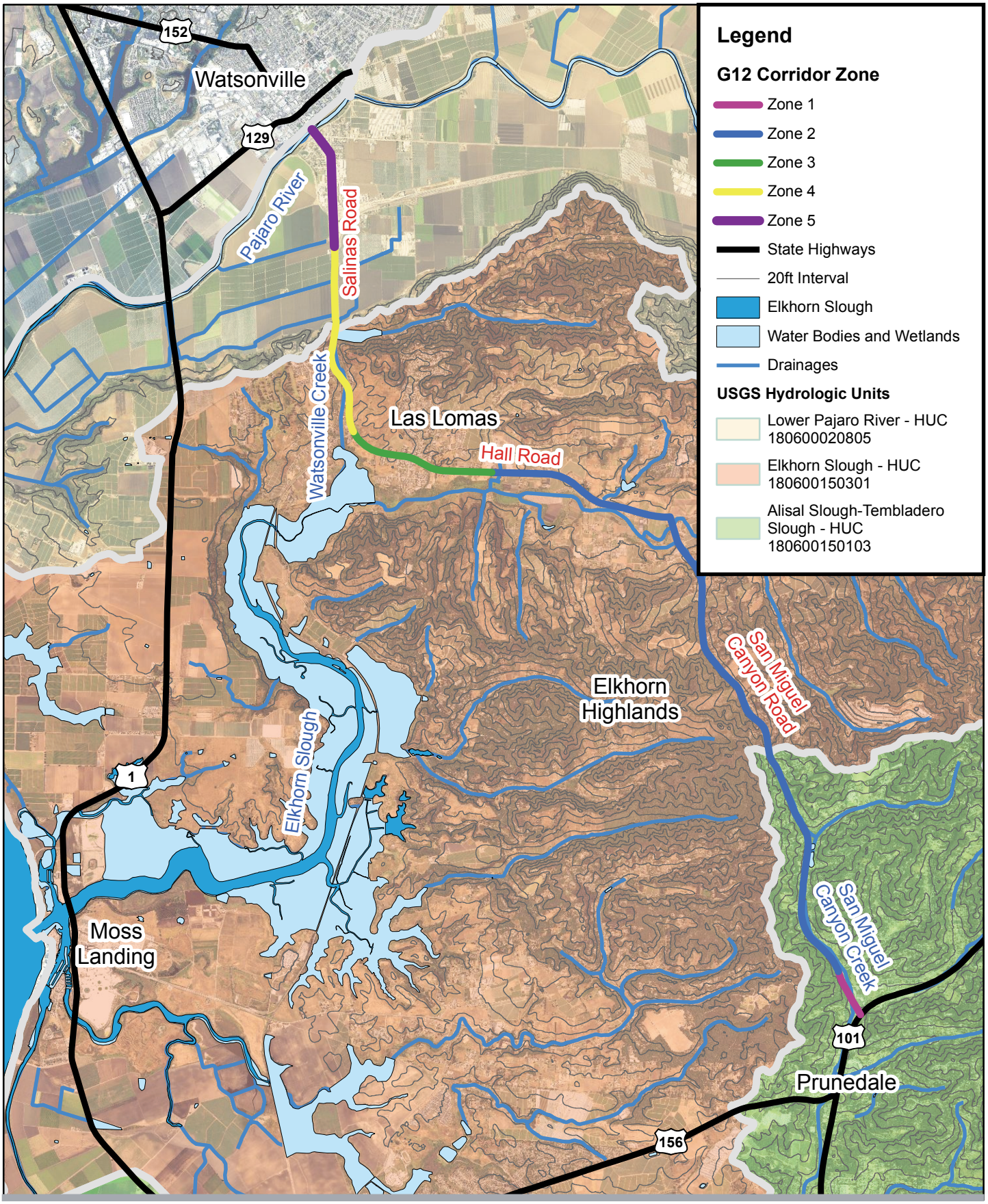
The G12 corridor is not designated by Caltrans District 5 to be part of the National Network, a Terminal Access Route, or a 65' California Legal Route. 5+ axel trucks are commonly STAA-sized vehicles (48'-53' maximum length of semitrailer). Based on the daily roadway counts (detailed in subsequent sections), there are less than 1% of traffic volumes along the G12 corridor that are 5+ axel trucks, and between 6% and 12% of 3+ axel trucks.

Stormwater Management and Water Quality

The G12 corridor traverses across a wide range of topographic and hydrologic conditions. As a complete segment, the G12 corridor crosses three (3) twelve digit Hydrologic Unit Code (HUC) watersheds, four (4) Special Flood Hazard Areas (SFHA) subject to inundation by the 1% annual chance flood as determined by the Federal Emergency Management Agency (FEMA) National Flood Insurance Program (NFIP), four (4) defined drainages and adjacent floodplains, and a host of other minor drainages. Of particular consideration to water quality and stormwater management is the segment of the corridor running through the Elkhorn Slough Basin.

Watersheds and Topography

Running from Prunedale to Pajaro, the corridor begins at an approximate elevation of 140 ft. above mean sea level (amsl) within the Alisal Slough – Tembladero Slough Watershed (HUC 180600150103) and climbs in elevation to the watershed ridge divide approximately located at the intersection of San Miguel Canyon Road and Strawberry Road– elevation 380 ft amsl. From this point, the corridor descends across the Elkhorn Highlands into the Elkhorn Slough Basin. This section of the corridor is within the ecologically and hydrologically sensitive Elkhorn Slough Watershed (HUC 180600150301). At the town of Las Lomas, the corridor reaches its lowest point within the Elkhorn Slough basin at approximately 20 ft. amsl before climbing in elevation to the watershed divide at the intersection of Elkhorn Road and Salinas Road. The remaining segment of the corridor dissects the Lower Pajaro River Watershed (HUC 180600020805) ranging in elevation from 25 ft. to 30 ft. amsl and ends at the Pajaro River in the town of Pajaro. Figure 7 presents the existing watersheds and drainages in the study area.



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G12 Corridor: Pajaro to Prunedale
Corridor Study

WATERSHEDS AND DRAINAGES

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Revision No. -
Date 05/14/2018

FIGURE 7

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Hydrology

Within each of the corridor's watersheds, there are numerous drainages and associated floodplains (Figure 7). The majority of these are un-named intermittent and ephemeral drainages without a significant floodplain or large volume flow. These drainages cross the G12 corridor at various locations along the alignment and typically pass under the roadway through culverts of various diameters. There is, however, a number of more significant drainage that cross the G12 corridor that require special consideration. Within the Alisal Slough – Tembladero Slough Watershed, San Miguel Canyon Creek is the only significant drainage in relation to corridor. San Miguel Canyon Creek parallels the G12 corridor to the east from Echo Valley Rd. until crossing under the corridor through a culvert just north of the intersection of HWY 101. From there the creek combines with Prundale Creek and empties into Tembladero Slough. Moving down from the Elkhorn Highlands and into the Elkhorn Slough Watershed basin the G12 corridor crosses two significant tributaries to Elkhorn Slough. These drainages are Carneros Creek and Watsonville Creek. The Carneros Creek bridge crossing is located at the intersection of Hall Road and San Miguel Canyon Road. After this crossing, Carneros Creek parallels the G12 corridor on the south until meeting with the eastern arm of Elkhorn Slough. Watsonville Creek crosses under the G12 corridor through a large diameter culvert that has been sized to contain the 0.2% chance flood discharge. After crossing the G12 corridor, Watsonville creek daylights and emptying into Elkhorn Slough to the southwest of the corridor. The G12 corridor ends at Pajaro River; however, the entire corridor section in the Lower Pajaro River Watershed is within the Pajaro River floodplain.

Roadway Stormwater Management Systems

There are a variety of ways stormwater is managed and controlled along the G12 corridor. These existing systems either divert water to controlled discharge locations or accommodate existing drainage patters. The six (6) main stormwater management systems along the G12 corridor are the following:

1. Sheet drainage
2. Roadside ditches
3. Curbs, flow lines, and curb cuts
4. Culverts
5. Bridges / overpasses
6. Catch basins and storm drain systems

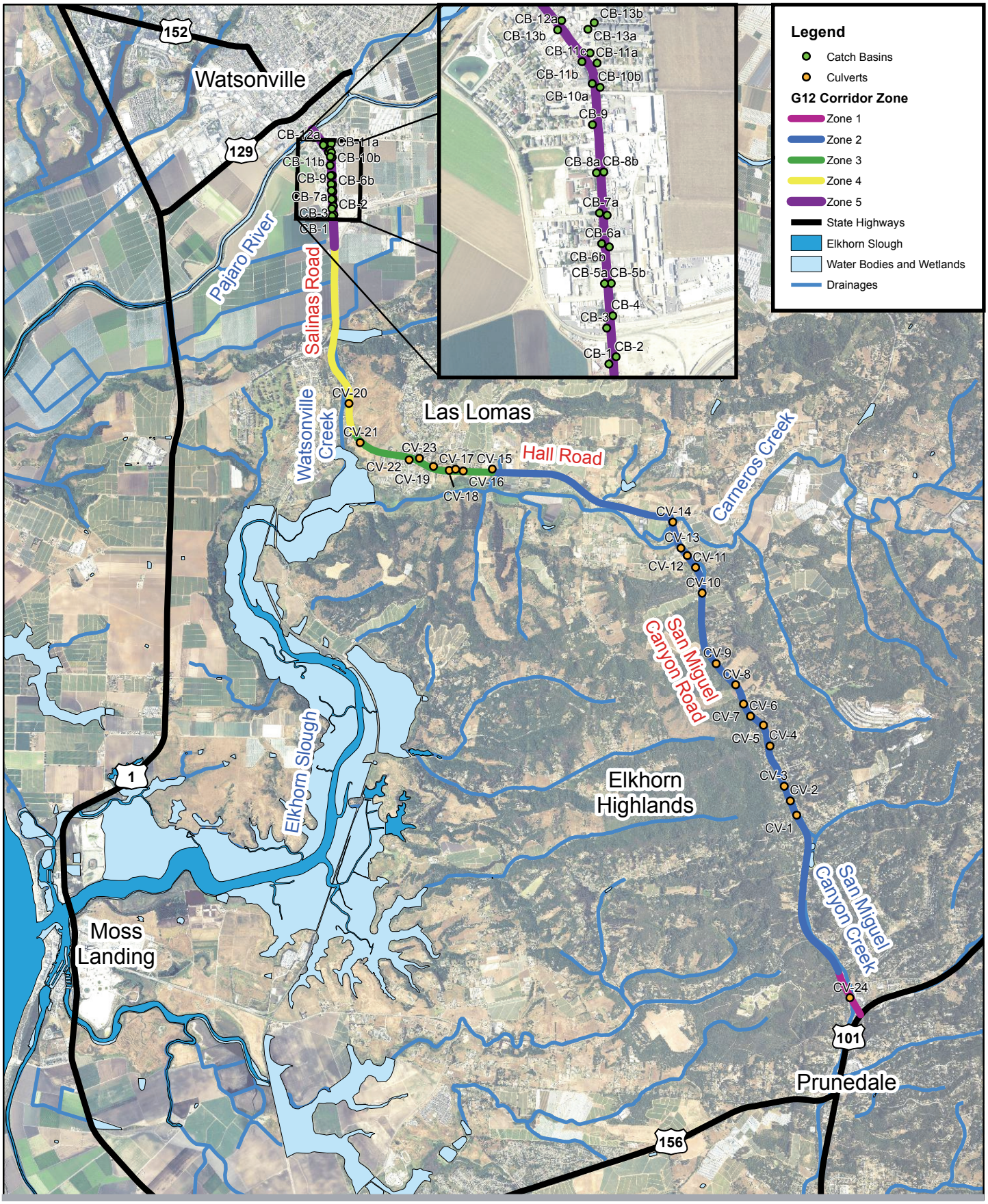
The following images are some examples of stormwater management systems along the G12 corridor.

Roadside ditches

Catch Basin and Storm Drain System

Curbs and Curb Cuts

A vast majority of the existing culverts, catch basins, and storm drain pipe systems have been mapped and analyzed as part of previous hydrologic studies done for various locations along the G12 corridor. Figure 8 presents the existing culverts and catch basins along the G12 corridor. These existing culvert and storm drain networks allow for flows of specific volumes that are dependent on the storm intensity, drainage area captured, and current land uses that effect the peak discharge of the drainage. Existing data for many of the culverts along the G12 corridor does not include pipe diameter sizes or analysis on the adequacy of the pipe capacity for the drainage areas they serve. A table of the existing known culverts and catch basins are shown in Table 5. Depending on the type of improvement proposed along the G12 corridor, it is recommended that a hydrology analysis and model of the culvert and storm drain networks be conducted to determine if any proposed increase or decrease in the impervious surface or changes to the existing drainage patterns will result in capacity and/or conveyance deficiencies.



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Transportation Agency for Monterey County
G12 Corridor: Pajaro to Prunedale Corridor Study

Existing Culverts and Catch Basins

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Revision No. **-**
Date **05/14/2018**

FIGURE 8

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TABLE 5: SUMMARY OF EXISTING KNOWN CULVERTS AND CATCH BASINS

CULVERTS						CATCH BASINS					
IDENTIFICATON CODE	PIPE TYPE	PIPE DIA. (inch)	RECEIVING WATER BODY	ROAD	AREA	IDENTIFICATON CODE	PIPE TYPE	PIPE DIA. (inch)	RECEIVING WATER BODY	ROAD	AREA
CV-1		0		San Miguel Canyon Rd	North Prunedale	CB-1		15		Salinas Rd	Pajaro
CV-2		0		San Miguel Canyon Rd	North Prunedale	CB-2		15		Salinas Rd	Pajaro
CV-3		0		San Miguel Canyon Rd	North Prunedale	CB-3		15		Salinas Rd	Pajaro
CV-4		0		San Miguel Canyon Rd	North Prunedale	CB-4		15		Salinas Rd	Pajaro
CV-5		0		San Miguel Canyon Rd	North Prunedale	CB-5a	RCP	18		Salinas Rd	Pajaro
CV-6		0		San Miguel Canyon Rd	North Prunedale	CB-5b	RCP	18		Salinas Rd	Pajaro
CV-7		0		San Miguel Canyon Rd	North Prunedale	CB-6a	RCP	18		Salinas Rd	Pajaro
CV-8		0		San Miguel Canyon Rd	North Prunedale	CB-6b	RCP	18		Salinas Rd	Pajaro
CV-9		0		San Miguel Canyon Rd	North Prunedale	CB-7a	RCP	18		Salinas Rd	Pajaro
CV-10		0		San Miguel Canyon Rd	North Prunedale	CB-7b	RCP	18		Salinas Rd	Pajaro
CV-11		0		San Miguel Canyon Rd	North Prunedale	CB-8a	RCP	18		Salinas Rd	Pajaro
CV-12		0		San Miguel Canyon Rd	North Prunedale	CB-8b	RCP	18		Salinas Rd	Pajaro
CV-13		0		San Miguel Canyon Rd	North Prunedale	CB-9	RCP	18		Salinas Rd	Pajaro
CV-14		0		San Miguel Canyon Rd	North Prunedale	CB-10a	RCP	18		Salinas Rd	Pajaro
CV-15	CMP	24	Field tow ards Elkhorn Slough	Hall Rd	Las Lomas	CB-10b	RCP	18		Salinas Rd	Pajaro
CV-16	CMP	30	Field tow ards Elkhorn Slough	Hall Rd	Las Lomas	CB-11a	RCP	18		Salinas Rd	Pajaro
CV-17	CMP	24	Field tow ards Elkhorn Slough	Hall Rd	Las Lomas	CB-11b	RCP	18		Porter Dr	Pajaro
CV-18	CMP	120	Field tow ards Elkhorn Slough	Hall Rd	Las Lomas	CB-11c		12		Porter Dr	Pajaro
CV-19	CMP	18	Field tow ards Elkhorn Slough	Hall Rd	Las Lomas	CB-12a	RCP	18		Porter Dr	Pajaro
CV-20	CMP	72	Field tow ards Elkhorn Slough	Hall Rd	Las Lomas	CB-12b	RCP	18		Porter Dr	Pajaro
CV-21	CMP	0	Field tow ards Elkhorn Slough	Hall Rd	Las Lomas	CB-13a	RCP	18		Salinas Rd	Pajaro
CV-22	CMP	18	Field tow ards Elkhorn Slough	Las Lomas Dr	Las Lomas	CB-13b	RCP	18		Salinas Rd	Pajaro
CV-23	CMP	36	Field tow ards Elkhorn Slough	Las Lomas Dr	Las Lomas						
CV-24	CMP	18		North Prunedale Rd	North Prunedale						

Drainage Crossings, Floodplains, & other Sensitive Hydrologic Areas

As discussed prior, there are a number of existing drainages that pass across the G12 corridor. Of these drainages, there are a handful of significant crossings that warrant special consideration. These crossings include a culvert crossing at San Miguel Canyon Creek, a bridge crossing at Carneros Creek, a culvert crossing at an un-named SFHA drainage at Las Lomas, and a culvert / overpass crossing at Watsonville Creek. Each of these crossings are shown in Figure 9.

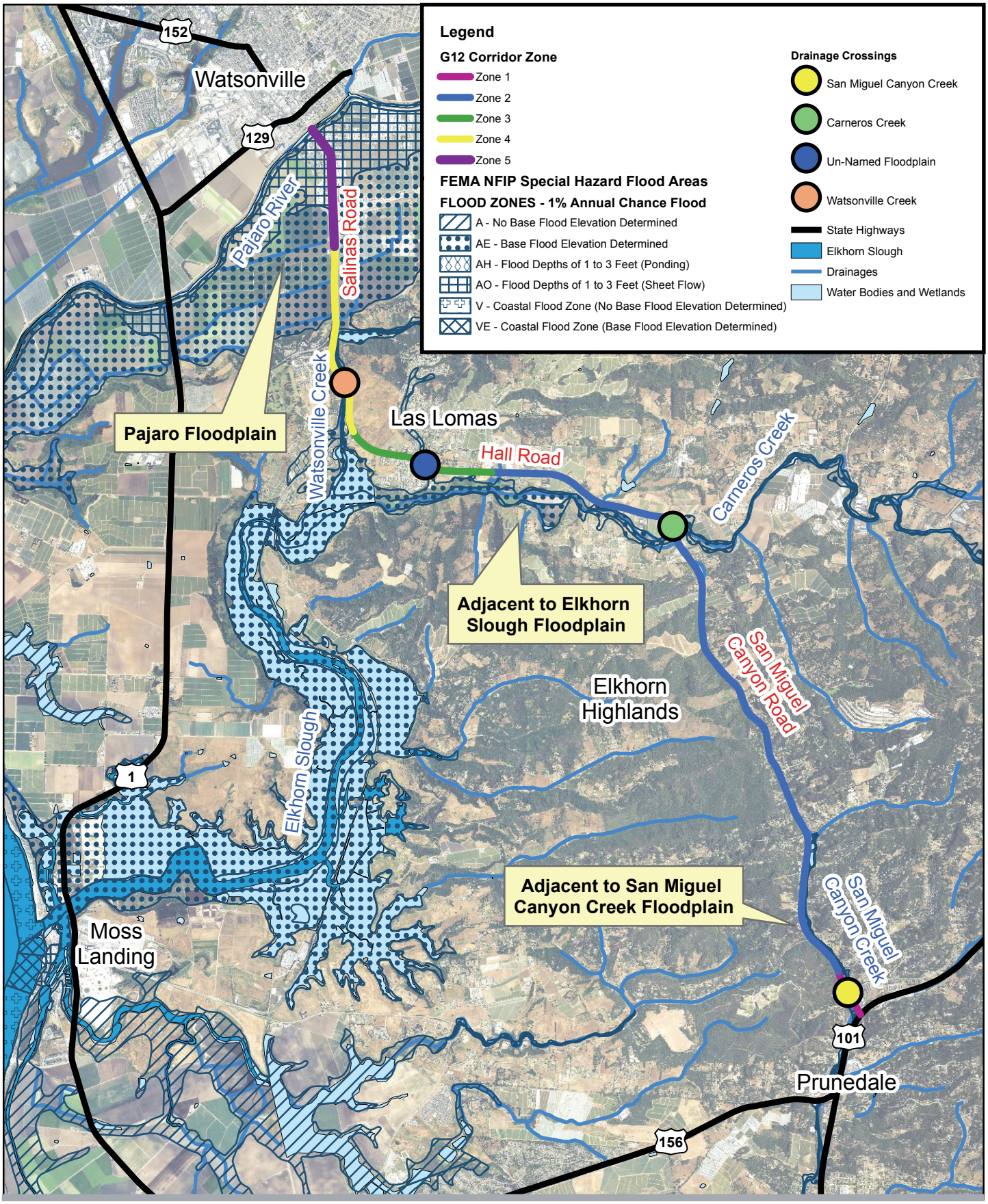
In addition to these crossings, the G12 corridor also traverses and runs parallel to multiple FEMA Special Flood Hazard Areas (SFHA) that are subject to inundation by the 1% annual chance flood. These areas can be considered sensitive hydrologic areas and any improvements in these locations should look to mitigate potential impacts to existing flows or water quality (Figure 9). Moving from Prunedale to Pajaro, the following are locations the G12 corridor crosses or runs adjacent to hydrologically sensitive SFHAs. At the San Miguel Canyon Creek crossing the G12 corridor crosses a designated SFHA Zone AE. Zone AE is a SFHA that has a determined base flood elevation. From this crossing to Echo Valley Road, the G12 Corridor runs parallel to the SFHA of San Miguel Creek. Coming down from the Elkhorn Highlands and into the ecologically sensitive and protected Elkhorn Slough basin the G12 corridor crosses another SFHA Zone AE designated floodplain in the form of a bridge crossing at Carneros Creek. From this crossing, the G12 corridor runs east to west with the Elkhorn Slough ecological preserve to the south of the alignment. At the town of Las Lomas, the corridor crosses a SFHA Zone A floodplain. Zone A is a SFHA delineated flood area, however, no bases flood elevation has been determined as part of the FEMA NFIP study. After this crossing, the corridor crosses the Watsonville SFHA Zone AE floodplain before dropping into the Pajaro River SFHA Zone AE and Zone AO floodplain. Zone AO is a SFHA that has flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. This Zone is located adjacent to the Pajaro River at the north end of the G12 corridor alignment.

Water Quality Pollutants of Concern

Many of the drainages discussed above are also listed by the State under the Clean Water Act Section 303(d) determination. These waters are state listed waters that are considered impaired and are subject to Total Maximum Daily Loads (TMDL). This determination not only establishes the maximum amounts of pollution allowed to enter the waterbodies, but this listing also serve as a planning tool for water quality assessment and restoration. The following are the 303(d) listed waters related to the G12 corridor.

- Carneros Creek
- Elkhorn Slough
- Watsonville Creek
- Pajaro River

A summary of the listed waterbodies, the pollutants of concern and the TMDL requirement status is included in Table 6.



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Drainage Crossings

Project No. 11152201
Revision No. -
Date 05/14/2018

FIGURE 9

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TABLE 6: WATERBODY POLLUTANTS OF CONCERN

REGION	WATER BODY NAME	WATER TYPE	WATERSHED* (CALWATER / USGS HUC)	POLLUTANT (Potential Sources and Relevant Notes)	ESTIMATED AREA ASSESSED	FIRST YEAR LISTED	TMDL REQUIREMENT STATUS**	DATE***
3	Carneros Creek (Monterey County)	River & Stream	30600010 / 18060011	**Ammonia (Unionized)**	12 Miles	2006	5A	2021
				Source Unknown				
				Chlorophyll-a	12 Miles	2010	5A	2021
				Agriculture				
				Fecal Coliform	12 Miles	2010	5A	2021
				Agriculture				
				Natural Sources				
				Low Dissolved Oxygen	12 Miles	2010	5A	2021
				Agriculture				
				Turbidity	12 Miles	2010	5A	2021
				Agriculture				
				Source Unknown				
				pH	12 Miles	2010	5A	2021
				Agriculture				
				Source Unknown				
3	Elkhorn Slough	Estuary	30600014 / 18060011	**Low Dissolved Oxygen**	2034 Acres	2010	5A	2021
				Agriculture				
				Grazing-Related Sources				
				Natural Sources				
				Urban Runoff/Storm Sewers				
				Pesticides	2034 Acres	1990	5A	2021
				Agricultural Return Flows				
				Agriculture				
				Agriculture-storm runoff				
				Contaminated Sediments				
				Erosion/Siltation				
				Irrigated Crop Production				
				Nonpoint Source				
				Sedimentation/Siltation	2034 Acres	1996	5A	2021
				Agriculture				
				Agriculture-storm runoff				
				Channel Erosion				
				Irrigated Crop Production				
				Nonpoint Source				
				Total Coliform	2034 Acres	2010	5A	2021
				Source Unknown				
				pH	2034 Acres	2010	5A	2021
				Agriculture				
				Grazing-Related Sources				
				Natural Sources				
				Urban Runoff/Storm Sewers				
3	Watsonville Creek	River & Stream	30510030 / 18060011	**Escherichia coli (E. coli)**	5.1 Miles	2010	5A	2021
				Agriculture				
				Grazing-Related Sources				
				Natural Sources				
				Fecal Coliform	5.1 Miles	2010	5A	2021
				Agriculture				
				Grazing-Related Sources				
				Natural Sources				
				Low Dissolved Oxygen	5.1 Miles	2010	5A	2021
				Agriculture				
				Grazing-Related Sources				
				Groundwater Loadings				
				Removal of Riparian Vegetation				
				Nitrate	5.1 Miles	2010	5A	2021
				Agriculture				
				Grazing-Related Sources				
				Groundwater Loadings				
				Removal of Riparian Vegetation				
				pH	5.1 Miles	2010	5A	2021
				Agriculture				
				Grazing-Related Sources				
				Groundwater Loadings				
				Removal of Riparian Vegetation				

TABLE 6 (CONT'D.): WATERBODY POLLUTANTS OF CONCERN

REGION	WATER BODY NAME	WATER TYPE	WATERSHED* (CALWATER / USGS HUC)	POLLUTANT (Potential Sources and Relevant Notes)	ESTIMATED AREA ASSESSED	FIRST YEAR LISTED	TMDL REQUIREMENT STATUS**	DATE***
3	Pajaro River	River & Stream	30510030 / 18060002	**Boron**	32 Miles	2006	5A	2021
				Agriculture				
				Other Urban Runoff				
				Saltwater Intrusion				
				Source Unknown				
				Impaired length for Boron is below Main Street (in Watsonville) to the mouth.				
				Chlordane	32 Miles	2010	5A	2021
				Source Unknown				
				Chloride	32 Miles	2010	5A	2021
				Agriculture				
				Natural Sources				
				Other Urban Runoff				
				Saltwater Intrusion				
				Chlorpyrifos	32 Miles	2010	5A	2021
				Agriculture				
				Other Urban Runoff				
				DDD (Dichlorodiphenyldichloroethane)	32 Miles	2010	5A	2013
				Source Unknown				
				Dieldrin	32 Miles	2010	5A	2021
				Source Unknown				
				Escherichia coli (E. coli)	32 Miles	2010	5A	2011
				Collection System Failure				
				Natural Sources				
				Onsite Wastewater Systems (Septic Tanks)				
				Pasture Grazing-Riparian and/or Upland				
				Transient encampments				
				Urban Runoff/Storm Sewers				
				Fecal Coliform	32 Miles	2002	5A	2011
				Collection System Failure				
				Natural Sources				
				Onsite Wastewater Systems (Septic Tanks)				
				Pasture Grazing-Riparian and/or Upland				
				Transient encampments				
				Urban Runoff/Storm Sewers				
				Impaired reach is changed from 2006 to include the entire Pajaro River.				
				Low Dissolved Oxygen	32 Miles	2010	5A	2021
				Agriculture				
				Grazing-Related Sources				
				Other Urban Runoff				
				Removal of Riparian Vegetation				
				Unknown Nonpoint Source				
				Nitrate	32 Miles	2006	5B	2006
				Agriculture				
				Urban Runoff/Storm Sewers				
				In 2006, Nitrate was added by USEPA to this being addressed list because of a completed USEPA approved TMDL for Nutrients.				
				Nutrients	32 Miles	1996	5B	2006
				Agricultural Return Flows				
				Agriculture				
				Agriculture-irrigation tailwater				
				Agriculture-storm runoff				
				Agriculture-subsurface drainage				
				Channelization				
				Irrigated Crop Production				
				Nonpoint Source				
				Removal of Riparian Vegetation				
				Urban Runoff/Storm Sewers				
				Wastewater - land disposal				
				PCBs (Polychlorinated biphenyls)	32 Miles	2010	5A	2021
				Source Unknown				
				Sedimentation/Siltation	32 Miles	1996	5B	2007
				Agriculture				
				Grazing-Related Sources				
				Highway/Road/Bridge Runoff				
				Silviculture				
				Streambank Modification/Destabilization				
				Surface Mining				
				Urban Runoff/Storm Sewers				
				Sodium	32 Miles	2010	5A	2021
				Agriculture				
				Natural Sources				
				Other Urban Runoff				
				Saltwater Intrusion				
				Unknown Nonpoint Source				
				Turbidity	32 Miles	2010	5A	2021
				Agriculture				
				Grazing-Related Sources				
				Other Urban Runoff				
				Removal of Riparian Vegetation				
				pH	32 Miles	2010	5A	2021
				Source Unknown				

Category 5 criteria: 1) A water segment where standards are not met and a TMDL is required, but not yet completed, for at least one of the pollutants being listed for this segment.

* USGS HUC = US Geological Survey Hydrologic Unit Code. Calwater = State Water Resources Control Board hydrological subunit area or even smaller planning watershed.

** TMDL requirement status definitions for listed pollutants are: A= TMDL still required, B= being addressed by USEPA approved TMDL, C= being addressed by action other than a TMDL

*** Dates relate to the TMDL requirement status, so a date for A= TMDL scheduled completion date, B= Date USEPA approved TMDL, and C= Completion date for action other than a TMDL

Biological Resources

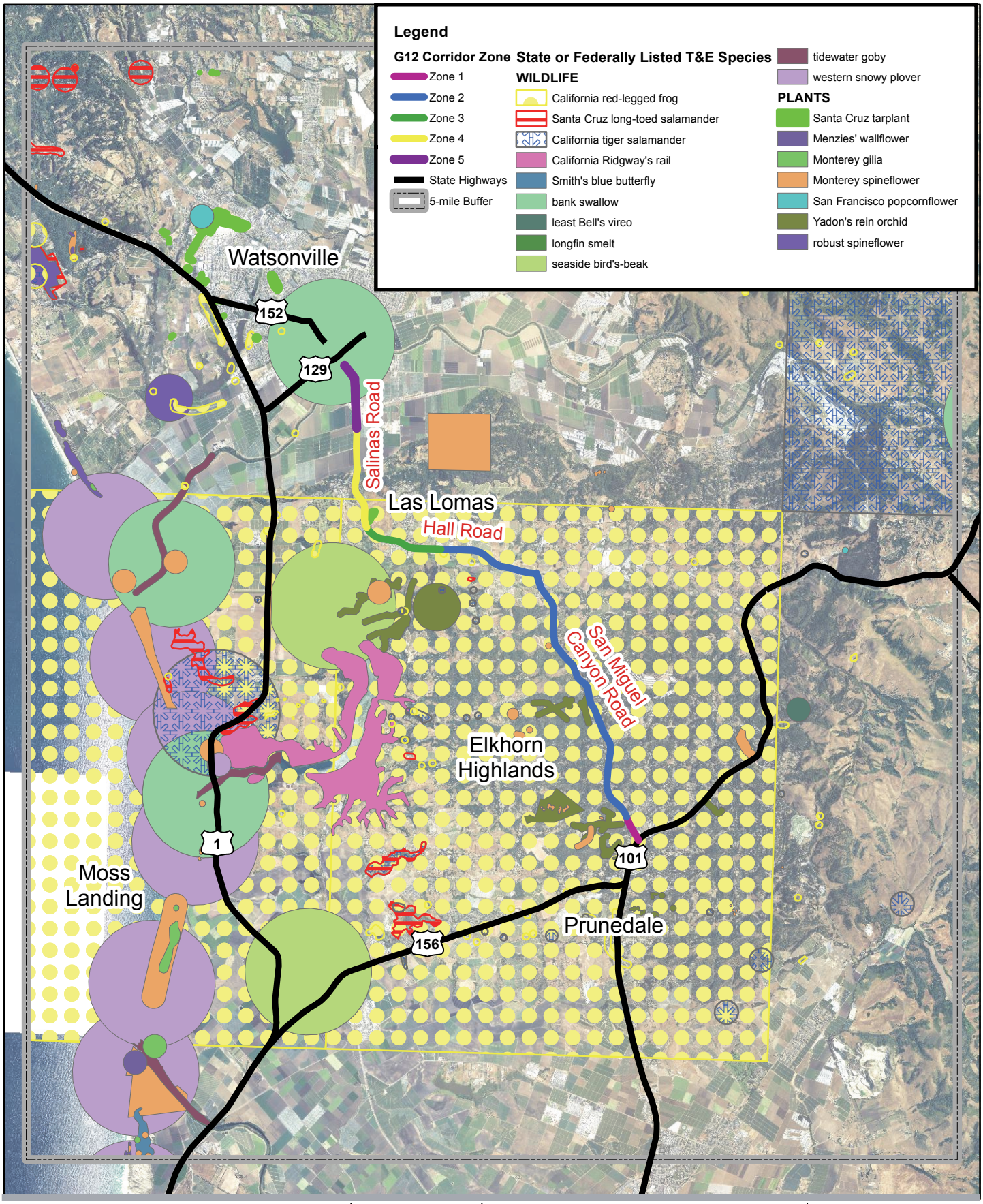
The Elkhorn Slough Ecological Preserve and adjacent uplands support a host of sensitive and protected habitats and species. Many of the rare species and vegetation communities are dependent on the existing hydrology of the watersheds along the G12 corridor. Any proposed improvements to the corridor have the potential to change the hydrology of the watershed and pose a risk for increasing water quality pollutants. Therefore, it is important to understand the natural communities and sensitive species dependent on the existing hydrology to help mitigate against potential impacts. Particularly, the lowland waters and wetland communities represent valuable resources to the ecology of the area and California as a whole. These communities include coastal marshes, tidal canals, mudflats, open water (ponds and channels), seasonal freshwater wetlands, and perennial freshwater marshes. In addition to the waters and wetlands, the G12 corridor alignment crosses riparian woodlands and various upland habitat communities including, coastal prairie, maritime chaparral, oak woodlands, and pine / eucalyptus forests.

Numerous threatened and endangered (T&E) species utilize the natural communities found along the G12 corridor at different stages throughout their life cycles. Since more than half of California's T&E wildlife species are associated with waters and wetlands, protecting the hydrology and water quality along the G12 corridor should be a reviewed when determining any preferred alternative design. Figure 10 lists and shows the occurrences and ranges of all know State of California and/or federally listed T&E species within a 5-mile buffer from the G12 corridor alignment. In addition to the State and/or federally listed plant and animal species, there are a number of other species that meet California Native Plant Society (CNPS) rare plant rankings (1A, 1B, 2A , 2B, 3, 4) or protected wildlife that are categorized by the California Department of Fish and Wildlife as either fully protected or species of special concern. These additional species would also require impact assessment during the environmental review process of any preferred alternative.

Table 7 presents a summary of the hydrologic features by Context Zone.

TABLE 7: HYDROLOGIC & BIOLOGICAL FEATURES SUMMARY BY CONTEXT ZONE

Zone/Feature	Context Zone 1	Context Zone 2	Context Zone 3	Context Zone 4	Context Zone 5
Catch Basins & Culverts	1 culvert	14 culverts	8 culvert	1 culverts	20 catch basins
Floodplain	San Miguel Canyon	-	Elkhorn Slough	Pajaro	Pajaro
Drainage Crossing	San Miguel Canyon Creek	Carneros Creek	Unnamed	Watsonville Creek	-
T & E Occurrences	California Red-Legged Frog	California Red-Legged Frog, Yadon's Rein Orchid	California Red-Legged Frog	California Red-Legged Frog, Santa Cruz Tarplant	Bank Swallow



Paper Size ANSI A

0 1 2 3 4 Miles

N

Map Projection: Lambert Conformal Conic
Horizontal Datum: NAD 1983 CORS96
Grid: NAD 1983 CORS96 StatePlane California IV FIPS 0404 Ft US

GHD

Transportation Agency for Monterey County
G12 Corridor: Pajaro to Prunedale
Corridor Study

State or Federally Listed Threatened or Endangered Plants and Wildlife Occurances

Project No. 11152201
Revision No. -
Date 05/14/2018

FIGURE 10

K:\PRJ\2453\G2453\G12_T&E Occurances.mxd
Print date: 29 Aug 2018 - 13:55

Data source: . Created by: rsouthern

Existing Traffic Data Collection

In coordination with TAMC, daily roadway counts for 6 roadway segments and AM and PM peak hour turning movement counts for 17 key intersections were collected. The AM peak hour is defined as the one-hour of peak traffic flow (which is the highest total volume count over four consecutive 15-minute count periods) counted between 7:00 AM and 9:00 AM on a typical weekday. The PM peak hour is defined as the one-hour of peak traffic flow (which is the highest total volume count over four consecutive 15-minute count periods) counted between 4:00 PM and 6:00 PM on a typical weekday, when schools are in session. The roadway counts were collected for two consecutive days, on January 31 and February 1, 2018. The study intersection counts were conducted on February 1, 2018, except for two intersections. The intersection counts for Salinas Road at Pajaro Middle School and Elkhorn Road at Salinas Road were conducted on February 28, 2018.

The list of study roadways and study intersections analyzed for weekday AM and PM peak hour conditions are provided below.

Study Roadway Segments

1. Salinas Road (Between Freemont Street and Jonathan Street (north of school))
2. Salinas Road (Between Salinas/Werner and Lewis Road)
3. Hall Road (Between Elkhorn Road and Willow Road)
4. Hall Road (Between San Miguel Canyon Road and Johnson Road)
5. San Miguel Canyon Road (Between Northwood Place and Pond-Derosa Lane)
6. San Miguel Canyon Road (Between Prunedale North Road and Moro Road)

Study Intersections:

1. Porter Drive/Main St at San Juan Rd
2. Porter Drive at Salinas Rd/Stender Ave
3. Salinas Road at Pajaro Middle School/Matiasevich Lane
4. Elkhorn Road at Salinas Road
5. Elkhorn Road at Werner Road
6. Hall Rd at Elkhorn Road
7. Hall Rd at Willow Road
8. Hall Rd at Las Lomas Drive
9. Hall Rd at Sill Road
10. San Miguel Canyon Road at Hall Road
11. San Miguel Canyon Road at Paradise Road
12. San Miguel Canyon Road at Echo Valley Road
13. San Miguel Canyon Road at Castroville Boulevard
14. San Miguel Canyon Road at Langley Canyon Road
15. San Miguel Canyon Road at Moro Road
16. San Miguel Canyon Road at Prunedale North Road
17. San Miguel Canyon Road at US 101 Southbound Off Ramp

Figure 11 presents the Average Daily Traffic (ADT) counts and the corresponding truck percentages for the Existing conditions. Figure 12 presents the Existing lane geometrics and control. Figure 13 presents the peak hour traffic volume at the study intersections for the Existing conditions.

In addition to the collected count data, historical traffic data was also examined. The 2010 Monterey County General Plan Environmental Impact Report, Appendix C (Traffic Data), depicts 2008 ADT on G12 as shown in Inset C below. In Pajaro, the 2008 ADT is similar to the 2018 ADT, but traffic on G12 has largely grown by approximately 22% between Werner Road and US 101.

Inset C: Monterey County General Plan EIR, 2008 ADT on G12

ROADWAY SEGMENT	ROADWAY CLASSIFICATION (a)	LOS E CAPACITY	ESTIMATED 2008 ADT (b)	V/C RATIO (c)	LOS
COUNTY ROADWAYS					
County Road G12 (Salinas Rd/Elkhorn Rd/Hall Rd/San Miguel Canyon Rd)					
Porter Dr to Railroad Ave	2-Lane Major Roadway	14,600	18,050	1.236	**F**
Railroad Ave to Elkhorn Rd	4-Lane Major Roadway	30,900	18,050	0.584	D
Salinas Rd to Hall Rd	2-Lane Major Roadway	14,600	19,550	1.339	**F**
Elkhorn Rd to San Miguel Canyon Rd	2-Lane Major Roadway (Undivided)	11,680	21,950	1.879	**F**
Hall Rd to Strawberry Rd	2-Lane Major Roadway (Undivided)	11,680	13,100	1.122	**F**
Strawberry Rd to Castroville Blvd	2-Lane Major Roadway (Undivided)	11,680	17,350	1.485	**F**
Castroville Blvd to US-101	2-Lane Major Roadway	14,600	21,700	1.486	**F**

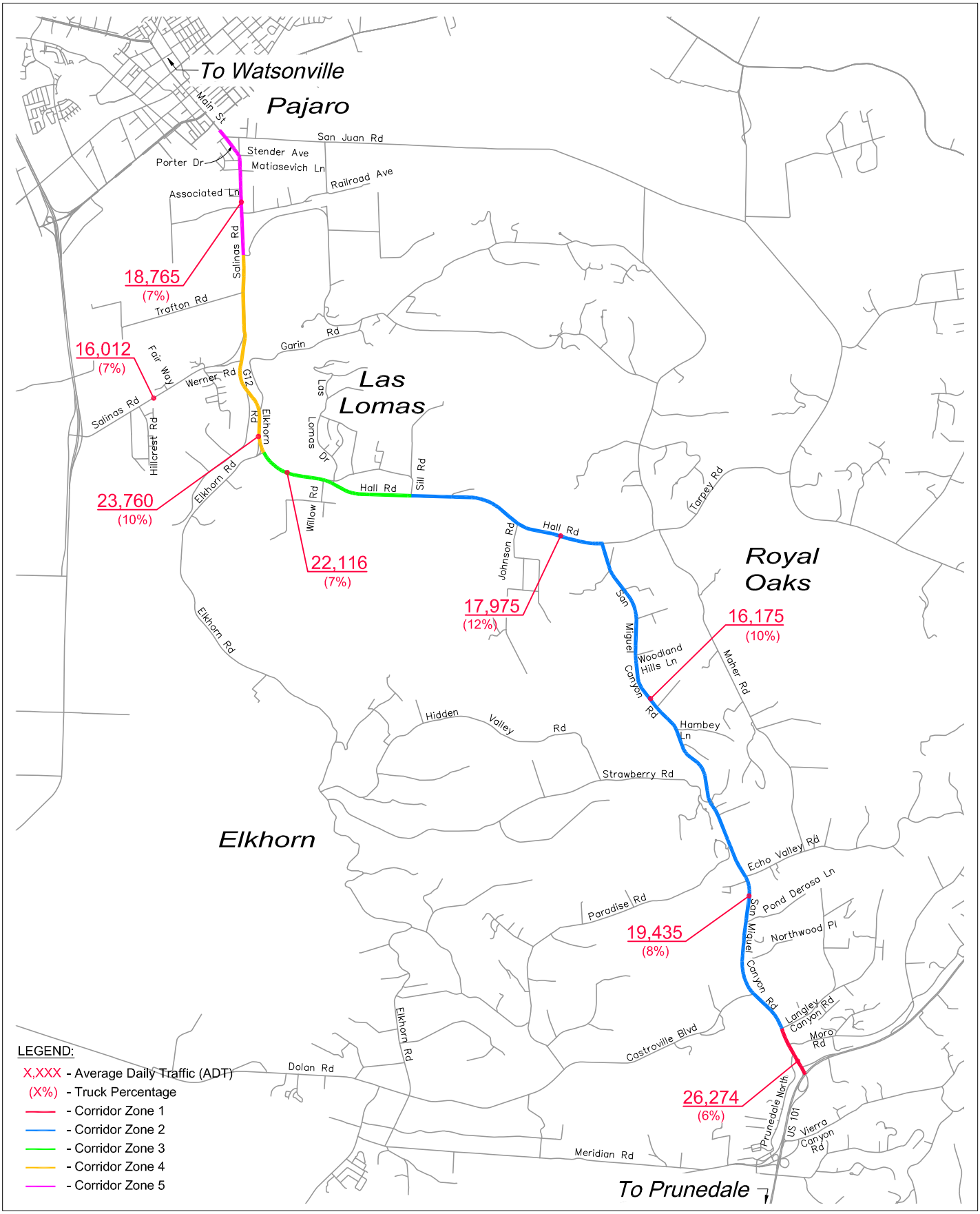
Notes:

Bold and shaded values indicate roadway segments operating at LOS E or F.

(a) Existing roads street classification is based on the AMBAG Regional Travel Demand Model and aerials of the study area.

(b) Volumes estimated from 2002-2007 count data obtained from Monterey County, Caltrans, TAMC, City of Salinas, and the City of Monterey.

(c) The v/c Ratio is calculated by dividing the ADT volume by each respective roadway segment's capacity.



Transportation Agency for Monterey County
G12 Corridor: Pajaro to Prunedale Corridor Study

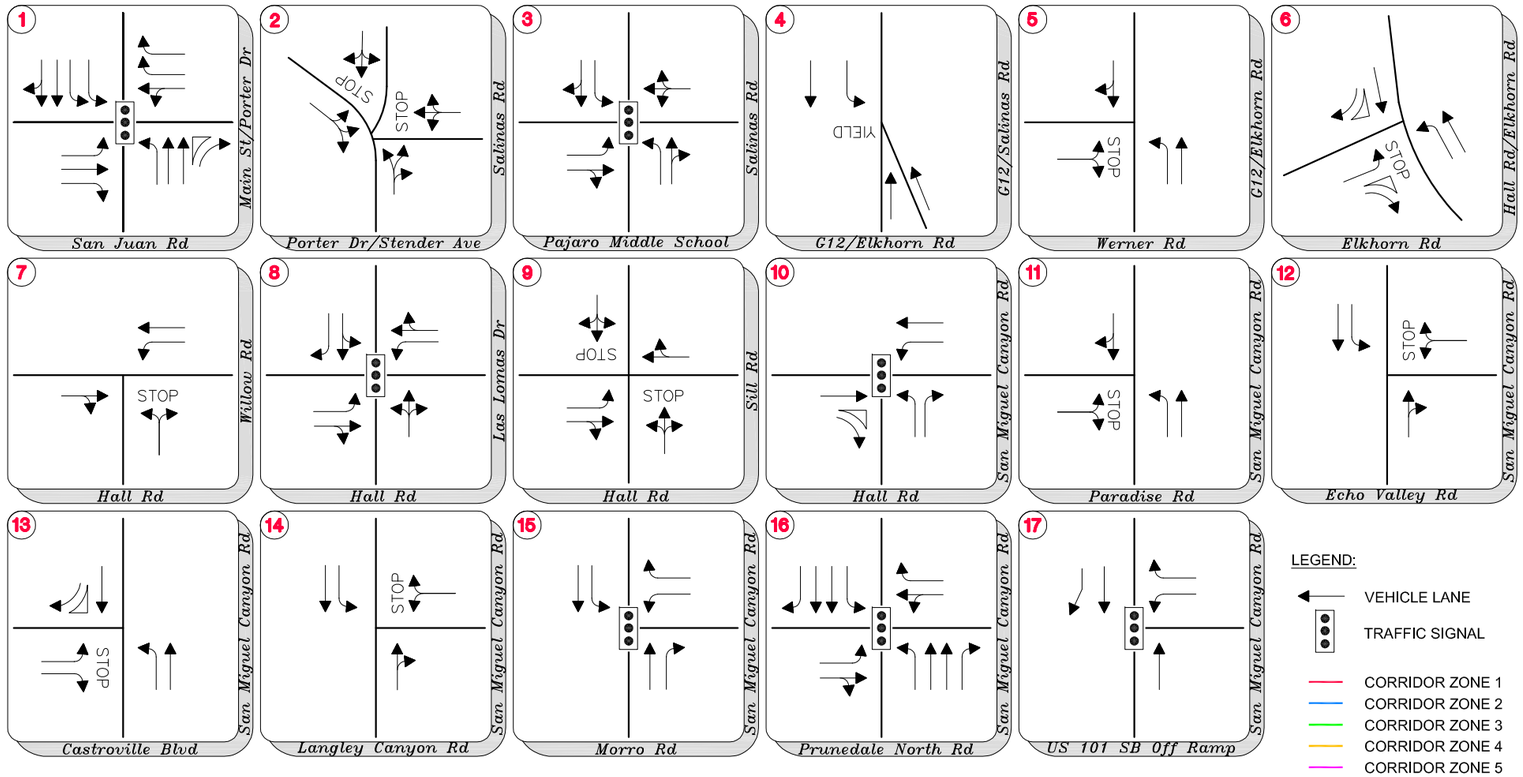
EXISTING AVERAGE DAILY TRAFFIC VOLUMES

Project No. 11152201
Report No. RPT2453001
Date 04.12.2018

FIGURE 11

Filename: K:\PRJ\2453\T2453\T2453TG001.dwg
Plot Date: 27 August 2018 - 4:25 PM

Source:



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GHD

Transportation Agency for Monterey County
G12 Corridor: Pajaro to Prunedale Corridor Study

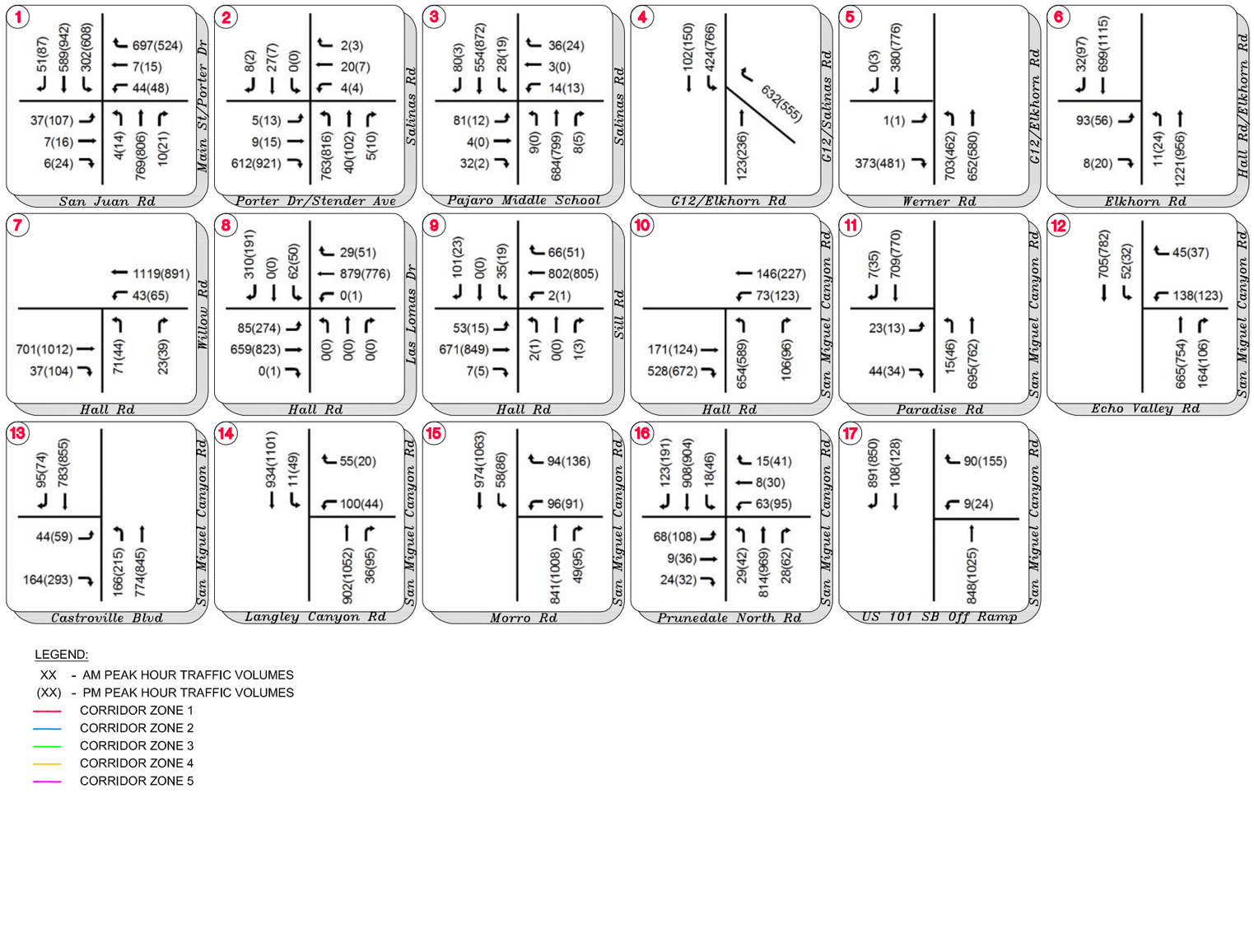
EXISTING LANE GEOMETRICS AND CONTROL

Project No. **11152201**
Report No. **RPT2453001**
Date **04.12.2018**

FIGURE 12

Filename: K:\PRJ\2453\T2453\T2453TG001.dwg
Plot Date: 27 August 2018 - 4:28 PM

Source:



LEGEND:

XX - AM PEAK HOUR TRAFFIC VOLUMES

(XX) - PM PEAK HOUR TRAFFIC VOLUMES

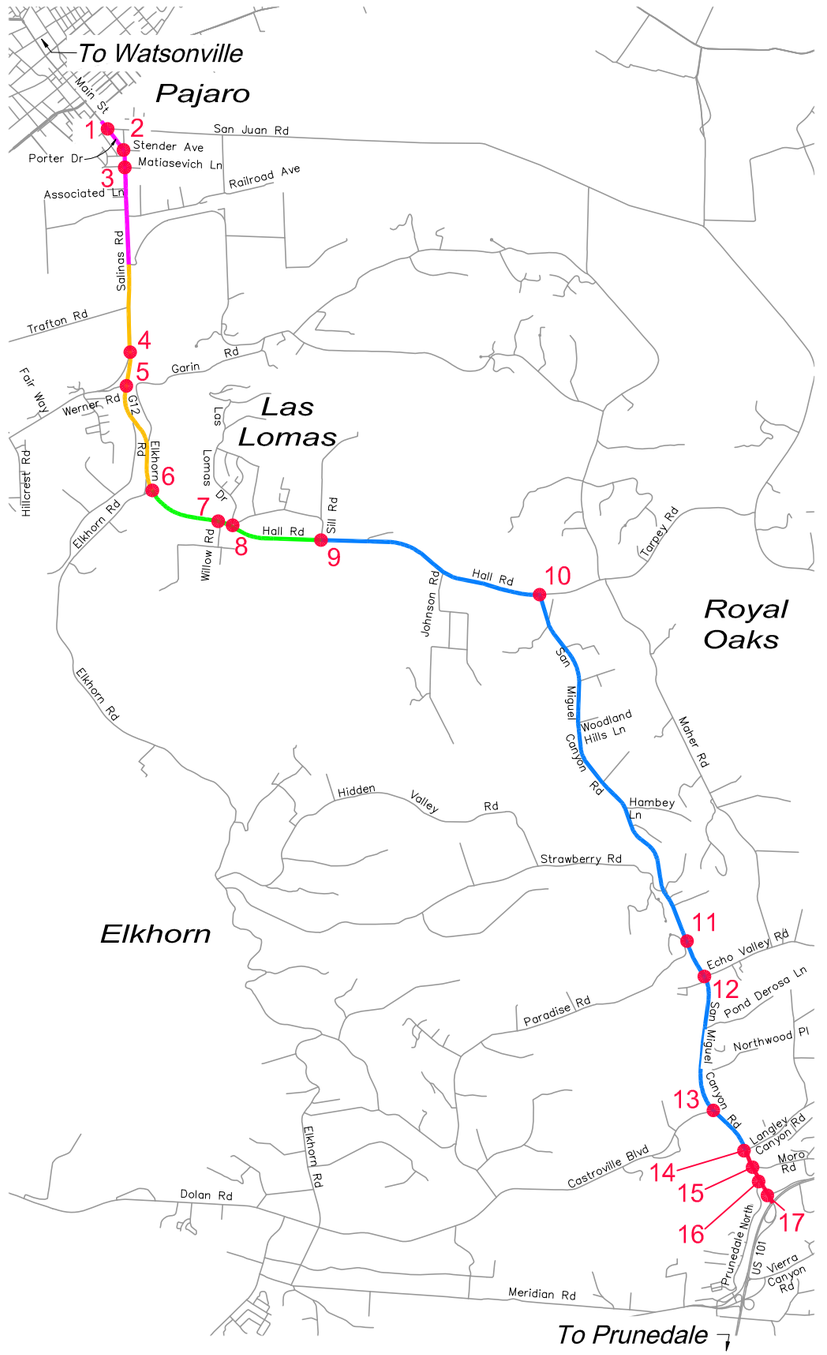
CORRIDOR ZONE 1

CORRIDOR ZONE 2

CORRIDOR ZONE 3

CORRIDOR ZONE 4

CORRIDOR ZONE 5



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GHD

Transportation Agency for Monterey County
G12 Corridor: Pajaro to Prunedale Corridor Study

EXISTING PEAK HOUR TRAFFIC VOLUMES

Project No. **11152201**
Report No. **RPT2453001**
Date **04.12.2018**

FIGURE 13

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Plot Date: 27 August 2018 - 4:29 PM

Source:

Existing Roadway Conditions

Existing roadway segment operations were quantified utilizing HCM 6 methodologies based on daily and peak hour traffic volumes collected by Omni-Means/GHD in January and February 2018. Details on technical analysis parameters, methodology, and assumptions are provided in Appendix A. Table 8 presents the existing average daily traffic (ADT) and average peak hour traffic volumes over the two-day period for the study roadway segment locations. Operational analysis of the roadway segments were based on the ADT for urban segments and four-lane segments, and on peak hour traffic for the two-lane highway analysis (per HCM applications and methodologies). The existing level of service (LOS) for the eight roadway segments along the G12 corridor are presented in Table 9.

TABLE 8: ROADWAY SEGMENT AVERAGE COUNT DATA

#	Roadway	Location	Alignment	Facility Type	2017 Existing ADT	Directional ADT		Peak Hour	Peak Hr NB/WB Volume	Peak Hr SB/EB Volume
						NB/WB	SB/EB			
G12 Roadway										
1	Salinas Road	Railroad Avenue to Salinas Road	NB/SB	Four-Lane Arterial	18,765	9,146	9,619	7:15-8:15 AM	720	540
								4:30-5:30 PM	712	902
2	Salinas Road	Fair Way to Hillcrest Road	EB/WB	Two-Lane Arterial	16,012	7,849	8,163	7:15-8:15 AM	483	849
								4:15-5:15 PM	696	605
3	Elkhorn Road	Werner Road to Garin Road	NB/SB	Class III	23,760	11,870	11,890	7:00-8:00 AM	1180	607
								4:30-5:30 PM	819	1097
4	Hall Road	Elkhorn Road to Willow Road	EB/WB	Class III	22,116	10,977	11,139	7:00-8:00 AM	1150	591
								4:30-5:30 PM	987	790
5	Hall Road	Sill Road to San Miguel Canyon Road	EB/WB	Class III	17,975	8,904	9,072	7:00-8:00 AM	754	611
								4:15-5:15 PM	755	714
6	San Miguel Canyon Road	Apricot Lane to Strawberry Road	NB/SB	Class III	16,175	8,313	7,862	7:00-8:00 AM	687	546
								4:45-5:45 PM	632	719
7	San Miguel Canyon Road	Garlen Lane to Pond-Derosa Lane	NB/SB	Class III	19,435	9,989	9,446	7:00-8:00 AM	751	777
								4:30-5:30 PM	769	788
8	San Miguel Canyon Road	Langley Canyon Road to US 101 Ramps	NB/SB	Two-Lane Arterial	26,274	13,992	12,282	7:00-8:00 AM	947	1016
								4:30-5:30 PM	1116	1044

TABLE 9: EXISTING CONDITIONS ROADWAY LEVEL OF SERVICE

#	Roadway	Location	Alignment	Facility Type	LOS Threshold	Peak Hour	Peak Hr NB/WB Volume	Peak Hr SB/EB Volume	Free-Flow Speed	Avg. Travel Speed		Percent Free-Flow Speed (PFFS %)		Segment LOS	
										NB/WB	SB/EB	NB/WB	SB/EB	NB/WB	SB/EB
G12 Corridor															
1	Salinas Road	Railroad Avenue to Salinas Road	NB/SB	Four-Lane Arterial	D									18,765	
														LOS B[1]	
2	**Salinas Road**	**Fair Way to Hillcrest Road**	**EB/WB**	**Two-Lane Arterial**	**D**									**16,012**	
														LOS E[1]	
3	Elkhorn Road	Werner Road to Garin Road	NB/SB	Class III	D	7:00-8:00 AM	1180	607	57.5	40.6	41.4	70.6	72.0	D	D
						4:30-5:30 PM	819	1097	57.5	41.0	40.8	71.4	70.9	D	D
4	Hall Road	Elkhorn Road to Willow Road	EB/WB	Class III	D	7:00-8:00 AM	1150	591	50.0	33.5	34.3	67.1	68.7	D	D
						4:30-5:30 PM	987	790	50.0	34.3	34.5	68.7	69.0	D	D
5	Hall Road	Sill Road to San Miguel Canyon Road	EB/WB	Class III	D	7:00-8:00 AM	754	611	56.3	43.2	43.6	76.8	77.6	C	C
						4:15-5:15 PM	755	714	56.3	42.9	43.0	76.2	76.4	C	C
6	San Miguel Canyon Road	Apricot Lane to Strawberry Road	NB/SB	Class III	D	7:00-8:00 AM	687	546	55.0	42.2	42.6	76.8	77.4	C	C
						4:45-5:45 PM	632	719	55.0	42.1	41.9	76.6	76.2	C	C
7	San Miguel Canyon Road	Garlen Lane to Pond-Derosa Lane	NB/SB	Class III	D	7:00-8:00 AM	751	777	55.8	41.2	41.2	73.9	73.9	D	D
						4:30-5:30 PM	769	788	55.8	41.5	41.5	74.4	74.4	D	D
8	San Miguel Canyon Road	Langley Canyon Road to US 101 Ramps	NB/SB	Two-Lane Arterial	D									26,274	
														LOS C[1]	

Notes:
1. Segment LOS for Four-Lane and Two-Lane Arterials are based on Average Daily Traffic volumes, planning applications of the Highway Capacity Manual, and the Florida Department of Transportation Qualtiy/LOS Handbook. These roadway segments are not classified as rural two-lane highways.

As shown in Table 9, all roadway segments currently operate at acceptable service levels, except for Salinas Road between Fair Way and Hillcrest Road.

Existing Intersection Operations

Existing intersection operations were quantified utilizing HCM 6 and Synchro methodologies based on peak hour traffic volumes collected by Omni-Means/GHD in January and February, 2018. Existing AM and PM peak hour intersection operations were quantified utilizing the existing intersection lane geometrics and controls (Figure 5) and the existing peak hour traffic volumes (Figure 6). Details on technical analysis parameters, methodology, and assumptions are provided in Appendix A. Intersection #2 (Porter Drive at Salinas Road/Stender Avenue) and Intersection #4 (Salinas Road at Elkhorn Road) were analyzed utilizing *SimTraffic 10* (Trafficware) due to lane controls, geometrics, and configurations that are beyond Synchro limitations of standard intersection control and geometrics. Porter Drive at Salinas Road/Stender Avenue operates as one intersection, as the two local streets intersect G12 at the same location. Salinas Road at Elkhorn Road has yield control on the southbound left turn. Table 10 presents a summary of the existing intersection analysis and LOS conditions.

TABLE 10: EXISTING CONDITIONS INTERSECTION LEVEL OF SERVICE

#	Intersection	Control Type[1,2]	Target LOS	AM Peak Hour		PM Peak Hour		Warrant Met?[3]
				Delay	LOS	Delay	LOS	
1	Main St/Porter Dr & San Juan Rd	Signal	D	26.1	C	41.2	D	-
2	**Porter Dr & Salinas Rd/Stender Ave***	**TWSC**	**D**	**54.2**	**F**	**65.8**	**F**	**No**
3	Salinas Rd & Pajaro School	Signal	D	10.7	B	6.1	A	
4	**Salinas Rd & Elkhorn Rd***	**Yield**	**D**	15.9	C	**230.1**	**F**	**Yes**
5	**Elkhorn Rd & Werner Rd**	**TWSC**	**D**	25.9	D	**205.4**	**F**	**Yes**
6	**Elkhorn Rd & Hall Rd**	**TWSC**	**D**	**36.0**	**E**	24.2	C	Yes
7	**Hall Rd & Willow Rd**	**TWSC**	**D**	**OVR**	**F**	**145.9**	**F**	**Yes**
8	Hall Rd & Las Lomas Dr	Signal	D	26.0	C	35.5	D	-
9	**Hall Rd & Sill Rd**	**TWSC**	**D**	**91.5**	**F**	**51.6**	**F**	**Yes**
10	Hall Rd & San Miguel Canyon Rd	Signal	D	18.0	B	18.0	B	
11	**San Miguel Canyon Rd & Paradise Rd**	**TWSC**	**D**	**35.0**	**E**	29.4	D	No
12	**San Miguel Canyon Rd & Echo Valley Rd**	**TWSC**	**D**	**OVR**	**F**	**OVR**	**F**	**Yes**
13	**San Miguel Canyon Rd & Castroville Blvd**	**TWSC**	**D**	**45.1**	**E**	**184.4**	**F**	**Yes**
14	**San Miguel Canyon Rd & Langley Canyon Rd**	**TWSC**	**D**	**45.9**	**E**	**36.8**	**E**	**Yes**
15	San Miguel Canyon Rd & Moro Rd	Signal	D	31.9	C	48.7	D	-
16	San Miguel Canyon Rd & Prunedale North Rd	Signal	D	18.2	B	42.7	D	-
17	**San Miguel Canyon Rd & US 101 SB Ramps**	**Signal**	**D**	10.2	B	**55.8**	**E**	**-**

Notes:

1. TWSC = Two-Way or One-Way Stop Control; UC = Uncontrolled

2. LOS = Delay based on worst minor street approach for TWSC intersections, average of all approaches for Signal

3. Warrant = Based on California MUTCD Warrant 3

** LOS determined based on SimTraffic*

As shown in Table 10, all of the intersections with side-street stop control currently operate beyond the acceptable service threshold and experience some level of traffic congestion in the AM and PM peak hours. The intersection of Elkhorn Road (G12) at Werner Road was observed to have an extremely long queue extending back to Salinas Road in the PM peak hour. The queue in the AM peak hour is in the opposite direction, backing up from Salinas Road and extending into the left turn pocket on G12. In both AM and PM peak hours, the northbound left turn lane queue can extend beyond the turn lane storage capacity. This can be problematic for northbound approaching vehicles, and there is a horizontal curve prior to the intersection. Through vehicles experience congestion as they approach the intersection due to the high number of vehicles slowing down to turn left on Werner Road. At the intersection of Hall Road at San Miguel Canyon Road, traffic was observed to back up in the westbound direction approximately 1,000 feet during the AM peak hour. In the PM peak hour, traffic in the

Prunedale area backs up in both directions. Most vehicles are heading to US 101 Southbound, and traffic will back up through the traffic lights and past Langley Canyon Road. Northbound traffic will back up beyond the US 101 overpass during the PM peak hour. The trap right turn lane at Moro Road and prior merge may have an effect on this.

Travel Time Run Analysis

Travel times of the G12 corridor were collected on January 31 and February 1, 2018 from 7:00 to 9:00 a.m. for the AM peak period, and from 4:00 to 6:00 p.m. for the PM peak period. Additionally, travel times were collected between 2:30 and 3:00 p.m. on February 1 to assess school related traffic. The travel time runs were conducted on these two consecutive days in order to obtain an average of typical weekday traffic conditions. These days experienced reasonably good weather conditions. The travel time runs were conducted using the test vehicle method and "Average-Car" or "Floating-Car" technique. These techniques are conducted by emulating an average driver either by traveling at the flow of traffic or by the driver's judgement of the average speed of the traffic stream. This travel time and delay analysis is used to evaluate the quality of traffic movement along the G12 corridor and determine the locations, types, and extent of traffic delays. Based on the peak period time constraints and the time it takes to travel the entire corridor, a minimum of three runs were conducted for each direction of travel for the AM and PM peak periods. Table 11 presents the average travel times between the study intersections for both days, for each direction, during the AM and PM peak periods. To help understand the table, traveling northbound, the travel time runs start in Prunedale at study intersection #15 and end at study intersection #1, and southbound travel time runs start in Pajaro at study intersection #1 and end at study intersection #15. As shown in Table 11, the average travel time northbound during the AM peak along San Miguel Canyon Road between US 101 southbound ramps and Prunedale North Road was 15 seconds, and then the average travel time between Prunedale North Road and Moro Road was 14 seconds; etc.

TABLE 11: AVERAGE TRAVEL TIME RUN ANALYSIS

#	Intersection	Control Type[1,2]	Average Travel Times			
			Northbound		Southbound	
			AM	PM	AM	PM
1	Main St/Porter Dr & San Juan Rd	Signal	0:46	1:08	-	-
2	Porter Dr & Salinas Rd/Stender Ave	TWSC	3:23	2:51	0:21	0:29
3	Elkhorn Rd & Werner Rd	TWSC	1:05	1:02	2:26	2:51
4	Elkhorn Rd & Hall Rd	Signal	0:48	0:43	0:56	1:02
5	Hall Rd & Willow Rd	TWSC	0:11	0:09	0:40	0:52
6	Hall Rd & Las Lomas Dr	Signal	1:04	1:11	0:12	0:14
7	Hall Rd & Sill Rd	TWSC	2:10	1:58	0:47	0:50
8	Hall Rd & San Miguel Canyon Rd	Signal	3:34	3:20	1:50	1:54
9	San Miguel Canyon Rd & Paradise Rd	TWSC	0:22	0:19	3:02	3:11
10	San Miguel Canyon Rd & Echo Valley Rd	TWSC	1:07	1:05	0:18	0:18
11	San Miguel Canyon Rd & Castroville Blvd	TWSC	0:29	0:29	1:04	1:09
12	San Miguel Canyon Rd & Langley Canyon Rd	TWSC	0:14	0:15	0:33	0:35
13	San Miguel Canyon Rd & Moro Rd	Signal	0:14	0:30	0:23	0:26
14	San Miguel Canyon Rd & Prunedale North Rd	Signal	0:15	0:38	0:14	0:20
15	San Miguel Canyon Rd & US 101 SB Ramps	Signal	-	-	0:11	0:12
Average Total Travel Time			**15:42**	**15:36**	**12:56**	**14:25**

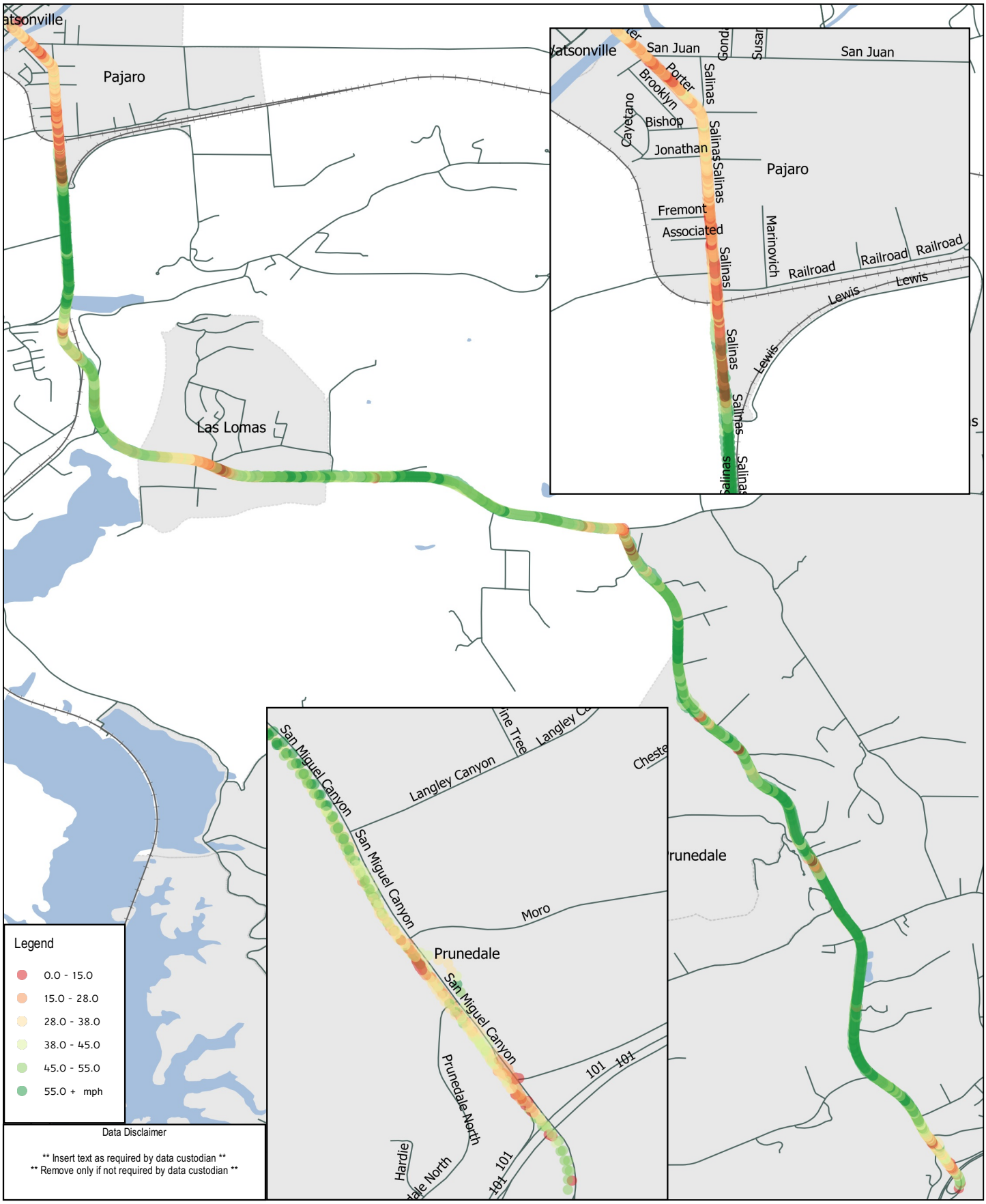
**Times shown are the average travel times between the study intersections. Northbound starts at Intersection #15 and ends at #1. Southbound starts at Intersection #1 and ends at #15.*

As shown in Table 11, the average travel times for the Northbound direction were consistent between AM and PM peak hours (15:36-15:42 minutes). The average travel times for the southbound direction were a little faster than the northbound, with 12:56 as the total average time in the AM peak and 14:25 in the PM peak. The quickest time in either direction was recorded to be 12:34 (southbound), and the slowest time was recorded to be 19:25 (northbound). The slowest run was due to a platoon of cars behind a slower heavy vehicle/truck.

In addition to the test vehicle method, all of the travel time runs were recorded using a GPS tracking application on a mobile phone. The application, MyTracks, records the location every second, calculates speed, and each run is exported into a GIS format. The following Figures 14 through 17 present the GPS-recorded travel time runs, for each direction, for both AM and PM peak periods. The figures show the recorded data points along the G12 corridor colored based on the speed (green at 45 mph or higher to red at 15 mph or lower). The multiple recorded runs are overlaid with a transparency in order to emulate the average speed along the corridor for each direction and peak period. The figures show where congestion or slow speeds occur along the G12 corridor.

In Pajaro, the speed limit is 25 mph, and is depicted to be slower in the travel time run figures. The orange-red points in Las Lomas, Prunedale, and at San Miguel Canyon Road at Hall Road also depict where delays due to traffic signals or congestion are located. As shown, in the Prunedale area, the speed and delays are more apparent in the PM peak hour, in both directions. Southbound, congestion and delays occur beginning around Langley Canyon Road, and in the Northbound direction, congestion backs up on the US 101 overpass. Additionally, approaching the Pajaro area, where the two lanes merge into one in advance of the railroad crossing, some delay is shown and experienced here too.

Although there is some congestion in Prunedale, Las Lomas, and Pajaro, most of the vehicular traffic was observed to travel along the corridor between US 101, Werner Road, and then to SR 1 via Salinas Road. As mentioned previously, the G12 corridor has been increasingly utilized to travel between the City of Salinas and Watsonville. Based on Google maps directions, travel from Watsonville to Salinas during the peak hours can take 40 minutes to over one hour via SR 1 and SR 183 (via Castroville and Moss Landing), while taking the G12 route could save approximately 10 to 15 minutes.



Paper Size: ANSI A

0 0.25 0.5 0.75 1 mi

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Map Projection: Lambert Conformal Conic
Horizontal Datum: NAD 1983 2011
Grid: NAD 83 CORS96 California State Plane Zone IV FIPS 0405 Ft US

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Transportation Agency for Monterey County

G12 CORRIDOR STUDY

TRAVEL TIME RUN NORTHBOUND AM PEAK

Project No. **11152201**
Revision No. **R2453RPT001**
Date. **04/12/2018**

FIGURE 14

Document Path: K:\PRJ\2453\G2453\Travel Time Runs Mapped.qgs

Data Source:

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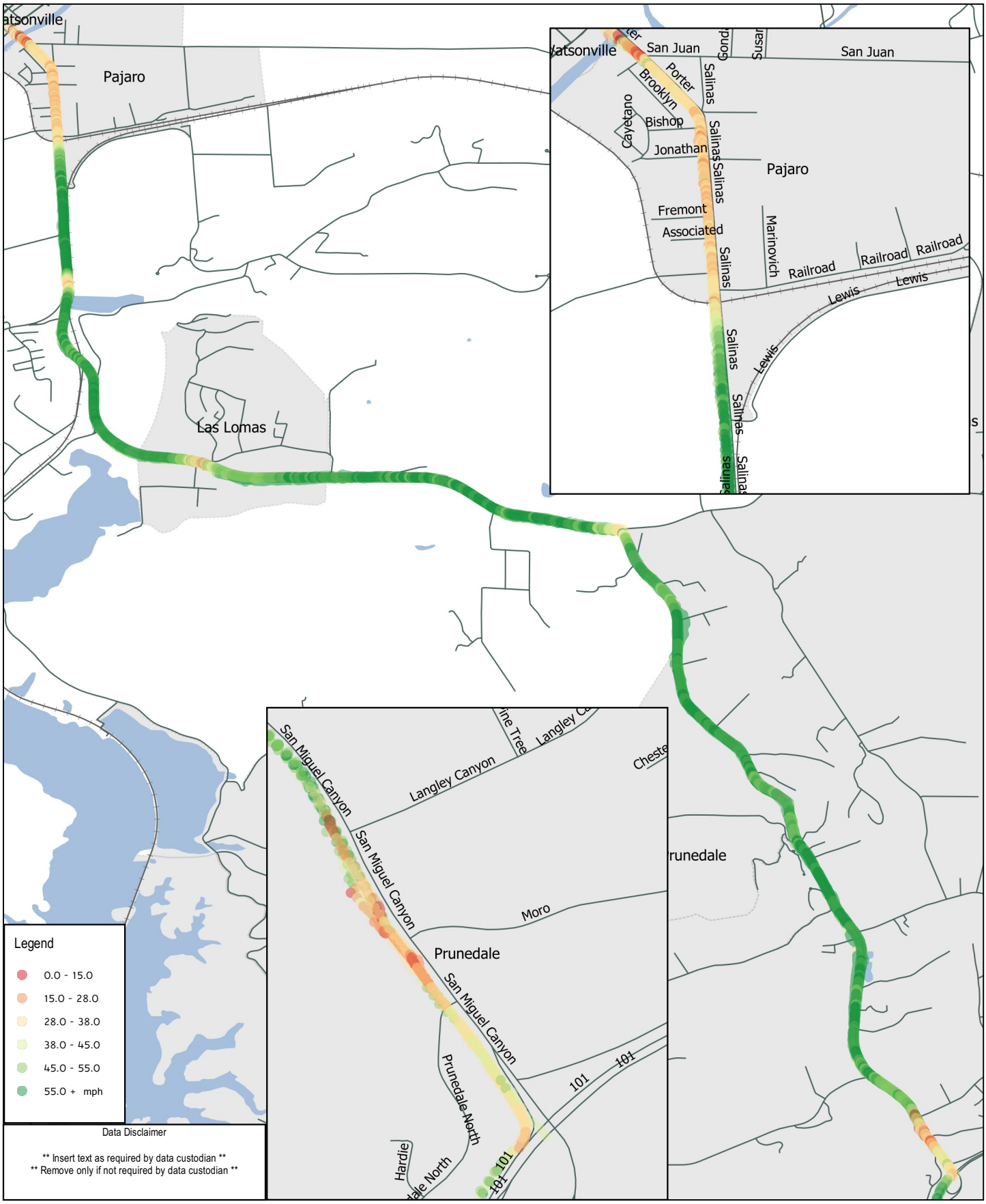

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Map Projection: Lambert Conformal Conic
Horizontal Datum: NAD 1983 2011
Grid: NAD 83 CORS96 California State Plane Zone IV FIPS 0405 Ft US

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Transportation Agency for Monterey County

G12 CORRIDOR STUDY

TRAVEL TIME RUN SOUTHBOUND AM PEAK

Project No. **11152201**
Revision No. **R2453RPT001**
Date. **04/12/2018**

FIGURE 15

Document Path: K:\PRJ\2453\G2453\Travel Time Runs Mapped.qgs

Data Source:

Print Date: 3/19/2018

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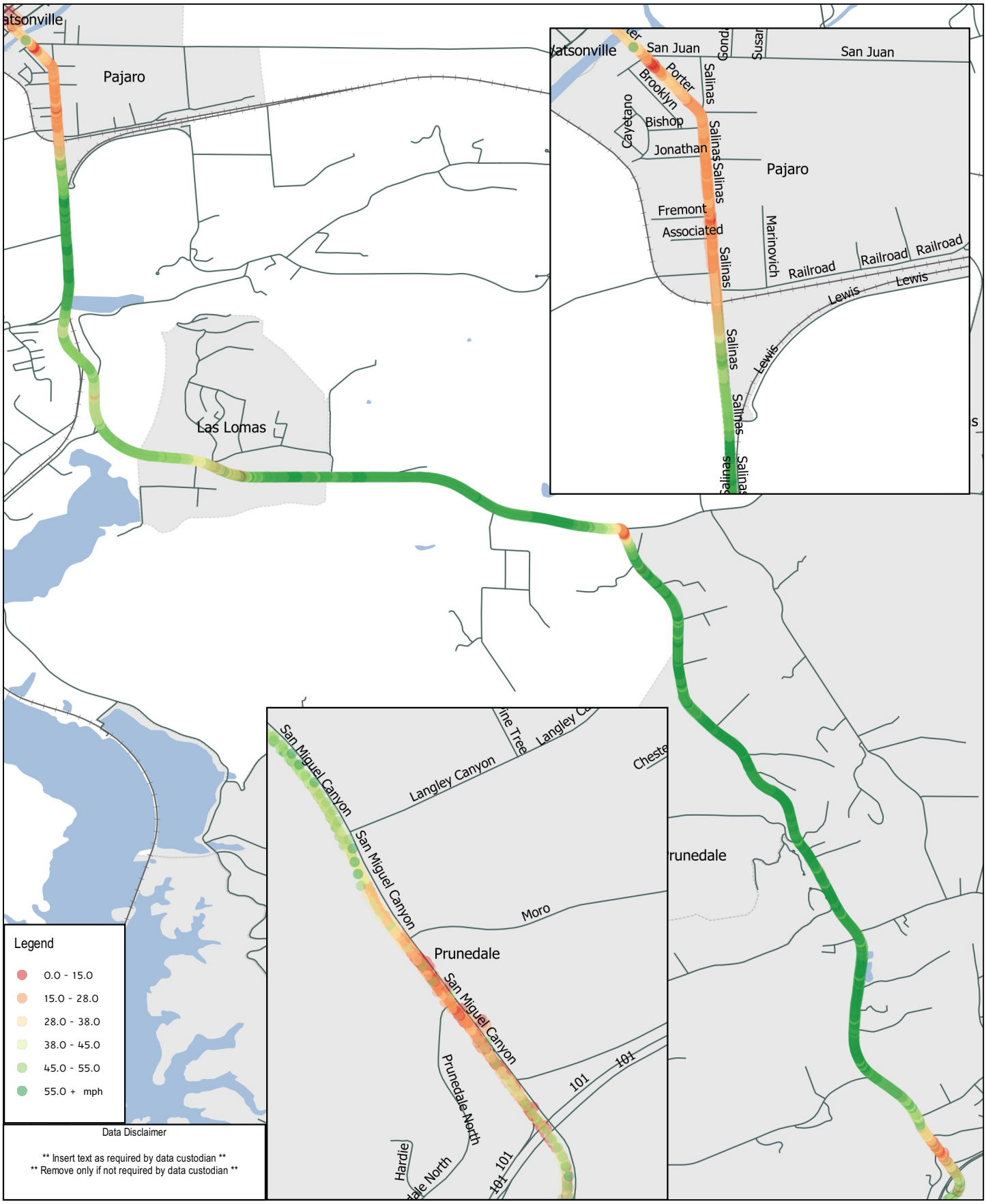

Paper Size: ANSI A

0 0.25 0.5 0.75 1 mi

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Map Projection: Lambert Conformal Conic
Horizontal Datum: NAD 1983 2011
Grid: NAD 83 CORS96 California State Plane Zone IV FIPS 0405 Ft

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G12 CORRIDOR STUDY

TRAVEL TIME RUN NORTHBOUND PM PEAK

Project No. **11152201**
Revision No. **R2453RPT001**
Date. **04/12/2018**

FIGURE 16

Document Path: K:\PRJ\2453\G2453\Travel Time Runs Mapped.qgs

Data Source:

Print Date: 3/19/2018

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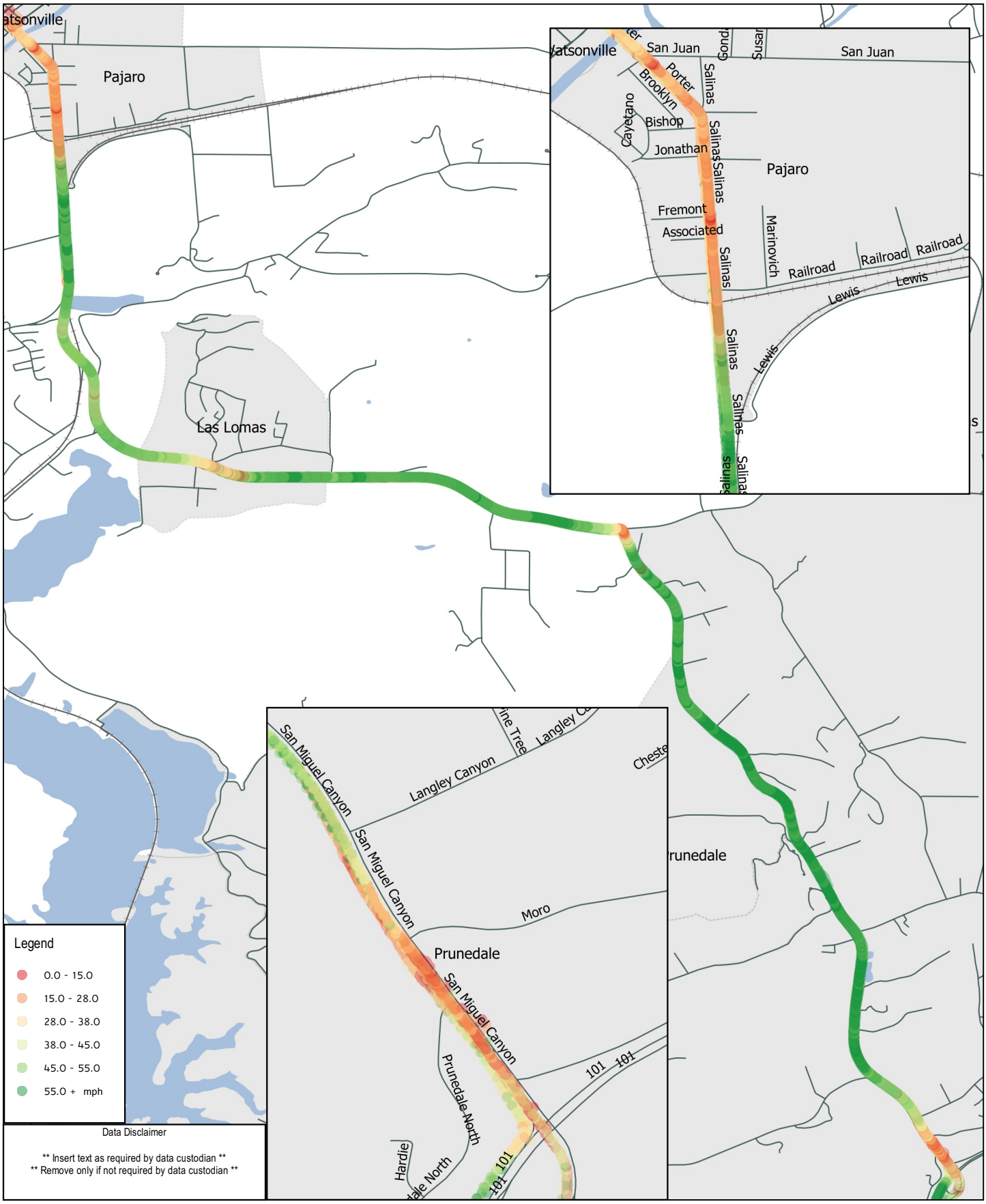

Paper Size: ANSI A

0 0.25 0.5 0.75 1 mi

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Map Projection: Lambert Conformal Conic
Horizontal Datum: NAD 1983 2011
Grid: NAD 83 CORS96 California State Plane Zone IV FIPS 0405 Ft US

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G12 CORRIDOR STUDY

TRAVEL TIME RUN SOUTHBOUND PM PEAK

Project No. **11152201**
Revision No. **R2453RPT001**
Date. **04/122018**

FIGURE 17

Document Path: K:\PRJ\2453\G2453\Travel Time Runs Mapped.qgs

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Traffic Collision Analysis

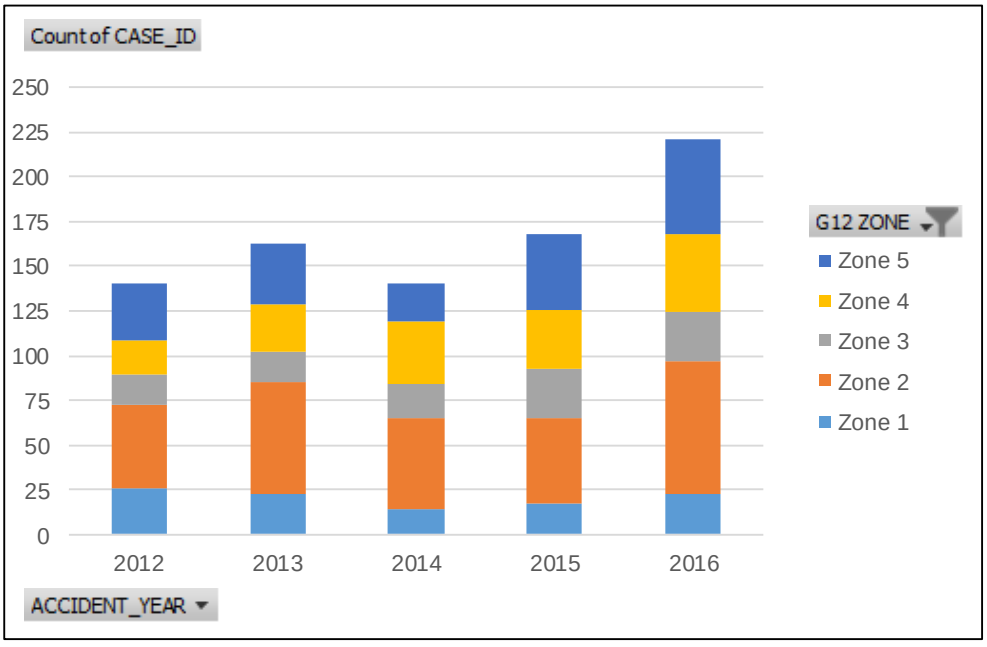
State Departments of Transportation are required to create a safety plan specific to their state's safety needs under the current transportation-funding bill (MAP-21) and the Highway Safety Improvement Plan (HSIP). A Strategic Highway Safety Plan (SHSP) is a statewide-coordinated safety plan that provides a comprehensive framework for reducing highway fatalities and serious injuries on all public roads. SHSPs are a critical and comprehensive tool for states to keep moving towards zero deaths related to motor vehicles and roadways. California's Strategic Highway Safety Plan (SHSP) for 2015-2019 has adopted a "Toward Zero Deaths" (TZD) strategy for reducing traffic fatalities and injuries. The TZD is also a national strategy supported by the Federal Highway Administration and many other organizations.

Collision data for the study roadways and intersections were derived from the California Highway Patrol Statewide Integrated Traffic Records System (SWITRS). The accuracy of the data is subject to reporting levels of the law enforcement agencies supplying the collision reports. Data was collected on the G12 corridor for a five-year period between January 1, 2012 and December 31, 2016. Based on the collision data, there were 832 reported collisions along the G12 corridor.

Collision Trends

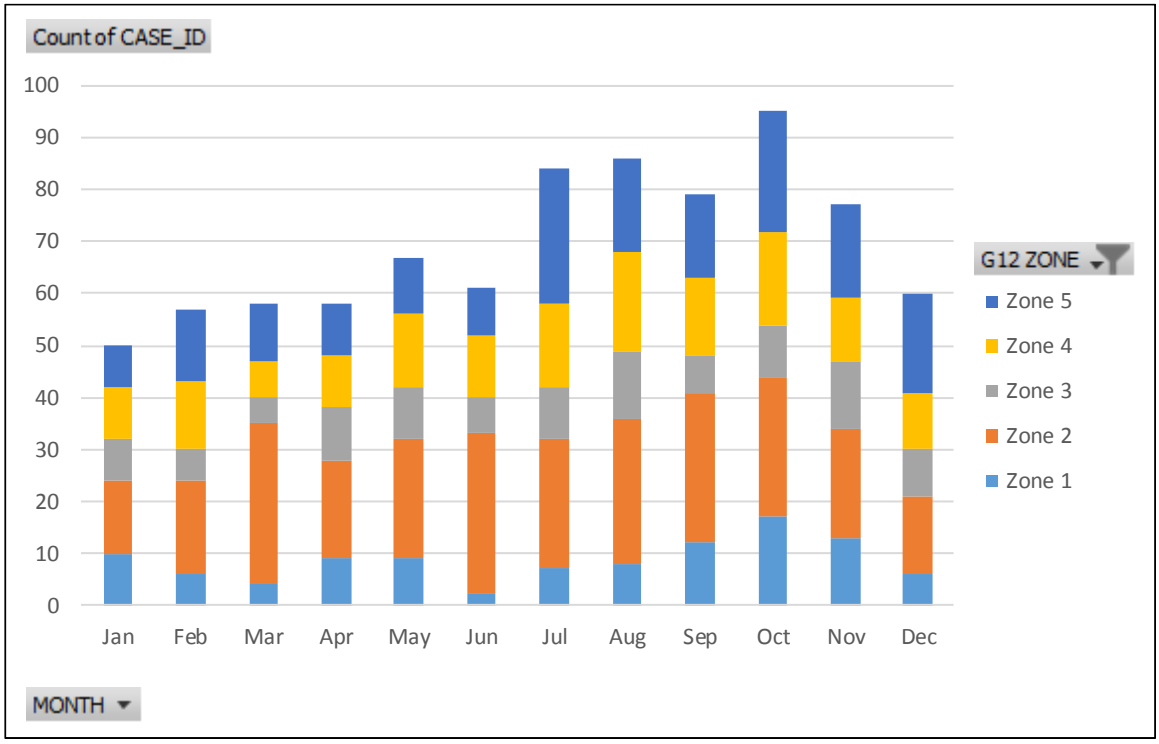
The number of collisions per year on the G12 corridor had significantly increased to 221 collisions by 2016, compared to the steady number of collisions between 2012 and 2015, which had an average of 153 collisions per year. Over the five-year period, G12 had an average of 166 collisions per year. Figure 18 presents the total number of collisions for each Corridor Zone by year. As shown, the number of collisions in Zones 2, 3, and 4 remained relatively consistent between 2012 and 2015. The number of collisions in Zones 1 and 5 decreased in 2014. Zones 1, 2, 4, and 5 experienced a large increase in the number of collisions between 2015 and 2016. Although Zone 2 has the largest number of collisions, it also has the longest length (5.8 miles of the 10 mile corridor), and is much longer than the other corridor zones.

FIGURE 18: COLLISIONS BY YEAR AND BY ZONE



When comparing the collisions on a monthly basis, the July, August, and October experienced the highest number of collisions (84, 86, and 95 collisions, respectively). Figure 19 presents the total number of collisions for each Corridor Zone by month. The months of December through June experienced lower collisions than the annual average number of collisions (69 collisions) along G12.

FIGURE 19: COLLISIONS BY MONTH AND BY ZONE



Collisions on G12 occurred most often on Mondays, Thursdays, and Fridays, with the notable standouts being on the Wednesdays, Saturdays, and Sundays. This is largely due to the high number of commuter traffic on the G12 corridor. Table 12 presents the collisions by day of week and by time of day, with graded color scales showing higher concentrations of collisions. As shown on an hourly basis, the highest number of collisions occurred on the weekdays during the PM peak (5:00-7:00 p.m.) In addition, Friday during the PM peak had the highest number of collisions.

TABLE 12: COLLISIONS BY DAY OF WEEK AND TIME OF DAY

# of Collisions / Time	Mon	Tues	Wed	Thur	Fri	Sat	Sun	Grand Total
12 AM		1						1
1 AM	4	1		2		1	2	10
2 AM	1					6	2	9
3 AM	1			2		2		5
4 AM	1			2	1		1	5
5 AM	1	2	1	3	8	2	1	18
6 AM	13	12	6	6	6	6	1	50
7 AM	8	9	8	12	9	1	1	48
8 AM	10	7	7	4	7	5	2	42
9 AM	5	1	4	4	2	6	1	23
10 AM	3	3	3	4	6	6	12	37
11 AM	5	2	2	4	4	6	5	28
12 PM	3	7	6	7	3	5	9	40
1 PM	6	2	6	1	7	1	5	28
2 PM	6	3	7	5	3	5	8	37
3 PM	11	5	5	11	12	6	9	59
4 PM	7	14	10	7	7	9	17	71
5 PM	13	15	21	16	18	8	4	95
6 PM	11	8	8	11	23	7	9	77
7 PM	8	6	7	6	6	5	4	42
8 PM	7	5	2	7	4	7	8	40
9 PM	1	4	4	1	5	9	6	30
10 PM	4	5	1	3	7	3	1	24
11 PM	3	2	2		3	2	1	13
Grand Total	132	114	110	118	141	108	109	832

Collision Severity and Collision Types

In addition to location and time, the collision data provides information on collision severity: fatal, injury (complaint of pain), injury (other visible), injury (severe), or property damage only (PDO). Figure 20 presents the total number of collisions for G12 by collision severity type or injury level. The majority of collisions involved PDO or minor injuries; however, there were 11 fatalities and 19 collisions involving severe injuries. Four of the 11 fatalities occurred on San Miguel Canyon Road (Zone 2) between Echo Valley Road and Woodland Hill Lane. Five of the fatalities were due to driving or bicycling under the influence of drugs or alcohol (DUI), one of which occurred at Hall Road/Willow Road in the Las Lomas community. One fatality involved a truck, and one fatality involved a motorcycle.

Figure 21 presents the types of collisions for the G12 corridor. As shown, the majorities of collisions were Rear End (41%) and Broadside (24%) collision types. While these types of collisions resulted in the most PDO and minor injuries, most fatalities resulted from Head-On and Hit Object collision types.

FIGURE 20: COLLISION SEVERITY

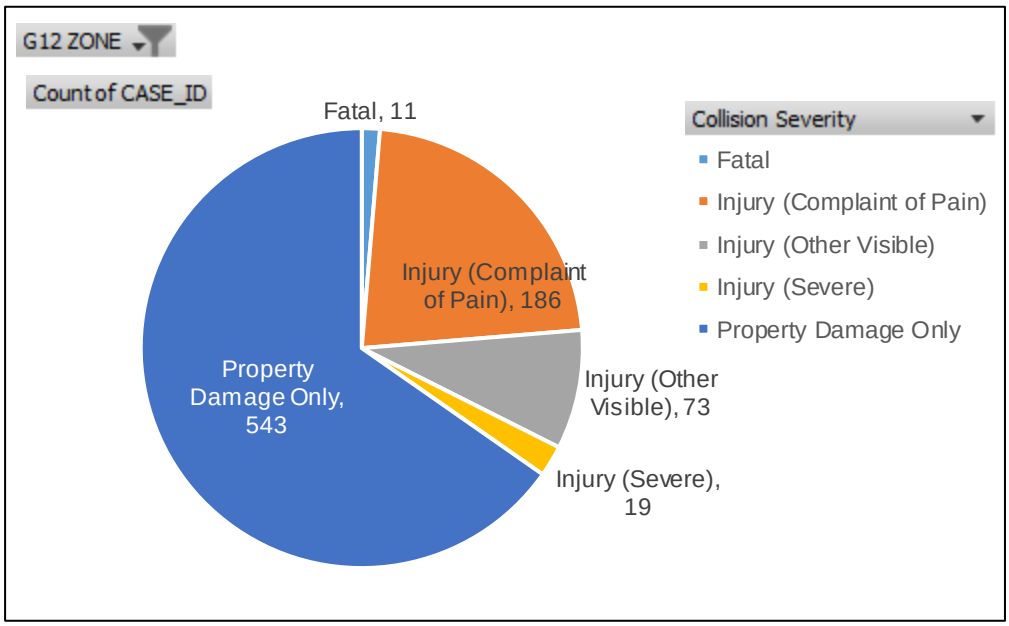


FIGURE 21: COLLISION TYPES

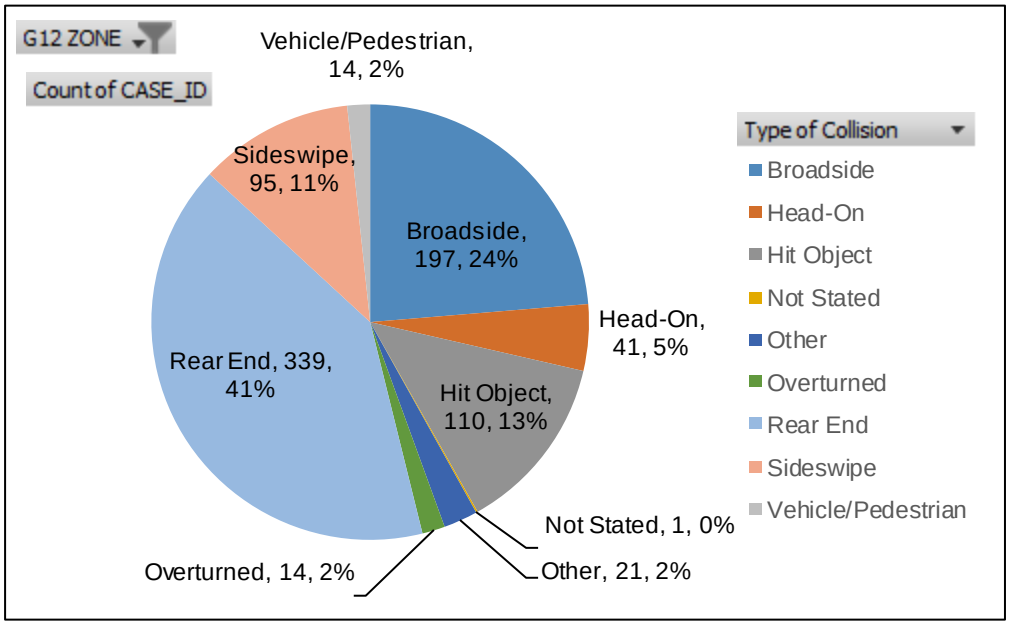
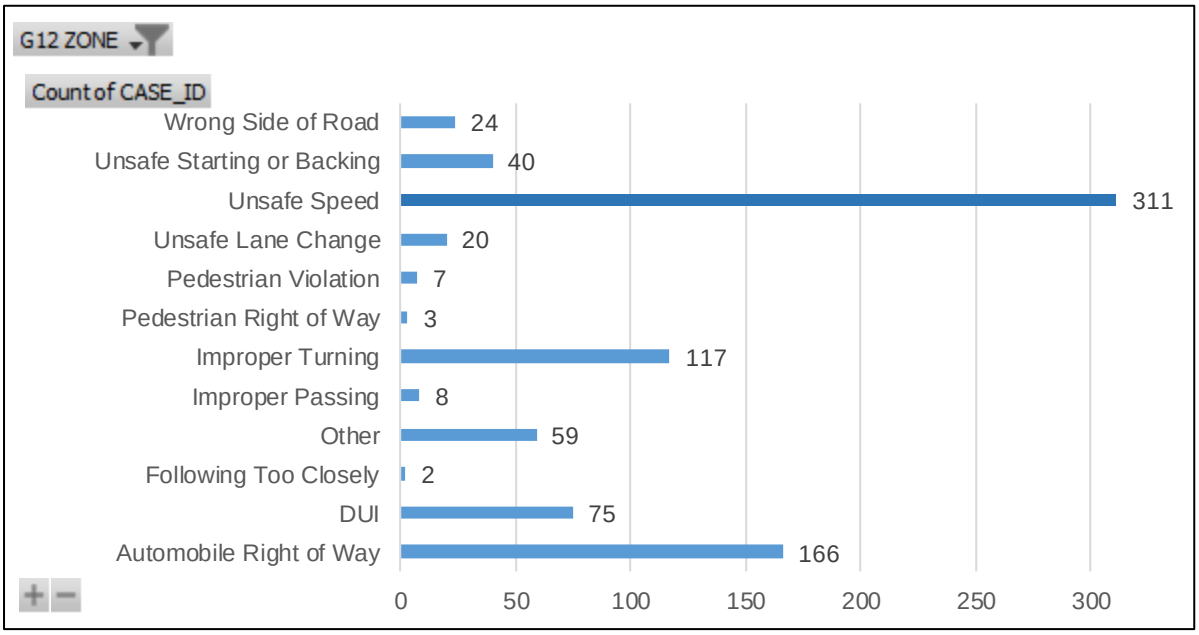


Figure 22 presents the primary collision factors for the collisions along the G12 corridor. The majorities of collisions were due to vehicles traveling at unsafe speeds (311 collisions), and motorists not yielding the right-of-way to other vehicles, bicyclists, or pedestrians (166 automobile or bike, and 3 pedestrian). The three “pedestrian right-of-way” collisions were due to vehicles not yielding the right-of-way to pedestrians crossing in marked crosswalks at intersections. There were also 75 collisions due to DUI’s, and 117 collisions due to improper turning.

FIGURE 22: PRIMARY COLLISION FACTORS



Pedestrian and Bicycle Collisions

Based on the five-year collision data, there were 13 pedestrian collisions and 14 bicycle collisions. Three of the 11 fatalities were bicyclists that were located on Salinas Road between Werner Road and Trafton Road where bike lanes are not present and the shoulder is minimal. Five of the bicycle collisions were reported to be due to automobile right-of-way (vehicles not yielding to bicyclists upon entry or exit of the main roadway). Four of the bicycle collisions occurred in the Pajaro area (Zone 5, at San Juan Road and at Stender Avenue), eight occurred in Zone 4, one occurred at Hall Road/Las Lomas Drive (Zone 3), and one occurred at San Miguel Canyon Road/Moro Road in Zone 1 (Prunedale).

There were no pedestrian fatalities reported along the G12 corridor between 2012 and 2016. The majority of pedestrian collisions (9) were reported to be due to the pedestrian walking in the roadway or not crossing at designated or marked crossings, most of which occurred during the dark, with or without streetlights. Eight of the pedestrian collisions occurred in the Pajaro area (Zone 5), three occurred in Zone 4 (two around Elkhorn Road and Werner Road), one occurred near Hall Road/Las Lomas Drive (Zone 3), and one occurred in Zone 1 at San Miguel Canyon Road/Prunedale North Road (Zone 1).

Figure 23 presents a heat map of the collision data, based on the 5-year collision data (SWITRS) for collisions that involved fatalities or some level of severity (does not include PDO collisions). Figure 23 also includes collisions along Salinas Road west of G12, which is not included in the technical collision analysis herein. Figure 24 presents the bicycle and pedestrian collisions by severity.

Paper Size: ANSI A

0 0.25 0.5 0.75 1 mi

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Map Projection: Lambert Conformal Conic
Horizontal Datum: NAD 1983 2011
Grid: NAD 83 CORS96 California State Plane Zone IV FIPS 0405 Ft US

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COLLISION HEAT MAP

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Date. **04/23/2018**

FIGURE 23

Document Path: K:\PRJ\2453\G2453\Collision Mapping.qgs

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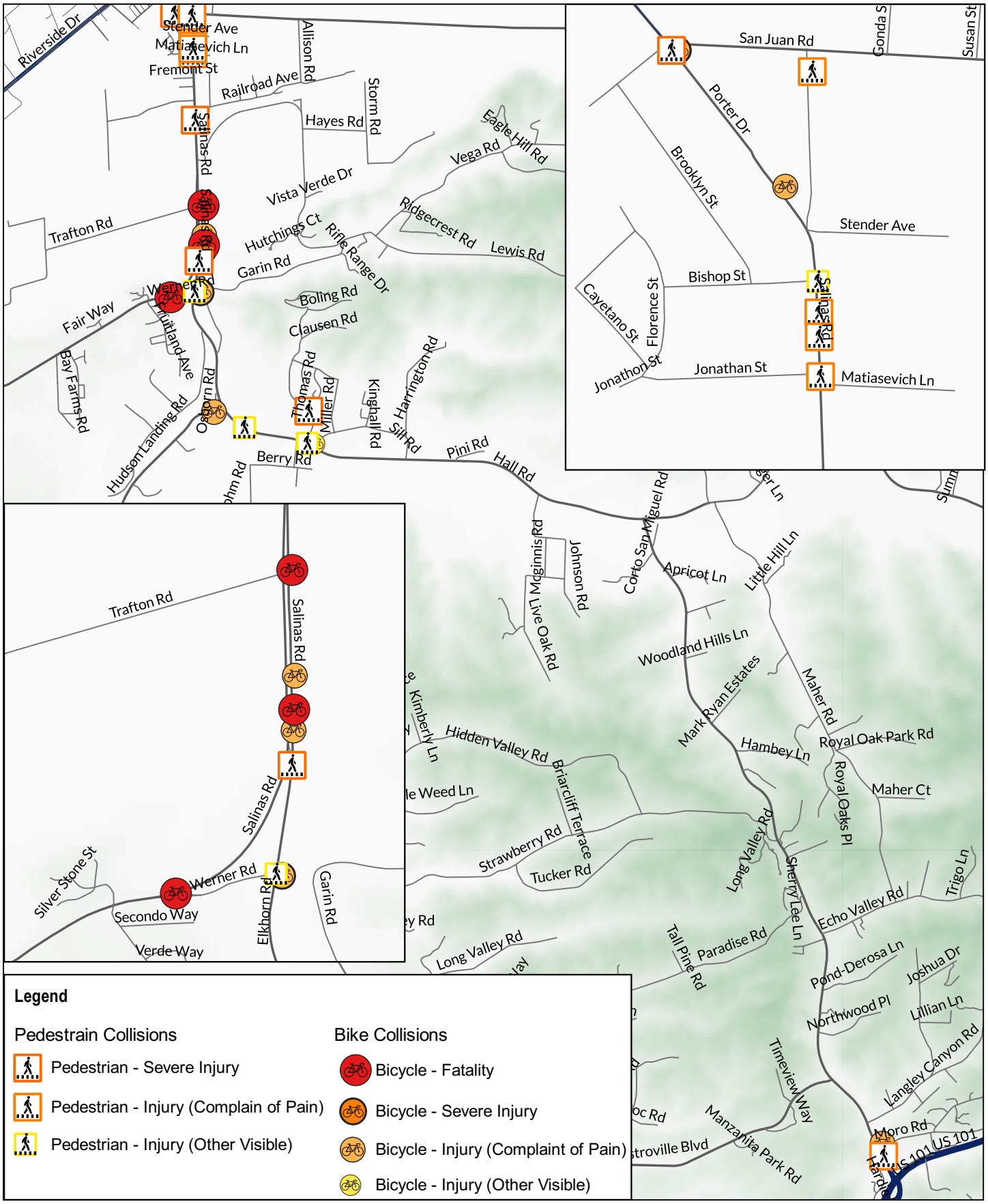

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Map Projection: Lambert Conformal Conic
Horizontal Datum: NAD 1983 2011
Grid: NAD 83 CORS96 California State Plane Zone IV FIPS 0405 Ft US

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G12 CORRIDOR STUDY

Bicycle and Pedestrain Collisions by Severity

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Revision No. **R2453RPT001**
Date. **04/23/2018**

FIGURE 24

Document Path: K:\PRJ\2453\G2453\Collision Mapping.qgs

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Collision Rates

The five-year period from January 1, 2012 to December 31, 2016 was analyzed for three facility types: roadway segments, unsignalized intersections, and signalized intersections. The collision rate is calculated for each facility type to determine relative safety compared to other similar roadways, segments, or intersections. Collision rates are defined as the number of collisions per million vehicle miles traveled (ACC/MVM) for roadway segments, and the number of collisions per million vehicles entering the intersection (ACC/MVE) for intersections. The vehicle miles traveled is equal to the ADT volumes multiplied by the length of the segment, multiplied by the number of years of data, and multiplied by 365 (days per year). The roadway collision rate equation is shown below:

$$Collision\ Rate\ = \frac{(\text{Number of Collisions}) \text{ x } (1{,}000{,}000)}{\text{Vehicle Miles of Travel}}$$

The calculated collision rates are compared to statewide average rates for like facilities compiled by the California Department of Transportation (Caltrans) as published in their most recent document *2014 Collision Data on California State Highways*[1]. The document provides basic average collision rates, derived from SWITRS data, for various types of roadways and intersections, categorized by highway type, control type, intersection type, design speed, area type, and terrain. Table 13 presents the Caltrans (statewide) basic average collision rates for the different facility types along the G12 corridor. In Table 13, each facility or control type is assigned an ID (A-J), which is used in this report to correspond with the facility assumptions utilized to calculate the basic average collision rates for the study roadway segments and intersections.

[1] California Department of Transportation 2014 Collision Data on California State Highways (road miles, travel, collisions, collision rates), Division of Research, Innovation, and System Information, Sacramento, CA.

TABLE 13: CALTRANS BASIC AVERAGE COLLISIONS RATES

Basic Average Accident Rates for Highways[1]									
ID	**Facility Type**	**Terrain**	**Design Speed**	**Area**	**Base Rate**	**+ADT Factor**	**% FAT**	**% INJ**	**% F+I**
A	Conv. Two-Lane Highway	Flat	>55	Rural	0.82	0.35	2.40	40.1	42.5
B	Conventional 3 Lanes	-	-	Urban	1.57	-	0.80	37.9	38.7
C	Divided 4 Lanes	Flat	>55	Suburban	1.31	-	0.70	41.1	41.8
D	Undivided 4 Lanes	-	<45	Urban	2.04	-	0.70	41.2	41.9
Basic Average Accident Rates for Intersections[1]									
ID	**Control Type**		**Intersection Type**[2]	**Area**	**Base Rate**	**+ADT Factor**	**% FAT**	**% INJ**	**% F+I**
E	Stop & Yield Signs (Execpt 4-way)		F, M and S	Rural	0.23	-	2.00	40.4	42.4
F	Stop & Yield Signs (Execpt 4-way)		T, Y and Z	Rural	0.16	-	1.70	39.2	40.9
G	Stop & Yield Signs (Execpt 4-way)		F, M and S	Urban	0.15	-	1.00	41.9	42.9
H	Stop & Yield Signs (Execpt 4-way)		T, Y and Z	Urban	0.18	-	0.70	36.4	37.1
I	Signals		F, M and S	Rural	0.50		0.80	36.4	37.2
J	Signals		T, Y and Z	Rural	0.24	-	0.60	40.7	41.3
K	Signals		F, M and S	Urban	0.50	-	0.80	36.4	37.2
L	Signals		T, Y and Z	Urban	0.21	-	0.30	42.4	42.7

1. Statewide Basic Average Rates and %F+I are recorded in 2014 Collision Data on California State Highways, Caltrans.

2. F = Four-legged, M = Multi-legged, S = Offset, T = Tee, Y =Y/WYE, Z = Others

Table 14 presents the resulting study roadway segment fatality and injury percentages, and collision rates compared against the statewide averages. Table 15 presents the resulting study intersection fatality and injury percentages, and collision rates compared against the statewide averages. Fatality and injury rates were calculated as a percentage of total recorded collisions.

TABLE 14: FIVE-YEAR COLLISION SUMMARY FOR ROADWAY SEGMENTS

Study Roadway Segments	Facility Type ID	Length (mi)	2018 ADT	Total Collisions (5 year)	Fatality + Injury (F+I) (5 Year)	%F+I	Statewide Average %F+I	Collision Rate (ACC/MVM)	Statewide Basic Average Rate (ACC/MVM)
Corridor Zone 5									
Salinas Rd/Porter Dr - San Juan Rd to Railroad Ave	B	0.60	18,765	152	29	19.1%	38.7%	7.40	1.57
Corridor Zone 4		1.75	21,263	**100**	**38**	38.0%	42.2%	1.47	0.98
Salinas Rd - Railroad Ave to Elkhorn Rd	C	1.00	18,765	41	20	48.8%	41.8%	1.20	1.31
Elkhorn Rd - Werner Rd to Elkhorn Rd/Hall Rd	A	0.75	23,760	59	18	30.5%	42.5%	1.81	0.65
Corridor Zone 3									
Hall Rd - Elkhorn Rd to Sill Rd	A	1.30	22,116	91	36	39.6%	42.5%	1.73	0.65
Corridor Zone 2	**A**	5.90	19,965	**210**	**71**	33.8%	42.5%	0.98	0.65
Hall Rd - Sill Rd to San Miguel Canyon Rd	A	1.60	17,975	37	12	32.4%	42.5%	0.70	0.65
San Miguel Canyon Rd - Hall Rd to Echo Valley Rd	A	3.00	16,175	108	40	37.0%	42.5%	1.22	0.65
San Miguel Canyon Rd - Echo Valley Rd to Castroville Blvd	A	0.90	19,435	42	13	31.0%	42.5%	1.32	0.65
San Miguel Canyon Rd - Castroville Blvd to Langley Canyon Rd	A	0.40	26,274	23	6	26.1%	42.5%	1.20	0.65
Corridor Zone 1									
San Miguel Canyon Rd - Langley Canyon Rd to US 101	D	0.30	26,274	71	22	31.0%	41.9%	4.94	2.04

Notes:

1. Statewide Basic Average Rate are recorded in 2014 Collision Data on California State Highways, Caltrans.

TABLE 15: FIVE-YEAR COLLISION SUMMARY FOR STUDY INTERSECTIONS

Study Intersections	Facility Type ID	2018 Daily Entering Volume	Total Collisions (5 year)	Fatality + Injury (F+I) (5 Year)	%F+I	Statewide Average %F+I	Collision Rate (ACC/MVE)	Statewide Basic Average Rate
Corridor Zone 5		22,437	**22**	**7**	31.8%	37.2%	0.54	0.27
1. Main St/Porter Dr & San Juan Rd	K	32,120	15	7	46.7%	37.2%	0.26	0.50
2. Porter Dr & Salinas Rd/Stender Ave	G	17,700	6	0	0.0%	42.9%	0.19	0.15
3. Salinas Rd & Parajo School	G	17,490	1	0	0.0%	42.9%	0.03	0.15
Corridor Zone 4		20,927	**24**	**11**	45.8%	40.9%	0.63	0.16
4. Salinas Rd & Elkhorn Rd	F	17,070	5	2	40.0%	40.9%	0.16	0.16
5. Elkhorn Rd & Werner Rd	F	23,030	12	7	58.3%	40.9%	0.29	0.16
6. Elkhorn Rd & Hall Rd	F	22,680	7	2	28.6%	40.9%	0.17	0.16
Corridor Zone 3		20,317	**17**	**7**	41.2%	37.2%	0.46	0.30
7. Hall Rd & Willow Rd	F	21,550	9	5	55.6%	40.9%	0.23	0.16
8. Hall Rd & Las Lomas Dr	I	21,670	8	2	25.0%	37.2%	0.20	0.50
9. Hall Rd & Sill Rd	E	17,730	0	0	0.0%	42.4%	0.00	0.23
Corridor Zone 2		19,168	**58**	**32**	55.2%	37.2%	1.66	0.25
10. Hall Rd & San Miguel Canyon Rd	I	18,310	2	1	50.0%	37.2%	0.06	0.50
11. San Miguel Canyon Rd & Paradise Rd	F	16,610	3	1	33.3%	40.9%	0.10	0.16
12. San Miguel Canyon Rd & Echo Valley Rd	F	18,340	19	9	47.4%	40.9%	0.57	0.16
13. San Miguel Canyon Rd & Castroville Blvd	F	23,410	34	21	61.8%	40.9%	0.80	0.16
Corridor Zone 1		23,945	**32**	**14**	43.8%	37.2%	0.73	0.27
14. San Miguel Canyon Rd & Langley Canyon Rd	F	23,610	5	3	60.0%	40.9%	0.12	0.16
15. San Miguel Canyon Rd & Moro Rd	L	24,790	10	2	20.0%	42.7%	0.22	0.21
16. San Miguel Canyon Rd & Prunedale North Rd	K	25,560	15	8	53.3%	37.2%	0.32	0.50
17. San Miguel Canyon Rd & US 101 SB Ramps	L	21,820	2	1	50.0%	42.7%	0.05	0.21

Notes:

1. Statewide Basic Average Rate are recorded in 2014 Collision Data on California State Highways, Caltrans.

2. Daily Entering Volume for the intersection is based on the PM peak hour counts multiplied by a factor of ten.

For the roadway segment collision rates, segment length is determined based on the distance for each study segment that represents the existing traffic counts (ADT). The Corridor Zones in their entirety are analyzed on an overall basis in terms of the total segment lengths, total number of collisions, and the average ADT of the count locations along the segments. The statewide basic average rate for each Corridor Zone is the average of the basic rates. For Corridor Zones that only have one segment analyzed, the fatality and injury percentage, and collision rate for the segment is the collision rate for the corresponding Corridor Zone.

As shown in Table 14, all of the Corridor Zones along G12 have higher collision rates than the statewide basic average rates, as identified in red. Only one roadway segment, Salinas Road between Elkhorn Road and Railroad Avenue, has a higher fatality and injury percentage than the statewide average, also identified in red. There were three fatal collisions within Corridor Zone 4, two of which were bicycle collisions in the four-lane section of Salinas Road.

The calculated fatality and injury percentages are solely based on the number of collisions reported, and does not take into account the traffic volumes (exposure data). As such, the fatality and injury percentages for collisions at intersections can be much higher than the statewide average due to the low number of collisions reported at the intersection. In analyzing the safety of an intersection, and identifying potential safety issues or the need for improvements, not only will the collision rate and fatality/injury percentage be taken into account, but also the severity and frequency of the collisions. Based on the five-year collision data, the intersection of San Miguel Canyon Road at Castroville Boulevard had the highest number of collisions along the G12 corridor with 34 collisions reported. One fatal collision occurred at Porter Drive and San Juan Road that involved a motorcycle, and one other at San Miguel Canyon Road at Echo Valley Road. There were zero collisions reported at the intersection of Hall Road at Sill Road, which has an unsignalized but marked school crossing. The school crossing also has crossing guards when schoolchildren are crossing.

As shown in Table 15, most of the study intersections have either a higher fatality and injury percentage, a higher collision rate, or both, except for Salinas Road at Pajaro School (signalized), Hall Road at Las Lomas Drive (signalized), Hall Road at Sill Road (stop-controlled), and San Miguel Canyon Road at Paradise Road (stop-controlled). The intersections of Elkhorn Road at Werner Road, Hall Road at Willow Road, San Miguel Canyon Road at Echo Valley Road, and San Miguel Canyon Road at Castroville Road have both fatality and injury percentages and collision rates that are higher than the statewide averages.

Although Table 15 presents only the collision rates at the study intersections analyzed throughout this report, 208 of the 832 collisions (25%) occurred at intersections along the G12 corridor. In addition to the study intersections, Salinas Road at Trafton Road experienced a higher number of collisions with 16 reported collisions, and one of which was a fatal bicycle collision. The collision rate and fatality and injury percentage for the Trafton Road intersection is also higher than the statewide averages.

Countywide Collision Analysis

The Roadway Collision Analysis conducted by Monterey County (December, 2015), analyzed collisions on different facility types countywide over a three year period (July 1, 2012 to June 30, 2015). Based on the County's Roadway Collision Analysis, the following related intersections and roadway segments were identified to have high collision rates and/or high number of collisions.

- San Miguel Canyon Road at Prunedale North Road
- San Miguel Canyon Road at Castroville Boulevard
- Elkhorn Road at Werner Road
- San Miguel Canyon Road from US 101 to Castroville Boulevard
- Werner Road from Salinas Road to Elkhorn Road
- Salinas Road from Elkhorn Road to Porter Drive

Compared to the five-year collision data and collision rates for the different facility types, the collision analysis herein is consistent with the County's analysis, with the addition of San Miguel Canyon Road at Echo Valley Road, and Salinas Road at Trafton Road as having high collision rates compared to the statewide averages.

Bicycle Level of Traffic Stress

In addition to the vehicular intersection and roadway analysis, existing bicycle conditions for the study corridor is analyzed utilizing a standardized Bicycle Level of Traffic Stress (LTS) analysis. The methodology used for the LTS analysis was adapted from the Oregon Department of Transportation (ODOT) Analysis Procedure Manual, Version 2, 2016. The original methodology can be obtained from the paper, "Low Stress Bicycling and Network Connectivity", Mineta Transportation Institute, Report 11-19, May 2012. Bicycle LTS is generally a perception-based rating system of the safety, comfort, and convenience of transportation facilities from the perspective of the user. The approach outlined in the ODOT manual uses roadway network data, including the posted speed limit, number of travel lanes, and presence and character of bicycle lanes as a proxy for bicyclist comfort level in urban context, and ADT and shoulder or bike lane width in rural settings. The Bicycle LTS methodology breaks road segments into one of four classifications or ratings for measuring the effects of traffic-based stress on bicycle riders, with 1 being the lowest stress or most comfortable, and 4 being the highest stress or least comfortable. Examples and brief descriptions for each level of traffic stress are shown in the graphic below.

LTS 1

- Comfortable for all ages and abilities
- Traffic Speeds are low and intersections easy to cross
- Can include residential streets, and separated bicycle paths/cycle tracks

LTS 2

- Comfortable for teenagers and most adults
- Traffic speeds are slightly higher, low speed differentials
- Can include collector-level streets with Bike Lanes or a CBD

LTS 3

- Comfortable for confident adult bicyclists
- Traffic speeds are moderate, roadways can be five lanes wide
- Can include low speed arterials with Bike Lanes or moderate speed non-multilane roadways

LTS 4

- Uncomfortable for most, suitable for experienced and skilled cyclists
- Higher traffic volumes and speeds, wider streets
- Can be perceived as unsafe and are difficult to cross
- Narrow or no Bike Lanes

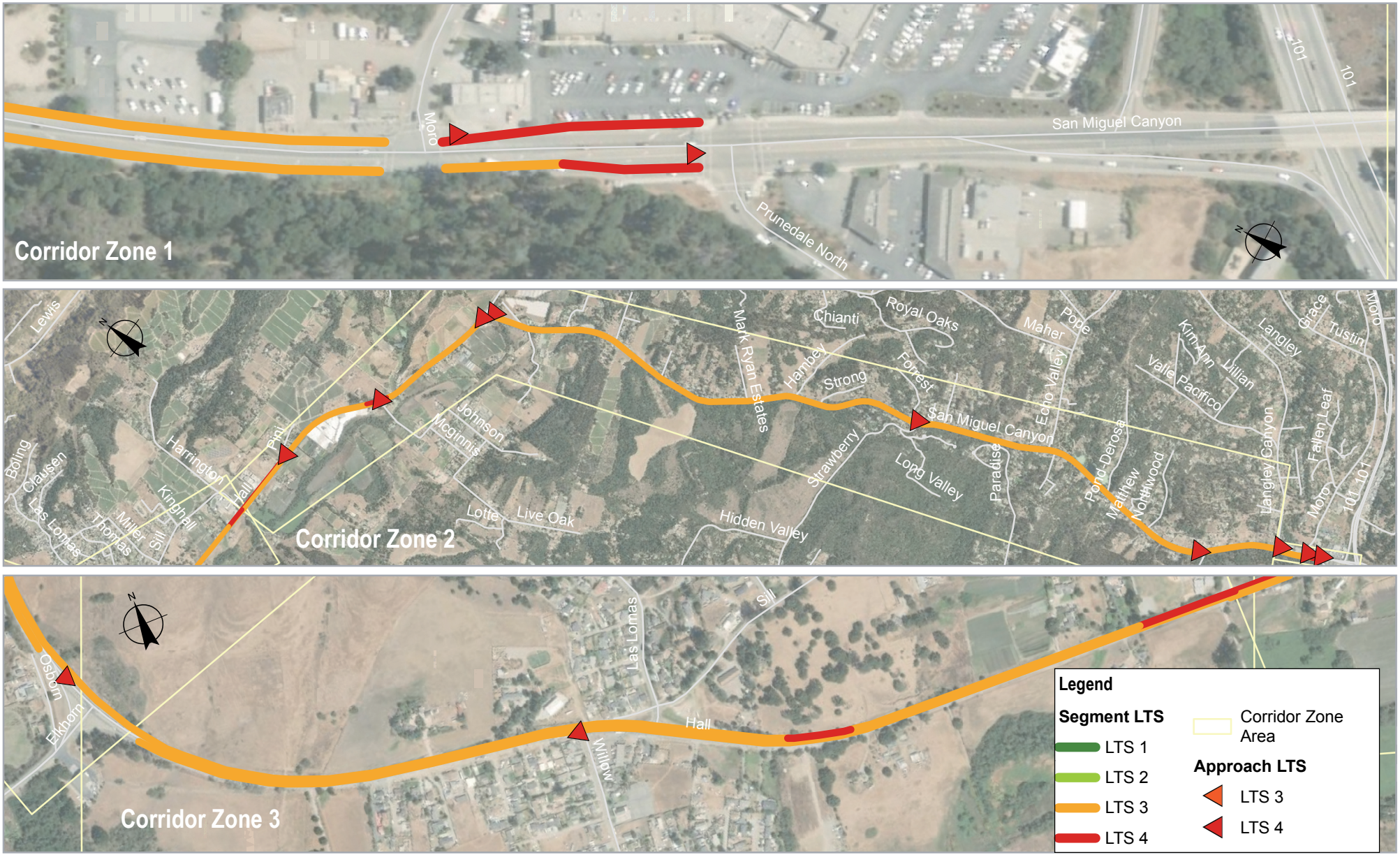
The Bicycle LTS methodology is broken into three categories: segments (along), intersection approaches (turn lanes), and intersection crossings (unsignalized). Table-based criteria are applied separately for each category. Details on the Bicycle LTS methodology, including the criteria tables for the three categories and further descriptions on each LTS, are included in Appendix. Depending on the community context and the detail level desired, the overall methodology can usually be simplified based on the general consistency of facility types, as certain elements (i.e. no turn lanes, no bike lanes, limited speeds, etc.) may not exist in a particular community. If there are no turn lanes on an approach, then this portion of the methodology is skipped. Signalized intersections do not receive an LTS score. Signalized crossings usually do not create a barrier as the signal provides a protected way across and are not considered in the methodology. All roadways receive a segment score. However, not all roadways receive an approach or intersection crossing score. For example, a midblock portion of a street link receives a segment score, but because it does not intersect another street, nor does it have turn lanes, neither an intersection nor approach score is assigned.

It is likely that the LTS will be different (i.e. right turn lane vs. left turn lane) in two directions along a route. Therefore, both directions are reported for the route along the G12 corridor for each Corridor Zone. The methodology for the criteria aggregate (Corridor Zone overall LTS) follows the weakest link principle: the dimension with the worst level of stress governs. For example, if a segment has a LTS 2 but there is an intersection approach at the end of the segment at LTS 4, then the whole segment is considered at LTS 4. The following Figures 25A and 25B present the LTS for the segments, approaches, and intersections for each Corridor Zone along G12. The overall LTS for each Corridor Zone is presented in the following Table 16.

TABLE 16: EXISTING OVERALL BICYCLE LTS

Corridor Zone	Segment Score (Along)	Approach Score (Turn Lanes)	Crossing Score (Unsignalized Intersections)
Zone 1	4	4	3
Zone 2	4	4	3
Zone 3	4	4	3
Zone 4	4	4	4
Zone 5	3	4	1

As shown in Table 16, and on Figures 25A and 25B, the majority of segments are at LTS 3, with LTS 4 experienced at locations where there is no shoulder for bicycles to ride along, and in these instances, they must compete with motorized vehicles in the traveled way. All of the approaches at are at LTS 4, and the crossing score at unsignalized intersections for Corridor Zones 1 through 3 are at LTS 3, with Zone 4 at LTS 4 due to the four-lane section, and Zone 5 at LTS 1 for crossing due to the low speed limit and three-lane cross-section. The analysis found that the existing conditions along the G12 corridor do not provide adequate comfort for bicyclists, and the corridor consistently scored an overall LTS 4. While the bicycle LTS focused on bicycle travel, this generally translates to conditions for pedestrian crossing conditions also.



Paper Size ANSI A

0 0.01 0.02 0.03 0.04

Miles

Map Projection: Lambert Conformal Conic
Horizontal Datum: NAD 1983 2011
Grid: NAD 1983 2011 StatePlane California IV FIPS 0404 Ft US

GHD

Transportation Agency for Monterey County
G12 Corridor: Pajaro to Prunedale Corridor Study

Existing Bicycle Level of Traffic Stress

Project No. **11152201**
Revision No. **-**
Date **July 31, 2018**

FIGURE 25A

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Legend

Segment LTS

- LTS 1
- LTS 2
- LTS 3
- LTS 4

Corridor Zone Area

Approach LTS

- LTS 3
- LTS 4

Paper Size ANSI A

0 0.075 0.15 0.225 0.3

Miles

Map Projection: Lambert Conformal Conic
Horizontal Datum: NAD 1983 2011
Grid: NAD 1983 2011 StatePlane California IV FIPS 0404 Ft US

Transportation Agency for Monterey County
G12 Corridor: Pajaro to Prunedale Corridor Study

Existing Bicycle Level of Traffic Stress

Project No. **11152201**
Revision No. **-**
Date **July 31, 2018**

FIGURE 25B

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Existing Conditions Analysis Summary

The corridor consists of several different zones each with their own unique characteristics, needs, and problems. The major findings of this existing conditions analysis of the Pajaro to Prunedale Corridor (G12) are as follows:

- Vehicular LOS is acceptable at some of the study intersections during the weekday AM and PM peak hour periods. However, all of the two-way stop controlled and signalized intersections studied along the corridor were observed to be unacceptable. These intersections are:
    - Porter Dr & Salinas Rd/Stender Ave
    - Salinas Rd & Elkhorn Rd
    - Elkhorn Rd & Werner Rd
    - Elkhorn Rd & Hall Rd
    - Hall Rd & Willow Rd
    - Hall Rd & Sill Rd
    - San Miguel Canyon Rd & Paradise Rd
    - San Miguel Canyon Rd & Echo Valley Rd
    - San Miguel Canyon Rd & Castroville Blvd
    - San Miguel Canyon Rd & Langley Canyon Rd
    - San Miguel Canyon Rd & US 101 Southbound Ramps
- There are bus stops in each of the five zones of the corridor from various transit routes conducted by the Monterey-Salinas Transit (MST) and the Santa Cruz METRO Transit District (SCMTD). Some of the bus stops provide turnouts, shelters, and benches, but several are in need of improvements. Specifically, along Zone 2 and Zone 4, bus stops are located off the roadway in the grass or gravel without shelters or benches. A bus stop opposite Willow Road in Zone 3 needs improved access, as pedestrians are currently crossing the road without a marked crosswalk and making evident pathways through the dirt/grass where sidewalks are needed.
- The majority of the corridor provides Class II Bike Lanes, with a few gaps in the route. Specifically within Pajaro, the shoulders are generally wide enough to accommodate cyclists, but are not designated as Class II Bike Lanes.

Appendix A

Technical Analysis Parameters & Methodologies

The following section outlines the methodology and analysis parameters used to quantify the measures of effectiveness on study roadways and intersections for the analysis scenarios.

Level of Service Methodologies

Traffic operations are quantified through the determination of "Level of Service" (LOS). Level of service is a qualitative measure of traffic operating conditions, whereby a letter grade "A" through "F" is assigned to an intersection or roadway segment, representing progressively worsening traffic operations. LOS “A” represents free-flow operating conditions and LOS “F” represents over-capacity conditions. Levels of Service were calculated for all rural two-lane highway study segments and for all study intersection control types using the methods documented in the Transportation Research Board Publication *Highway Capacity Manual, Sixth Edition, A Guide for Multimodal Mobility Analysis. 2016* (HCM 6).

Level of Service Policies

Caltrans' Guide for the Preparation of Traffic Impact Studies contains the following policy pertaining to the LOS standards within Caltrans jurisdiction:

> *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 recommends that the lead agency consult with Caltrans to determine the appropriate target LOS.*

The Circulation Element of the Monterey County *General Plan* (October 2010) has the following policy regarding County roadway and intersection operations:

C-1.1 The acceptable level of service for County roads and intersections shall be Level of Service (LOS) D, except as follows:

a. Acceptable level of service for County roads in Community Areas may be reduced below LOS D through the Community Plan process.

b. County roads operating at LOS D or below at the time of adopting this General Plan shall not be allowed to be degraded further except in Community Areas where a lower LOS may be approved through the Community Plan process.

c. Area Plans prepared for County Planning Areas may establish an acceptable level of service for County roads other than LOS D. The benefits which justify less than LOS D shall be identified in the Area Plan. Where an Area Plan does not establish a separate LOS, the standard LOS D shall apply.

Two-Lane Highway Capacity

Due to the range of functions served by two-lane highways, the automobile methodology detailed within HCM 6 establishes three classes of highways. *Class I* and *Class II* address rural two-lane highways and *Class III* addresses two-lane highways in developed or a transition between urban and rural areas. *Class I* highways serve as major intercity routes for mostly long-distance trips in which the motorists expect to travel at relatively high speeds. *Class II* highways serve as access routes to *Class I* facilities, scenic routes, recreational routes, or passing through rugged terrain in which motorists expect to travel at lower speeds. *Class III* highways serve moderately developed areas, may be portions of *Class I* or *Class II* facilities that pass through small towns, and have increased roadside access point density accompanied by lower speed limits. For two-lane highways, the measure of effectiveness to assign LOS varies based on the roadway classification. *Class I* highways have a measure of effectiveness based on the speed and delay due to passing restrictions and platooning. *Class II* highways have a measure of effectiveness based only on the delay due to passing restrictions and platooning. *Class III* highways are typically shorter segment lengths and have a measure of effectiveness based on speed. Based on the descriptions of two-lane highways in HCM 6, *Class III* roadway classification has been determined for the two-lane highway roadway segments that are analyzed in this report. The roadway classifications were also determined based on existing roadway conditions including roadway functionality, speed limits, access point density, terrain, and geometric design. Table A-1 presents the LOS thresholds for the three two-lane highway classifications.

TABLE A-1:
TWO-LANE HIGHWAY LOS CRITERIA

LOS	Class I Highways		Class II Highways	Class III Highways
	ATS (mph)	PTSF (%)	PTSF (%)	PFFS (%)
A	>55	≤35	≤40	>91.7
B	>50-55	>35-50	>40-55	>83.3-91.7
C	>45-50	>50-65	>55-70	>75.0-83.3
D	>40-45	>65-80	>70-85	>66.7-75.0
E	≤40	>80	>85	≤66.7

Notes:

1. LOS F exists when demand in at least one direction exceeds the capacity of the segment.
2. ATS - Average Travel Speed
3. PTSF = Percent Time Spent Following
4. PFFS = Percent Free Flow Speed

HCM 6 methodologies are utilized in this report for the analysis of the two-lane highway segments along the study corridor. Highway Capacity Software (*HCS 7, McTrans*) implements HCM 6 methodologies for two-lane highways and is used to calculate the measures of effectiveness and roadway LOS for the two-lane highways segments. The methodology analyzes the roadway segments on a peak-hour basis for each direction of travel. The roadway analysis herein is conducted utilizing the AM and PM peak hour volumes for existing conditions. HCM 6 methodologies for two-lane highways do not address roadway segments with signalized intersections. In addition, HCS 7 software is limited to base free-flow speeds between 45 and 70 mph. The HCS 7 outputs can be found in the Appendix.

Arterial Roadway Capacity

Levels of Service for roadway segments that are not classified as two-lane highways (i.e. urban arterials or four-lane sections) were estimated using HCM 6 planning applications and methodologies, as well as the Florida Department of Transportation Quality/Level of Service Handbook, 2013. For the urbanized and transitioning segments analyzed in this study, specifically the areas of Prunedale and Pajaro, the roadway segments are classified as either two-lane or four-lane arterials, with left turn lanes, based on roadway functionality and geometric design.

The daily roadway capacities are presented in Table A-2. The capacities are based on average daily traffic (ADT) and have been developed to assist the County in making "planning level" decisions regarding typical roadway cross-sections that will be needed through the build-out of the area. The ADT-based capacity thresholds applied in this study (for determining required roadway capacity configurations) use built-in adjustment factors for typical intersection spacing, driveway spacing, etc. and therefore reasonably reflect roadway operations at an ADT level. However, the rural nature of the study area introduces the problem of roadways with non-standard characteristics, e.g. roadway lane widths less than 12 feet wide per lane, shoulders less than eight feet wide (Monterey County Roadway Design Standards), rough pavement, or steep grades. Non-standard characteristics typically reduce roadway capacity from the traffic thresholds calculated for standard roadways. For the G12 corridor, non-standard roadway sections are limited to four-lane and two-lane arterials. The ADT-based roadway segment LOS thresholds presented in Table A-2 for roadway capacities include traffic volume ranges that take into account capacity reductions resulting from non-standard roadway features.

TABLE A-2: DAILY ROADWAY CAPACITIES BY FACILITY TYPE

	Average Daily Traffic (ADT) – Total of Both Directions				
Roadway Type	**A**	**B**	**C**	**D**	**E**
Six-Lane Freeway	42,000	64,800	92,400	111,600	120,000
Four-Lane Freeway	28,000	43,200	61,600	74,400	80,000
Six-Lane Divided Expressway	35,500	42,200	46,200	55,800	60,000
Four-Lane Divided Expresswa	23,667	28,133	30,800	37,200	40,000
Four-Lane Divided Arterial	22,000	25,000	29,000	32,500	36,000
Four-Lane Arterial (w/LTL)	22,000	25,000	29,000	32,500	36,000
Four-Lane Arterial (No LTL)	18,000	21,000	24,000	27,000	30,000
Two-Lane Divided Arterial	11,000	12,500	14,500	16,000	18,000
Two-Lane Arterial (w/LTL)	11,000	12,500	14,500	16,000	18,000
Two-Lane Arterial (No LTL)	9,000	10,500	12,000	13,500	15,000
Two-Lane Roundabout Arterial	14,300	16,250	18,850	20,800	23,400
Four-Lane Collector	12,000	15,000	18,000	21,000	24,000
Two-Lane Collector	6,000	7,500	9,000	10,500	12,000
Two-Lane Local	1,000	2,000	3,000	4,000	5,000

Notes:

1 Based on HCM 6 planning applications and methodologies and Florida DOT Quality/LOS Handbook, 2013.

2. w/LTL indicates arterials with either continuous center left turn lane (LTL) or left turn lanes at major intersections.

3. No LTL indicates arterials withouth left turn lanes (LTL) at most major intersections.

4. Roundabout Arterials indicate facilities with roundabouts as an intersection control.

Intersection LOS Criteria

The *Synchro 10 (*Trafficware) software program was used to implement the HCM 6 and Synchro analysis methodologies. *Synchro 10* has the capability to produce results using HCM 2000, HCM 2010, and HCM 6 methodologies, as well as Synchro methodology, and takes into account intersection signal timing and queuing constraints when calculating delay, the corresponding delay, and queue lengths. For intersections with channelized free right-turn movements which by-pass the intersection, HCM methodologies consider that vehicles using a free right turn movement will not contribute to vehicle delay at an intersection. The Synchro 10 outputs can be found in the Appendix. The vehicular delay-based LOS criteria for different types of intersection control are outlined in Table A-3. For a signalized or all-way stop-controlled (AWSC) intersection, an LOS determination is based on the calculated averaged delay for all approaches and movements. For a two-way or one-way (T-intersection) stop controlled (TWSC) intersection, an LOS determination is based upon the calculated average delay for all movements of the worst-performing approach.

TABLE A-3: LEVEL OF SERVICE (LOS) CRITERIA FOR INTERSECTIONS

Level of Service	Type of Flow	Delay	Maneuverability	Stopped Delay/Vehicle			
				Signalized	Un-signalized	All-Way Stop	Round-about
A	Stable Flow	Very slight delay. Progression is very favorable, with most vehicles arriving during the green phase not stopping at all.	Turning movements are easily made, and nearly all drivers find freedom of operation.	<10.0	<10.0	<10.0	<10.0
B	Stable Flow	Good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of average delay.	Vehicle platoons are formed. Many drivers begin to feel somewhat restricted within groups of vehicles.	>10.0 and <20.0	>10.0 and <15.0	>10.0 and <15.0	>10.0 and <15.0
C	Stable Flow	Higher delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant, although many still pass through the intersection without stopping.	Back-ups may develop behind turning vehicles. Most drivers feel somewhat restricted	>20.0 and <35.0	>15.0 and <25.0	>15.0 and <25.0	>15.0 and <25.0
D	Approaching Unstable Flow	The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volume-to-capacity ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.	Maneuverability is severely limited during short periods due to temporary back-ups.	>35.0 and <55.0	>25.0 and <35.0	>25.0 and <35.0	>25.0 and <35.0

Level of Service	Type of Flow	Delay	Maneuverability	Stopped Delay/Vehicle			
				Signalized	Un-signalized	All-Way Stop	Round-about
E	Unstable Flow	Generally considered to be the limit of acceptable delay. Indicative of poor progression, long cycle lengths, and high volume-to-capacity ratios. Individual cycle failures are frequent occurrences.	There are typically long queues of vehicles waiting upstream of the intersection.	>55.0 and <80.0	>35.0 and <50.0	>35.0 and <50.0	>35.0 and <50.0
F	Forced Flow	Generally considered to be unacceptable to most drivers. Often occurs with over saturation. May also occur at high volume-to-capacity ratios. There are many individual cycle failures. Poor progression and long cycle lengths may also be major contributing factors.	Jammed conditions. Back-ups from other locations restrict or prevent movement. Volumes may vary widely, depending principally on the downstream back-up conditions.	>80.0	>50.0	>50.0	>50.0

References: Highway Capacity Manual Sixth Edition, A Guide for Multimodal Mobility Analysis, 2016

To determine whether "significance" should be associated with unsignalized intersection operations, a supplemental traffic signal "warrant" analysis has also been completed, and is included in the Appendix. The term "signal warrants" refers to the list of established criteria used by Caltrans and other public agencies to quantitatively justify or ascertain the need for installation of a traffic signal at an otherwise unsignalized intersection. This study has employed the signal warrant criteria presented in the latest edition of the Federal Highway Administration's (FHWA) *Manual on Uniform Traffic Control Devices (MUTCD),* as amended by the *MUTCD 2014 California Supplement,* for all study intersections. The signal warrant criteria are based upon several factors including volume of vehicular and pedestrian traffic, frequency of accidents, location of school areas etc. Both the FHWA's MUTCD and the *MUTCD 2014 California Supplement* indicate that the installation of a traffic signal should be considered if one or more of the signal warrants are met. The ultimate decision to signalize an intersection should be determined after careful analysis of all intersection and area characteristics.

This traffic operations analysis will specifically utilize the Peak-Hour-Volume based Warrant 3 as one representative type of traffic signal warrant analysis. Warrant 3 criteria are basically identical for both the FHWA's MUTCD and the *MUTCD 2014 California Supplement*. Since Warrant 3 provides specialized warrant criteria for intersections with rural characteristics (e.g. located in communities with populations of less than 10,000 persons or with adjacent major streets operating at or above 40 mph), study intersections that use this specialized criteria will be clearly identified.

This traffic study focuses on a "planning level" evaluation of traffic operating conditions, which is considered sufficient for CEQA/NEPA purposes. The planning level evaluation incorporates appropriate heavy vehicle adjustment factors, peak hour factors, and signal lost time factors and reports the resulting intersection delays and LOS as estimated using the HCM 6 based analysis methodologies. Assessments of "design level" parameters (including queuing on intersection lane groups, stacking length requirements, etc.) are not included in this study.

Technical Analysis Parameters and Assumptions

The following lists the technical parameters assumed for analysis utilizing HCS 7 software for the study roadway segments and analysis scenarios. All parameters not listed should be assumed as default or calculated values based on HCM methodology.

1. Shoulder Width – Measured from aerial images
2. Lane Width – Measured from aerial images
3. Segment Length – Measured from aerial images
4. Terrain Type – Level, except between Hambey Lane and Wilson Way, which is identified as having Rolling Terrain.
5. Peak Hour Factor (PHF) – Based on Existing Counts
6. Trucks and Buses –Based on Existing Counts
7. Recreational Vehicles – 0%
8. No-Passing Zone – Measured from aerial images
9. Access-Point Density – Counted from aerial images
10. Traffic Signal Timings – Based on current County and Caltrans signal timing plans

Bicycle Level of Traffic Stress (LTS) Methodology

The standardized methods used for the Bicycle Level of Traffic Stress (LTS) Analysis were adapted from the 2016 Oregon Department of Transportation (ODOT) *Analysis Procedure Manual, Version 2*. The original methodology can be obtained from the paper, "Low Stress Bicycling and Network Connectivity", Mineta Transportation Institute, Report 11-19, May 2012. Bicycle LTS is generally a perception-based rating system of the safety, comfort, and convenience of transportation facilities from the perspective of the user. The approach outlined in the ODOT manual uses roadway network data, including the posted speed limit, number of travel lanes, and presence and character of bicycle lanes as a proxy for bicyclist comfort level in urban context, and ADT and shoulder or bike lane width in rural settings. The Bicycle LTS methodology breaks road segments into one of four classifications or ratings for measuring the effects of traffic-based stress on bicycle riders, with 1 being the lowest stress or most comfortable, and 4 being the highest stress or least comfortable.

LTS 1 is assigned to roads that would be suitable for most children to ride, and to multi-use paths that are separated from motorized traffic. LTS 2 is assigned to roads that could be comfortably ridden by the average adult population. LTS 3 is the level assigned to roads that would be acceptable to current "enthused and confident" cyclists while LTS 4 is assigned to segments that are only acceptable to "strong and fearless" bicyclists, who will tolerate riding on roadways with higher motor traffic volumes and speeds. Further separation generally means less stress for users. Examples and descriptions for each level of traffic stress are shown in Table A-4.

TABLE A-4: BICYCLE LEVEL OF TRAFFIC STRESS

LTS 1  Comfortable for all ages and abilities	Represents little traffic stress and requires less attention, so is suitable for all cyclists. This includes children that are trained to safely cross intersections (around 10 yrs. old/5th grade) alone and supervising riding parents of younger children. Generally, the age of 10 is the earliest age that children can adequately understand traffic and make safe decisions which is also the reason that many youth bike safety programs target this age level. Traffic speeds are low and there is no more than one lane in each direction. Intersections are easy to cross by children and adults. Typical locations include residential local streets and separated bike paths/cycle tracks.
LTS 2  Comfortable for most adults	Represents little traffic stress but requires more attention than young children can handle, so is suitable for teen and adult cyclists with adequate bike handling skills. Traffic speeds are slightly higher but speed differentials are still low and roadways can be up to three lanes wide in total for both directions. Intersections are not difficult to cross for most teenagers and adults. Typical locations include collector-level streets with bike lanes or a central business district.
LTS 3  Comfortable for confident bicyclists	Represents moderate stress and suitable for most observant adult cyclists. Traffic speeds are moderate but can be on roadways up to five lanes wide in both directions. Intersections are still perceived to be safe by most adults. Typical locations include low-speed arterials with bike lanes or moderate speed non-multilane roadways.
LTS 4  Uncomfortable for most	Represents high stress and suitable for experienced and skilled cyclists. Traffic speeds are moderate to high and can be on roadways from two to over five lanes wide in both directions. Intersections can be complex, wide, and or high volume/speed that can be perceived as unsafe by adults and are difficult to cross. Typical locations include high speed or multilane roadways with narrow or no bike lanes.

Source: Oregon Department of Transportation, *Analysis Procedure Manual*, Version 2, 2016

The Bicycle LTS methodology is broken into three categories: segments (along), intersection approaches (turn lanes), and intersection crossings (unsignalized). Table-based criteria are applied separately for each category. Depending on the community context and the detail level desired, the overall methodology can usually be simplified based on the general consistency of facility types, as certain elements (i.e. no turn lanes, no bike lanes, limited speeds, etc.) may not exist in a particular community. If there are no turn lanes on an approach, then this portion of the methodology is skipped. Signalized intersections do not receive an LTS score. Signalized crossings usually do not create a barrier as the signal provides a protected way across and are not considered in the methodology.

All roadways received a segment score. However, not all roadways received an approach or intersection crossing score. For example, a midblock portion of a street link received a segment score, but because it does not intersect another street, nor does it have turn lanes, neither an intersection nor approach score was assigned. The methodology uses the worst overall LTS value of each LTS category. For example, if a segment has a LTS 2 but there is an intersection approach at the end of the segment at LTS 4, then the whole segment is considered at LTS 4. The same applies for entire routes, which are typically reported in a single direction between two points of interest and can contain many segments and intersections. It is likely that the LTS will be different (i.e. right turn lane vs. left turn lane) in the two directions, so both directions should be reported.

Tables A-5 through A-8 present the scoring criteria for segments, Tables A-9 and A-10 present the scoring criteria for approaches, and Table A-11 through A-13 present the scoring criteria for crossing intersections. All tables are directly sourced from the ODOT *Analysis Procedure Manual*, Version 2, 2016.

TABLE A-5: SEGMENT CRITERIA – BIKE LANE WITH ADJACENT PARKING LANE

	1 Lane per direction			≥ 2 lanes per direction	
Prevailing or Posted Speed	**≥ 15' bike lane + parking**	**14' – 14.5' bike lane + parking**	**≤ 13' bike lane + parking or Frequent blockage[1]**	**≥ 15' bike lane + parking**	**≤ 14.5' bike lane + parking or Frequent blockage[1]**
≤25 mph	LTS 1	LTS 2	LTS 3	LTS 2	LTS 3
30 mph	LTS 1	LTS 2	LTS 3	LTS 2	LTS 3
35 mph	LTS 2	LTS 3	LTS 3	LTS 3	LTS 3
≥40 mph	LTS 2	LTS 4	LTS 4	LTS 3	LTS 4

[1] Typically occurs in urban areas (i.e. delivery trucks, parking maneuvers, stopped buses).

TABLE A-6: SEGMENT CRITERIA – BIKE LANE WITHOUT ADJACENT PARKING LANE

1 Lane per direction					≥ 2 lanes per direction	
Prevailing or Posted Speed	**≥7' (Buffered bike lane)**	**5.5' – 7' Bike lane**	**≤5.5' Bike lane**	**Frequent bike lane blockage[1]**	**≥7' (Buffered bike lane)**	**<7' bike lane or frequent blockage[1]**
≤30 mph	LTS 1	LTS 1	LTS 2	LTS 3	LTS 1	LTS 3
35 mph	LTS 2	LTS 3	LTS 3	LTS 3	LTS 2	LTS 3
≥40 mph	LTS 3	LTS 4	LTS 4	LTS 4	LTS 3	LTS 4

[1] Typically occurs in urban areas (i.e. delivery trucks, parking maneuvers, stopped buses).

TABLE A-7: URBAN/SUBURBAN SEGMENT CRITERIA – MIXED TRAFFIC

Prevailing Speed or Speed Limit (mph)	Unmarked Centerline	1 lane per direction	2 lanes per direction	3+ lanes per direction
≤ 25[1]	LTS 1	LTS 2	LTS 3	LTS 4
30	LTS 2	LTS 3	LTS 4	LTS 4
≥ 35	LTS 3	LTS 4	LTS 4	LTS 4

[1] Presence of "sharrow" markings may reduce the LTS by a level for 25 mph or less sections depending on overall area context.

TABLE A-8: RURAL SEGMENT CRITERIA – POSTED SPEEDS 45 MPH OR GREATER

Daily Volume (vpd)	Paved Shoulder Width			
	0 - < 2 ft	2 - < 4 ft	4 - < 6 ft	> 6ft
< 400	LTS 2	LTS 2	LTS 2	LTS 2
400 – 1500	LTS 3	LTS 2	LTS 2	LTS 2
1500 – 7000 [4]	LTS 4	LTS 3	LTS 2	LTS 2
7000 +	LTS 4	LTS 4	LTS 3	LTS 3

[1] Based on p1-3 & Table 1-2 from the Oregon Bicycle and Pedestrian Design Guide, 2011.
[2] Adequate stopping sight distances on curves and grades assumed. A high frequency of sharper curves and short vertical transitions can increase the stress level especially on roadways with less than 6' shoulders. Engineering judgement will be needed to determine what impact this will have on LTS level on a particular segment.
[3] Segments with flashing warning beacons announcing presence of bicyclists (typically done on narrow long bridges or tunnels) may, depending on judgement, reduce the LTS by one, but no less than LTS 2.
[4] Over 1500 AADT, the Oregon Bicycle and Pedestrian Design Guide indicates the need for shoulders.

TABLE A-9: APPROACH CRITERIA – RIGHT TURN LANE

Right-turn lane configuration	Right-turn lane length (ft)	Bike Lane Approach Alignment[2]	Vehicle Turning Speed (mph)[3]	LTS
Single	≤ 150	Straight	≤ 15	2
Single	>150	Straight	≤ 20	3
Single	Any	Left	≤ 15	3
Single[1] or Dual Exclusive/ Shared	Any	Any	Any	4

[1] Any other single right turn lane configuration not shown above.
[2] The right turn criteria are based on whether the bike lane stays straight or shifts to the left.
[3] This is vehicle speed at the corner, not the speed crossing the bike lane. Corner radius can also be used as a proxy for turning speeds.

TABLE A-10: APPROACH CRITERIA – LEFT TURN LANE

Left Turn Lane Criteria Prevailing Speed or Speed Limit (mph)	No lane crossed[1]	1 lane crossed	2+ lanes crossed	Dual shared or exclusive left turn lane[2]
≤25	LTS 2	LTS 2	LTS 3	LTS 4
30	LTS 2	LTS 3	LTS 4	LTS 4
≥ 35	LTS 3	LTS 4	LTS 4	LTS 4

[1] For shared through left lanes or where mixed traffic conditions occur (no bike lanes)
[2] Any other single left turn lane configuration not shown above.

TABLE A-11: INTERSECTION CROSSING WITHOUT A MEDIAN REFUGE CRITERIA[1]

Prevailing Speed or Speed Limit (mph)	Total Lanes Crossed (Both Directions)		
	≤ 3 Lanes	4 -5 Lanes	≥ 6 Lanes
≤ 25	LTS 1	LTS 2	LTS 4
30	LTS 1	LTS 2	LTS 4
35	LTS 2	LTS 3	LTS 4
≥ 40	LTS 3	LTS 4	LTS 4

[1] For street being crossed.
[2] For one-way streets, use Table A-12.

TABLE A-12: INTERSECTION CROSSING WITH A MEDIAN REFUGE CRITERIA[1]

Prevailing Speed or Speed Limit (mph)	Maximum Through/Turn Lanes Crossed per Direction		
	1-2 Lanes	2-3 Lanes	4+ Lanes
≤ 25	LTS 1[1]	LTS 1[1]	LTS 2
30	LTS 1[1]	LTS 2	LTS 3
35	LTS 2	LTS 3	LTS 4
≥ 40	LTS 3	LTS 4	LTS 4

[1] For street being crossed.
[2] Refuge should be at least 10 feet to accommodate a wide range of bicyclists (i.e. bicycle with a trailer) for LTS 1, otherwise LTS=2 for refuges 6 to <10 feet.

TABLE A-13: RURAL INTERSECTION CROSSING CRITERIA – POSTED SPEEDS 45 MPH OR GREATER[1]

Daily Volume (vpd)	≤ 3 Lanes	4 – 5 Lanes	≥ 6 Lanes
< 400	LTS 2	n/a	n/a
400 – 1500	LTS 2	n/a	n/a
1500 – 7000 4	LTS 2	LTS 3	n/a
7000 +	LTS 3	LTS 4	LTS 4

[1] For roadway being crossed.

Appendix B
Public Outreach Summary

Appendix C
Forecasting Memorandum

Memorandum

November 13, 2018

To:	Grant Leonard, Transportation Agency for Monterey County (TAMC)	Project:	G12: Pajaro to Prunedale Corridor Study
From:	Martin Inouye, Rosanna Southern, EIT	Ref/Job No.:	11151147
CC:	Rich Deal / TAMC, Jim Damkowitch /GHD	File No.:	C2453MEM002.DOCX

Subject: Regional Travel Demand Model Projections and Forecast Development

1. Introduction

The G12: Pajaro to Prunedale Corridor Study will evaluate how to improve operations, safety, and maintenance to accommodate its current and future travel patterns to achieve and maintain safe and efficient local and regional access between U.S. 101 to the south, State Route 1 to the west, and the Santa Cruz County Line to the north. This technical memorandum has been prepared to summarize findings from the regional travel demand model and to provide traffic forecasts that reflect future conditions represented by local and regional growth in approximately 20 years. The counts collected in January and February of 2018 along the study corridor will serve as the baseline. The traffic forecasts will be utilized to evaluate the projected transportation system operations as transportation alternatives are developed for the Corridor Plan. The intent of this memorandum is to obtain consensus from TAMC on the methodology and projected travel forecasts along the study corridor (G12).

2. Regional Travel Demand Model

The Association of Monterey Bay Area Governments (AMBAG) develops, maintains and applies a Regional Travel Demand Model (RTDM) to support metropolitan transportation planning activities and decision-making processes. The model encompasses the three counties of Santa Cruz, Monterey, and San Benito. AMBAG and the three Regional Transportation Planning Agencies (RTPAs) for Monterey, San Benito and Santa Cruz Counties use the AMBAG RTDM in the development of the MTP/RTPs as well as other land use and traffic impact studies. The AMBAG model will be utilized as the tool to develop traffic forecasts for the G12 corridor study.

The current AMBAG RTDM reflects transportation projects adopted by the AMBAG Board of Directors in June of 2014. The current 2014 RTDM has a base year of 2010 and a forecast year of 2035. The 2014 RTDM was an entirely new travel demand model estimated and calibrated to 2010 conditions using data from the 2010-

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11 California Household Travel Survey (CHTS), Census, employment, and traffic counts data[1]. AMBAG is currently in the process of updating their RTDM for the 2018 Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS). The 2018 RTDM is a technical update only to the 2014 RTDM, with a new base year of 2015 to incorporate land use and transportation network changes, and a forecast year of 2040. Both the 2014 RTDM and 2018 RTDM were reviewed in terms of base year and forecast year traffic volumes along the G12 corridor.

2.1 2014 Regional Travel Demand Model (2014 RTDM)

Table 2.1 presents the base year and forecast average daily traffic (ADT) volumes directly from the 2014 AMBAG model.

Table 2.1 AMBAG 2014 RTDM

G12 Location	2010 ADT	2035 ADT	25 years Growth %	Annualized
San Miguel Canyon Rd s/o Castroville Blvd	25,707	28,186	10%	0.37%
San Miguel Canyon Rd s/o Echo Valley Rd	24,551	26,763	9%	0.35%
San Miguel Canyon Rd s/o Strawberry Rd	22,869	24,704	8%	0.31%
San Miguel Canyon Rd s/o Hall Rd	19,213	21,032	9%	0.36%
Hall Rd e/o Johnson Rd	20,996	21,681	3%	0.13%
Hall Rd e/o Sill Rd	21,493	22,275	4%	0.14%
Hall Rd e/o Las Lomas Dr	20,981	21,710	3%	0.14%
Hall Rd e/o Elkhorn Rd	21,941	23,278	6%	0.24%
Salinas Rd n/o Werner Rd	13,200	14,292	8%	0.32%
Salinas Rd s/o Railroad Ave	13,957	14,915	7%	0.27%
G12 in Pajaro	19,319	21,294	10%	0.39%
Other Locations in Study Area				
Salinas Rd e/o State Route 1	16,171	17,962	11%	0.42%
State Route 1 s/o Salinas Rd	38,993	42,684	9%	0.36%
Tarpey Rd w/o Hall Rd	5,001	4,647	-7%	-0.29%

As shown in Table 2.1, the 2014 RTDM projects a low annual growth rate throughout the study corridor. Traffic volumes on G12 in Prunedale are projected to be upwards of 28,000 vehicles per day by 2035. In Las Lomas, average traffic projections on Hall Road are approximately 22,200 vehicles per day, and in Pajaro traffic projections are approximately 21,300 vehicles per day. Salinas Road and State Route 1 in the study area are also projected to increase by a similar growth rate compared to G12 in Prunedale/San Miguel Canyon Road and G12 in Pajaro. Generally, over the 25-year period, San Miguel Canyon Road (north-south section) increases by 9.0 % on average between US 101 and Hall Road, Hall Road (east-west section) increases by 4.1% on average between San Miguel Canyon Road and Elkhorn Road, and G12 (north-south) between Elkhorn Road and Pajaro increases by 8.5% on average.

[1] Association of Monterey Bay Area Governments Regional Travel Demand Model Technical Report, AMBAG, 2018.

2.2 2018 Regional Travel Demand Model (2018 RTDM)

Table 2.2 presents the base year and forecast average daily traffic (ADT) volumes directly from the 2018 AMBAG model.

Table 2.2 AMBAG 2018 RTDM

G12 Location	2015 ADT	2040 ADT	25 years Growth %	Annualized
San Miguel Canyon Rd s/o Castroville Blvd	25,933	28,352	9%	0.36%
San Miguel Canyon Rd s/o Echo Valley Rd	25,076	26,566	6%	0.23%
San Miguel Canyon Rd s/o Strawberry Rd	22,853	23,963	5%	0.19%
San Miguel Canyon Rd s/o Hall Rd	20,080	21,341	6%	0.24%
Hall Rd e/o Johnson Rd	20,125	21,663	8%	0.30%
Hall Rd e/o Sill Rd	20,553	22,152	8%	0.30%
Hall Rd e/o Las Lomas Dr	20,097	21,734	8%	0.31%
Hall Rd e/o Elkhorn Rd	21,748	24,068	11%	0.41%
Salinas Rd n/o Werner Rd	12,352	13,647	10%	0.40%
Salinas Rd s/o Railroad Ave	15,074	16,565	10%	0.38%
G12 in Pajaro	19,392	22,443	16%	0.59%
Other Locations in Study Area				
Salinas Rd e/o State Route 1	13,266	14,981	13%	0.49%
State Route 1 s/o Salinas Rd	38,247	40,539	6%	0.23%
Tarpey Rd w/o Hall Rd	-	-	-	-

As shown in Table 2.2, the 2018 RTDM also projects a low annual growth rate throughout the study corridor. Traffic volumes on G12 in Prunedale are projected to be upwards of 28,300 vehicles per day by 2040. In Las Lomas, average traffic projections on Hall Road are approximately 22,400 vehicles per day, and in Pajaro traffic projections are approximately 22,400 vehicles per day. State Route 1 in the study area is also projected to increase by a similar growth rate compared to G12 in Prunedale/San Miguel Canyon Road. Generally, over the 25-year period, San Miguel Canyon Road (north-south section) increases by 6.6% on average between US 101 and Hall Road, Hall Road (east-west section) increases by 8.6% on average between San Miguel Canyon Road and Elkhorn Road, and G12 (north-south) between Elkhorn Road and Pajaro increases by 12.0% on average.

2.3 Highway 1 Unconstrained Analysis

Currently, Highway 1 (State Route 1 or SR 1) experiences congestion in the study area, specifically through the Moss Landing area. This congestion has resulted in traffic diverting from SR 1 to the G12 corridor between Watsonville and Prunedale to avoid the congestion and delay experienced on SR 1. SR 1 has one lane per direction with at-grade intersections (highway designation) between Castroville / SR 156 and the Salinas Road interchange, and north of the Salinas Road interchange SR 1 is designated as a freeway with two lanes per direction. The AMBAG models present SR 1 as a constrained roadway without any proposed improvements or additional capacity in the forecasted scenarios. To obtain an indication of how much traffic could be diverting

from SR 1 to the G12 corridor, GHD performed a test for an unconstrained scenario with the AMBAG forecast model for SR 1 in the study area. Based on the analysis results with SR 1 unconstrained, the G12 corridor experienced a reduction of daily traffic volumes by approximately 20% between Salinas Road/Werner Road and US 101. Salinas Road between SR 1 and G12 experienced approximately 28% reduction in traffic volumes, and SR 1 experienced approximately 52% increase in traffic volumes (an additional 21,000 vehicles per day).

2.4 Analysis of Additional Capacity along G12

To obtain an indication of how much additional traffic would be diverting from SR 1 to the G12 corridor if G12 was improved to have additional capacity, GHD performed a test for an unconstrained scenario with the AMBAG forecast model with G12 widened to four lanes from the current two-lane facility in the study area. Based on the analysis results with additional capacity along G12, the G12 corridor experienced an increase of daily traffic volumes by approximately 49% (an additional 12,000 vehicles per day) between Hall Road/San Miguel Canyon Road and US 101, approximately 65% increase in traffic volumes (an additional 14,500 vehicles per day) along Hall Road between San Miguel Canyon Road and Elkhorn Road, and approximately 32% increase in traffic volumes (an additional 5,200 vehicles per day) between Elkhorn Road and Pajaro. Salinas Road between SR 1 and G12 experienced approximately 46% increase in traffic volumes, and SR 1 experienced approximately 6% reduction in traffic volumes.

3. Forecast Methodology

Comparing both 2014 and 2018 AMBAG models, they both generally have consistently low growth rates and similar traffic projections for forecast years 2035 and 2040 along the G12 corridor. Utilizing average growth rate percentages applied to the existing 2018 counts, traffic forecasts were projected based on both models for forecast comparison. Table 3.1 presents the Year 2040 forecasts utilizing growth rates from both models.

Table 3.1 AMBAG Models - Forecast Comparison

#	Roadway	Location	2018 Existing ADT	2040 Forecast ADT based on 2014 RTDM	2040 Forecast ADT based on 2018 RTDM
1	Salinas Road	Railroad Avenue to Salinas Road	18,765	20,165	20,755
2	Salinas Road	Fair Way to Hillcrest Road	16,012	17,575	17,840
3	Elkhorn Road	Werner Road to Garin Road	23,760	24,630	25,555
4	Hall Road	Elkhorn Road to Willow Road	22,116	22,920	23,785
5	Hall Road	Sill Road to San Miguel Canyon Road	17,975	18,635	19,335
6	San Miguel Canyon Road	Apricot Lane to Strawberry Road	16,175	17,465	17,120
7	San Miguel Canyon Road	Garlen Lane to Pond-Derosa Lane	19,435	20,985	20,565
8	San Miguel Canyon Road	Langley Canyon Road to US 101 Ramps	26,274	28,365	27,805

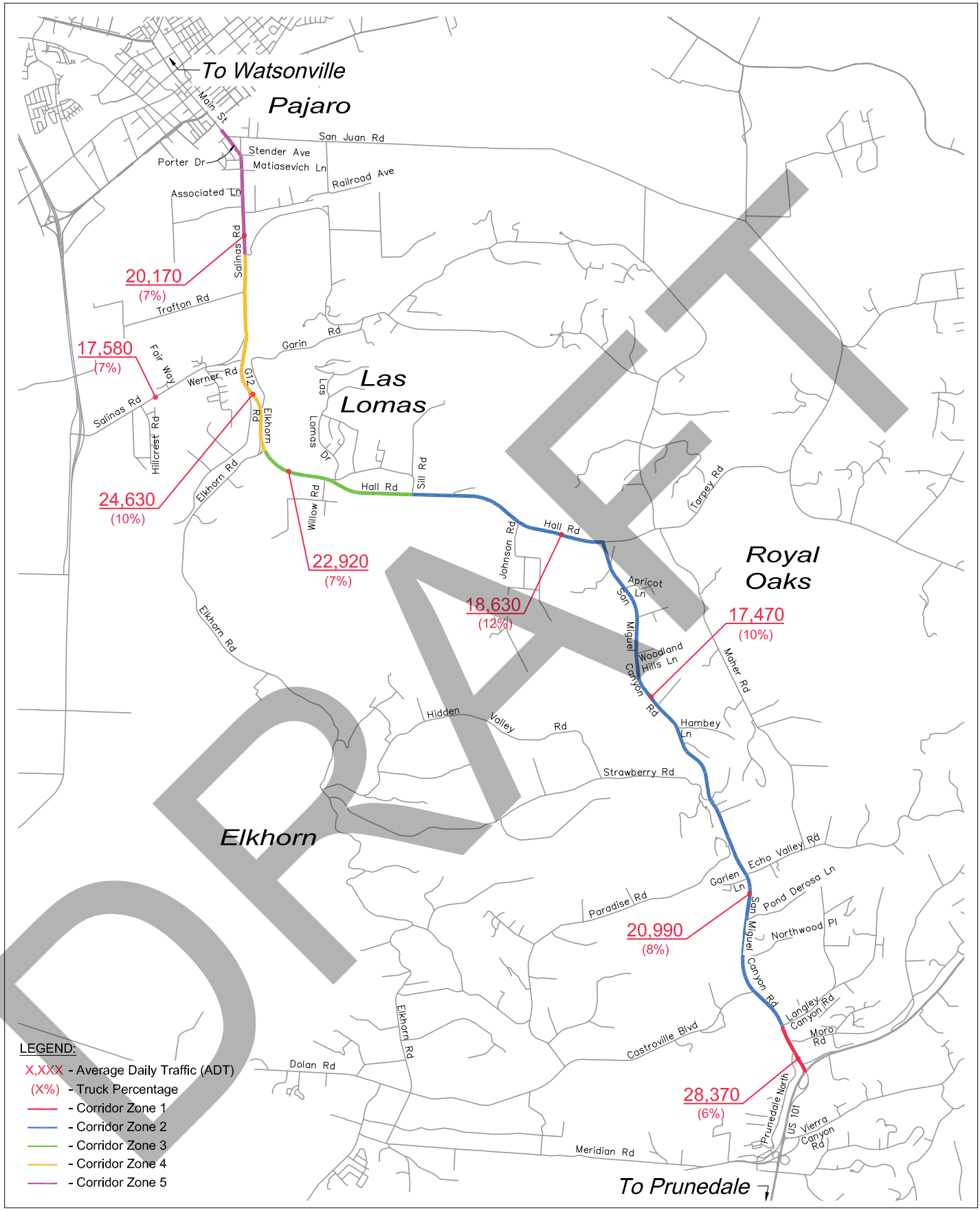
There is minimal difference between both models for the amounts of daily traffic added along the G12 corridor, and subsequently a minimal difference between the projected forecasts. Additionally, the 2014 RTDM daily traffic volumes for the base model were consistent with the existing 2018 traffic counts. The AMBAG peak hour model forecasts will not be used due to poor existing volume calibration. Therefore, the currently approved model (AMBAG 2014 RTDM) daily traffic volumes and projections will be utilized to derive the forecasts for year 2040.

The 2040 forecasts were derived utilizing the average growth rate over 22 years (2018 to 2040) from the 2014 RTDM, based on three sections along G12. The three growth rate sections on G12 identified are based on alignment of the road (north-south vs east-west), and they present consistent growth patterns throughout each section. The first section of G12 is San Miguel Canyon Road (north-south) between US 101 and Hall Road, the second section is Hall Road (east-west) between San Miguel Canyon Road and Elkhorn Road, and the third section is G12 (north-south) between Elkhorn Road and Pajaro. The average growth rate for each of the three sections was applied to the existing 2018 daily traffic counts, as applicable. Table 3.2 presents the model volumes and growth rate over 22 years, the average growth rate utilized for each section of G12, the existing 2018 average daily traffic (ADT) count, and the corresponding 2040 daily traffic projection.

Table 3.2 AMBAG 2014 RTDM and Forecasts

G12 Location	2010 ADT	2035 ADT	22 Years Growth %	Existing 2018 ADT	2040 Projection
San Miguel Canyon Rd s/o Castroville Blvd	25,707	28,186	*8.5%*	**26,274**	**28,365**
San Miguel Canyon Rd s/o Echo Valley Rd	24,551	26,763	*7.9%*		
San Miguel Canyon Rd s/o Strawberry Rd	22,869	24,704	*7.1%*	**19,435**	**20,985**
San Miguel Canyon Rd s/o Hall Rd	19,213	21,032	*8.3%*	**16,175**	**17,465**
AVERAGE:	*23,085*	*25,171*	***8.0%***		
Hall Rd e/o Johnson Rd	20,996	21,681	*2.9%*	**17,975**	**18,635**
Hall Rd e/o Sill Rd	21,493	22,275	*3.2%*		
Hall Rd e/o Las Lomas Dr	20,981	21,710	*3.1%*	**22,116**	**22,920**
Hall Rd e/o Elkhorn Rd	21,941	23,278	*5.4%*	**23,760**	**24,630**
AVERAGE:	*21,353*	*22,236*	***3.6%***		
Salinas Rd n/o Werner Rd	*13,200*	14,292	*7.3%*		
Salinas Rd s/o Railroad Ave	13,957	14,915	*6.0%*	**18,765**	**20,165**
G12 in Pajaro	19,319	21,294	*9.0%*		
AVERAGE:	*15,492*	*16,834*	***7.4%***		

Similarly to the daily traffic projections, the AM and PM peak hour traffic volumes at the study intersections were also projected utilizing the average growth rate over the 22-year period for their perspective location in each of the three sections of G12, as identified in Table 3.2. Figure 3.1 presents the Year 2040 Average Daily Traffic (ADT) Volumes. Figure 3.2 presents the Year 2040 Peak Hour Traffic Volumes at the study intersections along G12.



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GHD

Transportation Agency for Monterey County
G12 Corridor: Pajaro to Prunedale Corridor Study

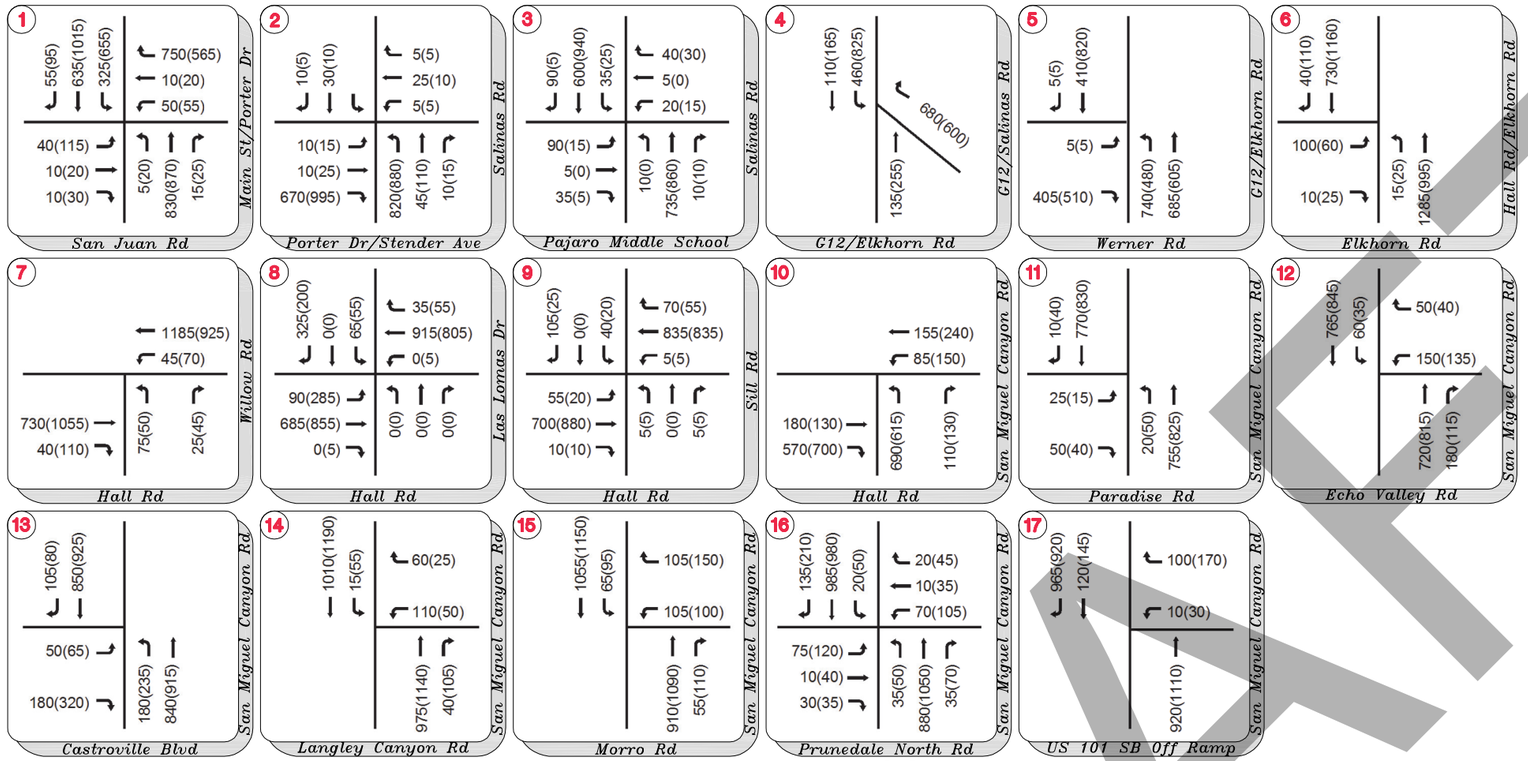
YEAR 2040 AVERAGE DAILY TRAFFIC VOLUMES

Project No. 11152201
Report No. RPT2453001
Date 09.26.2018

FIGURE 3.1

Filename: K:\PRJ\2453\T2453\T2453TG001.dwg
Plot Date: 13 November 2018 - 11:43 AM

Source:


1
55(95)
635(1015)
325(655)
750(565)
10(20)
50(55)
40(115)
10(20)
10(30)
5(20)
830(870)
15(25)
Main St/Porter Dr
San Juan Rd
2
10(5)
30(10)
5(5)
25(10)
5(5)
10(15)
10(20)
670(995)
820(880)
45(110)
10(15)
Salinas Rd
Porter Dr/Stender Ave
3
90(5)
600(940)
35(25)
40(30)
5(0)
20(15)
90(15)
5(0)
35(5)
10(0)
735(860)
10(10)
Salinas Rd
Pajaro Middle School
4
110(165)
460(825)
680(600)
135(255)
G12/Salinas Rd
G12/Elkhorn Rd
5
5(5)
410(820)
5(5)
405(510)
740(480)
685(605)
G12/Elkhorn Rd
Werner Rd
6
40(110)
730(1160)
100(60)
10(25)
15(25)
1285(995)
Hall Rd/Elkhorn Rd
Elkhorn Rd
7
1185(925)
45(70)
730(1055)
40(110)
75(50)
25(45)
Willow Rd
Hall Rd
8
325(200)
0(0)
65(55)
35(55)
915(805)
0(5)
90(285)
685(855)
0(5)
0(0)
0(0)
0(0)
Las Lomas Dr
Hall Rd
9
105(25)
0(0)
40(20)
70(55)
835(835)
5(5)
55(20)
700(880)
10(10)
5(5)
0(0)
5(5)
Sill Rd
Hall Rd
10
155(240)
85(150)
180(130)
570(700)
690(615)
110(130)
San Miguel Canyon Rd
Hall Rd
11
10(40)
770(830)
25(15)
50(40)
20(50)
755(825)
San Miguel Canyon Rd
Paradise Rd
12
765(845)
60(35)
50(40)
150(135)
720(815)
180(115)
San Miguel Canyon Rd
Echo Valley Rd
13
105(80)
850(925)
50(65)
180(320)
180(235)
840(915)
San Miguel Canyon Rd
Castroville Blvd
14
1010(1190)
15(55)
60(25)
110(50)
975(1140)
40(105)
San Miguel Canyon Rd
Langley Canyon Rd
15
1055(1150)
65(95)
105(150)
105(100)
910(1090)
55(110)
San Miguel Canyon Rd
Morro Rd
16
135(210)
985(980)
20(50)
20(45)
10(35)
70(105)
75(120)
10(40)
30(35)
35(50)
880(1050)
35(70)
San Miguel Canyon Rd
Prunedale North Rd
17
965(920)
120(145)
100(170)
10(30)
920(1110)
San Miguel Canyon Rd
US 101 SB Off Ramp
LEGEND:
XX - AM PEAK HOUR TRAFFIC VOLUMES
(XX) - PM PEAK HOUR TRAFFIC VOLUMES
CORRIDOR ZONE 1
CORRIDOR ZONE 2
CORRIDOR ZONE 3
CORRIDOR ZONE 4
CORRIDOR ZONE 5
To Watsonville
Pajaro
Main St
San Juan Rd
Porter Dr
Stender Ave
Matiasevich Ln
Railroad Ave
Associated Ln
Salinas Rd
Trafton Rd
Garin Rd
Fair Way
Werner Rd
G12
Elkhorn Rd
Las Lomas
Las Lomas
Hillcrest Rd
Elkhorn Rd
Willow Rd
Hall Rd
Sill Rd
Johnson Rd
Hall Rd
Torgrey Rd
Royal Oaks
Apricot Ln
San Miguel Canyon Rd
Woodland Hills Ln
Maher Rd
Hambey Ln
Hidden Valley Rd
Strawberry Rd
Elkhorn
Garden Ln
Echo Valley Rd
Pond Dorosa Ln
Paradise Rd
Northwood Pl
Canyon Rd
Langley Canyon Rd
Castroville Blvd
Moro Rd
Elkhorn Rd
Dolan Rd
Prunedale North
US 101
Vierra Canyon Rd
Meridian Rd
To Prunedale
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
N
GHD
Transportation Agency for Monterey County
G12 Corridor: Pajaro to Prunedale Corridor Study
YEAR 2040 PEAK HOUR TRAFFIC VOLUMES
Project No. 11152201
Report No. RPT2453001
Date 09.26.2018
FIGURE 3.2
Filename: K:\PRJ\2453\T2453\T2453TG001.dwg
Plot Date: 13 November 2018 - 11:30 AM
Source:

Appendix D
Improvement Cost Estimates

G12 Corridor Study (Prunedale to Pajaro)

Prepared for: TAMC TRANSPORTATION AGENCY FOR MONTEREY COUNTY

Prepared By: GHD

PROJECT AREA #1 - State Route 101 to Castroville Boulevard (Prunedale)

1/24/2019

Prj Area No.	PROJECT DESCRIPTION	Construction Costs	Right of Way	Support Costs	Total Project Costs
1	SR101 to Castroville Blvd (Prundale)	$3,010,000	$0	$1,505,000	**$4,515,000**
TOTAL		**$3,010,000**	**$0**	**$1,505,000**	**$4,515,000**
TOTAL PROJECT COSTS (Rounded)					**$4,600,000**

Notes:

1) Construction Costs include a 30% contingency for these preliminary concepts (Typically a 30%-50% contingency is used by Caltrans when cost estimating in the PRE-PSR phase per Caltrans Cost Estimating Guidelines).

2) Support Costs estimated at 50% - includes PA&ED, PS&E, R/W Acquisition and Construction Support

3) Existing R/W based on Monterey County GIS data.

G12 Corridor Study (Prunedale to Pajaro)

Prepared for: TAMC Transportation Agency for Monterey County

Prepared By: GHD

Preliminary Opinion of Costs

SR101 to Castroville Blvd (Prundale)

11152201
24-Jan-2019
CMP# 2453

PROJECT AREA #1

Item No.	*Item Description*	*Units*	*Quantity*	*Unit Cost*	*Total*
1	Traffic Control System	LS	1	$80,000.00	$80,000.00
2	Clearing and Grubbing	LS	1	$20,000.00	$20,000.00
3	Embankment	CY	0	$30.00	$0.00
4	Erosion Control	LS	1	$50,000.00	$50,000.00
5	Roadway Excavation (cut bank)	CY	0	$20.00	$0.00
6	Roadway Widening (ac/ab/exc)	SF	47,700	$10.00	$477,000.00
7	Roadway Approaches (ac/ab/exc)	SF	26,200	$8.00	$209,600.00
8	Retaining Wall	SQFT	0	$120.00	$0.00
9	Minor Concrete (Curb)	LF	0	$22.00	$0.00
10	Minor Concrete (Curb and Gutter)	LF	750	$35.00	$26,250.00
11	Minor Concrete (Sidewalk)	SQFT	11,000	$8.00	$88,000.00
12	Widen Structure (Bridge)	SQFT	0	$250.00	$0.00
13	Storm Drain System	LS	1	$80,000.00	$80,000.00
14	Signing and Striping	LS	1	$50,000.00	$50,000.00
15	Modify Signal and Lighting	LS	0	$50,000.00	$0.00
16	Signal and Lighting	LS	1	$250,000.00	$250,000.00
17	Rectangular Rapid Flashing Beacon (RRFB)	EA	0	$25,000.00	$0.00
18	Overhead Sign Structure	LS	0	$120,000.00	$0.00
19	Lighting (Roundabout)	LS	1	$54,000.00	$54,000.00
20	Roundabout (Exc/AC/AB/Curb/Conc Paving)	SQFT	20,100	$22.00	$442,200.00
21	Planting and Irrigation (Sidewalk Planter Area)	LS	1	$50,000.00	$50,000.00
22	Utilities (Public Only)	LS	1	$50,000.00	$50,000.00
23	Minor/ Supplemental Items	LS	10%	$1,847,050.00	$184,705.00
24	Mobilization	LS	10%	$2,031,755.00	$203,175.50
	Subtotal (Construction Costs)				$ 2,314,930.50
	Contingency			30%	$ 694,479.15
	Total Construction Costs (Capital)				$ 3,009,409.65
	Total Construction Budget (Rounded)				**$ 3,010,000.00**
	Right of Way (Capital)				
	Right of Way	SF			
	Undeveloped		0	$ 5.00	$ -
	Developed		0	$ 10.00	$ -
	Total Right of Way (Capital)				**$ -**
TOTAL PROJECT CAPITAL COSTS					**$ 3,010,000.00**
	Support Costs (PA-ED, PS&E, CE, R/W)		50%		$ 1,505,000.00
TOTAL PROJECT COSTS (Rounded)					**$ 4,515,000.00**

Assumptions

1. Structural section = 4"AC over 12"AB
2. Shoulder structural section same as traveled way structural section

G12 Corridor Study (Prunedale to Pajaro)

Prepared for: TAMC Transportation Agency for Monterey County

Prepared By: GHD

Preliminary Opinion of Costs

SR101 to Castroville Blvd (Prundale)

11152201
24-Jan-2019
CMP# 2453

PROJECT AREA #1 (ROUNDABOUT ONLY)

Item No.	*Item Description*	*Units*	*Quantity*	*Unit Cost*	*Total*
1	Traffic Control System	LS	1	$80,000.00	$50,000.00
2	Clearing and Grubbing	LS	1	$20,000.00	$10,000.00
3	Embankment	CY	0	$30.00	$0.00
4	Erosion Control	LS	1	$50,000.00	$25,000.00
5	Roadway Excavation (cut bank)	CY	0	$20.00	$0.00
6	Roadway Widening (ac/ab/exc)	SF	0	$10.00	$0.00
7	Roadway Approaches (ac/ab/exc)	SF	26,200	$8.00	$209,600.00
8	Retaining Wall	SQFT	0	$120.00	$0.00
9	Minor Concrete (Curb)	LF	0	$22.00	$0.00
10	Minor Concrete (Curb and Gutter)	LF	0	$35.00	$0.00
11	Minor Concrete (Sidewalk)	SQFT	700	$8.00	$5,600.00
12	Widen Structure (Bridge)	SQFT	0	$250.00	$0.00
13	Storm Drain System	LS	1	$40,000.00	$40,000.00
14	Signing and Striping	LS	1	$20,000.00	$20,000.00
15	Modify Signal and Lighting	LS	0	$50,000.00	$0.00
16	Signal and Lighting	LS	0	$250,000.00	$0.00
17	Rectangular Rapid Flashing Beacon (RRFB)	EA	0	$25,000.00	$0.00
18	Overhead Sign Structure	LS	0	$120,000.00	$0.00
19	Lighting (Roundabout)	LS	1	$54,000.00	$54,000.00
20	Roundabout (Exc/AC/AB/Curb/Conc Paving)	SQFT	20,100	$22.00	$442,200.00
21	Planting and Irrigation (Sidewalk Planter Area)	LS	1	$50,000.00	$50,000.00
22	Utilities (Public Only)	LS	1	$30,000.00	$30,000.00
23	Minor/ Supplemental Items	LS	10%	$886,400.00	$88,640.00
24	Mobilization	LS	10%	$975,040.00	$97,504.00
	Subtotal (Construction Costs)				$ 1,122,544.00
	Contingency			30%	$ 336,763.20
	Total Construction Costs (Capital)				$ 1,459,307.20
	Total Construction Budget (Rounded)				**$ 1,460,000.00**
	Right of Way (Capital)				
	Right of Way	SF			
	Undeveloped		0	$ 5.00	$ -
	Developed		0	$ 10.00	$ -
	Total Right of Way (Capital)				**$ -**
TOTAL PROJECT CAPITAL COSTS					**$ 1,460,000.00**
	Support Costs (PA-ED, PS&E, CE, R/W)		50%		$ 730,000.00
TOTAL PROJECT COSTS (Rounded)					**$ 2,190,000.00**

Assumptions

1. Structural section = 4"AC over 12"AB
2. Shoulder structural section same as traveled way structural section

G12 Corridor Study (Prunedale to Pajaro)

Prepared for: TAMC Transportation Agency for Monterey County

Prepared By: GHD

Preliminary Opinion of Costs

SR101 to Castroville Blvd (Prundale)

11152201
24-Jan-2019
CMP# 2453

PROJECT AREA #1 (SIGNAL ONLY)

Item No.	*Item Description*	*Units*	*Quantity*	*Unit Cost*	*Total*
1	Traffic Control System	LS	1	$5,000.00	$5,000.00
2	Clearing and Grubbing	LS	0	$5,000.00	$0.00
3	Embankment	CY	0	$30.00	$0.00
4	Erosion Control	LS	0	$2,000.00	$0.00
5	Roadway Excavation (cut bank)	CY	0	$20.00	$0.00
6	Roadway Widening (ac/ab/exc)	SF	3,600	$10.00	$36,000.00
7	Roadway Approaches (ac/ab/exc)	SF	0	$8.00	$0.00
8	Retaining Wall	SQFT	0	$120.00	$0.00
9	Minor Concrete (Curb)	LF	0	$22.00	$0.00
10	Minor Concrete (Curb and Gutter)	LF	0	$35.00	$0.00
11	Minor Concrete (Sidewalk)	SQFT	0	$8.00	$0.00
12	Widen Structure (Bridge)	SQFT	0	$250.00	$0.00
13	Storm Drain System	LS	0	$80,000.00	$0.00
14	Signing and Striping	LS	1	$5,000.00	$5,000.00
15	Modify Signal and Lighting	LS	0	$50,000.00	$0.00
16	Signal and Lighting	LS	1	$250,000.00	$250,000.00
17	Rectangular Rapid Flashing Beacon (RRFB)	EA	0	$25,000.00	$0.00
18	Overhead Sign Structure	LS	0	$120,000.00	$0.00
19	Lighting (Roundabout)	LS	0	$54,000.00	$0.00
20	Roundabout (Exc/AC/AB/Curb/Conc Paving)	SQFT	0	$22.00	$0.00
21	Planting and Irrigation (Sidewalk Planter Area)	LS	0	$50,000.00	$0.00
22	Utilities (Public Only)	LS	0	$50,000.00	$0.00
23	Minor/ Supplemental Items	LS	5%	$291,000.00	$14,550.00
24	Mobilization	LS	5%	$305,550.00	$15,277.50
	Subtotal (Construction Costs)				$ 325,827.50
	Contingency			10%	$ 32,582.75
	Total Construction Costs (Capital)				$ 358,410.25
	Total Construction Budget (Rounded)				**$ 359,000.00**
	Right of Way (Capital)				
	Right of Way	SF			
	Undeveloped		0	$ 5.00	$ -
	Developed		0	$ 10.00	$ -
	Total Right of Way (Capital)				**$ -**
TOTAL PROJECT CAPITAL COSTS					**$ 359,000.00**
	Support Costs (PA-ED, PS&E, CE, R/W)		50%		$ 179,500.00
TOTAL PROJECT COSTS (Rounded)					**$ 539,000.00**

Assumptions
1. Structural section = 4"AC over 12"AB
2. Shoulder structural section same as traveled way structural section

G12 Corridor Study (Pajaro to Prunedale)

Prepared for: TAMC TRANSPORTATION AGENCY FOR MONTEREY COUNTY

Prepared By: GHD

PROJECT AREA #2 - North of Castroville Blvd to South of Hall Rd

3/28/2019

Prj Area No.	PROJECT DESCRIPTION	Construction Costs	Right of Way Costs	Support Costs	**Total Project Costs w/Echo Valley Rnbt & TWLTL ALT #1**	**Total Project Costs w/TWLTL (btwn Pond Derosa-Echo Valley) ALT#2**
2	**Pond Derosa Ln to Echo Valley Rd**					
	Roundabout Option	$3,030,000	$341,500	$1,685,750	**$5,057,250**	
	Two-Way Left Turn Lane Option	$780,000	$0	$390,000	**$1,170,000**	**$1,170,000**
2	**TWLTL Echo Valley to Paradise**	$570,000	$0	$285,000	**$855,000**	**$855,000**
2	**ROUNDABOUT - Strawberry Rd Intersection**	$1,530,000	$133,500	$831,750	**$2,495,250**	**$2,495,250**
2	**TWLTL - Mark Ryan to Woodland Hill**	$1,630,000	$0	$815,000	**$2,445,000**	**$2,445,000**
	TOTAL	$7,540,000	$475,000	$4,007,500	**$12,022,500**	**$6,965,250**
	TOTAL PROJECT COSTS (Rounded)				**$12,100,000**	**$7,000,000**

Notes:

1) Construction Costs include a 30% contingency for these preliminary concepts (Typically a 30%-50% contingency is used by Caltrans when cost estimating in the Pre-PSR phase per Caltrans Cost Estimating Guidelines).

2) Support Costs estimated at 50% - includes PA&ED, PS&E, R/W Acquisition and Construction Support

3) Existing R/W based on Monterey County GIS data.

G12 Corridor Study (Pajaro to Prunedale)

Prepared for: TAMC Transportation Agency for Monterey County

Prepared By: GHD

Preliminary Opinion of Costs

N. of Castroville Blvd to S. of Hall Rd (at Echo Valley Rd)

Roundabout at Echo Valley Rd

11152201
3/28/2019
CMP# 2453

PROJECT AREA #2			Roundabout Option		
Item No.	*Item Description*	*Units*	*Quantity*	*Unit Cost*	*Total*
1	Traffic Control System	LS	1	$40,000.00	$40,000.00
2	Clearing and Grubbing	LS	1	$30,000.00	$30,000.00
3	Embankment	CY	16,756	$30.00	$502,666.67
4	Erosion Control	LS	1	$40,000.00	$40,000.00
5	Excavation (cut bank)	CY	0	$20.00	$0.00
6	Roadway Widening (ac/ab/exc)	SF	0	$10.00	$0.00
7	Roadway Approaches-Roundabout (ac/ab/exc)	SF	50,000	$8.00	$400,000.00
8	Retaining Wall	SQFT		$120.00	$0.00
9	Minor Concrete (Curb)	LF	0	$22.00	$0.00
10	Minor Concrete (Curb and Gutter)	LF	0	$35.00	$0.00
11	Minor Concrete (Sidewalk)	SQFT	7,000	$8.00	$56,000.00
12	Widen Structure (Bridge)	SQFT		$250.00	$0.00
13	Storm Drain System	LS	1	$50,000.00	$50,000.00
14	Signing and Striping	LS	1	$30,000.00	$30,000.00
15	Modify Signal and Lighting	LS	0	$50,000.00	$0.00
16	Signal and Lighting	LS	0	$250,000.00	$0.00
17	Rectangular Rapid Flashing Beacon (RRFB)	EA	0	$25,000.00	$0.00
18	Overhead Sign Structure	LS	0	$120,000.00	$0.00
19	Lighting (Roundabout)	LS	1	$72,000.00	$72,000.00
20	Roundabout (Exc/AC/AB/Curb/Conc Paving)	SQFT	27,800	$22.00	$611,600.00
21	Planting and Irrigation (Sidewalk Planter Area)	LS	1	$50,000.00	$50,000.00
22	Utilities (Public Only)	LS	1	$50,000.00	$50,000.00
23	Minor/ Supplemental Items	LS	10%	$1,892,300.00	$189,230.00
24	Mobilization	LS	10%	$2,081,500.00	$208,150.00
	Subtotal (Construction Costs)				$ 2,329,646.67
	Contingency			30%	$ 698,894.00
	Total Construction Costs (Capital)				$ 3,028,540.67
	Total Construction Budget (Rounded)				**$ 3,030,000.00**
	Right of Way (Capital)				
	Right of Way	SF			
	Undeveloped		68300	$ 5.00	$ 341,500.00
	Developed			$ 10.00	$ -
	Total Right of Way (Capital)				**$ 341,500.00**
TOTAL PROJECT CAPITAL COSTS					**$ 3,371,500.00**
	Support Costs (PA-ED, PS&E, CE, R/W)		50%		$ 1,685,750.00
TOTAL PROJECT COSTS (Rounded)					**$ 5,057,250.00**

Assumptions

1. Structural section = 4"AC over 12"AB
2. Shoulder structural section same as traveled way structural section

Notes:

1. Construction Costs include a 30% contingency for these preliminary concepts (Typically a 30%-50% contingency is used by Caltans when cost estimating in the Pre-PSD phase per Caltrans Cost Estimating Guidelines).

G12 Corridor Study (Pajaro to Prunedale)

Prepared for: TAMC Transportation Agency for Monterey County

Prepared By: GHD

Preliminary Opinion of Costs

N. of Castroville Blvd to S. of Hall Rd (at Echo Valley Rd)

TWLTL from Pond Derosa Ln to Echo Valley Rd

11152201
3/28/2019
CMP# 2453

PROJECT AREA #2			Two-Way Left Turn Lane Option		
Item No.	***Item Description***	***Units***	***Quantity***	***Unit Cost***	***Total***
1	Traffic Control System	LS	1	$25,000.00	$25,000.00
2	Clearing and Grubbing	LS	1	$20,000.00	$20,000.00
3	Embankment	CY	0	$30.00	$0.00
4	Erosion Control	LS	1	$20,000.00	$20,000.00
5	Excavation (cut bank)	CY	1,800	$20.00	$36,000.00
6	Roadway Widening (ac/ab/exc)	SF	31,000	$10.00	$310,000.00
7	Roadway Approaches (ac/ab/exc)	SF	0	$8.00	$0.00
8	Retaining Wall	SQFT	0	$120.00	$0.00
9	Minor Concrete (Curb)	LF	0	$22.00	$0.00
10	Minor Concrete (Curb and Gutter)	LF	0	$35.00	$0.00
11	Minor Concrete (Sidewalk)	SQFT	0	$8.00	$0.00
12	Widen Structure (Bridge)	SQFT		$250.00	$0.00
13	Storm Drain System	LS	1	$30,000.00	$30,000.00
14	Signing and Striping	LS	1	$25,000.00	$25,000.00
15	Modify Signal and Lighting	LS	0	$50,000.00	$0.00
16	Signal and Lighting	LS	0	$250,000.00	$0.00
17	Rectangular Rapid Flashing Beacon (RRFB)	EA	0	$25,000.00	$0.00
18	Overhead Sign Structure	LS	0	$120,000.00	$0.00
19	Lighting (Roundabout)	LS	0	$0.00	$0.00
20	Roundabout (Exc/AC/AB/Curb/Conc Paving)	SQFT	0	$22.00	$0.00
21	Planting and Irrigation (Sidewalk Planter Area)	LS	0	$50,000.00	$0.00
22	Utilities (Public Only)	LS	1	$30,000.00	$30,000.00
23	Minor/ Supplemental Items	LS	10%	$471,000.00	$47,100.00
24	Mobilization	LS	10%	$518,100.00	$51,810.00
	Subtotal (Construction Costs)				$ 594,910.00
	Contingency			30%	$ 178,473.00
	Total Construction Costs (Capital)				$ 773,383.00
	Total Construction Budget (Rounded)				**$ 780,000.00**
	Right of Way (Capital)				
	Right of Way	SF	0		
	Undeveloped			$ 5.00	$ -
	Developed			$ 10.00	$ -
	Total Right of Way (Capital)				**$ -**
TOTAL PROJECT CAPITAL COSTS					**$ 780,000.00**
	Support Costs (PA-ED, PS&E, CE, R/W)		50%		$ 390,000.00
TOTAL PROJECT COSTS (Rounded)					**$ 1,170,000.00**

Assumptions

1. Structural section = 4"AC over 12"AB
2. Shoulder structural section same as traveled way structural section

Notes

1. Construction Costs include a 30% contingency for these preliminary concepts (Typically a 30%-50% contingency is used by Caltans when cost estimating in the Pre-PSD phase per Caltrans Cost Estimating Guidelines).

G12 Corridor Study (Pajaro to Prunedale)

Prepared for: TAMC Transportation Agency for Monterey County

Prepared By: GHD

Preliminary Opinion of Costs

N. of Castroville Blvd to S. of Hall Rd (btwn Echo Valley and Paradise)

11152201

TWLTL Echo Valley to Paradise

3/28/2019

CMP# 2453

PROJECT AREA #2			TWLTL Echo Valley to Paradise		
Item No.	***Item Description***	***Units***	***Quantity***	***Unit Cost***	***Total***
1	Traffic Control System	LS	1	$20,000.00	$20,000.00
2	Clearing and Grubbing	LS	1	$15,000.00	$15,000.00
3	Embankment	CY	0	$30.00	$0.00
4	Erosion Control	LS	1	$15,000.00	$15,000.00
5	Excavation (cut bank)	CY	0	$20.00	$0.00
6	Roadway Widening (ac/ab/exc)	SF	23,000	$10.00	$230,000.00
7	Roadway Approaches (ac/ab/exc)	SF	0	$8.00	$0.00
8	Retaining Wall	SQFT	0	$120.00	$0.00
9	Minor Concrete (Curb)	LF	0	$22.00	$0.00
10	Minor Concrete (Curb and Gutter)	LF	0	$35.00	$0.00
11	Minor Concrete (Sidewalk)	SQFT	0	$8.00	$0.00
12	Widen Structure (Bridge)	SQFT	0	$250.00	$0.00
13	Storm Drain System	LS	1	$30,000.00	$30,000.00
14	Signing and Striping	LS	1	$15,000.00	$20,000.00
15	Modify Signal and Lighting	LS	0	$50,000.00	$0.00
16	Signal and Lighting	LS	0	$250,000.00	$0.00
17	Rectangular Rapid Flashing Beacon (RRFB)	EA	0	$25,000.00	$0.00
18	Overhead Sign Structure	LS	0	$120,000.00	$0.00
19	Lighting (Roundabout)	LS	0	$0.00	$0.00
20	Roundabout (Exc/AC/AB/Curb/Conc Paving)	SQFT	0	$22.00	$0.00
21	Planting and Irrigation (Sidewalk Planter Area)	LS	0	$50,000.00	$0.00
22	Utilities (Public Only)	LS	1	$30,000.00	$30,000.00
23	Minor/ Supplemental Items	LS	10%	$340,000.00	$34,000.00
24	Mobilization	LS	10%	$374,000.00	$37,400.00
	Subtotal (Construction Costs)				$ 431,400.00
	Contingency			30%	$ 129,420.00
	Total Construction Costs (Capital)				$ 560,820.00
	Total Construction Budget (Rounded)				**$ 570,000.00**
	Right of Way (Capital)				
	Right of Way	SF	0		
	Undeveloped			$ 5.00	$ -
	Developed			$ 10.00	$ -
	Total Right of Way (Capital)				**$ -**
TOTAL PROJECT CAPITAL COSTS					**$ 570,000.00**
	Support Costs (PA-ED, PS&E, CE, R/W)		50%		$ 285,000.00
TOTAL PROJECT COSTS (Rounded)					**$ 855,000.00**

Assumptions

1. Structural section = 4"AC over 12"AB
2. Shoulder structural section same as traveled way structural section

Notes

1. Construction Costs include a 30% contingency for these preliminary concepts (Typically a 30%-50% contingency is used by Caltans when cost estimating in the Pre-PSD phase per Caltrans Cost Estimating Guidelines).

G12 Corridor Study (Pajaro to Prunedale)

Prepared for: TAMC Transportation Agency for Monterey County

Prepared By: GHD

Preliminary Opinion of Costs

N. of Castroville Blvd to S. of Hall Rd (at Strawberry Rd)

11152201

Roundabout at Strawberry Rd

3/28/2019

CMP# 2453

PROJECT AREA #2			Roundabout		
Item No.	***Item Description***	***Units***	***Quantity***	***Unit Cost***	***Total***
1	Traffic Control System	LS	1	$40,000.00	$40,000.00
2	Clearing and Grubbing	LS	1	$15,000.00	$15,000.00
3	Embankment	CY	0	$30.00	$0.00
4	Erosion Control	LS	1	$40,000.00	$40,000.00
5	Excavation (cut bank)	CY	0	$20.00	$0.00
6	Roadway Widening (ac/ab/exc)	SF	0	$10.00	$0.00
7	Roadway Approaches (ac/ab/exc)	SF	29,300	$8.00	$234,400.00
8	Retaining Wall	SQFT	0	$120.00	$0.00
9	Minor Concrete (Curb)	LF	0	$22.00	$0.00
10	Minor Concrete (Curb and Gutter)	LF	0	$35.00	$0.00
11	Minor Concrete (Sidewalk)	SQFT	6,120	$8.00	$48,960.00
12	Widen Structure (Bridge)	SQFT	0	$250.00	$0.00
13	Storm Drain System	LS	1	$50,000.00	$50,000.00
14	Signing and Striping	LS	1	$30,000.00	$30,000.00
15	Modify Signal and Lighting	LS	0	$50,000.00	$0.00
16	Signal and Lighting	LS	0	$250,000.00	$0.00
17	Rectangular Rapid Flashing Beacon (RRFB)	EA	0	$25,000.00	$0.00
18	Overhead Sign Structure	LS	0	$120,000.00	$0.00
19	Lighting (Roundabout)	LS	1	$54,000.00	$54,000.00
20	Roundabout (Exc/AC/AB/Curb/Conc Paving)	SQFT	16,600	$22.00	$365,200.00
21	Planting and Irrigation (Sidewalk Planter Area)	LS	1	$50,000.00	$50,000.00
22	Utilities (Public Only)	LS	1	$50,000.00	$50,000.00
23	Minor/ Supplemental Items	LS	10%	$937,600.00	$93,760.00
24	Mobilization	LS	10%	$1,031,400.00	$103,140.00
	Subtotal (Construction Costs)				$ 1,174,460.00
	Contingency			30%	$ 352,338.00
	Total Construction Costs (Capital)				$ 1,526,798.00
	Total Construction Budget (Rounded)				**$ 1,530,000.00**
	Right of Way (Capital)				
	Right of Way	SF			
	Undeveloped			$ 5.00	$ -
	Developed		13350	$ 10.00	$ 133,500.00
	Total Right of Way (Capital)				**$ 133,500.00**
TOTAL PROJECT CAPITAL COSTS					**$ 1,663,500.00**
	Support Costs (PA-ED, PS&E, CE, R/W)		50%		$ 831,750.00
TOTAL PROJECT COSTS (Rounded)					**$ 2,495,250.00**

Assumptions

1. Structural section = 4"AC over 12"AB
2. Shoulder structural section same as traveled way structural section

Notes

1. Construction Costs include a 30% contingency for these preliminary concepts (Typically a 30%-50% contingency is used by Caltans when cost estimating in the Pre-PSD phase per Caltrans Cost Estimating Guidelines).

G12 Corridor Study (Pajaro to Prunedale)

Prepared for: TAMC Transportation Agency for Monterey County

Prepared By: GHD

Preliminary Opinion of Costs

N. of Castroville Blvd to S. of Hall Rd (Mark Ryan Estates to Woodland Hill Ln) 11152201

TWLTL - Mark Ryan to Woodland Hill 3/28/2019

CMP# 2453

PROJECT AREA #2			TWLTL - Mark Ryan to Woodland Hill		
Item No.	***Item Description***	***Units***	***Quantity***	***Unit Cost***	***Total***
1	Traffic Control System	LS	1	$20,000.00	$20,000.00
2	Clearing and Grubbing	LS	1	$5,000.00	$5,000.00
3	Embankment	CY	0	$30.00	$0.00
4	Erosion Control	LS	1	$5,000.00	$5,000.00
5	Excavation (cut bank)	CY	1,600	$20.00	$32,000.00
6	Roadway Widening (ac/ab/exc)	SF	94,200	$10.00	$942,000.00
7	Roadway Approaches (ac/ab/exc)	SF	0	$8.00	$0.00
8	Retaining Wall	SQFT	0	$120.00	$0.00
9	Minor Concrete (Curb)	LF	0	$22.00	$0.00
10	Minor Concrete (Curb and Gutter)	LF	0	$35.00	$0.00
11	Minor Concrete (Sidewalk)	SQFT	0	$8.00	$0.00
12	Widen Structure (Bridge)	SQFT	0	$250.00	$0.00
13	Storm Drain System	LS	0	$50,000.00	$0.00
14	Signing and Striping	LS	1	$15,000.00	$15,000.00
15	Modify Signal and Lighting	LS	0	$50,000.00	$0.00
16	Signal and Lighting	LS	0	$250,000.00	$0.00
17	Rectangular Rapid Flashing Beacon (RRFB)	EA	0	$25,000.00	$0.00
18	Overhead Sign Structure	LS	0	$120,000.00	$0.00
19	Lighting (Roundabout)	LS	0	$54,000.00	$0.00
20	Roundabout (Exc/AC/AB/Curb/Conc Paving)	SQFT	0	$22.00	$0.00
21	Planting and Irrigation (Sidewalk Planter Area)	LS	0	$50,000.00	$0.00
22	Utilities (Public Only)	LS	1	$20,000.00	$20,000.00
23	Minor/ Supplemental Items	LS	10%	$1,019,000.00	$101,900.00
24	Mobilization	LS	10%	$1,120,900.00	$112,090.00
	Subtotal (Construction Costs)				$ 1,252,990.00
	Contingency			30%	$ 375,897.00
	Total Construction Costs (Capital)				$ 1,628,887.00
	Total Construction Budget (Rounded)				**$ 1,630,000.00**
	Right of Way (Capital)				
	Right of Way	SF			
	Undeveloped		0	$ 5.00	$ -
	Developed		0	$ 10.00	$ -
	Total Right of Way (Capital)				**$ -**
TOTAL PROJECT CAPITAL COSTS					**$ 1,630,000.00**
	Support Costs (PA-ED, PS&E, CE, R/W)		50%		$ 815,000.00
TOTAL PROJECT COSTS (Rounded)					**$ 2,445,000.00**

Assumptions

1. Structural section = 4"AC over 12"AB
2. Shoulder structural section same as traveled way structural section

Notes

1. Construction Costs include a 30% contingency for these preliminary concepts (Typically a 30%-50% contingency is used by Caltans when cost estimating in the Pre-PSD phase per Caltrans Cost Estimating Guidelines).

G12 Corridor Study (Pajaro to Prunedale)

Prepared for: TAMC TRANSPORTATION AGENCY FOR MONTEREY COUNTY

Prepared By: GHD

PROJECT AREA #3 - Hall Rd (San Miguel Canyon Rd to Elkhorn Rd)

3/28/2019

Prj Area No.	PROJECT DESCRIPTION	Construction Costs	Right of Way Costs	Support Costs	Total Project Costs w/ Roundabout ALT #1	Total Project Costs w/ Signal ALT#2
3	**San Miguel Canyon Rd Rd to Elkhorn Rd**					
	SIGNAL - San Miguel Cyn Rd/Hall Rd Intersection	$414,000	$0	$207,000	**$621,000**	**$621,000**
	SIGNAL - Hall Rd/Sill Rd Intersection	$561,000	$50,000	$305,500		**$916,500**
	ROUNDABOUT - Hall Rd/Sill Rd Intersection	$1,790,000	$50,000	$920,000	**$2,760,000**	
	ROUNDABOUT - Hall Rd/Las Lomas Dr	$3,420,000	$70,000	$1,745,000	**$5,235,000**	**$5,235,000**
	FRONTAGE ROAD/TWLTL	$1,870,000	$10,000	$940,000	**$2,820,000**	**$2,820,000**
	ROUNDABOUT - Hall Rd/Elkhorn Rd	$2,090,000	$0	$1,045,000	**$3,135,000**	**$3,135,000**
	TOTAL	$10,145,000	$180,000	$5,162,500	**$14,571,000**	**$12,727,500**
	TOTAL PROJECT COSTS (Rounded)				**$14,600,000**	**$12,800,000**

Notes:

1) Construction Costs include a 30% contingency for these preliminary concepts (Typically a 30%-50% contingency is used by Caltrans when cost estimating in the Pre-PSR phase per Caltrans Cost Estimating Guidelines).

2) Support Costs estimated at 50% - includes PA&ED, PS&E, R/W Acquisition and Construction Support

3) Existing R/W based on Monterey County GIS data.

G12 Corridor Study (Pajaro to Prunedale)

Prepared for: TAMC Transportation Agency for Monterey County

Prepared By: GHD

Preliminary Opinion of Costs

San Miguel Canyon Rd to Elkhorn Rd (at Hall Rd/San Miguel Cyn Rd)

SIGNAL

11152201
28-Mar-2019
CMP# 2453

PROJECT AREA #3			Traffic Signal		
Item No.	***Item Description***	***Units***	***Quantity***	***Unit Cost***	***Total***
1	Traffic Control System	LS	1	$20,000.00	$20,000.00
2	Clearing and Grubbing	LS	0	$5,000.00	$0.00
3	Embankment	CY	0	$30.00	$0.00
4	Erosion Control	LS	1	$5,000.00	$5,000.00
5	Roadway Excavation	CY	1,000	$20.00	$20,000.00
6	Roadway Widening (ac/ab/exc)	SF	0	$10.00	$0.00
7	Roadway Approaches (ac/ab/exc)	SF	12,000	$8.00	$96,000.00
8	Retaining Wall	SQFT	0	$120.00	$0.00
9	Minor Concrete (Curb)	LF	0	$22.00	$0.00
10	Minor Concrete (Curb and Gutter)	LF	200	$35.00	$7,000.00
11	Minor Concrete (Sidewalk)	SQFT	1,500	$8.00	$12,000.00
12	Widen Structure (Bridge)	SQFT	0	$250.00	$0.00
13	Storm Drain System	LS	1	$25,000.00	$25,000.00
14	Signing and Striping	LS	1	$7,500.00	$7,500.00
15	Modify Signal and Lighting	LS	1	$100,000.00	$100,000.00
16	Signal and Lighting	LS	0	$250,000.00	$0.00
17	Rectangular Rapid Flashing Beacon (RRFB)	EA	0	$25,000.00	$0.00
18	Overhead Sign Structure	LS	0	$120,000.00	$0.00
19	Lighting (Roundabout)	LS	0	$54,000.00	$0.00
20	Roundabout (Exc/AC/AB/Curb/Conc Paving)	SQFT	0	$22.00	$0.00
21	Planting and Irrigation (Sidewalk Planter Area)	LS	0	$50,000.00	$0.00
22	Utilities (Public Only)	LS	1	$50,000.00	$50,000.00
23	Minor/ Supplemental Items	LS	5%	$322,500.00	$16,125.00
24	Mobilization	LS	5%	$338,625.00	$16,931.25
	Subtotal (Construction Costs)				$ 375,556.25
	Contingency			10%	$ 37,555.63
	Total Construction Costs (Capital)				$ 413,111.88
	Total Construction Budget (Rounded)				**$ 414,000.00**
	Right of Way (Capital)				
	Right of Way	SF			
	Undeveloped		0	$ 5.00	$ -
	Developed		0	$ 10.00	$ -
	Total Right of Way (Capital)				**$ -**
TOTAL PROJECT CAPITAL COSTS					**$ 414,000.00**
	Support Costs (PA-ED, PS&E, CE, R/W)		50%		$ 207,000.00
TOTAL PROJECT COSTS (Rounded)					**$ 621,000.00**

Assumptions
1. Structural section = 4"AC over 12"AB
2. Shoulder structural section same as traveled way structural section

G12 Corridor Study (Pajaro to Prunedale)

Prepared for: TAMC Transportation Agency for Monterey County

Prepared By: GHD

Preliminary Opinion of Costs

San Miguel Canyon Rd to Elkhorn Rd (at Hall Rd/San Miguel Cyn Rd)

SIGNAL

11152201
28-Mar-2019
CMP# 2453

PROJECT AREA #3			Traffic Signal Option		
Item No.	*Item Description*	*Units*	*Quantity*	*Unit Cost*	*Total*
1	Traffic Control System	LS	1	$15,000.00	$15,000.00
2	Clearing and Grubbing	LS	1	$5,000.00	$5,000.00
3	Embankment	CY	0	$30.00	$0.00
4	Erosion Control	LS	1	$2,000.00	$2,000.00
5	Roadway Excavation	CY	593	$20.00	$11,860.00
6	Roadway Widening (ac/ab/exc)	SF	2,400	$10.00	$24,000.00
7	Roadway Approaches (ac/ab/exc)	SF	6,000	$8.00	$48,000.00
8	Retaining Wall	SQFT	0	$120.00	$0.00
9	Minor Concrete (Curb)	LF	0	$22.00	$0.00
10	Minor Concrete (Curb and Gutter)	LF	200	$35.00	$7,000.00
11	Minor Concrete (Sidewalk)	SQFT	2,000	$8.00	$16,000.00
12	Widen Structure (Bridge)	SQFT	0	$250.00	$0.00
13	Storm Drain System	LS	1	$25,000.00	$25,000.00
14	Signing and Striping	LS	1	$10,000.00	$10,000.00
15	Modify Signal and Lighting	LS	0	$50,000.00	$0.00
16	Signal and Lighting	LS	1	$250,000.00	$250,000.00
17	Rectangular Rapid Flashing Beacon (RRFB)	EA	0	$25,000.00	$0.00
18	Overhead Sign Structure	LS	0	$120,000.00	$0.00
19	Lighting (Roundabout)	LS	0	$54,000.00	$0.00
20	Roundabout (Exc/AC/AB/Curb/Conc Paving)	SQFT	0	$22.00	$0.00
21	Planting and Irrigation (Sidewalk Planter Area)	LS	0	$50,000.00	$0.00
22	Utilities (Public Only)	LS	1	$50,000.00	$50,000.00
23	Minor/ Supplemental Items	LS	5%	$448,860.00	$22,443.00
24	Mobilization	LS	5%	$471,303.00	$23,565.15
	Subtotal (Construction Costs)				$ 509,868.15
	Contingency			10%	$ 50,986.82
	Total Construction Costs (Capital)				$ 560,854.97
	Total Construction Budget (Rounded)				**$ 561,000.00**
	Right of Way (Capital)				
	Right of Way	SF			
	Undeveloped		0	$ 5.00	$ -
	Developed		5,000	$ 10.00	$ 50,000.00
	Total Right of Way (Capital)				**$ 50,000.00**
TOTAL PROJECT CAPITAL COSTS					**$ 611,000.00**
	Support Costs (PA-ED, PS&E, CE, R/W)		50%		$ 305,500.00
TOTAL PROJECT COSTS (Rounded)					**$ 917,000.00**

Assumptions
1. Structural section = 4"AC over 12"AB
2. Shoulder structural section same as traveled way structural section

G12 Corridor Study (Pajaro to Prunedale)

Prepared for: TAMC Transportation Agency for Monterey County

Prepared By: GHD

Preliminary Opinion of Costs

San Miguel Canyon Rd to Elkhorn Rd (at Hall Rd/Sill Rd)

Roundabout

11152201
3/28/2019
CMP# 2453

PROJECT AREA #3			Roundabout Option		
Item No.	***Item Description***	***Units***	***Quantity***	***Unit Cost***	***Total***
1	Traffic Control System	LS	1	$80,000.00	$80,000.00
2	Clearing and Grubbing	LS	1	$20,000.00	$20,000.00
3	Embankment	CY	0	$30.00	$0.00
4	Erosion Control	LS	1	$30,000.00	$30,000.00
5	Excavation (cut bank)	CY	0	$20.00	$0.00
6	Roadway Widening (ac/ab/exc)	SF	0	$10.00	$0.00
7	Roadway Approaches-Roundabout (ac/ab/exc)	SF	16,000	$8.00	$128,000.00
8	Retaining Wall	SQFT		$120.00	$0.00
9	Minor Concrete (Curb)	LF	0	$22.00	$0.00
10	Minor Concrete (Curb and Gutter)	LF	400	$35.00	$14,000.00
11	Minor Concrete (Sidewalk)	SQFT	7,000	$8.00	$56,000.00
12	Widen Structure (Bridge)	SQFT		$250.00	$0.00
13	Storm Drain System	LS	1	$50,000.00	$50,000.00
14	Signing and Striping	LS	1	$30,000.00	$30,000.00
15	Modify Signal and Lighting	LS	0	$50,000.00	$0.00
16	Signal and Lighting	LS	0	$250,000.00	$0.00
17	Rectangular Rapid Flashing Beacon (RRFB)	EA	0	$25,000.00	$0.00
18	Overhead Sign Structure	LS	0	$120,000.00	$0.00
19	Lighting (Roundabout)	LS	1	$54,000.00	$54,000.00
20	Roundabout (Exc/AC/AB/Curb/Conc Paving)	SQFT	26,666	$22.00	$586,652.00
21	Planting and Irrigation (Sidewalk Planter Area)	LS	1	$50,000.00	$50,000.00
22	Utilities (Public Only)	LS	1	$50,000.00	$50,000.00
23	Minor/ Supplemental Items	LS	10%	$1,068,700.00	$106,870.00
24	Mobilization	LS	10%	$1,175,600.00	$117,560.00
	Subtotal (Construction Costs)				$ 1,373,082.00
	Contingency			30%	$ 411,924.60
	Total Construction Costs (Capital)				$ 1,785,006.60
	Total Construction Budget (Rounded)				**$ 1,790,000.00**
	Right of Way (Capital)				
	Right of Way	SF			
	Undeveloped		0	$ 5.00	$ -
	Developed		5000	$ 10.00	$ 50,000.00
	Total Right of Way (Capital)				**$ 50,000.00**
TOTAL PROJECT CAPITAL COSTS					**$ 1,840,000.00**
	Support Costs (PA-ED, PS&E, CE, R/W)		50%		$ 920,000.00
TOTAL PROJECT COSTS (Rounded)					**$ 2,760,000.00**

Assumptions

1. Structural section = 4"AC over 12"AB
2. Shoulder structural section same as traveled way structural section

Notes:

1. Construction Costs include a 30% contingency for these preliminary concepts (Typically a 30%-50% contingency is used by Caltans when cost estimating in the Pre-PSD phase per Caltrans Cost Estimating Guidelines).

G12 Corridor Study (Pajaro to Prunedale)

Prepared for: TAMC Transportation Agency for Monterey County

Prepared By: GHD

Preliminary Opinion of Costs

San Miguel Canyon Rd to Elkhorn Rd (at Hall Rd/Las LomasSill Rd)

Roundabout

11152201
3/28/2019
CMP# 2453

PROJECT AREA #3			Roundabout Option		
Item No.	***Item Description***	***Units***	***Quantity***	***Unit Cost***	***Total***
1	Traffic Control System	LS	1	$150,000.00	$150,000.00
2	Clearing and Grubbing	LS	1	$30,000.00	$30,000.00
3	Embankment	CY	0	$30.00	$0.00
4	Erosion Control	LS	1	$35,000.00	$35,000.00
5	Excavation (cut bank)	CY	0	$20.00	$0.00
6	Roadway Widening (ac/ab/exc)	SF	0	$10.00	$0.00
7	Roadway Approaches-Roundabout (ac/ab/exc)	SF	49,500	$8.00	$396,000.00
8	Retaining Wall	SQFT		$120.00	$0.00
9	Minor Concrete (Curb)	LF	0	$22.00	$0.00
10	Minor Concrete (Curb and Gutter)	LF	1,700	$35.00	$59,500.00
11	Minor Concrete (Sidewalk)	SQFT	17,000	$8.00	$136,000.00
12	Widen Structure (Bridge)	SQFT		$250.00	$0.00
13	Storm Drain System	LS	1	$150,000.00	$150,000.00
14	Signing and Striping	LS	1	$40,000.00	$40,000.00
15	Modify Signal and Lighting	LS	1	$50,000.00	$50,000.00
16	Signal and Lighting	LS	0	$250,000.00	$0.00
17	Rectangular Rapid Flashing Beacon (RRFB)	EA	0	$25,000.00	$0.00
18	Overhead Sign Structure	LS	0	$120,000.00	$0.00
19	Lighting (Roundabout)	LS	1	$72,000.00	$72,000.00
20	Roundabout (Exc/AC/AB/Curb/Conc Paving)	SQFT	40,000	$22.00	$880,000.00
21	Planting and Irrigation (Sidewalk Planter Area)	LS	1	$50,000.00	$50,000.00
22	Utilities (Public Only)	LS	1	$150,000.00	$150,000.00
23	Minor/ Supplemental Items	LS	10%	$2,048,500.00	$204,850.00
24	Mobilization	LS	10%	$2,253,400.00	$225,340.00
	Subtotal (Construction Costs)				$ 2,628,690.00
	Contingency			30%	$ 788,607.00
	Total Construction Costs (Capital)				$ 3,417,297.00
	Total Construction Budget (Rounded)				**$ 3,420,000.00**
	Right of Way (Capital)				
	Right of Way	SF			
	Undeveloped		0	$ 5.00	$ -
	Developed		7,000	$ 10.00	$ 70,000.00
	Total Right of Way (Capital)				**$ 70,000.00**
TOTAL PROJECT CAPITAL COSTS					**$ 3,490,000.00**
	Support Costs (PA-ED, PS&E, CE, R/W)		50%		$ 1,745,000.00
TOTAL PROJECT COSTS (Rounded)					**$ 5,235,000.00**

Assumptions

1. Structural section = 4"AC over 12"AB
2. Shoulder structural section same as traveled way structural section

Notes:

1. Construction Costs include a 30% contingency for these preliminary concepts (Typically a 30%-50% contingency is used by Caltans when cost estimating in the Pre-PSD phase per Caltrans Cost Estimating Guidelines).

G12 Corridor Study (Pajaro to Prunedale)

Prepared for: TAMC Transportation Agency for Monterey County

Prepared By: GHD

Preliminary Opinion of Costs

San Miguel Cny Rd to Elkhorn Rd (Frontage Rd & TWLTL at Willow Rd)

11152201

New Frontage Road and TWLTL

3/28/2019

CMP# 2453

PROJECT AREA #3			Frontage Road & TWLTL		
Item No.	***Item Description***	***Units***	***Quantity***	***Unit Cost***	***Total***
1	Traffic Control System	LS	1	$80,000.00	$80,000.00
2	Clearing and Grubbing	LS	1	$30,000.00	$30,000.00
3	Embankment	CY	0	$30.00	$0.00
4	Erosion Control	LS	1	$30,000.00	$30,000.00
5	Excavation (cut bank)	CY	0	$20.00	$0.00
6	Roadway Widening (ac/ab/exc)	SF	32,000	$10.00	$320,000.00
7	Roadway Approaches-Roundabout (ac/ab/exc)	SF	0	$8.00	$0.00
8	Retaining Wall	SQFT	0	$120.00	$0.00
9	Minor Concrete (Curb)	LF	0	$22.00	$0.00
10	Minor Concrete (Curb and Gutter)	LF	1,300	$35.00	$45,500.00
11	Minor Concrete (Sidewalk)	SQFT	13,000	$8.00	$104,000.00
12	Widen Structure (Bridge)	SQFT	0	$250.00	$0.00
13	Storm Drain System	LS	1	$120,000.00	$120,000.00
14	Signing and Striping	LS	1	$40,000.00	$40,000.00
15	Modify Signal and Lighting	LS	0	$50,000.00	$0.00
16	Signal and Lighting	LS	0	$250,000.00	$0.00
17	Rectangular Rapid Flashing Beacon (RRFB)	EA	0	$25,000.00	$0.00
18	Overhead Sign Structure	LS	0	$120,000.00	$0.00
19	Lighting (Roundabout)	LS	0	$72,000.00	$0.00
20	Roundabout (Exc/AC/AB/Curb/Conc Paving)	SQFT	0	$22.00	$0.00
21	Planting and Irrigation (Sidewalk Planter Area)	LS	1	$50,000.00	$50,000.00
22	Utilities (Public Only)	LS	1	$150,000.00	$150,000.00
23	Minor/ Supplemental Items	LS	10%	$889,500.00	$88,950.00
24	Mobilization	LS	10%	$978,500.00	$97,850.00
25	New Frontage Road	LS	1	$ 275,000.00	$ 275,000.00
	Subtotal (Construction Costs)				$ 1,431,300.00
	Contingency			30%	$ 429,390.00
	Total Construction Costs (Capital)				$ 1,860,690.00
	Total Construction Budget (Rounded)				**$ 1,870,000.00**
	Right of Way (Capital)				
	Right of Way	SF			
	Undeveloped		0	$ 5.00	$ -
	Developed		1,000	$ 10.00	$ 10,000.00
	Total Right of Way (Capital)				**$ 10,000.00**
TOTAL PROJECT CAPITAL COSTS					**$ 1,880,000.00**
	Support Costs (PA-ED, PS&E, CE, R/W)		50%		$ 940,000.00
TOTAL PROJECT COSTS (Rounded)					**$ 2,820,000.00**

Assumptions

1. Structural section = 4"AC over 12"AB
2. Shoulder structural section same as traveled way structural section

Notes:

1. Construction Costs include a 30% contingency for these preliminary concepts (Typically a 30%-50% contingency is used by Caltans when cost estimating in the Pre-PSD phase per Caltrans Cost Estimating Guidelines).

G12 Corridor Study (Pajaro to Prunedale)

Prepared for: TAMC Transportation Agency for Monterey County

Prepared By: GHD

Preliminary Opinion of Costs

San Miguel Canyon Rd to Elkhorn Rd (at Hall Rd/Sill Rd)

Roundabout

11152201
3/28/2019
CMP# 2453

PROJECT AREA #3			Roundabout Option		
Item No.	***Item Description***	***Units***	***Quantity***	***Unit Cost***	***Total***
1	Traffic Control System	LS	1	$100,000.00	$100,000.00
2	Clearing and Grubbing	LS	1	$30,000.00	$30,000.00
3	Embankment	CY	0	$30.00	$0.00
4	Erosion Control	LS	1	$50,000.00	$50,000.00
5	Excavation (cut bank)	CY	0	$20.00	$0.00
6	Roadway Widening (ac/ab/exc)	SF	0	$10.00	$0.00
7	Roadway Approaches-Roundabout (ac/ab/exc)	SF	36,000	$8.00	$288,000.00
8	Retaining Wall	SQFT		$120.00	$0.00
9	Minor Concrete (Curb)	LF	0	$22.00	$0.00
10	Minor Concrete (Curb and Gutter)	LF	600	$35.00	$21,000.00
11	Minor Concrete (Sidewalk)	SQFT	6,000	$8.00	$48,000.00
12	Widen Structure (Bridge)	SQFT		$250.00	$0.00
13	Storm Drain System	LS	1	$80,000.00	$80,000.00
14	Signing and Striping	LS	1	$35,000.00	$35,000.00
15	Modify Signal and Lighting	LS	0	$50,000.00	$0.00
16	Signal and Lighting	LS	0	$250,000.00	$0.00
17	Rectangular Rapid Flashing Beacon (RRFB)	EA	0	$25,000.00	$0.00
18	Overhead Sign Structure	LS	0	$120,000.00	$0.00
19	Lighting (Roundabout)	LS	1	$54,000.00	$54,000.00
20	Roundabout (Exc/AC/AB/Curb/Conc Paving)	SQFT	20,000	$22.00	$440,000.00
21	Planting and Irrigation (Sidewalk Planter Area)	LS	1	$50,000.00	$50,000.00
22	Utilities (Public Only)	LS	1	$150,000.00	$150,000.00
23	Minor/ Supplemental Items	LS	10%	$1,246,000.00	$124,600.00
24	Mobilization	LS	10%	$1,370,600.00	$137,060.00
	Subtotal (Construction Costs)				$ 1,607,660.00
	Contingency			30%	$ 482,298.00
	Total Construction Costs (Capital)				$ 2,089,958.00
	Total Construction Budget (Rounded)				**$ 2,090,000.00**
	Right of Way (Capital)				
	Right of Way	SF			
	Undeveloped		0	$ 5.00	$ -
	Developed		0	$ 10.00	$ -
	Total Right of Way (Capital)				**$ -**
TOTAL PROJECT CAPITAL COSTS					**$ 2,090,000.00**
	Support Costs (PA-ED, PS&E, CE, R/W)		50%		$ 1,045,000.00
TOTAL PROJECT COSTS (Rounded)					**$ 3,135,000.00**

Assumptions

1. Structural section = 4"AC over 12"AB
2. Shoulder structural section same as traveled way structural section

Notes:

1. Construction Costs include a 30% contingency for these preliminary concepts (Typically a 30%-50% contingency is used by Caltans when cost estimating in the Pre-PSD phase per Caltrans Cost Estimating Guidelines).

G12 Corridor Study (Prunedale to Pajaro)

Prepared for: TAMC TRANSPORTATION AGENCY FOR MONTEREY COUNTY

Prepared By: GHD

PROJECT AREA #4 - Garin Road to Hudson Landing Road

1/24/2019

Loc No.	PROJECT DESCRIPTION	Construction Costs	Right of Way Costs	Support Costs	**Total Project Costs**	
4	**Garin Rd to Hudson Landing Rd**	$4,510,000	$0	$2,255,000	**$6,765,000**	
	TOTAL	$4,510,000	$0	$2,255,000	**$6,765,000**	**$0**
	TOTAL PROJECT COSTS (Rounded)				**$6,800,000**	**$0**

Notes:

1) Construction Costs include a 30% contingency for these preliminary concepts (Typically a 30%-50% contingency is used by Caltrans when cost estimating in the Pre-PSR phase per Caltrans Cost Estimating Guidelines).

2) Support Costs estimated at 50% - includes PA&ED, PS&E, R/W Acquisition and Construction Support

3) Existing R/W based on Monterey County GIS data.

G12 Corridor Study (Prunedale to Pajaro)

Prepared for: TAMC Transportation Agency for Monterey County

Prepared By: GHD

Preliminary Opinion of Costs

Garin Rd to Hudson Landing Rd

11152201
1/24/2019
CMP# 2453

PROJECT AREA #4 — **Widen Existing Bridge**

Item No.	*Item Description*	*Units*	*Quantity*	*Unit Cost*	*Total*
1	Traffic Control System	LS	1	$60,000.00	$60,000.00
2	Clearing and Grubbing	LS	1	$5,000.00	$5,000.00
3	Embankment	CY	2,000	$30.00	$60,000.00
4	Erosion Control	LS	1	$15,000.00	$15,000.00
5	Roadway Excavation (cut bank)	CY	0	$20.00	$0.00
6	Roadway Widening (ac/ab/exc)	SQFT	12,900	$10.00	$129,000.00
7	Roadway Approaches-Roundabout (ac/ab/exc)	SQFT	0	$8.00	$0.00
8	Retaining Wall	SQFT	7,200	$120.00	$864,000.00
9	Minor Concrete (Curb)	LF	0	$22.00	$0.00
10	Minor Concrete (Curb and Gutter)	LF	0	$35.00	$0.00
11	Minor Concrete (Sidewalk)	SQFT	1,620	$8.00	$12,960.00
12	Widen Structure (Bridge)	SQFT	6,750	$250.00	$1,687,500.00
13	Storm Drain System	LS	0	$50,000.00	$0.00
14	Signing and Striping	LS	1	$15,000.00	$15,000.00
15	Modify Signal and Lighting	LS	0	$50,000.00	$0.00
16	Signal and Lighting	LS	0	$250,000.00	$0.00
17	Rectangular Rapid Flashing Beacon (RRFB)	EA	0	$25,000.00	$0.00
18	Overhead Sign Structure	LS	0	$120,000.00	$0.00
19	Lighting (Roundabout)	LS	0	$72,000.00	$0.00
20	Roundabout (Exc/AC/AB/Curb/Conc Paving)	SQFT	0	$22.00	$0.00
21	Planting and Irrigation (Sidewalk Planter Area)	LS	0	$50,000.00	$0.00
22	Utilities (Public Only)	LS	1	$25,000.00	$25,000.00
23	Minor/ Supplemental Items	LS	10%	$2,813,500.00	$281,350.00
24	Mobilization	LS	10%	$3,094,900.00	$309,490.00
	Subtotal (Construction Costs)				$ 3,464,300.00
	Contingency			30%	$ 1,039,290.00
	Total Construction Costs (Capital)				$ 4,503,590.00
	Total Construction Budget (Rounded)				**$ 4,510,000.00**
	Right of Way (Capital)				
	Right of Way	SF			
	Undeveloped		0	$ 5.00	$ -
	Developed		0	$ 10.00	$ -
	Total Right of Way (Capital)				**$ -**
TOTAL PROJECT CAPITAL COSTS					**$ 4,510,000.00**
	Support Costs (PA-ED, PS&E, CE, R/W)		50%		$ 2,255,000.00
TOTAL PROJECT COSTS (Rounded)					**$ 6,765,000.00**

Assumptions

1. Structural section = 4"AC over 12"AB
2. Shoulder structural section same as traveled way structural section

Notes:

1. Construction Costs include a 30% contingency for these preliminary concepts (Typically a 30%-50% contingency is used by Caltans when cost estimating in the Pre-PSD phase per Caltrans Cost Estimating Guidelines).

G12 Corridor Study (Pajaro to Prunedale)

Prepared for: TAMC TRANSPORTATION AGENCY FOR MONTEREY COUNTY

Prepared By: GHD

PROJECT AREA #5 - State Route 1 to Elkhorn Rd

3/28/2019

Prj Area No.	PROJECT DESCRIPTION	Construction Costs	Right of Way Costs	Support Costs	Total Project Costs w/ Roundabout ALT #1	Total Project Costs w/ Signal ALT#2
5	**State Route 1 to Elkhorn Rd**					
	SIGNAL - Salinas Rd/Hillcrest Rd	$501,000	$0	$250,500	**$751,500**	**$751,500**
	SIGNAL - Salinas Rd/Fruitland Ave	$588,000	$50,000	$319,000	**$957,000**	**$957,000**
	SIGNAL - Salinas Rd/Werner Rd	$542,000	$0	$271,000		**$813,000**
	SIGNAL - Werner Rd/Elkhorn Rd	$726,000	$24,000	$375,000		**$1,125,000**
	SIGNAL - Salinas Rd/Elkhorn Rd	$446,000	$0	$223,000		**$669,000**
	ROUNDABOUT - Werner Rd/Elkhorn Rd	$6,870,000	$2,002,000	$4,436,000	**$13,308,000**	
	TOTAL	$9,673,000	$2,076,000	$5,874,500	**$15,016,500**	**$4,315,500**
	TOTAL PROJECT COSTS (Rounded)				**$15,100,000**	**$4,400,000**

Notes:

1) Construction Costs include a 30% contingency for these preliminary concepts (Typically a 30%-50% contingency is used by Caltrans when cost estimating in the Pre-PSR phase per Caltrans Cost Estimating Guidelines).

2) Support Costs estimated at 50% - includes PA&ED, PS&E, R/W Acquisition and Construction Support

3) Existing R/W based on Monterey County GIS data.

G12 Corridor Study (Pajaro to Prunedale)

Prepared for: TAMC Transportation Agency for Monterey County

Prepared By: GHD

Preliminary Opinion of Costs

State Route 1 to Elkhorn Rd (at Salinas Rd/Hillcrest Rd)

SIGNAL

11152201
28-Mar-2019
CMP# 2453

PROJECT AREA #5			Traffic Signal		
Item No.	***Item Description***	***Units***	***Quantity***	***Unit Cost***	***Total***
1	Traffic Control System	LS	1	$15,000.00	$15,000.00
2	Clearing and Grubbing	LS	1	$5,000.00	$5,000.00
3	Embankment	CY	0	$30.00	$0.00
4	Erosion Control	LS	1	$5,000.00	$5,000.00
5	Roadway Excavation	CY	297	$20.00	$5,940.00
6	Roadway Widening (ac/ab/exc)	SF	0	$10.00	$0.00
7	Roadway Approaches (ac/ab/exc)	SF	0	$8.00	$0.00
8	Retaining Wall	SQFT	0	$120.00	$0.00
9	Minor Concrete (Curb)	LF	0	$22.00	$0.00
10	Minor Concrete (Curb and Gutter)	LF	200	$35.00	$7,000.00
11	Minor Concrete (Sidewalk)	SQFT	2,000	$8.00	$16,000.00
12	Widen Structure (Bridge)	SQFT	0	$250.00	$0.00
13	Storm Drain System	LS	1	$50,000.00	$50,000.00
14	Signing and Striping	LS	1	$10,000.00	$10,000.00
15	Modify Signal and Lighting	LS	0	$50,000.00	$0.00
16	Signal and Lighting	LS	1	$250,000.00	$250,000.00
17	Rectangular Rapid Flashing Beacon (RRFB)	EA	0	$25,000.00	$0.00
18	Overhead Sign Structure	LS	0	$120,000.00	$0.00
19	Lighting (Roundabout)	LS	0	$54,000.00	$0.00
20	Roundabout (Exc/AC/AB/Curb/Conc Paving)	SQFT	0	$22.00	$0.00
21	Planting and Irrigation (Sidewalk Planter Area)	LS	0	$50,000.00	$0.00
22	Utilities (Public Only)	LS	1	$50,000.00	$50,000.00
23	Minor/ Supplemental Items	LS	5%	$398,940.00	$19,947.00
24	Mobilization	LS	5%	$418,887.00	$20,944.35
	Subtotal (Construction Costs)				$ 454,831.35
	Contingency			10%	$ 45,483.14
	Total Construction Costs (Capital)				$ 500,314.49
	Total Construction Budget (Rounded)				**$ 501,000.00**
	Right of Way (Capital)				
	Right of Way	SF			
	Undeveloped		0	$ 5.00	$ -
	Developed		0	$ 10.00	$ -
	Total Right of Way (Capital)				**$ -**
TOTAL PROJECT CAPITAL COSTS					**$ 501,000.00**
	Support Costs (PA-ED, PS&E, CE, R/W)		50%		$ 250,500.00
TOTAL PROJECT COSTS (Rounded)					**$ 752,000.00**

Assumptions
1. Structural section = 4"AC over 12"AB
2. Shoulder structural section same as traveled way structural section

G12 Corridor Study (Pajaro to Prunedale)

Prepared for: TAMC Transportation Agency for Monterey County

Prepared By: GHD

Preliminary Opinion of Costs

State Route 1 to Elkhorn Rd (at Salinas Rd/Fruitland Ave)

SIGNAL

11152201
28-Mar-2019
CMP# 2453

PROJECT AREA #5			Traffic Signal		
Item No.	***Item Description***	***Units***	***Quantity***	***Unit Cost***	***Total***
1	Traffic Control System	LS	1	$15,000.00	$15,000.00
2	Clearing and Grubbing	LS	1	$5,000.00	$5,000.00
3	Embankment	CY	0	$30.00	$0.00
4	Erosion Control	LS	1	$5,000.00	$5,000.00
5	Roadway Excavation	CY	1,481	$20.00	$29,629.63
6	Roadway Widening (ac/ab/exc)	SF	0	$10.00	$0.00
7	Roadway Approaches (ac/ab/exc)	SF	6,000	$8.00	$48,000.00
8	Retaining Wall	SQFT	0	$120.00	$0.00
9	Minor Concrete (Curb)	LF	0	$22.00	$0.00
10	Minor Concrete (Curb and Gutter)	LF	200	$35.00	$7,000.00
11	Minor Concrete (Sidewalk)	SQFT	2,000	$8.00	$16,000.00
12	Widen Structure (Bridge)	SQFT	0	$250.00	$0.00
13	Storm Drain System	LS	1	$50,000.00	$50,000.00
14	Signing and Striping	LS	1	$10,000.00	$10,000.00
15	Modify Signal and Lighting	LS	0	$50,000.00	$0.00
16	Signal and Lighting	LS	1	$250,000.00	$250,000.00
17	Rectangular Rapid Flashing Beacon (RRFB)	EA	0	$25,000.00	$0.00
18	Overhead Sign Structure	LS	0	$120,000.00	$0.00
19	Lighting (Roundabout)	LS	0	$54,000.00	$0.00
20	Roundabout (Exc/AC/AB/Curb/Conc Paving)	SQFT	0	$22.00	$0.00
21	Planting and Irrigation (Sidewalk Planter Area)	LS	0	$50,000.00	$0.00
22	Utilities (Public Only)	LS	1	$50,000.00	$50,000.00
23	Minor/ Supplemental Items	LS	5%	$470,629.63	$23,531.48
24	Mobilization	LS	5%	$494,161.11	$24,708.06
	Subtotal (Construction Costs)				$ 533,869.17
	Contingency			10%	$ 53,386.92
	Total Construction Costs (Capital)				$ 587,256.08
	Total Construction Budget (Rounded)				**$ 588,000.00**
	Right of Way (Capital)				
	Right of Way	SF			
	Undeveloped		0	$ 5.00	$ -
	Developed		5,000	$ 10.00	$ 50,000.00
	Total Right of Way (Capital)				**$ 50,000.00**
TOTAL PROJECT CAPITAL COSTS					**$ 638,000.00**
	Support Costs (PA-ED, PS&E, CE, R/W)		50%		$ 319,000.00
TOTAL PROJECT COSTS (Rounded)					**$ 957,000.00**

Assumptions
1. Structural section = 4"AC over 12"AB
2. Shoulder structural section same as traveled way structural section

G12 Corridor Study (Pajaro to Prunedale)

Prepared for: TAMC Transportation Agency for Monterey County

Prepared By: GHD

Preliminary Opinion of Costs

State Route 1 to Elkhorn Rd (at Salinas Rd/Werner Rd)

SIGNAL

11152201
28-Mar-2019
CMP# 2453

PROJECT AREA #5			Traffic Signal		
Item No.	***Item Description***	***Units***	***Quantity***	***Unit Cost***	***Total***
1	Traffic Control System	LS	1	$15,000.00	$15,000.00
2	Clearing and Grubbing	LS	1	$5,000.00	$5,000.00
3	Embankment	CY	0	$30.00	$0.00
4	Erosion Control	LS	1	$5,000.00	$5,000.00
5	Roadway Excavation	CY	296	$20.00	$5,925.93
6	Roadway Widening (ac/ab/exc)	SF	0	$10.00	$0.00
7	Roadway Approaches (ac/ab/exc)	SF	3,600	$8.00	$28,800.00
8	Retaining Wall	SQFT	0	$120.00	$0.00
9	Minor Concrete (Curb)	LF	0	$22.00	$0.00
10	Minor Concrete (Curb and Gutter)	LF	200	$35.00	$7,000.00
11	Minor Concrete (Sidewalk)	SQFT	2,000	$8.00	$16,000.00
12	Widen Structure (Bridge)	SQFT	0	$250.00	$0.00
13	Storm Drain System	LS	1	$50,000.00	$50,000.00
14	Signing and Striping	LS	1	$15,000.00	$15,000.00
15	Modify Signal and Lighting	LS	0	$50,000.00	$0.00
16	Signal and Lighting	LS	1	$250,000.00	$250,000.00
17	Rectangular Rapid Flashing Beacon (RRFB)	EA	0	$25,000.00	$0.00
18	Overhead Sign Structure	LS	0	$120,000.00	$0.00
19	Lighting (Roundabout)	LS	0	$54,000.00	$0.00
20	Roundabout (Exc/AC/AB/Curb/Conc Paving)	SQFT	0	$22.00	$0.00
21	Planting and Irrigation (Sidewalk Planter Area)	LS	0	$50,000.00	$0.00
22	Utilities (Public Only)	LS	1	$50,000.00	$50,000.00
23	Minor/ Supplemental Items	LS	5%	$432,725.93	$21,636.30
24	Mobilization	LS	5%	$454,362.22	$22,718.11
	Subtotal (Construction Costs)				$ 492,080.33
	Contingency			10%	$ 49,208.03
	Total Construction Costs (Capital)				$ 541,288.37
	Total Construction Budget (Rounded)				**$ 542,000.00**
	Right of Way (Capital)				
	Right of Way	SF			
	Undeveloped		0	$ 5.00	$ -
	Developed		0	$ 10.00	$ -
	Total Right of Way (Capital)				**$ -**
TOTAL PROJECT CAPITAL COSTS					**$ 542,000.00**
	Support Costs (PA-ED, PS&E, CE, R/W)		50%		$ 271,000.00
TOTAL PROJECT COSTS (Rounded)					**$ 813,000.00**

Assumptions
1. Structural section = 4"AC over 12"AB
2. Shoulder structural section same as traveled way structural section

G12 Corridor Study (Pajaro to Prunedale)

Prepared for: TAMC Transportation Agency for Monterey County

Prepared By: GHD

Preliminary Opinion of Costs

State Route 1 to Elkhorn Rd (at Werner Rd/Elkhorn Rd)

SIGNAL

11152201
28-Mar-2019
CMP# 2453

PROJECT AREA #5			Traffic Signal		
Item No.	***Item Description***	***Units***	***Quantity***	***Unit Cost***	***Total***
1	Traffic Control System	LS	1	$15,000.00	$15,000.00
2	Clearing and Grubbing	LS	1	$5,000.00	$5,000.00
3	Embankment	CY	0	$30.00	$0.00
4	Erosion Control	LS	1	$5,000.00	$5,000.00
5	Roadway Excavation	CY	300	$20.00	$6,000.00
6	Roadway Widening (ac/ab/exc)	SF	0	$10.00	$0.00
7	Roadway Approaches (ac/ab/exc)	SF	18,000	$8.00	$144,000.00
8	Retaining Wall	SQFT	0	$120.00	$0.00
9	Minor Concrete (Curb)	LF	0	$22.00	$0.00
10	Minor Concrete (Curb and Gutter)	LF	300	$35.00	$10,500.00
11	Minor Concrete (Sidewalk)	SQFT	3,000	$8.00	$24,000.00
12	Widen Structure (Bridge)	SQFT	0	$250.00	$0.00
13	Storm Drain System	LS	1	$75,000.00	$75,000.00
14	Signing and Striping	LS	1	$15,000.00	$15,000.00
15	Modify Signal and Lighting	LS	0	$50,000.00	$0.00
16	Signal and Lighting	LS	1	$250,000.00	$250,000.00
17	Rectangular Rapid Flashing Beacon (RRFB)	EA	0	$25,000.00	$0.00
18	Overhead Sign Structure	LS	0	$120,000.00	$0.00
19	Lighting (Roundabout)	LS	0	$54,000.00	$0.00
20	Roundabout (Exc/AC/AB/Curb/Conc Paving)	SQFT	0	$22.00	$0.00
21	Planting and Irrigation (Sidewalk Planter Area)	LS	0	$50,000.00	$0.00
22	Utilities (Public Only)	LS	1	$50,000.00	$50,000.00
23	Minor/ Supplemental Items	LS	5%	$584,500.00	$29,225.00
24	Mobilization	LS	5%	$613,725.00	$30,686.25
	Subtotal (Construction Costs)				$ 659,411.25
	Contingency			10%	$ 65,941.13
	Total Construction Costs (Capital)				$ 725,352.38
	Total Construction Budget (Rounded)				**$ 726,000.00**
	Right of Way (Capital)				
	Right of Way	SF			
	Undeveloped		0	$ 5.00	$ -
	Developed		2,400	$ 10.00	$ 24,000.00
	Total Right of Way (Capital)				**$ 24,000.00**
TOTAL PROJECT CAPITAL COSTS					**$ 750,000.00**
	Support Costs (PA-ED, PS&E, CE, R/W)		50%		$ 375,000.00
TOTAL PROJECT COSTS (Rounded)					**$ 1,125,000.00**

Assumptions
1. Structural section = 4"AC over 12"AB
2. Shoulder structural section same as traveled way structural section

G12 Corridor Study (Pajaro to Prunedale)

Prepared for: TAMC Transportation Agency for Monterey County

Prepared By: GHD

Preliminary Opinion of Costs

State Route 1 to Elkhorn Rd (at Salinas Rd/Elkhorn Rd)

SIGNAL

11152201
28-Mar-2019
CMP# 2453

PROJECT AREA #5			Traffic Signal		
Item No.	***Item Description***	***Units***	***Quantity***	***Unit Cost***	***Total***
1	Traffic Control System	LS	1	$15,000.00	$15,000.00
2	Clearing and Grubbing	LS	1	$5,000.00	$5,000.00
3	Embankment	CY	0	$30.00	$0.00
4	Erosion Control	LS	1	$5,000.00	$5,000.00
5	Roadway Excavation	CY	296	$20.00	$5,925.93
6	Roadway Widening (ac/ab/exc)	SF	0	$10.00	$0.00
7	Roadway Approaches (ac/ab/exc)	SF	0	$8.00	$0.00
8	Retaining Wall	SQFT	0	$120.00	$0.00
9	Minor Concrete (Curb)	LF	0	$22.00	$0.00
10	Minor Concrete (Curb and Gutter)	LF	200	$35.00	$7,000.00
11	Minor Concrete (Sidewalk)	SQFT	2,000	$8.00	$16,000.00
12	Widen Structure (Bridge)	SQFT	0	$250.00	$0.00
13	Storm Drain System	LS	0	$50,000.00	$0.00
14	Signing and Striping	LS	1	$15,000.00	$15,000.00
15	Modify Signal and Lighting	LS	0	$50,000.00	$0.00
16	Signal and Lighting	LS	1	$250,000.00	$250,000.00
17	Rectangular Rapid Flashing Beacon (RRFB)	EA	0	$25,000.00	$0.00
18	Overhead Sign Structure	LS	0	$120,000.00	$0.00
19	Lighting (Roundabout)	LS	0	$54,000.00	$0.00
20	Roundabout (Exc/AC/AB/Curb/Conc Paving)	SQFT	0	$22.00	$0.00
21	Planting and Irrigation (Sidewalk Planter Area)	LS	0	$50,000.00	$0.00
22	Utilities (Public Only)	LS	1	$50,000.00	$50,000.00
23	Minor/ Supplemental Items	LS	5%	$353,925.93	$17,696.30
24	Mobilization	LS	5%	$371,622.22	$18,581.11
	Subtotal (Construction Costs)				$ 405,203.33
	Contingency			10%	$ 40,520.33
	Total Construction Costs (Capital)				$ 445,723.67
	Total Construction Budget (Rounded)				**$ 446,000.00**
	Right of Way (Capital)				
	Right of Way	SF			
	Undeveloped		0	$ 5.00	$ -
	Developed		0	$ 10.00	$ -
	Total Right of Way (Capital)				**$ -**
TOTAL PROJECT CAPITAL COSTS					**$ 446,000.00**
	Support Costs (PA-ED, PS&E, CE, R/W)		50%		$ 223,000.00
TOTAL PROJECT COSTS (Rounded)					**$ 669,000.00**

Assumptions
1. Structural section = 4"AC over 12"AB
2. Shoulder structural section same as traveled way structural section

G12 Corridor Study (Pajaro to Prunedale)

Prepared for: TAMC Transportation Agency for Monterey County

Prepared By: GHD

Preliminary Opinion of Costs

State Route 1 to Elkhorn Rd (at Salinas Rd/Werner Rd/Elkhorn Rd)

11152201

Roundabout

3/28/2019

CMP# 2453

PROJECT AREA #5			Roundabout Option		
Item No.	***Item Description***	***Units***	***Quantity***	***Unit Cost***	***Total***
1	Traffic Control System	LS	1	$150,000.00	$150,000.00
2	Clearing and Grubbing	LS	1	$50,000.00	$50,000.00
3	Embankment	CY	0	$30.00	$0.00
4	Erosion Control	LS	1	$50,000.00	$50,000.00
5	Excavation	CY	69,500	$20.00	$1,390,000.00
6	Roadway Widening (ac/ab/exc)	SF	0	$10.00	$0.00
7	Roadway Approaches-Roundabout (ac/ab/exc)	SF	95,000	$8.00	$760,000.00
8	Retaining Wall	SQFT		$120.00	$0.00
9	Minor Concrete (Curb)	LF	0	$22.00	$0.00
10	Minor Concrete (Curb and Gutter)	LF	1,700	$35.00	$59,500.00
11	Minor Concrete (Sidewalk)	SQFT	17,000	$8.00	$136,000.00
12	Widen Structure (Bridge)	SQFT		$250.00	$0.00
13	Storm Drain System	LS	1	$150,000.00	$150,000.00
14	Signing and Striping	LS	1	$50,000.00	$50,000.00
15	Modify Signal and Lighting	LS	0	$50,000.00	$0.00
16	Signal and Lighting	LS	0	$250,000.00	$0.00
17	Rectangular Rapid Flashing Beacon (RRFB)	EA	0	$25,000.00	$0.00
18	Overhead Sign Structure	LS	0	$120,000.00	$0.00
19	Lighting (Roundabout)	LS	1	$72,000.00	$72,000.00
20	Roundabout (Exc/AC/AB/Curb/Conc Paving)	SQFT	60,000	$22.00	$1,320,000.00
21	Planting and Irrigation (Sidewalk Planter Area)	LS	1	$50,000.00	$50,000.00
22	Utilities (Public Only)	LS	1	$150,000.00	$150,000.00
23	Minor/ Supplemental Items	LS	10%	$4,237,500.00	$423,750.00
24	Mobilization	LS	10%	$4,661,300.00	$466,130.00
	Subtotal (Construction Costs)				$ 5,277,380.00
	Contingency			30%	$ 1,583,214.00
	Total Construction Costs (Capital)				$ 6,860,594.00
	Total Construction Budget (Rounded)				**$ 6,870,000.00**
	Right of Way (Capital)				
	Right of Way	SF			
	Undeveloped		0	$ 5.00	$ -
	Developed		145,200	$ 10.00	$ 1,452,000.00
	Purchase Business	EA	2	$ 275,000.00	$ 550,000.00
	Total Right of Way (Capital)				**$ 2,002,000.00**
TOTAL PROJECT CAPITAL COSTS					**$ 8,872,000.00**
	Support Costs (PA-ED, PS&E, CE, R/W)		50%		$ 4,436,000.00
TOTAL PROJECT COSTS (Rounded)					**$ 13,308,000.00**

Assumptions

1. Structural section = 4"AC over 12"AB
2. Shoulder structural section same as traveled way structural section

Notes:

1. Construction Costs include a 30% contingency for these preliminary concepts (Typically a 30%-50% contingency is used by Caltans when cost estimating in the Pre-PSD phase per Caltrans Cost Estimating Guidelines).

G12 Corridor Study (Pajaro to Prunedale)

Prepared for: TAMC TRANSPORTATION AGENCY FOR MONTEREY COUNTY

Prepared By: GHD

PROJECT AREA #6 - Elkhorn Rd/Salinas Rd to Riverside Dr (SR 129) -Pajaro

3/28/2019

Prj Area No.	PROJECT DESCRIPTION	Construction Costs	Right of Way	Support Costs	Total Project Costs
6	Elkhorn/Salinas to Riverside Dr (SR 129)				
	Salinas/Elkhorn to S. of Pajaro	$210,000	$0	$105,000	**$315,000**
	S. of Pajaro to Riverside (SR 129)	$1,000,000	$90,000	$545,000	**$1,635,000**
TOTAL		**$1,210,000**	**$90,000**	**$650,000**	**$1,950,000**
TOTAL PROJECT COSTS (Rounded)					**$2,000,000**

Notes:

1) Construction Costs include a 30% contingency for these preliminary concepts (Typically a 30%-50% contingency is used by Caltrans when cost estimating in the PRE-PSR phase per Caltrans Cost Estimating Guidelines), unless otherwise noted.

2) Support Costs estimated at 50% - includes PA&ED, PS&E, R/W Acquisition and Construction Support

3) Existing R/W based on Monterey County GIS data.

G12 Corridor Study (Pajaro to Prunedale)

Prepared for: TAMC Transportation Agency for Monterey County

Prepared By: GHD

Preliminary Opinion of Costs

Elkhorn Rd/Salinas Rd to Riverside Dr (SR 129) - Pajaro

11152201
28-Mar-2019
CMP# 2453

PROJECT AREA #6

Item No.	Item Description	Units	Quantity	Unit Cost	Total
1	Traffic Control System	LS	1	$25,000.00	$25,000.00
2	Clearing and Grubbing	LS	0	$10,000.00	$0.00
3	Embankment	CY	0	$30.00	$0.00
4	Erosion Control	LS	0	$5,000.00	$0.00
5	Roadway Excavation (cut bank)	CY	0	$20.00	$0.00
6	Roadway Widening (ac/ab/exc)	SQFT	0	$10.00	$0.00
7	Roadway Approaches (ac/ab/exc)	SQFT	0	$8.00	$0.00
8	Retaining Wall	SQFT	0	$120.00	$0.00
9	Minor Concrete (Curb)	LF	0	$22.00	$0.00
10	Minor Concrete (Curb and Gutter)	LF	0	$35.00	$0.00
11	Minor Concrete (Sidewalk)	SQFT	0	$12.00	$0.00
12	Widen Structure (Bridge)	SQFT	0	$250.00	$0.00
13	Storm Drain System	LS	0	$50,000.00	$0.00
14	Signing and Striping	LS	1	$60,000.00	$60,000.00
15	Modify Signal and Lighting	LS	0	$50,000.00	$0.00
16	Signal and Lighting	LS	0	$250,000.00	$0.00
17	Rectangular Rapid Flashing Beacons (RRFB)	EA	0	$25,000.00	$0.00
18	Overhead Sign Structure	LS	0	$120,000.00	$0.00
19	Lighting (Roundabout)	LS	0	$54,000.00	$0.00
20	Roundabout (Exc/AC/AB/Curb/Conc Paving)	SQFT	0	$22.00	$0.00
21	Median (Channelizing - Rt Turn Only at Salinas)	LS	0	$30,000.00	$0.00
22	Entry Median/Monument	LS	1	$50,000.00	$50,000.00
23	Reconstruct On-site Parking Lot	LS	0	$75,000.00	$0.00
24	Planting and Irrigation (Sidewalk Planter Area)	LS	0	$50,000.00	$0.00
25	Utilities (Public Only)	LS	0	$50,000.00	$0.00
26	Minor/ Supplemental Items	LS	10%	$110,000.00	$11,000.00
27	Mobilization	LS	10%	$121,000.00	$12,100.00
	Subtotal (Construction Costs)				$ 158,100.00
	Contingency			30%	$ 47,430.00
	Total Construction Costs (Capital)				$ 205,530.00
	Total Construction Budget (Rounded)				**$ 210,000.00**
	Right of Way (Capital)				
	Right of Way (Sidewalk Bump-out at Exist Poles)				
		EA	0	$ 7,500.00	$ -
	Total Right of Way (Capital)				**$ -**
TOTAL PROJECT CAPITAL COSTS					**$ 210,000.00**
	Support Costs (PA-ED, PS&E, CE, R/W)		50%		$ 105,000.00
TOTAL PROJECT COSTS (Rounded)					**$ 315,000.00**

Assumptions

1. Structural section = 4"AC over 12"AB
2. Shoulder structural section same as traveled way structural section

Notes:

1. Construction Costs include a 30% contingency for these preliminary concepts (Typically a 30%-50% contingency is used by Caltans when cost estimating in the Pre-PSD phase per Caltrans Cost Estimating Guidelines).

G12 Corridor Study (Pajaro to Prunedale)

Prepared for: TAMC Transportation Agency for Monterey County

Prepared By: GHD

Preliminary Opinion of Costs

Elkhorn Rd/Salinas Rd to Riverside Dr (SR 129) - Pajaro

11152201
28-Mar-2019
CMP# 2453

PROJECT AREA #6

Item No.	Item Description	Units	Quantity	Unit Cost	Total
1	Traffic Control System	LS	1	$25,000.00	$25,000.00
2	Clearing and Grubbing	LS	0	$10,000.00	$0.00
3	Embankment	CY	0	$30.00	$0.00
4	Erosion Control	LS	0	$5,000.00	$0.00
5	Roadway Excavation (cut bank)	CY	0	$20.00	$0.00
6	Roadway Widening (ac/ab/exc)	SQFT	0	$10.00	$0.00
7	Roadway Approaches (ac/ab/exc)	SQFT	0	$8.00	$0.00
8	Retaining Wall	SQFT	0	$120.00	$0.00
9	Minor Concrete (Curb)	LF	0	$22.00	$0.00
10	Minor Concrete (Curb and Gutter)	LF	320	$35.00	$11,200.00
11	Minor Concrete (Sidewalk)	SQFT	9,600	$12.00	$115,200.00
12	Widen Structure (Bridge)	SQFT	0	$250.00	$0.00
13	Storm Drain System	LS	1	$50,000.00	$50,000.00
14	Signing and Striping	LS	1	$60,000.00	$60,000.00
15	Modify Signal and Lighting	LS	1	$50,000.00	$50,000.00
16	Signal and Lighting	LS	0	$250,000.00	$0.00
17	Rectangular Rapid Flashing Beacons (RRFB)	EA	2	$25,000.00	$50,000.00
18	Overhead Sign Structure	LS	1	$120,000.00	$120,000.00
19	Lighting (Roundabout)	LS	0	$54,000.00	$0.00
20	Roundabout (Exc/AC/AB/Curb/Conc Paving)	SQFT	0	$22.00	$0.00
21	Median (Channelizing - Rt Turn Only at Salinas)	LS	1	$30,000.00	$30,000.00
22	Entry Median/Monument	LS	0	$50,000.00	$0.00
23	Reconstruct On-site Parking Lot	LS	1	$75,000.00	$75,000.00
24	Planting and Irrigation (Sidewalk Planter Area)	LS	0	$50,000.00	$0.00
25	Utilities (Public Only)	LS	1	$50,000.00	$50,000.00
26	Minor/ Supplemental Items	LS	10%	$611,400.00	$61,140.00
27	Mobilization	LS	10%	$672,600.00	$67,260.00
	Subtotal (Construction Costs)				$ 764,800.00
	Contingency			30%	$ 229,440.00
	Total Construction Costs (Capital)				$ 994,240.00
	Total Construction Budget (Rounded)				**$ 1,000,000.00**
	Right of Way (Capital)				
	Right of Way (Sidewalk Bump-out at Exist Poles)				
		EA	12	$ 7,500.00	$ 90,000.00
	Total Right of Way (Capital)				**$ 90,000.00**
TOTAL PROJECT CAPITAL COSTS					**$ 1,090,000.00**
	Support Costs (PA-ED, PS&E, CE, R/W)		50%		$ 545,000.00
TOTAL PROJECT COSTS (Rounded)					**$ 1,635,000.00**

Assumptions

1. Structural section = 4"AC over 12"AB
2. Shoulder structural section same as traveled way structural section

Notes:

1. Construction Costs include a 30% contingency for these preliminary concepts (Typically a 30%-50% contingency is used by Caltans when cost estimating in the Pre-PSD phase per Caltrans Cost Estimating Guidelines).

Appendix E
Safety Benefits/Costs (HSIP Analyzer)

HSIP ANALYZER

Cost Estimate, Crash Data and Benefit Cost Ratio (BCR) Calculation for Highway Safety Improvement Program (HSIP) Application

Important: Review and follow the step-by-step instructions in "Manual for HSIP Analyzer". Completing the HSIP Analyzer without referencing to the manual may result in an application with fatal flaws that will be disqualified from the ranking and selection process.

All yellow highlighted fields must be filled in. The gray fields are calculated and read-only. This is a dynamic form (later steps vary depending on the data entered in earlier steps). If any error messages in red appear, fix the errors prior to proceeding to the next steps.

1. Application ID, Project Location and Project Description (copy from the HSIP Application Form):

Application ID:

Save this file using the Application ID plus "Calc" as the file name (e.g. "07-Los Angeles-01Calc.pdf").

Project Location: (limited to 250 characters)

G12: Project Area 1 (Prunedale, US 101 to Castroville Boulevard)

Project Description: (limited to 250 characters)

Intersection improvements including Traffic Signal at Langley Canyon Road

2. Application Category (Check one):

Application Categories that require a Benefit Cost Ratio (BCR):

- ☒ Common BCR Application
- ☐ Set-aside for High Friction Surface Treatment

Application Categories that do NOT require a Benefit Cost Ratio (BCR):

- ☐ Set-aside for Guardrail Upgrades
- ☐ Set-aside for Horizontal Curve Signing
- ☐ Set-aside for Pedestrian Crossing Enhancements
- ☐ Set-aside for Tribes

Dual consideration?

☐ If an Application Category that does not require a BCR is selected above, check this box to indicate your desire that this application will be considered as a Common BCR Application as well in case it does not get selected for funding under the set-aside category. If this box is checked, a benefit cost analysis is required so the project will have a BCR.

A safety benefit cost analysis is required for this application. This tool will guide through cost estimate, safety benefit evaluation and Benefit Cost Ratio (BCR) calculation.

Section I. Construction Cost Estimate and Cost Breakdown

The purpose of this section is to:

- Provide detailed engineer's estimate (for construction items only). The costs for other phases (PE, ROW, and CE) will be included in Section II.
- Test if countermeasures (CMs) (up to 3) are eligible for being used in the project benefit calculation. For a CM to be used in the project benefit calculation, the construction cost of the CM must be at least 15% of the project's total construction cost, unless an exception is requested. And
- Determine the project's maximum Federal Reimbursement Ratio (FRR).

I.1 Select up to 3 countermeasures (CMs) to be tested in the Engineer's Estimate:

Number of CMs to be used in this project:	2

CM No. 1:	NS3: Install signals
CM No. 2:	S1: Add intersection lighting (S.I.)

I.2 Detailed Engineer's Estimate for Construction Items:

Cost breakdown by CMs. For each item, enter a cost percentage for each of the CMs and "Other Safety-Related" (OS) components. (e.g. enter 10 for 10%). The cost % for "Non-Safety-Related" (NS) components is calculated.

	No.	Item Description	Unit	Quantity	Unit Cost	Total	% for CM#1 (NS3)	% for CM#2 (S1)	% for OS*	% for NS**
+ -	1	Traffic Signal (all)	1	1	326,360	326,360	80%	20%	0%	0
		Weighted Average (%)					80%	20%		
		Total ($)				$326,360				

* % for OS: Cost % for Other Safety-Related components;
** % for NS: Cost % for Non Safety-Related components.

Contingencies, as % of the above "Total" of the construction items: (e.g. enter 10 for 10%)	10 %	$32,636
Total Construction Cost (Con Items & Contingencies): (Rounded up to the nearest hundreds)		$359,000

I.3 Summary

2 CM(s) are eligible to be used in the project benefit calculation.

Countermeasure ID	Federal Funding Eligibility (FFE)	Cost %	Eligible to be used in benefit calculation?	Request exception to the 15% rule*
NS3	100%	80.00%	Yes (>=15% cost)	☐
S1	100%	20.00%	Yes (>=15% cost)	☐

*By requesting an exception to the 15% rule, the CM with less than 15% of the construction cost will then be eligible to be used in the benefit calculation. if an exception is requested for any CM(s) above, please provide the reason (low cost treatment with significant safety benefits, etc.):

Project's Maximum Federal Reimbursement Ratio = 100.0%

The project's Maximum Federal Reimbursement Ratio is calculated as the least of the FFEs of the above countermeasures, minus the percentage of the non-safety related costs in excess of 10%. **This is the maximum value allowed to be entered in "HSIP/Total (%)" column in Section II (Project Cost Estimate).**

Section II. Project Cost Estimate

All project costs, **for all phases and by all funding sources**, must be accounted for on this form.

i. "**Total Cost**": Round all costs up to the nearest hundred dollars.

ii. "**HSIP/Total (%)**": The maximum allowed is the project's Federal Reimbursement Ratio (FRR) as determined in Section I. Click the button to assign the maximum to all, OR enter if not the maximum.

iii. "**HSIP Funds**" and "**Local/Other Funds**" are calculated.

Pay attention to the interactive warning/error messages below the table. The messages, if any, must be fixed, or exceptions should be justified in Question No. 5 in Section II of the HSIP Application Form.

Project's maximum Federal Reimbursement Ratio (FRR) (from Section I, rounded up to integer): 100 %

To set all "HSIP/Total (%)" in the below table to the above maximum FRR, click "Set": Set

Description	Total Cost	HISP/Total (%)	HSIP Funds	Local/Other Funds
Preliminary Engineering (PE) Phase				
Environmental	$35,900	100 %	$35,900	$0
PS&E	$53,900	100 %	$53,900	$0
Subtotal - PE	**$89,800**	**100 %**	**$89,800**	**$0**
Right of Way (ROW) Phase				
Right of Way Engineering	$17,900	100 %	$17,900	$0
Appraisals, Acquisitions & Utilities	$17,900	100 %	$17,900	$0
Subtotal - Right of Way (ROW)	**$35,800**	**100 %**	**$35,800**	**$0**
Construction (CON) Phase				
Construction Engineering (CE)	$53,900	100 %	$53,900	$0
Construction Items	$359,000 (Read only - from Section I)	100 %	$359,000	$0
Subtotal - Construction	**$412,900**	**100 %**	**$412,900**	**$0**
PROJECT TOTAL	$538,500	100 %	$538,500	$0

☐ Agency does NOT request **HSIP** funds for PE Phase (automatically checked if PE - HSIP funds is $0).

Interactive Warning/Error Messages:

If there are any messages in the below box, please fix OR explain justification for exceptions in Question No 5, Section II in the HSIP Application.

Section III. Project Location Groups, Countermeasures and Crash Data

The benefit of an HSIP safety project is achieved by reducing potential future crashes due to the application of the safety countermeasures (CMs). In this section, you will need to provide information regarding the project's safety CMs and historical crash data at the project sites. The data will be used to estimate the project benefit in Section IV.

1. Divide the project locations into groups.

It is quite often that an HSIP project has multiple locations. Theoretically the benefit for every single location may be calculated separately and then sum them up. However, that may be time consuming or almost impossible when there are a lot of locations. It is more efficient that the project locations with exactly the same safety countermeasures are combined into a group. The benefits of the locations in the same group can then be calculated at once.

When only one group is needed:

If your project consists of only one location or multiple locations that have similar features, address similar safety issues and utilize the same countermeasure(s). The crash data of all the locations can be combined and only one group is needed.

When multiple groups are needed:

If your project include multiple locations that have various safety issues and the proposed safety improvements (countermeasures) are not exactly the same for all the locations. The locations must be divided into different groups. The project benefits are then calculated multiple times, once for each location group. The project total benefit is the sum of the benefits from the different groups.

It should be noted that within a group, all locations should be of the same type: Signalized Intersection (S), Non-Signalized Intersection (NS), or Roadway (R).

If necessary, you may explain the location grouping for your project in details in Question No. 3 (Crash Data Evaluation), Section II in the HSIP Application Form.

2. After the number of location groups is entered, one subform will be populated for each location group. **For each location group:**

1) First, select the applicable CMs. *Note: If a Roundabout CM (S18 or NS4A or NS4B) is selected, additional information is required.*

For each group, only the CMs of the same type as the group location type can be used. For example, if a group consists of 5 signalized intersections, only "Signalized Intersection" CMs may be used for this group.

2) Based on the selected CMs, crash data tables of the required types are displayed for data entry.

Different CMs will reduce crashes of different types during the life of the safety improvements. Depending on the selected CMs for the group, you will be required to fill in one or more crash data tables, for any combination of the five crash types (datasets): "All" , "Night" , Ped & Bike", "Emergency Vehicle", and "Animal" (Each of the later four datasets is a sub-dataset of the "All" dataset.)

For more information regarding grouping project locations and examples, please refer to the Manual for HSIP Analyzer.

III.1 List of Project Locations and Location Groups

List all locations/sites included in this project by groups. The locations entered in Table III.1 below will be automatically populated in the crash data tables in III.2.

Based on the criteria described on the last page, the locations/sites need to be divided into 2 groups.

Table III.1 List of Project Locations by Groups

Highlighted fields must be filled in. For each group:
1) Must select a Location Type;
2) Initially each group has one location line. Click "+"/"-" to add a new line/delete an existing line;
3) Enter location description for each line. The same descriptions will be auto-populated in III.2.

*Note: If your project has a large number of locations, please aggregate some locations into one description, e.g. 10 stop controlled intersections, 5 horizontal curves, etc., as long as they have similar features and the safety improvements to be implemented are the same.

	No.	No. in Group	Location Description (Intersection Name or Road Limit or General Description)	
GROUP 1			Select Location Type:	NS (Non-signalized Intersections)
+ -	1	G1-1	Traffic Signal	
GROUP 2			Select Location Type:	S (Signalized Intersections)
+ -	2	G2-1	Other	

III.2: Countermeasures and Crash Data

(Repeats for each location group)

Countermeasures and Crash Data -Location Group No. 1 of 2

Hide Group Details

Step 1: Select countermeasure(s) to be applied to this location group

This group's location type: NS (Non-signalized Intersections)

Please check the CMs for this location group. All the CMs that have passed the test in Section I AND match the location type of this group are listed below.

	No.	Countermeasure (CM) Name	CM Type*	Crash Reduction Factor (CRF)	Expected Life (Years)	Crash Type	Federal Funding Eligibility
☒	1	NS3: Install signals	NS	0.25	20	All	100%
	*CM Type: S-Signalized Intersection; NS-Non-Signalized Intersection; R-Roadway.						

Step 2: Provide crash data.

2.1 Crash Data Period: must be between 3 and 5 years.

from (MM/DD/YYYY): 01/01/2012 To (MM/DD/YYYY): 12/31/2016 Crash Data Period (years) = 5

2.2 Fill out the crash data table(s) for the crash type(s) as required by the selected countermeasure(s) in Step 1.

Based on the countermeasures selected in Step 1 , the crash data types to be provided are:

(1) All

Crash Data Table for Crash Type: ALL

No.	Location (from Table III.1)	Fatal (ALL)	Severe Injury (ALL)	Other Visible Injury (ALL)	Complaint of Pain (ALL)	PDO (ALL)	Total
1	Traffic Signal	0	0	2	1	4	7
	Total	0	0	2	1	4	7

III.2: Countermeasures and Crash Data

(Repeats for each location group)

Countermeasures and Crash Data -Location Group No. 2 of 2

Hide Group Details

Step 1: Select countermeasure(s) to be applied to this location group

This group's location type: S (Signalized Intersections)

Please check the CMs for this location group. All the CMs that have passed the test in Section I AND match the location type of this group are listed below.

	No.	Countermeasure (CM) Name	CM Type*	Crash Reduction Factor (CRF)	Expected Life (Years)	Crash Type	Federal Funding Eligibility
☒	1	S1: Add intersection lighting (S.I.)	S	0.4	20	Night	100%
	*CM Type: S-Signalized Intersection; NS-Non-Signalized Intersection; R-Roadway.						

Step 2: Provide crash data.

2.1 Crash Data Period: must be between 3 and 5 years.

from (MM/DD/YYYY): 01/01/2012 To (MM/DD/YYYY): 12/31/2016 Crash Data Period (years) = 5

2.2 Fill out the crash data table(s) for the crash type(s) as required by the selected countermeasure(s) in Step 1.

Based on the countermeasures selected in Step 1 , the crash data types to be provided are:

(1) Night

Crash Data Table for Crash Type: Night-time (Night)

No.	Location (from Table III.1)	Fatal (Night)	Severe Injury (Night)	Other Visible Injury (Night)	Complaint of Pain (Night)	PDO (Night)	Total
1	Other	0	0	1	0	1	2
	Total	0	0	1	0	1	2

Section IV. Calculation and Results

Click the "Calculate" button to calculate. The script will first check if there are any errors or inconsistencies in the countermeasure selections and crash data. If errors are detected and displayed below, the errors must be fixed first before you click the "Calculate" button again. If no errors are displayed, the calculation results are provided in this section. Please refer to the Manual for HSIP Analyzer for details regarding possible errors.

Calculate

Project Summary Information:

Project Total Cost: 538600
2 countermeasures are eligible in benefit calculation. (NS3 S1)
Project location(s) are divided into 2 group(s) for calculating the benefits.

IV.1 Benefit Summary by location groups

Group No.	Group Info/Data*	Benefit from CM #1	Benefit from CM #2	Benefit from CM #3	Total Benefit of the group
1	Location type: NS (Non-signalized Intersections) Number of location(s): 1 Number of selected countermeasure(s): 1 (NS3) Crash Data Information: Crash data period (years): 5.01 Number of crashes(F/SI/OVI/I-CP/PDO)*: All: 0,0,2,1,4	$371,897	$0	$0	$371,897
2	Location type: S (Signalized Intersections) Number of location(s): 1 Number of selected countermeasure(s): 1 (S1) Crash Data Information: Crash data period (years): 5.01 Number of crashes(F/SI/OVI/I-CP/PDO)*: Night: 0,0,1,0,1	$0	$221,159	$0	$221,159
Sum		**$371,897**	**$221,159**	**$0**	**$593,056**

*Number of crashes: five crash numbers are for Fatal (F), Severe Injury (SI), Other Visible Injury (OVI), Injury - Complaint of Pain (I-CP), and Property Damage Only (PDO), respectively.

IV.2. Project Benefit and BCR Summary

No.	Countermeasure Name	Benefit	Cost	Resulting B/C
1	NS3	$371,897	$430,880	**0.9**
2	S1	$221,159	$107,720	**2.1**
3		$0	$0	**0**
	Entire Project	**$593,056**	**$538,600**	**1.1**

Data to be transferred to the HSIP Application Form

This section is generated automatically once the data entry and calculation have been completed. Transfer the data on this page to Section III of the HSIP Application Form.

Safety Countermeasure Information

Number of countermeasures: 2
- NS3: Install signals
- S1: Add intersection lighting (S.I.)

Cost, FRR, Benefit and BCR:

Total Project Cost:	$538,500
HSIP Funds Requested:	$538,500
Max. Federal Reimbursement Ratio (FRR):	100%
Total Expected Benefit:	$593,056
Benefit Cost Ratio:	1.10

HSIP ANALYZER

Cost Estimate, Crash Data and Benefit Cost Ratio (BCR) Calculation for Highway Safety Improvement Program (HSIP) Application

Important: Review and follow the step-by-step instructions in "Manual for HSIP Analyzer". Completing the HSIP Analyzer without referencing to the manual may result in an application with fatal flaws that will be disqualified from the ranking and selection process.

All yellow highlighted fields must be filled in. The gray fields are calculated and read-only. This is a dynamic form (later steps vary depending on the data entered in earlier steps). If any error messages in red appear, fix the errors prior to proceeding to the next steps.

1. Application ID, Project Location and Project Description (copy from the HSIP Application Form):

Application ID:

Save this file using the Application ID plus "Calc" as the file name (e.g. "07-Los Angeles-01Calc.pdf").

Project Location: (limited to 250 characters)

G12: Project Area 1 (Prunedale, US 101 to Castroville Boulevard)

Project Description: (limited to 250 characters)

Intersection improvements including Roundabout at Castroville Blvd

2. Application Category (Check one):

Application Categories that require a Benefit Cost Ratio (BCR):

- ☒ Common BCR Application
- ☐ Set-aside for High Friction Surface Treatment

Application Categories that do NOT require a Benefit Cost Ratio (BCR):

- ☐ Set-aside for Guardrail Upgrades
- ☐ Set-aside for Horizontal Curve Signing
- ☐ Set-aside for Pedestrian Crossing Enhancements
- ☐ Set-aside for Tribes

Dual consideration?

☐ If an Application Category that does not require a BCR is selected above, check this box to indicate your desire that this application will be considered as a Common BCR Application as well in case it does not get selected for funding under the set-aside category. If this box is checked, a benefit cost analysis is required so the project will have a BCR.

A safety benefit cost analysis is required for this application. This tool will guide through cost estimate, safety benefit evaluation and Benefit Cost Ratio (BCR) calculation.

Section I. Construction Cost Estimate and Cost Breakdown

The purpose of this section is to:

- Provide detailed engineer's estimate (for construction items only). The costs for other phases (PE, ROW, and CE) will be included in Section II.
- Test if countermeasures (CMs) (up to 3) are eligible for being used in the project benefit calculation. For a CM to be used in the project benefit calculation, the construction cost of the CM must be at least 15% of the project's total construction cost, unless an exception is requested. And
- Determine the project's maximum Federal Reimbursement Ratio (FRR).

I.1 Select up to 3 countermeasures (CMs) to be tested in the Engineer's Estimate:

Number of CMs to be used in this project:	2

CM No. 1:	NS4B: Convert intersection to roundabout (from stop or yield control on minor road)
CM No. 2:	NS1: Add intersection lighting (NS.I.)

I.2 Detailed Engineer's Estimate for Construction Items:

Cost breakdown by CMs. For each item, enter a cost percentage for each of the CMs and "Other Safety-Related" (OS) components. (e.g. enter 10 for 10%). The cost % for "Non-Safety-Related" (NS) components is calculated.

	No.	Item Description	Unit	Quantity	Unit Cost	Total	% for CM#1 (NS4B)	% for CM#2 (NS1)	% for OS*	% for NS**
+ -	1	Roundabout	1	1	1,123,070	1,123,070	95%	5%	0%	0
		Weighted Average (%)					95%	5%		
		Total ($)				$1,123,070				

* % for OS: Cost % for Other Safety-Related components;
** % for NS: Cost % for Non Safety-Related components.

Contingencies, as % of the above "Total" of the construction items: 30 % $336,921
(e.g. enter 10 for 10%)

Total Construction Cost (Con Items & Contingencies): $1,460,000
(Rounded up to the nearest hundreds)

I.3 Summary

2 CM(s) are eligible to be used in the project benefit calculation.

Countermeasure ID	Federal Funding Eligibility (FFE)	Cost %	Eligible to be used in benefit calculation?	Request exception to the 15% rule*
NS4B	100%	95.00%	Yes (>=15% cost)	☐
NS1	100%	5.00%	Yes (<15% cost) (Exception being requested)	☒

*By requesting an exception to the 15% rule, the CM with less than 15% of the construction cost will then be eligible to be used in the benefit calculation. if an exception is requested for any CM(s) above, please provide the reason (low cost treatment with significant safety benefits, etc.):

Low cost treatment for significant safety benefits: The intersection currently does not have any lighting. There have been 18 of 63 collisions which occurred during dark lighting conditions.

Project's Maximum Federal Reimbursement Ratio = 100.0%

The project's Maximum Federal Reimbursement Ratio is calculated as the least of the FFEs of the above countermeasures, minus the percentage of the non-safety related costs in excess of 10%. **This is the maximum value allowed to be entered in "HSIP/Total (%)" column in Section II (Project Cost Estimate).**

Section II. Project Cost Estimate

All project costs, **for all phases and by all funding sources**, must be accounted for on this form.

i. "**Total Cost**": Round all costs up to the nearest hundred dollars.

ii. "**HSIP/Total (%)**": The maximum allowed is the project's Federal Reimbursement Ratio (FRR) as determined in Section I. Click the button to assign the maximum to all, OR enter if not the maximum.

iii. "**HSIP Funds**" and "**Local/Other Funds**" are calculated.

Pay attention to the interactive warning/error messages below the table. The messages, if any, must be fixed, or exceptions should be justified in Question No. 5 in Section II of the HSIP Application Form.

Project's maximum Federal Reimbursement Ratio (FRR) (from Section I, rounded up to integer): 100 %

To set all "HSIP/Total (%)" in the below table to the above maximum FRR, click "Set": Set

Description	Total Cost	HISP/Total (%)	HSIP Funds	Local/Other Funds
Preliminary Engineering (PE) Phase				
Environmental	$146,000	100 %	$146,000	$0
PS&E	$219,000	100 %	$219,000	$0
Subtotal - PE	**$365,000**	**100 %**	**$365,000**	**$0**
Right of Way (ROW) Phase				
Right of Way Engineering	$73,000	100 %	$73,000	$0
Appraisals, Acquisitions & Utilities	$73,000	100 %	$73,000	$0
Subtotal - Right of Way (ROW)	**$146,000**	**100 %**	**$146,000**	**$0**
Construction (CON) Phase				
Construction Engineering (CE)	$219,000	100 %	$219,000	$0
Construction Items	$1,460,000 (Read only - from Section I)	100 %	$1,460,000	$0
Subtotal - Construction	**$1,679,000**	**100 %**	**$1,679,000**	**$0**
PROJECT TOTAL	$2,190,000	100 %	$2,190,000	$0

☐ Agency does NOT request **HSIP** funds for PE Phase (automatically checked if PE - HSIP funds is $0).

Interactive Warning/Error Messages:

If there are any messages in the below box, please fix OR explain justification for exceptions in Question No 5, Section II in the HSIP Application.

Section III. Project Location Groups, Countermeasures and Crash Data

The benefit of an HSIP safety project is achieved by reducing potential future crashes due to the application of the safety countermeasures (CMs). In this section, you will need to provide information regarding the project's safety CMs and historical crash data at the project sites. The data will be used to estimate the project benefit in Section IV.

1. Divide the project locations into groups.

It is quite often that an HSIP project has multiple locations. Theoretically the benefit for every single location may be calculated separately and then sum them up. However, that may be time consuming or almost impossible when there are a lot of locations. It is more efficient that the project locations with exactly the same safety countermeasures are combined into a group. The benefits of the locations in the same group can then be calculated at once.

When only one group is needed:

If your project consists of only one location or multiple locations that have similar features, address similar safety issues and utilize the same countermeasure(s). The crash data of all the locations can be combined and only one group is needed.

When multiple groups are needed:

If your project include multiple locations that have various safety issues and the proposed safety improvements (countermeasures) are not exactly the same for all the locations. The locations must be divided into different groups. The project benefits are then calculated multiple times, once for each location group. The project total benefit is the sum of the benefits from the different groups.

It should be noted that within a group, all locations should be of the same type: Signalized Intersection (S), Non-Signalized Intersection (NS), or Roadway (R).

If necessary, you may explain the location grouping for your project in details in Question No. 3 (Crash Data Evaluation), Section II in the HSIP Application Form.

2. After the number of location groups is entered, one subform will be populated for each location group. **For each location group:**

1) First, select the applicable CMs. *Note: If a Roundabout CM (S18 or NS4A or NS4B) is selected, additional information is required.*

For each group, only the CMs of the same type as the group location type can be used. For example, if a group consists of 5 signalized intersections, only "Signalized Intersection" CMs may be used for this group.

2) Based on the selected CMs, crash data tables of the required types are displayed for data entry.

Different CMs will reduce crashes of different types during the life of the safety improvements. Depending on the selected CMs for the group, you will be required to fill in one or more crash data tables, for any combination of the five crash types (datasets): "All" , "Night" , Ped & Bike", "Emergency Vehicle", and "Animal" (Each of the later four datasets is a sub-dataset of the "All" dataset.)

For more information regarding grouping project locations and examples, please refer to the Manual for HSIP Analyzer.

III.1 List of Project Locations and Location Groups

List all locations/sites included in this project by groups. The locations entered in Table III.1 below will be automatically populated in the crash data tables in III.2.

Based on the criteria described on the last page, the locations/sites need to be divided into 2 groups.

Table III.1 List of Project Locations by Groups

Highlighted fields must be filled in. For each group:
1) Must select a Location Type;
2) Initially each group has one location line. Click "+"/"-" to add a new line/delete an existing line;
3) Enter location description for each line. The same descriptions will be auto-populated in III.2.

*Note: If your project has a large number of locations, please aggregate some locations into one description, e.g. 10 stop controlled intersections, 5 horizontal curves, etc., as long as they have similar features and the safety improvements to be implemented are the same.

	No.	No. in Group	Location Description (Intersection Name or Road Limit or General Description)	
GROUP 1			Select Location Type:	NS (Non-signalized Intersections)
+ -	1	G1-1	Roundabout	
GROUP 2			Select Location Type:	NS (Non-signalized Intersections)
+ -	2	G2-1	Lighting	

III.2: Countermeasures and Crash Data

(Repeats for each location group)

Countermeasures and Crash Data -Location Group No. 1 of 2

Hide Group Details

Step 1: Select countermeasure(s) to be applied to this location group

This group's location type: NS (Non-signalized Intersections)

Please check the CMs for this location group. All the CMs that have passed the test in Section I AND match the location type of this group are listed below.

	No.	Countermeasure (CM) Name	CM Type*	Crash Reduction Factor (CRF)	Expected Life (Years)	Crash Type	Federal Funding Eligibility
☒	1	NS4B: Convert intersection to roundabout (from stop or yield control on minor road)	NS	0.5	20	All	100%
☐	2	NS1: Add intersection lighting (NS.I.)	NS	0.4	20	Night	100%
	*CM Type: S-Signalized Intersection; NS-Non-Signalized Intersection; R-Roadway.						

Additional information is required:

Since Roundabout is selected, the below additional information is required for calculating Roundabout benefit.

Roundabout Location	Please select:	Rural				
Intersection Type	Please select:	T Intersection				
Roundabout Lanes	Please select:	1 Lane				
ADT	Major Road:	26,300	Minor Road:	8,000	**Total**	**34,300**

Step 2: Provide crash data.

2.1 Crash Data Period: must be between 3 and 5 years.

from (MM/DD/YYYY): 01/01/2012 To (MM/DD/YYYY): 12/31/2016 Crash Data Period (years) = 5

2.2 Fill out the crash data table(s) for the crash type(s) as required by the selected countermeasure(s) in Step 1.

Based on the countermeasures selected in Step 1 , the crash data types to be provided are:

(1) All

Crash Data Table for Crash Type: ALL

No.	Location (from Table III.1)	Fatal (ALL)	Severe Injury (ALL)	Other Visible Injury (ALL)	Complaint of Pain (ALL)	PDO (ALL)	Total
1	Roundabout	0	2	7	18	36	63
	Total	0	2	7	18	36	63

III.2: Countermeasures and Crash Data

(Repeats for each location group)

Countermeasures and Crash Data -Location Group No. 2 of 2

Hide Group Details

Step 1: Select countermeasure(s) to be applied to this location group

This group's location type: NS (Non-signalized Intersections)

Please check the CMs for this location group. All the CMs that have passed the test in Section I AND match the location type of this group are listed below.

	No.	Countermeasure (CM) Name	CM Type*	Crash Reduction Factor (CRF)	Expected Life (Years)	Crash Type	Federal Funding Eligibility
☐	1	NS4B: Convert intersection to roundabout (from stop or yield control on minor road)	NS	0.5	20	All	100%
☒	2	NS1: Add intersection lighting (NS.I.)	NS	0.4	20	Night	100%
	*CM Type: S-Signalized Intersection; NS-Non-Signalized Intersection; R-Roadway.						

Step 2: Provide crash data.

2.1 Crash Data Period: must be between 3 and 5 years.

from (MM/DD/YYYY): 01/01/2012 To (MM/DD/YYYY): 12/31/2016 Crash Data Period (years) = 5

2.2 Fill out the crash data table(s) for the crash type(s) as required by the selected countermeasure(s) in Step 1.

Based on the countermeasures selected in Step 1 , the crash data types to be provided are:

(1) Night

Crash Data Table for Crash Type: Night-time (Night)

No.	Location (from Table III.1)	Fatal (Night)	Severe Injury (Night)	Other Visible Injury (Night)	Complaint of Pain (Night)	PDO (Night)	Total
1	Lighting	0	0	4	6	8	18
	Total	0	0	4	6	8	18

Section IV. Calculation and Results

Click the "Calculate" button to calculate. The script will first check if there are any errors or inconsistencies in the countermeasure selections and crash data. If errors are detected and displayed below, the errors must be fixed first before you click the "Calculate" button again. If no errors are displayed, the calculation results are provided in this section. Please refer to the Manual for HSIP Analyzer for details regarding possible errors.

Calculate

Project Summary Information:

Project Total Cost: 2190000
2 countermeasures are eligible in benefit calculation. (NS4B NS1)
Project location(s) are divided into 2 group(s) for calculating the benefits.

IV.1 Benefit Summary by location groups

Group No.	Group Info/Data*	Benefit from CM #1	Benefit from CM #2	Benefit from CM #3	Total Benefit of the group
1	Location type: NS (Non-signalized Intersections) Number of location(s): 1 Number of selected countermeasure(s): 1 (NS4B) Crash Data Information: Crash data period (years): 5.01 Number of crashes(F/SI/OVI/I-CP/PDO)*: All: 0,2,7,18,36	$75,147,862	$0	$0	$75,147,862
2	Location type: NS (Non-signalized Intersections) Number of location(s): 1 Number of selected countermeasure(s): 1 (NS1) Crash Data Information: Crash data period (years): 5.01 Number of crashes(F/SI/OVI/I-CP/PDO)*: Night: 0,0,4,6,8	$0	$1,649,976	$0	$1,649,976
Sum		**$75,147,862**	**$1,649,976**	**$0**	**$76,797,838**

*Number of crashes: five crash numbers are for Fatal (F), Severe Injury (SI), Other Visible Injury (OVI), Injury - Complaint of Pain (I-CP), and Property Damage Only (PDO), respectively.

IV.2. Project Benefit and BCR Summary

No.	Countermeasure Name	Benefit	Cost	Resulting B/C
1	NS4B	75,147,862	$2,080,500	**36.1**
2	NS1	$1,649,976	$109,500	**15.1**
3		$0	$0	**0**
	Entire Project	**76,797,838**	**$2,190,000**	**35.1**

Data to be transferred to the HSIP Application Form

This section is generated automatically once the data entry and calculation have been completed. Transfer the data on this page to Section III of the HSIP Application Form.

Safety Countermeasure Information

Number of countermeasures: 2

NS4B: Convert intersection to roundabout (from stop or yield control on minor road)

NS1: Add intersection lighting (NS.I.)

Cost, FRR, Benefit and BCR:

Total Project Cost:	$2,190,000
HSIP Funds Requested:	$2,190,000
Max. Federal Reimbursement Ratio (FRR):	100%
Total Expected Benefit:	76,797,838
Benefit Cost Ratio:	35.07

HSIP ANALYZER

Cost Estimate, Crash Data and Benefit Cost Ratio (BCR) Calculation for Highway Safety Improvement Program (HSIP) Application

Important: Review and follow the step-by-step instructions in "Manual for HSIP Analyzer". Completing the HSIP Analyzer without referencing to the manual may result in an application with fatal flaws that will be disqualified from the ranking and selection process.

All yellow highlighted fields must be filled in. The gray fields are calculated and read-only. This is a dynamic form (later steps vary depending on the data entered in earlier steps). If any error messages in red appear, fix the errors prior to proceeding to the next steps.

1. Application ID, Project Location and Project Description (copy from the HSIP Application Form):

Application ID:

Save this file using the Application ID plus "Calc" as the file name (e.g. "07-Los Angeles-01Calc.pdf").

Project Location: (limited to 250 characters)

G12: Project Area 1 (Prunedale, US 101 to Castroville Boulevard)

Project Description: (limited to 250 characters)

Roadway improvements, including widening/add lane, add bike lane, and add sidewalk

2. Application Category (Check one):

Application Categories that require a Benefit Cost Ratio (BCR):

- ☒ Common BCR Application
- ☐ Set-aside for High Friction Surface Treatment

Application Categories that do NOT require a Benefit Cost Ratio (BCR):

- ☐ Set-aside for Guardrail Upgrades
- ☐ Set-aside for Horizontal Curve Signing
- ☐ Set-aside for Pedestrian Crossing Enhancements
- ☐ Set-aside for Tribes

Dual consideration?

☐ If an Application Category that does not require a BCR is selected above, check this box to indicate your desire that this application will be considered as a Common BCR Application as well in case it does not get selected for funding under the set-aside category. If this box is checked, a benefit cost analysis is required so the project will have a BCR.

A safety benefit cost analysis is required for this application. This tool will guide through cost estimate, safety benefit evaluation and Benefit Cost Ratio (BCR) calculation.

Section I. Construction Cost Estimate and Cost Breakdown

The purpose of this section is to:

- Provide detailed engineer's estimate (for construction items only). The costs for other phases (PE, ROW, and CE) will be included in Section II.
- Test if countermeasures (CMs) (up to 3) are eligible for being used in the project benefit calculation. For a CM to be used in the project benefit calculation, the construction cost of the CM must be at least 15% of the project's total construction cost, unless an exception is requested. And
- Determine the project's maximum Federal Reimbursement Ratio (FRR).

I.1 Select up to 3 countermeasures (CMs) to be tested in the Engineer's Estimate:

Number of CMs to be used in this project:	3

CM No. 1:	R11: Install acceleration/ deceleration lanes
CM No. 2:	R37: Install sidewalk/pathway (to avoid walking along roadway)
CM No. 3:	R36: Install bike lanes

I.2 Detailed Engineer's Estimate for Construction Items:

Cost breakdown by CMs. For each item, enter a cost percentage for each of the CMs and "Other Safety-Related" (OS) components. (e.g. enter 10 for 10%). The cost % for "Non-Safety-Related" (NS) components is calculated.

	No.	Item Description	Unit	Quantity	Unit Cost	Total	% for CM#1 (R11)	% for CM#2 (R37)	% for CM#3 (R36)	% for OS*	% for NS**
+ -	1	Roadway Improvements	1	1	916,153.85	916,154	60%	20%	20%	0%	0
		Weighted Average (%) Total ($)				$916,154	60%	20%	20%		

* % for OS: Cost % for Other Safety-Related components;
** % for NS: Cost % for Non Safety-Related components.

Contingencies, as % of the above "Total" of the construction items: (e.g. enter 10 for 10%)	30 %	$274,846
Total Construction Cost (Con Items & Contingencies): (Rounded up to the nearest hundreds)		$1,191,100

I.3 Summary

3 CM(s) are eligible to be used in the project benefit calculation.

Countermeasure ID	Federal Funding Eligibility (FFE)	Cost %	Eligible to be used in benefit calculation?	Request exception to the 15% rule*
R11	90%	60.00%	Yes (>=15% cost)	☐
R37	90%	20.00%	Yes (>=15% cost)	☐
R36	90%	20.00%	Yes (>=15% cost)	☐

*By requesting an exception to the 15% rule, the CM with less than 15% of the construction cost will then be eligible to be used in the benefit calculation. if an exception is requested for any CM(s) above, please provide the reason (low cost treatment with significant safety benefits, etc.):

Project's Maximum Federal Reimbursement Ratio = 90.0%

The project's Maximum Federal Reimbursement Ratio is calculated as the least of the FFEs of the above countermeasures, minus the percentage of the non-safety related costs in excess of 10%. **This is the maximum value allowed to be entered in "HSIP/Total (%)" column in Section II (Project Cost Estimate).**

Section II. Project Cost Estimate

All project costs, **for all phases and by all funding sources**, must be accounted for on this form.

i. "**Total Cost**": Round all costs up to the nearest hundred dollars.

ii. "**HSIP/Total (%)**": The maximum allowed is the project's Federal Reimbursement Ratio (FRR) as determined in Section I. Click the button to assign the maximum to all, OR enter if not the maximum.

iii. "**HSIP Funds**" and "**Local/Other Funds**" are calculated.

Pay attention to the interactive warning/error messages below the table. The messages, if any, must be fixed, or exceptions should be justified in Question No. 5 in Section II of the HSIP Application Form.

Project's maximum Federal Reimbursement Ratio (FRR) (from Section I, rounded up to integer): 90 %

To set all "HSIP/Total (%)" in the below table to the above maximum FRR, click "Set": Set

Description	Total Cost	HISP/Total (%)	HSIP Funds	Local/Other Funds
Preliminary Engineering (PE) Phase				
Environmental	$119,100	90 %	$107,190	$11,910
PS&E	$178,700	90 %	$160,830	$17,870
Subtotal - PE	**$297,800**	**90 %**	**$268,020**	**$29,780**
Right of Way (ROW) Phase				
Right of Way Engineering	$1,000	90 %	$900	$100
Appraisals, Acquisitions & Utilities	$118,100	90 %	$106,290	$11,810
Subtotal - Right of Way (ROW)	**$119,100**	**90 %**	**$107,190**	**$11,910**
Construction (CON) Phase				
Construction Engineering (CE)	$178,700	90 %	$160,830	$17,870
Construction Items	$1,191,100 (Read only - from Section I)	90 %	$1,071,990	$119,110
Subtotal - Construction	**$1,369,800**	**90 %**	**$1,232,820**	**$136,980**
PROJECT TOTAL	$1,786,700	90 %	$1,608,030	$178,670

☐ Agency does NOT request **HSIP** funds for PE Phase (automatically checked if PE - HSIP funds is $0).

Interactive Warning/Error Messages:
If there are any messages in the below box, please fix OR explain justification for exceptions in Question No 5, Section II in the HSIP Application.

Section III. Project Location Groups, Countermeasures and Crash Data

The benefit of an HSIP safety project is achieved by reducing potential future crashes due to the application of the safety countermeasures (CMs). In this section, you will need to provide information regarding the project's safety CMs and historical crash data at the project sites. The data will be used to estimate the project benefit in Section IV.

1. Divide the project locations into groups.

It is quite often that an HSIP project has multiple locations. Theoretically the benefit for every single location may be calculated separately and then sum them up. However, that may be time consuming or almost impossible when there are a lot of locations. It is more efficient that the project locations with exactly the same safety countermeasures are combined into a group. The benefits of the locations in the same group can then be calculated at once.

When only one group is needed:

If your project consists of only one location or multiple locations that have similar features, address similar safety issues and utilize the same countermeasure(s). The crash data of all the locations can be combined and only one group is needed.

When multiple groups are needed:

If your project include multiple locations that have various safety issues and the proposed safety improvements (countermeasures) are not exactly the same for all the locations. The locations must be divided into different groups. The project benefits are then calculated multiple times, once for each location group. The project total benefit is the sum of the benefits from the different groups.

It should be noted that within a group, all locations should be of the same type: Signalized Intersection (S), Non-Signalized Intersection (NS), or Roadway (R).

If necessary, you may explain the location grouping for your project in details in Question No. 3 (Crash Data Evaluation), Section II in the HSIP Application Form.

2. After the number of location groups is entered, one subform will be populated for each location group. **For each location group:**

1) First, select the applicable CMs. *Note: If a Roundabout CM (S18 or NS4A or NS4B) is selected, additional information is required.*

For each group, only the CMs of the same type as the group location type can be used. For example, if a group consists of 5 signalized intersections, only "Signalized Intersection" CMs may be used for this group.

2) Based on the selected CMs, crash data tables of the required types are displayed for data entry.

Different CMs will reduce crashes of different types during the life of the safety improvements. Depending on the selected CMs for the group, you will be required to fill in one or more crash data tables, for any combination of the five crash types (datasets): "All" , "Night" , Ped & Bike", "Emergency Vehicle", and "Animal" (Each of the later four datasets is a sub-dataset of the "All" dataset.)

For more information regarding grouping project locations and examples, please refer to the Manual for HSIP Analyzer.

III.1 List of Project Locations and Location Groups

List all locations/sites included in this project by groups. The locations entered in Table III.1 below will be automatically populated in the crash data tables in III.2.

Based on the criteria described on the last page, the locations/sites need to be divided into 1 groups.

Table III.1 List of Project Locations by Groups

Highlighted fields must be filled in. For each group:
1) Must select a Location Type;
2) Initially each group has one location line. Click "+"/"-" to add a new line/delete an existing line;
3) Enter location description for each line. The same descriptions will be auto-populated in III.2.

*Note: If your project has a large number of locations, please aggregate some locations into one description, e.g. 10 stop controlled intersections, 5 horizontal curves, etc., as long as they have similar features and the safety improvements to be implemented are the same.

	No.	No. in Group	Location Description (Intersection Name or Road Limit or General Description)	
GROUP 1			Select Location Type:	R (Roadways)
+ -	1	G1-1	Road Segment Improvements (PA-1)	

III.2: Countermeasures and Crash Data

(Repeats for each location group)

Countermeasures and Crash Data -Location Group No. 1 of 1

Hide Group Details

Step 1: Select countermeasure(s) to be applied to this location group

This group's location type: R (Roadways)

Please check the CMs for this location group. All the CMs that have passed the test in Section I AND match the location type of this group are listed below.

	No.	Countermeasure (CM) Name	CM Type*	Crash Reduction Factor (CRF)	Expected Life (Years)	Crash Type	Federal Funding Eligibility
☒	1	R11: Install acceleration/ deceleration lanes	R	0.25	20	All	90%
☒	2	R37: Install sidewalk/pathway (to avoid walking along roadway)	R	0.8	20	Ped & Bike	90%
☒	3	R36: Install bike lanes	R	0.35	20	Ped & Bike	90%
	*CM Type: S-Signalized Intersection; NS-Non-Signalized Intersection; R-Roadway.						

Step 2: Provide crash data.

2.1 Crash Data Period: must be between 3 and 5 years.

from (MM/DD/YYYY): 01/01/2012 To (MM/DD/YYYY): 12/31/2016 Crash Data Period (years) = 5

2.2 Fill out the crash data table(s) for the crash type(s) as required by the selected countermeasure(s) in Step 1.

Based on the countermeasures selected in Step 1 , the crash data types to be provided are:

(1) All (2) Ped & Bike

Crash Data Table for Crash Type: ALL

No.	Location (from Table III.1)	Fatal (ALL)	Severe Injury (ALL)	Other Visible Injury (ALL)	Complaint of Pain (ALL)	PDO (ALL)	Total
1	Road Segment Improvements (PA-1)	0	1	9	39	88	137
	Total	0	1	9	39	88	137

Crash Data Table for Crash Type: Pedestrians and Bicyclists Involved (P&B)

No.	Location (from Table III.1)	Fatal (P&B)	Severe Injury (P&B)	Other Visible Injury (P&B)	Complaint of Pain (P&B)	PDO (P&B)	Total
1	Road Segment Improvements (PA-1)	0	0	1	0	0	1
	Total	0	0	1	0	0	1

Section IV. Calculation and Results

Click the "Calculate" button to calculate. The script will first check if there are any errors or inconsistencies in the countermeasure selections and crash data. If errors are detected and displayed below, the errors must be fixed first before you click the "Calculate" button again. If no errors are displayed, the calculation results are provided in this section. Please refer to the Manual for HSIP Analyzer for details regarding possible errors.

Calculate

Project Summary Information:

Project Total Cost: 1786700
3 countermeasures are eligible in benefit calculation. (R11 R37 R36)
Project location(s) are divided into 1 group(s) for calculating the benefits.

IV.1 Benefit Summary by location groups

Group No.	Group Info/Data*	Benefit from CM #1	Benefit from CM #2	Benefit from CM #3	Total Benefit of the group
1	Location type: R (Roadways) Number of location(s): 1 Number of selected countermeasure(s): 3 (R11 R37 R36) Crash Data Information: Crash data period (years): 5.01 Number of crashes(F/SI/OVI/I-CP/PDO)*: All: 0,1,9,39,88 Ped & Bike: 0,0,1,0,0	$6,977,177	$229,555	$100,430	$7,307,162
Sum		**$6,977,177**	**$229,555**	**$100,430**	**$7,307,162**

*Number of crashes: five crash numbers are for Fatal (F), Severe Injury (SI), Other Visible Injury (OVI), Injury - Complaint of Pain (I-CP), and Property Damage Only (PDO), respectively.

IV.2. Project Benefit and BCR Summary

No.	Countermeasure Name	Benefit	Cost	Resulting B/C
1	R11	$6,977,177	$1,072,020	**6.5**
2	R37	$229,555	$357,340	**0.6**
3	R36	$100,430	$357,340	**0.3**
	Entire Project	**$7,307,162**	**$1,786,700**	**4.1**

Data to be transferred to the HSIP Application Form

This section is generated automatically once the data entry and calculation have been completed. Transfer the data on this page to Section III of the HSIP Application Form.

Safety Countermeasure Information

Number of countermeasures: 3
- R11: Install acceleration/ deceleration lanes
- R37: Install sidewalk/pathway (to avoid walking along roadway)
- R36: Install bike lanes

Cost, FRR, Benefit and BCR:

Total Project Cost:	$1,786,700
HSIP Funds Requested:	$1,608,030
Max. Federal Reimbursement Ratio (FRR):	90%
Total Expected Benefit:	$7,307,162
Benefit Cost Ratio:	4.09

HSIP ANALYZER

Cost Estimate, Crash Data and Benefit Cost Ratio (BCR) Calculation for Highway Safety Improvement Program (HSIP) Application

Important: Review and follow the step-by-step instructions in "Manual for HSIP Analyzer". Completing the HSIP Analyzer without referencing to the manual may result in an application with fatal flaws that will be disqualified from the ranking and selection process.

All yellow highlighted fields must be filled in. The gray fields are calculated and read-only. This is a dynamic form (later steps vary depending on the data entered in earlier steps). If any error messages in red appear, fix the errors prior to proceeding to the next steps.

1. Application ID, Project Location and Project Description (copy from the HSIP Application Form):

Application ID:

Save this file using the Application ID plus "Calc" as the file name (e.g. "07-Los Angeles-01Calc.pdf").

Project Location: (limited to 250 characters)

G12: Project Area 2 Intersection Improvements

Project Description: (limited to 250 characters)

Intersection improvements including Roundabouts at Echo Valley Rd and Strawberry Road, and lighting

2. Application Category (Check one):

Application Categories that require a Benefit Cost Ratio (BCR):

- ☒ Common BCR Application
- ☐ Set-aside for High Friction Surface Treatment

Application Categories that do NOT require a Benefit Cost Ratio (BCR):

- ☐ Set-aside for Guardrail Upgrades
- ☐ Set-aside for Horizontal Curve Signing
- ☐ Set-aside for Pedestrian Crossing Enhancements
- ☐ Set-aside for Tribes

Dual consideration?

☐ If an Application Category that does not require a BCR is selected above, check this box to indicate your desire that this application will be considered as a Common BCR Application as well in case it does not get selected for funding under the set-aside category. If this box is checked, a benefit cost analysis is required so the project will have a BCR.

A safety benefit cost analysis is required for this application. This tool will guide through cost estimate, safety benefit evaluation and Benefit Cost Ratio (BCR) calculation.

Section I. Construction Cost Estimate and Cost Breakdown

The purpose of this section is to:

- Provide detailed engineer's estimate (for construction items only). The costs for other phases (PE, ROW, and CE) will be included in Section II.
- Test if countermeasures (CMs) (up to 3) are eligible for being used in the project benefit calculation. For a CM to be used in the project benefit calculation, the construction cost of the CM must be at least 15% of the project's total construction cost, unless an exception is requested. And
- Determine the project's maximum Federal Reimbursement Ratio (FRR).

I.1 Select up to 3 countermeasures (CMs) to be tested in the Engineer's Estimate:

Number of CMs to be used in this project: 3

CM No. 1:	NS4B: Convert intersection to roundabout (from stop or yield control on minor road)
CM No. 2:	NS17: Install pedestrian crossing at uncontrolled locations (new signs and markings only)
CM No. 3:	NS1: Add intersection lighting (NS.I.)

I.2 Detailed Engineer's Estimate for Construction Items:

Cost breakdown by CMs. For each item, enter a cost percentage for each of the CMs and "Other Safety-Related" (OS) components. (e.g. enter 10 for 10%). The cost % for "Non-Safety-Related" (NS) components is calculated.

	No.	Item Description	Unit	Quantity	Unit Cost	Total	% for CM#1 (NS4B)	% for CM#2 (NS17)	% for CM#3 (NS1)	% for OS*	% for NS**
+ -	1	Roundabout - Echo Valley	EA	1	2,593,460	2,593,460	97%	1%	2%	0%	0
+ -	2	Roundabout - Strawberry	EA	1	1,279,610	1,279,610	97%	1%	2%	0%	0
		Weighted Average (%) Total ($)				$3,873,070	97%	1%	2%		

* % for OS: Cost % for Other Safety-Related components;
** % for NS: Cost % for Non Safety-Related components.

Contingencies, as % of the above "Total" of the construction items: 30 % $1,161,921
(e.g. enter 10 for 10%)

Total Construction Cost (Con Items & Contingencies): $5,035,000
(Rounded up to the nearest hundreds)

I.3 Summary

1 CM(s) are eligible to be used in the project benefit calculation.

Countermeasure ID	Federal Funding Eligibility (FFE)	Cost %	Eligible to be used in benefit calculation?	Request exception to the 15% rule*
NS4B	100%	97.00%	Yes (>=15% cost)	☐
NS17	100%	1.00%	No (<15% cost)	☐
NS1	100%	2.00%	No (<15% cost)	☐

*By requesting an exception to the 15% rule, the CM with less than 15% of the construction cost will then be eligible to be used in the benefit calculation. if an exception is requested for any CM(s) above, please provide the reason (low cost treatment with significant safety benefits, etc.):

Project's Maximum Federal Reimbursement Ratio = 100.0%

The project's Maximum Federal Reimbursement Ratio is calculated as the least of the FFEs of the above countermeasures, minus the percentage of the non-safety related costs in excess of 10%. **This is the maximum value allowed to be entered in "HSIP/Total (%)" column in Section II (Project Cost Estimate).**

Section II. Project Cost Estimate

All project costs, **for all phases and by all funding sources**, must be accounted for on this form.

i. "**Total Cost**": Round all costs up to the nearest hundred dollars.

ii. "**HSIP/Total (%)**": The maximum allowed is the project's Federal Reimbursement Ratio (FRR) as determined in Section I. Click the button to assign the maximum to all, OR enter if not the maximum.

iii. "**HSIP Funds**" and "**Local/Other Funds**" are calculated.

Pay attention to the interactive warning/error messages below the table. The messages, if any, must be fixed, or exceptions should be justified in Question No. 5 in Section II of the HSIP Application Form.

Project's maximum Federal Reimbursement Ratio (FRR) (from Section I, rounded up to integer): 100 %

To set all "HSIP/Total (%)" in the below table to the above maximum FRR, click "Set": Set

Description	Total Cost	HISP/Total (%)	HSIP Funds	Local/Other Funds
Preliminary Engineering (PE) Phase				
Environmental	$503,500	100 %	$503,500	$0
PS&E	$755,300	100 %	$755,300	$0
Subtotal - PE	**$1,258,800**	**100 %**	**$1,258,800**	**$0**
Right of Way (ROW) Phase				
Right of Way Engineering	$28,400	100 %	$28,400	$0
Appraisals, Acquisitions & Utilities	$475,000	100 %	$475,000	$0
Subtotal - Right of Way (ROW)	**$503,400**	**100 %**	**$503,400**	**$0**
Construction (CON) Phase				
Construction Engineering (CE)	$755,300	100 %	$755,300	$0
Construction Items	$5,035,000 (Read only - from Section I)	100 %	$5,035,000	$0
Subtotal - Construction	**$5,790,300**	**100 %**	**$5,790,300**	**$0**
PROJECT TOTAL	$7,552,500	100 %	$7,552,500	$0

☐ Agency does NOT request **HSIP** funds for PE Phase (automatically checked if PE - HSIP funds is $0).

Interactive Warning/Error Messages:

If there are any messages in the below box, please fix OR explain justification for exceptions in Question No 5, Section II in the HSIP Application.

Section III. Project Location Groups, Countermeasures and Crash Data

The benefit of an HSIP safety project is achieved by reducing potential future crashes due to the application of the safety countermeasures (CMs). In this section, you will need to provide information regarding the project's safety CMs and historical crash data at the project sites. The data will be used to estimate the project benefit in Section IV.

1. Divide the project locations into groups.

It is quite often that an HSIP project has multiple locations. Theoretically the benefit for every single location may be calculated separately and then sum them up. However, that may be time consuming or almost impossible when there are a lot of locations. It is more efficient that the project locations with exactly the same safety countermeasures are combined into a group. The benefits of the locations in the same group can then be calculated at once.

When only one group is needed:

If your project consists of only one location or multiple locations that have similar features, address similar safety issues and utilize the same countermeasure(s). The crash data of all the locations can be combined and only one group is needed.

When multiple groups are needed:

If your project include multiple locations that have various safety issues and the proposed safety improvements (countermeasures) are not exactly the same for all the locations. The locations must be divided into different groups. The project benefits are then calculated multiple times, once for each location group. The project total benefit is the sum of the benefits from the different groups.

It should be noted that within a group, all locations should be of the same type: Signalized Intersection (S), Non-Signalized Intersection (NS), or Roadway (R).

If necessary, you may explain the location grouping for your project in details in Question No. 3 (Crash Data Evaluation), Section II in the HSIP Application Form.

2. After the number of location groups is entered, one subform will be populated for each location group. **For each location group:**

1) First, select the applicable CMs. *Note: If a Roundabout CM (S18 or NS4A or NS4B) is selected, additional information is required.*

For each group, only the CMs of the same type as the group location type can be used. For example, if a group consists of 5 signalized intersections, only "Signalized Intersection" CMs may be used for this group.

2) Based on the selected CMs, crash data tables of the required types are displayed for data entry.

Different CMs will reduce crashes of different types during the life of the safety improvements. Depending on the selected CMs for the group, you will be required to fill in one or more crash data tables, for any combination of the five crash types (datasets): "All" , "Night" , Ped & Bike", "Emergency Vehicle", and "Animal" (Each of the later four datasets is a sub-dataset of the "All" dataset.)

For more information regarding grouping project locations and examples, please refer to the Manual for HSIP Analyzer.

III.1 List of Project Locations and Location Groups

List all locations/sites included in this project by groups. The locations entered in Table III.1 below will be automatically populated in the crash data tables in III.2.

Based on the criteria described on the last page, the locations/sites need to be divided into 2 groups.

Table III.1 List of Project Locations by Groups

Highlighted fields must be filled in. For each group:
1) Must select a Location Type;
2) Initially each group has one location line. Click "+"/"-" to add a new line/delete an existing line;
3) Enter location description for each line. The same descriptions will be auto-populated in III.2.

*Note: If your project has a large number of locations, please aggregate some locations into one description, e.g. 10 stop controlled intersections, 5 horizontal curves, etc., as long as they have similar features and the safety improvements to be implemented are the same.

	No.	No. in Group	Location Description (Intersection Name or Road Limit or General Description)	
GROUP 1			Select Location Type:	NS (Non-signalized Intersections)
+ -	1	G1-1	Roundabout - Echo Valley Rd	
GROUP 2			Select Location Type:	NS (Non-signalized Intersections)
+ -	2	G2-1	Roundabout - Strawberry Rd	

III.2: Countermeasures and Crash Data

(Repeats for each location group)

Countermeasures and Crash Data -Location Group No. 1 of 2

Hide Group Details

Step 1: Select countermeasure(s) to be applied to this location group

This group's location type: NS (Non-signalized Intersections)

Please check the CMs for this location group. All the CMs that have passed the test in Section I AND match the location type of this group are listed below.

	No.	Countermeasure (CM) Name	CM Type*	Crash Reduction Factor (CRF)	Expected Life (Years)	Crash Type	Federal Funding Eligibility
☒	1	NS4B: Convert intersection to roundabout (from stop or yield control on minor road)	NS	0.5	20	All	100%
	*CM Type: S-Signalized Intersection; NS-Non-Signalized Intersection; R-Roadway.						

Additional information is required:

Since Roundabout is selected, the below additional information is required for calculating Roundabout benefit.

Roundabout Location	Please select:	Rural					
Intersection Type	Please select:	Four-leg Intersection					
Roundabout Lanes	Please select:	1 Lane					
ADT	Major Road:	20,990	Minor Road:	4,200	**Total**	**25,190**	

Step 2: Provide crash data.

2.1 Crash Data Period: must be between 3 and 5 years.

from (MM/DD/YYYY): 01/01/2012 To (MM/DD/YYYY): 12/31/2016 Crash Data Period (years) = 5

2.2 Fill out the crash data table(s) for the crash type(s) as required by the selected countermeasure(s) in Step 1.

Based on the countermeasures selected in Step 1 , the crash data types to be provided are:

(1) All

Crash Data Table for Crash Type: ALL

No.	Location (from Table III.1)	Fatal (ALL)	Severe Injury (ALL)	Other Visible Injury (ALL)	Complaint of Pain (ALL)	PDO (ALL)	Total
1	Roundabout - Echo Valley Rd	1	0	4	8	26	39
	Total	1	0	4	8	26	39

III.2: Countermeasures and Crash Data

(Repeats for each location group)

Countermeasures and Crash Data -Location Group No. 2 of 2

Hide Group Details

Step 1: Select countermeasure(s) to be applied to this location group

This group's location type: NS (Non-signalized Intersections)

Please check the CMs for this location group. All the CMs that have passed the test in Section I AND match the location type of this group are listed below.

	No.	Countermeasure (CM) Name	CM Type*	Crash Reduction Factor (CRF)	Expected Life (Years)	Crash Type	Federal Funding Eligibility
☒	1	NS4B: Convert intersection to roundabout (from stop or yield control on minor road)	NS	0.5	20	All	100%
	*CM Type: S-Signalized Intersection; NS-Non-Signalized Intersection; R-Roadway.						

Additional information is required:

Since Roundabout is selected, the below additional information is required for calculating Roundabout benefit.

Roundabout Location	Please select:	Rural				
Intersection Type	Please select:	T Intersection				
Roundabout Lanes	Please select:	1 Lane				
ADT	Major Road:	17,470	Minor Road:	1,500	**Total**	**18,970**

Step 2: Provide crash data.

2.1 Crash Data Period: must be between 3 and 5 years.

from (MM/DD/YYYY): 01/01/2012 To (MM/DD/YYYY): 12/31/2016 Crash Data Period (years) = 5

2.2 Fill out the crash data table(s) for the crash type(s) as required by the selected countermeasure(s) in Step 1.

Based on the countermeasures selected in Step 1 , the crash data types to be provided are:

(1) All

Crash Data Table for Crash Type: ALL

No.	Location (from Table III.1)	Fatal (ALL)	Severe Injury (ALL)	Other Visible Injury (ALL)	Complaint of Pain (ALL)	PDO (ALL)	Total
1	Roundabout - Strawberry Rd	0	0	3	3	11	17
	Total	0	0	3	3	11	17

Section IV. Calculation and Results

Click the "Calculate" button to calculate. The script will first check if there are any errors or inconsistencies in the countermeasure selections and crash data. If errors are detected and displayed below, the errors must be fixed first before you click the "Calculate" button again. If no errors are displayed, the calculation results are provided in this section. Please refer to the Manual for HSIP Analyzer for details regarding possible errors.

Calculate

Project Summary Information:

Project Total Cost: 7552500
1 countermeasures are eligible in benefit calculation. (NS4B)
Project location(s) are divided into 2 group(s) for calculating the benefits.

IV.1 Benefit Summary by location groups

Group No.	Group Info/Data*	Benefit from CM #1	Benefit from CM #2	Benefit from CM #3	Total Benefit of the group
1	Location type: NS (Non-signalized Intersections) Number of location(s): 1 Number of selected countermeasure(s): 1 (NS4B) Crash Data Information: Crash data period (years): 5.01 Number of crashes(F/SI/OVI/I-CP/PDO)*: All: 1,0,4,8,26	$52,638,193	$0	$0	$52,638,193
2	Location type: NS (Non-signalized Intersections) Number of location(s): 1 Number of selected countermeasure(s): 1 (NS4B) Crash Data Information: Crash data period (years): 5.01 Number of crashes(F/SI/OVI/I-CP/PDO)*: All: 0,0,3,3,11	$19,670,031	$0	$0	$19,670,031
Sum		**$72,308,224**	**$0**	**$0**	**$72,308,224**

*Number of crashes: five crash numbers are for Fatal (F), Severe Injury (SI), Other Visible Injury (OVI), Injury - Complaint of Pain (I-CP), and Property Damage Only (PDO), respectively.

IV.2. Project Benefit and BCR Summary

No.	Countermeasure Name	Benefit	Cost	Resulting B/C
1	NS4B	72,308,224	$7,552,500	**9.6**
2		$0	$0	**0**
3		$0	$0	**0**
	Entire Project	**72,308,224**	**$7,552,500**	**9.6**

Data to be transferred to the HSIP Application Form

This section is generated automatically once the data entry and calculation have been completed. Transfer the data on this page to Section III of the HSIP Application Form.

Safety Countermeasure Information

Number of countermeasures: 1

NS4B: Convert intersection to roundabout (from stop or yield control on minor road)

Cost, FRR, Benefit and BCR:

Total Project Cost:	$7,552,500
HSIP Funds Requested:	$7,552,500
Max. Federal Reimbursement Ratio (FRR):	100%
Total Expected Benefit:	72,308,224
Benefit Cost Ratio:	9.57

HSIP ANALYZER

Cost Estimate, Crash Data and Benefit Cost Ratio (BCR) Calculation for Highway Safety Improvement Program (HSIP) Application

Important: Review and follow the step-by-step instructions in "Manual for HSIP Analyzer". Completing the HSIP Analyzer without referencing to the manual may result in an application with fatal flaws that will be disqualified from the ranking and selection process.

All yellow highlighted fields must be filled in. The gray fields are calculated and read-only. This is a dynamic form (later steps vary depending on the data entered in earlier steps). If any error messages in red appear, fix the errors prior to proceeding to the next steps.

1. Application ID, Project Location and Project Description (copy from the HSIP Application Form):

Application ID:

Save this file using the Application ID plus "Calc" as the file name (e.g. "07-Los Angeles-01Calc.pdf").

Project Location: (limited to 250 characters)

G12: Project Area 2 Roadway Improvements

Project Description: (limited to 250 characters)

TWLTL & Rumble Strips & Guardrail

2. Application Category (Check one):

Application Categories that require a Benefit Cost Ratio (BCR):

- ☒ Common BCR Application
- ☐ Set-aside for High Friction Surface Treatment

Application Categories that do NOT require a Benefit Cost Ratio (BCR):

- ☐ Set-aside for Guardrail Upgrades
- ☐ Set-aside for Horizontal Curve Signing
- ☐ Set-aside for Pedestrian Crossing Enhancements
- ☐ Set-aside for Tribes

Dual consideration?

☐ If an Application Category that does not require a BCR is selected above, check this box to indicate your desire that this application will be considered as a Common BCR Application as well in case it does not get selected for funding under the set-aside category. If this box is checked, a benefit cost analysis is required so the project will have a BCR.

A safety benefit cost analysis is required for this application. This tool will guide through cost estimate, safety benefit evaluation and Benefit Cost Ratio (BCR) calculation.

Section I. Construction Cost Estimate and Cost Breakdown

The purpose of this section is to:

- Provide detailed engineer's estimate (for construction items only). The costs for other phases (PE, ROW, and CE) will be included in Section II.
- Test if countermeasures (CMs) (up to 3) are eligible for being used in the project benefit calculation. For a CM to be used in the project benefit calculation, the construction cost of the CM must be at least 15% of the project's total construction cost, unless an exception is requested. And
- Determine the project's maximum Federal Reimbursement Ratio (FRR).

I.1 Select up to 3 countermeasures (CMs) to be tested in the Engineer's Estimate:

Number of CMs to be used in this project:	3

CM No. 1:	R14: Add two-way left-turn lane (without reducing travel lanes)
CM No. 2:	R4: Install Guardrail
CM No. 3:	R34: Install centerline rumble strips/stripes

I.2 Detailed Engineer's Estimate for Construction Items:

Cost breakdown by CMs. For each item, enter a cost percentage for each of the CMs and "Other Safety-Related" (OS) components. (e.g. enter 10 for 10%). The cost % for "Non-Safety-Related" (NS) components is calculated.

	No.	Item Description	Unit	Quantity	Unit Cost	Total	% for CM#1 (R14)	% for CM#2 (R4)	% for CM#3 (R34)	% for OS*	% for NS**
+ -	1	TWLTL & GR & Center Rumble	ea	1	2,292,300	2,292,300	40%	20%	20%	0%	20
		Weighted Average (%)					40%	20%	20%		20%
		Total ($)				$2,292,300					

* % for OS: Cost % for Other Safety-Related components;
** % for NS: Cost % for Non Safety-Related components.

Contingencies, as % of the above "Total" of the construction items: (e.g. enter 10 for 10%)	30 %	$687,690
Total Construction Cost (Con Items & Contingencies): (Rounded up to the nearest hundreds)		$2,980,000

I.3 Summary

3 CM(s) are eligible to be used in the project benefit calculation.

Countermeasure ID	Federal Funding Eligibility (FFE)	Cost %	Eligible to be used in benefit calculation?	Request exception to the 15% rule*
R14	90%	40.00%	Yes (>=15% cost)	☐
R4	100%	20.00%	Yes (>=15% cost)	☐
R34	100%	20.00%	Yes (>=15% cost)	☐

*By requesting an exception to the 15% rule, the CM with less than 15% of the construction cost will then be eligible to be used in the benefit calculation. if an exception is requested for any CM(s) above, please provide the reason (low cost treatment with significant safety benefits, etc.):

Project's Maximum Federal Reimbursement Ratio = 80.0%

The project's Maximum Federal Reimbursement Ratio is calculated as the least of the FFEs of the above countermeasures, minus the percentage of the non-safety related costs in excess of 10%. **This is the maximum value allowed to be entered in "HSIP/Total (%)" column in Section II (Project Cost Estimate).**

Section II. Project Cost Estimate

All project costs, **for all phases and by all funding sources**, must be accounted for on this form.

i. "**Total Cost**": Round all costs up to the nearest hundred dollars.

ii. "**HSIP/Total (%)**": The maximum allowed is the project's Federal Reimbursement Ratio (FRR) as determined in Section I. Click the button to assign the maximum to all, OR enter if not the maximum.

iii. "**HSIP Funds**" and "**Local/Other Funds**" are calculated.

Pay attention to the interactive warning/error messages below the table. The messages, if any, must be fixed, or exceptions should be justified in Question No. 5 in Section II of the HSIP Application Form.

Project's maximum Federal Reimbursement Ratio (FRR) (from Section I, rounded up to integer): 80 %

To set all "HSIP/Total (%)" in the below table to the above maximum FRR, click "Set": Set

Description	Total Cost	HISP/Total (%)	HSIP Funds	Local/Other Funds
Preliminary Engineering (PE) Phase				
Environmental	$298,000	80 %	$238,400	$59,600
PS&E	$447,000	80 %	$357,600	$89,400
Subtotal - PE	**$745,000**	**80 %**	**$596,000**	**$149,000**
Right of Way (ROW) Phase				
Right of Way Engineering	$200,000	80 %	$160,000	$40,000
Appraisals, Acquisitions & Utilities	$98,000	80 %	$78,400	$19,600
Subtotal - Right of Way (ROW)	**$298,000**	**80 %**	**$238,400**	**$59,600**
Construction (CON) Phase				
Construction Engineering (CE)	$447,000	80 %	$357,600	$89,400
Construction Items	$2,980,000 (Read only - from Section I)	80 %	$2,384,000	$596,000
Subtotal - Construction	**$3,427,000**	**80 %**	**$2,741,600**	**$685,400**
PROJECT TOTAL	$4,470,000	80 %	$3,576,000	$894,000

☐ Agency does NOT request **HSIP** funds for PE Phase (automatically checked if PE - HSIP funds is $0).

Interactive Warning/Error Messages:

If there are any messages in the below box, please fix OR explain justification for exceptions in Question No 5, Section II in the HSIP Application.

Section III. Project Location Groups, Countermeasures and Crash Data

The benefit of an HSIP safety project is achieved by reducing potential future crashes due to the application of the safety countermeasures (CMs). In this section, you will need to provide information regarding the project's safety CMs and historical crash data at the project sites. The data will be used to estimate the project benefit in Section IV.

1. Divide the project locations into groups.

It is quite often that an HSIP project has multiple locations. Theoretically the benefit for every single location may be calculated separately and then sum them up. However, that may be time consuming or almost impossible when there are a lot of locations. It is more efficient that the project locations with exactly the same safety countermeasures are combined into a group. The benefits of the locations in the same group can then be calculated at once.

When only one group is needed:

If your project consists of only one location or multiple locations that have similar features, address similar safety issues and utilize the same countermeasure(s). The crash data of all the locations can be combined and only one group is needed.

When multiple groups are needed:

If your project include multiple locations that have various safety issues and the proposed safety improvements (countermeasures) are not exactly the same for all the locations. The locations must be divided into different groups. The project benefits are then calculated multiple times, once for each location group. The project total benefit is the sum of the benefits from the different groups.

It should be noted that within a group, all locations should be of the same type: Signalized Intersection (S), Non-Signalized Intersection (NS), or Roadway (R).

If necessary, you may explain the location grouping for your project in details in Question No. 3 (Crash Data Evaluation), Section II in the HSIP Application Form.

2. After the number of location groups is entered, one subform will be populated for each location group. **For each location group:**

1) First, select the applicable CMs. *Note: If a Roundabout CM (S18 or NS4A or NS4B) is selected, additional information is required.*

For each group, only the CMs of the same type as the group location type can be used. For example, if a group consists of 5 signalized intersections, only "Signalized Intersection" CMs may be used for this group.

2) Based on the selected CMs, crash data tables of the required types are displayed for data entry.

Different CMs will reduce crashes of different types during the life of the safety improvements. Depending on the selected CMs for the group, you will be required to fill in one or more crash data tables, for any combination of the five crash types (datasets): "All" , "Night" , Ped & Bike", "Emergency Vehicle", and "Animal" (Each of the later four datasets is a sub-dataset of the "All" dataset.)

For more information regarding grouping project locations and examples, please refer to the Manual for HSIP Analyzer.

III.1 List of Project Locations and Location Groups

List all locations/sites included in this project by groups. The locations entered in Table III.1 below will be automatically populated in the crash data tables in III.2.

Based on the criteria described on the last page, the locations/sites need to be divided into 3 groups.

Table III.1 List of Project Locations by Groups

Highlighted fields must be filled in. For each group:
1) Must select a Location Type;
2) Initially each group has one location line. Click "+"/"-" to add a new line/delete an existing line;
3) Enter location description for each line. The same descriptions will be auto-populated in III.2.

*Note: If your project has a large number of locations, please aggregate some locations into one description, e.g. 10 stop controlled intersections, 5 horizontal curves, etc., as long as they have similar features and the safety improvements to be implemented are the same.

	No.	No. in Group	Location Description (Intersection Name or Road Limit or General Description)	
GROUP 1			Select Location Type:	R (Roadways)
+ -	1	G1-1	TWLTL	
GROUP 2			Select Location Type:	R (Roadways)
+ -	2	G2-1	Guardrail	
GROUP 3			Select Location Type:	R (Roadways)
+ -	3	G3-1	Centerline Rumble	

III.2: Countermeasures and Crash Data

(Repeats for each location group)

Countermeasures and Crash Data -Location Group No. 1 of 3

Hide Group Details

Step 1: Select countermeasure(s) to be applied to this location group

This group's location type: R (Roadways)

Please check the CMs for this location group. All the CMs that have passed the test in Section I AND match the location type of this group are listed below.

	No.	Countermeasure (CM) Name	CM Type*	Crash Reduction Factor (CRF)	Expected Life (Years)	Crash Type	Federal Funding Eligibility
☒	1	R14: Add two-way left-turn lane (without reducing travel lanes)	R	0.3	20	All	90%
☐	2	R4: Install Guardrail	R	0.25	20	All	100%
☐	3	R34: Install centerline rumble strips/stripes	R	0.2	10	All	100%
	*CM Type: S-Signalized Intersection; NS-Non-Signalized Intersection; R-Roadway.						

Step 2: Provide crash data.

2.1 Crash Data Period: must be between 3 and 5 years.

from (MM/DD/YYYY): 01/01/2012 To (MM/DD/YYYY): 12/31/2016 Crash Data Period (years) = 5

2.2 Fill out the crash data table(s) for the crash type(s) as required by the selected countermeasure(s) in Step 1.

Based on the countermeasures selected in Step 1 , the crash data types to be provided are:

(1) All

Crash Data Table for Crash Type: ALL

No.	Location (from Table III.1)	Fatal (ALL)	Severe Injury (ALL)	Other Visible Injury (ALL)	Complaint of Pain (ALL)	PDO (ALL)	Total
1	TWLTL	1	21	8	13	44	87
	Total	1	21	8	13	44	87

III.2: Countermeasures and Crash Data

(Repeats for each location group)

Countermeasures and Crash Data -Location Group No. 2 of 3

Hide Group Details

Step 1: Select countermeasure(s) to be applied to this location group

This group's location type: R (Roadways)

Please check the CMs for this location group. All the CMs that have passed the test in Section I AND match the location type of this group are listed below.

	No.	Countermeasure (CM) Name	CM Type*	Crash Reduction Factor (CRF)	Expected Life (Years)	Crash Type	Federal Funding Eligibility
☐	1	R14: Add two-way left-turn lane (without reducing travel lanes)	R	0.3	20	All	90%
☒	2	R4: Install Guardrail	R	0.25	20	All	100%
☐	3	R34: Install centerline rumble strips/stripes	R	0.2	10	All	100%
	*CM Type: S-Signalized Intersection; NS-Non-Signalized Intersection; R-Roadway.						

Step 2: Provide crash data.

2.1 Crash Data Period: must be between 3 and 5 years.

from (MM/DD/YYYY): 01/01/2012 To (MM/DD/YYYY): 12/31/2016 Crash Data Period (years) = 5

2.2 Fill out the crash data table(s) for the crash type(s) as required by the selected countermeasure(s) in Step 1.

Based on the countermeasures selected in Step 1 , the crash data types to be provided are:

(1) All

Crash Data Table for Crash Type: ALL

No.	Location (from Table III.1)	Fatal (ALL)	Severe Injury (ALL)	Other Visible Injury (ALL)	Complaint of Pain (ALL)	PDO (ALL)	Total
1	Guardrail	1	2	1	1	3	8
	Total	1	2	1	1	3	8

III.2: Countermeasures and Crash Data

(Repeats for each location group)

Countermeasures and Crash Data -Location Group No. 3 of 3

Hide Group Details

Step 1: Select countermeasure(s) to be applied to this location group

This group's location type: R (Roadways)

Please check the CMs for this location group. All the CMs that have passed the test in Section I AND match the location type of this group are listed below.

	No.	Countermeasure (CM) Name	CM Type*	Crash Reduction Factor (CRF)	Expected Life (Years)	Crash Type	Federal Funding Eligibility
☐	1	R14: Add two-way left-turn lane (without reducing travel lanes)	R	0.3	20	All	90%
☐	2	R4: Install Guardrail	R	0.25	20	All	100%
☒	3	R34: Install centerline rumble strips/stripes	R	0.2	10	All	100%
	*CM Type: S-Signalized Intersection; NS-Non-Signalized Intersection; R-Roadway.						

Step 2: Provide crash data.

2.1 Crash Data Period: must be between 3 and 5 years.

from (MM/DD/YYYY): 01/01/2012 To (MM/DD/YYYY): 12/31/2016 Crash Data Period (years) = 5

2.2 Fill out the crash data table(s) for the crash type(s) as required by the selected countermeasure(s) in Step 1.

Based on the countermeasures selected in Step 1 , the crash data types to be provided are:

(1) All

Crash Data Table for Crash Type: ALL

No.	Location (from Table III.1)	Fatal (ALL)	Severe Injury (ALL)	Other Visible Injury (ALL)	Complaint of Pain (ALL)	PDO (ALL)	Total
1	Centerline Rumble	3	3	13	25	69	113
	Total	3	3	13	25	69	113

Section IV. Calculation and Results

Click the "Calculate" button to calculate. The script will first check if there are any errors or inconsistencies in the countermeasure selections and crash data. If errors are detected and displayed below, the errors must be fixed first before you click the "Calculate" button again. If no errors are displayed, the calculation results are provided in this section. Please refer to the Manual for HSIP Analyzer for details regarding possible errors.

Calculate

Project Summary Information:

Project Total Cost: 4470000
3 countermeasures are eligible in benefit calculation. (R14 R4 R34)
Project location(s) are divided into 3 group(s) for calculating the benefits.

IV.1 Benefit Summary by location groups

Group No.	Group Info/Data*	Benefit from CM #1	Benefit from CM #2	Benefit from CM #3	Total Benefit of the group
1	Location type: R (Roadways) Number of location(s): 1 Number of selected countermeasure(s): 1 (R14) Crash Data Information: Crash data period (years): 5.01 Number of crashes(F/SI/OVI/I-CP/PDO)*: All: 1,21,8,13,44	$55,728,544	$0	$0	$55,728,544
2	Location type: R (Roadways) Number of location(s): 1 Number of selected countermeasure(s): 1 (R4) Crash Data Information: Crash data period (years): 5.01 Number of crashes(F/SI/OVI/I-CP/PDO)*: All: 1,2,1,1,3	$0	$6,230,387	$0	$6,230,387
3	Location type: R (Roadways) Number of location(s): 1 Number of selected countermeasure(s): 1 (R34) Crash Data Information: Crash data period (years): 5.01 Number of crashes(F/SI/OVI/I-CP/PDO)*: All: 3,3,13,25,69	$0	$0	$6,498,919	$6,498,919
Sum		**$55,728,544**	**$6,230,387**	**$6,498,919**	**$68,457,850**

*Number of crashes: five crash numbers are for Fatal (F), Severe Injury (SI), Other Visible Injury (OVI), Injury - Complaint of Pain (I-CP), and Property Damage Only (PDO), respectively.

IV.2. Project Benefit and BCR Summary

No.	Countermeasure Name	Benefit	Cost	Resulting B/C
1	R14	55,728,544	$2,235,000	**24.9**
2	R4	$6,230,387	$1,117,500	**5.6**
3	R34	$6,498,919	$1,117,500	**5.8**
	Entire Project	**68,457,850**	**$4,470,000**	**15.3**

Data to be transferred to the HSIP Application Form

This section is generated automatically once the data entry and calculation have been completed. Transfer the data on this page to Section III of the HSIP Application Form.

Safety Countermeasure Information

Number of countermeasures: 3
R14: Add two-way left-turn lane (without reducing travel lanes)
R4: Install Guardrail
R34: Install centerline rumble strips/stripes

Cost, FRR, Benefit and BCR:

Total Project Cost:	$4,470,000
HSIP Funds Requested:	$3,576,000
Max. Federal Reimbursement Ratio (FRR):	80%
Total Expected Benefit:	68,457,850
Benefit Cost Ratio:	15.31

HSIP ANALYZER

Cost Estimate, Crash Data and Benefit Cost Ratio (BCR) Calculation for Highway Safety Improvement Program (HSIP) Application

Important: Review and follow the step-by-step instructions in "Manual for HSIP Analyzer". Completing the HSIP Analyzer without referencing to the manual may result in an application with fatal flaws that will be disqualified from the ranking and selection process.

All yellow highlighted fields must be filled in. The gray fields are calculated and read-only. This is a dynamic form (later steps vary depending on the data entered in earlier steps). If any error messages in red appear, fix the errors prior to proceeding to the next steps.

1. Application ID, Project Location and Project Description (copy from the HSIP Application Form):

Application ID:

Save this file using the Application ID plus "Calc" as the file name (e.g. "07-Los Angeles-01Calc.pdf").

Project Location: (limited to 250 characters)

G12: Project Area 3 - Intersection Improvements

Project Description: (limited to 250 characters)

Roundabouts at Sill, Las Lomas, & Elkhorn
Willow Rd - no left out

2. Application Category (Check one):

Application Categories that require a Benefit Cost Ratio (BCR):

- ☒ Common BCR Application
- ☐ Set-aside for High Friction Surface Treatment

Application Categories that do NOT require a Benefit Cost Ratio (BCR):

- ☐ Set-aside for Guardrail Upgrades
- ☐ Set-aside for Horizontal Curve Signing
- ☐ Set-aside for Pedestrian Crossing Enhancements
- ☐ Set-aside for Tribes

Dual consideration?

☐ If an Application Category that does not require a BCR is selected above, check this box to indicate your desire that this application will be considered as a Common BCR Application as well in case it does not get selected for funding under the set-aside category. If this box is checked, a benefit cost analysis is required so the project will have a BCR.

A safety benefit cost analysis is required for this application. This tool will guide through cost estimate, safety benefit evaluation and Benefit Cost Ratio (BCR) calculation.

Section I. Construction Cost Estimate and Cost Breakdown

The purpose of this section is to:

- Provide detailed engineer's estimate (for construction items only). The costs for other phases (PE, ROW, and CE) will be included in Section II.
- Test if countermeasures (CMs) (up to 3) are eligible for being used in the project benefit calculation. For a CM to be used in the project benefit calculation, the construction cost of the CM must be at least 15% of the project's total construction cost, unless an exception is requested. And
- Determine the project's maximum Federal Reimbursement Ratio (FRR).

I.1 Select up to 3 countermeasures (CMs) to be tested in the Engineer's Estimate:

Number of CMs to be used in this project: 3

CM No. 1:	S18: Convert intersection to roundabout (from signal)
CM No. 2:	NS4B: Convert intersection to roundabout (from stop or yield control on minor road)
CM No. 3:	NS13: Create directional median openings to allow (and restrict) left-turns and u-turns (NS.I.)

I.2 Detailed Engineer's Estimate for Construction Items:

Cost breakdown by CMs. For each item, enter a cost percentage for each of the CMs and "Other Safety-Related" (OS) components. (e.g. enter 10 for 10%). The cost % for "Non-Safety-Related" (NS) components is calculated.

	No.	Item Description	Unit	Quantity	Unit Cost	Total	% for CM#1 (S18)	% for CM#2 (NS4B)	% for CM#3 (NS13)	% for OS*	% for NS**
+ -	1	Roundabout - Sill Rd	EA	1	1,376,920	1,376,920	%	100%	%	%	0
+ -	2	Roundabout - Las Lomas Dr	EA	1	2,630,770	2,630,770	50%	%	50%	%	0
+ -	3	Roundabout - Elkhorn Rd	EA	1	1,607,690	1,607,690	%	100%	%	%	0
					Weighted Average (%)		23%	53%	23%		
					Total ($)	$5,615,380					

* % for OS: Cost % for Other Safety-Related components;
** % for NS: Cost % for Non Safety-Related components.

Contingencies, as % of the above "Total" of the construction items: 30 % $1,684,614
(e.g. enter 10 for 10%)

Total Construction Cost (Con Items & Contingencies): $7,300,000
(Rounded up to the nearest hundreds)

I.3 Summary

3 CM(s) are eligible to be used in the project benefit calculation.

Countermeasure ID	Federal Funding Eligibility (FFE)	Cost %	Eligible to be used in benefit calculation?	Request exception to the 15% rule*
S18	100%	23.42%	Yes (>=15% cost)	☐
NS4B	100%	53.15%	Yes (>=15% cost)	☐
NS13	90%	23.42%	Yes (>=15% cost)	☐

*By requesting an exception to the 15% rule, the CM with less than 15% of the construction cost will then be eligible to be used in the benefit calculation. if an exception is requested for any CM(s) above, please provide the reason (low cost treatment with significant safety benefits, etc.):

Project's Maximum Federal Reimbursement Ratio = 90.0%

The project's Maximum Federal Reimbursement Ratio is calculated as the least of the FFEs of the above countermeasures, minus the percentage of the non-safety related costs in excess of 10%. **This is the maximum value allowed to be entered in "HSIP/Total (%)" column in Section II (Project Cost Estimate).**

Section II. Project Cost Estimate

All project costs, **for all phases and by all funding sources**, must be accounted for on this form.

i. "**Total Cost**": Round all costs up to the nearest hundred dollars.

ii. "**HSIP/Total (%)**": The maximum allowed is the project's Federal Reimbursement Ratio (FRR) as determined in Section I. Click the button to assign the maximum to all, OR enter if not the maximum.

iii. "**HSIP Funds**" and "**Local/Other Funds**" are calculated.

Pay attention to the interactive warning/error messages below the table. The messages, if any, must be fixed, or exceptions should be justified in Question No. 5 in Section II of the HSIP Application Form.

Project's maximum Federal Reimbursement Ratio (FRR) (from Section I, rounded up to integer): 90 %

To set all "HSIP/Total (%)" in the below table to the above maximum FRR, click "Set": Set

Description	Total Cost	HISP/Total (%)	HSIP Funds	Local/Other Funds
Preliminary Engineering (PE) Phase				
Environmental	$742,000	90 %	$667,800	$74,200
PS&E	$1,113,000	90 %	$1,001,700	$111,300
Subtotal - PE	**$1,855,000**	**90 %**	**$1,669,500**	**$185,500**
Right of Way (ROW) Phase				
Right of Way Engineering	$42,000	90 %	$37,800	$4,200
Appraisals, Acquisitions & Utilities	$700,000	90 %	$630,000	$70,000
Subtotal - Right of Way (ROW)	**$742,000**	**90 %**	**$667,800**	**$74,200**
Construction (CON) Phase				
Construction Engineering (CE)	$1,130,000	90 %	$1,017,000	$113,000
Construction Items	$7,300,000 (Read only - from Section I)	90 %	$6,570,000	$730,000
Subtotal - Construction	**$8,430,000**	**90 %**	**$7,587,000**	**$843,000**
PROJECT TOTAL	11,027,000	90 %	$9,924,300	$1,102,700

☐ Agency does NOT request **HSIP** funds for PE Phase (automatically checked if PE - HSIP funds is $0).

Interactive Warning/Error Messages:

If there are any messages in the below box, please fix OR explain justification for exceptions in Question No 5, Section II in the HSIP Application.

1. The HSIP amount for PE exceeds 25% of the HSIP amount for Construction Items.
2. The HSIP amount for ROW exceeds 10% of the HSIP amount for Construction Items.
3. The HSIP amount for CE exceeds 15% of the HSIP amount for Construction Items.

Section III. Project Location Groups, Countermeasures and Crash Data

The benefit of an HSIP safety project is achieved by reducing potential future crashes due to the application of the safety countermeasures (CMs). In this section, you will need to provide information regarding the project's safety CMs and historical crash data at the project sites. The data will be used to estimate the project benefit in Section IV.

1. Divide the project locations into groups.

It is quite often that an HSIP project has multiple locations. Theoretically the benefit for every single location may be calculated separately and then sum them up. However, that may be time consuming or almost impossible when there are a lot of locations. It is more efficient that the project locations with exactly the same safety countermeasures are combined into a group. The benefits of the locations in the same group can then be calculated at once.

When only one group is needed:

If your project consists of only one location or multiple locations that have similar features, address similar safety issues and utilize the same countermeasure(s). The crash data of all the locations can be combined and only one group is needed.

When multiple groups are needed:

If your project include multiple locations that have various safety issues and the proposed safety improvements (countermeasures) are not exactly the same for all the locations. The locations must be divided into different groups. The project benefits are then calculated multiple times, once for each location group. The project total benefit is the sum of the benefits from the different groups.

It should be noted that within a group, all locations should be of the same type: Signalized Intersection (S), Non-Signalized Intersection (NS), or Roadway (R).

If necessary, you may explain the location grouping for your project in details in Question No. 3 (Crash Data Evaluation), Section II in the HSIP Application Form.

2. After the number of location groups is entered, one subform will be populated for each location group. **For each location group:**

1) First, select the applicable CMs. *Note: If a Roundabout CM (S18 or NS4A or NS4B) is selected, additional information is required.*

For each group, only the CMs of the same type as the group location type can be used. For example, if a group consists of 5 signalized intersections, only "Signalized Intersection" CMs may be used for this group.

2) Based on the selected CMs, crash data tables of the required types are displayed for data entry.

Different CMs will reduce crashes of different types during the life of the safety improvements. Depending on the selected CMs for the group, you will be required to fill in one or more crash data tables, for any combination of the five crash types (datasets): "All" , "Night" , Ped & Bike", "Emergency Vehicle", and "Animal" (Each of the later four datasets is a sub-dataset of the "All" dataset.)

For more information regarding grouping project locations and examples, please refer to the Manual for HSIP Analyzer.

III.1 List of Project Locations and Location Groups

List all locations/sites included in this project by groups. The locations entered in Table III.1 below will be automatically populated in the crash data tables in III.2.

Based on the criteria described on the last page, the locations/sites need to be divided into 4 groups.

Table III.1 List of Project Locations by Groups

Highlighted fields must be filled in. For each group:
1) Must select a Location Type;
2) Initially each group has one location line. Click "+"/"-" to add a new line/delete an existing line;
3) Enter location description for each line. The same descriptions will be auto-populated in III.2.

*Note: If your project has a large number of locations, please aggregate some locations into one description, e.g. 10 stop controlled intersections, 5 horizontal curves, etc., as long as they have similar features and the safety improvements to be implemented are the same.

	No.	No. in Group	Location Description (Intersection Name or Road Limit or General Description)	
GROUP 1			Select Location Type:	S (Signalized Intersections)
+ -	1	G1-1	Las Lomas Roundabout - CM1	
GROUP 2			Select Location Type:	NS (Non-signalized Intersections)
+ -	2	G2-1	Sill Rd Roundabout - CM2	
GROUP 3			Select Location Type:	NS (Non-signalized Intersections)
+ -	3	G3-1	Elkhorn Roundabout - CM2	
GROUP 4			Select Location Type:	NS (Non-signalized Intersections)
+ -	4	G4-1	Willow Road - CM3	

III.2: Countermeasures and Crash Data

(Repeats for each location group)

Countermeasures and Crash Data -Location Group No. 1 of 4

Hide Group Details

Step 1: Select countermeasure(s) to be applied to this location group

This group's location type: S (Signalized Intersections)

Please check the CMs for this location group. All the CMs that have passed the test in Section I AND match the location type of this group are listed below.

	No.	Countermeasure (CM) Name	CM Type*	Crash Reduction Factor (CRF)	Expected Life (Years)	Crash Type	Federal Funding Eligibility
☒	1	S18: Convert intersection to roundabout (from signal)	S	0.5	20	All	100%
	*CM Type: S-Signalized Intersection; NS-Non-Signalized Intersection; R-Roadway.						

Additional information is required:

Since Roundabout is selected, the below additional information is required for calculating Roundabout benefit.

Roundabout Location	Please select:	Rural				
Intersection Type	Please select:	Four-leg Intersection				
Roundabout Lanes	Please select:	1 Lane				
ADT	Major Road:	22,000	Minor Road:	5,800	**Total**	**27,800**

Step 2: Provide crash data.

2.1 Crash Data Period: must be between 3 and 5 years.

from (MM/DD/YYYY): 01/01/2012 To (MM/DD/YYYY): 12/31/2016 Crash Data Period (years) = 5

2.2 Fill out the crash data table(s) for the crash type(s) as required by the selected countermeasure(s) in Step 1.

Based on the countermeasures selected in Step 1 , the crash data types to be provided are:

(1) All

Crash Data Table for Crash Type: ALL

No.	Location (from Table III.1)	Fatal (ALL)	Severe Injury (ALL)	Other Visible Injury (ALL)	Complaint of Pain (ALL)	PDO (ALL)	Total
1	Las Lomas Roundabout - CM1	0	0	1	12	26	39
	Total	0	0	1	12	26	39

III.2: Countermeasures and Crash Data

(Repeats for each location group)

Countermeasures and Crash Data -Location Group No. 2 of 4

Hide Group Details

Step 1: Select countermeasure(s) to be applied to this location group

This group's location type: NS (Non-signalized Intersections)

Please check the CMs for this location group. All the CMs that have passed the test in Section I AND match the location type of this group are listed below.

	No.	Countermeasure (CM) Name	CM Type*	Crash Reduction Factor (CRF)	Expected Life (Years)	Crash Type	Federal Funding Eligibility
☒	1	NS4B: Convert intersection to roundabout (from stop or yield control on minor road)	NS	0.5	20	All	100%
☐	2	NS13: Create directional median openings to allow (and restrict) left-turns and u-turns (NS.I.)	NS	0.5	20	All	90%
	*CM Type: S-Signalized Intersection; NS-Non-Signalized Intersection; R-Roadway.						

Additional information is required:

Since Roundabout is selected, the below additional information is required for calculating Roundabout benefit.

Roundabout Location	Please select:	Rural				
Intersection Type	Please select:	Four-leg Intersection				
Roundabout Lanes	Please select:	1 Lane				
ADT	Major Road:	18,630	Minor Road:	2,700	**Total**	**21,330**

Step 2: Provide crash data.

2.1 Crash Data Period: must be between 3 and 5 years.

from (MM/DD/YYYY): 01/01/2012 To (MM/DD/YYYY): 12/31/2016 Crash Data Period (years) = 5

2.2 Fill out the crash data table(s) for the crash type(s) as required by the selected countermeasure(s) in Step 1.

Based on the countermeasures selected in Step 1 , the crash data types to be provided are:

(1) All

Crash Data Table for Crash Type: ALL

No.	Location (from Table III.1)	Fatal (ALL)	Severe Injury (ALL)	Other Visible Injury (ALL)	Complaint of Pain (ALL)	PDO (ALL)	Total
1	Sill Rd Roundabout - CM2	0	1	2	2	7	12
	Total	0	1	2	2	7	12

III.2: Countermeasures and Crash Data

(Repeats for each location group)

Countermeasures and Crash Data -Location Group No. 3 of 4

Hide Group Details

Step 1: Select countermeasure(s) to be applied to this location group

This group's location type: NS (Non-signalized Intersections)

Please check the CMs for this location group. All the CMs that have passed the test in Section I AND match the location type of this group are listed below.

	No.	Countermeasure (CM) Name	CM Type*	Crash Reduction Factor (CRF)	Expected Life (Years)	Crash Type	Federal Funding Eligibility
☒	1	NS4B: Convert intersection to roundabout (from stop or yield control on minor road)	NS	0.5	20	All	100%
☐	2	NS13: Create directional median openings to allow (and restrict) left-turns and u-turns (NS.I.)	NS	0.5	20	All	90%
	*CM Type: S-Signalized Intersection; NS-Non-Signalized Intersection; R-Roadway.						

Additional information is required:

Since Roundabout is selected, the below additional information is required for calculating Roundabout benefit.

Roundabout Location	Please select:	Rural				
Intersection Type	Please select:	T Intersection				
Roundabout Lanes	Please select:	1 Lane				
ADT	Major Road:	22,920	Minor Road:	2,000	**Total**	**24,920**

Step 2: Provide crash data.

2.1 Crash Data Period: must be between 3 and 5 years.

from (MM/DD/YYYY): 01/01/2012 To (MM/DD/YYYY): 12/31/2016 Crash Data Period (years) = 5

2.2 Fill out the crash data table(s) for the crash type(s) as required by the selected countermeasure(s) in Step 1.

Based on the countermeasures selected in Step 1 , the crash data types to be provided are:

(1) All

Crash Data Table for Crash Type: ALL

No.	Location (from Table III.1)	Fatal (ALL)	Severe Injury (ALL)	Other Visible Injury (ALL)	Complaint of Pain (ALL)	PDO (ALL)	Total
1	Elkhorn Roundabout - CM2	1	0	2	6	6	15
	Total	1	0	2	6	6	15

III.2: Countermeasures and Crash Data

(Repeats for each location group)

Countermeasures and Crash Data -Location Group No. 4 of 4

Hide Group Details

Step 1: Select countermeasure(s) to be applied to this location group

This group's location type: NS (Non-signalized Intersections)

Please check the CMs for this location group. All the CMs that have passed the test in Section I AND match the location type of this group are listed below.

	No.	Countermeasure (CM) Name	CM Type*	Crash Reduction Factor (CRF)	Expected Life (Years)	Crash Type	Federal Funding Eligibility
☐	1	NS4B: Convert intersection to roundabout (from stop or yield control on minor road)	NS	0.5	20	All	100%
☒	2	NS13: Create directional median openings to allow (and restrict) left-turns and u-turns (NS.I.)	NS	0.5	20	All	90%
	*CM Type: S-Signalized Intersection; NS-Non-Signalized Intersection; R-Roadway.						

Step 2: Provide crash data.

2.1 Crash Data Period: must be between 3 and 5 years.

from (MM/DD/YYYY): 01/01/2012 To (MM/DD/YYYY): 12/31/2016 Crash Data Period (years) = 5

2.2 Fill out the crash data table(s) for the crash type(s) as required by the selected countermeasure(s) in Step 1.

Based on the countermeasures selected in Step 1 , the crash data types to be provided are:

(1) All

Crash Data Table for Crash Type: ALL

No.	Location (from Table III.1)	Fatal (ALL)	Severe Injury (ALL)	Other Visible Injury (ALL)	Complaint of Pain (ALL)	PDO (ALL)	Total
1	Willow Road - CM3	0	0	3	4	12	19
	Total	0	0	3	4	12	19

Section IV. Calculation and Results

Click the "Calculate" button to calculate. The script will first check if there are any errors or inconsistencies in the countermeasure selections and crash data. If errors are detected and displayed below, the errors must be fixed first before you click the "Calculate" button again. If no errors are displayed, the calculation results are provided in this section. Please refer to the Manual for HSIP Analyzer for details regarding possible errors.

Calculate

Project Summary Information:

Project Total Cost: 11027000
3 countermeasures are eligible in benefit calculation. (S18 NS4B NS13)
Project location(s) are divided into 4 group(s) for calculating the benefits.

IV.1 Benefit Summary by location groups

Group No.	Group Info/Data*	Benefit from CM #1	Benefit from CM #2	Benefit from CM #3	Total Benefit of the group
1	Location type: S (Signalized Intersections) Number of location(s): 1 Number of selected countermeasure(s): 1 (S18) Crash Data Information: Crash data period (years): 5.01 Number of crashes(F/SI/OVI/I-CP/PDO)*: All: 0,0,1,12,26	$23,801,981	$0	$0	$23,801,981
2	Location type: NS (Non-signalized Intersections) Number of location(s): 1 Number of selected countermeasure(s): 1 (NS4B) Crash Data Information: Crash data period (years): 5.01 Number of crashes(F/SI/OVI/I-CP/PDO)*: All: 0,1,2,2,7	$0	$15,046,547	$0	$15,046,547
3	Location type: NS (Non-signalized Intersections) Number of location(s): 1 Number of selected countermeasure(s): 1 (NS4B) Crash Data Information: Crash data period (years): 5.01 Number of crashes(F/SI/OVI/I-CP/PDO)*: All: 1,0,2,6,6	$0	$16,613,242	$0	$16,613,242
4	Location type: NS (Non-signalized Intersections) Number of location(s): 1 Number of selected countermeasure(s): 1 (NS13) Crash Data Information: Crash data period (years): 5.01 Number of crashes(F/SI/OVI/I-CP/PDO)*: All: 0,0,3,4,12	$0	$0	$1,616,515	$1,616,515
Sum		**$23,801,981**	**$31,659,789**	**$1,616,515**	**$57,078,285**

*Number of crashes: five crash numbers are for Fatal (F), Severe Injury (SI), Other Visible Injury (OVI), Injury - Complaint of Pain (I-CP), and Property Damage Only (PDO), respectively.

IV.2. Project Benefit and BCR Summary

No.	Countermeasure Name	Benefit	Cost	Resulting B/C
1	S18	23,801,981	$2,583,040	**9.2**
2	NS4B	31,659,789	$5,860,920	**5.4**
3	NS13	$1,616,515	$2,583,040	**0.6**
	Entire Project	**57,078,285**	**11,027,000**	**5.2**

Data to be transferred to the HSIP Application Form

This section is generated automatically once the data entry and calculation have been completed. Transfer the data on this page to Section III of the HSIP Application Form.

Safety Countermeasure Information

Number of countermeasures: 3

S18: Convert intersection to roundabout (from signal)

NS4B: Convert intersection to roundabout (from stop or yield control on minor road)

NS13: Create directional median openings to allow (and restrict) left-turns and u-turns (NS.I.)

Cost, FRR, Benefit and BCR:

Total Project Cost:	11,027,000
HSIP Funds Requested:	$9,924,300
Max. Federal Reimbursement Ratio (FRR):	90%
Total Expected Benefit:	57,078,285
Benefit Cost Ratio:	5.18

HSIP ANALYZER

Cost Estimate, Crash Data and Benefit Cost Ratio (BCR) Calculation for Highway Safety Improvement Program (HSIP) Application

Important: Review and follow the step-by-step instructions in "Manual for HSIP Analyzer". Completing the HSIP Analyzer without referencing to the manual may result in an application with fatal flaws that will be disqualified from the ranking and selection process.

All yellow highlighted fields must be filled in. The gray fields are calculated and read-only. This is a dynamic form (later steps vary depending on the data entered in earlier steps). If any error messages in red appear, fix the errors prior to proceeding to the next steps.

1. Application ID, Project Location and Project Description (copy from the HSIP Application Form):

Application ID:

Save this file using the Application ID plus "Calc" as the file name (e.g. "07-Los Angeles-01Calc.pdf").

Project Location: (limited to 250 characters)

G12: Project Area 3 - Roadway Improvements

Project Description: (limited to 250 characters)

TWLTL west of Willow & Frontage Road

2. Application Category (Check one):

Application Categories that require a Benefit Cost Ratio (BCR):

- ☒ Common BCR Application
- ☐ Set-aside for High Friction Surface Treatment

Application Categories that do NOT require a Benefit Cost Ratio (BCR):

- ☐ Set-aside for Guardrail Upgrades
- ☐ Set-aside for Horizontal Curve Signing
- ☐ Set-aside for Pedestrian Crossing Enhancements
- ☐ Set-aside for Tribes

Dual consideration?

☐ If an Application Category that does not require a BCR is selected above, check this box to indicate your desire that this application will be considered as a Common BCR Application as well in case it does not get selected for funding under the set-aside category. If this box is checked, a benefit cost analysis is required so the project will have a BCR.

A safety benefit cost analysis is required for this application. This tool will guide through cost estimate, safety benefit evaluation and Benefit Cost Ratio (BCR) calculation.

Section I. Construction Cost Estimate and Cost Breakdown

The purpose of this section is to:

- Provide detailed engineer's estimate (for construction items only). The costs for other phases (PE, ROW, and CE) will be included in Section II.
- Test if countermeasures (CMs) (up to 3) are eligible for being used in the project benefit calculation. For a CM to be used in the project benefit calculation, the construction cost of the CM must be at least 15% of the project's total construction cost, unless an exception is requested. And
- Determine the project's maximum Federal Reimbursement Ratio (FRR).

I.1 Select up to 3 countermeasures (CMs) to be tested in the Engineer's Estimate:

Number of CMs to be used in this project:	3

CM No. 1:	R14: Add two-way left-turn lane (without reducing travel lanes)
CM No. 2:	R30: Install dynamic/variable speed warning signs
CM No. 3:	R2: Remove or relocate fixed objects outside of Clear Recovery Zone

I.2 Detailed Engineer's Estimate for Construction Items:

Cost breakdown by CMs. For each item, enter a cost percentage for each of the CMs and "Other Safety-Related" (OS) components. (e.g. enter 10 for 10%). The cost % for "Non-Safety-Related" (NS) components is calculated.

	No.	Item Description	Unit	Quantity	Unit Cost	Total	% for CM#1 (R14)	% for CM#2 (R30)	% for CM#3 (R2)	% for OS*	% for NS**
+ -	1	TWLTL with Frontage & Sidewalk	EA	1	1,446,150	1,446,150	68%	16%	16%	0%	0
		Weighted Average (%)					68%	16%	16%		
		Total ($)				$1,446,150					

* % for OS: Cost % for Other Safety-Related components;
** % for NS: Cost % for Non Safety-Related components.

Contingencies, as % of the above "Total" of the construction items: 30 % $433,845
(e.g. enter 10 for 10%)

Total Construction Cost (Con Items & Contingencies): $1,880,000
(Rounded up to the nearest hundreds)

I.3 Summary

3 CM(s) are eligible to be used in the project benefit calculation.

Countermeasure ID	Federal Funding Eligibility (FFE)	Cost %	Eligible to be used in benefit calculation?	Request exception to the 15% rule*
R14	90%	68.00%	Yes (>=15% cost)	☐
R30	100%	16.00%	Yes (>=15% cost)	☐
R2	90%	16.00%	Yes (>=15% cost)	☐

*By requesting an exception to the 15% rule, the CM with less than 15% of the construction cost will then be eligible to be used in the benefit calculation. if an exception is requested for any CM(s) above, please provide the reason (low cost treatment with significant safety benefits, etc.):

Project's Maximum Federal Reimbursement Ratio = 90.0%

The project's Maximum Federal Reimbursement Ratio is calculated as the least of the FFEs of the above countermeasures, minus the percentage of the non-safety related costs in excess of 10%. **This is the maximum value allowed to be entered in "HSIP/Total (%)" column in Section II (Project Cost Estimate).**

Section II. Project Cost Estimate

All project costs, **for all phases and by all funding sources**, must be accounted for on this form.

i. "**Total Cost**": Round all costs up to the nearest hundred dollars.

ii. "**HSIP/Total (%)**": The maximum allowed is the project's Federal Reimbursement Ratio (FRR) as determined in Section I. Click the button to assign the maximum to all, OR enter if not the maximum.

iii. "**HSIP Funds**" and "**Local/Other Funds**" are calculated.

Pay attention to the interactive warning/error messages below the table. The messages, if any, must be fixed, or exceptions should be justified in Question No. 5 in Section II of the HSIP Application Form.

Project's maximum Federal Reimbursement Ratio (FRR) (from Section I, rounded up to integer): 90 %

To set all "HSIP/Total (%)" in the below table to the above maximum FRR, click "Set": Set

Description	Total Cost	HISP/Total (%)	HSIP Funds	Local/Other Funds
Preliminary Engineering (PE) Phase				
Environmental	$188,000	90 %	$169,200	$18,800
PS&E	$282,000	90 %	$253,800	$28,200
Subtotal - PE	**$470,000**	**90 %**	**$423,000**	**$47,000**
Right of Way (ROW) Phase				
Right of Way Engineering	$178,000	90 %	$160,200	$17,800
Appraisals, Acquisitions & Utilities	$10,000	90 %	$9,000	$1,000
Subtotal - Right of Way (ROW)	**$188,000**	**90 %**	**$169,200**	**$18,800**
Construction (CON) Phase				
Construction Engineering (CE)	$282,000	90 %	$253,800	$28,200
Construction Items	$1,880,000 (Read only - from Section I)	90 %	$1,692,000	$188,000
Subtotal - Construction	**$2,162,000**	**90 %**	**$1,945,800**	**$216,200**
PROJECT TOTAL	$2,820,000	90 %	$2,538,000	$282,000

☐ Agency does NOT request **HSIP** funds for PE Phase (automatically checked if PE - HSIP funds is $0).

Interactive Warning/Error Messages:
If there are any messages in the below box, please fix OR explain justification for exceptions in Question No 5, Section II in the HSIP Application.

Section III. Project Location Groups, Countermeasures and Crash Data

The benefit of an HSIP safety project is achieved by reducing potential future crashes due to the application of the safety countermeasures (CMs). In this section, you will need to provide information regarding the project's safety CMs and historical crash data at the project sites. The data will be used to estimate the project benefit in Section IV.

1. Divide the project locations into groups.

It is quite often that an HSIP project has multiple locations. Theoretically the benefit for every single location may be calculated separately and then sum them up. However, that may be time consuming or almost impossible when there are a lot of locations. It is more efficient that the project locations with exactly the same safety countermeasures are combined into a group. The benefits of the locations in the same group can then be calculated at once.

When only one group is needed:

If your project consists of only one location or multiple locations that have similar features, address similar safety issues and utilize the same countermeasure(s). The crash data of all the locations can be combined and only one group is needed.

When multiple groups are needed:

If your project include multiple locations that have various safety issues and the proposed safety improvements (countermeasures) are not exactly the same for all the locations. The locations must be divided into different groups. The project benefits are then calculated multiple times, once for each location group. The project total benefit is the sum of the benefits from the different groups.

It should be noted that within a group, all locations should be of the same type: Signalized Intersection (S), Non-Signalized Intersection (NS), or Roadway (R).

If necessary, you may explain the location grouping for your project in details in Question No. 3 (Crash Data Evaluation), Section II in the HSIP Application Form.

2. After the number of location groups is entered, one subform will be populated for each location group. **For each location group:**

1) First, select the applicable CMs. *Note: If a Roundabout CM (S18 or NS4A or NS4B) is selected, additional information is required.*

For each group, only the CMs of the same type as the group location type can be used. For example, if a group consists of 5 signalized intersections, only "Signalized Intersection" CMs may be used for this group.

2) Based on the selected CMs, crash data tables of the required types are displayed for data entry.

Different CMs will reduce crashes of different types during the life of the safety improvements. Depending on the selected CMs for the group, you will be required to fill in one or more crash data tables, for any combination of the five crash types (datasets): "All" , "Night" , Ped & Bike", "Emergency Vehicle", and "Animal" (Each of the later four datasets is a sub-dataset of the "All" dataset.)

For more information regarding grouping project locations and examples, please refer to the Manual for HSIP Analyzer.

III.1 List of Project Locations and Location Groups

List all locations/sites included in this project by groups. The locations entered in Table III.1 below will be automatically populated in the crash data tables in III.2.

Based on the criteria described on the last page, the locations/sites need to be divided into 1 groups.

Table III.1 List of Project Locations by Groups

Highlighted fields must be filled in. For each group:
1) Must select a Location Type;
2) Initially each group has one location line. Click "+"/"-" to add a new line/delete an existing line;
3) Enter location description for each line. The same descriptions will be auto-populated in III.2.

*Note: If your project has a large number of locations, please aggregate some locations into one description, e.g. 10 stop controlled intersections, 5 horizontal curves, etc., as long as they have similar features and the safety improvements to be implemented are the same.

	No.	No. in Group	Location Description (Intersection Name or Road Limit or General Description)	
GROUP 1			Select Location Type:	R (Roadways)
+ -	1	G1-1	TWLTL with Frontage Rd & Sidewalk	

III.2: Countermeasures and Crash Data

(Repeats for each location group)

Countermeasures and Crash Data -Location Group No. 1 of 1

Hide Group Details

Step 1: Select countermeasure(s) to be applied to this location group

This group's location type: R (Roadways)

Please check the CMs for this location group. All the CMs that have passed the test in Section I AND match the location type of this group are listed below.

	No.	Countermeasure (CM) Name	CM Type*	Crash Reduction Factor (CRF)	Expected Life (Years)	Crash Type	Federal Funding Eligibility
☒	1	R14: Add two-way left-turn lane (without reducing travel lanes)	R	0.3	20	All	90%
☒	2	R30: Install dynamic/variable speed warning signs	R	0.3	10	All	100%
☒	3	R2: Remove or relocate fixed objects outside of Clear Recovery Zone	R	0.35	20	All	90%
	*CM Type: S-Signalized Intersection; NS-Non-Signalized Intersection; R-Roadway.						

Step 2: Provide crash data.

2.1 Crash Data Period: must be between 3 and 5 years.

from (MM/DD/YYYY): 01/01/2012 To (MM/DD/YYYY): 12/31/2016 Crash Data Period (years) = 5

2.2 Fill out the crash data table(s) for the crash type(s) as required by the selected countermeasure(s) in Step 1.

Based on the countermeasures selected in Step 1 , the crash data types to be provided are:

(1) All

Crash Data Table for Crash Type: ALL

No.	Location (from Table III.1)	Fatal (ALL)	Severe Injury (ALL)	Other Visible Injury (ALL)	Complaint of Pain (ALL)	PDO (ALL)	Total
1	TWLTL with Frontage Rd & Sidewalk	1	0	2	3	10	16
	Total	1	0	2	3	10	16

Section IV. Calculation and Results

Click the "Calculate" button to calculate. The script will first check if there are any errors or inconsistencies in the countermeasure selections and crash data. If errors are detected and displayed below, the errors must be fixed first before you click the "Calculate" button again. If no errors are displayed, the calculation results are provided in this section. Please refer to the Manual for HSIP Analyzer for details regarding possible errors.

Calculate

Project Summary Information:

Project Total Cost: 2820000
3 countermeasures are eligible in benefit calculation. (R14 R30 R2)
Project location(s) are divided into 1 group(s) for calculating the benefits.

IV.1 Benefit Summary by location groups

Group No.	Group Info/Data*	Benefit from CM #1	Benefit from CM #2	Benefit from CM #3	Total Benefit of the group
1	Location type: R (Roadways) Number of location(s): 1 Number of selected countermeasure(s): 3 (R14 R30 R2) Crash Data Information: Crash data period (years): 5.01 Number of crashes(F/SI/OVI/I-CP/PDO)*: All: 1,0,2,3,10	$2,413,357	$1,112,761	$2,815,583	$6,341,701
Sum		**$2,413,357**	**$1,112,761**	**$2,815,583**	**$6,341,701**

*Number of crashes: five crash numbers are for Fatal (F), Severe Injury (SI), Other Visible Injury (OVI), Injury - Complaint of Pain (I-CP), and Property Damage Only (PDO), respectively.

IV.2. Project Benefit and BCR Summary

No.	Countermeasure Name	Benefit	Cost	Resulting B/C
1	R14	$2,413,357	$1,917,600	**1.3**
2	R30	$1,112,761	$451,200	**2.5**
3	R2	$2,815,583	$451,200	**6.2**
	Entire Project	**$6,341,701**	**$2,820,000**	**2.2**

Data to be transferred to the HSIP Application Form

This section is generated automatically once the data entry and calculation have been completed. Transfer the data on this page to Section III of the HSIP Application Form.

Safety Countermeasure Information

Number of countermeasures: 3
R14: Add two-way left-turn lane (without reducing travel lanes)
R30: Install dynamic/variable speed warning signs
R2: Remove or relocate fixed objects outside of Clear Recovery Zone

Cost, FRR, Benefit and BCR:

Total Project Cost:	$2,820,000
HSIP Funds Requested:	$2,538,000
Max. Federal Reimbursement Ratio (FRR):	90%
Total Expected Benefit:	$6,341,701
Benefit Cost Ratio:	2.25

HSIP ANALYZER

Cost Estimate, Crash Data and Benefit Cost Ratio (BCR) Calculation for Highway Safety Improvement Program (HSIP) Application

Important: Review and follow the step-by-step instructions in "Manual for HSIP Analyzer". Completing the HSIP Analyzer without referencing to the manual may result in an application with fatal flaws that will be disqualified from the ranking and selection process.

All yellow highlighted fields must be filled in. The gray fields are calculated and read-only. This is a dynamic form (later steps vary depending on the data entered in earlier steps). If any error messages in red appear, fix the errors prior to proceeding to the next steps.

1. Application ID, Project Location and Project Description (copy from the HSIP Application Form):

Application ID:

Save this file using the Application ID plus "Calc" as the file name (e.g. "07-Los Angeles-01Calc.pdf").

Project Location: (limited to 250 characters)

G12: Project Area 4 - Roadway Improvements at Elkhorn Road Bridge

Project Description: (limited to 250 characters)

Widen Bridge for Bike Lanes, Add Sidewalk, add lighting

2. Application Category (Check one):

Application Categories that require a Benefit Cost Ratio (BCR):

- ☒ Common BCR Application
- ☐ Set-aside for High Friction Surface Treatment

Application Categories that do NOT require a Benefit Cost Ratio (BCR):

- ☐ Set-aside for Guardrail Upgrades
- ☐ Set-aside for Horizontal Curve Signing
- ☐ Set-aside for Pedestrian Crossing Enhancements
- ☐ Set-aside for Tribes

Dual consideration?

☐ If an Application Category that does not require a BCR is selected above, check this box to indicate your desire that this application will be considered as a Common BCR Application as well in case it does not get selected for funding under the set-aside category. If this box is checked, a benefit cost analysis is required so the project will have a BCR.

A safety benefit cost analysis is required for this application. This tool will guide through cost estimate, safety benefit evaluation and Benefit Cost Ratio (BCR) calculation.

Section I. Construction Cost Estimate and Cost Breakdown

The purpose of this section is to:

- Provide detailed engineer's estimate (for construction items only). The costs for other phases (PE, ROW, and CE) will be included in Section II.
- Test if countermeasures (CMs) (up to 3) are eligible for being used in the project benefit calculation. For a CM to be used in the project benefit calculation, the construction cost of the CM must be at least 15% of the project's total construction cost, unless an exception is requested. And
- Determine the project's maximum Federal Reimbursement Ratio (FRR).

I.1 Select up to 3 countermeasures (CMs) to be tested in the Engineer's Estimate:

Number of CMs to be used in this project:	3

CM No. 1:	R1: Add segment lighting
CM No. 2:	R13: Widen lane (initially less than 10 ft)
CM No. 3:	R36: Install bike lanes

I.2 Detailed Engineer's Estimate for Construction Items:

Cost breakdown by CMs. For each item, enter a cost percentage for each of the CMs and "Other Safety-Related" (OS) components. (e.g. enter 10 for 10%). The cost % for "Non-Safety-Related" (NS) components is calculated.

	No.	Item Description	Unit	Quantity	Unit Cost	Total	% for CM#1 (R1)	% for CM#2 (R13)	% for CM#3 (R36)	% for OS*	% for NS**
+ -	1	Widen for bikes, sw, add lighting	EA	1	3,469,230	3,469,230	40%	40%	20%	0%	0
		Weighted Average (%) Total ($)				$3,469,230	40%	40%	20%		

* % for OS: Cost % for Other Safety-Related components;
** % for NS: Cost % for Non Safety-Related components.

Contingencies, as % of the above "Total" of the construction items: (e.g. enter 10 for 10%)	30 %	$1,040,769
Total Construction Cost (Con Items & Contingencies): (Rounded up to the nearest hundreds)		$4,510,000

I.3 Summary

3 CM(s) are eligible to be used in the project benefit calculation.

Countermeasure ID	Federal Funding Eligibility (FFE)	Cost %	Eligible to be used in benefit calculation?	Request exception to the 15% rule*
R1	100%	40.00%	Yes (>=15% cost)	☐
R13	90%	40.00%	Yes (>=15% cost)	☐
R36	90%	20.00%	Yes (>=15% cost)	☐

*By requesting an exception to the 15% rule, the CM with less than 15% of the construction cost will then be eligible to be used in the benefit calculation. if an exception is requested for any CM(s) above, please provide the reason (low cost treatment with significant safety benefits, etc.):

Project's Maximum Federal Reimbursement Ratio = 90.0%

The project's Maximum Federal Reimbursement Ratio is calculated as the least of the FFEs of the above countermeasures, minus the percentage of the non-safety related costs in excess of 10%. **This is the maximum value allowed to be entered in "HSIP/Total (%)" column in Section II (Project Cost Estimate).**

Section II. Project Cost Estimate

All project costs, **for all phases and by all funding sources**, must be accounted for on this form.

i. "**Total Cost**": Round all costs up to the nearest hundred dollars.

ii. "**HSIP/Total (%)**": The maximum allowed is the project's Federal Reimbursement Ratio (FRR) as determined in Section I. Click the button to assign the maximum to all, OR enter if not the maximum.

iii. "**HSIP Funds**" and "**Local/Other Funds**" are calculated.

Pay attention to the interactive warning/error messages below the table. The messages, if any, must be fixed, or exceptions should be justified in Question No. 5 in Section II of the HSIP Application Form.

Project's maximum Federal Reimbursement Ratio (FRR) (from Section I, rounded up to integer): 90 %

To set all "HSIP/Total (%)" in the below table to the above maximum FRR, click "Set": Set

Description	Total Cost	HISP/Total (%)	HSIP Funds	Local/Other Funds
Preliminary Engineering (PE) Phase				
Environmental	$451,000	90 %	$405,900	$45,100
PS&E	$676,500	90 %	$608,850	$67,650
Subtotal - PE	**$1,127,500**	**90 %**	**$1,014,750**	**$112,750**
Right of Way (ROW) Phase				
Right of Way Engineering	$401,000	90 %	$360,900	$40,100
Appraisals, Acquisitions & Utilities	$50,000	90 %	$45,000	$5,000
Subtotal - Right of Way (ROW)	**$451,000**	**90 %**	**$405,900**	**$45,100**
Construction (CON) Phase				
Construction Engineering (CE)	$676,500	90 %	$608,850	$67,650
Construction Items	$4,510,000 (Read only - from Section I)	90 %	$4,059,000	$451,000
Subtotal - Construction	**$5,186,500**	**90 %**	**$4,667,850**	**$518,650**
PROJECT TOTAL	$6,765,000	90 %	$6,088,500	$676,500

☐ Agency does NOT request **HSIP** funds for PE Phase (automatically checked if PE - HSIP funds is $0).

Interactive Warning/Error Messages:

If there are any messages in the below box, please fix OR explain justification for exceptions in Question No 5, Section II in the HSIP Application.

Section III. Project Location Groups, Countermeasures and Crash Data

The benefit of an HSIP safety project is achieved by reducing potential future crashes due to the application of the safety countermeasures (CMs). In this section, you will need to provide information regarding the project's safety CMs and historical crash data at the project sites. The data will be used to estimate the project benefit in Section IV.

1. Divide the project locations into groups.

It is quite often that an HSIP project has multiple locations. Theoretically the benefit for every single location may be calculated separately and then sum them up. However, that may be time consuming or almost impossible when there are a lot of locations. It is more efficient that the project locations with exactly the same safety countermeasures are combined into a group. The benefits of the locations in the same group can then be calculated at once.

When only one group is needed:

If your project consists of only one location or multiple locations that have similar features, address similar safety issues and utilize the same countermeasure(s). The crash data of all the locations can be combined and only one group is needed.

When multiple groups are needed:

If your project include multiple locations that have various safety issues and the proposed safety improvements (countermeasures) are not exactly the same for all the locations. The locations must be divided into different groups. The project benefits are then calculated multiple times, once for each location group. The project total benefit is the sum of the benefits from the different groups.

It should be noted that within a group, all locations should be of the same type: Signalized Intersection (S), Non-Signalized Intersection (NS), or Roadway (R).

If necessary, you may explain the location grouping for your project in details in Question No. 3 (Crash Data Evaluation), Section II in the HSIP Application Form.

2. After the number of location groups is entered, one subform will be populated for each location group. **For each location group:**

1) First, select the applicable CMs. *Note: If a Roundabout CM (S18 or NS4A or NS4B) is selected, additional information is required.*

For each group, only the CMs of the same type as the group location type can be used. For example, if a group consists of 5 signalized intersections, only "Signalized Intersection" CMs may be used for this group.

2) Based on the selected CMs, crash data tables of the required types are displayed for data entry.

Different CMs will reduce crashes of different types during the life of the safety improvements. Depending on the selected CMs for the group, you will be required to fill in one or more crash data tables, for any combination of the five crash types (datasets): "All" , "Night" , Ped & Bike", "Emergency Vehicle", and "Animal" (Each of the later four datasets is a sub-dataset of the "All" dataset.)

For more information regarding grouping project locations and examples, please refer to the Manual for HSIP Analyzer.

III.1 List of Project Locations and Location Groups

List all locations/sites included in this project by groups. The locations entered in Table III.1 below will be automatically populated in the crash data tables in III.2.

Based on the criteria described on the last page, the locations/sites need to be divided into 1 groups.

Table III.1 List of Project Locations by Groups

Highlighted fields must be filled in. For each group:
1) Must select a Location Type;
2) Initially each group has one location line. Click "+"/"-" to add a new line/delete an existing line;
3) Enter location description for each line. The same descriptions will be auto-populated in III.2.

*Note: If your project has a large number of locations, please aggregate some locations into one description, e.g. 10 stop controlled intersections, 5 horizontal curves, etc., as long as they have similar features and the safety improvements to be implemented are the same.

	No.	No. in Group	Location Description (Intersection Name or Road Limit or General Description)	
GROUP 1			Select Location Type:	R (Roadways)
+ -	1	G1-1	All Roadway Improvements - Bridge widening	

III.2: Countermeasures and Crash Data

(Repeats for each location group)

Countermeasures and Crash Data -Location Group No. 1 of 1

Hide Group Details

Step 1: Select countermeasure(s) to be applied to this location group

This group's location type: R (Roadways)

Please check the CMs for this location group. All the CMs that have passed the test in Section I AND match the location type of this group are listed below.

	No.	Countermeasure (CM) Name	CM Type*	Crash Reduction Factor (CRF)	Expected Life (Years)	Crash Type	Federal Funding Eligibility
☒	1	R1: Add segment lighting	R	0.35	20	Night	100%
☒	2	R13: Widen lane (initially less than 10 ft)	R	0.25	20	All	90%
☒	3	R36: Install bike lanes	R	0.35	20	Ped & Bike	90%
	*CM Type: S-Signalized Intersection; NS-Non-Signalized Intersection; R-Roadway.						

Step 2: Provide crash data.

2.1 Crash Data Period: must be between 3 and 5 years.

from (MM/DD/YYYY): 01/01/2012 To (MM/DD/YYYY): 12/31/2016 Crash Data Period (years) = 5

2.2 Fill out the crash data table(s) for the crash type(s) as required by the selected countermeasure(s) in Step 1.

Based on the countermeasures selected in Step 1 , the crash data types to be provided are:

(1) All (2) Night (3) Ped & Bike

Crash Data Table for Crash Type: ALL

No.	Location (from Table III.1)	Fatal (ALL)	Severe Injury (ALL)	Other Visible Injury (ALL)	Complaint of Pain (ALL)	PDO (ALL)	Total
1	All Roadway Improvements - Bridge widening	1	0	3	6	10	20
	Total	1	0	3	6	10	20

Crash Data Table for Crash Type: Night-time (Night)

No.	Location (from Table III.1)	Fatal (Night)	Severe Injury (Night)	Other Visible Injury (Night)	Complaint of Pain (Night)	PDO (Night)	Total
1	All Roadway Improvements - Bridge widening	0	0	3	1	8	12
	Total	0	0	3	1	8	12

No.	Location (from Table III.1)	Fatal (P&B)	Severe Injury (P&B)	Other Visible Injury (P&B)	Complaint of Pain (P&B)	PDO (P&B)	Total
Crash Data Table for Crash Type: Pedestrians and Bicyclists Involved (P&B)							
No.	Location (from Table III.1)	Fatal (P&B)	Severe Injury (P&B)	Other Visible Injury (P&B)	Complaint of Pain (P&B)	PDO (P&B)	Total
1	All Roadway Improvements - Bridge widening	0	0	0	0	0	0
	Total	0	0	0	0	0	0

Section IV. Calculation and Results

Click the "Calculate" button to calculate. The script will first check if there are any errors or inconsistencies in the countermeasure selections and crash data. If errors are detected and displayed below, the errors must be fixed first before you click the "Calculate" button again. If no errors are displayed, the calculation results are provided in this section. Please refer to the Manual for HSIP Analyzer for details regarding possible errors.

Calculate

Project Summary Information:

Project Total Cost: 6765000
3 countermeasures are eligible in benefit calculation. (R1 R13 R36)
Project location(s) are divided into 1 group(s) for calculating the benefits.

IV.1 Benefit Summary by location groups

Group No.	Group Info/Data*	Benefit from CM #1	Benefit from CM #2	Benefit from CM #3	Total Benefit of the group
1	Location type: R (Roadways) Number of location(s): 1 Number of selected countermeasure(s): 3 (R1 R13 R36) Crash Data Information: Crash data period (years): 5.01 Number of crashes(F/SI/OVI/I-CP/PDO)*: All: 1,0,3,6,10 Night: 0,0,3,1,8 Ped & Bike: 0,0,0,0,0	$572,777	$2,927,296	$0	$3,500,073
Sum		**$572,777**	**$2,927,296**	**$0**	**$3,500,073**

*Number of crashes: five crash numbers are for Fatal (F), Severe Injury (SI), Other Visible Injury (OVI), Injury - Complaint of Pain (I-CP), and Property Damage Only (PDO), respectively.

IV.2. Project Benefit and BCR Summary

No.	Countermeasure Name	Benefit	Cost	Resulting B/C
1	R1	$572,777	$2,706,000	**0.2**
2	R13	$2,927,296	$2,706,000	**1.1**
3	R36	$0	$1,353,000	**0**
	Entire Project	**$3,500,073**	**$6,765,000**	**0.5**

Data to be transferred to the HSIP Application Form

This section is generated automatically once the data entry and calculation have been completed. Transfer the data on this page to Section III of the HSIP Application Form.

Safety Countermeasure Information

Number of countermeasures: 3
- R1: Add segment lighting
- R13: Widen lane (initially less than 10 ft)
- R36: Install bike lanes

Cost, FRR, Benefit and BCR:

Total Project Cost:	$6,765,000
HSIP Funds Requested:	$6,088,500
Max. Federal Reimbursement Ratio (FRR):	90%
Total Expected Benefit:	$3,500,073
Benefit Cost Ratio:	0.52

HSIP ANALYZER

Cost Estimate, Crash Data and Benefit Cost Ratio (BCR) Calculation for Highway Safety Improvement Program (HSIP) Application

Important: Review and follow the step-by-step instructions in "Manual for HSIP Analyzer". Completing the HSIP Analyzer without referencing to the manual may result in an application with fatal flaws that will be disqualified from the ranking and selection process.

All yellow highlighted fields must be filled in. The gray fields are calculated and read-only. This is a dynamic form (later steps vary depending on the data entered in earlier steps). If any error messages in red appear, fix the errors prior to proceeding to the next steps.

1. Application ID, Project Location and Project Description (copy from the HSIP Application Form):

Application ID:

Save this file using the Application ID plus "Calc" as the file name (e.g. "07-Los Angeles-01Calc.pdf").

Project Location: (limited to 250 characters)

G12: Project Area 5 - Intersection Improvements

Project Description: (limited to 250 characters)

Roundabout at Werner Rd/Salinas Rd
Traffic Signal at Hillcrest Rd

2. Application Category (Check one):

Application Categories that require a Benefit Cost Ratio (BCR):

- ☒ Common BCR Application
- ☐ Set-aside for High Friction Surface Treatment

Application Categories that do NOT require a Benefit Cost Ratio (BCR):

- ☐ Set-aside for Guardrail Upgrades
- ☐ Set-aside for Horizontal Curve Signing
- ☐ Set-aside for Pedestrian Crossing Enhancements
- ☐ Set-aside for Tribes

Dual consideration?

☐ If an Application Category that does not require a BCR is selected above, check this box to indicate your desire that this application will be considered as a Common BCR Application as well in case it does not get selected for funding under the set-aside category. If this box is checked, a benefit cost analysis is required so the project will have a BCR.

A safety benefit cost analysis is required for this application. This tool will guide through cost estimate, safety benefit evaluation and Benefit Cost Ratio (BCR) calculation.

Section I. Construction Cost Estimate and Cost Breakdown

The purpose of this section is to:

- Provide detailed engineer's estimate (for construction items only). The costs for other phases (PE, ROW, and CE) will be included in Section II.
- Test if countermeasures (CMs) (up to 3) are eligible for being used in the project benefit calculation. For a CM to be used in the project benefit calculation, the construction cost of the CM must be at least 15% of the project's total construction cost, unless an exception is requested. And
- Determine the project's maximum Federal Reimbursement Ratio (FRR).

I.1 Select up to 3 countermeasures (CMs) to be tested in the Engineer's Estimate:

Number of CMs to be used in this project:	2

CM No. 1:	NS4B: Convert intersection to roundabout (from stop or yield control on minor road)
CM No. 2:	NS3: Install signals

I.2 Detailed Engineer's Estimate for Construction Items:

Cost breakdown by CMs. For each item, enter a cost percentage for each of the CMs and "Other Safety-Related" (OS) components. (e.g. enter 10 for 10%). The cost % for "Non-Safety-Related" (NS) components is calculated.

	No.	Item Description	Unit	Quantity	Unit Cost	Total	% for CM#1 (NS4B)	% for CM#2 (NS3)	% for OS*	% for NS**
+ -	1	Roundabout	EA	1	6,824,615	6,824,615	95%	5%	%	0
+ -	2	Traffic Signal	EA	1	876,154	876,154	%	100%	%	0
					Weighted Average (%)		84%	16%		
					Total ($)	$7,700,769				

* % for OS: Cost % for Other Safety-Related components;
** % for NS: Cost % for Non Safety-Related components.

Contingencies, as % of the above "Total" of the construction items: 30 % $2,310,231
(e.g. enter 10 for 10%)

Total Construction Cost (Con Items & Contingencies): 10,011,000
(Rounded up to the nearest hundreds)

I.3 Summary

2 CM(s) are eligible to be used in the project benefit calculation.

Countermeasure ID	Federal Funding Eligibility (FFE)	Cost %	Eligible to be used in benefit calculation?	Request exception to the 15% rule*
NS4B	100%	84.19%	Yes (>=15% cost)	☐
NS3	100%	15.81%	Yes (>=15% cost)	☐

*By requesting an exception to the 15% rule, the CM with less than 15% of the construction cost will then be eligible to be used in the benefit calculation. if an exception is requested for any CM(s) above, please provide the reason (low cost treatment with significant safety benefits, etc.):

Need to check SAFETY - MUTCD Warrants 4 5 or 7 at this location for eligibility.

Project's Maximum Federal Reimbursement Ratio = 100.0%

The project's Maximum Federal Reimbursement Ratio is calculated as the least of the FFEs of the above countermeasures, minus the percentage of the non-safety related costs in excess of 10%. **This is the maximum value allowed to be entered in "HSIP/Total (%)" column in Section II (Project Cost Estimate).**

Section II. Project Cost Estimate

All project costs, **for all phases and by all funding sources**, must be accounted for on this form.

i. "**Total Cost**": Round all costs up to the nearest hundred dollars.

ii. "**HSIP/Total (%)**": The maximum allowed is the project's Federal Reimbursement Ratio (FRR) as determined in Section I. Click the button to assign the maximum to all, OR enter if not the maximum.

iii. "**HSIP Funds**" and "**Local/Other Funds**" are calculated.

Pay attention to the interactive warning/error messages below the table. The messages, if any, must be fixed, or exceptions should be justified in Question No. 5 in Section II of the HSIP Application Form.

Project's maximum Federal Reimbursement Ratio (FRR) (from Section I, rounded up to integer): 100 %

To set all "HSIP/Total (%)" in the below table to the above maximum FRR, click "Set": Set

Description	Total Cost	HISP/Total (%)	HSIP Funds	Local/Other Funds
Preliminary Engineering (PE) Phase				
Environmental	$1,001,100	100 %	$1,001,100	$0
PS&E	$1,501,700	100 %	$1,501,700	$0
Subtotal - PE	**$2,502,800**	**100 %**	**$2,502,800**	**$0**
Right of Way (ROW) Phase				
Right of Way Engineering	$1,000	100 %	$1,000	$0
Appraisals, Acquisitions & Utilities	$1,000,000	100 %	$1,000,000	$0
Subtotal - Right of Way (ROW)	**$1,001,000**	**100 %**	**$1,001,000**	**$0**
Construction (CON) Phase				
Construction Engineering (CE)	$1,501,700	100 %	$1,501,700	$0
Construction Items	10,011,000 (Read only - from Section I)	100 %	10,011,000	$0
Subtotal - Construction	**11,512,700**	**100 %**	**11,512,700**	**$0**
PROJECT TOTAL	15,016,500	100 %	15,016,500	$0

☐ Agency does NOT request **HSIP** funds for PE Phase (automatically checked if PE - HSIP funds is $0).

Interactive Warning/Error Messages:

If there are any messages in the below box, please fix OR explain justification for exceptions in Question No 5, Section II in the HSIP Application.

1. The HSIP amount requested exceeds $10 million.

Section III. Project Location Groups, Countermeasures and Crash Data

The benefit of an HSIP safety project is achieved by reducing potential future crashes due to the application of the safety countermeasures (CMs). In this section, you will need to provide information regarding the project's safety CMs and historical crash data at the project sites. The data will be used to estimate the project benefit in Section IV.

1. Divide the project locations into groups.

It is quite often that an HSIP project has multiple locations. Theoretically the benefit for every single location may be calculated separately and then sum them up. However, that may be time consuming or almost impossible when there are a lot of locations. It is more efficient that the project locations with exactly the same safety countermeasures are combined into a group. The benefits of the locations in the same group can then be calculated at once.

When only one group is needed:

If your project consists of only one location or multiple locations that have similar features, address similar safety issues and utilize the same countermeasure(s). The crash data of all the locations can be combined and only one group is needed.

When multiple groups are needed:

If your project include multiple locations that have various safety issues and the proposed safety improvements (countermeasures) are not exactly the same for all the locations. The locations must be divided into different groups. The project benefits are then calculated multiple times, once for each location group. The project total benefit is the sum of the benefits from the different groups.

It should be noted that within a group, all locations should be of the same type: Signalized Intersection (S), Non-Signalized Intersection (NS), or Roadway (R).

If necessary, you may explain the location grouping for your project in details in Question No. 3 (Crash Data Evaluation), Section II in the HSIP Application Form.

2. After the number of location groups is entered, one subform will be populated for each location group. **For each location group:**

1) First, select the applicable CMs. *Note: If a Roundabout CM (S18 or NS4A or NS4B) is selected, additional information is required.*

For each group, only the CMs of the same type as the group location type can be used. For example, if a group consists of 5 signalized intersections, only "Signalized Intersection" CMs may be used for this group.

2) Based on the selected CMs, crash data tables of the required types are displayed for data entry.

Different CMs will reduce crashes of different types during the life of the safety improvements. Depending on the selected CMs for the group, you will be required to fill in one or more crash data tables, for any combination of the five crash types (datasets): "All" , "Night" , Ped & Bike", "Emergency Vehicle", and "Animal" (Each of the later four datasets is a sub-dataset of the "All" dataset.)

For more information regarding grouping project locations and examples, please refer to the Manual for HSIP Analyzer.

III.1 List of Project Locations and Location Groups

List all locations/sites included in this project by groups. The locations entered in Table III.1 below will be automatically populated in the crash data tables in III.2.

Based on the criteria described on the last page, the locations/sites need to be divided into 2 groups.

Table III.1 List of Project Locations by Groups

Highlighted fields must be filled in. For each group:
1) Must select a Location Type;
2) Initially each group has one location line. Click "+"/"-" to add a new line/delete an existing line;
3) Enter location description for each line. The same descriptions will be auto-populated in III.2.

*Note: If your project has a large number of locations, please aggregate some locations into one description, e.g. 10 stop controlled intersections, 5 horizontal curves, etc., as long as they have similar features and the safety improvements to be implemented are the same.

	No.	No. in Group	Location Description (Intersection Name or Road Limit or General Description)	
GROUP 1			Select Location Type:	NS (Non-signalized Intersections)
+ -	1	G1-1	Roundabout	
GROUP 2			Select Location Type:	NS (Non-signalized Intersections)
+ -	2	G2-1	Traffic Signal	

III.2: Countermeasures and Crash Data

(Repeats for each location group)

Countermeasures and Crash Data -Location Group No. 1 of 2

Hide Group Details

Step 1: Select countermeasure(s) to be applied to this location group

This group's location type: NS (Non-signalized Intersections)

Please check the CMs for this location group. All the CMs that have passed the test in Section I AND match the location type of this group are listed below.

	No.	Countermeasure (CM) Name	CM Type*	Crash Reduction Factor (CRF)	Expected Life (Years)	Crash Type	Federal Funding Eligibility
☒	1	NS4B: Convert intersection to roundabout (from stop or yield control on minor road)	NS	0.5	20	All	100%
☐	2	NS3: Install signals	NS	0.25	20	All	100%
	*CM Type: S-Signalized Intersection; NS-Non-Signalized Intersection; R-Roadway.						

Additional information is required:

Since Roundabout is selected, the below additional information is required for calculating Roundabout benefit.

Roundabout Location	Please select:	Rural				
Intersection Type	Please select:	T Intersection				
Roundabout Lanes	Please select:	1 Lane				
ADT	Major Road:	20,170	Minor Road:	17,580	**Total**	**37,750**

Step 2: Provide crash data.

2.1 Crash Data Period: must be between 3 and 5 years.

from (MM/DD/YYYY): 01/01/2012 To (MM/DD/YYYY): 12/31/2016 Crash Data Period (years) = 5

2.2 Fill out the crash data table(s) for the crash type(s) as required by the selected countermeasure(s) in Step 1.

Based on the countermeasures selected in Step 1 , the crash data types to be provided are:

(1) All

Crash Data Table for Crash Type: ALL

No.	Location (from Table III.1)	Fatal (ALL)	Severe Injury (ALL)	Other Visible Injury (ALL)	Complaint of Pain (ALL)	PDO (ALL)	Total
1	Roundabout	1	3	24	23	48	99
	Total	1	3	24	23	48	99

III.2: Countermeasures and Crash Data

(Repeats for each location group)

Countermeasures and Crash Data -Location Group No. 2 of 2

Hide Group Details

Step 1: Select countermeasure(s) to be applied to this location group

This group's location type: NS (Non-signalized Intersections)

Please check the CMs for this location group. All the CMs that have passed the test in Section I AND match the location type of this group are listed below.

	No.	Countermeasure (CM) Name	CM Type*	Crash Reduction Factor (CRF)	Expected Life (Years)	Crash Type	Federal Funding Eligibility
☐	1	NS4B: Convert intersection to roundabout (from stop or yield control on minor road)	NS	0.5	20	All	100%
☒	2	NS3: Install signals	NS	0.25	20	All	100%
	*CM Type: S-Signalized Intersection; NS-Non-Signalized Intersection; R-Roadway.						

Step 2: Provide crash data.

2.1 Crash Data Period: must be between 3 and 5 years.

from (MM/DD/YYYY): 01/01/2012 To (MM/DD/YYYY): 12/31/2016 Crash Data Period (years) = 5

2.2 Fill out the crash data table(s) for the crash type(s) as required by the selected countermeasure(s) in Step 1.

Based on the countermeasures selected in Step 1 , the crash data types to be provided are:

(1) All

Crash Data Table for Crash Type: ALL

No.	Location (from Table III.1)	Fatal (ALL)	Severe Injury (ALL)	Other Visible Injury (ALL)	Complaint of Pain (ALL)	PDO (ALL)	Total
1	Traffic Signal	0	0	0	0	2	2
	Total	0	0	0	0	2	2

Section IV. Calculation and Results

Click the "Calculate" button to calculate. The script will first check if there are any errors or inconsistencies in the countermeasure selections and crash data. If errors are detected and displayed below, the errors must be fixed first before you click the "Calculate" button again. If no errors are displayed, the calculation results are provided in this section. Please refer to the Manual for HSIP Analyzer for details regarding possible errors.

Calculate

Project Summary Information:

Project Total Cost: 15016500
2 countermeasures are eligible in benefit calculation. (NS4B NS3)
Project location(s) are divided into 2 group(s) for calculating the benefits.

IV.1 Benefit Summary by location groups

Group No.	Group Info/Data*	Benefit from CM #1	Benefit from CM #2	Benefit from CM #3	Total Benefit of the group
1	Location type: NS (Non-signalized Intersections) Number of location(s): 1 Number of selected countermeasure(s): 1 (NS4B) Crash Data Information: Crash data period (years): 5.01 Number of crashes(F/SI/OVI/I-CP/PDO)*: All: 1,3,24,23,48	$118,089,497	$0	$0	$118,089,497
2	Location type: NS (Non-signalized Intersections) Number of location(s): 1 Number of selected countermeasure(s): 1 (NS3) Crash Data Information: Crash data period (years): 5.01 Number of crashes(F/SI/OVI/I-CP/PDO)*: All: 0,0,0,0,2	$0	$23,588	$0	$23,588
Sum		**$118,089,497**	**$23,588**	**$0**	**$118,113,085**

*Number of crashes: five crash numbers are for Fatal (F), Severe Injury (SI), Other Visible Injury (OVI), Injury - Complaint of Pain (I-CP), and Property Damage Only (PDO), respectively.

IV.2. Project Benefit and BCR Summary

No.	Countermeasure Name	Benefit	Cost	Resulting B/C
1	NS4B	118,089,497	12,642,599.62885	**9.3**
2	NS3	$23,588	$2,373,900	**0**
3		$0	$0	**0**
	Entire Project	**118,113,085**	**15,016,500**	**7.9**

Data to be transferred to the HSIP Application Form

This section is generated automatically once the data entry and calculation have been completed. Transfer the data on this page to Section III of the HSIP Application Form.

Safety Countermeasure Information

Number of countermeasures: 2

NS4B: Convert intersection to roundabout (from stop or yield control on minor road)

NS3: Install signals

Cost, FRR, Benefit and BCR:

Total Project Cost:	15,016,500
HSIP Funds Requested:	15,016,500
Max. Federal Reimbursement Ratio (FRR):	100%
Total Expected Benefit:	118,113,085
Benefit Cost Ratio:	7.87

HSIP ANALYZER

Cost Estimate, Crash Data and Benefit Cost Ratio (BCR) Calculation for Highway Safety Improvement Program (HSIP) Application

Important: Review and follow the step-by-step instructions in "Manual for HSIP Analyzer". Completing the HSIP Analyzer without referencing to the manual may result in an application with fatal flaws that will be disqualified from the ranking and selection process.

All yellow highlighted fields must be filled in. The gray fields are calculated and read-only. This is a dynamic form (later steps vary depending on the data entered in earlier steps). If any error messages in red appear, fix the errors prior to proceeding to the next steps.

1. Application ID, Project Location and Project Description (copy from the HSIP Application Form):

Application ID:

Save this file using the Application ID plus "Calc" as the file name (e.g. "07-Los Angeles-01Calc.pdf").

Project Location: (limited to 250 characters)

G12: Project Area 6 - Roadway Improvements

Project Description: (limited to 250 characters)

Salinas Road Road Diet & Buffered Bike Lane
Pajaro Bike Lane

2. Application Category (Check one):

Application Categories that require a Benefit Cost Ratio (BCR):

- ☒ Common BCR Application
- ☐ Set-aside for High Friction Surface Treatment

Application Categories that do NOT require a Benefit Cost Ratio (BCR):

- ☐ Set-aside for Guardrail Upgrades
- ☐ Set-aside for Horizontal Curve Signing
- ☐ Set-aside for Pedestrian Crossing Enhancements
- ☐ Set-aside for Tribes

Dual consideration?

☐ If an Application Category that does not require a BCR is selected above, check this box to indicate your desire that this application will be considered as a Common BCR Application as well in case it does not get selected for funding under the set-aside category. If this box is checked, a benefit cost analysis is required so the project will have a BCR.

A safety benefit cost analysis is required for this application. This tool will guide through cost estimate, safety benefit evaluation and Benefit Cost Ratio (BCR) calculation.

Section I. Construction Cost Estimate and Cost Breakdown

The purpose of this section is to:

- Provide detailed engineer's estimate (for construction items only). The costs for other phases (PE, ROW, and CE) will be included in Section II.
- Test if countermeasures (CMs) (up to 3) are eligible for being used in the project benefit calculation. For a CM to be used in the project benefit calculation, the construction cost of the CM must be at least 15% of the project's total construction cost, unless an exception is requested. And
- Determine the project's maximum Federal Reimbursement Ratio (FRR).

I.1 Select up to 3 countermeasures (CMs) to be tested in the Engineer's Estimate:

Number of CMs to be used in this project: 3

CM No. 1:	R15: Road Diet (Reduce travel lanes from 4 to 3 and add a two way left-turn and bike lanes)
CM No. 2:	R36: Install bike lanes
CM No. 3:	R30: Install dynamic/variable speed warning signs

I.2 Detailed Engineer's Estimate for Construction Items:

Cost breakdown by CMs. For each item, enter a cost percentage for each of the CMs and "Other Safety-Related" (OS) components. (e.g. enter 10 for 10%). The cost % for "Non-Safety-Related" (NS) components is calculated.

	No.	Item Description	Unit	Quantity	Unit Cost	Total	% for CM#1 (R15)	% for CM#2 (R36)	% for CM#3 (R30)	% for OS*	% for NS**
+ -	1	Salinas Road - Road Diet	EA	1	161,538	161,538	70%	%	30%	%	0
+ -	2	Bike Lanes in Pajaro	EA	1	115,385	115,385	%	100%	%	%	0
		Weighted Average (%) Total ($)				$276,923	41%	42%	17%		

* % for OS: Cost % for Other Safety-Related components;
** % for NS: Cost % for Non Safety-Related components.

Contingencies, as % of the above "Total" of the construction items: 30 % $83,077
(e.g. enter 10 for 10%)

Total Construction Cost (Con Items & Contingencies): $360,000
(Rounded up to the nearest hundreds)

I.3 Summary

3 CM(s) are eligible to be used in the project benefit calculation.

Countermeasure ID	Federal Funding Eligibility (FFE)	Cost %	Eligible to be used in benefit calculation?	Request exception to the 15% rule*
R15	90%	40.83%	Yes (>=15% cost)	☐
R36	90%	41.67%	Yes (>=15% cost)	☐
R30	100%	17.50%	Yes (>=15% cost)	☐

*By requesting an exception to the 15% rule, the CM with less than 15% of the construction cost will then be eligible to be used in the benefit calculation. if an exception is requested for any CM(s) above, please provide the reason (low cost treatment with significant safety benefits, etc.):

Project's Maximum Federal Reimbursement Ratio = 90.0%

The project's Maximum Federal Reimbursement Ratio is calculated as the least of the FFEs of the above countermeasures, minus the percentage of the non-safety related costs in excess of 10%. **This is the maximum value allowed to be entered in "HSIP/Total (%)" column in Section II (Project Cost Estimate).**

Section II. Project Cost Estimate

All project costs, **for all phases and by all funding sources**, must be accounted for on this form.

i. "**Total Cost**": Round all costs up to the nearest hundred dollars.

ii. "**HSIP/Total (%)**": The maximum allowed is the project's Federal Reimbursement Ratio (FRR) as determined in Section I. Click the button to assign the maximum to all, OR enter if not the maximum.

iii. "**HSIP Funds**" and "**Local/Other Funds**" are calculated.

Pay attention to the interactive warning/error messages below the table. The messages, if any, must be fixed, or exceptions should be justified in Question No. 5 in Section II of the HSIP Application Form.

Project's maximum Federal Reimbursement Ratio (FRR) (from Section I, rounded up to integer): 90 %

To set all "HSIP/Total (%)" in the below table to the above maximum FRR, click "Set": Set

Description	Total Cost	HISP/Total (%)	HSIP Funds	Local/Other Funds
Preliminary Engineering (PE) Phase				
Environmental	$36,000	90 %	$32,400	$3,600
PS&E	$54,000	90 %	$48,600	$5,400
Subtotal - PE	**$90,000**	**90 %**	**$81,000**	**$9,000**
Right of Way (ROW) Phase				
Right of Way Engineering	$30,000	90 %	$27,000	$3,000
Appraisals, Acquisitions & Utilities	$6,000	90 %	$5,400	$600
Subtotal - Right of Way (ROW)	**$36,000**	**90 %**	**$32,400**	**$3,600**
Construction (CON) Phase				
Construction Engineering (CE)	$54,000	90 %	$48,600	$5,400
Construction Items	$360,000 (Read only - from Section I)	90 %	$324,000	$36,000
Subtotal - Construction	**$414,000**	**90 %**	**$372,600**	**$41,400**
PROJECT TOTAL	$540,000	90 %	$486,000	$54,000

☐ Agency does NOT request **HSIP** funds for PE Phase (automatically checked if PE - HSIP funds is $0).

Interactive Warning/Error Messages:
If there are any messages in the below box, please fix OR explain justification for exceptions in Question No 5, Section II in the HSIP Application.

Section III. Project Location Groups, Countermeasures and Crash Data

The benefit of an HSIP safety project is achieved by reducing potential future crashes due to the application of the safety countermeasures (CMs). In this section, you will need to provide information regarding the project's safety CMs and historical crash data at the project sites. The data will be used to estimate the project benefit in Section IV.

1. Divide the project locations into groups.

It is quite often that an HSIP project has multiple locations. Theoretically the benefit for every single location may be calculated separately and then sum them up. However, that may be time consuming or almost impossible when there are a lot of locations. It is more efficient that the project locations with exactly the same safety countermeasures are combined into a group. The benefits of the locations in the same group can then be calculated at once.

When only one group is needed:

If your project consists of only one location or multiple locations that have similar features, address similar safety issues and utilize the same countermeasure(s). The crash data of all the locations can be combined and only one group is needed.

When multiple groups are needed:

If your project include multiple locations that have various safety issues and the proposed safety improvements (countermeasures) are not exactly the same for all the locations. The locations must be divided into different groups. The project benefits are then calculated multiple times, once for each location group. The project total benefit is the sum of the benefits from the different groups.

It should be noted that within a group, all locations should be of the same type: Signalized Intersection (S), Non-Signalized Intersection (NS), or Roadway (R).

If necessary, you may explain the location grouping for your project in details in Question No. 3 (Crash Data Evaluation), Section II in the HSIP Application Form.

2. After the number of location groups is entered, one subform will be populated for each location group. **For each location group:**

1) First, select the applicable CMs. *Note: If a Roundabout CM (S18 or NS4A or NS4B) is selected, additional information is required.*

For each group, only the CMs of the same type as the group location type can be used. For example, if a group consists of 5 signalized intersections, only "Signalized Intersection" CMs may be used for this group.

2) Based on the selected CMs, crash data tables of the required types are displayed for data entry.

Different CMs will reduce crashes of different types during the life of the safety improvements. Depending on the selected CMs for the group, you will be required to fill in one or more crash data tables, for any combination of the five crash types (datasets): "All" , "Night" , Ped & Bike", "Emergency Vehicle", and "Animal" (Each of the later four datasets is a sub-dataset of the "All" dataset.)

For more information regarding grouping project locations and examples, please refer to the Manual for HSIP Analyzer.

III.1 List of Project Locations and Location Groups

List all locations/sites included in this project by groups. The locations entered in Table III.1 below will be automatically populated in the crash data tables in III.2.

Based on the criteria described on the last page, the locations/sites need to be divided into 1 groups.

Table III.1 List of Project Locations by Groups

Highlighted fields must be filled in. For each group:
1) Must select a Location Type;
2) Initially each group has one location line. Click "+"/"-" to add a new line/delete an existing line;
3) Enter location description for each line. The same descriptions will be auto-populated in III.2.

*Note: If your project has a large number of locations, please aggregate some locations into one description, e.g. 10 stop controlled intersections, 5 horizontal curves, etc., as long as they have similar features and the safety improvements to be implemented are the same.

	No.	No. in Group	Location Description (Intersection Name or Road Limit or General Description)	
GROUP 1			Select Location Type:	R (Roadways)
+ -	1	G1-1	Road-Diet, Bike Lane	

III.2: Countermeasures and Crash Data

(Repeats for each location group)

Countermeasures and Crash Data -Location Group No. 1 of 1

Hide Group Details

Step 1: Select countermeasure(s) to be applied to this location group

This group's location type: R (Roadways)

Please check the CMs for this location group. All the CMs that have passed the test in Section I AND match the location type of this group are listed below.

	No.	Countermeasure (CM) Name	CM Type*	Crash Reduction Factor (CRF)	Expected Life (Years)	Crash Type	Federal Funding Eligibility
☒	1	R15: Road Diet (Reduce travel lanes from 4 to 3 and add a two way left-turn and bike lanes)	R	0.3	20	All	90%
☒	2	R36: Install bike lanes	R	0.35	20	Ped & Bike	90%
☒	3	R30: Install dynamic/variable speed warning signs	R	0.3	10	All	100%
	*CM Type: S-Signalized Intersection; NS-Non-Signalized Intersection; R-Roadway.						

Step 2: Provide crash data.

2.1 Crash Data Period: must be between 3 and 5 years.

from (MM/DD/YYYY): 01/01/2012 To (MM/DD/YYYY): 12/31/2016 Crash Data Period (years) = 5

2.2 Fill out the crash data table(s) for the crash type(s) as required by the selected countermeasure(s) in Step 1.

Based on the countermeasures selected in Step 1 , the crash data types to be provided are:

(1) All (2) Ped & Bike

Crash Data Table for Crash Type: ALL

No.	Location (from Table III.1)	Fatal (ALL)	Severe Injury (ALL)	Other Visible Injury (ALL)	Complaint of Pain (ALL)	PDO (ALL)	Total
1	Road-Diet, Bike Lane	3	8	11	34	170	226
	Total	3	8	11	34	170	226

Crash Data Table for Crash Type: Pedestrians and Bicyclists Involved (P&B)

No.	Location (from Table III.1)	Fatal (P&B)	Severe Injury (P&B)	Other Visible Injury (P&B)	Complaint of Pain (P&B)	PDO (P&B)	Total
1	Road-Diet, Bike Lane	2	5	6	2	0	15
	Total	2	5	6	2	0	15

Section IV. Calculation and Results

Click the "Calculate" button to calculate. The script will first check if there are any errors or inconsistencies in the countermeasure selections and crash data. If errors are detected and displayed below, the errors must be fixed first before you click the "Calculate" button again. If no errors are displayed, the calculation results are provided in this section. Please refer to the Manual for HSIP Analyzer for details regarding possible errors.

Calculate

Project Summary Information:

Project Total Cost: 540000
3 countermeasures are eligible in benefit calculation. (R15 R36 R30)
Project location(s) are divided into 1 group(s) for calculating the benefits.

IV.1 Benefit Summary by location groups

Group No.	Group Info/Data*	Benefit from CM #1	Benefit from CM #2	Benefit from CM #3	Total Benefit of the group
1	Location type: R (Roadways) Number of location(s): 1 Number of selected countermeasure(s): 3 (R15 R36 R30) Crash Data Information: Crash data period (years): 5.01 Number of crashes(F/SI/OVI/I-CP/PDO)*: All: 3,8,11,34,170 Ped & Bike: 2,5,6,2,0	$30,887,807	$12,407,234	$14,191,695	$57,486,736
Sum		**$30,887,807**	**$12,407,234**	**$14,191,695**	**$57,486,736**

*Number of crashes: five crash numbers are for Fatal (F), Severe Injury (SI), Other Visible Injury (OVI), Injury - Complaint of Pain (I-CP), and Property Damage Only (PDO), respectively.

IV.2. Project Benefit and BCR Summary

No.	Countermeasure Name	Benefit	Cost	Resulting B/C
1	R15	30,887,807	$220,499	**140.1**
2	R36	12,407,234	$225,001	**55.1**
3	R30	14,191,695	$94,500	**150.2**
	Entire Project	**57,486,736**	**$540,000**	**106.5**

Data to be transferred to the HSIP Application Form

This section is generated automatically once the data entry and calculation have been completed. Transfer the data on this page to Section III of the HSIP Application Form.

Safety Countermeasure Information

Number of countermeasures: 3
R15: Road Diet (Reduce travel lanes from 4 to 3 and add a two way left-turn and bike lanes)
R36: Install bike lanes
R30: Install dynamic/variable speed warning signs

Cost, FRR, Benefit and BCR:

Total Project Cost:	$540,000
HSIP Funds Requested:	$486,000
Max. Federal Reimbursement Ratio (FRR):	90%
Total Expected Benefit:	57,486,736
Benefit Cost Ratio:	106.46

HSIP ANALYZER

Cost Estimate, Crash Data and Benefit Cost Ratio (BCR) Calculation for Highway Safety Improvement Program (HSIP) Application

Important: Review and follow the step-by-step instructions in "Manual for HSIP Analyzer". Completing the HSIP Analyzer without referencing to the manual may result in an application with fatal flaws that will be disqualified from the ranking and selection process.

All yellow highlighted fields must be filled in. The gray fields are calculated and read-only. This is a dynamic form (later steps vary depending on the data entered in earlier steps). If any error messages in red appear, fix the errors prior to proceeding to the next steps.

1. Application ID, Project Location and Project Description (copy from the HSIP Application Form):

Application ID:

Save this file using the Application ID plus "Calc" as the file name (e.g. "07-Los Angeles-01Calc.pdf").

Project Location: (limited to 250 characters)

G12: Project Area 6 - Intersection & Crossing Improvements

Project Description: (limited to 250 characters)

RRFB at mid-block crossing,
Right-Turn-Out Only at Salinas/Porter;
Entry Median at Railroad

2. Application Category (Check one):

Application Categories that require a Benefit Cost Ratio (BCR):

- ☒ Common BCR Application
- ☐ Set-aside for High Friction Surface Treatment

Application Categories that do NOT require a Benefit Cost Ratio (BCR):

- ☐ Set-aside for Guardrail Upgrades
- ☐ Set-aside for Horizontal Curve Signing
- ☐ Set-aside for Pedestrian Crossing Enhancements
- ☐ Set-aside for Tribes

Dual consideration?

☐ If an Application Category that does not require a BCR is selected above, check this box to indicate your desire that this application will be considered as a Common BCR Application as well in case it does not get selected for funding under the set-aside category. If this box is checked, a benefit cost analysis is required so the project will have a BCR.

A safety benefit cost analysis is required for this application. This tool will guide through cost estimate, safety benefit evaluation and Benefit Cost Ratio (BCR) calculation.

Section I. Construction Cost Estimate and Cost Breakdown

The purpose of this section is to:

- Provide detailed engineer's estimate (for construction items only). The costs for other phases (PE, ROW, and CE) will be included in Section II.
- Test if countermeasures (CMs) (up to 3) are eligible for being used in the project benefit calculation. For a CM to be used in the project benefit calculation, the construction cost of the CM must be at least 15% of the project's total construction cost, unless an exception is requested. And
- Determine the project's maximum Federal Reimbursement Ratio (FRR).

I.1 Select up to 3 countermeasures (CMs) to be tested in the Engineer's Estimate:

Number of CMs to be used in this project: 3

CM No. 1:	R38: Install pedestrian crossing (with enhanced safety features)
CM No. 2:	R9: Install raised median
CM No. 3:	NS11: Install splitter-islands on the minor road approaches

I.2 Detailed Engineer's Estimate for Construction Items:

Cost breakdown by CMs. For each item, enter a cost percentage for each of the CMs and "Other Safety-Related" (OS) components. (e.g. enter 10 for 10%). The cost % for "Non-Safety-Related" (NS) components is calculated.

	No.	Item Description	Unit	Quantity	Unit Cost	Total	% for CM#1 (R38)	% for CM#2 (R9)	% for CM#3 (NS11)	% for OS*	% for NS**
+ -	1	RRFB	EA	2	$25000.00	50,000	100%	%	%	%	0
+ -	2	Entry Median	EA	1	$50000.00	50,000	%	100%	%	%	0
+ -	3	Channelization	EA	1	$30000.00	30,000	%	%	100%	%	0
					Weighted Average (%)		38%	38%	23%		
					Total ($)	$130,000					

* % for OS: Cost % for Other Safety-Related components;
** % for NS: Cost % for Non Safety-Related components.

Contingencies, as % of the above "Total" of the construction items: 30 % $39,000
(e.g. enter 10 for 10%)

Total Construction Cost (Con Items & Contingencies): $169,000
(Rounded up to the nearest hundreds)

I.3 Summary

3 CM(s) are eligible to be used in the project benefit calculation.

Countermeasure ID	Federal Funding Eligibility (FFE)	Cost %	Eligible to be used in benefit calculation?	Request exception to the 15% rule*
R38	90%	38.46%	Yes (>=15% cost)	☐
R9	90%	38.46%	Yes (>=15% cost)	☐
NS11	90%	23.08%	Yes (>=15% cost)	☐

*By requesting an exception to the 15% rule, the CM with less than 15% of the construction cost will then be eligible to be used in the benefit calculation. if an exception is requested for any CM(s) above, please provide the reason (low cost treatment with significant safety benefits, etc.):

Project's Maximum Federal Reimbursement Ratio = 90.0%

The project's Maximum Federal Reimbursement Ratio is calculated as the least of the FFEs of the above countermeasures, minus the percentage of the non-safety related costs in excess of 10%. **This is the maximum value allowed to be entered in "HSIP/Total (%)" column in Section II (Project Cost Estimate).**

Section II. Project Cost Estimate

All project costs, **for all phases and by all funding sources**, must be accounted for on this form.

i. "**Total Cost**": Round all costs up to the nearest hundred dollars.

ii. "**HSIP/Total (%)**": The maximum allowed is the project's Federal Reimbursement Ratio (FRR) as determined in Section I. Click the button to assign the maximum to all, OR enter if not the maximum.

iii. "**HSIP Funds**" and "**Local/Other Funds**" are calculated.

Pay attention to the interactive warning/error messages below the table. The messages, if any, must be fixed, or exceptions should be justified in Question No. 5 in Section II of the HSIP Application Form.

Project's maximum Federal Reimbursement Ratio (FRR) (from Section I, rounded up to integer): 90 %

To set all "HSIP/Total (%)" in the below table to the above maximum FRR, click "Set": Set

Description	Total Cost	HISP/Total (%)	HSIP Funds	Local/Other Funds
Preliminary Engineering (PE) Phase				
Environmental	$16,900	90 %	$15,210	$1,690
PS&E	$25,400	90 %	$22,860	$2,540
Subtotal - PE	**$42,300**	**90 %**	**$38,070**	**$4,230**
Right of Way (ROW) Phase				
Right of Way Engineering	$900	90 %	$810	$90
Appraisals, Acquisitions & Utilities	$16,000	90 %	$14,400	$1,600
Subtotal - Right of Way (ROW)	**$16,900**	**90 %**	**$15,210**	**$1,690**
Construction (CON) Phase				
Construction Engineering (CE)	$25,400	90 %	$22,860	$2,540
Construction Items	$169,000 (Read only - from Section I)	90 %	$152,100	$16,900
Subtotal - Construction	**$194,400**	**90 %**	**$174,960**	**$19,440**
PROJECT TOTAL	$253,600	90 %	$228,240	$25,360

☐ Agency does NOT request **HSIP** funds for PE Phase (automatically checked if PE - HSIP funds is $0).

Interactive Warning/Error Messages:

If there are any messages in the below box, please fix OR explain justification for exceptions in Question No 5, Section II in the HSIP Application.

Section III. Project Location Groups, Countermeasures and Crash Data

The benefit of an HSIP safety project is achieved by reducing potential future crashes due to the application of the safety countermeasures (CMs). In this section, you will need to provide information regarding the project's safety CMs and historical crash data at the project sites. The data will be used to estimate the project benefit in Section IV.

1. Divide the project locations into groups.

It is quite often that an HSIP project has multiple locations. Theoretically the benefit for every single location may be calculated separately and then sum them up. However, that may be time consuming or almost impossible when there are a lot of locations. It is more efficient that the project locations with exactly the same safety countermeasures are combined into a group. The benefits of the locations in the same group can then be calculated at once.

When only one group is needed:

If your project consists of only one location or multiple locations that have similar features, address similar safety issues and utilize the same countermeasure(s). The crash data of all the locations can be combined and only one group is needed.

When multiple groups are needed:

If your project include multiple locations that have various safety issues and the proposed safety improvements (countermeasures) are not exactly the same for all the locations. The locations must be divided into different groups. The project benefits are then calculated multiple times, once for each location group. The project total benefit is the sum of the benefits from the different groups.

It should be noted that within a group, all locations should be of the same type: Signalized Intersection (S), Non-Signalized Intersection (NS), or Roadway (R).

If necessary, you may explain the location grouping for your project in details in Question No. 3 (Crash Data Evaluation), Section II in the HSIP Application Form.

2. After the number of location groups is entered, one subform will be populated for each location group. **For each location group:**

1) First, select the applicable CMs. *Note: If a Roundabout CM (S18 or NS4A or NS4B) is selected, additional information is required.*

For each group, only the CMs of the same type as the group location type can be used. For example, if a group consists of 5 signalized intersections, only "Signalized Intersection" CMs may be used for this group.

2) Based on the selected CMs, crash data tables of the required types are displayed for data entry.

Different CMs will reduce crashes of different types during the life of the safety improvements. Depending on the selected CMs for the group, you will be required to fill in one or more crash data tables, for any combination of the five crash types (datasets): "All" , "Night" , Ped & Bike", "Emergency Vehicle", and "Animal" (Each of the later four datasets is a sub-dataset of the "All" dataset.)

For more information regarding grouping project locations and examples, please refer to the Manual for HSIP Analyzer.

III.1 List of Project Locations and Location Groups

List all locations/sites included in this project by groups. The locations entered in Table III.1 below will be automatically populated in the crash data tables in III.2.

Based on the criteria described on the last page, the locations/sites need to be divided into 2 groups.

Table III.1 List of Project Locations by Groups

Highlighted fields must be filled in. For each group:
1) Must select a Location Type;
2) Initially each group has one location line. Click "+"/"-" to add a new line/delete an existing line;
3) Enter location description for each line. The same descriptions will be auto-populated in III.2.

*Note: If your project has a large number of locations, please aggregate some locations into one description, e.g. 10 stop controlled intersections, 5 horizontal curves, etc., as long as they have similar features and the safety improvements to be implemented are the same.

	No.	No. in Group	Location Description (Intersection Name or Road Limit or General Description)	
GROUP 1			Select Location Type:	R (Roadways)
+ -	1	G1-1	RRFB & Median Entry	
GROUP 2			Select Location Type:	NS (Non-signalized Intersections)
+ -	2	G2-1	Channelization at Salinas/Porter	

III.2: Countermeasures and Crash Data

(Repeats for each location group)

Countermeasures and Crash Data -Location Group No. 1 of 2

Hide Group Details

Step 1: Select countermeasure(s) to be applied to this location group

This group's location type: R (Roadways)

Please check the CMs for this location group. All the CMs that have passed the test in Section I AND match the location type of this group are listed below.

	No.	Countermeasure (CM) Name	CM Type*	Crash Reduction Factor (CRF)	Expected Life (Years)	Crash Type	Federal Funding Eligibility
☒	1	R38: Install pedestrian crossing (with enhanced safety features)	R	0.3	10	Ped & Bike	90%
☒	2	R9: Install raised median	R	0.25	20	All	90%
	*CM Type: S-Signalized Intersection; NS-Non-Signalized Intersection; R-Roadway.						

Step 2: Provide crash data.

2.1 Crash Data Period: must be between 3 and 5 years.

from (MM/DD/YYYY): 01/01/2012 To (MM/DD/YYYY): 12/31/2016 Crash Data Period (years) = 5

2.2 Fill out the crash data table(s) for the crash type(s) as required by the selected countermeasure(s) in Step 1.

Based on the countermeasures selected in Step 1 , the crash data types to be provided are:

(1) All (2) Ped & Bike

Crash Data Table for Crash Type: ALL

No.	Location (from Table III.1)	Fatal (ALL)	Severe Injury (ALL)	Other Visible Injury (ALL)	Complaint of Pain (ALL)	PDO (ALL)	Total
1	RRFB & Median Entry	1	6	6	23	138	174
	Total	1	6	6	23	138	174

Crash Data Table for Crash Type: Pedestrians and Bicyclists Involved (P&B)

No.	Location (from Table III.1)	Fatal (P&B)	Severe Injury (P&B)	Other Visible Injury (P&B)	Complaint of Pain (P&B)	PDO (P&B)	Total
1	RRFB & Median Entry	0	5	5	2	0	12
	Total	0	5	5	2	0	12

III.2: Countermeasures and Crash Data

(Repeats for each location group)

Countermeasures and Crash Data -Location Group No. 2 of 2

Hide Group Details

Step 1: Select countermeasure(s) to be applied to this location group

This group's location type: NS (Non-signalized Intersections)

Please check the CMs for this location group. All the CMs that have passed the test in Section I AND match the location type of this group are listed below.

	No.	Countermeasure (CM) Name	CM Type*	Crash Reduction Factor (CRF)	Expected Life (Years)	Crash Type	Federal Funding Eligibility
☒	1	NS11: Install splitter-islands on the minor road approaches	NS	0.4	20	All	90%
	*CM Type: S-Signalized Intersection; NS-Non-Signalized Intersection; R-Roadway.						

Step 2: Provide crash data.

2.1 Crash Data Period: must be between 3 and 5 years.

from (MM/DD/YYYY): 01/01/2012 To (MM/DD/YYYY): 12/31/2016 Crash Data Period (years) = 5

2.2 Fill out the crash data table(s) for the crash type(s) as required by the selected countermeasure(s) in Step 1.

Based on the countermeasures selected in Step 1 , the crash data types to be provided are:

(1) All

Crash Data Table for Crash Type: ALL

No.	Location (from Table III.1)	Fatal (ALL)	Severe Injury (ALL)	Other Visible Injury (ALL)	Complaint of Pain (ALL)	PDO (ALL)	Total
1	Channelization at Salinas/ Porter	0	0	1	3	20	24
	Total	0	0	1	3	20	24

Section IV. Calculation and Results

Click the "Calculate" button to calculate. The script will first check if there are any errors or inconsistencies in the countermeasure selections and crash data. If errors are detected and displayed below, the errors must be fixed first before you click the "Calculate" button again. If no errors are displayed, the calculation results are provided in this section. Please refer to the Manual for HSIP Analyzer for details regarding possible errors.

Calculate

Project Summary Information:

Project Total Cost: 253600
3 countermeasures are eligible in benefit calculation. (R38 R9 NS11)
Project location(s) are divided into 2 group(s) for calculating the benefits.

IV.1 Benefit Summary by location groups

Group No.	Group Info/Data*	Benefit from CM #1	Benefit from CM #2	Benefit from CM #3	Total Benefit of the group
1	Location type: R (Roadways) Number of location(s): 1 Number of selected countermeasure(s): 2 (R38 R9) Crash Data Information: Crash data period (years): 5.01 Number of crashes(F/SI/OVI/I-CP/PDO)*: All: 1,6,6,23,138 Ped & Bike: 0,5,5,2,0	$4,846,680	$18,031,220	$0	$22,877,900
2	Location type: NS (Non-signalized Intersections) Number of location(s): 1 Number of selected countermeasure(s): 1 (NS11) Crash Data Information: Crash data period (years): 5.01 Number of crashes(F/SI/OVI/I-CP/PDO)*: All: 0,0,1,3,20	$0	$0	$924,614	$924,614
Sum		**$4,846,680**	**$18,031,220**	**$924,614**	**$23,802,514**

*Number of crashes: five crash numbers are for Fatal (F), Severe Injury (SI), Other Visible Injury (OVI), Injury - Complaint of Pain (I-CP), and Property Damage Only (PDO), respectively.

IV.2. Project Benefit and BCR Summary

No.	Countermeasure Name	Benefit	Cost	Resulting B/C
1	R38	$4,846,680	$97,538	**49.7**
2	R9	18,031,220	$97,538	**184.9**
3	NS11	$924,614	$58,523	**15.8**
	Entire Project	**23,802,514**	**$253,600**	**93.9**

Data to be transferred to the HSIP Application Form

This section is generated automatically once the data entry and calculation have been completed. Transfer the data on this page to Section III of the HSIP Application Form.

Safety Countermeasure Information

Number of countermeasures: 3
- R38: Install pedestrian crossing (with enhanced safety features)
- R9: Install raised median
- NS11: Install splitter-islands on the minor road approaches

Cost, FRR, Benefit and BCR:

Total Project Cost:	$253,600
HSIP Funds Requested:	$228,240
Max. Federal Reimbursement Ratio (FRR):	90%
Total Expected Benefit:	23,802,514
Benefit Cost Ratio:	93.86

Appendix F
Traffic Counts

National Data & Surveying Services Intersection Turning Movement Count

Location: Main St /Porter Dr & San Juan Rd
City: Royal Oaks
Control:

Project ID: 18-08042-001
Date: 2/1/2018

Total

NS/EW Streets:	Main St /Porter Dr				Main St /Porter Dr				San Juan Rd				San Juan Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
7:00 AM	0	136	1	0	80	124	1	0	9	4	1	0	9	1	129	0	495
7:15 AM	0	176	2	0	78	130	6	0	7	2	0	0	9	3	161	0	574
7:30 AM	2	195	2	0	77	150	13	0	13	3	1	0	11	1	200	0	668
7:45 AM	1	228	3	0	82	165	23	0	9	2	2	0	13	1	198	0	727
8:00 AM	1	170	3	0	65	144	9	0	8	0	3	0	11	2	138	0	554
8:15 AM	0	143	1	0	82	123	26	0	7	1	3	0	11	3	129	0	529
8:30 AM	0	160	0	0	70	121	11	0	8	3	3	0	12	5	119	0	512
8:45 AM	2	143	2	0	58	116	13	0	13	2	3	0	12	4	115	0	483
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	6	1351	14	0	592	1073	102	0	74	17	16	0	88	20	1189	0	4542
APPROACH %'s :	0.44%	98.54%	1.02%	0.00%	33.50%	60.72%	5.77%	0.00%	69.16%	15.89%	14.95%	0.00%	6.78%	1.54%	91.67%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	4	769	10	0	302	589	51	0	37	7	6	0	44	7	697	0	2523
PEAK HR FACTOR :	0.500	0.843	0.833	0.000	0.921	0.892	0.554	0.000	0.712	0.583	0.500	0.000	0.846	0.583	0.871	0.000	0.868
		0.844				0.872				0.735				0.882			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
4:00 PM	3	174	4	0	122	214	18	0	29	5	3	0	12	2	144	0	730
4:15 PM	1	178	5	0	130	207	28	0	21	2	2	0	7	7	111	0	699
4:30 PM	2	197	10	0	140	239	26	0	21	5	4	0	11	3	128	0	786
4:45 PM	7	205	3	0	146	216	25	0	14	3	7	0	14	2	127	0	769
5:00 PM	0	200	4	0	154	253	19	0	39	4	9	0	11	6	129	0	828
5:15 PM	5	204	4	0	168	234	17	0	33	4	4	0	12	4	140	0	829
5:30 PM	0	212	10	0	155	202	12	0	26	8	7	0	8	2	106	0	748
5:45 PM	0	211	5	0	128	196	15	0	44	4	6	0	13	2	100	0	724
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	18	1581	45	0	1143	1761	160	0	227	35	42	0	88	28	985	0	6113
APPROACH %'s :	1.09%	96.17%	2.74%	0.00%	37.30%	57.47%	5.22%	0.00%	74.67%	11.51%	13.82%	0.00%	7.99%	2.54%	89.46%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	14	806	21	0	608	942	87	0	107	16	24	0	48	15	524	0	3212
PEAK HR FACTOR :	0.500	0.983	0.525	0.000	0.905	0.931	0.837	0.000	0.686	0.800	0.667	0.000	0.857	0.625	0.936	0.000	0.969
		0.978				0.961				0.707				0.941			

National Data & Surveying Services Intersection Turning Movement Count

Location: Main St /Porter Dr & San Juan Rd
City: Royal Oaks
Control: 0

Project ID: 18-08042-001
Date: 2/1/2018

Cars

NS/EW Streets:	Main St /Porter Dr				Main St /Porter Dr				San Juan Rd				San Juan Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
7:00 AM	0	130	1	0	77	118	1	0	9	2	1	0	8	1	125	0	473
7:15 AM	0	167	1	0	74	126	5	0	7	1	0	0	8	3	155	0	547
7:30 AM	2	185	1	0	69	140	12	0	12	3	1	0	11	1	191	0	628
7:45 AM	1	222	2	0	77	163	22	0	9	2	2	0	12	1	194	0	707
8:00 AM	1	166	3	0	61	139	9	0	8	0	3	0	11	1	132	0	534
8:15 AM	0	139	1	0	69	117	26	0	7	1	3	0	8	3	118	0	492
8:30 AM	0	147	0	0	64	118	11	0	8	3	3	0	10	5	111	0	480
8:45 AM	2	140	2	0	52	111	13	0	12	2	3	0	12	4	108	0	461
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	6	1296	11	0	543	1032	99	0	72	14	16	0	80	19	1134	0	4322
APPROACH %'s :	0.46%	98.71%	0.84%	0.00%	32.44%	61.65%	5.91%	0.00%	70.59%	13.73%	15.69%	0.00%	6.49%	1.54%	91.97%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	4	740	7	0	281	568	48	0	36	6	6	0	42	6	672	0	2416
PEAK HR FACTOR :	0.50	0.833	0.583	0.000	0.912	0.871	0.545	0.000	0.750	0.500	0.500	0.000	0.875	0.500	0.866	0.000	0.854
		0.834				0.856				0.750				0.870			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
4:00 PM	3	168	4	0	118	209	18	0	29	5	2	0	11	2	140	0	709
4:15 PM	1	168	5	0	128	199	27	0	20	2	2	0	7	7	106	0	672
4:30 PM	1	192	9	0	137	231	26	0	21	5	3	0	10	3	127	0	765
4:45 PM	7	203	3	0	144	212	25	0	14	3	7	0	12	2	124	0	756
5:00 PM	0	199	4	0	151	249	19	0	39	4	9	0	9	5	129	0	817
5:15 PM	5	199	4	0	168	229	17	0	33	4	4	0	11	4	138	0	816
5:30 PM	0	203	9	0	154	196	12	0	26	8	7	0	7	1	102	0	725
5:45 PM	0	209	5	0	124	194	15	0	44	3	6	0	12	2	97	0	711
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	17	1541	43	0	1124	1719	159	0	226	34	40	0	79	26	963	0	5971
APPROACH %'s :	1.06%	96.25%	2.69%	0.00%	37.44%	57.26%	5.30%	0.00%	75.33%	11.33%	13.33%	0.00%	7.40%	2.43%	90.17%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	13	793	20	0	600	921	87	0	107	16	23	0	42	14	518	0	3154
PEAK HR FACTOR :	0.46	0.977	0.556	0.000	0.893	0.925	0.837	0.000	0.686	0.800	0.639	0.000	0.875	0.700	0.938	0.000	0.965
		0.969				0.959				0.702				0.938			

National Data & Surveying Services Intersection Turning Movement Count

Location: Main St /Porter Dr & San Juan Rd
City: Royal Oaks
Control: 0

Project ID: 18-08042-001
Date: 2/1/2018

HT

NS/EW Streets:	Main St /Porter Dr				Main St /Porter Dr				San Juan Rd				San Juan Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
7:00 AM	0	6	0	0	3	6	0	0	0	2	0	0	1	0	4	0	22
7:15 AM	0	9	1	0	4	4	1	0	0	1	0	0	1	0	6	0	27
7:30 AM	0	10	1	0	8	10	1	0	1	0	0	0	0	0	9	0	40
7:45 AM	0	6	1	0	5	2	1	0	0	0	0	0	1	0	4	0	20
8:00 AM	0	4	0	0	4	5	0	0	0	0	0	0	0	1	6	0	20
8:15 AM	0	4	0	0	13	6	0	0	0	0	0	0	3	0	11	0	37
8:30 AM	0	13	0	0	6	3	0	0	0	0	0	0	2	0	8	0	32
8:45 AM	0	3	0	0	6	5	0	0	1	0	0	0	0	0	7	0	22
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	55	3	0	49	41	3	0	2	3	0	0	8	1	55	0	220
APPROACH %'s :	0.00%	94.83%	5.17%	0.00%	52.69%	44.09%	3.23%	0.00%	40.00%	60.00%	0.00%	0.00%	12.50%	1.56%	85.94%	0.00%	
PEAK HR :	**07:15 AM - 08:15 AM**																TOTAL
PEAK HR VOL :	0	29	3	0	21	21	3	0	1	1	0	0	2	1	25	0	107
PEAK HR FACTOR :	0.000	0.725	0.750	0.000	0.656	0.525	0.750	0.000	0.250	0.250	0.000	0.000	0.500	0.250	0.694	0.000	0.669
		0.727				0.592				0.500				0.778			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
4:00 PM	0	6	0	0	4	5	0	0	0	0	1	0	1	0	4	0	21
4:15 PM	0	10	0	0	2	8	1	0	1	0	0	0	0	0	5	0	27
4:30 PM	1	5	1	0	3	8	0	0	0	0	1	0	1	0	1	0	21
4:45 PM	0	2	0	0	2	4	0	0	0	0	0	0	2	0	3	0	13
5:00 PM	0	1	0	0	3	4	0	0	0	0	0	0	2	1	0	0	11
5:15 PM	0	5	0	0	0	5	0	0	0	0	0	0	1	0	2	0	13
5:30 PM	0	9	1	0	1	6	0	0	0	0	0	0	1	1	4	0	23
5:45 PM	0	2	0	0	4	2	0	0	0	1	0	0	1	0	3	0	13
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	1	40	2	0	19	42	1	0	1	1	2	0	9	2	22	0	142
APPROACH %'s :	2.33%	93.02%	4.65%	0.00%	30.65%	67.74%	1.61%	0.00%	25.00%	25.00%	50.00%	0.00%	27.27%	6.06%	66.67%	0.00%	
PEAK HR :	**04:30 PM - 05:30 PM**																TOTAL
PEAK HR VOL :	1	13	1	0	8	21	0	0	0	0	1	0	6	1	6	0	58
PEAK HR FACTOR :	0.25	0.650	0.250	0.000	0.667	0.656	0.000	0.000	0.000	0.000	0.250	0.000	0.750	0.250	0.500	0.000	0.690
		0.536				0.659				0.250				0.650			

National Data & Surveying Services Intersection Turning Movement Count

Location: Main St /Porter Dr & San Juan Rd
City: Royal Oaks
Control: 0

Project ID: 18-08042-001
Date: 2/1/2018

Bikes

NS/EW Streets:	Main St /Porter Dr				Main St /Porter Dr				San Juan Rd				San Juan Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
7:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	1	2	0	0	0	0	0	0	0	0	1	0	4
7:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
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	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
8:45 AM	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	3
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	6	0	0	1	5	0	0	0	0	0	0	0	0	1	0	13
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	16.67%	83.33%	0.00%	0.00%					0.00%	0.00%	100.00%	0.00%	
PEAK HR :	**07:15 AM - 08:15 AM**																TOTAL
PEAK HR VOL :	0	3	0	0	1	2	0	0	0	0	0	0	0	0	1	0	7
PEAK HR FACTOR :	0.000	0.750	0.000	0.000	0.250	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.438
		0.750				0.250								0.250			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
4:00 PM	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
4:15 PM	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	3
4:30 PM	0	1	0	0	1	1	0	0	0	0	0	0	0	0	1	0	4
4:45 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	1	0	3
5:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2
5:30 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
5:45 PM	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	3
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	6	0	0	4	7	0	0	0	0	0	0	0	0	3	0	20
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	36.36%	63.64%	0.00%	0.00%					0.00%	0.00%	100.00%	0.00%	
PEAK HR :	**04:30 PM - 05:30 PM**																TOTAL
PEAK HR VOL :	0	3	0	0	1	3	0	0	0	0	0	0	0	0	3	0	10
PEAK HR FACTOR :	0.00	0.750	0.000	0.000	0.250	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.750	0.000	0.625
		0.750				0.500								0.750			

National Data & Surveying Services Intersection Turning Movement Count

Location: Main St /Porter Dr & San Juan Rd
City: Royal Oaks
Project ID: 18-08042-001
Date: 2/1/2018

Pedestrians (Crosswalks)

NS/EW Streets:	Main St /Porter Dr		Main St /Porter Dr		San Juan Rd		San Juan Rd		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	2	3	3	1	1	0	10
7:15 AM	0	0	7	1	6	0	0	2	16
7:30 AM	0	0	7	1	14	1	1	0	24
7:45 AM	0	0	3	2	3	7	1	0	16
8:00 AM	0	0	5	6	6	1	0	0	18
8:15 AM	0	0	1	6	1	8	0	1	17
8:30 AM	0	0	1	1	2	0	2	0	6
8:45 AM	0	0	2	1	2	1	1	0	7
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	28	21	37	19	6	3	114
APPROACH %'s :			57.14%	42.86%	66.07%	33.93%	66.67%	33.33%	
PEAK HR :	**07:15 AM - 08:15 AM**								TOTAL
PEAK HR VOL :	0	0	22	10	29	9	2	2	74
PEAK HR FACTOR :			0.786	0.417	0.518	0.321	0.500	0.250	0.771
			0.727		0.633		0.500		

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	2	4	3	3	0	3	15
4:15 PM	0	0	1	2	0	1	0	1	5
4:30 PM	0	0	0	2	0	4	0	0	6
4:45 PM	0	0	2	5	1	4	1	1	14
5:00 PM	0	0	4	3	1	2	0	0	10
5:15 PM	0	0	5	1	0	2	1	0	9
5:30 PM	0	0	0	2	0	2	0	1	5
5:45 PM	0	0	2	0	0	3	0	0	5
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	16	19	5	21	2	6	69
APPROACH %'s :			45.71%	54.29%	19.23%	80.77%	25.00%	75.00%	
PEAK HR :	**04:30 PM - 05:30 PM**								TOTAL
PEAK HR VOL :	0	0	11	11	2	12	2	1	39
PEAK HR FACTOR :			0.550	0.550	0.500	0.750	0.500	0.250	0.696
			0.786		0.700		0.375		

Prepared by National Data & Surveying Services

Main St /Porter Dr & San Juan Rd

Peak Hour Turning Movement Count

ID: 18-08042-001
City: Royal Oaks

Day: Thursday
Date: 02/01/2018

PEAK HOURS

AM: 07:15 AM - 08:15 AM
NOON: NONE
PM: 04:30 PM - 05:30 PM

COUNT PERIODS

AM: 07:00 AM - 09:00 AM
NOON: NONE
PM: 04:00 PM - 06:00 PM

Main St /Porter Dr — SOUTHBOUND

AM	51	589	302	0	1503	AM
NOON	0	0	0	0	0	NOON
PM	87	942	608	0	1437	PM

San Juan Rd — EASTBOUND

AM	NOON	PM	
62	0	116	⇦
0	0	0	↶ 0
37	0	107	↱ 0
7	0	16	→ 0
6	0	24	↴ 0
AM	NOON	PM	

WESTBOUND — San Juan Rd

PM	NOON	AM	
524	0	697	0 ↰
15	0	7	0 ←
48	0	44	0 ↰
0	0	0	0 ↴
645	0	319	⇨
PM	NOON	AM	

CONTROL

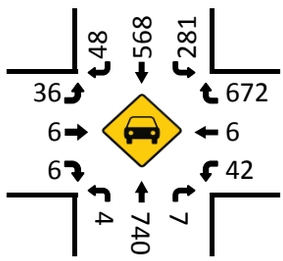
0

TEV	2523	0	3212
	AM	NOON	PM
PHF	0.87		0.97

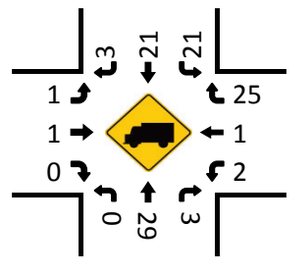
NORTHBOUND — Main St /Porter Dr

PM	1014	0	14	806	21	PM
NOON	0	0	0	0	0	NOON
AM	639	0	4	769	10	AM

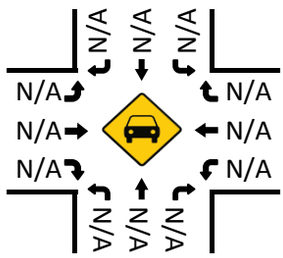
Cars (AM)



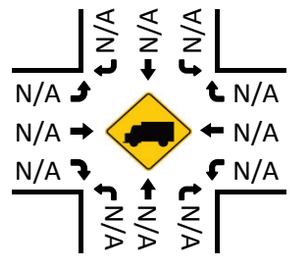
HT (AM)



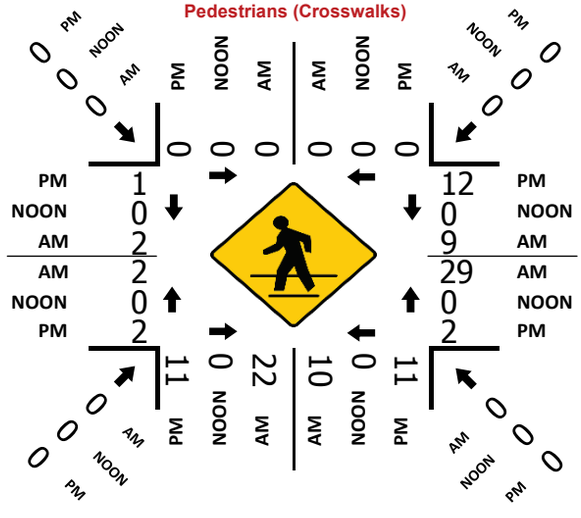
Cars (NOON)



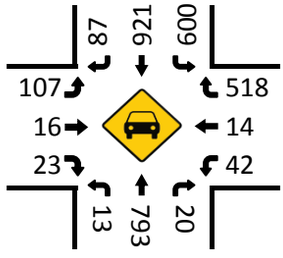
HT (NOON)



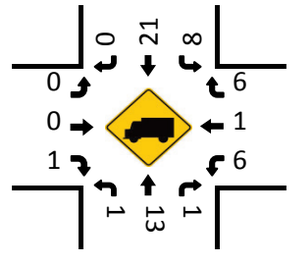
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



National Data & Surveying Services Intersection Turning Movement Count

Location: Porter Dr /Dwy & Stender Ave/Salinas Rd
City: Royal Oaks
Control:

Project ID: 18-08042-002
Date: 2/1/2018

Total

NS/EW Streets:	Porter Dr /Dwy					Porter Dr /Dwy					Stender Ave/Salinas Rd				Stender Ave/Salinas Rd								
AM	NORTHBOUND					SOUTHBOUND					EASTBOUND				WESTBOUND					SOUTHBOUND2			
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	NT2	SL	ST	SR	SU	SU2	EL	ET	ER	EU	WL	WT	WR	WU	WR2	S2L	S2L2	S2T2	S2U2	TOTAL
7:00 AM	0	142	1	0	9	0	138	0	0	0	0	0	0	0	2	0	1	0	0	0	0	14	0	307
7:15 AM	0	167	0	0	8	1	136	0	0	1	0	0	0	0	0	0	4	0	1	0	0	5	3	326
7:30 AM	0	198	0	0	12	3	156	0	0	0	0	0	0	0	0	0	4	0	0	0	0	8	2	383
7:45 AM	0	225	4	0	12	3	178	0	1	1	0	0	0	0	4	0	7	0	1	0	0	6	0	442
8:00 AM	0	173	1	0	8	2	142	0	0	3	0	0	0	0	0	0	5	0	0	0	0	8	3	345
8:15 AM	0	140	0	0	7	3	130	0	0	4	0	0	0	0	2	0	5	0	0	0	0	9	5	305
8:30 AM	0	159	0	0	9	1	133	0	0	2	0	0	0	0	1	0	2	0	0	0	0	10	3	320
8:45 AM	0	152	1	0	9	2	122	0	0	2	0	0	0	0	1	0	0	0	1	0	0	7	2	299
	NL	NT	NR	NU	NT2	SL	ST	SR	SU	SU2	EL	ET	ER	EU	WL	WT	WR	WU	WR2	S2L	S2L2	S2T2	S2U2	TOTAL
TOTAL VOLUMES :	0	1356	7	0	74	15	1135	0	1	13	0	0	0	0	10	0	28	0	3	0	0	67	18	2727
APPROACH %'s :	0.00%	94.36%	0.49%	0.00%	5.15%	1.29%	97.51%	0.00%	0.09%	1.12%					24.39%	0.00%	68.29%	0.00%	7.32%	0.00%	0.00%	78.82%	21.18%	
PEAK HR :	07:15 AM - 08:15 AM																							TOTAL
PEAK HR VOL :	0	763	5	0	40	9	612	0	1	5	0	0	0	0	4	0	20	0	2	0	0	27	8	1496
PEAK HR FACTOR :	0.000	0.848	0.313	0.000	0.833	0.750	0.860	0.000	0.250	0.417	0.000	0.000	0.000	0.000	0.250	0.000	0.714	0.000	0.500	0.000	0.000	0.844	0.667	0.846
			0.838					0.857									0.542					0.795		

PM	NORTHBOUND					SOUTHBOUND					EASTBOUND				WESTBOUND					SOUTHBOUND2			
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	NT2	SL	ST	SR	SU	SU2	EL	ET	ER	EU	WL	WT	WR	WU	WR2	S2L	S2L2	S2T2	S2U2	TOTAL
4:00 PM	0	184	0	0	16	2	223	0	0	2	0	0	0	0	0	0	4	0	0	0	0	10	3	444
4:15 PM	0	168	2	0	19	3	203	0	0	4	0	0	0	0	1	0	4	0	0	0	0	8	3	415
4:30 PM	0	209	1	0	12	6	234	0	0	3	0	0	0	0	1	0	0	0	0	0	0	9	4	479
4:45 PM	0	207	1	0	9	2	212	0	0	4	0	0	0	0	1	0	4	0	0	0	0	9	3	452
5:00 PM	0	190	2	0	12	4	258	0	1	1	0	0	0	0	2	0	1	0	0	0	1	8	3	483
5:15 PM	0	210	2	0	16	3	217	0	0	5	0	0	0	0	0	0	2	0	3	0	2	11	6	477
5:30 PM	0	205	1	0	8	4	209	0	1	4	0	0	0	0	0	0	4	0	0	0	0	8	4	448
5:45 PM	0	201	1	0	10	5	219	0	0	3	0	0	0	0	2	0	5	0	0	0	0	10	5	461
	NL	NT	NR	NU	NT2	SL	ST	SR	SU	SU2	EL	ET	ER	EU	WL	WT	WR	WU	WR2	S2L	S2L2	S2T2	S2U2	TOTAL
TOTAL VOLUMES :	0	1574	10	0	102	29	1775	0	2	26	0	0	0	0	7	0	24	0	3	0	3	73	31	3659
APPROACH %'s :	0.00%	93.36%	0.59%	0.00%	6.05%	1.58%	96.89%	0.00%	0.11%	1.42%					20.59%	0.00%	70.59%	0.00%	8.82%	0.00%	2.80%	68.22%	28.97%	
PEAK HR :	04:30 PM - 05:30 PM																							TOTAL
PEAK HR VOL :	0	816	6	0	49	15	921	0	1	13	0	0	0	0	4	0	7	0	3	0	3	37	16	1891
PEAK HR FACTOR :	0.000	0.971	0.750	0.000	0.766	0.625	0.892	0.000	0.250	0.650	0.000	0.000	0.000	0.000	0.500	0.000	0.438	0.000	0.250	0.000	0.375	0.841	0.667	0.979
			0.955					0.900									0.700					0.737		

National Data & Surveying Services Intersection Turning Movement Count

Location: Porter Dr /Dwy & Stender Ave/Salinas Rd
City: Royal Oaks
Control: 0

Project ID: 18-08042-002
Date: 2/1/2018

Cars

NS/EW Streets:	Porter Dr /Dwy					Porter Dr /Dwy					Stender Ave/Salinas Rd				Stender Ave/Salinas Rd								
AM	NORTHBOUND					SOUTHBOUND					EASTBOUND				WESTBOUND					SOUTHBOUND2				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	NT2	SL	ST	SR	SU	SU2	EL	ET	ER	EU	WL	WT	WR	WU	WR2	S2L	S2L2	S2T2	S2U2	TOTAL
7:00 AM	0	137	0	0	9	0	131	0	0	0	0	0	0	0	2	0	1	0	0	0	0	13	0	293
7:15 AM	0	159	0	0	7	1	131	0	0	1	0	0	0	0	0	0	4	0	1	0	0	5	2	311
7:30 AM	0	186	0	0	11	3	146	0	0	0	0	0	0	0	0	0	4	0	0	0	0	8	2	360
7:45 AM	0	221	4	0	11	3	176	0	1	1	0	0	0	0	4	0	7	0	1	0	0	6	0	435
8:00 AM	0	169	1	0	6	2	137	0	0	2	0	0	0	0	0	0	5	0	0	0	0	7	2	331
8:15 AM	0	133	0	0	5	3	123	0	0	4	0	0	0	0	2	0	5	0	0	0	0	8	5	288
8:30 AM	0	146	0	0	9	1	128	0	0	2	0	0	0	0	1	0	2	0	0	0	0	10	3	302
8:45 AM	0	147	1	0	9	2	117	0	0	2	0	0	0	0	1	0	0	0	1	0	0	7	2	289
	NL	NT	NR	NU	NT2	SL	ST	SR	SU	SU2	EL	ET	ER	EU	WL	WT	WR	WU	WR2	S2L	S2L2	S2T2	S2U2	TOTAL
TOTAL VOLUMES :	0	1298	6	0	67	15	1089	0	1	12	0	0	0	0	10	0	28	0	3	0	0	64	16	2609
APPROACH %'s :	0.00%	94.68%	0.44%	0.00%	4.89%	1.34%	97.49%	0.00%	0.09%	1.07%					24.39%	0.00%	68.29%	0.00%	7.32%	0.00%	0.00%	80.00%	20.00%	
PEAK HR :	07:15 AM - 08:15 AM																							TOTAL
PEAK HR VOL :	0	735	5	0	35	9	590	0	1	4	0	0	0	0	4	0	20	0	2	0	0	26	6	1437
PEAK HR FACTOR :	0.00	0.831	0.313	0.000	0.795	0.750	0.838	0.000	0.250	0.500	0.000	0.000	0.000	0.000	0.250	0.000	0.714	0.000	0.500	0.000	0.000	0.813	0.750	0.826
			0.821					0.834									0.542					0.800		

PM	NORTHBOUND					SOUTHBOUND					EASTBOUND				WESTBOUND					SOUTHBOUND2				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	NT2	SL	ST	SR	SU	SU2	EL	ET	ER	EU	WL	WT	WR	WU	WR2	S2L	S2L2	S2T2	S2U2	TOTAL
4:00 PM	0	176	0	0	16	2	217	0	0	2	0	0	0	0	0	0	4	0	0	0	0	9	3	429
4:15 PM	0	160	2	0	17	3	194	0	0	4	0	0	0	0	1	0	4	0	0	0	0	8	3	396
4:30 PM	0	203	1	0	12	6	224	0	0	3	0	0	0	0	1	0	0	0	0	0	0	9	4	463
4:45 PM	0	205	1	0	9	2	207	0	0	4	0	0	0	0	1	0	4	0	0	0	0	9	3	445
5:00 PM	0	188	2	0	11	4	254	0	1	1	0	0	0	0	2	0	1	0	0	0	1	8	3	476
5:15 PM	0	206	2	0	15	3	212	0	0	5	0	0	0	0	0	0	2	0	3	0	2	11	6	467
5:30 PM	0	197	1	0	7	4	202	0	1	4	0	0	0	0	0	0	4	0	0	0	0	8	4	432
5:45 PM	0	199	1	0	10	5	215	0	0	3	0	0	0	0	2	0	5	0	0	0	0	10	5	455
	NL	NT	NR	NU	NT2	SL	ST	SR	SU	SU2	EL	ET	ER	EU	WL	WT	WR	WU	WR2	S2L	S2L2	S2T2	S2U2	TOTAL
TOTAL VOLUMES :	0	1534	10	0	97	29	1725	0	2	26	0	0	0	0	7	0	24	0	3	0	3	72	31	3563
APPROACH %'s :	0.00%	93.48%	0.61%	0.00%	5.91%	1.63%	96.80%	0.00%	0.11%	1.46%					20.59%	0.00%	70.59%	0.00%	8.82%	0.00%	2.83%	67.92%	29.25%	
PEAK HR :	04:30 PM - 05:30 PM																							TOTAL
PEAK HR VOL :	0	802	6	0	47	15	897	0	1	13	0	0	0	0	4	0	7	0	3	0	3	37	16	1851
PEAK HR FACTOR :	0.00	0.973	0.750	0.000	0.783	0.625	0.883	0.000	0.250	0.650	0.000	0.000	0.000	0.000	0.500	0.000	0.438	0.000	0.250	0.000	0.375	0.841	0.667	0.972
			0.959					0.890									0.700					0.737		

National Data & Surveying Services Intersection Turning Movement Count

Location: Porter Dr /Dwy & Stender Ave/Salinas Rd
City: Royal Oaks
Control: 0

Project ID: 18-08042-002
Date: 2/1/2018

HT

NS/EW Streets:	Porter Dr /Dwy					Porter Dr /Dwy					Stender Ave/Salinas Rd				Stender Ave/Salinas Rd								
AM	NORTHBOUND					SOUTHBOUND					EASTBOUND				WESTBOUND					SOUTHBOUND2				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	NT2	SL	ST	SR	SU	SU2	EL	ET	ER	EU	WL	WT	WR	WU	WR2	S2L	S2L2	S2T2	S2U2	TOTAL
7:00 AM	0	5	1	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	14
7:15 AM	0	8	0	0	1	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	15
7:30 AM	0	12	0	0	1	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23
7:45 AM	0	4	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
8:00 AM	0	4	0	0	2	0	5	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	14
8:15 AM	0	7	0	0	2	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	17
8:30 AM	0	13	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18
8:45 AM	0	5	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
	NL	NT	NR	NU	NT2	SL	ST	SR	SU	SU2	EL	ET	ER	EU	WL	WT	WR	WU	WR2	S2L	S2L2	S2T2	S2U2	TOTAL
TOTAL VOLUMES :	0	58	1	0	7	0	46	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3	2	118
APPROACH %'s :	0.00%	87.88%	1.52%	0.00%	10.61%	0.00%	97.87%	0.00%	0.00%	2.13%										0.00%	0.00%	60.00%	40.00%	
PEAK HR :	07:15 AM - 08:15 AM																							TOTAL
PEAK HR VOL :	0	28	0	0	5	0	22	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	2	59
PEAK HR FACTOR :	0.000	0.583	0.000	0.000	0.625	0.000	0.550	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.500	0.641
			0.635					0.575														0.375		

PM	NORTHBOUND					SOUTHBOUND					EASTBOUND				WESTBOUND					SOUTHBOUND2				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	NT2	SL	ST	SR	SU	SU2	EL	ET	ER	EU	WL	WT	WR	WU	WR2	S2L	S2L2	S2T2	S2U2	TOTAL
4:00 PM	0	8	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	15
4:15 PM	0	8	0	0	2	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19
4:30 PM	0	6	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16
4:45 PM	0	2	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
5:00 PM	0	2	0	0	1	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
5:15 PM	0	4	0	0	1	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
5:30 PM	0	8	0	0	1	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16
5:45 PM	0	2	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
	NL	NT	NR	NU	NT2	SL	ST	SR	SU	SU2	EL	ET	ER	EU	WL	WT	WR	WU	WR2	S2L	S2L2	S2T2	S2U2	TOTAL
TOTAL VOLUMES :	0	40	0	0	5	0	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	96
APPROACH %'s :	0.00%	88.89%	0.00%	0.00%	11.11%	0.00%	100.00%	0.00%	0.00%	0.00%										0.00%	0.00%	100.00%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																							TOTAL
PEAK HR VOL :	0	14	0	0	2	0	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40
PEAK HR FACTOR :	0.00	0.583	0.000	0.000	0.500	0.000	0.600	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	0.000	0.625
			0.667					0.600																

National Data & Surveying Services Intersection Turning Movement Count

Location: Porter Dr /Dwy & Stender Ave/Salinas Rd
City: Royal Oaks
Control: 0

Project ID: 18-08042-002
Date: 2/1/2018

Bikes

NS/EW Streets:	Porter Dr /Dwy					Porter Dr /Dwy					Stender Ave/Salinas Rd				Stender Ave/Salinas Rd								
AM	NORTHBOUND					SOUTHBOUND					EASTBOUND				WESTBOUND					SOUTHBOUND2				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	NT2	SL	ST	SR	SU	SU2	EL	ET	ER	EU	WL	WT	WR	WU	WR2	S2L	S2L2	S2T2	S2U2	TOTAL
7:00 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
7:15 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	3
7:30 AM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
7:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2
8:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2
8:45 AM	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
	NL	NT	NR	NU	NT2	SL	ST	SR	SU	SU2	EL	ET	ER	EU	WL	WT	WR	WU	WR2	S2L	S2L2	S2T2	S2U2	TOTAL
TOTAL VOLUMES :	0	4	0	0	1	2	3	0	0	0	0	0	0	0	0	0	3	0	0	0	2	0	0	15
APPROACH %'s :	0.00%	80.00%	0.00%	0.00%	20.00%	40.00%	60.00%	0.00%	0.00%	0.00%					0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																							TOTAL
PEAK HR VOL :	0	1	0	0	0	2	1	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	6
PEAK HR FACTOR :	0.000	0.250	0.000	0.000	0.000	0.500	0.250	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	0.000	0.000	0.000	0.500
			0.250					0.375									0.250							

PM	NORTHBOUND					SOUTHBOUND					EASTBOUND				WESTBOUND					SOUTHBOUND2				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	NT2	SL	ST	SR	SU	SU2	EL	ET	ER	EU	WL	WT	WR	WU	WR2	S2L	S2L2	S2T2	S2U2	TOTAL
4:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	3
4:15 PM	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
4:30 PM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4:45 PM	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
5:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	NT2	SL	ST	SR	SU	SU2	EL	ET	ER	EU	WL	WT	WR	WU	WR2	S2L	S2L2	S2T2	S2U2	TOTAL
TOTAL VOLUMES :	0	7	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	15
APPROACH %'s :	0.00%	70.00%	0.00%	0.00%	30.00%	0.00%	100.00%	0.00%	0.00%	0.00%										0.00%	0.00%	100.00%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																							TOTAL
PEAK HR VOL :	0	3	0	0	3	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
PEAK HR FACTOR :	0.00	0.750	0.000	0.000	0.750	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.667
			0.750					0.500																

National Data & Surveying Services Intersection Turning Movement Count

Location: Porter Dr /Dwy & Stender Ave/Salinas Rd
City: Royal Oaks

Project ID: 18-08042-002
Date: 2/1/2018

Pedestrians (Crosswalks)

NS/EW Streets:	Porter Dr /Dwy		Porter Dr /Dwy		Stender Ave/Salinas Rd		Stender Ave/Salinas Rd				
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		NORTH LEG 2		
	EB	WB	EB	WB	NB	SB	NB	SB	EB	WB	TOTAL
7:00 AM	0	0	0	0	3	1	0	0	0	3	7
7:15 AM	0	1	0	0	1	0	0	0	1	4	7
7:30 AM	0	0	0	0	0	0	0	0	3	3	6
7:45 AM	0	1	0	0	0	1	0	0	2	1	5
8:00 AM	0	0	1	0	0	0	0	0	1	1	3
8:15 AM	0	1	1	0	0	3	0	0	0	0	5
8:30 AM	0	0	2	0	1	3	0	0	0	2	8
8:45 AM	2	0	0	0	4	6	0	0	4	3	19
	EB	WB	EB	WB	NB	SB	NB	SB	EB	WB	TOTAL
TOTAL VOLUMES :	2	3	4	0	9	14	0	0	11	17	60
APPROACH %'s :	40.00%	60.00%	100.00%	0.00%	39.13%	60.87%			39.29%	60.71%	
PEAK HR :	07:15 AM - 08:15 AM										TOTAL
PEAK HR VOL :	0	2	1	0	1	1	0	0	7	9	21
PEAK HR FACTOR :		0.500	0.250		0.250	0.250			0.583	0.563	0.750
	0.500		0.250		0.500				0.667		

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		NORTH LEG 2		
	EB	WB	EB	WB	NB	SB	NB	SB	EB	WB	TOTAL
4:00 PM	0	0	0	2	2	0	0	0	0	2	6
4:15 PM	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	4	0	0	4	1	9
4:45 PM	0	0	0	0	0	3	0	0	4	0	7
5:00 PM	0	0	0	0	6	3	0	0	2	0	11
5:15 PM	0	0	0	0	3	2	0	0	0	1	6
5:30 PM	0	0	0	0	2	6	0	0	3	0	11
5:45 PM	0	1	0	0	1	2	0	0	2	0	6
	EB	WB	EB	WB	NB	SB	NB	SB	EB	WB	TOTAL
TOTAL VOLUMES :	0	1	0	2	14	20	0	0	15	4	56
APPROACH %'s :	0.00%	100.00%	0.00%	100.00%	41.18%	58.82%			78.95%	21.05%	
PEAK HR :	04:30 PM - 05:30 PM										TOTAL
PEAK HR VOL :	0	0	0	0	9	12	0	0	10	2	33
PEAK HR FACTOR :					0.375	0.750			0.625	0.500	0.750
					0.583				0.600		

Prepared by National Data & Surveying Services

Porter Dr /Dwy & Stender Ave/Salinas Rd

Peak Hour Turning Movement Count

ID: 18-08042-002
City: Royal Oaks

Day: Thursday
Date: 02/01/2018

PEAK HOURS

AM: 07:15 AM - 08:15 AM
NOON: NONE
PM: 04:30 PM - 05:30 PM

COUNT PERIODS

AM: 07:00 AM - 09:00 AM
NOON: NONE
PM: 04:00 PM - 06:00 PM

SOUTHBOUND — Porter Dr /Dwy

AM	0	612	9	1	784	AM
NOON	0	0	0	0	0	NOON
PM	0	921	15	1	824	PM

EASTBOUND — Stender Ave/Salinas Rd

AM	NOON	PM
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0

WESTBOUND — Stender Ave/Salinas Rd

PM	NOON	AM
7	0	20
0	0	0
4	0	4
0	0	0
21	0	14

NORTHBOUND — Porter Dr /Dwy

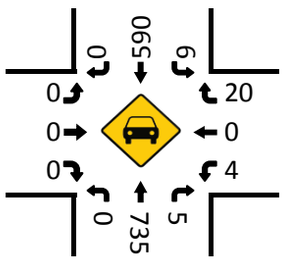
PM	925	0	0	816	6	PM
NOON	0	0	0	0	0	NOON
AM	616	0	0	763	5	AM

CONTROL

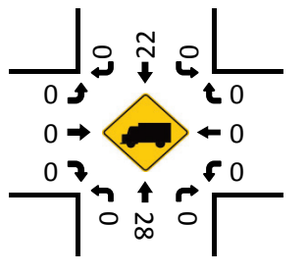
0

	AM	NOON	PM
TEV	1414	0	1770
PHF	0.85		0.98

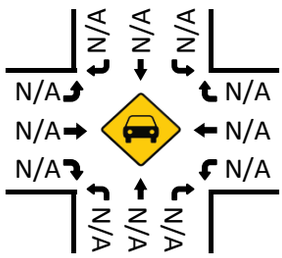
Cars (AM)



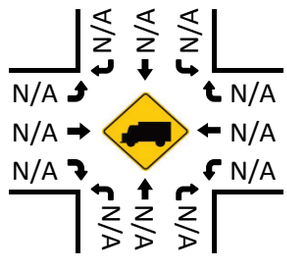
HT (AM)



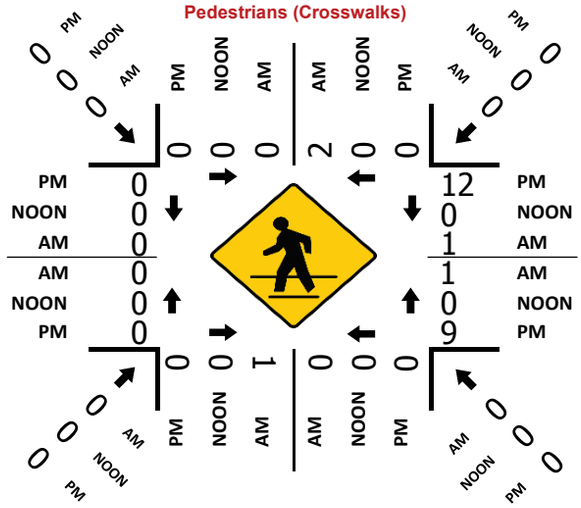
Cars (NOON)



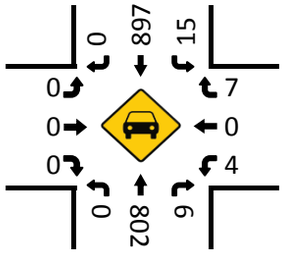
HT (NOON)



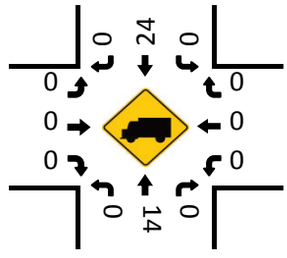
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



National Data & Surveying Services Intersection Turning Movement Count

Location: Salinas Rd & Pajaro School Dwy
City: Royal Oaks
Control:

Project ID: 18-08071-016
Date: 2/28/2018

Total

NS/EW Streets:	Salinas Rd				Salinas Rd				Pajaro School Dwy				Pajaro School Dwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
7:00 AM	3	119	5	0	8	120	3	0	2	0	0	0	10	0	9	0	279
7:15 AM	4	156	0	0	5	135	10	0	12	1	1	0	6	0	7	0	337
7:30 AM	4	197	2	0	9	143	26	0	22	0	10	0	4	0	9	0	426
7:45 AM	1	173	4	0	9	135	33	0	40	2	14	0	2	2	11	0	426
8:00 AM	0	158	2	0	5	141	11	0	7	1	7	0	2	1	9	0	344
8:15 AM	0	151	9	0	9	127	3	0	1	0	0	0	5	0	4	0	309
8:30 AM	1	148	4	0	8	125	2	0	4	1	1	0	3	0	15	0	312
8:45 AM	0	169	2	0	3	113	4	0	2	0	0	0	2	0	7	0	302
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	13	1271	28	0	56	1039	92	0	90	5	33	0	34	3	71	0	2735
APPROACH %'s :	0.99%	96.88%	2.13%	0.00%	4.72%	87.53%	7.75%	0.00%	70.31%	3.91%	25.78%	0.00%	31.48%	2.78%	65.74%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	9	684	8	0	28	554	80	0	81	4	32	0	14	3	36	0	1533
PEAK HR FACTOR :	0.563	0.868	0.500	0.000	0.778	0.969	0.606	0.000	0.506	0.500	0.571	0.000	0.583	0.375	0.818	0.000	0.900
	0.863				0.930				0.522				0.883				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
2:30 PM	2	185	1	0	1	182	0	0	2	0	1	0	0	0	4	0	378
2:45 PM	1	171	0	0	0	155	4	0	4	0	1	0	1	0	0	0	337
3:00 PM	1	188	1	0	7	191	3	0	6	0	3	0	0	0	3	0	403
3:15 PM	2	168	1	0	0	196	4	0	7	0	0	0	4	0	4	0	386
3:30 PM	3	198	1	0	4	200	6	0	7	0	3	0	4	0	5	0	431
3:45 PM	1	200	1	0	1	206	2	0	8	0	7	0	1	1	4	0	432
4:00 PM	0	209	3	0	9	198	4	0	14	0	3	0	4	0	3	0	447
4:15 PM	0	172	2	0	4	211	3	0	3	0	0	0	4	0	4	0	403
4:30 PM	0	175	1	0	2	230	0	0	3	0	1	0	5	0	7	0	424
4:45 PM	0	224	2	0	6	208	0	0	3	0	0	0	3	0	7	0	453
5:00 PM	0	200	2	0	1	240	2	0	3	0	1	0	3	0	7	0	459
5:15 PM	0	177	1	0	6	203	0	0	5	0	0	0	5	0	4	0	401
5:30 PM	0	198	0	0	6	221	1	0	1	0	1	0	2	0	6	0	436
5:45 PM	0	194	2	0	8	214	0	0	0	0	0	0	9	0	9	0	436
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	10	2659	18	0	55	2855	29	0	66	0	21	0	45	1	67	0	5826
APPROACH %'s :	0.37%	98.96%	0.67%	0.00%	1.87%	97.14%	0.99%	0.00%	75.86%	0.00%	24.14%	0.00%	39.82%	0.88%	59.29%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	0	799	5	0	19	872	3	0	12	0	2	0	13	0	24	0	1749
PEAK HR FACTOR :	0.000	0.892	0.625	0.000	0.792	0.908	0.375	0.000	0.600	0.000	0.500	0.000	0.650	0.000	0.857	0.000	0.953
	0.889				0.920				0.700				0.925				

National Data & Surveying Services Intersection Turning Movement Count

Location: Salinas Rd & Pajaro School Dwy
City: Royal Oaks
Control: 0

Project ID: 18-08071-016
Date: 2/28/2018

Cars

NS/EW Streets:	Salinas Rd				Salinas Rd				Pajaro School Dwy				Pajaro School Dwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
7:00 AM	3	117	5	0	8	117	3	0	2	0	0	0	10	0	9	0	274
7:15 AM	1	148	0	0	5	131	7	0	12	1	1	0	6	0	7	0	319
7:30 AM	3	186	2	0	9	141	24	0	22	0	10	0	4	0	8	0	409
7:45 AM	1	168	3	0	9	129	33	0	40	1	14	0	2	2	11	0	413
8:00 AM	0	149	2	0	4	132	10	0	7	1	7	0	2	1	8	0	323
8:15 AM	0	143	9	0	9	116	3	0	1	0	0	0	5	0	4	0	290
8:30 AM	1	136	4	0	8	119	2	0	4	1	1	0	2	0	15	0	293
8:45 AM	0	165	2	0	3	109	4	0	2	0	0	0	2	0	7	0	294
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	9	1212	27	0	55	994	86	0	90	4	33	0	33	3	69	0	2615
APPROACH %'s :	0.72%	97.12%	2.16%	0.00%	4.85%	87.58%	7.58%	0.00%	70.87%	3.15%	25.98%	0.00%	31.43%	2.86%	65.71%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	5	651	7	0	27	533	74	0	81	3	32	0	14	3	34	0	1464
PEAK HR FACTOR :	0.42	0.875	0.583	0.000	0.750	0.945	0.561	0.000	0.506	0.750	0.571	0.000	0.583	0.375	0.773	0.000	0.886
		0.868				0.911				0.527				0.850			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
2:30 PM	2	180	1	0	1	176	0	0	2	0	1	0	0	0	3	0	366
2:45 PM	1	163	0	0	0	150	4	0	4	0	1	0	1	0	0	0	324
3:00 PM	1	185	1	0	7	183	2	0	6	0	3	0	0	0	3	0	391
3:15 PM	2	160	1	0	0	196	4	0	7	0	0	0	4	0	3	0	377
3:30 PM	2	192	0	0	4	193	4	0	7	0	3	0	4	0	5	0	414
3:45 PM	1	192	1	0	1	203	2	0	8	0	7	0	0	1	4	0	420
4:00 PM	0	200	3	0	9	192	4	0	14	0	3	0	4	0	3	0	432
4:15 PM	0	165	2	0	4	203	3	0	3	0	0	0	4	0	4	0	388
4:30 PM	0	169	1	0	2	228	0	0	3	0	1	0	5	0	7	0	416
4:45 PM	0	219	2	0	6	206	0	0	3	0	0	0	3	0	7	0	446
5:00 PM	0	195	2	0	1	236	2	0	3	0	1	0	3	0	7	0	450
5:15 PM	0	173	1	0	6	200	0	0	5	0	0	0	5	0	4	0	394
5:30 PM	0	193	0	0	6	219	1	0	1	0	1	0	2	0	6	0	429
5:45 PM	0	192	2	0	8	212	0	0	0	0	0	0	9	0	9	0	432
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	9	2578	17	0	55	2797	26	0	66	0	21	0	44	1	65	0	5679
APPROACH %'s :	0.35%	99.00%	0.65%	0.00%	1.91%	97.19%	0.90%	0.00%	75.86%	0.00%	24.14%	0.00%	40.00%	0.91%	59.09%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	0	780	5	0	19	861	3	0	12	0	2	0	13	0	24	0	1719
PEAK HR FACTOR :	0.00	0.890	0.625	0.000	0.792	0.912	0.375	0.000	0.600	0.000	0.500	0.000	0.650	0.000	0.857	0.000	0.955
		0.888				0.924				0.700				0.925			

National Data & Surveying Services Intersection Turning Movement Count

Location: Salinas Rd & Pajaro School Dwy
City: Royal Oaks
Control: 0

Project ID: 18-08071-016
Date: 2/28/2018

HT

NS/EW Streets:	Salinas Rd				Salinas Rd				Pajaro School Dwy				Pajaro School Dwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
7:00 AM	0	2	0	0	0	3	0	0	0	0	0	0	0	0	0	0	5
7:15 AM	3	8	0	0	0	4	3	0	0	0	0	0	0	0	0	0	18
7:30 AM	1	11	0	0	0	2	2	0	0	0	0	0	0	0	1	0	17
7:45 AM	0	5	1	0	0	6	0	0	0	1	0	0	0	0	0	0	13
8:00 AM	0	9	0	0	1	9	1	0	0	0	0	0	0	0	1	0	21
8:15 AM	0	8	0	0	0	11	0	0	0	0	0	0	0	0	0	0	19
8:30 AM	0	12	0	0	0	6	0	0	0	0	0	0	1	0	0	0	19
8:45 AM	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	8
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	4	59	1	0	1	45	6	0	0	1	0	0	1	0	2	0	120
APPROACH %'s :	6.25%	92.19%	1.56%	0.00%	1.92%	86.54%	11.54%	0.00%	0.00%	100.00%	0.00%	0.00%	33.33%	0.00%	66.67%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	4	33	1	0	1	21	6	0	0	1	0	0	0	0	2	0	69
PEAK HR FACTOR :	0.333	0.750	0.250	0.000	0.250	0.583	0.500	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.500	0.000	0.821
		0.792				0.636				0.250				0.500			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
2:30 PM	0	5	0	0	0	6	0	0	0	0	0	0	0	0	1	0	12
2:45 PM	0	8	0	0	0	5	0	0	0	0	0	0	0	0	0	0	13
3:00 PM	0	3	0	0	0	8	1	0	0	0	0	0	0	0	0	0	12
3:15 PM	0	8	0	0	0	0	0	0	0	0	0	0	0	0	1	0	9
3:30 PM	1	6	1	0	0	7	2	0	0	0	0	0	0	0	0	0	17
3:45 PM	0	8	0	0	0	3	0	0	0	0	0	0	1	0	0	0	12
4:00 PM	0	9	0	0	0	6	0	0	0	0	0	0	0	0	0	0	15
4:15 PM	0	7	0	0	0	8	0	0	0	0	0	0	0	0	0	0	15
4:30 PM	0	6	0	0	0	2	0	0	0	0	0	0	0	0	0	0	8
4:45 PM	0	5	0	0	0	2	0	0	0	0	0	0	0	0	0	0	7
5:00 PM	0	5	0	0	0	4	0	0	0	0	0	0	0	0	0	0	9
5:15 PM	0	4	0	0	0	3	0	0	0	0	0	0	0	0	0	0	7
5:30 PM	0	5	0	0	0	2	0	0	0	0	0	0	0	0	0	0	7
5:45 PM	0	2	0	0	0	2	0	0	0	0	0	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 :	1	81	1	0	0	58	3	0	0	0	0	0	1	0	2	0	147
APPROACH %'s :	1.20%	97.59%	1.20%	0.00%	0.00%	95.08%	4.92%	0.00%					33.33%	0.00%	66.67%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	0	19	0	0	0	11	0	0	0	0	0	0	0	0	0	0	30
PEAK HR FACTOR :	0.00	0.950	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	0.833
		0.950				0.688											

National Data & Surveying Services Intersection Turning Movement Count

Location: Salinas Rd & Pajaro School Dwy
City: Royal Oaks
Control: 0

Project ID: 18-08071-016
Date: 2/28/2018

Bikes

NS/EW Streets:	Salinas Rd				Salinas Rd				Pajaro School Dwy				Pajaro School Dwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
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	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	1	0	0	0	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	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	0	0	0	0	0	0	0	0	0	0	0	3
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%													
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
PEAK HR FACTOR :	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500
		0.500															

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
3:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
3:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
3:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	0	3
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	1	0	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	1	0	0	0	0	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	2	0	0	2	5	0	0	0	0	0	0	1	0	2	0	12
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	28.57%	71.43%	0.00%	0.00%					33.33%	0.00%	66.67%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
PEAK HR FACTOR :	0.00	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	0.000	0.500
						0.500											

National Data & Surveying Services Intersection Turning Movement Count

Location: Salinas Rd & Pajaro School Dwy
City: Royal Oaks
Project ID: 18-08071-016
Date: 2/28/2018

Pedestrians (Crosswalks)

NS/EW Streets:	Salinas Rd		Salinas Rd		Pajaro School Dwy		Pajaro School Dwy		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	1	1	0	0	5	0	1	0	8
7:15 AM	1	4	0	0	5	0	2	1	13
7:30 AM	2	14	0	0	9	2	2	1	30
7:45 AM	1	19	0	0	10	2	0	0	32
8:00 AM	0	2	0	0	1	0	2	1	6
8:15 AM	2	0	0	0	1	0	2	0	5
8:30 AM	1	3	0	0	3	2	0	2	11
8:45 AM	0	0	0	0	2	0	0	0	2
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	8	43	0	0	36	6	9	5	107
APPROACH %'s :	15.69%	84.31%			85.71%	14.29%	64.29%	35.71%	
PEAK HR :	07:15 AM - 08:15 AM								TOTAL
PEAK HR VOL :	4	39	0	0	25	4	6	3	81
PEAK HR FACTOR :	0.500	0.513			0.625	0.500	0.750	0.750	
	0.538				0.604		0.750		0.633

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
2:30 PM	0	0	0	0	1	0	2	0	3
2:45 PM	2	0	0	0	2	1	0	1	6
3:00 PM	0	1	0	0	0	0	0	0	1
3:15 PM	1	0	0	0	0	0	2	0	3
3:30 PM	1	0	0	0	0	0	0	2	3
3:45 PM	15	0	0	0	1	8	0	1	25
4:00 PM	1	0	0	0	0	1	1	3	6
4:15 PM	5	4	0	0	3	6	0	2	20
4:30 PM	0	0	0	0	0	0	0	2	2
4:45 PM	0	0	0	0	0	0	0	2	2
5:00 PM	1	2	0	0	2	0	0	3	8
5:15 PM	0	2	0	0	1	0	3	0	6
5:30 PM	0	0	0	0	0	0	1	0	1
5:45 PM	0	0	0	1	0	0	1	0	2
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	26	9	0	1	10	16	10	16	88
APPROACH %'s :	74.29%	25.71%	0.00%	100.00%	38.46%	61.54%	38.46%	61.54%	
PEAK HR :	04:45 PM - 05:45 PM								TOTAL
PEAK HR VOL :	1	4	0	0	3	0	4	5	17
PEAK HR FACTOR :	0.250	0.500			0.375		0.333	0.417	
	0.417				0.375		0.750		0.531

Prepared by National Data & Surveying Services

Salinas Rd & Pajaro School Dwy

Peak Hour Turning Movement Count

ID: 18-08071-016
City: Royal Oaks

Day: Wednesday
Date: 02/28/2018

PEAK HOURS

AM: 07:15 AM - 08:15 AM
NOON: NONE
PM: 04:45 PM - 05:45 PM

COUNT PERIODS

AM: 07:00 AM - 09:00 AM
NOON: NONE
PM: 02:30 PM - 06:00 PM

Salinas Rd — SOUTHBOUND

AM	80	554	28	0	801	AM
NOON	0	0	0	0	0	NOON
PM	3	872	19	0	835	PM

EASTBOUND — Pajaro School Dwy

AM	NOON	PM	
92	0	3	
0	0	0	0
81	0	12	0
4	0	0	0
32	0	2	0

WESTBOUND — Pajaro School Dwy

PM	NOON	AM	
24	0	36	0
0	0	3	0
13	0	14	0
0	0	0	0
24	0	40	

CONTROL

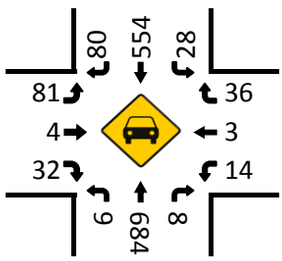
0

TEV	1533	0	1749
	AM	NOON	PM
PHF	0.90		0.95

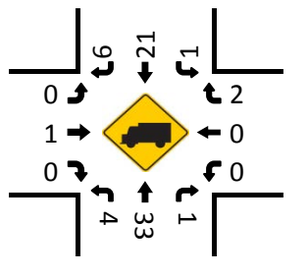
NORTHBOUND — Salinas Rd

PM	887	0	0	799	5	PM
NOON	0	0	0	0	0	NOON
AM	600	0	9	684	8	AM

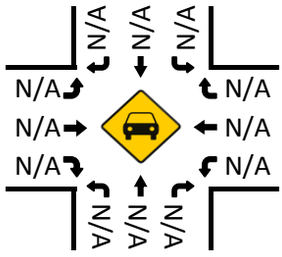
Total Vehicles (AM)



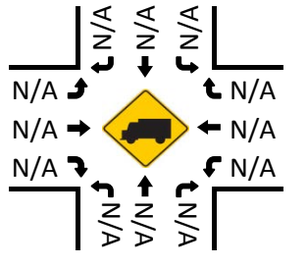
HT (AM)



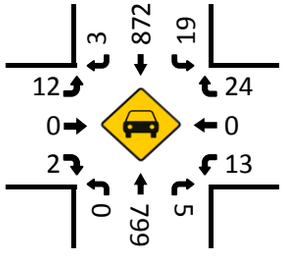
Total Vehicles (Noon)



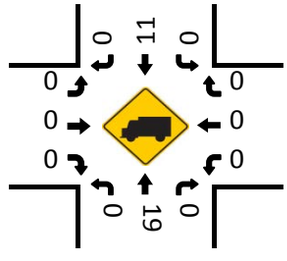
HT (NOON)



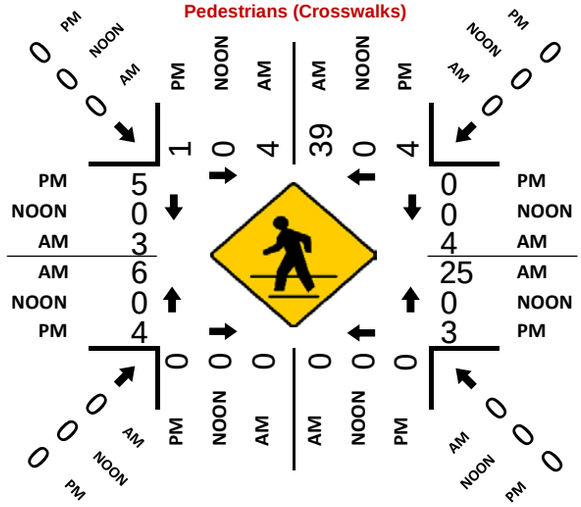
Total Vehicles (PM)



HT (PM)



Pedestrians (Crosswalks)



National Data & Surveying Services Intersection Turning Movement Count

Location: Salinas Rd & Hall Rd
City: Royal Oaks
Control:

Project ID: 18-08071-017
Date: 2/28/2018

Total

NS/EW Streets:	Salinas Rd				Salinas Rd				Hall Rd				Hall Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
7:00 AM	0	13	0	0	76	28	0	0	0	0	0	0	0	0	138	0	255
7:15 AM	0	32	0	0	98	25	0	0	0	0	0	0	0	0	157	0	312
7:30 AM	0	39	0	0	112	27	0	0	0	0	0	0	0	0	203	0	381
7:45 AM	0	25	0	0	120	16	0	0	0	0	0	0	0	0	148	0	309
8:00 AM	0	27	0	0	94	34	0	0	0	0	0	0	0	0	124	0	279
8:15 AM	0	28	0	0	81	37	0	0	0	0	0	0	0	0	118	0	264
8:30 AM	0	53	0	0	72	61	0	0	0	0	0	0	0	0	119	0	305
8:45 AM	0	49	0	0	83	51	0	0	0	0	0	0	0	0	118	0	301
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	266	0	0	736	279	0	0	0	0	0	0	0	0	1125	0	2406
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	72.51%	27.49%	0.00%	0.00%					0.00%	0.00%	100.00%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	123	0	0	424	102	0	0	0	0	0	0	0	0	632	0	1281
PEAK HR FACTOR :	0.000	0.788	0.000	0.000	0.883	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.778	0.000	0.841
		0.788				0.946								0.778			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
2:30 PM	0	42	0	0	119	33	0	0	0	0	0	0	0	0	105	0	299
2:45 PM	0	28	0	0	108	30	0	0	0	0	0	0	0	0	114	0	280
3:00 PM	0	32	0	0	143	34	0	0	0	0	0	0	0	0	130	0	339
3:15 PM	0	27	0	0	152	30	0	0	0	0	0	0	0	0	100	0	309
3:30 PM	0	40	0	0	160	32	0	0	0	0	0	0	0	0	148	0	380
3:45 PM	0	50	0	0	179	31	0	0	0	0	0	0	0	0	138	0	398
4:00 PM	0	59	0	0	183	37	0	0	0	0	0	0	0	0	134	0	413
4:15 PM	0	49	0	0	168	42	0	0	0	0	0	0	0	0	136	0	395
4:30 PM	0	68	0	0	203	34	0	0	0	0	0	0	0	0	119	0	424
4:45 PM	0	62	0	0	198	40	0	0	0	0	0	0	0	0	151	0	451
5:00 PM	0	57	0	0	197	34	0	0	0	0	0	0	0	0	149	0	437
5:15 PM	0	46	0	0	179	37	0	0	0	0	0	0	0	0	109	0	371
5:30 PM	0	49	0	0	162	31	0	0	0	0	0	0	0	0	134	0	376
5:45 PM	0	46	0	0	207	23	0	0	0	0	0	0	0	0	151	0	427
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	655	0	0	2358	468	0	0	0	0	0	0	0	0	1818	0	5299
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	83.44%	16.56%	0.00%	0.00%					0.00%	0.00%	100.00%	0.00%	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	0	236	0	0	766	150	0	0	0	0	0	0	0	0	555	0	1707
PEAK HR FACTOR :	0.000	0.868	0.000	0.000	0.943	0.893	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.919	0.000	0.946
		0.868				0.962								0.919			

National Data & Surveying Services Intersection Turning Movement Count

Location: Salinas Rd & Hall Rd
City: Royal Oaks
Control: 0

Project ID: 18-08071-017
Date: 2/28/2018

Cars

NS/EW Streets:	Salinas Rd				Salinas Rd				Hall Rd				Hall Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
7:00 AM	0	11	0	0	74	26	0	0	0	0	0	0	0	0	135	0	246
7:15 AM	0	29	0	0	95	23	0	0	0	0	0	0	0	0	146	0	293
7:30 AM	0	36	0	0	103	26	0	0	0	0	0	0	0	0	202	0	367
7:45 AM	0	23	0	0	113	16	0	0	0	0	0	0	0	0	147	0	299
8:00 AM	0	27	0	0	88	30	0	0	0	0	0	0	0	0	118	0	263
8:15 AM	0	27	0	0	76	31	0	0	0	0	0	0	0	0	114	0	248
8:30 AM	0	48	0	0	71	57	0	0	0	0	0	0	0	0	115	0	291
8:45 AM	0	48	0	0	78	50	0	0	0	0	0	0	0	0	116	0	292
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	249	0	0	698	259	0	0	0	0	0	0	0	0	1093	0	2299
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	72.94%	27.06%	0.00%	0.00%					0.00%	0.00%	100.00%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	115	0	0	399	95	0	0	0	0	0	0	0	0	613	0	1222
PEAK HR FACTOR :	0.00	0.799	0.000	0.000	0.883	0.792	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.759	0.000	0.832
		0.799				0.957								0.759			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
2:30 PM	0	39	0	0	114	33	0	0	0	0	0	0	0	0	100	0	286
2:45 PM	0	23	0	0	106	28	0	0	0	0	0	0	0	0	107	0	264
3:00 PM	0	30	0	0	137	33	0	0	0	0	0	0	0	0	120	0	320
3:15 PM	0	24	0	0	148	30	0	0	0	0	0	0	0	0	90	0	292
3:30 PM	0	38	0	0	156	31	0	0	0	0	0	0	0	0	139	0	364
3:45 PM	0	48	0	0	175	30	0	0	0	0	0	0	0	0	132	0	385
4:00 PM	0	56	0	0	176	36	0	0	0	0	0	0	0	0	127	0	395
4:15 PM	0	47	0	0	164	40	0	0	0	0	0	0	0	0	129	0	380
4:30 PM	0	67	0	0	201	33	0	0	0	0	0	0	0	0	117	0	418
4:45 PM	0	61	0	0	196	39	0	0	0	0	0	0	0	0	146	0	442
5:00 PM	0	56	0	0	195	32	0	0	0	0	0	0	0	0	144	0	427
5:15 PM	0	43	0	0	177	37	0	0	0	0	0	0	0	0	107	0	364
5:30 PM	0	47	0	0	160	30	0	0	0	0	0	0	0	0	131	0	368
5:45 PM	0	46	0	0	205	23	0	0	0	0	0	0	0	0	150	0	424
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	625	0	0	2310	455	0	0	0	0	0	0	0	0	1739	0	5129
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	83.54%	16.46%	0.00%	0.00%					0.00%	0.00%	100.00%	0.00%	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	0	231	0	0	756	144	0	0	0	0	0	0	0	0	536	0	1667
PEAK HR FACTOR :	0.00	0.862	0.000	0.000	0.940	0.900	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.918	0.000	0.943
		0.862				0.957								0.918			

National Data & Surveying Services Intersection Turning Movement Count

Location: Salinas Rd & Hall Rd
City: Royal Oaks
Control: 0

Project ID: 18-08071-017
Date: 2/28/2018

HT

NS/EW Streets:	Salinas Rd				Salinas Rd				Hall Rd				Hall Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
7:00 AM	0	2	0	0	2	2	0	0	0	0	0	0	0	0	3	0	9
7:15 AM	0	3	0	0	3	2	0	0	0	0	0	0	0	0	11	0	19
7:30 AM	0	3	0	0	9	1	0	0	0	0	0	0	0	0	1	0	14
7:45 AM	0	2	0	0	7	0	0	0	0	0	0	0	0	0	1	0	10
8:00 AM	0	0	0	0	6	4	0	0	0	0	0	0	0	0	6	0	16
8:15 AM	0	1	0	0	5	6	0	0	0	0	0	0	0	0	4	0	16
8:30 AM	0	5	0	0	1	4	0	0	0	0	0	0	0	0	4	0	14
8:45 AM	0	1	0	0	5	1	0	0	0	0	0	0	0	0	2	0	9
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	17	0	0	38	20	0	0	0	0	0	0	0	0	32	0	107
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	65.52%	34.48%	0.00%	0.00%					0.00%	0.00%	100.00%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	8	0	0	25	7	0	0	0	0	0	0	0	0	19	0	59
PEAK HR FACTOR :	0.000	0.667	0.000	0.000	0.694	0.438	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.432	0.000	0.776
		0.667				0.800								0.432			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
2:30 PM	0	3	0	0	5	0	0	0	0	0	0	0	0	0	5	0	13
2:45 PM	0	5	0	0	2	2	0	0	0	0	0	0	0	0	7	0	16
3:00 PM	0	2	0	0	6	1	0	0	0	0	0	0	0	0	10	0	19
3:15 PM	0	3	0	0	4	0	0	0	0	0	0	0	0	0	10	0	17
3:30 PM	0	2	0	0	4	1	0	0	0	0	0	0	0	0	9	0	16
3:45 PM	0	2	0	0	4	1	0	0	0	0	0	0	0	0	6	0	13
4:00 PM	0	3	0	0	7	1	0	0	0	0	0	0	0	0	7	0	18
4:15 PM	0	2	0	0	4	2	0	0	0	0	0	0	0	0	7	0	15
4:30 PM	0	1	0	0	2	1	0	0	0	0	0	0	0	0	2	0	6
4:45 PM	0	1	0	0	2	1	0	0	0	0	0	0	0	0	5	0	9
5:00 PM	0	1	0	0	2	2	0	0	0	0	0	0	0	0	5	0	10
5:15 PM	0	3	0	0	2	0	0	0	0	0	0	0	0	0	2	0	7
5:30 PM	0	2	0	0	2	1	0	0	0	0	0	0	0	0	3	0	8
5:45 PM	0	0	0	0	2	0	0	0	0	0	0	0	0	0	1	0	3
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	30	0	0	48	13	0	0	0	0	0	0	0	0	79	0	170
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	78.69%	21.31%	0.00%	0.00%					0.00%	0.00%	100.00%	0.00%	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	0	5	0	0	10	6	0	0	0	0	0	0	0	0	19	0	40
PEAK HR FACTOR :	0.00	0.625	0.000	0.000	0.625	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.679	0.000	0.667
		0.625				0.667								0.679			

National Data & Surveying Services Intersection Turning Movement Count

Location: Salinas Rd & Hall Rd
City: Royal Oaks
Control: 0

Project ID: 18-08071-017
Date: 2/28/2018

Bikes

NS/EW Streets:	Salinas Rd				Salinas Rd				Hall Rd				Hall Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
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	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	0	0	0	0
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	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
APPROACH %'s :													0.00%	0.00%	100.00%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
PEAK HR FACTOR :	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	0.250	0.000	0.250
															0.250		

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	1	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	1	0	0	0	0	0	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	2	0	0	0	0	0	0	0	0	0	3	0	5
APPROACH %'s :					100.00%	0.00%	0.00%	0.00%					0.00%	0.00%	100.00%	0.00%	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
					0.250												

National Data & Surveying Services Intersection Turning Movement Count

Location: Salinas Rd & Hall Rd
City: Royal Oaks

Project ID: 18-08071-017
Date: 2/28/2018

Pedestrians (Crosswalks)

NS/EW Streets:	Salinas Rd		Salinas Rd		Hall Rd		Hall Rd		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0
APPROACH %'s :									
PEAK HR :	07:15 AM - 08:15 AM								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
2:30 PM	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0
APPROACH %'s :									
PEAK HR :	04:15 PM - 05:15 PM								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

Prepared by National Data & Surveying Services

Salinas Rd & Hall Rd

Peak Hour Turning Movement Count

ID: 18-08071-017
City: Royal Oaks

Day: Wednesday
Date: 02/28/2018

PEAK HOURS

AM: 07:15 AM - 08:15 AM
NOON: NONE
PM: 04:15 PM - 05:15 PM

COUNT PERIODS

AM: 07:00 AM - 09:00 AM
NOON: NONE
PM: 02:30 PM - 06:00 PM

SOUTHBOUND (Salinas Rd)

AM	0	102	424	0	755	AM
NOON	0	0	0	0	0	NOON
PM	0	150	766	0	791	PM

EASTBOUND (Hall Rd)

AM	NOON	PM
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0

AM NOON PM

WESTBOUND (Hall Rd)

PM	NOON	AM
555	0	632
0	0	0
0	0	0
0	0	0
766	0	424

PM NOON AM

CONTROL

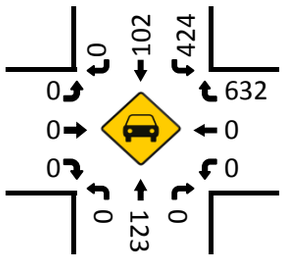
0

TEV	1281	0	1707
	AM	NOON	PM
PHF	0.84		0.95

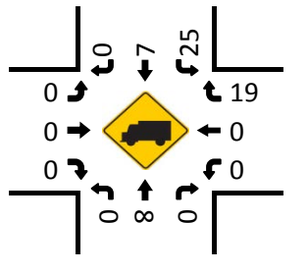
NORTHBOUND (Salinas Rd)

PM	150	0	0	236	0	PM
NOON	0	0	0	0	0	NOON
AM	102	0	0	123	0	AM

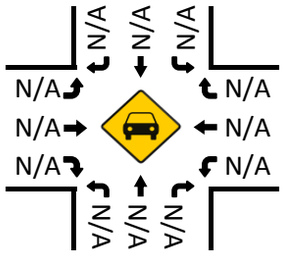
Total Vehicles (AM)



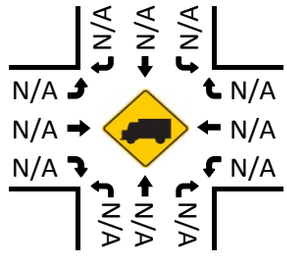
HT (AM)



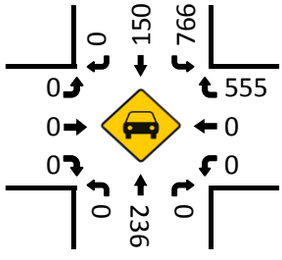
Total Vehicles (Noon)



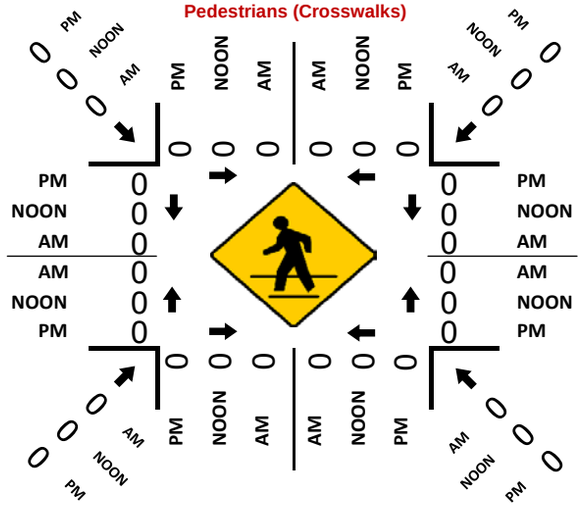
HT (NOON)



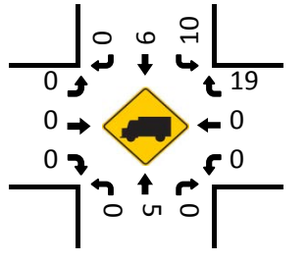
Total Vehicles (PM)



Pedestrians (Crosswalks)



HT (PM)



National Data & Surveying Services Intersection Turning Movement Count

Location: Elkhorn Rd & Werner Rd
City: Watsonville
Control:

Project ID: 18-08042-003
Date: 2/1/2018

Total

NS/EW Streets:	Elkhorn Rd				Elkhorn Rd				Werner Rd				Werner Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
7:00 AM	159	127	0	0	0	76	0	0	1	0	104	0	0	0	0	0	467
7:15 AM	174	160	0	0	0	104	0	0	0	0	112	0	0	0	0	0	550
7:30 AM	180	200	0	0	0	87	0	0	0	0	89	0	0	0	0	0	556
7:45 AM	188	167	0	0	0	98	0	0	0	0	79	0	0	0	0	0	532
8:00 AM	161	125	0	0	0	91	0	0	1	0	93	0	0	0	0	0	471
8:15 AM	113	109	0	0	0	77	0	0	0	0	78	0	0	0	0	0	377
8:30 AM	119	116	0	0	0	66	0	0	0	0	87	0	0	0	0	0	388
8:45 AM	124	119	0	0	0	63	1	0	0	0	74	0	0	0	0	0	381
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	1218	1123	0	0	0	662	1	0	2	0	716	0	0	0	0	0	3722
APPROACH %'s :	52.03%	47.97%	0.00%	0.00%	0.00%	99.85%	0.15%	0.00%	0.28%	0.00%	99.72%	0.00%					
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	703	652	0	0	0	380	0	0	1	0	373	0	0	0	0	0	2109
PEAK HR FACTOR :	0.935	0.815	0.000	0.000	0.000	0.913	0.000	0.000	0.250	0.000	0.833	0.000	0.000	0.000	0.000	0.000	0.948
	0.891				0.913				0.835								

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
4:00 PM	97	128	0	0	0	170	1	0	0	0	116	0	0	0	0	0	512
4:15 PM	94	123	0	0	0	163	2	0	0	0	141	0	0	0	0	0	523
4:30 PM	126	149	0	0	0	186	1	0	0	0	122	0	0	0	0	0	584
4:45 PM	123	132	0	0	0	194	1	0	0	0	120	0	0	0	0	0	570
5:00 PM	113	154	0	0	0	205	0	0	1	0	116	0	0	0	0	0	589
5:15 PM	106	135	0	0	0	204	2	0	0	0	106	0	0	0	0	0	553
5:30 PM	120	159	0	0	0	173	0	0	0	0	139	0	0	0	0	0	591
5:45 PM	92	124	0	0	0	180	2	0	0	0	117	0	0	0	0	0	515
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	871	1104	0	0	0	1475	9	0	1	0	977	0	0	0	0	0	4437
APPROACH %'s :	44.10%	55.90%	0.00%	0.00%	0.00%	99.39%	0.61%	0.00%	0.10%	0.00%	99.90%	0.00%					
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	462	580	0	0	0	776	3	0	1	0	481	0	0	0	0	0	2303
PEAK HR FACTOR :	0.939	0.912	0.000	0.000	0.000	0.946	0.375	0.000	0.250	0.000	0.865	0.000	0.000	0.000	0.000	0.000	0.974
	0.934				0.945				0.867								

National Data & Surveying Services Intersection Turning Movement Count

Location: Elkhorn Rd & Werner Rd
City: Watsonville
Control: 0

Project ID: 18-08042-003
Date: 2/1/2018

Cars

NS/EW Streets:	Elkhorn Rd				Elkhorn Rd				Werner Rd				Werner Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
7:00 AM	151	122	0	0	0	74	0	0	1	0	102	0	0	0	0	0	450
7:15 AM	171	151	0	0	0	100	0	0	0	0	108	0	0	0	0	0	530
7:30 AM	177	191	0	0	0	84	0	0	0	0	87	0	0	0	0	0	539
7:45 AM	182	164	0	0	0	94	0	0	0	0	78	0	0	0	0	0	518
8:00 AM	155	124	0	0	0	89	0	0	1	0	89	0	0	0	0	0	458
8:15 AM	109	103	0	0	0	75	0	0	0	0	73	0	0	0	0	0	360
8:30 AM	116	110	0	0	0	63	0	0	0	0	85	0	0	0	0	0	374
8:45 AM	117	115	0	0	0	62	1	0	0	0	71	0	0	0	0	0	366
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	1178	1080	0	0	0	641	1	0	2	0	693	0	0	0	0	0	3595
APPROACH %'s :	52.17%	47.83%	0.00%	0.00%	0.00%	99.84%	0.16%	0.00%	0.29%	0.00%	99.71%	0.00%					
PEAK HR :	**07:15 AM - 08:15 AM**																TOTAL
PEAK HR VOL :	685	630	0	0	0	367	0	0	1	0	362	0	0	0	0	0	2045
PEAK HR FACTOR :	0.94	0.825	0.000	0.000	0.000	0.918	0.000	0.000	0.250	0.000	0.838	0.000	0.000	0.000	0.000	0.000	0.949
		0.893				0.918				0.840							

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
4:00 PM	90	125	0	0	0	166	1	0	0	0	116	0	0	0	0	0	498
4:15 PM	93	114	0	0	0	157	2	0	0	0	136	0	0	0	0	0	502
4:30 PM	124	145	0	0	0	181	1	0	0	0	120	0	0	0	0	0	571
4:45 PM	119	128	0	0	0	189	1	0	0	0	118	0	0	0	0	0	555
5:00 PM	113	152	0	0	0	203	0	0	1	0	112	0	0	0	0	0	581
5:15 PM	106	132	0	0	0	204	2	0	0	0	103	0	0	0	0	0	547
5:30 PM	118	157	0	0	0	171	0	0	0	0	137	0	0	0	0	0	583
5:45 PM	90	122	0	0	0	175	2	0	0	0	114	0	0	0	0	0	503
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	853	1075	0	0	0	1446	9	0	1	0	956	0	0	0	0	0	4340
APPROACH %'s :	44.24%	55.76%	0.00%	0.00%	0.00%	99.38%	0.62%	0.00%	0.10%	0.00%	99.90%	0.00%					
PEAK HR :	**04:45 PM - 05:45 PM**																TOTAL
PEAK HR VOL :	456	569	0	0	0	767	3	0	1	0	470	0	0	0	0	0	2266
PEAK HR FACTOR :	0.96	0.906	0.000	0.000	0.000	0.940	0.375	0.000	0.250	0.000	0.858	0.000	0.000	0.000	0.000	0.000	0.972
		0.932				0.934				0.859							

National Data & Surveying Services Intersection Turning Movement Count

Location: Elkhorn Rd & Werner Rd
City: Watsonville
Control: 0

Project ID: 18-08042-003
Date: 2/1/2018

HT

NS/EW Streets:	Elkhorn Rd				Elkhorn Rd				Werner Rd				Werner Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL
7:00 AM	8	5	0	0	0	2	0	0	0	0	2	0	0	0	0	0	17
7:15 AM	3	9	0	0	0	4	0	0	0	0	4	0	0	0	0	0	20
7:30 AM	3	9	0	0	0	3	0	0	0	0	2	0	0	0	0	0	17
7:45 AM	6	3	0	0	0	4	0	0	0	0	1	0	0	0	0	0	14
8:00 AM	6	1	0	0	0	2	0	0	0	0	4	0	0	0	0	0	13
8:15 AM	4	6	0	0	0	2	0	0	0	0	5	0	0	0	0	0	17
8:30 AM	3	6	0	0	0	3	0	0	0	0	2	0	0	0	0	0	14
8:45 AM	7	4	0	0	0	1	0	0	0	0	3	0	0	0	0	0	15
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	40	43	0	0	0	21	0	0	0	0	23	0	0	0	0	0	127
APPROACH %'s :	48.19%	51.81%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%					
PEAK HR :	**07:15 AM - 08:15 AM**																TOTAL
PEAK HR VOL :	18	22	0	0	0	13	0	0	0	0	11	0	0	0	0	0	64
PEAK HR FACTOR :	0.750	0.611	0.000	0.000	0.000	0.813	0.000	0.000	0.000	0.000	0.688	0.000	0.000	0.000	0.000	0.000	0.800
	0.833				0.813				0.688								

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL
4:00 PM	7	3	0	0	0	4	0	0	0	0	0	0	0	0	0	0	14
4:15 PM	1	9	0	0	0	6	0	0	0	0	5	0	0	0	0	0	21
4:30 PM	2	4	0	0	0	5	0	0	0	0	2	0	0	0	0	0	13
4:45 PM	4	4	0	0	0	5	0	0	0	0	2	0	0	0	0	0	15
5:00 PM	0	2	0	0	0	2	0	0	0	0	4	0	0	0	0	0	8
5:15 PM	0	3	0	0	0	0	0	0	0	0	3	0	0	0	0	0	6
5:30 PM	2	2	0	0	0	2	0	0	0	0	2	0	0	0	0	0	8
5:45 PM	2	2	0	0	0	5	0	0	0	0	3	0	0	0	0	0	12
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	18	29	0	0	0	29	0	0	0	0	21	0	0	0	0	0	97
APPROACH %'s :	38.30%	61.70%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%					
PEAK HR :	**04:45 PM - 05:45 PM**																TOTAL
PEAK HR VOL :	6	11	0	0	0	9	0	0	0	0	11	0	0	0	0	0	37
PEAK HR FACTOR :	0.38	0.688	0.000	0.000	0.000	0.450	0.000	0.000	0.000	0.000	0.688	0.000	0.000	0.000	0.000	0.000	0.617
	0.531				0.450				0.688								

National Data & Surveying Services Intersection Turning Movement Count

Location: Elkhorn Rd & Werner Rd
City: Watsonville
Control: 0

Project ID: 18-08042-003
Date: 2/1/2018

Bikes

NS/EW Streets:	Elkhorn Rd				Elkhorn Rd				Werner Rd				Werner Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 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	1	0	0	0	0	0	0	0	0	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	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%													
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
PEAK HR FACTOR :	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500
		0.500															

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	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	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
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 :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
PEAK HR FACTOR :	0.00	0.250	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	0.250
		0.250															

National Data & Surveying Services Intersection Turning Movement Count

Location: Elkhorn Rd & Werner Rd
City: Watsonville

Project ID: 18-08042-003
Date: 2/1/2018

Pedestrians (Crosswalks)

NS/EW Streets:	Elkhorn Rd		Elkhorn Rd		Werner Rd		Werner Rd		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0
APPROACH %'s :									
PEAK HR :	07:15 AM - 08:15 AM								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0
APPROACH %'s :									
PEAK HR :	04:45 PM - 05:45 PM								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

Prepared by National Data & Surveying Services

Elkhorn Rd & Werner Rd

Peak Hour Turning Movement Count

ID: 18-08042-003
City: Watsonville

Day: Thursday
Date: 02/01/2018

PEAK HOURS

AM: 07:15 AM - 08:15 AM
NOON: NONE
PM: 04:45 PM - 05:45 PM

COUNT PERIODS

AM: 07:00 AM - 09:00 AM
NOON: NONE
PM: 04:00 PM - 06:00 PM

SOUTHBOUND — Elkhorn Rd

AM	0	380	0	0	653	AM
NOON	0	0	0	0	0	NOON
PM	3	776	0	0	581	PM

EASTBOUND — Werner Rd

AM	NOON	PM	
703	0	465	
0	0	0	0
1	0	1	0
0	0	0	0
373	0	481	0
AM	NOON	PM	

WESTBOUND — Werner Rd

PM	NOON	AM	
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	
PM	NOON	AM	

CONTROL

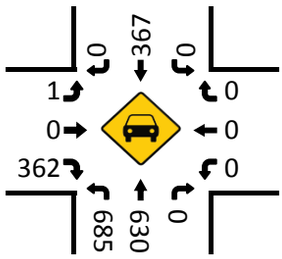
0

TEV	2109	0	2303
	AM	NOON	PM
PHF	0.95		0.97

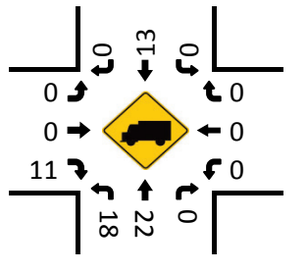
NORTHBOUND — Elkhorn Rd

PM	1257	0	462	580	0	PM
NOON	0	0	0	0	0	NOON
AM	753	0	703	652	0	AM

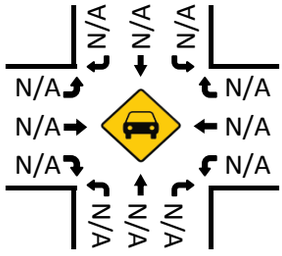
Cars (AM)



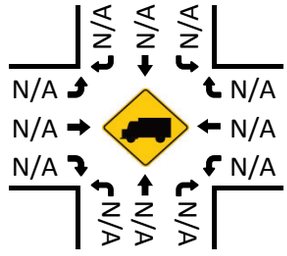
HT (AM)



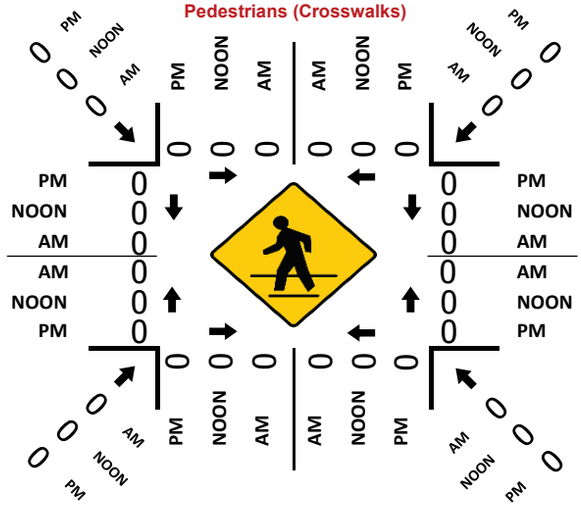
Cars (NOON)



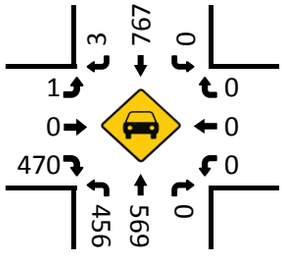
HT (NOON)



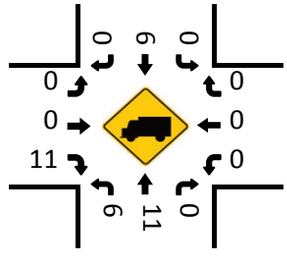
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



National Data & Surveying Services Intersection Turning Movement Count

Location: Hall Rd & Elkhorn Rd
City: Royal Oaks
Control:

Project ID: 18-08042-004
Date: 2/1/2018

Total

NS/EW Streets:	Hall Rd				Hall Rd				Elkhorn Rd				Elkhorn Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
7:00 AM	3	237	0	0	0	166	5	0	24	0	2	0	0	0	0	0	437
7:15 AM	4	306	0	0	0	206	9	0	23	0	0	0	0	0	0	0	548
7:30 AM	3	344	0	0	0	161	6	0	17	0	3	0	0	0	0	0	534
7:45 AM	1	334	0	0	0	166	12	1	29	0	3	0	0	0	0	0	546
8:00 AM	2	226	0	0	0	173	6	0	9	0	2	0	0	0	0	0	418
8:15 AM	3	191	0	0	0	141	12	0	16	0	5	0	0	0	0	0	368
8:30 AM	3	213	0	0	0	137	4	0	25	0	2	0	0	0	0	0	384
8:45 AM	0	192	0	0	0	124	9	0	12	0	1	0	0	0	0	0	338
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	19	2043	0	0	0	1274	63	1	155	0	18	0	0	0	0	0	3573
APPROACH %'s :	0.92%	99.08%	0.00%	0.00%	0.00%	95.22%	4.71%	0.07%	89.60%	0.00%	10.40%	0.00%					
PEAK HR :	**07:00 AM - 08:00 AM**																TOTAL
PEAK HR VOL :	11	1221	0	0	0	699	32	1	93	0	8	0	0	0	0	0	2065
PEAK HR FACTOR :	0.688	0.887	0.000	0.000	0.000	0.848	0.667	0.250	0.802	0.000	0.667	0.000	0.000	0.000	0.000	0.000	0.942
		0.888				0.851				0.789							

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
4:00 PM	3	218	0	0	0	241	23	0	17	0	3	0	0	0	0	0	505
4:15 PM	7	195	0	0	0	261	25	0	16	0	4	0	0	0	0	0	508
4:30 PM	7	248	0	0	0	273	21	0	15	0	5	0	0	0	0	0	569
4:45 PM	5	220	0	0	0	283	19	0	17	0	6	0	0	0	0	0	550
5:00 PM	7	252	0	0	0	286	34	0	9	0	4	0	0	0	0	0	592
5:15 PM	5	236	0	0	0	273	23	0	15	0	5	0	0	0	0	0	557
5:30 PM	5	245	0	0	0	281	14	0	19	0	4	0	0	0	0	0	568
5:45 PM	1	182	0	0	0	246	26	0	11	0	5	0	0	0	0	0	471
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	40	1796	0	0	0	2144	185	0	119	0	36	0	0	0	0	0	4320
APPROACH %'s :	2.18%	97.82%	0.00%	0.00%	0.00%	92.06%	7.94%	0.00%	76.77%	0.00%	23.23%	0.00%					
PEAK HR :	**04:30 PM - 05:30 PM**																TOTAL
PEAK HR VOL :	24	956	0	0	0	1115	97	0	56	0	20	0	0	0	0	0	2268
PEAK HR FACTOR :	0.857	0.948	0.000	0.000	0.000	0.975	0.713	0.000	0.824	0.000	0.833	0.000	0.000	0.000	0.000	0.000	0.958
		0.946				0.947				0.826							

National Data & Surveying Services Intersection Turning Movement Count

Location: Hall Rd & Elkhorn Rd
City: Royal Oaks
Control: 0

Project ID: 18-08042-004
Date: 2/1/2018

Cars

NS/EW Streets:	Hall Rd				Hall Rd				Elkhorn Rd				Elkhorn Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
7:00 AM	2	228	0	0	0	164	5	0	22	0	1	0	0	0	0	0	422
7:15 AM	4	297	0	0	0	198	8	0	21	0	0	0	0	0	0	0	528
7:30 AM	3	335	0	0	0	158	6	0	16	0	3	0	0	0	0	0	521
7:45 AM	1	325	0	0	0	162	10	1	29	0	3	0	0	0	0	0	531
8:00 AM	2	218	0	0	0	167	6	0	9	0	2	0	0	0	0	0	404
8:15 AM	3	183	0	0	0	132	11	0	15	0	5	0	0	0	0	0	349
8:30 AM	3	204	0	0	0	132	4	0	25	0	2	0	0	0	0	0	370
8:45 AM	0	183	0	0	0	121	9	0	11	0	1	0	0	0	0	0	325
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	18	1973	0	0	0	1234	59	1	148	0	17	0	0	0	0	0	3450
APPROACH %'s :	0.90%	99.10%	0.00%	0.00%	0.00%	95.36%	4.56%	0.08%	89.70%	0.00%	10.30%	0.00%					
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	10	1185	0	0	0	682	29	1	88	0	7	0	0	0	0	0	2002
PEAK HR FACTOR :	0.63	0.884	0.000	0.000	0.000	0.861	0.725	0.250	0.759	0.000	0.583	0.000	0.000	0.000	0.000	0.000	0.943
		0.884				0.864				0.742							

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
4:00 PM	3	207	0	0	0	237	23	0	16	0	3	0	0	0	0	0	489
4:15 PM	7	186	0	0	0	251	24	0	16	0	4	0	0	0	0	0	488
4:30 PM	7	242	0	0	0	266	20	0	14	0	5	0	0	0	0	0	554
4:45 PM	4	213	0	0	0	276	19	0	17	0	5	0	0	0	0	0	534
5:00 PM	7	250	0	0	0	282	34	0	9	0	4	0	0	0	0	0	586
5:15 PM	5	234	0	0	0	269	23	0	15	0	5	0	0	0	0	0	551
5:30 PM	5	240	0	0	0	277	14	0	19	0	4	0	0	0	0	0	559
5:45 PM	1	179	0	0	0	239	25	0	11	0	5	0	0	0	0	0	460
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	39	1751	0	0	0	2097	182	0	117	0	35	0	0	0	0	0	4221
APPROACH %'s :	2.18%	97.82%	0.00%	0.00%	0.00%	92.01%	7.99%	0.00%	76.97%	0.00%	23.03%	0.00%					
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	23	939	0	0	0	1093	96	0	55	0	19	0	0	0	0	0	2225
PEAK HR FACTOR :	0.82	0.939	0.000	0.000	0.000	0.969	0.706	0.000	0.809	0.000	0.950	0.000	0.000	0.000	0.000	0.000	0.949
		0.936				0.941				0.841							

National Data & Surveying Services Intersection Turning Movement Count

Location: Hall Rd & Elkhorn Rd
City: Royal Oaks
Control: 0

Project ID: 18-08042-004
Date: 2/1/2018

HT

NS/EW Streets:	Hall Rd				Hall Rd				Elkhorn Rd				Elkhorn Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
7:00 AM	1	9	0	0	0	2	0	0	2	0	1	0	0	0	0	0	15
7:15 AM	0	9	0	0	0	8	1	0	2	0	0	0	0	0	0	0	20
7:30 AM	0	9	0	0	0	3	0	0	1	0	0	0	0	0	0	0	13
7:45 AM	0	9	0	0	0	4	2	0	0	0	0	0	0	0	0	0	15
8:00 AM	0	8	0	0	0	6	0	0	0	0	0	0	0	0	0	0	14
8:15 AM	0	8	0	0	0	9	1	0	1	0	0	0	0	0	0	0	19
8:30 AM	0	9	0	0	0	5	0	0	0	0	0	0	0	0	0	0	14
8:45 AM	0	9	0	0	0	3	0	0	1	0	0	0	0	0	0	0	13
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	1	70	0	0	0	40	4	0	7	0	1	0	0	0	0	0	123
APPROACH %'s :	1.41%	98.59%	0.00%	0.00%	0.00%	90.91%	9.09%	0.00%	87.50%	0.00%	12.50%	0.00%					
PEAK HR :	**07:00 AM - 08:00 AM**																TOTAL
PEAK HR VOL :	1	36	0	0	0	17	3	0	5	0	1	0	0	0	0	0	63
PEAK HR FACTOR :	0.250	1.000	0.000	0.000	0.000	0.531	0.375	0.000	0.625	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.788
		0.925				0.556				0.500							

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
4:00 PM	0	11	0	0	0	4	0	0	1	0	0	0	0	0	0	0	16
4:15 PM	0	9	0	0	0	10	1	0	0	0	0	0	0	0	0	0	20
4:30 PM	0	6	0	0	0	7	1	0	1	0	0	0	0	0	0	0	15
4:45 PM	1	7	0	0	0	7	0	0	0	0	1	0	0	0	0	0	16
5:00 PM	0	2	0	0	0	4	0	0	0	0	0	0	0	0	0	0	6
5:15 PM	0	2	0	0	0	4	0	0	0	0	0	0	0	0	0	0	6
5:30 PM	0	5	0	0	0	4	0	0	0	0	0	0	0	0	0	0	9
5:45 PM	0	3	0	0	0	7	1	0	0	0	0	0	0	0	0	0	11
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	1	45	0	0	0	47	3	0	2	0	1	0	0	0	0	0	99
APPROACH %'s :	2.17%	97.83%	0.00%	0.00%	0.00%	94.00%	6.00%	0.00%	66.67%	0.00%	33.33%	0.00%					
PEAK HR :	**04:30 PM - 05:30 PM**																TOTAL
PEAK HR VOL :	1	17	0	0	0	22	1	0	1	0	1	0	0	0	0	0	43
PEAK HR FACTOR :	0.25	0.607	0.000	0.000	0.000	0.786	0.250	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.672
		0.563				0.719				0.500							

National Data & Surveying Services Intersection Turning Movement Count

Location: Hall Rd & Elkhorn Rd
City: Royal Oaks
Control: 0

Project ID: 18-08042-004
Date: 2/1/2018

Bikes

NS/EW Streets:	Hall Rd				Hall Rd				Elkhorn Rd				Elkhorn Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	1	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	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 :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
PEAK HR FACTOR :	0.000	0.250	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	0.250
		0.250															

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
4:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	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 :	04:30 PM - 05:30 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: Hall Rd & Elkhorn Rd
City: Royal Oaks

Project ID: 18-08042-004
Date: 2/1/2018

Pedestrians (Crosswalks)

NS/EW Streets:	Hall Rd		Hall Rd		Elkhorn Rd		Elkhorn Rd		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0
APPROACH %'s :									
PEAK HR :	**07:00 AM - 08:00 AM**								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0
APPROACH %'s :									
PEAK HR :	**04:30 PM - 05:30 PM**								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

Prepared by National Data & Surveying Services

Hall Rd & Elkhorn Rd

Peak Hour Turning Movement Count

ID: 18-08042-004
City: Royal Oaks

Day: Thursday
Date: 02/01/2018

PEAK HOURS

AM: 07:00 AM - 08:00 AM
NOON: NONE
PM: 04:30 PM - 05:30 PM

COUNT PERIODS

AM: 07:00 AM - 09:00 AM
NOON: NONE
PM: 04:00 PM - 06:00 PM

Hall Rd — SOUTHBOUND

AM	32	699	0	1	1315	AM
NOON	0	0	0	0	0	NOON
PM	97	1115	0	0	1012	PM

Elkhorn Rd — EASTBOUND

AM	NOON	PM	
43	0	121	⇦
0	0	0	↶ 0
93	0	56	↱ 0
0	0	0	→ 0
8	0	20	↳ 0
AM	NOON	PM	

CONTROL

0

TEV	2065	0	2268
	AM	NOON	PM
PHF	0.94		0.96

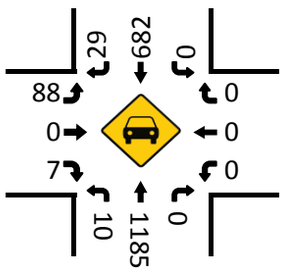
Elkhorn Rd — WESTBOUND

PM	NOON	AM	
0	0	0	↰ 0
0	0	0	← 0
0	0	0	↶ 0
0	0	0	↳ 0
0	0	0	⇨
PM	NOON	AM	

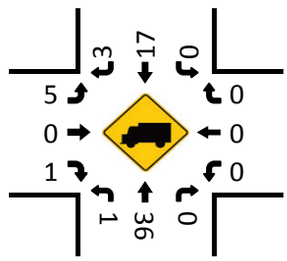
Hall Rd — NORTHBOUND

PM	1135	0	24	956	0	PM
NOON	0	0	0	0	0	NOON
AM	707	0	11	1221	0	AM

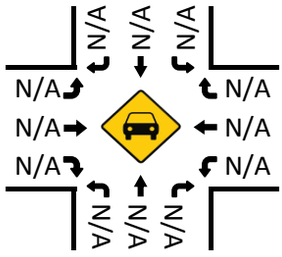
Cars (AM)



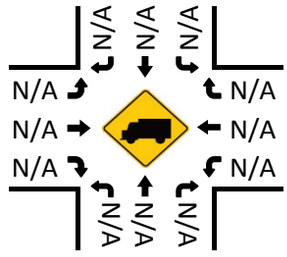
HT (AM)



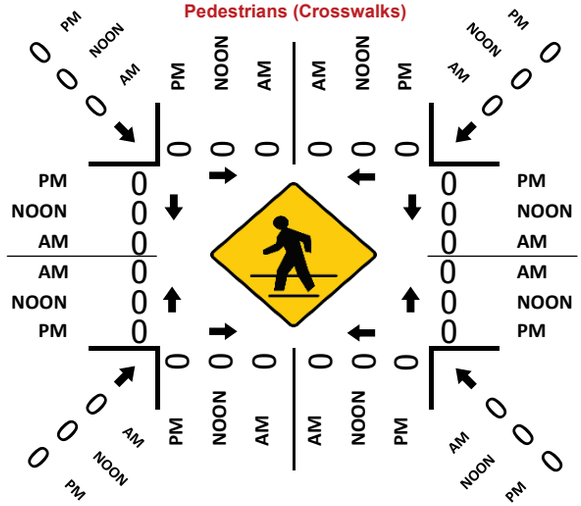
Cars (NOON)



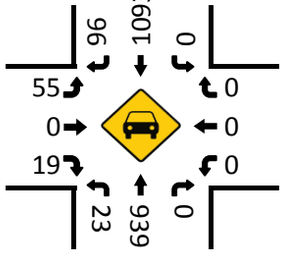
HT (NOON)



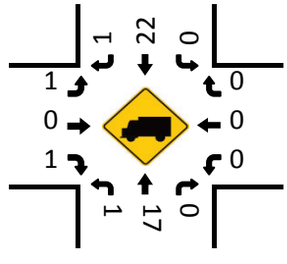
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Hall Rd

National Data & Surveying Services Intersection Turning Movement Count

Location: Willow Rd & Hall Rd
City: Royal Oaks
Control:

Project ID: 18-08042-005
Date: 2/1/2018

Total

NS/EW Streets:	Willow Rd				Willow Rd				Hall Rd				Hall Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
7:00 AM	5	0	11	0	0	0	0	0	0	162	3	0	10	224	0	0	415
7:15 AM	20	0	8	0	0	0	0	0	0	213	6	0	13	297	0	0	557
7:30 AM	23	0	5	0	0	0	0	0	0	158	8	0	18	299	0	0	511
7:45 AM	19	0	5	0	0	0	0	0	0	161	14	0	8	278	0	0	485
8:00 AM	9	0	5	0	0	0	0	0	0	169	9	0	4	245	0	0	441
8:15 AM	17	0	4	0	0	0	0	0	0	144	10	0	3	213	0	0	391
8:30 AM	9	0	5	0	0	0	0	0	0	140	7	0	4	199	0	0	364
8:45 AM	12	0	0	0	0	0	0	0	0	113	6	0	11	185	0	0	327
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	114	0	43	0	0	0	0	0	0	1260	63	0	71	1940	0	0	3491
APPROACH %'s :	72.61%	0.00%	27.39%	0.00%					0.00%	95.24%	4.76%	0.00%	3.53%	96.47%	0.00%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	71	0	23	0	0	0	0	0	0	701	37	0	43	1119	0	0	1994
PEAK HR FACTOR :	0.772	0.000	0.719	0.000	0.000	0.000	0.000	0.000	0.000	0.823	0.661	0.000	0.597	0.936	0.000	0.000	0.895
	0.839								0.842				0.916				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
4:00 PM	7	0	11	0	0	0	0	0	0	241	25	0	17	210	0	0	511
4:15 PM	4	0	13	0	0	0	0	0	0	263	26	0	13	196	0	0	515
4:30 PM	14	0	8	0	0	0	0	0	0	247	23	0	15	228	0	0	535
4:45 PM	12	0	8	0	0	0	0	0	0	245	28	0	22	239	0	0	554
5:00 PM	14	0	10	0	0	0	0	0	0	257	27	0	15	228	0	0	551
5:15 PM	13	0	7	0	0	0	0	0	0	255	30	0	11	197	0	0	513
5:30 PM	10	0	5	0	0	0	0	0	0	252	18	0	14	222	0	0	521
5:45 PM	12	0	7	0	0	0	0	0	0	260	17	0	12	200	0	0	508
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	86	0	69	0	0	0	0	0	0	2020	194	0	119	1720	0	0	4208
APPROACH %'s :	55.48%	0.00%	44.52%	0.00%					0.00%	91.24%	8.76%	0.00%	6.47%	93.53%	0.00%	0.00%	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	44	0	39	0	0	0	0	0	0	1012	104	0	65	891	0	0	2155
PEAK HR FACTOR :	0.786	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.962	0.929	0.000	0.739	0.932	0.000	0.000	0.972
	0.865								0.965				0.916				

National Data & Surveying Services Intersection Turning Movement Count

Location: Willow Rd & Hall Rd
City: Royal Oaks
Control: 0

Project ID: 18-08042-005
Date: 2/1/2018

Cars

NS/EW Streets:	Willow Rd				Willow Rd				Hall Rd				Hall Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
7:00 AM	4	0	11	0	0	0	0	0	0	160	2	0	9	216	0	0	402
7:15 AM	18	0	8	0	0	0	0	0	0	206	6	0	13	290	0	0	541
7:30 AM	23	0	5	0	0	0	0	0	0	154	8	0	18	290	0	0	498
7:45 AM	19	0	5	0	0	0	0	0	0	155	14	0	7	270	0	0	470
8:00 AM	8	0	4	0	0	0	0	0	0	162	9	0	4	238	0	0	425
8:15 AM	17	0	4	0	0	0	0	0	0	139	10	0	3	203	0	0	376
8:30 AM	9	0	4	0	0	0	0	0	0	136	6	0	4	191	0	0	350
8:45 AM	12	0	0	0	0	0	0	0	0	108	6	0	11	176	0	0	313
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	110	0	41	0	0	0	0	0	0	1220	61	0	69	1874	0	0	3375
APPROACH %'s :	72.85%	0.00%	27.15%	0.00%					0.00%	95.24%	4.76%	0.00%	3.55%	96.45%	0.00%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	68	0	22	0	0	0	0	0	0	677	37	0	42	1088	0	0	1934
PEAK HR FACTOR :	0.74	0.000	0.688	0.000	0.000	0.000	0.000	0.000	0.000	0.822	0.661	0.000	0.583	0.938	0.000	0.000	0.894
		0.804								0.842				0.917			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
4:00 PM	7	0	11	0	0	0	0	0	0	230	23	0	17	201	0	0	489
4:15 PM	4	0	12	0	0	0	0	0	0	260	25	0	13	188	0	0	502
4:30 PM	14	0	8	0	0	0	0	0	0	242	23	0	15	220	0	0	522
4:45 PM	12	0	8	0	0	0	0	0	0	238	28	0	22	233	0	0	541
5:00 PM	14	0	9	0	0	0	0	0	0	251	27	0	15	223	0	0	539
5:15 PM	13	0	7	0	0	0	0	0	0	251	30	0	11	193	0	0	505
5:30 PM	10	0	5	0	0	0	0	0	0	246	18	0	14	218	0	0	511
5:45 PM	12	0	7	0	0	0	0	0	0	257	16	0	12	199	0	0	503
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	86	0	67	0	0	0	0	0	0	1975	190	0	119	1675	0	0	4112
APPROACH %'s :	56.21%	0.00%	43.79%	0.00%					0.00%	91.22%	8.78%	0.00%	6.63%	93.37%	0.00%	0.00%	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	44	0	37	0	0	0	0	0	0	991	103	0	65	864	0	0	2104
PEAK HR FACTOR :	0.79	0.000	0.771	0.000	0.000	0.000	0.000	0.000	0.000	0.953	0.920	0.000	0.739	0.927	0.000	0.000	0.972
		0.880								0.960				0.911			

National Data & Surveying Services Intersection Turning Movement Count

Location: Willow Rd & Hall Rd
City: Royal Oaks
Control: 0

Project ID: 18-08042-005
Date: 2/1/2018

HT

NS/EW Streets:	Willow Rd				Willow Rd				Hall Rd				Hall Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL
7:00 AM	1	0	0	0	0	0	0	0	0	2	1	0	1	8	0	0	13
7:15 AM	2	0	0	0	0	0	0	0	0	7	0	0	0	7	0	0	16
7:30 AM	0	0	0	0	0	0	0	0	0	4	0	0	0	9	0	0	13
7:45 AM	0	0	0	0	0	0	0	0	0	6	0	0	1	8	0	0	15
8:00 AM	1	0	1	0	0	0	0	0	0	7	0	0	0	7	0	0	16
8:15 AM	0	0	0	0	0	0	0	0	0	5	0	0	0	10	0	0	15
8:30 AM	0	0	1	0	0	0	0	0	0	4	1	0	0	8	0	0	14
8:45 AM	0	0	0	0	0	0	0	0	0	5	0	0	0	9	0	0	14
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	4	0	2	0	0	0	0	0	0	40	2	0	2	66	0	0	116
APPROACH %'s :	66.67%	0.00%	33.33%	0.00%					0.00%	95.24%	4.76%	0.00%	2.94%	97.06%	0.00%	0.00%	
PEAK HR :	**07:15 AM - 08:15 AM**																TOTAL
PEAK HR VOL :	3	0	1	0	0	0	0	0	0	24	0	0	1	31	0	0	60
PEAK HR FACTOR :	0.375	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.857	0.000	0.000	0.250	0.861	0.000	0.000	0.938
		0.500								0.857				0.889			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	11	2	0	0	9	0	0	22
4:15 PM	0	0	1	0	0	0	0	0	0	3	1	0	0	8	0	0	13
4:30 PM	0	0	0	0	0	0	0	0	0	5	0	0	0	8	0	0	13
4:45 PM	0	0	0	0	0	0	0	0	0	7	0	0	0	6	0	0	13
5:00 PM	0	0	1	0	0	0	0	0	0	6	0	0	0	5	0	0	12
5:15 PM	0	0	0	0	0	0	0	0	0	4	0	0	0	4	0	0	8
5:30 PM	0	0	0	0	0	0	0	0	0	6	0	0	0	4	0	0	10
5:45 PM	0	0	0	0	0	0	0	0	0	3	1	0	0	1	0	0	5
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	2	0	0	0	0	0	0	45	4	0	0	45	0	0	96
APPROACH %'s :	0.00%	0.00%	100.00%	0.00%					0.00%	91.84%	8.16%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	**04:15 PM - 05:15 PM**																TOTAL
PEAK HR VOL :	0	0	2	0	0	0	0	0	0	21	1	0	0	27	0	0	51
PEAK HR FACTOR :	0.00	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.750	0.250	0.000	0.000	0.844	0.000	0.000	0.981
		0.500								0.786				0.844			

National Data & Surveying Services Intersection Turning Movement Count

Location: Willow Rd & Hall Rd
City: Royal Oaks
Control: 0

Project ID: 18-08042-005
Date: 2/1/2018

Bikes

NS/EW Streets:	Willow Rd				Willow Rd				Hall Rd				Hall Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
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	1	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	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	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	1	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	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	0	0	3
APPROACH %'s :									0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2
PEAK HR FACTOR :	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	0.250	0.000	0.000	0.250
										0.250				0.250			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	4
4:45 PM	0	0	3	0	0	0	0	0	0	0	0	0	1	0	0	0	4
5:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
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	6	0	0	0	0	0	0	0	0	0	5	1	0	0	12
APPROACH %'s :	0.00%	0.00%	100.00%	0.00%									83.33%	16.67%	0.00%	0.00%	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	0	0	6	0	0	0	0	0	0	0	0	0	3	0	0	0	9
PEAK HR FACTOR :	0.00	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.375	0.000	0.000	0.000	0.563
			0.500											0.375			

National Data & Surveying Services Intersection Turning Movement Count

Location: Willow Rd & Hall Rd
City: Royal Oaks

Project ID: 18-08042-005
Date: 2/1/2018

Pedestrians (Crosswalks)

NS/EW Streets:	Willow Rd		Willow Rd		Hall Rd		Hall Rd		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	1	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	1	0	0	0	0	0	0	1
APPROACH %'s :	0.00%	100.00%							
PEAK HR :	07:15 AM - 08:15 AM								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	1	0	0	0	0	0	0	1
4:45 PM	0	1	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	2	0	0	0	0	0	0	2
APPROACH %'s :	0.00%	100.00%							
PEAK HR :	04:15 PM - 05:15 PM								TOTAL
PEAK HR VOL :	0	2	0	0	0	0	0	0	2
PEAK HR FACTOR :		0.500							0.500
	0.500								

Prepared by National Data & Surveying Services

Willow Rd & Hall Rd

Peak Hour Turning Movement Count

ID: 18-08042-005
City: Royal Oaks

Day: Thursday
Date: 02/01/2018

PEAK HOURS

AM: 07:15 AM - 08:15 AM
NOON: NONE
PM: 04:15 PM - 05:15 PM

COUNT PERIODS

AM: 07:00 AM - 09:00 AM
NOON: NONE
PM: 04:00 PM - 06:00 PM

SOUTHBOUND (Willow Rd)

AM	0	0	0	0	0	AM
NOON	0	0	0	0	0	NOON
PM	0	0	0	0	0	PM

EASTBOUND (Hall Rd)

AM	NOON	PM	
1190	0	935	⇦
0	0	0	↶ 0
0	0	0	↱ 0
701	0	1012	→ 0
37	0	104	↴ 0
AM	NOON	PM	

WESTBOUND (Hall Rd)

PM	NOON	AM	
0	0	0	0 ↰
891	0	1119	0 ←
65	0	43	0 ↶
0	0	0	0 ↱
1051	0	724	⇨
PM	NOON	AM	

NORTHBOUND (Willow Rd)

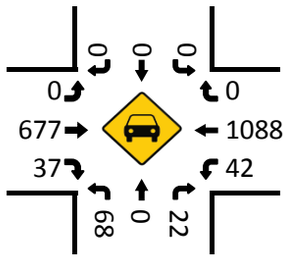
PM	169	0	44	0	39	PM
NOON	0	0	0	0	0	NOON
AM	80	0	71	0	23	AM

CONTROL

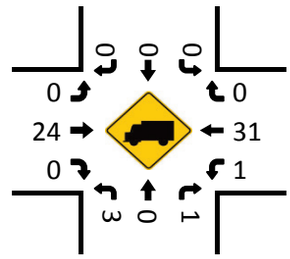
0

TEV	1994	0	2155
	AM	NOON	PM
PHF	0.89		0.97

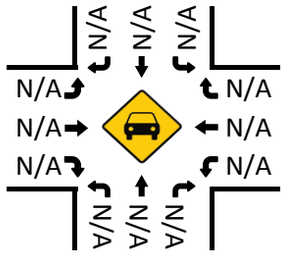
Cars (AM)



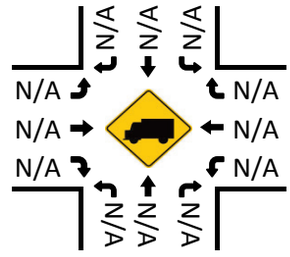
HT (AM)



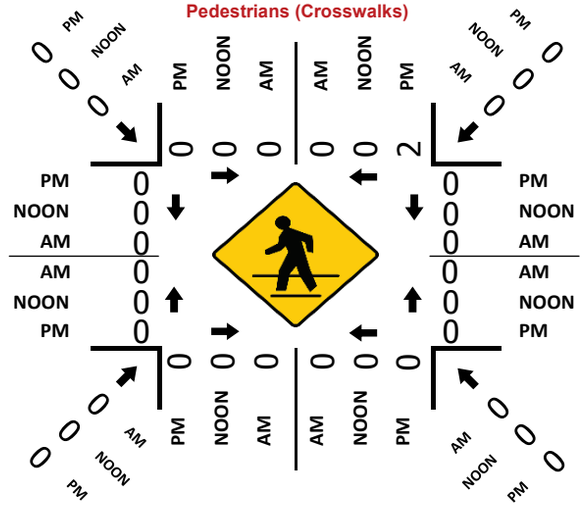
Cars (NOON)



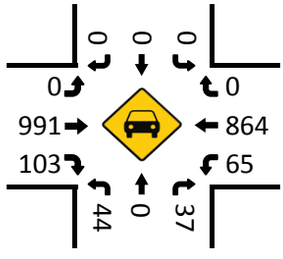
HT (NOON)



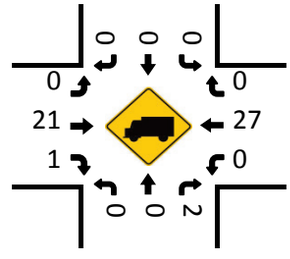
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



National Data & Surveying Services Intersection Turning Movement Count

Location: Las Lomas Dr & Hall Rd
City: Royal Oaks
Control:

Project ID: 18-08042-006
Date: 2/1/2018

Total

NS/EW Streets:	Las Lomas Dr				Las Lomas Dr				Hall Rd				Hall Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
7:00 AM	0	0	0	0	16	0	53	0	13	150	0	0	0	200	4	0	436
7:15 AM	0	0	0	0	18	0	77	0	20	211	0	0	0	206	7	0	539
7:30 AM	0	0	0	0	13	0	97	0	16	154	0	0	0	246	14	0	540
7:45 AM	0	0	0	0	15	0	83	0	36	144	0	0	0	227	4	0	509
8:00 AM	1	0	0	0	10	0	49	0	29	152	1	0	0	168	8	0	418
8:15 AM	0	0	0	0	5	0	43	0	21	119	0	0	0	155	3	0	346
8:30 AM	0	0	1	0	7	0	41	0	18	133	0	0	1	162	3	0	366
8:45 AM	0	0	0	0	4	0	39	0	21	100	0	0	0	155	4	0	323
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	1	0	1	0	88	0	482	0	174	1163	1	0	1	1519	47	0	3477
APPROACH %'s :	50.00%	0.00%	50.00%	0.00%	15.44%	0.00%	84.56%	0.00%	13.00%	86.92%	0.07%	0.00%	0.06%	96.94%	3.00%	0.00%	
PEAK HR :	**07:00 AM - 08:00 AM**																TOTAL
PEAK HR VOL :	0	0	0	0	62	0	310	0	85	659	0	0	0	879	29	0	2024
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.861	0.000	0.799	0.000	0.590	0.781	0.000	0.000	0.000	0.893	0.518	0.000	0.937
					0.845				0.805				0.873				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
4:00 PM	0	0	0	0	9	0	24	0	54	176	0	0	0	185	17	0	465
4:15 PM	0	0	0	0	7	0	38	0	64	204	0	0	0	183	13	0	509
4:30 PM	0	0	0	0	12	0	44	0	65	202	0	0	0	206	18	0	547
4:45 PM	0	0	0	0	18	0	42	0	74	203	0	0	0	200	13	0	550
5:00 PM	0	0	0	0	14	0	49	0	59	227	0	0	1	194	11	0	555
5:15 PM	0	0	0	0	8	0	59	0	67	182	0	0	0	177	16	0	509
5:30 PM	0	0	0	0	10	0	41	0	74	211	1	0	0	205	11	0	553
5:45 PM	0	1	0	0	13	0	34	0	69	188	0	0	0	148	8	0	461
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1	0	0	91	0	331	0	526	1593	1	0	1	1498	107	0	4149
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	21.56%	0.00%	78.44%	0.00%	24.81%	75.14%	0.05%	0.00%	0.06%	93.28%	6.66%	0.00%	
PEAK HR :	**04:45 PM - 05:45 PM**																TOTAL
PEAK HR VOL :	0	0	0	0	50	0	191	0	274	823	1	0	1	776	51	0	2167
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.694	0.000	0.809	0.000	0.926	0.906	0.250	0.000	0.250	0.946	0.797	0.000	0.976
					0.899				0.960				0.958				

National Data & Surveying Services Intersection Turning Movement Count

Location: Las Lomas Dr & Hall Rd
City: Royal Oaks
Control: 0

Project ID: 18-08042-006
Date: 2/1/2018

Cars

NS/EW Streets:	Las Lomas Dr				Las Lomas Dr				Hall Rd				Hall Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL
7:00 AM	0	0	0	0	16	0	52	0	13	148	0	0	0	193	2	0	424
7:15 AM	0	0	0	0	18	0	73	0	20	204	0	0	0	202	7	0	524
7:30 AM	0	0	0	0	13	0	96	0	16	149	0	0	0	239	14	0	527
7:45 AM	0	0	0	0	15	0	83	0	36	140	0	0	0	218	3	0	495
8:00 AM	1	0	0	0	10	0	48	0	28	148	1	0	0	161	8	0	405
8:15 AM	0	0	0	0	5	0	42	0	21	110	0	0	0	147	3	0	328
8:30 AM	0	0	1	0	7	0	40	0	17	127	0	0	1	155	3	0	351
8:45 AM	0	0	0	0	4	0	39	0	21	96	0	0	0	146	2	0	308
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	1	0	1	0	88	0	473	0	172	1122	1	0	1	1461	42	0	3362
APPROACH %'s :	50.00%	0.00%	50.00%	0.00%	15.69%	0.00%	84.31%	0.00%	13.28%	86.64%	0.08%	0.00%	0.07%	97.14%	2.79%	0.00%	
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	0	0	0	0	62	0	304	0	85	641	0	0	0	852	26	0	1970
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.861	0.000	0.792	0.000	0.590	0.786	0.000	0.000	0.000	0.891	0.464	0.000	0.935
							0.839				0.810				0.868		

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL
4:00 PM	0	0	0	0	9	0	21	0	52	175	0	0	0	177	17	0	451
4:15 PM	0	0	0	0	7	0	38	0	63	195	0	0	0	175	13	0	491
4:30 PM	0	0	0	0	12	0	43	0	64	196	0	0	0	203	18	0	536
4:45 PM	0	0	0	0	18	0	42	0	73	198	0	0	0	192	13	0	536
5:00 PM	0	0	0	0	14	0	47	0	59	222	0	0	1	193	11	0	547
5:15 PM	0	0	0	0	7	0	59	0	67	176	0	0	0	175	16	0	500
5:30 PM	0	0	0	0	10	0	40	0	72	209	1	0	0	200	11	0	543
5:45 PM	0	1	0	0	12	0	33	0	68	183	0	0	0	146	8	0	451
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1	0	0	89	0	323	0	518	1554	1	0	1	1461	107	0	4055
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	21.60%	0.00%	78.40%	0.00%	24.99%	74.96%	0.05%	0.00%	0.06%	93.12%	6.82%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	0	0	0	0	49	0	188	0	271	805	1	0	1	760	51	0	2126
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.681	0.000	0.797	0.000	0.928	0.907	0.250	0.000	0.250	0.950	0.797	0.000	0.972
							0.898				0.955				0.962		

National Data & Surveying Services Intersection Turning Movement Count

Location: Las Lomas Dr & Hall Rd
City: Royal Oaks
Control: 0

Project ID: 18-08042-006
Date: 2/1/2018

HT

NS/EW Streets:	Las Lomas Dr				Las Lomas Dr				Hall Rd				Hall Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL
7:00 AM	0	0	0	0	0	0	1	0	0	2	0	0	0	7	2	0	12
7:15 AM	0	0	0	0	0	0	4	0	0	7	0	0	0	4	0	0	15
7:30 AM	0	0	0	0	0	0	1	0	0	5	0	0	0	7	0	0	13
7:45 AM	0	0	0	0	0	0	0	0	0	4	0	0	0	9	1	0	14
8:00 AM	0	0	0	0	0	0	1	0	1	4	0	0	0	7	0	0	13
8:15 AM	0	0	0	0	0	0	1	0	0	9	0	0	0	8	0	0	18
8:30 AM	0	0	0	0	0	0	1	0	1	6	0	0	0	7	0	0	15
8:45 AM	0	0	0	0	0	0	0	0	0	4	0	0	0	9	2	0	15
	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	9	0	2	41	0	0	0	58	5	0	115
APPROACH %'s :					0.00%	0.00%	100.00%	0.00%	4.65%	95.35%	0.00%	0.00%	0.00%	92.06%	7.94%	0.00%	
PEAK HR :	**07:00 AM - 08:00 AM**																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	6	0	0	18	0	0	0	27	3	0	54
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.375	0.000	0.000	0.643	0.000	0.000	0.000	0.750	0.375	0.000	0.900
							0.375				0.643				0.750		

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL
4:00 PM	0	0	0	0	0	0	3	0	2	1	0	0	0	8	0	0	14
4:15 PM	0	0	0	0	0	0	0	0	1	9	0	0	0	8	0	0	18
4:30 PM	0	0	0	0	0	0	1	0	1	6	0	0	0	3	0	0	11
4:45 PM	0	0	0	0	0	0	0	0	1	5	0	0	0	8	0	0	14
5:00 PM	0	0	0	0	0	0	2	0	0	5	0	0	0	1	0	0	8
5:15 PM	0	0	0	0	1	0	0	0	0	6	0	0	0	2	0	0	9
5:30 PM	0	0	0	0	0	0	1	0	2	2	0	0	0	5	0	0	10
5:45 PM	0	0	0	0	1	0	1	0	1	5	0	0	0	2	0	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	2	0	8	0	8	39	0	0	0	37	0	0	94
APPROACH %'s :					20.00%	0.00%	80.00%	0.00%	17.02%	82.98%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	**04:45 PM - 05:45 PM**																TOTAL
PEAK HR VOL :	0	0	0	0	1	0	3	0	3	18	0	0	0	16	0	0	41
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.250	0.000	0.375	0.000	0.375	0.750	0.000	0.000	0.000	0.500	0.000	0.000	0.732
							0.500				0.875				0.500		

National Data & Surveying Services Intersection Turning Movement Count

Location: Las Lomas Dr & Hall Rd
City: Royal Oaks
Control: 0

Project ID: 18-08042-006
Date: 2/1/2018

Bikes

NS/EW Streets:	Las Lomas Dr				Las Lomas Dr				Hall Rd				Hall Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
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	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
APPROACH %'s :													0.00%	100.00%	0.00%	0.00%	
PEAK HR :	**07:00 AM - 08:00 AM**																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
PEAK HR FACTOR :	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	0.250	0.000	0.000	0.250
														0.250			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	4
4:45 PM	0	0	0	0	0	0	1	0	3	0	0	0	0	0	0	0	4
5:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3
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	6	0	6	0	0	0	0	0	0	0	12
APPROACH %'s :					0.00%	0.00%	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%					
PEAK HR :	**04:45 PM - 05:45 PM**																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	4	0	4	0	0	0	0	0	0	0	8
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.000	0.000	0.333	0.000	0.333	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500
							0.333				0.333						

National Data & Surveying Services Intersection Turning Movement Count

Location: Las Lomas Dr & Hall Rd
City: Royal Oaks
Project ID: 18-08042-006
Date: 2/1/2018

Pedestrians (Crosswalks)

NS/EW Streets:	Las Lomas Dr		Las Lomas Dr		Hall Rd		Hall Rd		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	3	3
7:30 AM	1	0	0	0	0	0	3	0	4
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	1	0	0	0	0	0	1	2
8:15 AM	0	0	0	0	0	0	1	0	1
8:30 AM	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	1	0	0	0	0	1
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	1	1	0	1	0	0	4	4	11
APPROACH %'s :	50.00%	50.00%	0.00%	100.00%			50.00%	50.00%	
PEAK HR :	**07:00 AM - 08:00 AM**								TOTAL
PEAK HR VOL :	1	0	0	0	0	0	3	3	7
PEAK HR FACTOR :	0.250						0.250	0.250	0.438
	0.250						0.500		

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	0	0	0	0	2	5	7
4:15 PM	0	0	0	0	0	0	2	2	4
4:30 PM	0	0	0	0	0	0	3	1	4
4:45 PM	0	0	0	0	0	0	1	0	1
5:00 PM	0	0	0	0	0	0	1	2	3
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	1	0	1
5:45 PM	0	0	0	0	0	0	0	1	1
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	10	11	21
APPROACH %'s :							47.62%	52.38%	
PEAK HR :	**04:45 PM - 05:45 PM**								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	3	2	5
PEAK HR FACTOR :							0.750	0.250	0.417
							0.417		

Prepared by National Data & Surveying Services

Las Lomas Dr & Hall Rd

Peak Hour Turning Movement Count

ID: 18-08042-006
City: Royal Oaks

Day: Thursday
Date: 02/01/2018

PEAK HOURS

AM: 07:00 AM - 08:00 AM
NOON: NONE
PM: 04:45 PM - 05:45 PM

COUNT PERIODS

AM: 07:00 AM - 09:00 AM
NOON: NONE
PM: 04:00 PM - 06:00 PM

Las Lomas Dr — SOUTHBOUND

AM	310	0	62	0	114	AM
NOON	0	0	0	0	0	NOON
PM	191	0	50	0	325	PM

Hall Rd — EASTBOUND

AM	NOON	PM	
1189	0	967	⇦
0	0	0	↶ 0
85	0	274	↱ 0
659	0	823	→ 0
0	0	1	↴ 0
AM	NOON	PM	

WESTBOUND — Hall Rd

PM	NOON	AM	
51	0	29	0 ↰
776	0	879	0 ←
1	0	0	0 ↶
0	0	0	0 ↶
873	0	721	⇨
PM	NOON	AM	

CONTROL

0

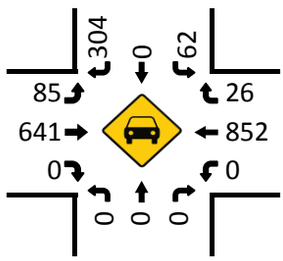
TEV	2024	0	2167
	AM	NOON	PM
PHF	0.94		0.98

0 0 0 0

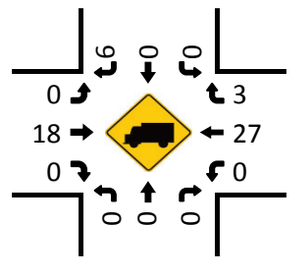
NORTHBOUND — Las Lomas Dr

PM	2	0	0	0	0	PM
NOON	0	0	0	0	0	NOON
AM	0	0	0	0	0	AM

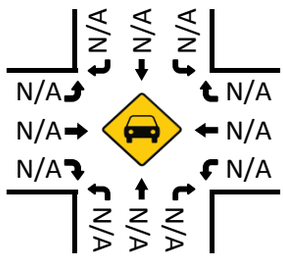
Cars (AM)



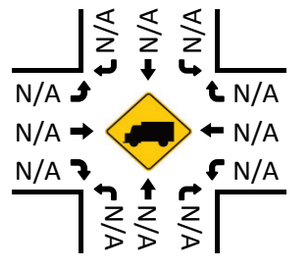
HT (AM)



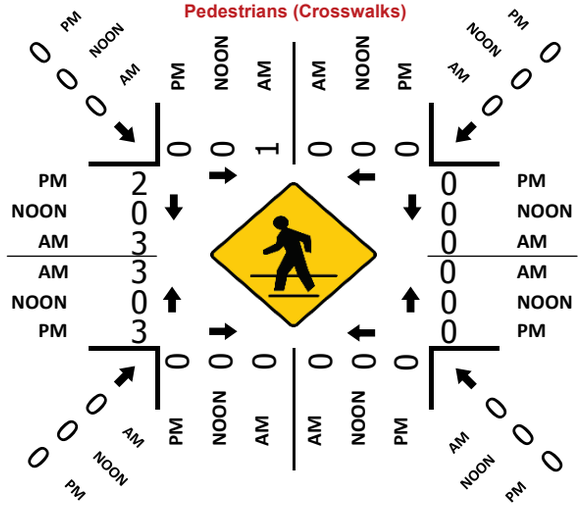
Cars (NOON)



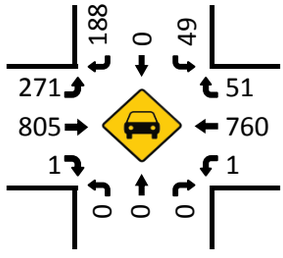
HT (NOON)



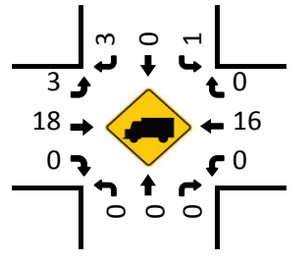
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



National Data & Surveying Services Intersection Turning Movement Count

Location: Sill Rd & Hall Rd
City: Watsonville
Control:

Project ID: 18-08042-007
Date: 2/1/2018

Total

NS/EW Streets:	Sill Rd				Sill Rd				Hall Rd				Hall Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
7:00 AM	0	0	0	0	10	0	23	0	17	159	4	0	1	192	19	0	425
7:15 AM	1	0	0	0	16	0	36	0	28	201	1	0	1	176	33	0	493
7:30 AM	0	0	0	0	8	0	41	0	4	161	2	0	0	225	9	0	450
7:45 AM	1	0	1	0	1	0	1	0	4	150	0	0	0	209	5	0	372
8:00 AM	1	0	1	0	5	0	1	0	2	156	1	0	0	175	5	0	347
8:15 AM	1	0	0	0	4	0	0	0	5	122	2	0	0	151	3	0	288
8:30 AM	2	0	0	0	4	0	6	0	5	132	0	0	0	162	8	0	319
8:45 AM	2	0	0	0	4	0	4	0	0	106	0	0	0	151	3	0	270
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	8	0	2	0	52	0	112	0	65	1187	10	0	2	1441	85	0	2964
APPROACH %'s :	80.00%	0.00%	20.00%	0.00%	31.71%	0.00%	68.29%	0.00%	5.15%	94.06%	0.79%	0.00%	0.13%	94.31%	5.56%	0.00%	
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	2	0	1	0	35	0	101	0	53	671	7	0	2	802	66	0	1740
PEAK HR FACTOR :	0.500	0.000	0.250	0.000	0.547	0.000	0.616	0.000	0.473	0.835	0.438	0.000	0.500	0.891	0.500	0.000	0.882
			0.375				0.654				0.795				0.929		

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
4:00 PM	2	0	0	0	4	0	6	0	8	183	0	0	0	201	10	0	414
4:15 PM	0	0	0	0	1	0	5	0	4	205	1	0	0	187	12	0	415
4:30 PM	0	0	0	0	6	0	12	0	9	198	0	1	0	214	8	0	448
4:45 PM	0	0	0	0	7	0	15	0	5	218	2	0	0	207	15	0	469
5:00 PM	0	0	2	0	6	0	3	0	3	228	2	0	1	184	9	0	438
5:15 PM	0	0	0	0	2	0	3	0	2	185	0	1	0	205	16	0	414
5:30 PM	1	0	1	0	4	0	2	0	5	218	1	0	0	209	11	0	452
5:45 PM	1	0	2	0	3	0	1	0	2	203	0	0	0	149	5	0	366
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	4	0	5	0	33	0	47	0	38	1638	6	2	1	1556	86	0	3416
APPROACH %'s :	44.44%	0.00%	55.56%	0.00%	41.25%	0.00%	58.75%	0.00%	2.26%	97.27%	0.36%	0.12%	0.06%	94.70%	5.23%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	1	0	3	0	19	0	23	0	15	849	5	1	1	805	51	0	1773
PEAK HR FACTOR :	0.250	0.000	0.375	0.000	0.679	0.000	0.383	0.000	0.750	0.931	0.625	0.250	0.250	0.963	0.797	0.000	0.945
			0.500				0.477				0.933				0.965		

National Data & Surveying Services Intersection Turning Movement Count

Location: Sill Rd & Hall Rd
City: Watsonville
Control: 0

Project ID: 18-08042-007
Date: 2/1/2018

Cars

NS/EW Streets:	Sill Rd				Sill Rd				Hall Rd				Hall Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
7:00 AM	0	0	0	0	10	0	19	0	17	157	4	0	1	187	18	0	413
7:15 AM	1	0	0	0	16	0	36	0	28	195	1	0	1	171	33	0	482
7:30 AM	0	0	0	0	8	0	41	0	4	155	2	0	0	218	9	0	437
7:45 AM	1	0	1	0	1	0	1	0	4	146	0	0	0	200	5	0	359
8:00 AM	1	0	1	0	5	0	1	0	2	152	1	0	0	168	5	0	336
8:15 AM	1	0	0	0	4	0	0	0	5	113	2	0	0	141	2	0	268
8:30 AM	2	0	0	0	3	0	5	0	4	129	0	0	0	158	8	0	309
8:45 AM	2	0	0	0	4	0	4	0	0	101	0	0	0	140	3	0	254
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	8	0	2	0	51	0	107	0	64	1148	10	0	2	1383	83	0	2858
APPROACH %'s :	80.00%	0.00%	20.00%	0.00%	32.28%	0.00%	67.72%	0.00%	5.24%	93.94%	0.82%	0.00%	0.14%	94.21%	5.65%	0.00%	
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	2	0	1	0	35	0	97	0	53	653	7	0	2	776	65	0	1691
PEAK HR FACTOR :	0.50	0.000	0.250	0.000	0.547	0.000	0.591	0.000	0.473	0.837	0.438	0.000	0.500	0.890	0.492	0.000	0.877
		0.375				0.635				0.796				0.928			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
4:00 PM	2	0	0	0	4	0	6	0	7	183	0	0	0	194	10	0	406
4:15 PM	0	0	0	0	1	0	5	0	3	197	1	0	0	179	12	0	398
4:30 PM	0	0	0	0	6	0	12	0	9	194	0	1	0	211	8	0	441
4:45 PM	0	0	0	0	6	0	14	0	4	213	2	0	0	200	15	0	454
5:00 PM	0	0	2	0	6	0	3	0	3	223	2	0	1	183	8	0	431
5:15 PM	0	0	0	0	2	0	3	0	2	178	0	1	0	203	14	0	403
5:30 PM	1	0	1	0	4	0	2	0	5	216	1	0	0	205	11	0	446
5:45 PM	1	0	2	0	3	0	1	0	2	197	0	0	0	146	5	0	357
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	4	0	5	0	32	0	46	0	35	1601	6	2	1	1521	83	0	3336
APPROACH %'s :	44.44%	0.00%	55.56%	0.00%	41.03%	0.00%	58.97%	0.00%	2.13%	97.38%	0.36%	0.12%	0.06%	94.77%	5.17%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	1	0	3	0	18	0	22	0	14	830	5	1	1	791	48	0	1734
PEAK HR FACTOR :	0.25	0.000	0.375	0.000	0.750	0.000	0.393	0.000	0.700	0.930	0.625	0.250	0.250	0.965	0.800	0.000	0.955
		0.500				0.500				0.932				0.968			

National Data & Surveying Services Intersection Turning Movement Count

Location: Sill Rd & Hall Rd
City: Watsonville
Control: 0

Project ID: 18-08042-007
Date: 2/1/2018

HT

NS/EW Streets:	Sill Rd				Sill Rd				Hall Rd				Hall Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
7:00 AM	0	0	0	0	0	0	4	0	0	2	0	0	0	5	1	0	12
7:15 AM	0	0	0	0	0	0	0	0	0	6	0	0	0	5	0	0	11
7:30 AM	0	0	0	0	0	0	0	0	0	6	0	0	0	7	0	0	13
7:45 AM	0	0	0	0	0	0	0	0	0	4	0	0	0	9	0	0	13
8:00 AM	0	0	0	0	0	0	0	0	0	4	0	0	0	7	0	0	11
8:15 AM	0	0	0	0	0	0	0	0	0	9	0	0	0	10	1	0	20
8:30 AM	0	0	0	0	1	0	1	0	1	3	0	0	0	4	0	0	10
8:45 AM	0	0	0	0	0	0	0	0	0	5	0	0	0	11	0	0	16
	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	5	0	1	39	0	0	0	58	2	0	106
APPROACH %'s :					16.67%	0.00%	83.33%	0.00%	2.50%	97.50%	0.00%	0.00%	0.00%	96.67%	3.33%	0.00%	
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	4	0	0	18	0	0	0	26	1	0	49
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.750	0.000	0.000	0.000	0.722	0.250	0.000	0.942
					0.250				0.750				0.750				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
4:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	7	0	0	8
4:15 PM	0	0	0	0	0	0	0	0	1	8	0	0	0	8	0	0	17
4:30 PM	0	0	0	0	0	0	0	0	0	4	0	0	0	3	0	0	7
4:45 PM	0	0	0	0	1	0	1	0	1	5	0	0	0	7	0	0	15
5:00 PM	0	0	0	0	0	0	0	0	0	5	0	0	0	1	1	0	7
5:15 PM	0	0	0	0	0	0	0	0	0	7	0	0	0	2	2	0	11
5:30 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	4	0	0	6
5:45 PM	0	0	0	0	0	0	0	0	0	6	0	0	0	3	0	0	9
	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	1	0	3	37	0	0	0	35	3	0	80
APPROACH %'s :					50.00%	0.00%	50.00%	0.00%	7.50%	92.50%	0.00%	0.00%	0.00%	92.11%	7.89%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	0	0	0	0	1	0	1	0	1	19	0	0	0	14	3	0	39
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.250	0.679	0.000	0.000	0.000	0.500	0.375	0.000	0.650
					0.250				0.714				0.607				

National Data & Surveying Services Intersection Turning Movement Count

Location: Sill Rd & Hall Rd
City: Watsonville
Control: 0

Project ID: 18-08042-007
Date: 2/1/2018

Bikes

NS/EW Streets:	Sill Rd				Sill Rd				Hall Rd				Hall Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
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	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
APPROACH %'s :													0.00%	100.00%	0.00%	0.00%	
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
PEAK HR FACTOR :	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	0.250	0.000	0.000	0.250
														0.250			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	0	0	0	0	0	0	0	0
APPROACH %'s :																	
PEAK HR :	04:45 PM - 05:45 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: Sill Rd & Hall Rd
City: Watsonville

Project ID: 18-08042-007
Date: 2/1/2018

Pedestrians (Crosswalks)

NS/EW Streets:	Sill Rd		Sill Rd		Hall Rd		Hall Rd		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0
APPROACH %'s :									
PEAK HR :	**07:00 AM - 08:00 AM**								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0
APPROACH %'s :									
PEAK HR :	**04:45 PM - 05:45 PM**								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

Prepared by National Data & Surveying Services

Sill Rd & Hall Rd

Peak Hour Turning Movement Count

ID: 18-08042-007
City: Watsonville

Day: Thursday
Date: 02/01/2018

PEAK HOURS

AM: 07:00 AM - 08:00 AM
NOON: NONE
PM: 04:45 PM - 05:45 PM

COUNT PERIODS

AM: 07:00 AM - 09:00 AM
NOON: NONE
PM: 04:00 PM - 06:00 PM

SOUTHBOUND (Sill Rd)

AM	101	0	35	0	119	AM
NOON	0	0	0	0	0	NOON
PM	23	0	19	0	66	PM

EASTBOUND (Hall Rd)

AM	NOON	PM	
905	0	830	
0	0	1	0
53	0	15	0
671	0	849	0
7	0	5	0

WESTBOUND (Hall Rd)

PM	NOON	AM	
51	0	66	0
805	0	802	0
1	0	2	0
0	0	0	0
871	0	707	

NORTHBOUND (Sill Rd)

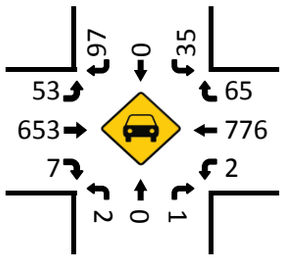
PM	6	0	1	0	3	PM
NOON	0	0	0	0	0	NOON
AM	9	0	2	0	1	AM

CONTROL

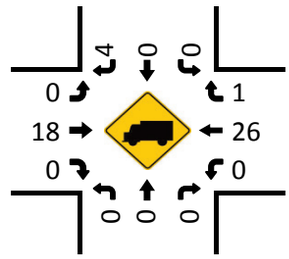
0

TEV	1740	0	1773
	AM	NOON	PM
PHF	0.88		0.95

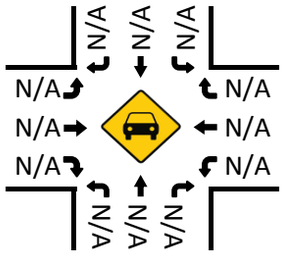
Cars (AM)



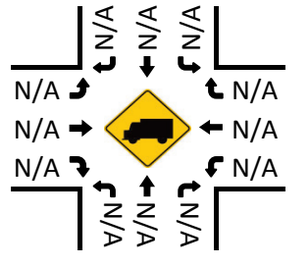
HT (AM)



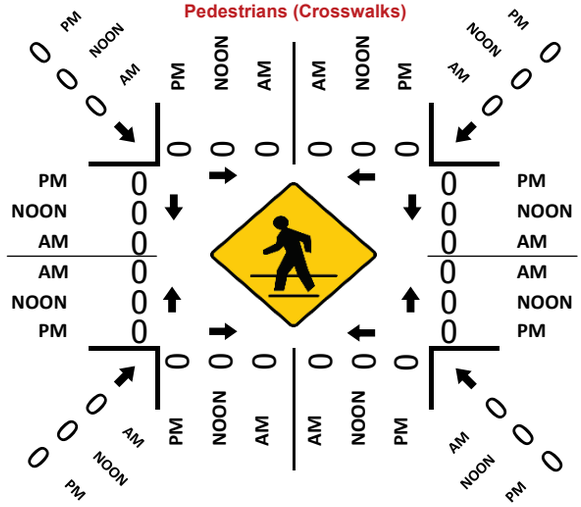
Cars (NOON)



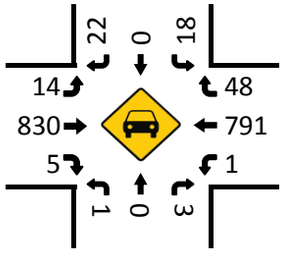
HT (NOON)



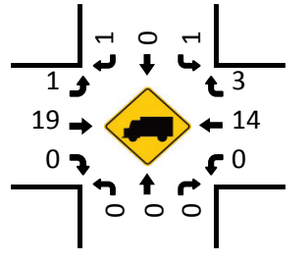
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



National Data & Surveying Services Intersection Turning Movement Count

Location: San Miguel Canyon Rd & Hall Rd
City: Watsonville
Control:

Project ID: 18-08042-008
Date: 2/1/2018

Total

NS/EW Streets:	San Miguel Canyon Rd				San Miguel Canyon Rd				Hall Rd				Hall Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
7:00 AM	145	0	24	0	0	0	0	0	0	33	140	0	15	37	0	0	394
7:15 AM	149	0	29	0	0	0	0	0	0	53	146	0	19	38	0	0	434
7:30 AM	184	0	26	0	0	0	0	0	0	40	135	0	20	42	0	0	447
7:45 AM	176	0	27	0	0	0	0	0	0	45	107	0	19	29	0	0	403
8:00 AM	129	0	21	0	0	0	0	0	0	29	122	0	17	31	0	0	349
8:15 AM	112	0	17	0	0	0	0	0	0	37	91	0	23	24	0	0	304
8:30 AM	131	0	10	0	0	0	0	0	0	27	111	0	21	35	0	0	335
8:45 AM	110	0	14	0	0	0	0	0	0	22	95	0	11	26	0	0	278
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	1136	0	168	0	0	0	0	0	0	286	947	0	145	262	0	0	2944
APPROACH %'s :	87.12%	0.00%	12.88%	0.00%					0.00%	23.20%	76.80%	0.00%	35.63%	64.37%	0.00%	0.00%	
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	654	0	106	0	0	0	0	0	0	171	528	0	73	146	0	0	1678
PEAK HR FACTOR :	0.889	0.000	0.914	0.000	0.000	0.000	0.000	0.000	0.000	0.807	0.904	0.000	0.913	0.869	0.000	0.000	0.938
	0.905								0.878				0.883				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
4:00 PM	142	0	25	0	0	0	0	0	0	24	145	0	28	59	0	0	423
4:15 PM	165	0	19	0	0	0	0	0	0	39	155	0	30	49	0	0	457
4:30 PM	139	0	22	0	0	0	0	0	0	38	157	0	38	66	0	0	460
4:45 PM	144	0	17	0	0	0	0	0	0	26	168	0	33	64	0	0	452
5:00 PM	142	0	37	0	0	0	0	0	0	32	179	0	23	41	0	0	454
5:15 PM	164	0	20	0	0	0	0	0	0	28	168	0	29	56	0	0	465
5:30 PM	162	0	15	0	0	0	0	0	0	31	171	0	32	45	0	0	456
5:45 PM	107	0	15	0	0	0	0	0	0	42	148	0	23	38	0	0	373
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	1165	0	170	0	0	0	0	0	0	260	1291	0	236	418	0	0	3540
APPROACH %'s :	87.27%	0.00%	12.73%	0.00%					0.00%	16.76%	83.24%	0.00%	36.09%	63.91%	0.00%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	589	0	96	0	0	0	0	0	0	124	672	0	123	227	0	0	1831
PEAK HR FACTOR :	0.898	0.000	0.649	0.000	0.000	0.000	0.000	0.000	0.000	0.816	0.939	0.000	0.809	0.860	0.000	0.000	0.984
	0.931								0.943				0.841				

National Data & Surveying Services Intersection Turning Movement Count

Location: San Miguel Canyon Rd & Hall Rd
City: Watsonville
Control: 0

Project ID: 18-08042-008
Date: 2/1/2018

Cars

NS/EW Streets:	San Miguel Canyon Rd				San Miguel Canyon Rd				Hall Rd				Hall Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
7:00 AM	141	0	23	0	0	0	0	0	0	32	140	0	14	37	0	0	387
7:15 AM	145	0	28	0	0	0	0	0	0	51	140	0	16	36	0	0	416
7:30 AM	178	0	26	0	0	0	0	0	0	38	132	0	20	40	0	0	434
7:45 AM	171	0	25	0	0	0	0	0	0	44	104	0	18	28	0	0	390
8:00 AM	121	0	18	0	0	0	0	0	0	28	121	0	15	30	0	0	333
8:15 AM	106	0	15	0	0	0	0	0	0	33	87	0	22	24	0	0	287
8:30 AM	126	0	10	0	0	0	0	0	0	25	108	0	21	34	0	0	324
8:45 AM	104	0	10	0	0	0	0	0	0	21	91	0	8	22	0	0	256
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	1092	0	155	0	0	0	0	0	0	272	923	0	134	251	0	0	2827
APPROACH %'s :	87.57%	0.00%	12.43%	0.00%					0.00%	22.76%	77.24%	0.00%	34.81%	65.19%	0.00%	0.00%	
PEAK HR :	**07:00 AM - 08:00 AM**																TOTAL
PEAK HR VOL :	635	0	102	0	0	0	0	0	0	165	516	0	68	141	0	0	1627
PEAK HR FACTOR :	0.89	0.000	0.911	0.000	0.000	0.000	0.000	0.000	0.000	0.809	0.921	0.000	0.850	0.881	0.000	0.000	0.937
	0.903								0.891				0.871				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
4:00 PM	134	0	23	0	0	0	0	0	0	23	144	0	25	58	0	0	407
4:15 PM	159	0	19	0	0	0	0	0	0	38	150	0	28	48	0	0	442
4:30 PM	136	0	21	0	0	0	0	0	0	36	154	0	38	66	0	0	451
4:45 PM	139	0	17	0	0	0	0	0	0	25	164	0	33	61	0	0	439
5:00 PM	142	0	37	0	0	0	0	0	0	32	175	0	23	39	0	0	448
5:15 PM	163	0	20	0	0	0	0	0	0	26	163	0	29	54	0	0	455
5:30 PM	159	0	15	0	0	0	0	0	0	30	169	0	30	45	0	0	448
5:45 PM	106	0	15	0	0	0	0	0	0	42	143	0	23	35	0	0	364
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	1138	0	167	0	0	0	0	0	0	252	1262	0	229	406	0	0	3454
APPROACH %'s :	87.20%	0.00%	12.80%	0.00%					0.00%	16.64%	83.36%	0.00%	36.06%	63.94%	0.00%	0.00%	
PEAK HR :	**04:30 PM - 05:30 PM**																TOTAL
PEAK HR VOL :	580	0	95	0	0	0	0	0	0	119	656	0	123	220	0	0	1793
PEAK HR FACTOR :	0.89	0.000	0.642	0.000	0.000	0.000	0.000	0.000	0.000	0.826	0.937	0.000	0.809	0.833	0.000	0.000	0.985
	0.922								0.936				0.825				

National Data & Surveying Services Intersection Turning Movement Count

Location: San Miguel Canyon Rd & Hall Rd
City: Watsonville
Control: 0

Project ID: 18-08042-008
Date: 2/1/2018

HT

NS/EW Streets:	San Miguel Canyon Rd				San Miguel Canyon Rd				Hall Rd				Hall Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL
7:00 AM	4	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	7
7:15 AM	4	0	1	0	0	0	0	0	0	2	6	0	3	2	0	0	18
7:30 AM	6	0	0	0	0	0	0	0	0	2	3	0	0	2	0	0	13
7:45 AM	5	0	2	0	0	0	0	0	0	1	3	0	1	1	0	0	13
8:00 AM	8	0	3	0	0	0	0	0	0	1	1	0	2	1	0	0	16
8:15 AM	6	0	2	0	0	0	0	0	0	4	4	0	1	0	0	0	17
8:30 AM	5	0	0	0	0	0	0	0	0	2	3	0	0	1	0	0	11
8:45 AM	6	0	4	0	0	0	0	0	0	1	4	0	3	4	0	0	22
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	44	0	13	0	0	0	0	0	0	14	24	0	11	11	0	0	117
APPROACH %'s :	77.19%	0.00%	22.81%	0.00%					0.00%	36.84%	63.16%	0.00%	50.00%	50.00%	0.00%	0.00%	
PEAK HR :	**07:00 AM - 08:00 AM**																TOTAL
PEAK HR VOL :	19	0	4	0	0	0	0	0	0	6	12	0	5	5	0	0	51
PEAK HR FACTOR :	0.792	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.750	0.500	0.000	0.417	0.625	0.000	0.000	0.708
		0.821								0.563				0.500			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL
4:00 PM	8	0	2	0	0	0	0	0	0	1	1	0	3	1	0	0	16
4:15 PM	6	0	0	0	0	0	0	0	0	1	5	0	2	1	0	0	15
4:30 PM	3	0	1	0	0	0	0	0	0	2	3	0	0	0	0	0	9
4:45 PM	5	0	0	0	0	0	0	0	0	1	4	0	0	3	0	0	13
5:00 PM	0	0	0	0	0	0	0	0	0	0	4	0	0	2	0	0	6
5:15 PM	1	0	0	0	0	0	0	0	0	2	5	0	0	2	0	0	10
5:30 PM	3	0	0	0	0	0	0	0	0	1	2	0	2	0	0	0	8
5:45 PM	1	0	0	0	0	0	0	0	0	0	5	0	0	3	0	0	9
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	27	0	3	0	0	0	0	0	0	8	29	0	7	12	0	0	86
APPROACH %'s :	90.00%	0.00%	10.00%	0.00%					0.00%	21.62%	78.38%	0.00%	36.84%	63.16%	0.00%	0.00%	
PEAK HR :	**04:30 PM - 05:30 PM**																TOTAL
PEAK HR VOL :	9	0	1	0	0	0	0	0	0	5	16	0	0	7	0	0	38
PEAK HR FACTOR :	0.45	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.625	0.800	0.000	0.000	0.583	0.000	0.000	0.731
		0.500								0.750				0.583			

National Data & Surveying Services Intersection Turning Movement Count

Location: San Miguel Canyon Rd & Hall Rd
City: Watsonville
Control: 0

Project ID: 18-08042-008
Date: 2/1/2018

Bikes

NS/EW Streets:	San Miguel Canyon Rd				San Miguel Canyon Rd				Hall Rd				Hall Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
7:00 AM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
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	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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 :	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
APPROACH %'s :	100.00%	0.00%	0.00%	0.00%													
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
PEAK HR FACTOR :	0.250	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	0.250
		0.250															

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	1	0	0	0	0	0	0	1
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	1	0	0	0	0	0	0	1
APPROACH %'s :									0.00%	100.00%	0.00%	0.00%					
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.250
										0.250							

National Data & Surveying Services Intersection Turning Movement Count

Location: San Miguel Canyon Rd & Hall Rd
City: Watsonville
Project ID: 18-08042-008
Date: 2/1/2018

Pedestrians (Crosswalks)

NS/EW Streets:	San Miguel Canyon Rd		San Miguel Canyon Rd		Hall Rd		Hall Rd		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0
APPROACH %'s :									
PEAK HR :	**07:00 AM - 08:00 AM**								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	1	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	1	0	0	0	0	1
APPROACH %'s :			0.00%	100.00%					
PEAK HR :	**04:30 PM - 05:30 PM**								TOTAL
PEAK HR VOL :	0	0	0	1	0	0	0	0	1
PEAK HR FACTOR :				0.250					0.250
			0.250						

Prepared by National Data & Surveying Services

San Miguel Canyon Rd & Hall Rd

Peak Hour Turning Movement Count

ID: 18-08042-008
City: Watsonville

Day: Thursday
Date: 02/01/2018

PEAK HOURS

AM	07:00 AM - 08:00 AM
NOON	NONE
PM	04:30 PM - 05:30 PM

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM

SOUTHBOUND — San Miguel Canyon Rd

AM	0	0	0	0	0	AM
NOON	0	0	0	0	0	NOON
PM	0	0	0	0	0	PM

EASTBOUND — Hall Rd

AM	NOON	PM	
800	0	816	⇦
0	0	0	↰ 0
0	0	0	↱ 0
171	0	124	→ 0
528	0	672	↱ 0
AM	NOON	PM	

WESTBOUND — Hall Rd

PM	NOON	AM	
0	0	0	↰ 0
227	0	146	← 0
123	0	73	↰ 0
0	0	0	↱ 0
220	0	277	⇨
PM	NOON	AM	

CONTROL

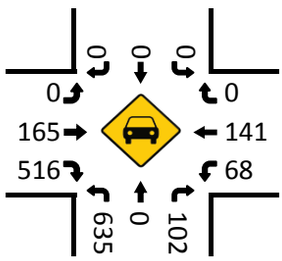
0

	AM	NOON	PM
TEV	1678	0	1831
PHF	0.94		0.98

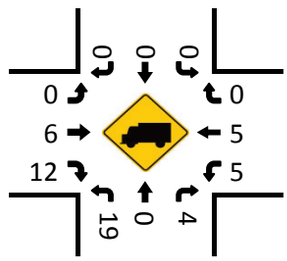
NORTHBOUND — San Miguel Canyon Rd

PM	795	0	589	0	96	PM
NOON	0	0	0	0	0	NOON
AM	601	0	654	0	106	AM

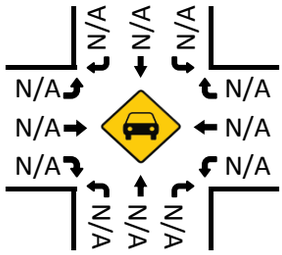
Cars (AM)



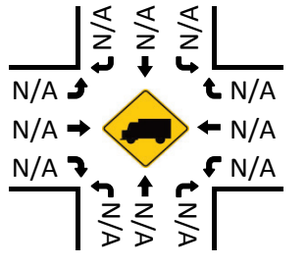
HT (AM)



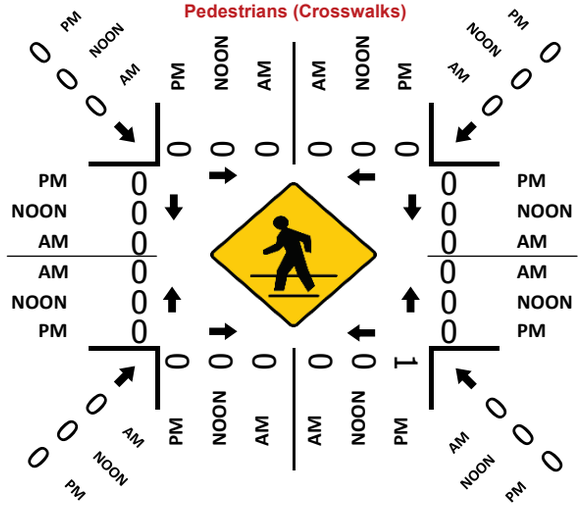
Cars (NOON)



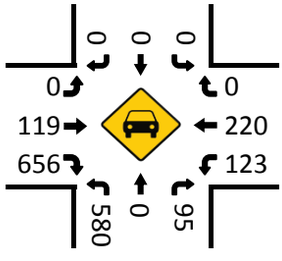
HT (NOON)



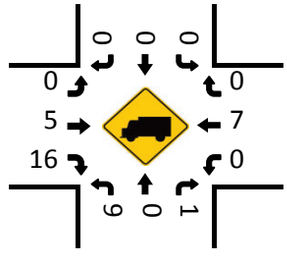
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



National Data & Surveying Services Intersection Turning Movement Count

Location: San Miguel Canyon Rd & Paradise Rd
City: Salinas
Control:

Project ID: 18-08042-009
Date: 2/1/2018

Total

NS/EW Streets:	San Miguel Canyon Rd				San Miguel Canyon Rd				Paradise Rd				Paradise Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
7:00 AM	2	143	0	0	0	159	3	0	4	0	12	0	0	0	0	0	323
7:15 AM	2	164	0	0	0	195	1	0	9	0	7	0	0	0	0	0	378
7:30 AM	6	208	0	0	0	200	1	0	6	0	15	0	0	0	0	0	436
7:45 AM	5	180	0	0	0	155	2	0	4	0	10	0	0	0	0	0	356
8:00 AM	5	141	0	0	0	139	3	0	2	0	7	0	0	0	0	0	297
8:15 AM	6	136	0	0	0	166	2	0	3	0	10	0	0	0	0	0	323
8:30 AM	5	125	0	0	0	134	4	0	3	0	8	0	0	0	0	0	279
8:45 AM	7	118	0	0	0	132	2	0	0	0	9	0	0	0	0	0	268
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	38	1215	0	0	0	1280	18	0	31	0	78	0	0	0	0	0	2660
APPROACH %'s :	3.03%	96.97%	0.00%	0.00%	0.00%	98.61%	1.39%	0.00%	28.44%	0.00%	71.56%	0.00%					
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	15	695	0	0	0	709	7	0	23	0	44	0	0	0	0	0	1493
PEAK HR FACTOR :	0.625	0.835	0.000	0.000	0.000	0.886	0.583	0.000	0.639	0.000	0.733	0.000	0.000	0.000	0.000	0.000	0.856
		0.829				0.891				0.798							

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
4:00 PM	12	162	0	0	0	165	9	0	6	0	8	0	0	0	0	0	362
4:15 PM	16	197	0	0	0	187	7	1	2	0	11	0	0	0	0	0	421
4:30 PM	12	168	0	0	0	185	7	0	2	0	9	0	0	0	0	0	383
4:45 PM	9	195	0	1	0	205	12	0	3	0	9	0	0	0	0	0	434
5:00 PM	13	161	0	0	0	176	9	0	3	0	11	0	0	0	0	0	373
5:15 PM	14	205	0	0	0	208	5	0	1	0	7	0	0	0	0	0	440
5:30 PM	10	201	0	0	0	181	9	0	6	0	7	0	0	0	0	0	414
5:45 PM	15	136	0	0	0	177	4	0	4	0	4	0	0	0	0	0	340
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	101	1425	0	1	0	1484	62	1	27	0	66	0	0	0	0	0	3167
APPROACH %'s :	6.61%	93.32%	0.00%	0.07%	0.00%	95.93%	4.01%	0.06%	29.03%	0.00%	70.97%	0.00%					
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	46	762	0	1	0	770	35	0	13	0	34	0	0	0	0	0	1661
PEAK HR FACTOR :	0.821	0.929	0.000	0.250	0.000	0.925	0.729	0.000	0.542	0.000	0.773	0.000	0.000	0.000	0.000	0.000	0.944
		0.924				0.927				0.839							

National Data & Surveying Services Intersection Turning Movement Count

Location: San Miguel Canyon Rd & Paradise Rd
City: Salinas
Control: 0

Project ID: 18-08042-009
Date: 2/1/2018

Cars

NS/EW Streets:	San Miguel Canyon Rd				San Miguel Canyon Rd				Paradise Rd				Paradise Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
7:00 AM	2	139	0	0	0	153	3	0	4	0	12	0	0	0	0	0	313
7:15 AM	2	157	0	0	0	188	1	0	9	0	7	0	0	0	0	0	364
7:30 AM	5	200	0	0	0	195	1	0	6	0	15	0	0	0	0	0	422
7:45 AM	5	176	0	0	0	152	2	0	4	0	10	0	0	0	0	0	349
8:00 AM	3	128	0	0	0	135	3	0	2	0	7	0	0	0	0	0	278
8:15 AM	6	130	0	0	0	158	2	0	3	0	9	0	0	0	0	0	308
8:30 AM	5	118	0	0	0	129	4	0	3	0	8	0	0	0	0	0	267
8:45 AM	6	109	0	0	0	126	2	0	0	0	9	0	0	0	0	0	252
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	34	1157	0	0	0	1236	18	0	31	0	77	0	0	0	0	0	2553
APPROACH %'s :	2.85%	97.15%	0.00%	0.00%	0.00%	98.56%	1.44%	0.00%	28.70%	0.00%	71.30%	0.00%					
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	14	672	0	0	0	688	7	0	23	0	44	0	0	0	0	0	1448
PEAK HR FACTOR :	0.70	0.840	0.000	0.000	0.000	0.882	0.583	0.000	0.639	0.000	0.733	0.000	0.000	0.000	0.000	0.000	0.858
		0.837				0.886				0.798							

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
4:00 PM	12	153	0	0	0	159	9	0	6	0	8	0	0	0	0	0	347
4:15 PM	16	192	0	0	0	182	7	1	2	0	11	0	0	0	0	0	411
4:30 PM	12	164	0	0	0	180	7	0	2	0	9	0	0	0	0	0	374
4:45 PM	9	191	0	1	0	199	12	0	3	0	9	0	0	0	0	0	424
5:00 PM	13	160	0	0	0	172	9	0	3	0	11	0	0	0	0	0	368
5:15 PM	14	205	0	0	0	203	5	0	1	0	7	0	0	0	0	0	435
5:30 PM	10	198	0	0	0	178	9	0	6	0	7	0	0	0	0	0	408
5:45 PM	15	134	0	0	0	172	4	0	4	0	4	0	0	0	0	0	333
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	101	1397	0	1	0	1445	62	1	27	0	66	0	0	0	0	0	3100
APPROACH %'s :	6.74%	93.20%	0.00%	0.07%	0.00%	95.82%	4.11%	0.07%	29.03%	0.00%	70.97%	0.00%					
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	46	754	0	1	0	752	35	0	13	0	34	0	0	0	0	0	1635
PEAK HR FACTOR :	0.82	0.920	0.000	0.250	0.000	0.926	0.729	0.000	0.542	0.000	0.773	0.000	0.000	0.000	0.000	0.000	0.940
		0.914				0.932				0.839							

National Data & Surveying Services Intersection Turning Movement Count

Location: San Miguel Canyon Rd & Paradise Rd
City: Salinas
Control: 0

Project ID: 18-08042-009
Date: 2/1/2018

HT

NS/EW Streets:	San Miguel Canyon Rd				San Miguel Canyon Rd				Paradise Rd				Paradise Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
7:00 AM	0	4	0	0	0	6	0	0	0	0	0	0	0	0	0	0	10
7:15 AM	0	7	0	0	0	7	0	0	0	0	0	0	0	0	0	0	14
7:30 AM	1	8	0	0	0	5	0	0	0	0	0	0	0	0	0	0	14
7:45 AM	0	4	0	0	0	3	0	0	0	0	0	0	0	0	0	0	7
8:00 AM	2	13	0	0	0	4	0	0	0	0	0	0	0	0	0	0	19
8:15 AM	0	6	0	0	0	8	0	0	0	0	1	0	0	0	0	0	15
8:30 AM	0	7	0	0	0	5	0	0	0	0	0	0	0	0	0	0	12
8:45 AM	1	9	0	0	0	6	0	0	0	0	0	0	0	0	0	0	16
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	4	58	0	0	0	44	0	0	0	0	1	0	0	0	0	0	107
APPROACH %'s :	6.45%	93.55%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%					
PEAK HR :	**07:00 AM - 08:00 AM**																TOTAL
PEAK HR VOL :	1	23	0	0	0	21	0	0	0	0	0	0	0	0	0	0	45
PEAK HR FACTOR :	0.250	0.719	0.000	0.000	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.804
		0.667				0.750											

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
4:00 PM	0	9	0	0	0	6	0	0	0	0	0	0	0	0	0	0	15
4:15 PM	0	5	0	0	0	5	0	0	0	0	0	0	0	0	0	0	10
4:30 PM	0	4	0	0	0	5	0	0	0	0	0	0	0	0	0	0	9
4:45 PM	0	4	0	0	0	6	0	0	0	0	0	0	0	0	0	0	10
5:00 PM	0	1	0	0	0	4	0	0	0	0	0	0	0	0	0	0	5
5:15 PM	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	5
5:30 PM	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	6
5:45 PM	0	2	0	0	0	5	0	0	0	0	0	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	28	0	0	0	39	0	0	0	0	0	0	0	0	0	0	67
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%									
PEAK HR :	**04:45 PM - 05:45 PM**																TOTAL
PEAK HR VOL :	0	8	0	0	0	18	0	0	0	0	0	0	0	0	0	0	26
PEAK HR FACTOR :	0.00	0.500	0.000	0.000	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.650
		0.500				0.750											

National Data & Surveying Services Intersection Turning Movement Count

Location: San Miguel Canyon Rd & Paradise Rd
City: Salinas
Control: 0

Project ID: 18-08042-009
Date: 2/1/2018

Bikes

NS/EW Streets:	San Miguel Canyon Rd				San Miguel Canyon Rd				Paradise Rd				Paradise Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
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	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %'s :																	
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	0.000	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	0.000	

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	0	0	0	0	0	0	0	0
APPROACH %'s :																	
PEAK HR :	04:45 PM - 05:45 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: San Miguel Canyon Rd & Paradise Rd
City: Salinas
Project ID: 18-08042-009
Date: 2/1/2018

Pedestrians (Crosswalks)

NS/EW Streets:	San Miguel Canyon Rd		San Miguel Canyon Rd		Paradise Rd		Paradise Rd		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0
APPROACH %'s :									
PEAK HR :	**07:00 AM - 08:00 AM**								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0
APPROACH %'s :									
PEAK HR :	**04:45 PM - 05:45 PM**								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

Prepared by National Data & Surveying Services

San Miguel Canyon Rd & Paradise Rd

Peak Hour Turning Movement Count

ID: 18-08042-009
City: Salinas

Day: Thursday
Date: 02/01/2018

PEAK HOURS

AM	07:00 AM - 08:00 AM
NOON	NONE
PM	04:45 PM - 05:45 PM

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM

SOUTHBOUND (San Miguel Canyon Rd)

AM	7	709	0	0	718	AM
NOON	0	0	0	0	0	NOON
PM	35	770	0	0	775	PM

EASTBOUND (Paradise Rd)

AM	NOON	PM	
22	0	81	⇦
0	0	0	↶ 0
23	0	13	↱ 0
0	0	0	→ 0
44	0	34	↴ 0
AM	NOON	PM	

WESTBOUND (Paradise Rd)

PM	NOON	AM	
0	0	0	↰ 0
0	0	0	← 0
0	0	0	↶ 0
0	0	0	↴ 0
0	0	0	⇨
PM	NOON	AM	

CONTROL

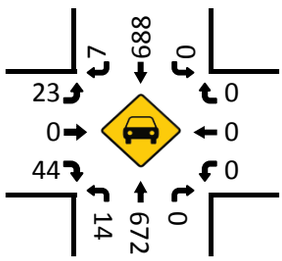
0

TEV	1493	0	1661
	AM	NOON	PM
PHF	0.86		0.94

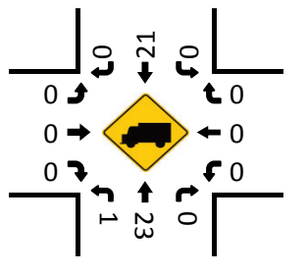
NORTHBOUND (San Miguel Canyon Rd)

PM	805	1	46	762	0	PM
NOON	0	0	0	0	0	NOON
AM	753	0	15	695	0	AM

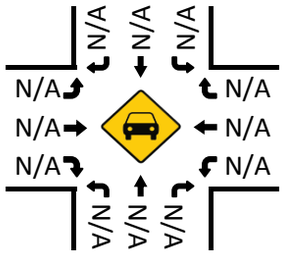
Cars (AM)



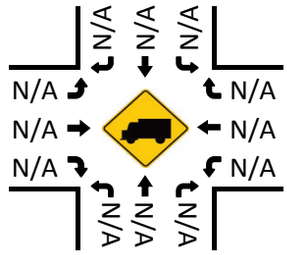
HT (AM)



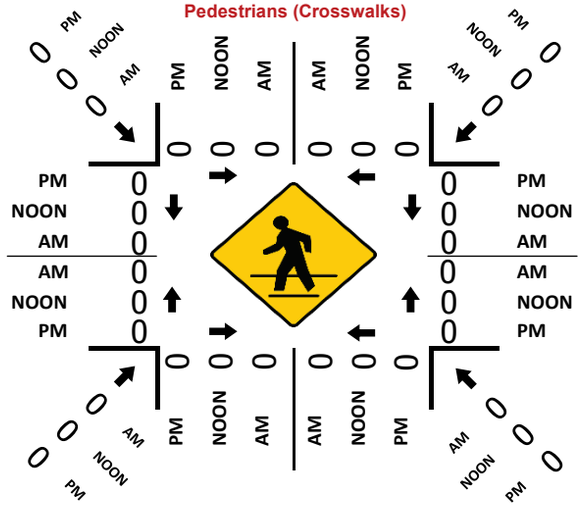
Cars (NOON)



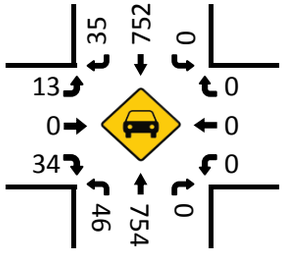
HT (NOON)



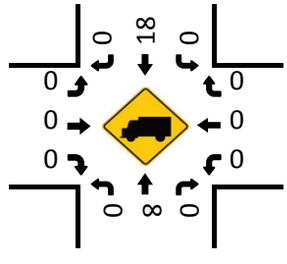
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



National Data & Surveying Services Intersection Turning Movement Count

Location: San Miguel Canyon Rd & Echo Valley Rd
City: Salinas
Control:

Project ID: 18-08042-010
Date: 2/1/2018

Total

NS/EW Streets:	San Miguel Canyon Rd				San Miguel Canyon Rd				Echo Valley Rd				Echo Valley Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
7:00 AM	0	133	22	0	3	175	0	0	0	0	0	0	21	0	6	0	360
7:15 AM	0	167	40	0	11	191	0	0	0	0	0	0	30	0	6	0	445
7:30 AM	0	201	51	0	16	196	0	0	0	0	0	0	33	0	9	0	506
7:45 AM	0	164	51	0	22	143	0	0	0	0	0	0	54	0	24	0	458
8:00 AM	0	139	17	0	11	139	0	0	0	0	0	0	30	0	6	0	342
8:15 AM	0	142	14	0	6	169	0	0	0	0	0	0	13	0	5	0	349
8:30 AM	0	119	11	0	4	138	0	0	0	0	0	0	23	0	2	0	297
8:45 AM	0	120	10	0	6	137	0	0	0	0	0	0	22	0	8	0	303
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1185	216	0	79	1288	0	0	0	0	0	0	226	0	66	0	3060
APPROACH %'s :	0.00%	84.58%	15.42%	0.00%	5.78%	94.22%	0.00%	0.00%					77.40%	0.00%	22.60%	0.00%	
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	0	665	164	0	52	705	0	0	0	0	0	0	138	0	45	0	1769
PEAK HR FACTOR :	0.000	0.827	0.804	0.000	0.591	0.899	0.000	0.000	0.000	0.000	0.000	0.000	0.639	0.000	0.469	0.000	0.874
		0.822				0.893								0.587			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
4:00 PM	0	167	29	0	10	165	0	0	0	0	0	0	28	0	11	0	410
4:15 PM	0	200	28	0	12	183	0	0	0	0	0	0	25	0	11	0	459
4:30 PM	0	179	34	0	4	194	0	0	0	0	0	0	44	0	4	0	459
4:45 PM	0	199	22	0	9	203	0	0	0	0	0	0	34	0	12	0	479
5:00 PM	0	161	29	0	13	170	0	0	0	0	0	0	26	0	9	0	408
5:15 PM	0	215	21	0	6	215	0	0	0	0	0	0	19	0	12	0	488
5:30 PM	0	203	30	0	6	173	0	1	0	0	0	0	28	0	12	0	453
5:45 PM	0	150	20	0	7	179	0	0	0	0	0	0	18	0	4	0	378
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1474	213	0	67	1482	0	1	0	0	0	0	222	0	75	0	3534
APPROACH %'s :	0.00%	87.37%	12.63%	0.00%	4.32%	95.61%	0.00%	0.06%					74.75%	0.00%	25.25%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	0	754	106	0	32	782	0	0	0	0	0	0	123	0	37	0	1834
PEAK HR FACTOR :	0.000	0.877	0.779	0.000	0.615	0.909	0.000	0.000	0.000	0.000	0.000	0.000	0.699	0.000	0.771	0.000	0.940
		0.911				0.921								0.833			

National Data & Surveying Services Intersection Turning Movement Count

Location: San Miguel Canyon Rd & Echo Valley Rd
City: Salinas
Control: 0

Project ID: 18-08042-010
Date: 2/1/2018

Cars

NS/EW Streets:	San Miguel Canyon Rd				San Miguel Canyon Rd				Echo Valley Rd				Echo Valley Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
7:00 AM	0	129	20	0	3	169	0	0	0	0	0	0	21	0	6	0	348
7:15 AM	0	160	35	0	11	184	0	0	0	0	0	0	28	0	6	0	424
7:30 AM	0	194	49	0	16	191	0	0	0	0	0	0	29	0	7	0	486
7:45 AM	0	159	51	0	22	140	0	0	0	0	0	0	53	0	24	0	449
8:00 AM	0	125	17	0	11	135	0	0	0	0	0	0	30	0	6	0	324
8:15 AM	0	137	13	0	6	160	0	0	0	0	0	0	12	0	5	0	333
8:30 AM	0	111	11	0	4	133	0	0	0	0	0	0	23	0	2	0	284
8:45 AM	0	112	9	0	5	132	0	0	0	0	0	0	22	0	7	0	287
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1127	205	0	78	1244	0	0	0	0	0	0	218	0	63	0	2935
APPROACH %'s :	0.00%	84.61%	15.39%	0.00%	5.90%	94.10%	0.00%	0.00%					77.58%	0.00%	22.42%	0.00%	
PEAK HR :	**07:00 AM - 08:00 AM**																TOTAL
PEAK HR VOL :	0	642	155	0	52	684	0	0	0	0	0	0	131	0	43	0	1707
PEAK HR FACTOR :	0.00	0.827	0.760	0.000	0.591	0.895	0.000	0.000	0.000	0.000	0.000	0.000	0.618	0.000	0.448	0.000	0.878
		0.820				0.889								0.565			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
4:00 PM	0	158	29	0	10	159	0	0	0	0	0	0	28	0	11	0	395
4:15 PM	0	195	28	0	12	178	0	0	0	0	0	0	24	0	11	0	448
4:30 PM	0	174	34	0	4	189	0	0	0	0	0	0	44	0	4	0	449
4:45 PM	0	196	20	0	9	197	0	0	0	0	0	0	32	0	12	0	466
5:00 PM	0	160	29	0	13	167	0	0	0	0	0	0	26	0	9	0	404
5:15 PM	0	215	21	0	6	209	0	0	0	0	0	0	18	0	12	0	481
5:30 PM	0	199	30	0	6	170	0	1	0	0	0	0	28	0	12	0	446
5:45 PM	0	148	20	0	7	174	0	0	0	0	0	0	17	0	4	0	370
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1445	211	0	67	1443	0	1	0	0	0	0	217	0	75	0	3459
APPROACH %'s :	0.00%	87.26%	12.74%	0.00%	4.43%	95.50%	0.00%	0.07%					74.32%	0.00%	25.68%	0.00%	
PEAK HR :	**04:30 PM - 05:30 PM**																TOTAL
PEAK HR VOL :	0	745	104	0	32	762	0	0	0	0	0	0	120	0	37	0	1800
PEAK HR FACTOR :	0.00	0.866	0.765	0.000	0.615	0.911	0.000	0.000	0.000	0.000	0.000	0.000	0.682	0.000	0.771	0.000	0.936
		0.899				0.923								0.818			

National Data & Surveying Services Intersection Turning Movement Count

Location: San Miguel Canyon Rd & Echo Valley Rd
City: Salinas
Control: 0

Project ID: 18-08042-010
Date: 2/1/2018

HT

NS/EW Streets:	San Miguel Canyon Rd				San Miguel Canyon Rd				Echo Valley Rd				Echo Valley Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
7:00 AM	0	4	2	0	0	6	0	0	0	0	0	0	0	0	0	0	12
7:15 AM	0	7	5	0	0	7	0	0	0	0	0	0	2	0	0	0	21
7:30 AM	0	7	2	0	0	5	0	0	0	0	0	0	4	0	2	0	20
7:45 AM	0	5	0	0	0	3	0	0	0	0	0	0	1	0	0	0	9
8:00 AM	0	14	0	0	0	4	0	0	0	0	0	0	0	0	0	0	18
8:15 AM	0	5	1	0	0	9	0	0	0	0	0	0	1	0	0	0	16
8:30 AM	0	8	0	0	0	5	0	0	0	0	0	0	0	0	0	0	13
8:45 AM	0	8	1	0	1	5	0	0	0	0	0	0	0	0	1	0	16
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	58	11	0	1	44	0	0	0	0	0	0	8	0	3	0	125
APPROACH %'s :	0.00%	84.06%	15.94%	0.00%	2.22%	97.78%	0.00%	0.00%					72.73%	0.00%	27.27%	0.00%	
PEAK HR :	**07:00 AM - 08:00 AM**																TOTAL
PEAK HR VOL :	0	23	9	0	0	21	0	0	0	0	0	0	7	0	2	0	62
PEAK HR FACTOR :	0.000	0.821	0.450	0.000	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.438	0.000	0.250	0.000	0.738
		0.667				0.750								0.375			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
4:00 PM	0	9	0	0	0	6	0	0	0	0	0	0	0	0	0	0	15
4:15 PM	0	5	0	0	0	5	0	0	0	0	0	0	1	0	0	0	11
4:30 PM	0	5	0	0	0	5	0	0	0	0	0	0	0	0	0	0	10
4:45 PM	0	3	2	0	0	6	0	0	0	0	0	0	2	0	0	0	13
5:00 PM	0	1	0	0	0	3	0	0	0	0	0	0	0	0	0	0	4
5:15 PM	0	0	0	0	0	6	0	0	0	0	0	0	1	0	0	0	7
5:30 PM	0	4	0	0	0	3	0	0	0	0	0	0	0	0	0	0	7
5:45 PM	0	2	0	0	0	5	0	0	0	0	0	0	1	0	0	0	8
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	29	2	0	0	39	0	0	0	0	0	0	5	0	0	0	75
APPROACH %'s :	0.00%	93.55%	6.45%	0.00%	0.00%	100.00%	0.00%	0.00%					100.00%	0.00%	0.00%	0.00%	
PEAK HR :	**04:30 PM - 05:30 PM**																TOTAL
PEAK HR VOL :	0	9	2	0	0	20	0	0	0	0	0	0	3	0	0	0	34
PEAK HR FACTOR :	0.00	0.450	0.250	0.000	0.000	0.833	0.000	0.000	0.000	0.000	0.000	0.000	0.375	0.000	0.000	0.000	0.654
		0.550				0.833								0.375			

National Data & Surveying Services Intersection Turning Movement Count

Location: San Miguel Canyon Rd & Echo Valley Rd
City: Salinas
Control: 0

Project ID: 18-08042-010
Date: 2/1/2018

Bikes

NS/EW Streets:	San Miguel Canyon Rd				San Miguel Canyon Rd				Echo Valley Rd				Echo Valley Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
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	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %'s :																	
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	0.000	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	0.000	

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	0	0	0	0	0	0	0	0
APPROACH %'s :																	
PEAK HR :	04:30 PM - 05:30 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: San Miguel Canyon Rd & Echo Valley Rd
City: Salinas
Project ID: 18-08042-010
Date: 2/1/2018

Pedestrians (Crosswalks)

NS/EW Streets:	San Miguel Canyon Rd		San Miguel Canyon Rd		Echo Valley Rd		Echo Valley Rd		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	1	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	0	1	0	0	0	1
APPROACH %'s :					100.00%	0.00%			
PEAK HR :	**07:00 AM - 08:00 AM**								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0
APPROACH %'s :									
PEAK HR :	**04:30 PM - 05:30 PM**								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

Prepared by National Data & Surveying Services

San Miguel Canyon Rd & Echo Valley Rd

Peak Hour Turning Movement Count

ID: 18-08042-010
City: Salinas

Day: Thursday
Date: 02/01/2018

PEAK HOURS

AM	07:00 AM - 08:00 AM
NOON	NONE
PM	04:30 PM - 05:30 PM

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM

SOUTHBOUND — San Miguel Canyon Rd

AM	0	705	52	0	710	AM
NOON	0	0	0	0	0	NOON
PM	0	782	32	0	791	PM

EASTBOUND — Echo Valley Rd

AM	NOON	PM	
0	0	0	
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
AM	NOON	PM	

WESTBOUND — Echo Valley Rd

PM	NOON	AM	
37	0	45	0
0	0	0	0
123	0	138	0
0	0	0	0
138	0	216	
PM	NOON	AM	

NORTHBOUND — San Miguel Canyon Rd

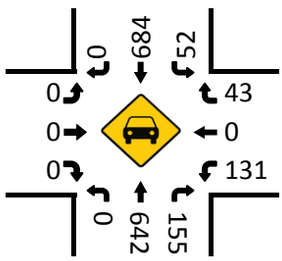
PM	905	0	0	754	106	PM
NOON	0	0	0	0	0	NOON
AM	843	0	0	665	164	AM

CONTROL

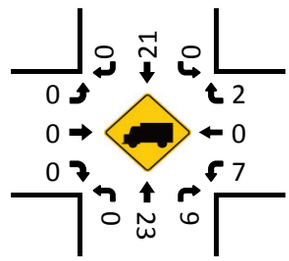
0

TEV	1769	0	1834
	AM	NOON	PM
PHF	0.87		0.94

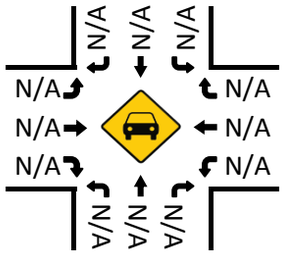
Cars (AM)



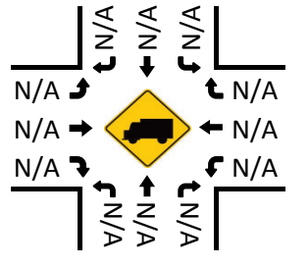
HT (AM)



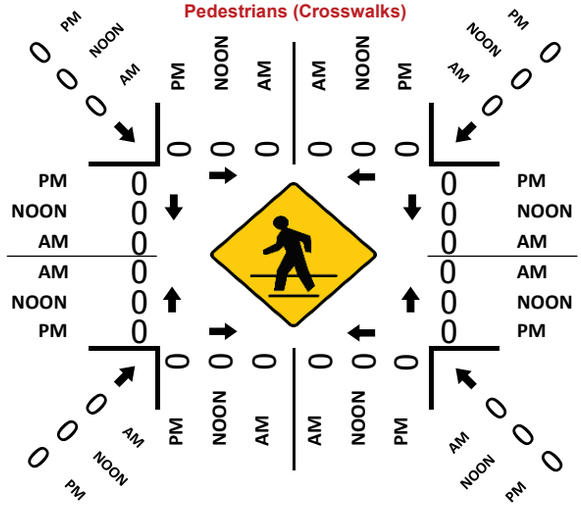
Cars (NOON)



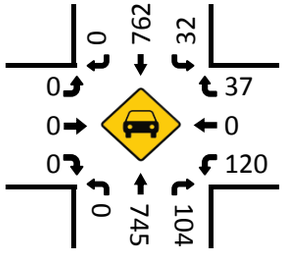
HT (NOON)



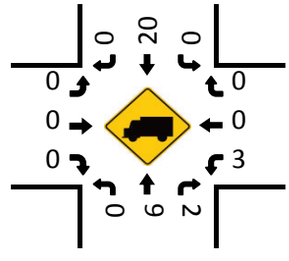
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



National Data & Surveying Services Intersection Turning Movement Count

Location: San Miguel Canyon Rd & Castroville Blvd
City: Salinas
Control:

Project ID: 18-08042-011
Date: 2/1/2018

Total

NS/EW Streets:	San Miguel Canyon Rd				San Miguel Canyon Rd				Castroville Blvd				Castroville Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
7:00 AM	38	144	0	0	0	177	28	0	10	0	38	0	0	0	0	0	435
7:15 AM	45	200	0	0	0	208	15	0	11	0	34	0	0	0	0	0	513
7:30 AM	30	220	0	1	0	231	17	0	17	0	51	0	0	0	0	0	567
7:45 AM	53	210	0	0	0	167	35	0	6	0	41	0	0	0	0	0	512
8:00 AM	57	143	0	0	0	161	22	0	6	0	42	0	0	0	0	0	431
8:15 AM	49	152	0	0	0	168	22	0	8	0	57	0	0	0	0	0	456
8:30 AM	44	137	0	0	0	153	28	0	2	0	60	0	0	0	0	0	424
8:45 AM	36	107	0	0	0	159	16	0	13	0	63	0	0	0	0	0	394
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	352	1313	0	1	0	1424	183	0	73	0	386	0	0	0	0	0	3732
APPROACH %'s :	21.13%	78.81%	0.00%	0.06%	0.00%	88.61%	11.39%	0.00%	15.90%	0.00%	84.10%	0.00%					
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	166	774	0	1	0	783	95	0	44	0	164	0	0	0	0	0	2027
PEAK HR FACTOR :	0.783	0.880	0.000	0.250	0.000	0.847	0.679	0.000	0.647	0.000	0.804	0.000	0.000	0.000	0.000	0.000	0.894
		0.894				0.885				0.765							

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
4:00 PM	47	201	0	0	0	189	8	0	12	0	56	0	0	0	0	0	513
4:15 PM	40	235	0	0	0	197	13	0	17	0	58	1	0	0	0	0	561
4:30 PM	60	197	0	0	0	225	23	0	12	0	74	0	0	0	0	0	591
4:45 PM	59	223	0	0	0	226	20	0	13	0	80	0	0	0	0	0	621
5:00 PM	47	189	0	0	0	183	11	0	20	0	71	0	0	0	0	0	521
5:15 PM	49	236	0	0	0	221	20	0	14	0	68	0	0	0	0	0	608
5:30 PM	57	209	0	0	0	198	16	0	17	0	64	0	0	0	0	0	561
5:45 PM	51	176	0	0	0	199	12	0	20	0	53	0	0	0	0	0	511
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	410	1666	0	0	0	1638	123	0	125	0	524	1	0	0	0	0	4487
APPROACH %'s :	19.75%	80.25%	0.00%	0.00%	0.00%	93.02%	6.98%	0.00%	19.23%	0.00%	80.62%	0.15%					
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	215	845	0	0	0	855	74	0	59	0	293	0	0	0	0	0	2341
PEAK HR FACTOR :	0.896	0.895	0.000	0.000	0.000	0.946	0.804	0.000	0.738	0.000	0.916	0.000	0.000	0.000	0.000	0.000	0.942
		0.930				0.936				0.946							

National Data & Surveying Services Intersection Turning Movement Count

Location: San Miguel Canyon Rd & Castroville Blvd
City: Salinas
Control: 0

Project ID: 18-08042-011
Date: 2/1/2018

Cars

NS/EW Streets:	San Miguel Canyon Rd				San Miguel Canyon Rd				Castroville Blvd				Castroville Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
7:00 AM	35	140	0	0	0	171	28	0	10	0	36	0	0	0	0	0	420
7:15 AM	42	189	0	0	0	202	13	0	9	0	32	0	0	0	0	0	487
7:30 AM	28	213	0	1	0	225	16	0	17	0	51	0	0	0	0	0	551
7:45 AM	50	204	0	0	0	162	35	0	6	0	39	0	0	0	0	0	496
8:00 AM	56	129	0	0	0	157	21	0	5	0	40	0	0	0	0	0	408
8:15 AM	48	145	0	0	0	160	20	0	8	0	56	0	0	0	0	0	437
8:30 AM	43	128	0	0	0	148	28	0	2	0	58	0	0	0	0	0	407
8:45 AM	33	99	0	0	0	153	16	0	13	0	60	0	0	0	0	0	374
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	335	1247	0	1	0	1378	177	0	70	0	372	0	0	0	0	0	3580
APPROACH %'s :	21.16%	78.77%	0.00%	0.06%	0.00%	88.62%	11.38%	0.00%	15.84%	0.00%	84.16%	0.00%					
PEAK HR :	**07:00 AM - 08:00 AM**																TOTAL
PEAK HR VOL :	155	746	0	1	0	760	92	0	42	0	158	0	0	0	0	0	1954
PEAK HR FACTOR :	0.78	0.876	0.000	0.250	0.000	0.844	0.657	0.000	0.618	0.000	0.775	0.000	0.000	0.000	0.000	0.000	0.887
		0.888				0.884				0.735							

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
4:00 PM	46	193	0	0	0	184	8	0	12	0	53	0	0	0	0	0	496
4:15 PM	39	230	0	0	0	192	12	0	17	0	55	1	0	0	0	0	546
4:30 PM	58	191	0	0	0	219	23	0	12	0	73	0	0	0	0	0	576
4:45 PM	59	219	0	0	0	219	19	0	13	0	78	0	0	0	0	0	607
5:00 PM	45	188	0	0	0	179	11	0	20	0	70	0	0	0	0	0	513
5:15 PM	48	235	0	0	0	214	20	0	14	0	68	0	0	0	0	0	599
5:30 PM	57	206	0	0	0	195	16	0	17	0	62	0	0	0	0	0	553
5:45 PM	49	172	0	0	0	194	12	0	20	0	51	0	0	0	0	0	498
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	401	1634	0	0	0	1596	121	0	125	0	510	1	0	0	0	0	4388
APPROACH %'s :	19.71%	80.29%	0.00%	0.00%	0.00%	92.95%	7.05%	0.00%	19.65%	0.00%	80.19%	0.16%					
PEAK HR :	**04:30 PM - 05:30 PM**																TOTAL
PEAK HR VOL :	210	833	0	0	0	831	73	0	59	0	289	0	0	0	0	0	2295
PEAK HR FACTOR :	0.89	0.886	0.000	0.000	0.000	0.949	0.793	0.000	0.738	0.000	0.926	0.000	0.000	0.000	0.000	0.000	0.945
		0.921				0.934				0.956							

National Data & Surveying Services Intersection Turning Movement Count

Location: San Miguel Canyon Rd & Castroville Blvd
City: Salinas
Control: 0

Project ID: 18-08042-011
Date: 2/1/2018

HT

NS/EW Streets:	San Miguel Canyon Rd				San Miguel Canyon Rd				Castroville Blvd				Castroville Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
7:00 AM	3	4	0	0	0	6	0	0	0	0	2	0	0	0	0	0	15
7:15 AM	3	11	0	0	0	6	2	0	2	0	2	0	0	0	0	0	26
7:30 AM	2	7	0	0	0	6	1	0	0	0	0	0	0	0	0	0	16
7:45 AM	3	6	0	0	0	5	0	0	0	0	2	0	0	0	0	0	16
8:00 AM	1	14	0	0	0	4	1	0	1	0	2	0	0	0	0	0	23
8:15 AM	1	7	0	0	0	8	2	0	0	0	1	0	0	0	0	0	19
8:30 AM	1	9	0	0	0	5	0	0	0	0	2	0	0	0	0	0	17
8:45 AM	3	8	0	0	0	6	0	0	0	0	3	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 :	17	66	0	0	0	46	6	0	3	0	14	0	0	0	0	0	152
APPROACH %'s :	20.48%	79.52%	0.00%	0.00%	0.00%	88.46%	11.54%	0.00%	17.65%	0.00%	82.35%	0.00%					
PEAK HR :	**07:00 AM - 08:00 AM**																TOTAL
PEAK HR VOL :	11	28	0	0	0	23	3	0	2	0	6	0	0	0	0	0	73
PEAK HR FACTOR :	0.917	0.636	0.000	0.000	0.000	0.958	0.375	0.000	0.250	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.702
		0.696				0.813				0.500							

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
4:00 PM	1	8	0	0	0	5	0	0	0	0	3	0	0	0	0	0	17
4:15 PM	1	5	0	0	0	5	1	0	0	0	3	0	0	0	0	0	15
4:30 PM	2	6	0	0	0	6	0	0	0	0	1	0	0	0	0	0	15
4:45 PM	0	4	0	0	0	7	1	0	0	0	2	0	0	0	0	0	14
5:00 PM	2	1	0	0	0	4	0	0	0	0	1	0	0	0	0	0	8
5:15 PM	1	1	0	0	0	7	0	0	0	0	0	0	0	0	0	0	9
5:30 PM	0	3	0	0	0	3	0	0	0	0	2	0	0	0	0	0	8
5:45 PM	2	4	0	0	0	5	0	0	0	0	2	0	0	0	0	0	13
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	9	32	0	0	0	42	2	0	0	0	14	0	0	0	0	0	99
APPROACH %'s :	21.95%	78.05%	0.00%	0.00%	0.00%	95.45%	4.55%	0.00%	0.00%	0.00%	100.00%	0.00%					
PEAK HR :	**04:30 PM - 05:30 PM**																TOTAL
PEAK HR VOL :	5	12	0	0	0	24	1	0	0	0	4	0	0	0	0	0	46
PEAK HR FACTOR :	0.63	0.500	0.000	0.000	0.000	0.857	0.250	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.767
		0.531				0.781				0.500							

National Data & Surveying Services Intersection Turning Movement Count

Location: San Miguel Canyon Rd & Castroville Blvd
City: Salinas
Control: 0

Project ID: 18-08042-011
Date: 2/1/2018

Bikes

NS/EW Streets:	San Miguel Canyon Rd				San Miguel Canyon Rd				Castroville Blvd				Castroville Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
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	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %'s :																	
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	0.000	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	0.000	

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	0	0	0	0	0	0	0	0
APPROACH %'s :																	
PEAK HR :	04:30 PM - 05:30 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: San Miguel Canyon Rd & Castroville Blvd
City: Salinas
Project ID: 18-08042-011
Date: 2/1/2018

Pedestrians (Crosswalks)

NS/EW Streets:	San Miguel Canyon Rd		San Miguel Canyon Rd		Castroville Blvd		Castroville Blvd		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0
APPROACH %'s :									
PEAK HR :	**07:00 AM - 08:00 AM**								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0
APPROACH %'s :									
PEAK HR :	**04:30 PM - 05:30 PM**								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

Prepared by National Data & Surveying Services

San Miguel Canyon Rd & Castroville Blvd

Peak Hour Turning Movement Count

ID: 18-08042-011
City: Salinas

Day: Thursday
Date: 02/01/2018

PEAK HOURS

AM: 07:00 AM - 08:00 AM
NOON: NONE
PM: 04:30 PM - 05:30 PM

COUNT PERIODS

AM: 07:00 AM - 09:00 AM
NOON: NONE
PM: 04:00 PM - 06:00 PM

San Miguel Canyon Rd — SOUTHBOUND

AM	95	783	0	0	818	AM
NOON	0	0	0	0	0	NOON
PM	74	855	0	0	904	PM

Castroville Blvd — EASTBOUND

AM	NOON	PM	
261	0	289	
0	0	0	0
44	0	59	0
0	0	0	0
164	0	293	0
AM	NOON	PM	

Castroville Blvd — WESTBOUND

PM	NOON	AM	
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	
PM	NOON	AM	

CONTROL

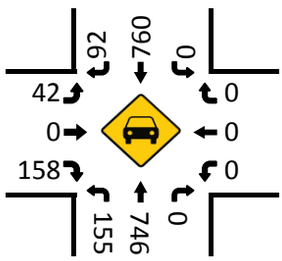
0

TEV	2027	0	2341
	AM	NOON	PM
PHF	0.89		0.94

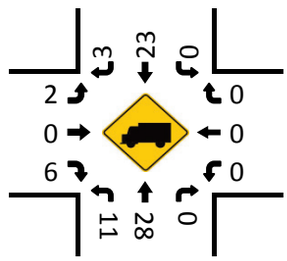
San Miguel Canyon Rd — NORTHBOUND

PM	1148	0	215	845	0	PM
NOON	0	0	0	0	0	NOON
AM	948	1	166	774	0	AM

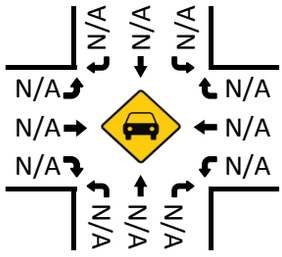
Cars (AM)



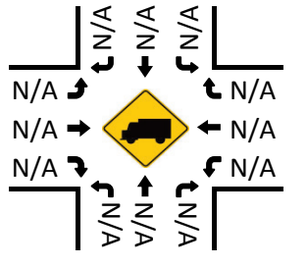
HT (AM)



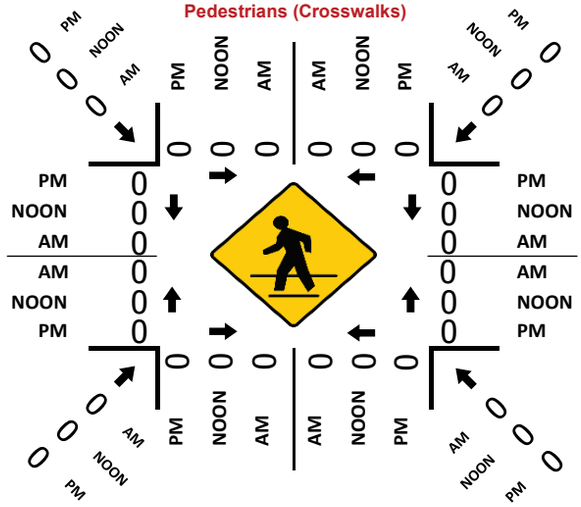
Cars (NOON)



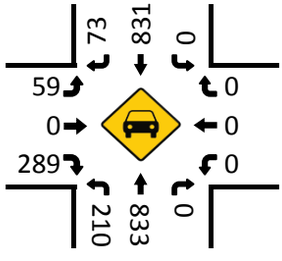
HT (NOON)



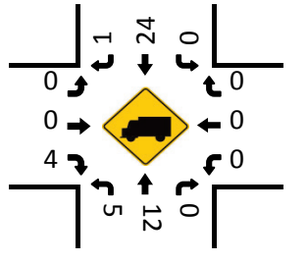
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



National Data & Surveying Services Intersection Turning Movement Count

Location: San Miguel Canyon Rd & Langley Canyon Rd
City: Salinas
Control:

Project ID: 18-08042-012
Date: 2/1/2018

Total

NS/EW Streets:	San Miguel Canyon Rd				San Miguel Canyon Rd				Langley Canyon Rd				Langley Canyon Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
7:00 AM	0	171	3	0	2	204	0	0	0	0	0	0	27	0	11	0	418
7:15 AM	0	231	5	0	3	245	0	0	0	0	0	0	28	0	16	0	528
7:30 AM	0	235	9	0	1	277	0	0	0	0	0	0	27	0	11	0	560
7:45 AM	0	246	9	0	3	210	0	0	0	0	0	0	26	0	18	0	512
8:00 AM	0	190	13	0	4	202	0	0	0	0	0	0	19	0	10	0	438
8:15 AM	0	196	13	0	5	219	0	0	0	0	0	0	16	0	2	0	451
8:30 AM	0	173	8	0	5	213	0	0	0	0	0	0	17	0	8	0	424
8:45 AM	0	137	10	0	3	223	0	0	0	0	0	0	19	0	6	0	398
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1579	70	0	26	1793	0	0	0	0	0	0	179	0	82	0	3729
APPROACH %'s :	0.00%	95.76%	4.24%	0.00%	1.43%	98.57%	0.00%	0.00%					68.58%	0.00%	31.42%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	902	36	0	11	934	0	0	0	0	0	0	100	0	55	0	2038
PEAK HR FACTOR :	0.000	0.917	0.692	0.000	0.688	0.843	0.000	0.000	0.000	0.000	0.000	0.000	0.893	0.000	0.764	0.000	0.910
		0.920				0.850								0.881			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
4:00 PM	0	249	25	0	5	229	0	0	0	0	0	0	16	0	6	0	530
4:15 PM	0	272	21	0	5	253	0	0	0	0	0	0	18	0	5	0	574
4:30 PM	0	254	19	0	9	289	0	0	0	0	0	0	12	0	2	0	585
4:45 PM	0	282	25	0	8	283	0	0	0	0	0	0	13	0	4	0	615
5:00 PM	0	234	22	0	17	251	0	0	0	0	0	0	8	0	5	0	537
5:15 PM	0	282	29	0	15	278	0	0	0	0	0	0	11	0	9	0	624
5:30 PM	0	260	19	0	11	248	0	0	0	0	0	0	13	0	6	0	557
5:45 PM	0	224	27	0	11	252	0	0	0	0	0	0	14	0	5	0	533
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	2057	187	0	81	2083	0	0	0	0	0	0	105	0	42	0	4555
APPROACH %'s :	0.00%	91.67%	8.33%	0.00%	3.74%	96.26%	0.00%	0.00%					71.43%	0.00%	28.57%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	0	1052	95	0	49	1101	0	0	0	0	0	0	44	0	20	0	2361
PEAK HR FACTOR :	0.000	0.933	0.819	0.000	0.721	0.952	0.000	0.000	0.000	0.000	0.000	0.000	0.846	0.000	0.556	0.000	0.946
		0.922				0.965								0.800			

National Data & Surveying Services Intersection Turning Movement Count

Location: San Miguel Canyon Rd & Langley Canyon Rd
City: Salinas
Control: 0

Project ID: 18-08042-012
Date: 2/1/2018

Cars

NS/EW Streets:	San Miguel Canyon Rd				San Miguel Canyon Rd				Langley Canyon Rd				Langley Canyon Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
7:00 AM	0	164	3	0	1	197	0	0	0	0	0	0	27	0	11	0	403
7:15 AM	0	218	5	0	3	236	0	0	0	0	0	0	28	0	15	0	505
7:30 AM	0	226	9	0	1	269	0	0	0	0	0	0	27	0	11	0	543
7:45 AM	0	237	9	0	3	205	0	0	0	0	0	0	25	0	18	0	497
8:00 AM	0	176	13	0	3	195	0	0	0	0	0	0	19	0	9	0	415
8:15 AM	0	189	12	0	5	210	0	0	0	0	0	0	16	0	2	0	434
8:30 AM	0	163	8	0	5	206	0	0	0	0	0	0	17	0	8	0	407
8:45 AM	0	126	10	0	3	215	0	0	0	0	0	0	19	0	6	0	379
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1499	69	0	24	1733	0	0	0	0	0	0	178	0	80	0	3583
APPROACH %'s :	0.00%	95.60%	4.40%	0.00%	1.37%	98.63%	0.00%	0.00%					68.99%	0.00%	31.01%	0.00%	
PEAK HR :	**07:15 AM - 08:15 AM**																TOTAL
PEAK HR VOL :	0	857	36	0	10	905	0	0	0	0	0	0	99	0	53	0	1960
PEAK HR FACTOR :	0.00	0.904	0.692	0.000	0.833	0.841	0.000	0.000	0.000	0.000	0.000	0.000	0.884	0.000	0.736	0.000	0.902
		0.908				0.847								0.884			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
4:00 PM	0	240	25	0	5	223	0	0	0	0	0	0	16	0	6	0	515
4:15 PM	0	267	21	0	5	243	0	0	0	0	0	0	16	0	5	0	557
4:30 PM	0	246	19	0	9	281	0	0	0	0	0	0	11	0	2	0	568
4:45 PM	0	278	25	0	8	274	0	0	0	0	0	0	13	0	4	0	602
5:00 PM	0	231	21	0	17	246	0	0	0	0	0	0	8	0	5	0	528
5:15 PM	0	280	29	0	15	270	0	0	0	0	0	0	11	0	9	0	614
5:30 PM	0	255	19	0	11	244	0	0	0	0	0	0	13	0	6	0	548
5:45 PM	0	218	27	0	11	247	0	0	0	0	0	0	14	0	5	0	522
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	2015	186	0	81	2028	0	0	0	0	0	0	102	0	42	0	4454
APPROACH %'s :	0.00%	91.55%	8.45%	0.00%	3.84%	96.16%	0.00%	0.00%					70.83%	0.00%	29.17%	0.00%	
PEAK HR :	**04:30 PM - 05:30 PM**																TOTAL
PEAK HR VOL :	0	1035	94	0	49	1071	0	0	0	0	0	0	43	0	20	0	2312
PEAK HR FACTOR :	0.00	0.924	0.810	0.000	0.721	0.953	0.000	0.000	0.000	0.000	0.000	0.000	0.827	0.000	0.556	0.000	0.941
		0.913				0.966								0.788			

National Data & Surveying Services Intersection Turning Movement Count

Location: San Miguel Canyon Rd & Langley Canyon Rd
City: Salinas
Control: 0

Project ID: 18-08042-012
Date: 2/1/2018

HT

NS/EW Streets:	San Miguel Canyon Rd				San Miguel Canyon Rd				Langley Canyon Rd				Langley Canyon Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
7:00 AM	0	7	0	0	1	7	0	0	0	0	0	0	0	0	0	0	15
7:15 AM	0	13	0	0	0	9	0	0	0	0	0	0	0	0	1	0	23
7:30 AM	0	9	0	0	0	8	0	0	0	0	0	0	0	0	0	0	17
7:45 AM	0	9	0	0	0	5	0	0	0	0	0	0	1	0	0	0	15
8:00 AM	0	14	0	0	1	7	0	0	0	0	0	0	0	0	1	0	23
8:15 AM	0	7	1	0	0	9	0	0	0	0	0	0	0	0	0	0	17
8:30 AM	0	10	0	0	0	7	0	0	0	0	0	0	0	0	0	0	17
8:45 AM	0	11	0	0	0	8	0	0	0	0	0	0	0	0	0	0	19
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	80	1	0	2	60	0	0	0	0	0	0	1	0	2	0	146
APPROACH %'s :	0.00%	98.77%	1.23%	0.00%	3.23%	96.77%	0.00%	0.00%					33.33%	0.00%	66.67%	0.00%	
PEAK HR :	**07:15 AM - 08:15 AM**																TOTAL
PEAK HR VOL :	0	45	0	0	1	29	0	0	0	0	0	0	1	0	2	0	78
PEAK HR FACTOR :	0.000	0.804	0.000	0.000	0.250	0.806	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.500	0.000	0.848
		0.804				0.833								0.750			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
4:00 PM	0	9	0	0	0	6	0	0	0	0	0	0	0	0	0	0	15
4:15 PM	0	5	0	0	0	10	0	0	0	0	0	0	2	0	0	0	17
4:30 PM	0	8	0	0	0	8	0	0	0	0	0	0	1	0	0	0	17
4:45 PM	0	4	0	0	0	9	0	0	0	0	0	0	0	0	0	0	13
5:00 PM	0	3	1	0	0	5	0	0	0	0	0	0	0	0	0	0	9
5:15 PM	0	2	0	0	0	8	0	0	0	0	0	0	0	0	0	0	10
5:30 PM	0	5	0	0	0	4	0	0	0	0	0	0	0	0	0	0	9
5:45 PM	0	6	0	0	0	5	0	0	0	0	0	0	0	0	0	0	11
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	42	1	0	0	55	0	0	0	0	0	0	3	0	0	0	101
APPROACH %'s :	0.00%	97.67%	2.33%	0.00%	0.00%	100.00%	0.00%	0.00%					100.00%	0.00%	0.00%	0.00%	
PEAK HR :	**04:30 PM - 05:30 PM**																TOTAL
PEAK HR VOL :	0	17	1	0	0	30	0	0	0	0	0	0	1	0	0	0	49
PEAK HR FACTOR :	0.00	0.531	0.250	0.000	0.000	0.833	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.721
		0.563				0.833								0.250			

National Data & Surveying Services Intersection Turning Movement Count

Location: San Miguel Canyon Rd & Langley Canyon Rd
City: Salinas
Control: 0

Project ID: 18-08042-012
Date: 2/1/2018

Bikes

NS/EW Streets:	San Miguel Canyon Rd				San Miguel Canyon Rd				Langley Canyon Rd				Langley Canyon Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
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	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %'s :																	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	0.000	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	0.000	

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	0	0	0	0	0	0	0	0
APPROACH %'s :																	
PEAK HR :	04:30 PM - 05:30 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: San Miguel Canyon Rd & Langley Canyon Rd
City: Salinas
Project ID: 18-08042-012
Date: 2/1/2018

Pedestrians (Crosswalks)

NS/EW Streets:	San Miguel Canyon Rd		San Miguel Canyon Rd		Langley Canyon Rd		Langley Canyon Rd		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0
APPROACH %'s :									
PEAK HR :	**07:15 AM - 08:15 AM**								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0
APPROACH %'s :									
PEAK HR :	**04:30 PM - 05:30 PM**								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

Prepared by National Data & Surveying Services

San Miguel Canyon Rd & Langley Canyon Rd

Peak Hour Turning Movement Count

ID: 18-08042-012
City: Salinas

Day: Thursday
Date: 02/01/2018

PEAK HOURS

AM: 07:15 AM - 08:15 AM
NOON: NONE
PM: 04:30 PM - 05:30 PM

COUNT PERIODS

AM: 07:00 AM - 09:00 AM
NOON: NONE
PM: 04:00 PM - 06:00 PM

SOUTHBOUND — San Miguel Canyon Rd

AM	0	934	11	0	957	AM
NOON	0	0	0	0	0	NOON
PM	0	1101	49	0	1072	PM

EASTBOUND — Langley Canyon Rd

AM	NOON	PM
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0

WESTBOUND — Langley Canyon Rd

PM	NOON	AM
20	0	55
0	0	0
44	0	100
0	0	0
144	0	47

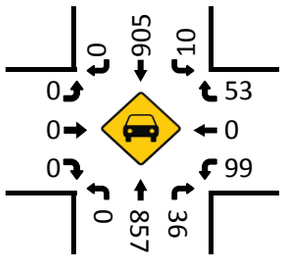
NORTHBOUND — San Miguel Canyon Rd

PM	1145	0	0	1052	95	PM
NOON	0	0	0	0	0	NOON
AM	1034	0	0	902	36	AM

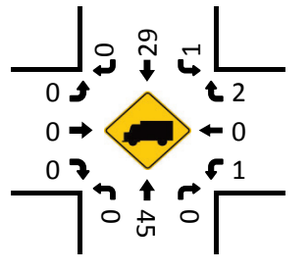
CONTROL: 0

TEV	2038	0	2361
	AM	NOON	PM
PHF	0.91		0.95

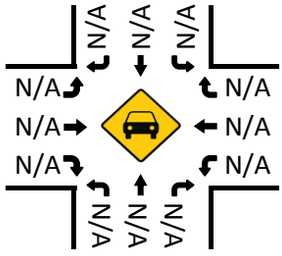
Cars (AM)



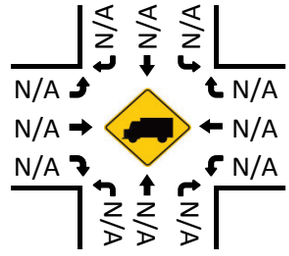
HT (AM)



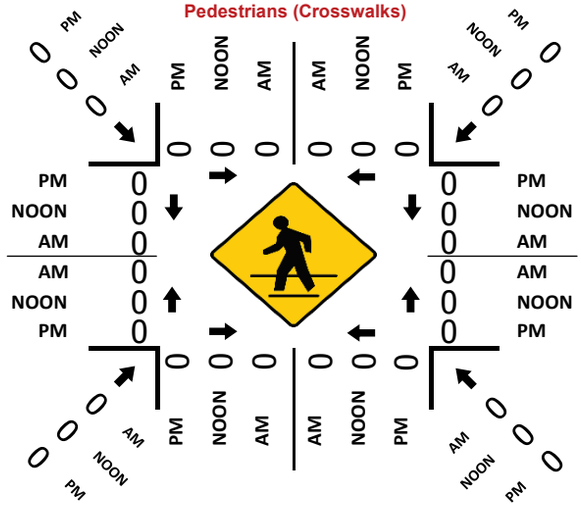
Cars (NOON)



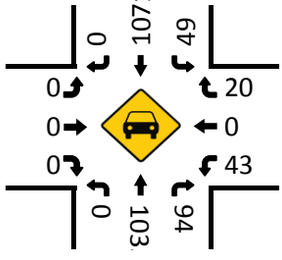
HT (NOON)



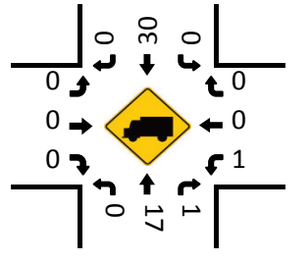
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



National Data & Surveying Services Intersection Turning Movement Count

Location: San Miguel Canyon Rd & Moro Rd
City: Salinas
Control:

Project ID: 18-08042-013
Date: 2/1/2018

Total

NS/EW Streets:	San Miguel Canyon Rd				San Miguel Canyon Rd				Moro Rd				Moro Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
7:00 AM	0	161	11	0	22	207	0	0	0	0	0	0	7	0	17	0	425
7:15 AM	0	202	10	0	15	251	0	0	0	0	0	0	34	0	29	0	541
7:30 AM	0	239	8	0	12	291	0	0	0	0	0	0	14	0	11	0	575
7:45 AM	0	227	12	0	16	231	0	0	0	0	0	0	28	0	28	0	542
8:00 AM	0	173	19	0	15	201	0	0	0	0	0	0	20	0	26	0	454
8:15 AM	0	191	19	0	13	222	0	0	0	0	0	0	22	0	20	0	487
8:30 AM	0	162	11	0	15	215	0	0	0	0	0	0	10	0	14	0	427
8:45 AM	0	142	29	0	31	219	0	0	0	0	0	0	18	0	14	0	453
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1497	119	0	139	1837	0	0	0	0	0	0	153	0	159	0	3904
APPROACH %'s :	0.00%	92.64%	7.36%	0.00%	7.03%	92.97%	0.00%	0.00%					49.04%	0.00%	50.96%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	841	49	0	58	974	0	0	0	0	0	0	96	0	94	0	2112
PEAK HR FACTOR :	0.000	0.880	0.645	0.000	0.906	0.837	0.000	0.000	0.000	0.000	0.000	0.000	0.706	0.000	0.810	0.000	0.918
		0.901				0.851								0.754			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
4:00 PM	0	235	20	0	23	217	0	0	0	0	0	0	20	0	35	0	550
4:15 PM	0	251	25	0	25	242	0	0	0	0	0	0	25	0	32	0	600
4:30 PM	0	250	22	0	29	275	0	0	0	0	0	0	22	0	35	0	633
4:45 PM	0	267	22	0	22	277	0	0	0	0	0	0	17	0	38	0	643
5:00 PM	0	215	25	0	12	245	0	0	0	0	0	0	23	0	32	0	552
5:15 PM	0	276	26	0	23	266	0	0	0	0	0	0	29	0	31	0	651
5:30 PM	0	246	24	0	18	241	0	0	0	0	0	0	13	0	41	0	583
5:45 PM	0	220	22	0	19	248	0	0	0	0	0	0	16	0	31	0	556
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1960	186	0	171	2011	0	0	0	0	0	0	165	0	275	0	4768
APPROACH %'s :	0.00%	91.33%	8.67%	0.00%	7.84%	92.16%	0.00%	0.00%					37.50%	0.00%	62.50%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	0	1008	95	0	86	1063	0	0	0	0	0	0	91	0	136	0	2479
PEAK HR FACTOR :	0.000	0.913	0.913	0.000	0.741	0.959	0.000	0.000	0.000	0.000	0.000	0.000	0.784	0.000	0.895	0.000	0.952
		0.913				0.945								0.946			

National Data & Surveying Services Intersection Turning Movement Count

Location: San Miguel Canyon Rd & Moro Rd
City: Salinas
Control: 0

Project ID: 18-08042-013
Date: 2/1/2018

Cars

NS/EW Streets:	San Miguel Canyon Rd				San Miguel Canyon Rd				Moro Rd				Moro Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
7:00 AM	0	154	11	0	22	199	0	0	0	0	0	0	7	0	17	0	410
7:15 AM	0	191	9	0	15	244	0	0	0	0	0	0	33	0	27	0	519
7:30 AM	0	230	8	0	12	282	0	0	0	0	0	0	14	0	11	0	557
7:45 AM	0	218	11	0	16	222	0	0	0	0	0	0	28	0	28	0	523
8:00 AM	0	159	19	0	14	197	0	0	0	0	0	0	20	0	26	0	435
8:15 AM	0	183	19	0	13	215	0	0	0	0	0	0	21	0	20	0	471
8:30 AM	0	152	11	0	14	208	0	0	0	0	0	0	10	0	14	0	409
8:45 AM	0	131	29	0	31	212	0	0	0	0	0	0	18	0	13	0	434
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1418	117	0	137	1779	0	0	0	0	0	0	151	0	156	0	3758
APPROACH %'s :	0.00%	92.38%	7.62%	0.00%	7.15%	92.85%	0.00%	0.00%					49.19%	0.00%	50.81%	0.00%	
PEAK HR :	**07:15 AM - 08:15 AM**																TOTAL
PEAK HR VOL :	0	798	47	0	57	945	0	0	0	0	0	0	95	0	92	0	2034
PEAK HR FACTOR :	0.00	0.867	0.618	0.000	0.891	0.838	0.000	0.000	0.000	0.000	0.000	0.000	0.720	0.000	0.821	0.000	0.913
		0.888				0.852								0.779			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
4:00 PM	0	224	20	0	23	212	0	0	0	0	0	0	19	0	35	0	533
4:15 PM	0	246	25	0	24	229	0	0	0	0	0	0	24	0	32	0	580
4:30 PM	0	242	22	0	29	268	0	0	0	0	0	0	22	0	35	0	618
4:45 PM	0	262	22	0	22	267	0	0	0	0	0	0	17	0	37	0	627
5:00 PM	0	213	24	0	12	240	0	0	0	0	0	0	23	0	31	0	543
5:15 PM	0	273	25	0	22	260	0	0	0	0	0	0	29	0	31	0	640
5:30 PM	0	243	24	0	17	237	0	0	0	0	0	0	13	0	41	0	575
5:45 PM	0	215	22	0	19	244	0	0	0	0	0	0	16	0	31	0	547
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1918	184	0	168	1957	0	0	0	0	0	0	163	0	273	0	4663
APPROACH %'s :	0.00%	91.25%	8.75%	0.00%	7.91%	92.09%	0.00%	0.00%					37.39%	0.00%	62.61%	0.00%	
PEAK HR :	**04:30 PM - 05:30 PM**																TOTAL
PEAK HR VOL :	0	990	93	0	85	1035	0	0	0	0	0	0	91	0	134	0	2428
PEAK HR FACTOR :	0.00	0.907	0.930	0.000	0.733	0.965	0.000	0.000	0.000	0.000	0.000	0.000	0.784	0.000	0.905	0.000	0.948
		0.909				0.943								0.938			

National Data & Surveying Services Intersection Turning Movement Count

Location: San Miguel Canyon Rd & Moro Rd
City: Salinas
Control: 0

Project ID: 18-08042-013
Date: 2/1/2018

HT

NS/EW Streets:	San Miguel Canyon Rd				San Miguel Canyon Rd				Moro Rd				Moro Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
7:00 AM	0	7	0	0	0	8	0	0	0	0	0	0	0	0	0	0	15
7:15 AM	0	11	1	0	0	7	0	0	0	0	0	0	1	0	2	0	22
7:30 AM	0	9	0	0	0	9	0	0	0	0	0	0	0	0	0	0	18
7:45 AM	0	9	1	0	0	9	0	0	0	0	0	0	0	0	0	0	19
8:00 AM	0	14	0	0	1	4	0	0	0	0	0	0	0	0	0	0	19
8:15 AM	0	8	0	0	0	7	0	0	0	0	0	0	1	0	0	0	16
8:30 AM	0	10	0	0	1	7	0	0	0	0	0	0	0	0	0	0	18
8:45 AM	0	11	0	0	0	7	0	0	0	0	0	0	0	0	1	0	19
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	79	2	0	2	58	0	0	0	0	0	0	2	0	3	0	146
APPROACH %'s :	0.00%	97.53%	2.47%	0.00%	3.33%	96.67%	0.00%	0.00%					40.00%	0.00%	60.00%	0.00%	
PEAK HR :	**07:15 AM - 08:15 AM**																TOTAL
PEAK HR VOL :	0	43	2	0	1	29	0	0	0	0	0	0	1	0	2	0	78
PEAK HR FACTOR :	0.000	0.768	0.500	0.000	0.250	0.806	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.886
		0.804				0.833								0.250			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
4:00 PM	0	11	0	0	0	5	0	0	0	0	0	0	1	0	0	0	17
4:15 PM	0	5	0	0	1	13	0	0	0	0	0	0	1	0	0	0	20
4:30 PM	0	8	0	0	0	7	0	0	0	0	0	0	0	0	0	0	15
4:45 PM	0	5	0	0	0	10	0	0	0	0	0	0	0	0	1	0	16
5:00 PM	0	2	1	0	0	5	0	0	0	0	0	0	0	0	1	0	9
5:15 PM	0	3	1	0	1	6	0	0	0	0	0	0	0	0	0	0	11
5:30 PM	0	3	0	0	1	4	0	0	0	0	0	0	0	0	0	0	8
5:45 PM	0	5	0	0	0	4	0	0	0	0	0	0	0	0	0	0	9
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	42	2	0	3	54	0	0	0	0	0	0	2	0	2	0	105
APPROACH %'s :	0.00%	95.45%	4.55%	0.00%	5.26%	94.74%	0.00%	0.00%					50.00%	0.00%	50.00%	0.00%	
PEAK HR :	**04:30 PM - 05:30 PM**																TOTAL
PEAK HR VOL :	0	18	2	0	1	28	0	0	0	0	0	0	0	0	2	0	51
PEAK HR FACTOR :	0.00	0.563	0.500	0.000	0.250	0.700	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.797
		0.625				0.725								0.500			

National Data & Surveying Services Intersection Turning Movement Count

Location: San Miguel Canyon Rd & Moro Rd
City: Salinas
Control: 0

Project ID: 18-08042-013
Date: 2/1/2018

Bikes

NS/EW Streets:	San Miguel Canyon Rd				San Miguel Canyon Rd				Moro Rd				Moro Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
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	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %'s :																	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	0.000	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	0.000	

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	0	0	0	0	0	0	0	0
APPROACH %'s :																	
PEAK HR :	04:30 PM - 05:30 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: San Miguel Canyon Rd & Moro Rd
City: Salinas
Project ID: 18-08042-013
Date: 2/1/2018

Pedestrians (Crosswalks)

NS/EW Streets:	San Miguel Canyon Rd		San Miguel Canyon Rd		Moro Rd		Moro Rd		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0
APPROACH %'s :									
PEAK HR :	**07:15 AM - 08:15 AM**								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	1	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	1	1	0	0	2
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	1	0	0	0	1	1	0	0	3
APPROACH %'s :	100.00%	0.00%			50.00%	50.00%			
PEAK HR :	**04:30 PM - 05:30 PM**								TOTAL
PEAK HR VOL :	0	0	0	0	1	1	0	0	2
PEAK HR FACTOR :					0.250	0.250			0.250
					0.250				

Prepared by National Data & Surveying Services

San Miguel Canyon Rd & Moro Rd

Peak Hour Turning Movement Count

ID: 18-08042-013
City: Salinas

Day: Thursday
Date: 02/01/2018

	PEAK HOURS	COUNT PERIODS
AM	07:15 AM - 08:15 AM	07:00 AM - 09:00 AM
NOON	NONE	NONE
PM	04:30 PM - 05:30 PM	04:00 PM - 06:00 PM

San Miguel Canyon Rd — SOUTHBOUND

	Right	Thru	Left	U-Turn	Departing
AM	0	974	58	0	935
NOON	0	0	0	0	0
PM	0	1063	86	0	1144
	0	0	0	0	

Moro Rd — WESTBOUND

		PM	NOON	AM
Right	0	136	0	94
Thru	0	0	0	0
Left	0	91	0	96
U-Turn	0	0	0	0
Departing		181	0	107

Moro Rd — EASTBOUND

	AM	NOON	PM	
Departing	0	0	0	
U-Turn	0	0	0	0
Left	0	0	0	0
Thru	0	0	0	0
Right	0	0	0	0

San Miguel Canyon Rd — NORTHBOUND

	Departing	U-Turn	Left	Thru	Right
		0	0	0	0
PM	1154	0	0	1008	95
NOON	0	0	0	0	0
AM	1070	0	0	841	49

CONTROL

0

	AM	NOON	PM
TEV	2112	0	2479
PHF	0.92		0.95

Cars and HT

	Cars (AM)	Cars (NOON)	Cars (PM)	HT (AM)	HT (NOON)	HT (PM)
SB Right	0	N/A	0	0	N/A	0
SB Thru	945	N/A	1035	29	N/A	28
SB Left	57	N/A	85	1	N/A	1
WB Right	92	N/A	134	2	N/A	2
WB Thru	0	N/A	0	0	N/A	0
WB Left	95	N/A	91	1	N/A	0
EB Left	0	N/A	0	0	N/A	0
EB Thru	0	N/A	0	0	N/A	0
EB Right	0	N/A	0	0	N/A	0
NB Left	0	N/A	0	0	N/A	0
NB Thru	798	N/A	990	43	N/A	18
NB Right	47	N/A	93	2	N/A	2

Pedestrians (Crosswalks)

Crosswalk	AM	NOON	PM
North (westward)	0	0	0
North (eastward)	0	0	0
West (southward)	0	0	0
West (northward)	0	0	0
East (southward)	0	0	1
East (northward)	0	0	1
South (eastward)	0	0	0
South (westward)	0	0	0
NW corner (diagonal)	0	0	0
NE corner (diagonal)	0	0	0
SW corner (diagonal)	0	0	0
SE corner (diagonal)	0	0	0

National Data & Surveying Services Intersection Turning Movement Count

Location: San Miguel Canyon Rd & Prunedale North Rd
City: Salinas
Control:

Project ID: 18-08042-014
Date: 2/1/2018

Total

NS/EW Streets:	San Miguel Canyon Rd				San Miguel Canyon Rd				Prunedale North Rd				Prunedale North Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
7:00 AM	4	167	6	0	4	183	24	0	11	2	2	0	15	3	0	0	421
7:15 AM	5	204	4	0	7	251	25	0	16	3	6	0	20	0	1	0	542
7:30 AM	5	241	5	0	2	272	24	0	23	3	10	0	23	2	2	0	612
7:45 AM	9	210	10	0	2	215	28	0	13	2	3	0	11	1	4	0	508
8:00 AM	10	159	9	0	7	170	46	0	16	1	5	0	9	5	8	0	445
8:15 AM	16	193	8	0	9	179	37	0	21	7	3	0	18	4	5	0	500
8:30 AM	5	156	8	0	5	202	28	0	19	3	3	0	16	8	2	0	455
8:45 AM	7	147	6	0	6	170	46	0	18	5	6	0	9	1	2	0	423
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	61	1477	56	0	42	1642	258	0	137	26	38	0	121	24	24	0	3906
APPROACH %'s :	3.83%	92.66%	3.51%	0.00%	2.16%	84.55%	13.29%	0.00%	68.16%	12.94%	18.91%	0.00%	71.60%	14.20%	14.20%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	29	814	28	0	18	908	123	0	68	9	24	0	63	8	15	0	2107
PEAK HR FACTOR :	0.725	0.844	0.700	0.000	0.643	0.835	0.668	0.000	0.739	0.750	0.600	0.000	0.685	0.400	0.469	0.000	0.861
	0.868				0.880				0.701				0.796				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
4:00 PM	11	225	12	0	13	181	31	0	30	10	3	0	19	7	9	0	551
4:15 PM	11	241	17	0	7	218	42	0	23	3	5	0	15	8	17	0	607
4:30 PM	9	237	13	0	12	244	47	0	26	10	4	0	20	11	10	0	643
4:45 PM	10	264	16	0	17	228	47	0	20	9	12	0	28	4	7	0	662
5:00 PM	16	222	11	0	11	203	46	0	29	11	3	0	18	7	8	0	585
5:15 PM	7	246	22	0	6	229	51	0	33	6	13	0	29	8	16	0	666
5:30 PM	13	240	14	0	10	206	34	0	20	7	10	0	17	13	8	0	592
5:45 PM	13	210	11	0	17	211	35	0	19	5	7	0	23	2	4	0	557
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	90	1885	116	0	93	1720	333	0	200	61	57	0	169	60	79	0	4863
APPROACH %'s :	4.30%	90.15%	5.55%	0.00%	4.33%	80.15%	15.52%	0.00%	62.89%	19.18%	17.92%	0.00%	54.87%	19.48%	25.65%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	42	969	62	0	46	904	191	0	108	36	32	0	95	30	41	0	2556
PEAK HR FACTOR :	0.656	0.918	0.705	0.000	0.676	0.926	0.936	0.000	0.818	0.818	0.615	0.000	0.819	0.682	0.641	0.000	0.959
	0.925				0.941				0.846				0.783				

National Data & Surveying Services Intersection Turning Movement Count

Location: San Miguel Canyon Rd & Prunedale North Rd
City: Salinas
Control: 0

Project ID: 18-08042-014
Date: 2/1/2018

Cars

NS/EW Streets:	San Miguel Canyon Rd				San Miguel Canyon Rd				Prunedale North Rd				Prunedale North Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
7:00 AM	4	160	6	0	4	175	23	0	9	2	2	0	15	3	0	0	403
7:15 AM	5	195	4	0	7	241	25	0	15	3	6	0	20	0	1	0	522
7:30 AM	5	230	5	0	2	266	24	0	23	3	10	0	23	2	2	0	595
7:45 AM	7	201	10	0	2	209	26	0	13	2	3	0	11	1	4	0	489
8:00 AM	10	146	9	0	7	166	45	0	16	1	5	0	9	5	8	0	427
8:15 AM	15	186	8	0	9	172	36	0	20	7	3	0	18	4	5	0	483
8:30 AM	5	146	8	0	5	197	28	0	19	3	3	0	16	8	2	0	440
8:45 AM	7	139	5	0	6	163	45	0	16	5	6	0	8	1	2	0	403
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	58	1403	55	0	42	1589	252	0	131	26	38	0	120	24	24	0	3762
APPROACH %'s :	3.83%	92.55%	3.63%	0.00%	2.23%	84.39%	13.38%	0.00%	67.18%	13.33%	19.49%	0.00%	71.43%	14.29%	14.29%	0.00%	
PEAK HR :	**07:15 AM - 08:15 AM**																TOTAL
PEAK HR VOL :	27	772	28	0	18	882	120	0	67	9	24	0	63	8	15	0	2033
PEAK HR FACTOR :	0.68	0.839	0.700	0.000	0.643	0.829	0.667	0.000	0.728	0.750	0.600	0.000	0.685	0.400	0.469	0.000	0.854
		0.861				0.873				0.694				0.796			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
4:00 PM	11	217	12	0	13	177	31	0	28	10	3	0	19	7	9	0	537
4:15 PM	11	236	17	0	7	205	41	0	23	3	4	0	15	7	17	0	586
4:30 PM	9	226	13	0	12	236	47	0	26	10	4	0	20	11	10	0	624
4:45 PM	10	262	16	0	17	220	46	0	19	9	10	0	27	4	7	0	647
5:00 PM	16	219	11	0	11	200	44	0	29	11	3	0	18	7	8	0	577
5:15 PM	7	243	22	0	6	223	51	0	33	6	13	0	29	8	16	0	657
5:30 PM	12	237	14	0	10	202	34	0	20	7	10	0	17	13	8	0	584
5:45 PM	12	204	11	0	17	206	35	0	19	5	7	0	23	2	4	0	545
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	88	1844	116	0	93	1669	329	0	197	61	54	0	168	59	79	0	4757
APPROACH %'s :	4.30%	90.04%	5.66%	0.00%	4.45%	79.82%	15.73%	0.00%	63.14%	19.55%	17.31%	0.00%	54.90%	19.28%	25.82%	0.00%	
PEAK HR :	**04:30 PM - 05:30 PM**																TOTAL
PEAK HR VOL :	42	950	62	0	46	879	188	0	107	36	30	0	94	30	41	0	2505
PEAK HR FACTOR :	0.66	0.906	0.705	0.000	0.676	0.931	0.922	0.000	0.811	0.818	0.577	0.000	0.810	0.682	0.641	0.000	0.953
		0.915				0.943				0.832				0.778			

National Data & Surveying Services Intersection Turning Movement Count

Location: San Miguel Canyon Rd & Prunedale North Rd
City: Salinas
Control: 0

Project ID: 18-08042-014
Date: 2/1/2018

HT

NS/EW Streets:	San Miguel Canyon Rd				San Miguel Canyon Rd				Prunedale North Rd				Prunedale North Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL
7:00 AM	0	7	0	0	0	8	1	0	2	0	0	0	0	0	0	0	18
7:15 AM	0	9	0	0	0	10	0	0	1	0	0	0	0	0	0	0	20
7:30 AM	0	11	0	0	0	6	0	0	0	0	0	0	0	0	0	0	17
7:45 AM	2	9	0	0	0	6	2	0	0	0	0	0	0	0	0	0	19
8:00 AM	0	13	0	0	0	4	1	0	0	0	0	0	0	0	0	0	18
8:15 AM	1	7	0	0	0	7	1	0	1	0	0	0	0	0	0	0	17
8:30 AM	0	10	0	0	0	5	0	0	0	0	0	0	0	0	0	0	15
8:45 AM	0	8	1	0	0	7	1	0	2	0	0	0	1	0	0	0	20
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	3	74	1	0	0	53	6	0	6	0	0	0	1	0	0	0	144
APPROACH %'s :	3.85%	94.87%	1.28%	0.00%	0.00%	89.83%	10.17%	0.00%	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 :	2	42	0	0	0	26	3	0	1	0	0	0	0	0	0	0	74
PEAK HR FACTOR :	0.250	0.808	0.000	0.000	0.000	0.650	0.375	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.925
		0.846				0.725				0.250							

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL
4:00 PM	0	8	0	0	0	4	0	0	2	0	0	0	0	0	0	0	14
4:15 PM	0	5	0	0	0	13	1	0	0	0	1	0	0	1	0	0	21
4:30 PM	0	11	0	0	0	8	0	0	0	0	0	0	0	0	0	0	19
4:45 PM	0	2	0	0	0	8	1	0	1	0	2	0	1	0	0	0	15
5:00 PM	0	3	0	0	0	3	2	0	0	0	0	0	0	0	0	0	8
5:15 PM	0	3	0	0	0	6	0	0	0	0	0	0	0	0	0	0	9
5:30 PM	1	3	0	0	0	4	0	0	0	0	0	0	0	0	0	0	8
5:45 PM	1	6	0	0	0	5	0	0	0	0	0	0	0	0	0	0	12
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	2	41	0	0	0	51	4	0	3	0	3	0	1	1	0	0	106
APPROACH %'s :	4.65%	95.35%	0.00%	0.00%	0.00%	92.73%	7.27%	0.00%	50.00%	0.00%	50.00%	0.00%	50.00%	50.00%	0.00%	0.00%	
PEAK HR :	**04:30 PM - 05:30 PM**																TOTAL
PEAK HR VOL :	0	19	0	0	0	25	3	0	1	0	2	0	1	0	0	0	51
PEAK HR FACTOR :	0.00	0.432	0.000	0.000	0.000	0.781	0.375	0.000	0.250	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.671
		0.432				0.778				0.250				0.250			

National Data & Surveying Services Intersection Turning Movement Count

Location: San Miguel Canyon Rd & Prunedale North Rd
City: Salinas
Control: 0

Project ID: 18-08042-014
Date: 2/1/2018

Bikes

NS/EW Streets:	San Miguel Canyon Rd				San Miguel Canyon Rd				Prunedale North Rd				Prunedale North Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
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	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %'s :																	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	0.000	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	0.000	

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	0	0	0	0	0	0	0	0
APPROACH %'s :																	
PEAK HR :	04:30 PM - 05:30 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: San Miguel Canyon Rd & Prunedale North Rd
City: Salinas
Project ID: 18-08042-014
Date: 2/1/2018

Pedestrians (Crosswalks)

NS/EW Streets:	San Miguel Canyon Rd		San Miguel Canyon Rd		Prunedale North Rd		Prunedale North Rd		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0
APPROACH %'s :									
PEAK HR :	**07:15 AM - 08:15 AM**								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	0	1	0	0	0	0	1
4:15 PM	0	0	0	0	1	3	0	0	4
4:30 PM	1	0	2	0	0	0	1	0	4
4:45 PM	0	0	1	0	1	0	0	0	2
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	1	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	2	0	3	1	2	3	1	0	12
APPROACH %'s :	100.00%	0.00%	75.00%	25.00%	40.00%	60.00%	100.00%	0.00%	
PEAK HR :	**04:30 PM - 05:30 PM**								TOTAL
PEAK HR VOL :	2	0	3	0	1	0	1	0	7
PEAK HR FACTOR :	0.500		0.375		0.250		0.250		0.438
	0.500		0.375		0.250		0.250		

Prepared by National Data & Surveying Services

San Miguel Canyon Rd & Prunedale North Rd

Peak Hour Turning Movement Count

ID: 18-08042-014
City: Salinas

Day: Thursday
Date: 02/01/2018

PEAK HOURS		COUNT PERIODS
07:15 AM - 08:15 AM	AM	07:00 AM - 09:00 AM
NONE	NOON	NONE
04:30 PM - 05:30 PM	PM	04:00 PM - 06:00 PM

San Miguel Canyon Rd — SOUTHBOUND

	Right	Thru	Left	U-Turn	Northbound departing
AM	123	908	18	0	897
NOON	0	0	0	0	0
PM	191	904	46	0	1118
Bikes	0	0	0	0	

Prunedale North Rd — EASTBOUND

	AM	NOON	PM	Bikes
Westbound departing	160	0	263	
U-Turn	0	0	0	0
Left	68	0	108	0
Thru	9	0	36	0
Right	24	0	32	0

Prunedale North Rd — WESTBOUND

	Bikes	PM	NOON	AM
Right	0	41	0	15
Thru	0	30	0	8
Left	0	95	0	63
U-Turn	0	0	0	0
Eastbound departing		144	0	55

San Miguel Canyon Rd — NORTHBOUND

	Southbound departing	U-Turn	Left	Thru	Right
Bikes		0	0	0	0
PM	1031	0	42	969	62
NOON	0	0	0	0	0
AM	995	0	29	814	28

CONTROL

0

	AM	NOON	PM
TEV	2107	0	2556
PHF	0.86		0.96

Cars (AM)

- Southbound: 120 (right), 882 (thru), 18 (left)
- Eastbound: 67 (left), 9 (thru), 24 (right)
- Westbound: 15 (right), 8 (thru), 63 (left)
- Northbound: 27 (left), 772 (thru), 28 (right)

HT (AM)

- Southbound: 3, 26, 0
- Eastbound: 1, 0, 0
- Westbound: 0, 0, 0
- Northbound: 2, 42, 0

Cars (NOON)

- Southbound: N/A, N/A, N/A
- Eastbound: N/A, N/A, N/A
- Westbound: N/A, N/A, N/A
- Northbound: N/A, N/A, N/A

HT (NOON)

- Southbound: N/A, N/A, N/A
- Eastbound: N/A, N/A, N/A
- Westbound: N/A, N/A, N/A
- Northbound: N/A, N/A, N/A

Cars (PM)

- Southbound: 188, 879, 46
- Eastbound: 107, 36, 30
- Westbound: 41, 30, 94
- Northbound: 42, 950, 62

HT (PM)

- Southbound: 3, 25, 0
- Eastbound: 1, 0, 2
- Westbound: 0, 0, 1
- Northbound: 0, 19, 0

Pedestrians (Crosswalks)

Crosswalk	Direction	AM	NOON	PM
North leg	Eastbound	0	0	2
North leg	Westbound	0	0	0
West leg	Southbound	0	0	0
West leg	Northbound	0	0	1
East leg	Southbound	0	0	0
East leg	Northbound	0	0	1
South leg	Eastbound	0	0	3
South leg	Westbound	0	0	0
Northwest corner (diagonal)		0	0	0
Northeast corner (diagonal)		0	0	0
Southwest corner (diagonal)		0	0	0
Southeast corner (diagonal)		0	0	0

National Data & Surveying Services Intersection Turning Movement Count

Location: San Miguel Canyon Rd & US 101 SB Off Ramp
City: Salinas
Control:

Project ID: 18-08042-015
Date: 2/1/2018

Total

NS/EW Streets:	San Miguel Canyon Rd				San Miguel Canyon Rd				US 101 SB Off Ramp				US 101 SB Off Ramp				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
7:00 AM	0	156	0	0	0	32	180	0	0	0	0	0	2	0	19	0	389
7:15 AM	0	200	0	0	0	29	232	0	0	0	0	0	1	0	22	0	484
7:30 AM	0	229	0	0	0	39	274	0	0	0	0	0	5	0	22	0	569
7:45 AM	0	242	0	0	0	21	201	0	0	0	0	0	2	0	24	0	490
8:00 AM	0	177	0	0	0	19	184	0	0	0	0	0	1	0	22	0	403
8:15 AM	0	195	0	0	0	23	170	0	0	0	0	0	2	0	30	0	420
8:30 AM	0	164	0	0	0	40	173	0	0	0	0	0	1	0	17	0	395
8:45 AM	0	144	0	0	0	24	146	0	0	0	0	0	3	0	23	0	340
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1507	0	0	0	227	1560	0	0	0	0	0	17	0	179	0	3490
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	0.00%	12.70%	87.30%	0.00%					8.67%	0.00%	91.33%	0.00%	
PEAK HR :	**07:15 AM - 08:15 AM**																TOTAL
PEAK HR VOL :	0	848	0	0	0	108	891	0	0	0	0	0	9	0	90	0	1946
PEAK HR FACTOR :	0.000	0.876	0.000	0.000	0.000	0.692	0.813	0.000	0.000	0.000	0.000	0.000	0.450	0.000	0.938	0.000	0.855
		0.876				0.798								0.917			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
4:00 PM	0	230	0	0	0	33	187	0	0	0	0	0	6	0	32	0	488
4:15 PM	0	260	0	0	0	13	232	0	0	0	0	0	6	0	37	0	548
4:30 PM	0	234	0	0	0	34	215	0	0	0	0	0	0	0	31	0	514
4:45 PM	0	289	0	0	0	35	218	0	0	0	0	0	8	0	43	0	593
5:00 PM	0	207	0	0	0	24	222	0	0	0	0	0	6	0	29	0	488
5:15 PM	0	276	0	0	0	43	216	0	0	0	0	0	6	0	39	0	580
5:30 PM	0	253	0	0	0	26	194	0	0	0	0	0	4	0	44	0	521
5:45 PM	0	215	0	0	0	27	208	0	0	0	0	0	4	0	38	0	492
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1964	0	0	0	235	1692	0	0	0	0	0	40	0	293	0	4224
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	0.00%	12.20%	87.80%	0.00%					12.01%	0.00%	87.99%	0.00%	
PEAK HR :	**04:45 PM - 05:45 PM**																TOTAL
PEAK HR VOL :	0	1025	0	0	0	128	850	0	0	0	0	0	24	0	155	0	2182
PEAK HR FACTOR :	0.000	0.887	0.000	0.000	0.000	0.744	0.957	0.000	0.000	0.000	0.000	0.000	0.750	0.000	0.881	0.000	0.920
		0.887				0.944								0.877			

National Data & Surveying Services Intersection Turning Movement Count

Location: San Miguel Canyon Rd & US 101 SB Off Ramp
City: Salinas
Control: 0

Project ID: 18-08042-015
Date: 2/1/2018

Cars

NS/EW Streets:	San Miguel Canyon Rd				San Miguel Canyon Rd				US 101 SB Off Ramp				US 101 SB Off Ramp				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
7:00 AM	0	151	0	0	0	30	173	0	0	0	0	0	2	0	17	0	373
7:15 AM	0	191	0	0	0	29	224	0	0	0	0	0	1	0	22	0	467
7:30 AM	0	222	0	0	0	39	271	0	0	0	0	0	5	0	19	0	556
7:45 AM	0	234	0	0	0	21	194	0	0	0	0	0	2	0	22	0	473
8:00 AM	0	164	0	0	0	18	179	0	0	0	0	0	1	0	20	0	382
8:15 AM	0	190	0	0	0	22	166	0	0	0	0	0	2	0	27	0	407
8:30 AM	0	156	0	0	0	40	167	0	0	0	0	0	1	0	17	0	381
8:45 AM	0	135	0	0	0	24	136	0	0	0	0	0	3	0	23	0	321
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1443	0	0	0	223	1510	0	0	0	0	0	17	0	167	0	3360
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	0.00%	12.87%	87.13%	0.00%					9.24%	0.00%	90.76%	0.00%	
PEAK HR :	**07:15 AM - 08:15 AM**																TOTAL
PEAK HR VOL :	0	811	0	0	0	107	868	0	0	0	0	0	9	0	83	0	1878
PEAK HR FACTOR :	0.00	0.866	0.000	0.000	0.000	0.686	0.801	0.000	0.000	0.000	0.000	0.000	0.450	0.000	0.943	0.000	0.844
		0.866				0.786								0.958			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
4:00 PM	0	224	0	0	0	32	181	0	0	0	0	0	6	0	31	0	474
4:15 PM	0	256	0	0	0	12	222	0	0	0	0	0	6	0	36	0	532
4:30 PM	0	228	0	0	0	33	208	0	0	0	0	0	0	0	29	0	498
4:45 PM	0	286	0	0	0	32	212	0	0	0	0	0	8	0	40	0	578
5:00 PM	0	204	0	0	0	24	217	0	0	0	0	0	6	0	28	0	479
5:15 PM	0	272	0	0	0	43	212	0	0	0	0	0	6	0	39	0	572
5:30 PM	0	250	0	0	0	26	189	0	0	0	0	0	4	0	43	0	512
5:45 PM	0	210	0	0	0	27	201	0	0	0	0	0	4	0	36	0	478
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1930	0	0	0	229	1642	0	0	0	0	0	40	0	282	0	4123
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	0.00%	12.24%	87.76%	0.00%					12.42%	0.00%	87.58%	0.00%	
PEAK HR :	**04:45 PM - 05:45 PM**																TOTAL
PEAK HR VOL :	0	1012	0	0	0	125	830	0	0	0	0	0	24	0	150	0	2141
PEAK HR FACTOR :	0.00	0.885	0.000	0.000	0.000	0.727	0.956	0.000	0.000	0.000	0.000	0.000	0.750	0.000	0.872	0.000	0.926
		0.885				0.936								0.906			

National Data & Surveying Services Intersection Turning Movement Count

Location: San Miguel Canyon Rd & US 101 SB Off Ramp
City: Salinas
Control: 0

Project ID: 18-08042-015
Date: 2/1/2018

HT

NS/EW Streets:	San Miguel Canyon Rd				San Miguel Canyon Rd				US 101 SB Off Ramp				US 101 SB Off Ramp				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL
7:00 AM	0	5	0	0	0	2	7	0	0	0	0	0	0	0	2	0	16
7:15 AM	0	9	0	0	0	0	8	0	0	0	0	0	0	0	0	0	17
7:30 AM	0	7	0	0	0	0	3	0	0	0	0	0	0	0	3	0	13
7:45 AM	0	8	0	0	0	0	7	0	0	0	0	0	0	0	2	0	17
8:00 AM	0	13	0	0	0	1	5	0	0	0	0	0	0	0	2	0	21
8:15 AM	0	5	0	0	0	1	4	0	0	0	0	0	0	0	3	0	13
8:30 AM	0	8	0	0	0	0	6	0	0	0	0	0	0	0	0	0	14
8:45 AM	0	9	0	0	0	0	10	0	0	0	0	0	0	0	0	0	19
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	64	0	0	0	4	50	0	0	0	0	0	0	0	12	0	130
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	0.00%	7.41%	92.59%	0.00%					0.00%	0.00%	100.00%	0.00%	
PEAK HR :	**07:15 AM - 08:15 AM**																TOTAL
PEAK HR VOL :	0	37	0	0	0	1	23	0	0	0	0	0	0	0	7	0	68
PEAK HR FACTOR :	0.000	0.712	0.000	0.000	0.000	0.250	0.719	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.583	0.000	0.810
		0.712				0.750								0.583			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL
4:00 PM	0	6	0	0	0	1	6	0	0	0	0	0	0	0	1	0	14
4:15 PM	0	4	0	0	0	1	10	0	0	0	0	0	0	0	1	0	16
4:30 PM	0	6	0	0	0	1	7	0	0	0	0	0	0	0	2	0	16
4:45 PM	0	3	0	0	0	3	6	0	0	0	0	0	0	0	3	0	15
5:00 PM	0	3	0	0	0	0	5	0	0	0	0	0	0	0	1	0	9
5:15 PM	0	4	0	0	0	0	4	0	0	0	0	0	0	0	0	0	8
5:30 PM	0	3	0	0	0	0	5	0	0	0	0	0	0	0	1	0	9
5:45 PM	0	5	0	0	0	0	7	0	0	0	0	0	0	0	2	0	14
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	34	0	0	0	6	50	0	0	0	0	0	0	0	11	0	101
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	0.00%	10.71%	89.29%	0.00%					0.00%	0.00%	100.00%	0.00%	
PEAK HR :	**04:45 PM - 05:45 PM**																TOTAL
PEAK HR VOL :	0	13	0	0	0	3	20	0	0	0	0	0	0	0	5	0	41
PEAK HR FACTOR :	0.00	0.813	0.000	0.000	0.000	0.250	0.833	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.417	0.000	0.683
		0.813				0.639								0.417			

National Data & Surveying Services Intersection Turning Movement Count

Location: San Miguel Canyon Rd & US 101 SB Off Ramp
City: Salinas
Control: 0

Project ID: 18-08042-015
Date: 2/1/2018

Bikes

NS/EW Streets:	San Miguel Canyon Rd				San Miguel Canyon Rd				US 101 SB Off Ramp				US 101 SB Off Ramp				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 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	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %'s :																	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	0.000	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	0.000	

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0
APPROACH %'s :																	
PEAK HR :	04:45 PM - 05:45 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: San Miguel Canyon Rd & US 101 SB Off Ramp
City: Salinas
Project ID: 18-08042-015
Date: 2/1/2018

Pedestrians (Crosswalks)

NS/EW Streets:	San Miguel Canyon Rd		San Miguel Canyon Rd		US 101 SB Off Ramp		US 101 SB Off Ramp		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0
APPROACH %'s :									
PEAK HR :	**07:15 AM - 08:15 AM**								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0
APPROACH %'s :									
PEAK HR :	**04:45 PM - 05:45 PM**								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

Prepared by National Data & Surveying Services

San Miguel Canyon Rd & US 101 SB Off Ramp

Peak Hour Turning Movement Count

ID: 18-08042-015
City: Salinas

Day: Thursday
Date: 02/01/2018

PEAK HOURS

AM: 07:15 AM - 08:15 AM
NOON: NONE
PM: 04:45 PM - 05:45 PM

COUNT PERIODS

AM: 07:00 AM - 09:00 AM
NOON: NONE
PM: 04:00 PM - 06:00 PM

SOUTHBOUND — San Miguel Canyon Rd

AM	891	108	0	0	938	AM
NOON	0	0	0	0	0	NOON
PM	850	128	0	0	1180	PM

EASTBOUND — US 101 SB Off Ramp

AM	NOON	PM	
891	0	850	
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
AM	NOON	PM	

WESTBOUND — US 101 SB Off Ramp

PM	NOON	AM	
155	0	90	0
0	0	0	0
24	0	9	0
0	0	0	0
0	0	0	
PM	NOON	AM	

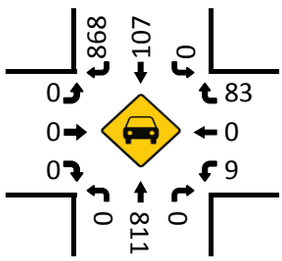
NORTHBOUND — San Miguel Canyon Rd

PM	152	0	0	1025	0	PM
NOON	0	0	0	0	0	NOON
AM	117	0	0	848	0	AM

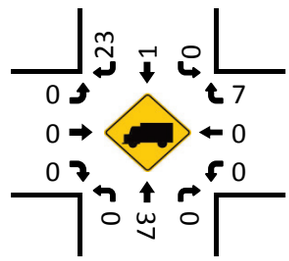
CONTROL: 0

TEV	1946	0	2182
	AM	NOON	PM
PHF	0.86		0.92

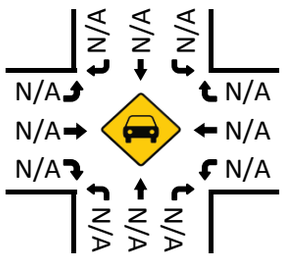
Cars (AM)



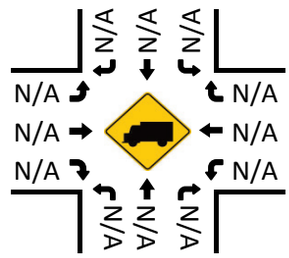
HT (AM)



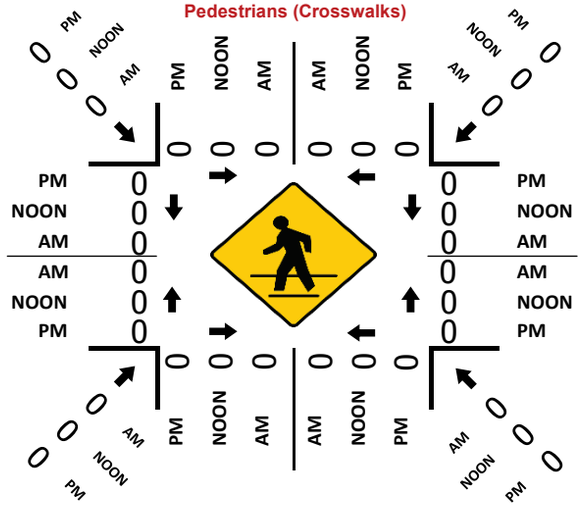
Cars (NOON)



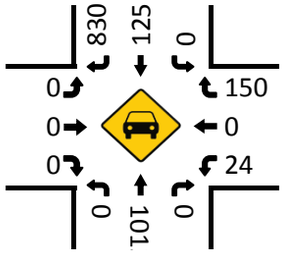
HT (NOON)



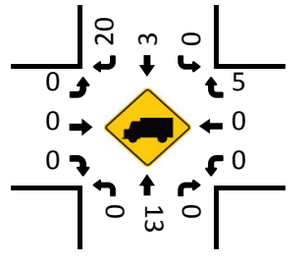
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Prepared by National Data & Surveying Services

CLASSIFICATION

Salinas Rd Bet. Railroad Ave & Associated Ln

Day: Wednesday
Date: 1/31/2018

City: Royal Oaks
Project #: CA18_8043_001

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	70	9	0	1	0	0	1	0	0	0	0	0	**81**
01:00	0	42	3	0	1	0	0	1	0	0	0	0	0	**47**
02:00	0	32	10	0	1	0	0	1	0	0	0	0	0	**44**
03:00	0	42	16	1	1	0	0	0	0	0	1	0	0	**61**
04:00	0	139	38	0	10	0	0	2	0	0	2	0	0	**191**
05:00	0	352	88	2	20	3	1	5	1	0	1	0	0	**473**
06:00	1	627	179	9	57	3	0	2	2	0	0	0	0	**880**
07:00	0	909	189	11	69	7	0	6	8	1	4	0	0	**1204**
08:00	0	864	194	11	57	4	0	8	11	0	3	0	0	**1152**
09:00	2	659	181	6	55	4	0	6	7	0	1	0	0	**921**
10:00	1	624	192	2	63	3	0	6	3	0	3	0	0	**897**
11:00	2	715	196	12	72	2	0	3	9	1	9	0	0	**1021**
12:00 PM	3	773	184	11	55	0	0	3	8	0	7	0	0	**1044**
13:00	0	917	225	15	69	6	1	8	15	0	6	0	0	**1262**
14:00	1	955	234	10	67	2	0	5	3	0	3	0	0	**1280**
15:00	1	1105	273	8	81	3	0	8	3	0	3	0	0	**1485**
16:00	6	1136	276	10	59	0	0	2	5	0	1	0	0	**1495**
17:00	1	1242	234	2	49	3	0	2	5	0	1	0	0	**1539**
18:00	0	935	204	0	39	1	0	0	1	0	1	0	0	**1181**
19:00	0	690	110	1	21	1	0	3	3	0	1	0	0	**830**
20:00	0	518	99	1	14	0	0	1	2	0	0	0	0	**635**
21:00	0	409	66	0	7	0	0	1	2	0	0	0	0	**485**
22:00	0	217	34	1	6	1	0	1	1	0	0	0	0	**261**
23:00	0	113	13	0	5	0	0	1	2	0	0	0	0	**134**
Totals	**18**	**14085**	**3247**	**113**	**879**	**43**	**2**	**76**	**91**	**2**	**47**			**18603**
% of Totals	0%	76%	17%	1%	5%	0%	0%	0%	0.5%	0.0%	0.3%			100%

AM Volumes	6	5075	1295	54	407	26	1	41	41	2	24	0	0	6972
% AM	0%	27%	7%	0%	2%	0%	0%	0%	0%	0%	0%			37%
AM Peak Hour	09:00	07:00	11:00	11:00	11:00	07:00	05:00	08:00	08:00	07:00	11:00			07:00
Volume	2	909	196	12	72	7	1	8	11	1	9			1204
PM Volumes	12	9010	1952	59	472	17	1	35	50	0	23	0	0	11631
% PM	0%	48%	10%	0%	3%	0%	0%	0%	0%		0%			63%
PM Peak Hour	16:00	17:00	16:00	13:00	15:00	13:00	13:00	13:00	13:00		12:00			17:00
Volume	6	1242	276	15	81	6	1	8	15		7			1539

Directional Peak Periods	**AM 7-9**		**NOON 12-2**		**PM 4-6**		**Off Peak Volumes**	
All Classes	Volume	%	Volume	%	Volume	%	Volume	%
	2356 ⟷	13%	2306 ⟷	12%	3034 ⟷	16%	10907 ⟷	59%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by NDS/ATD

Prepared by National Data & Surveying Services

VOLUME

Salinas Rd Bet. Railroad Ave & Associated Ln

Day: Wednesday
Date: 1/31/2018

City: Royal Oaks
Project #: CA18_8043_001

DAILY TOTALS	NB	SB	EB	WB	Total
	9,089	9,514	0	0	18,603

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	11		9		0	0	20		**12:00**	133		115		0	0	248	
00:15	13		12		0	0	25		**12:15**	137		124		0	0	261	
00:30	9		11		0	0	20		**12:30**	159		116		0	0	275	
00:45	9	42	7	39	0	0	16	81	**12:45**	132	561	128	483	0	0	260	1044
01:00	5		7		0	0	12		**13:00**	143		180		0	0	323	
01:15	8		6		0	0	14		**13:15**	138		168		0	0	306	
01:30	3		3		0	0	6		**13:30**	175		144		0	0	319	
01:45	9	25	6	22	0	0	15	47	**13:45**	144	600	170	662	0	0	314	1262
02:00	5		8		0	0	13		**14:00**	151		178		0	0	329	
02:15	6		11		0	0	17		**14:15**	143		156		0	0	299	
02:30	3		2		0	0	5		**14:30**	185		150		0	0	335	
02:45	5	19	4	25	0	0	9	44	**14:45**	154	633	163	647	0	0	317	1280
03:00	9		6		0	0	15		**15:00**	180		167		0	0	347	
03:15	4		6		0	0	10		**15:15**	168		196		0	0	364	
03:30	13		6		0	0	19		**15:30**	188		191		0	0	379	
03:45	10	36	7	25	0	0	17	61	**15:45**	189	725	206	760	0	0	395	1485
04:00	11		9		0	0	20		**16:00**	169		184		0	0	353	
04:15	25		16		0	0	41		**16:15**	148		215		0	0	363	
04:30	19		34		0	0	53		**16:30**	181		226		0	0	407	
04:45	27	82	50	109	0	0	77	191	**16:45**	152	650	220	845	0	0	372	1495
05:00	23		52		0	0	75		**17:00**	178		238		0	0	416	
05:15	46		67		0	0	113		**17:15**	162		219		0	0	381	
05:30	57		74		0	0	131		**17:30**	184		188		0	0	372	
05:45	76	202	78	271	0	0	154	473	**17:45**	171	695	199	844	0	0	370	1539
06:00	95		71		0	0	166		**18:00**	159		172		0	0	331	
06:15	108		94		0	0	202		**18:15**	119		170		0	0	289	
06:30	156		121		0	0	277		**18:30**	124		178		0	0	302	
06:45	132	491	103	389	0	0	235	880	**18:45**	118	520	141	661	0	0	259	1181
07:00	131		108		0	0	239		**19:00**	100		151		0	0	251	
07:15	174		120		0	0	294		**19:15**	90		128		0	0	218	
07:30	213		137		0	0	350		**19:30**	77		105		0	0	182	
07:45	170	688	151	516	0	0	321	1204	**19:45**	69	336	110	494	0	0	179	830
08:00	142		119		0	0	261		**20:00**	82		101		0	0	183	
08:15	165		149		0	0	314		**20:15**	62		98		0	0	160	
08:30	166		132		0	0	298		**20:30**	54		108		0	0	162	
08:45	161	634	118	518	0	0	279	1152	**20:45**	61	259	69	376	0	0	130	635
09:00	135		111		0	0	246		**21:00**	49		86		0	0	135	
09:15	127		101		0	0	228		**21:15**	50		73		0	0	123	
09:30	116		101		0	0	217		**21:30**	67		58		0	0	125	
09:45	123	501	107	420	0	0	230	921	**21:45**	54	220	48	265	0	0	102	485
10:00	102		104		0	0	206		**22:00**	49		39		0	0	88	
10:15	109		115		0	0	224		**22:15**	28		37		0	0	65	
10:30	115		104		0	0	219		**22:30**	23		37		0	0	60	
10:45	138	464	110	433	0	0	248	897	**22:45**	21	121	27	140	0	0	48	261
11:00	123		117		0	0	240		**23:00**	16		20		0	0	36	
11:15	118		131		0	0	249		**23:15**	30		18		0	0	48	
11:30	134		122		0	0	256		**23:30**	11		16		0	0	27	
11:45	140	515	136	506	0	0	276	1021	**23:45**	13	70	10	64	0	0	23	134
TOTALS		3699		3273				**6972**	**TOTALS**		5390		6241				**11631**
SPLIT %		53.1%		46.9%				**37.5%**	**SPLIT %**		46.3%		53.7%				**62.5%**

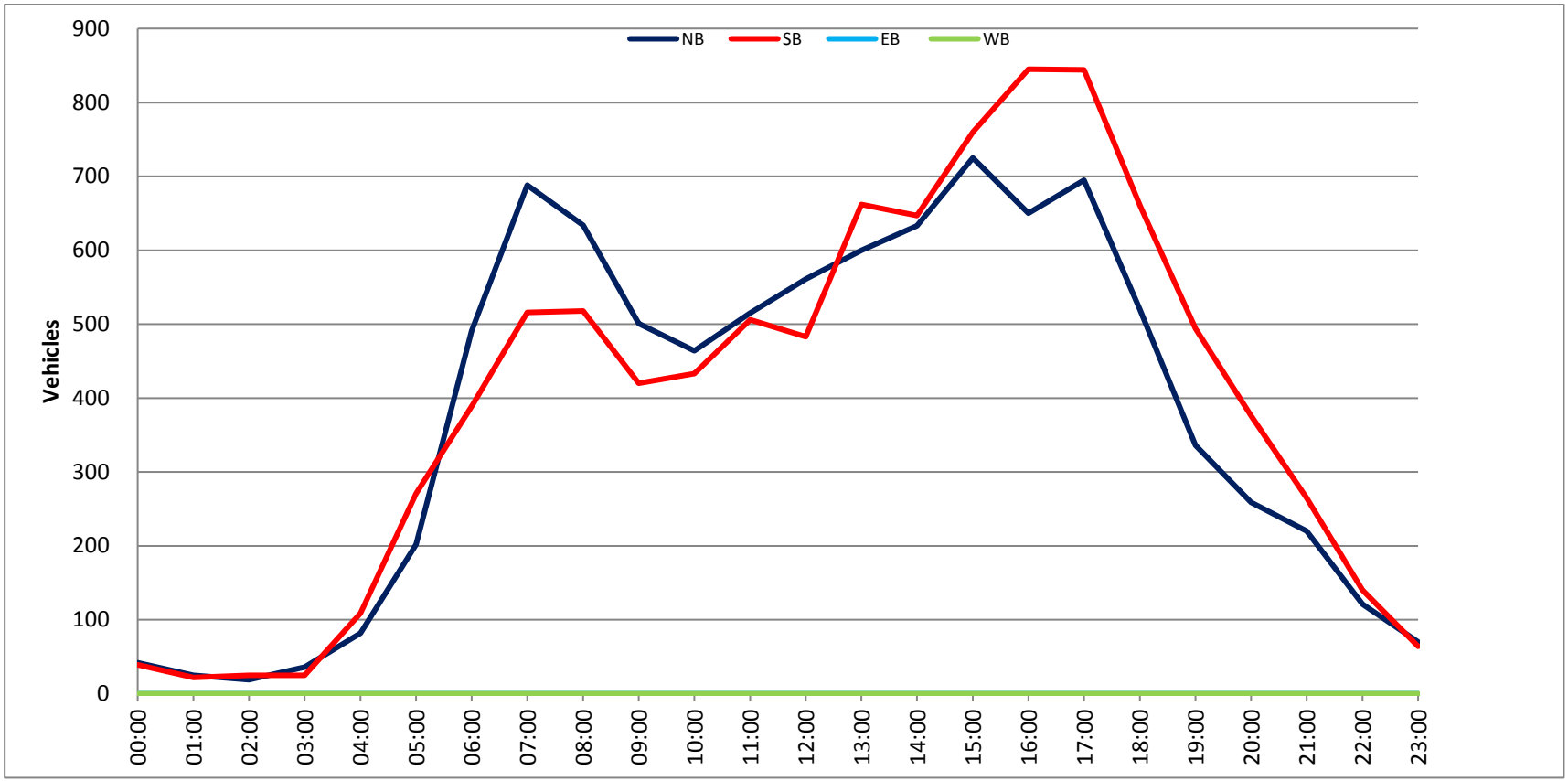
DAILY TOTALS	NB	SB	EB	WB	Total
	9,089	9,514	0	0	18,603

AM Peak Hour	07:15	07:30				**07:30**	**PM Peak Hour**	15:00	16:30				**16:30**
AM Pk Volume	699	556				**1246**	**PM Pk Volume**	725	903				**1576**
Pk Hr Factor	0.820	0.921				**0.890**	**Pk Hr Factor**	0.959	0.949				**0.947**
7 - 9 Volume	1322	1034	0	0		**2356**	**4 - 6 Volume**	1345	1689	0	0		**3034**
7 - 9 Peak Hour	07:15	07:30				**07:30**	**4 - 6 Peak Hour**	17:00	16:30				**16:30**
7 - 9 Pk Volume	699	556	0	0		**1246**	**4 - 6 Pk Volume**	695	903	0	0		**1576**
Pk Hr Factor	0.820	0.921	0.000	0.000		**0.890**	**Pk Hr Factor**	0.944	0.949	0.000	0.000		**0.947**

Prepared by NDS/ATD

Project #: CA18_8043_001 **City:** Royal Oaks

Location: Salinas Rd Bet. Railroad Ave & Associated Ln **Date:** 1/31/2018



Prepared by National Data & Surveying Services

CLASSIFICATION

Salinas Rd Bet. Railroad Ave & Associated Ln

Day: Thursday
Date: 2/1/2018

City: Royal Oaks
Project #: CA18_8043_001

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	74	18	0	4	0	0	0	2	0	0	0	0	**98**
01:00	0	49	4	1	0	0	0	1	1	0	0	0	0	**56**
02:00	0	36	5	0	1	0	0	1	1	0	0	0	0	**44**
03:00	0	44	14	1	1	0	0	0	0	0	1	0	0	**61**
04:00	0	150	49	1	12	0	0	8	0	0	1	0	0	**221**
05:00	0	346	89	0	23	2	0	2	0	0	1	0	0	**463**
06:00	0	636	199	8	47	7	0	3	4	0	2	0	0	**906**
07:00	1	968	207	13	60	4	0	2	5	0	2	0	0	**1262**
08:00	0	797	200	14	90	1	0	1	4	0	4	0	0	**1111**
09:00	2	659	185	7	69	0	0	5	0	0	5	0	0	**932**
10:00	0	608	179	7	62	4	0	3	4	0	3	0	0	**870**
11:00	3	733	197	9	57	4	0	8	7	0	7	0	0	**1025**
12:00 PM	0	794	216	8	69	2	0	5	7	0	3	0	0	**1104**
13:00	3	844	212	3	69	1	0	9	11	0	2	0	0	**1154**
14:00	1	949	205	13	69	4	0	6	6	0	2	0	0	**1255**
15:00	3	1111	246	24	74	1	0	4	4	0	1	0	0	**1468**
16:00	1	1202	292	7	72	5	0	5	6	0	1	0	0	**1591**
17:00	1	1296	242	9	54	3	0	3	2	0	4	0	0	**1614**
18:00	1	1010	208	4	26	0	0	2	4	0	0	0	0	**1255**
19:00	1	716	150	0	18	0	0	0	1	0	0	0	0	**886**
20:00	0	578	96	1	17	0	0	0	1	0	0	0	0	**693**
21:00	0	355	63	0	12	1	0	1	0	0	0	0	0	**432**
22:00	0	230	35	0	4	0	0	1	0	0	0	0	0	**270**
23:00	0	136	14	0	4	0	0	1	1	0	0	0	0	**156**
Totals	**17**	**14321**	**3325**	**130**	**914**	**39**		**71**	**71**		**39**			**18927**
% of Totals	0%	76%	18%	1%	5%	0%		0%	0.4%		0.2%			100%

AM Volumes	6	5100	1346	61	426	22	0	34	28	0	26	0	0	7049
% AM	0%	27%	7%	0%	2%	0%		0%	0%		0%			37%
AM Peak Hour	11:00	07:00	07:00	08:00	08:00	06:00		04:00	11:00		11:00			07:00
Volume	3	968	207	14	90	7		8	7		7			1262
PM Volumes	11	9221	1979	69	488	17	0	37	43	0	13	0	0	11878
% PM	0%	49%	10%	0%	3%	0%		0%	0%		0%			63%
PM Peak Hour	13:00	17:00	16:00	15:00	15:00	16:00		13:00	13:00		17:00			17:00
Volume	3	1296	292	24	74	5		9	11		4			1614

Directional Peak Periods	**AM 7-9**		**NOON 12-2**		**PM 4-6**		**Off Peak Volumes**	
All Classes	Volume	%	Volume	%	Volume	%	Volume	%
	2373	13%	2258	12%	3205	17%	11091	59%

Classification Definitions

1 Motorcycles	**4** Buses	**7** > =4-Axle Single Units	**10** >=6-Axle Single Trailers	**13** >=7-Axle Multi-Trailers
2 Passenger Cars	**5** 2-Axle, 6-Tire Single Units	**8** <=4-Axle Single Trailers	**11** <=5-Axle Multi-Trailers	
3 2-Axle, 4-Tire Single Units	**6** 3-Axle Single Units	**9** 5-Axle Single Trailers	**12** 6-Axle Multi-Trailers	

Prepared by NDS/ATD

Prepared by National Data & Surveying Services

VOLUME

Salinas Rd Bet. Railroad Ave & Associated Ln

Day: Thursday
Date: 2/1/2018

City: Royal Oaks
Project #: CA18_8043_001

DAILY TOTALS	NB	SB	EB	WB	Total
	9,203	9,724	0	0	18,927

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	9		13		0	0	22		**12:00**	115		143		0	0	258	
00:15	14		17		0	0	31		**12:15**	138		148		0	0	286	
00:30	12		8		0	0	20		**12:30**	130		156		0	0	286	
00:45	11	46	14	52	0	0	25	98	**12:45**	128	511	146	593	0	0	274	1104
01:00	8		9		0	0	17		**13:00**	132		134		0	0	266	
01:15	5		6		0	0	11		**13:15**	151		161		0	0	312	
01:30	8		9		0	0	17		**13:30**	141		152		0	0	293	
01:45	4	25	7	31	0	0	11	56	**13:45**	145	569	138	585	0	0	283	1154
02:00	5		5		0	0	10		**14:00**	166		150		0	0	316	
02:15	3		11		0	0	14		**14:15**	152		133		0	0	285	
02:30	6		2		0	0	8		**14:30**	181		136		0	0	317	
02:45	5	19	7	25	0	0	12	44	**14:45**	171	670	166	585	0	0	337	1255
03:00	7		6		0	0	13		**15:00**	199		185		0	0	384	
03:15	10		6		0	0	16		**15:15**	150		217		0	0	367	
03:30	10		4		0	0	14		**15:30**	177		189		0	0	366	
03:45	13	40	5	21	0	0	18	61	**15:45**	171	697	180	771	0	0	351	1468
04:00	10		11		0	0	21		**16:00**	172		214		0	0	386	
04:15	27		22		0	0	49		**16:15**	190		192		0	0	382	
04:30	23		41		0	0	64		**16:30**	192		232		0	0	424	
04:45	32	92	55	129	0	0	87	221	**16:45**	183	737	216	854	0	0	399	1591
05:00	26		42		0	0	68		**17:00**	186		233		0	0	419	
05:15	52		66		0	0	118		**17:15**	189		219		0	0	408	
05:30	67		68		0	0	135		**17:30**	205		207		0	0	412	
05:45	65	210	77	253	0	0	142	463	**17:45**	165	745	210	869	0	0	375	1614
06:00	83		76		0	0	159		**18:00**	151		202		0	0	353	
06:15	100		85		0	0	185		**18:15**	128		158		0	0	286	
06:30	173		118		0	0	291		**18:30**	125		204		0	0	329	
06:45	167	523	104	383	0	0	271	906	**18:45**	114	518	173	737	0	0	287	1255
07:00	137		132		0	0	269		**19:00**	108		163		0	0	271	
07:15	178		130		0	0	308		**19:15**	119		151		0	0	270	
07:30	200		138		0	0	338		**19:30**	71		121		0	0	192	
07:45	191	706	156	556	0	0	347	1262	**19:45**	52	350	101	536	0	0	153	886
08:00	172		130		0	0	302		**20:00**	65		135		0	0	200	
08:15	149		115		0	0	264		**20:15**	87		118		0	0	205	
08:30	156		110		0	0	266		**20:30**	56		86		0	0	142	
08:45	159	636	120	475	0	0	279	1111	**20:45**	63	271	83	422	0	0	146	693
09:00	143		111		0	0	254		**21:00**	48		75		0	0	123	
09:15	105		117		0	0	222		**21:15**	53		52		0	0	105	
09:30	108		127		0	0	235		**21:30**	50		56		0	0	106	
09:45	108	464	113	468	0	0	221	932	**21:45**	40	191	58	241	0	0	98	432
10:00	114		115		0	0	229		**22:00**	46		42		0	0	88	
10:15	124		95		0	0	219		**22:15**	21		39		0	0	60	
10:30	113		94		0	0	207		**22:30**	38		39		0	0	77	
10:45	114	465	101	405	0	0	215	870	**22:45**	22	127	23	143	0	0	45	270
11:00	105		134		0	0	239		**23:00**	19		25		0	0	44	
11:15	134		130		0	0	264		**23:15**	21		21		0	0	42	
11:30	133		125		0	0	258		**23:30**	16		17		0	0	33	
11:45	145	517	119	508	0	0	264	1025	**23:45**	18	74	19	82	0	0	37	156
TOTALS		3743		3306				**7049**	**TOTALS**		5460		6418				**11878**
SPLIT %		53.1%		46.9%				**37.2%**	**SPLIT %**		46.0%		54.0%				**62.8%**

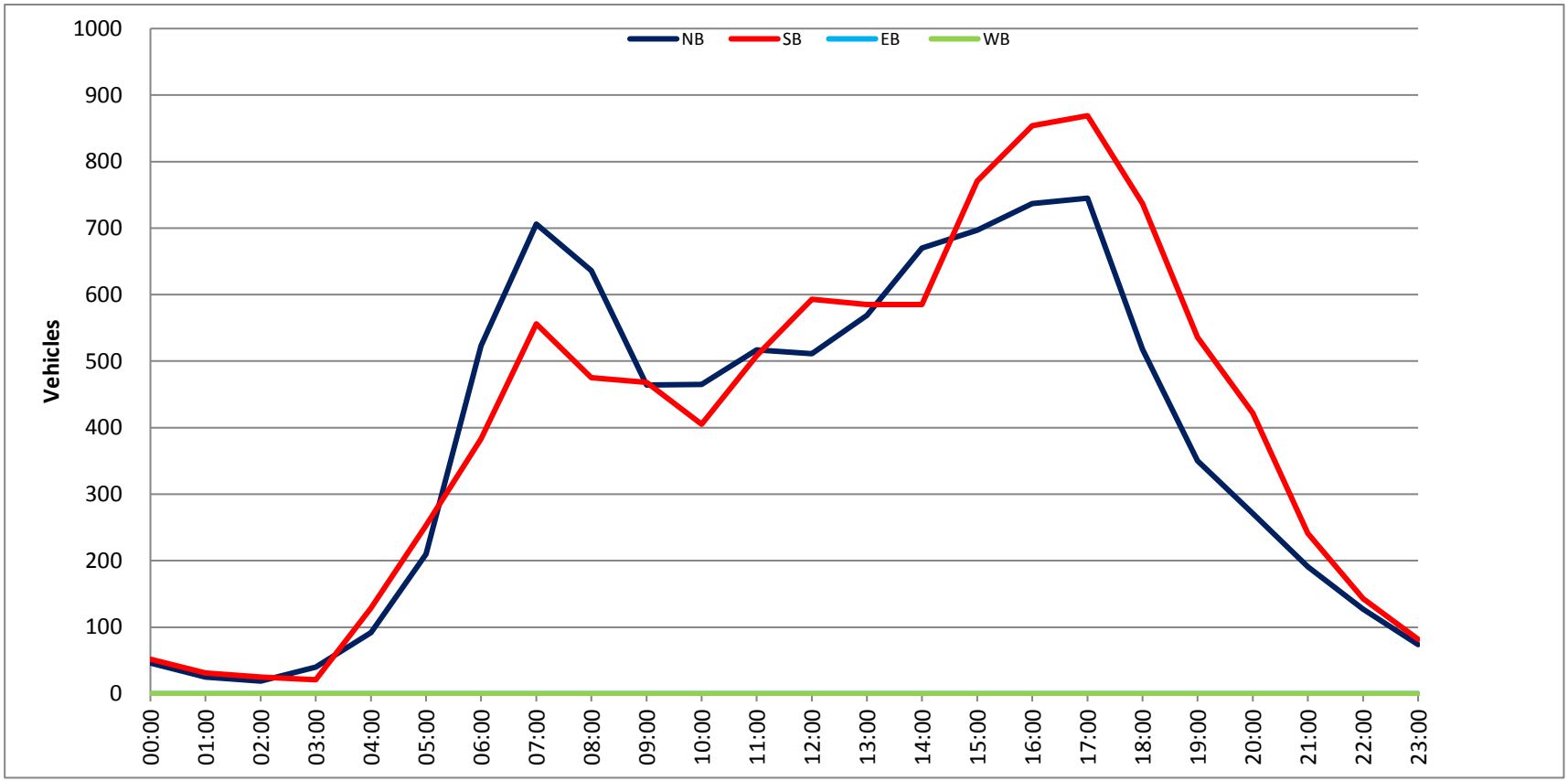
DAILY TOTALS	NB	SB	EB	WB	Total
	9,203	9,724	0	0	18,927

AM Peak Hour	07:15	11:45				**07:15**	**PM Peak Hour**	16:45	16:30					**16:30**
AM Pk Volume	741	566				**1295**	**PM Pk Volume**	763	900					**1650**
Pk Hr Factor	0.926	0.907				**0.933**	**Pk Hr Factor**	0.930	0.966					**0.973**
7 - 9 Volume	1342	1031	0	0		**2373**	**4 - 6 Volume**	1482	1723	0	0			**3205**
7 - 9 Peak Hour	07:15	07:00				**07:15**	**4 - 6 Peak Hour**	16:45	16:30					**16:30**
7 - 9 Pk Volume	741	556	0	0		**1295**	**4 - 6 Pk Volume**	763	900	0	0			**1650**
Pk Hr Factor	0.926	0.891	0.000	0.000		**0.933**	**Pk Hr Factor**	0.930	0.966	0.000	0.000			**0.973**

Prepared by NDS/ATD

Project #: CA18_8043_001 **City:** Royal Oaks

Location: Salinas Rd Bet. Railroad Ave & Associated Ln **Date:** 2/1/2018



Prepared by National Data & Surveying Services

CLASSIFICATION

Salinas Rd Bet. Fair Way & Hillcrest Rd

Day: Wednesday
Date: 1/31/2018

City: Royal Oaks
Project #: CA18_8043_002

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	61	11	1	2	0	0	0	0	0	0	0	0	**75**
01:00	0	43	3	0	0	0	0	0	0	0	0	0	0	**46**
02:00	0	41	7	0	1	1	0	0	0	0	0	0	0	**50**
03:00	0	61	9	0	0	0	0	0	0	0	1	0	0	**71**
04:00	0	149	30	2	7	0	0	2	1	0	1	0	0	**192**
05:00	1	368	81	0	19	1	0	0	7	0	3	0	0	**480**
06:00	2	754	181	5	45	13	0	2	6	0	9	0	0	**1017**
07:00	3	1039	200	5	45	8	0	0	3	0	5	0	0	**1308**
08:00	0	980	194	11	65	3	0	5	7	0	9	0	0	**1274**
09:00	2	555	140	7	57	5	0	7	2	0	5	0	0	**780**
10:00	1	492	133	7	45	5	0	2	2	0	4	0	0	**691**
11:00	7	576	147	7	52	3	0	4	6	0	8	0	0	**810**
12:00 PM	3	623	119	5	35	3	0	6	5	0	10	0	0	**809**
13:00	0	779	160	16	75	2	0	2	11	0	8	0	0	**1053**
14:00	7	744	155	6	43	12	0	3	5	0	6	0	0	**981**
15:00	5	936	169	7	50	6	0	3	3	0	10	0	0	**1189**
16:00	4	990	219	8	49	1	0	4	5	0	1	0	0	**1281**
17:00	4	961	171	2	40	0	0	1	2	0	0	0	0	**1181**
18:00	5	785	141	2	26	1	0	1	1	0	1	0	0	**963**
19:00	0	535	75	1	18	0	0	0	1	0	1	0	0	**631**
20:00	2	393	52	0	13	0	0	1	3	0	1	0	0	**465**
21:00	3	333	50	0	10	0	0	0	2	0	1	0	0	**399**
22:00	0	175	15	3	4	0	0	0	2	0	0	0	0	**199**
23:00	1	110	7	0	2	0	0	0	3	0	0	0	0	**123**
Totals	**50**	**12483**	**2469**	**95**	**703**	**64**		**43**	**77**		**84**			**16068**
% of Totals	0%	78%	15%	1%	4%	0%		0%	0.5%		0.5%			100%

AM Volumes	16	5119	1136	45	338	39	0	22	34	0	45	0	0	6794
% AM	0%	32%	7%	0%	2%	0%		0%	0%		0%			42%
AM Peak Hour	11:00	07:00	07:00	08:00	08:00	06:00		09:00	05:00		06:00			07:00
Volume	7	1039	200	11	65	13		7	7		9			1308
PM Volumes	34	7364	1333	50	365	25	0	21	43	0	39	0	0	9274
% PM	0%	46%	8%	0%	2%	0%		0%	0%		0%			58%
PM Peak Hour	14:00	16:00	16:00	13:00	13:00	14:00		12:00	13:00		12:00			16:00
Volume	7	990	219	16	75	12		6	11		10			1281

Directional Peak Periods	**AM 7-9**		**NOON 12-2**		**PM 4-6**		**Off Peak Volumes**	
All Classes	Volume	%	Volume	%	Volume	%	Volume	%
	2582	16%	1862	12%	2462	15%	9162	57%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by NDS/ATD

Prepared by National Data & Surveying Services

VOLUME

Salinas Rd Bet. Fair Way & Hillcrest Rd

Day: Wednesday
Date: 1/31/2018

City: Royal Oaks
Project #: CA18_8043_002

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	7,839	8,229	16,068

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00	0	0	19		7		26		**12:00**	0	0	96		79		175	
00:15	0	0	12		8		20		**12:15**	0	0	105		109		214	
00:30	0	0	9		3		12		**12:30**	0	0	106		99		205	
00:45	0	0	13	53	4	22	17	75	**12:45**	0	0	107	414	108	395	215	809
01:00	0	0	8		4		12		**13:00**	0	0	106		148		254	
01:15	0	0	6		5		11		**13:15**	0	0	139		119		258	
01:30	0	0	7		5		12		**13:30**	0	0	136		135		271	
01:45	0	0	4	25	7	21	11	46	**13:45**	0	0	143	524	127	529	270	1053
02:00	0	0	8		4		12		**14:00**	0	0	120		112		232	
02:15	0	0	16		3		19		**14:15**	0	0	149		94		243	
02:30	0	0	9		2		11		**14:30**	0	0	148		109		257	
02:45	0	0	3	36	5	14	8	50	**14:45**	0	0	134	551	115	430	249	981
03:00	0	0	8		8		16		**15:00**	0	0	153		112		265	
03:15	0	0	4		10		14		**15:15**	0	0	161		126		287	
03:30	0	0	7		16		23		**15:30**	0	0	168		142		310	
03:45	0	0	3	22	15	49	18	71	**15:45**	0	0	170	652	157	537	327	1189
04:00	0	0	11		27		38		**16:00**	0	0	168		140		308	
04:15	0	0	10		19		29		**16:15**	0	0	162		170		332	
04:30	0	0	13		40		53		**16:30**	0	0	184		152		336	
04:45	0	0	21	55	51	137	72	192	**16:45**	0	0	163	677	142	604	305	1281
05:00	0	0	32		50		82		**17:00**	0	0	172		160		332	
05:15	0	0	31		60		91		**17:15**	0	0	181		121		302	
05:30	0	0	52		110		162		**17:30**	0	0	139		131		270	
05:45	0	0	42	157	103	323	145	480	**17:45**	0	0	155	647	122	534	277	1181
06:00	0	0	51		118		169		**18:00**	0	0	132		106		238	
06:15	0	0	74		177		251		**18:15**	0	0	146		107		253	
06:30	0	0	84		212		296		**18:30**	0	0	144		119		263	
06:45	0	0	106	315	195	702	301	1017	**18:45**	0	0	125	547	84	416	209	963
07:00	0	0	111		198		309		**19:00**	0	0	123		55		178	
07:15	0	0	127		192		319		**19:15**	0	0	116		57		173	
07:30	0	0	127		209		336		**19:30**	0	0	90		59		149	
07:45	0	0	126	491	218	817	344	1308	**19:45**	0	0	74	403	57	228	131	631
08:00	0	0	119		248		367		**20:00**	0	0	78		50		128	
08:15	0	0	103		175		278		**20:15**	0	0	78		47		125	
08:30	0	0	115		202		317		**20:30**	0	0	53		43		96	
08:45	0	0	125	462	187	812	312	1274	**20:45**	0	0	73	282	43	183	116	465
09:00	0	0	113		109		222		**21:00**	0	0	70		41		111	
09:15	0	0	90		117		207		**21:15**	0	0	78		30		108	
09:30	0	0	75		103		178		**21:30**	0	0	62		43		105	
09:45	0	0	74	352	99	428	173	780	**21:45**	0	0	37	247	38	152	75	399
10:00	0	0	81		91		172		**22:00**	0	0	39		9		48	
10:15	0	0	70		84		154		**22:15**	0	0	35		15		50	
10:30	0	0	86		100		186		**22:30**	0	0	37		12		49	
10:45	0	0	78	315	101	376	179	691	**22:45**	0	0	30	141	22	58	52	199
11:00	0	0	85		97		182		**23:00**	0	0	23		12		35	
11:15	0	0	84		109		193		**23:15**	0	0	19		14		33	
11:30	0	0	111		98		209		**23:30**	0	0	20		13		33	
11:45	0	0	114	394	112	416	226	810	**23:45**	0	0	15	77	7	46	22	123
TOTALS				2677		4117		**6794**	**TOTALS**				5162		4112		**9274**
SPLIT %				39.4%		60.6%		**42.3%**	**SPLIT %**				55.7%		44.3%		**57.7%**

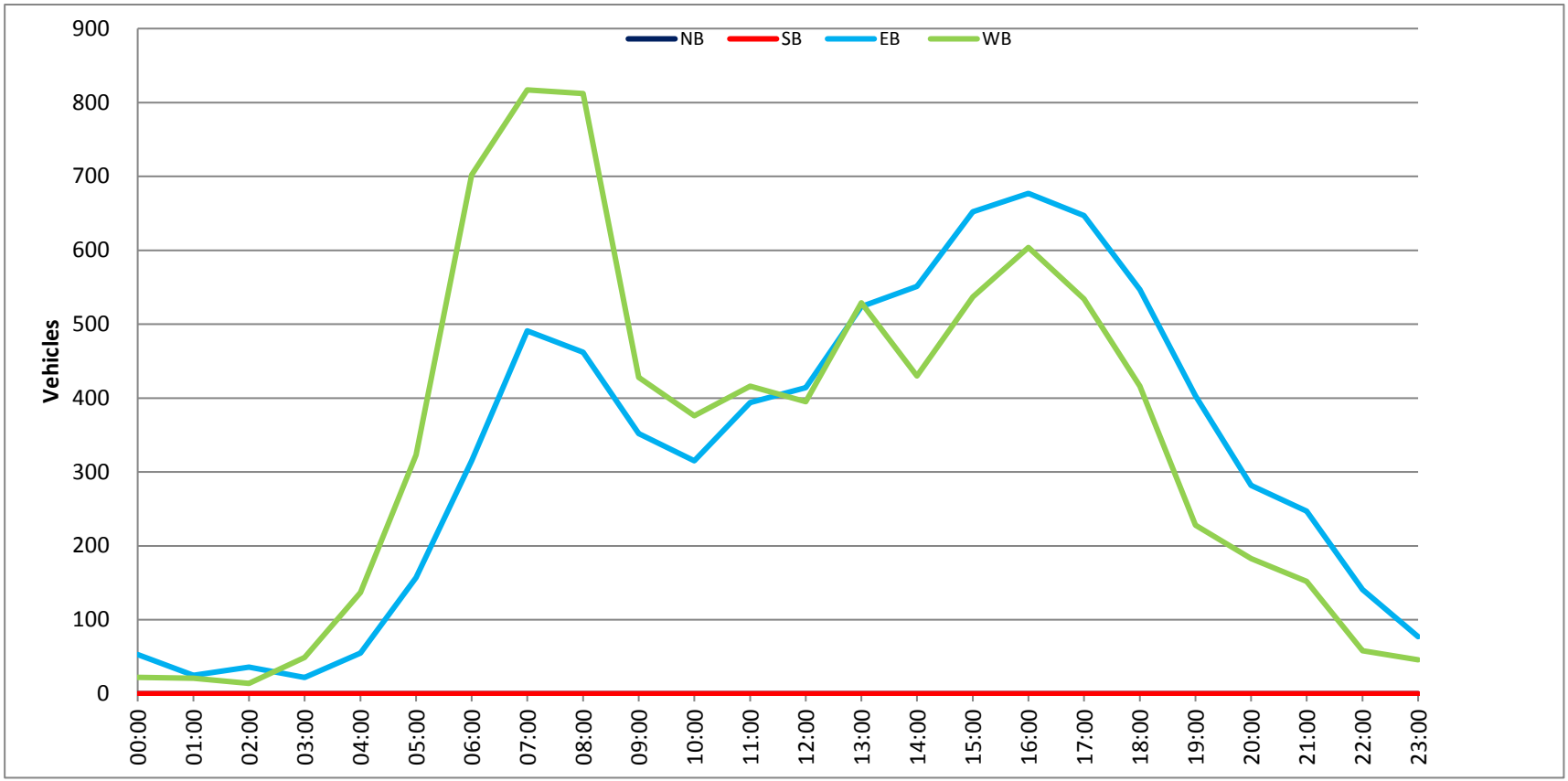
DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	7,839	8,229	16,068

AM Peak Hour				07:15		07:15		**07:15**	**PM Peak Hour**				16:30		16:15		**16:15**
AM Pk Volume				499		867		**1366**	**PM Pk Volume**				700		624		**1305**
Pk Hr Factor				0.982		0.874		**0.931**	**Pk Hr Factor**				0.951		0.918		**0.971**
7 - 9 Volume	0	0		953		1629		**2582**	**4 - 6 Volume**	0	0		1324		1138		**2462**
7 - 9 Peak Hour				07:15		07:15		**07:15**	**4 - 6 Peak Hour**				16:30		16:15		**16:15**
7 - 9 Pk Volume	0	0		499		867		**1366**	**4 - 6 Pk Volume**	0	0		700		624		**1305**
Pk Hr Factor	0.000	0.000		0.982		0.874		**0.931**	**Pk Hr Factor**	0.000	0.000		0.951		0.918		**0.971**

Prepared by NDS/ATD

Project #: CA18_8043_002 **City:** Royal Oaks

Location: Salinas Rd Bet. Fair Way & Hillcrest Rd **Date:** 1/31/2018



Prepared by National Data & Surveying Services

CLASSIFICATION

Salinas Rd Bet. Fair Way & Hillcrest Rd

Day: Thursday
Date: 2/1/2018

City: Royal Oaks
Project #: CA18_8043_002

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	109	14	0	3	0	0	0	0	0	0	0	0	**126**
01:00	0	50	6	1	0	1	0	0	1	0	1	0	0	**60**
02:00	0	39	6	1	0	1	0	0	0	0	1	0	0	**48**
03:00	1	44	11	2	2	0	0	0	0	0	2	0	0	**62**
04:00	0	157	37	1	7	0	0	2	2	0	1	0	0	**207**
05:00	2	347	81	2	15	3	0	0	4	0	1	0	0	**455**
06:00	2	799	182	7	44	12	0	3	6	0	7	0	0	**1062**
07:00	4	1033	192	3	40	3	0	5	5	0	2	0	0	**1287**
08:00	4	914	173	13	62	2	0	3	8	0	6	0	0	**1185**
09:00	1	561	123	4	54	2	0	4	8	0	5	0	0	**762**
10:00	1	515	122	3	37	0	0	2	10	0	6	0	0	**696**
11:00	4	496	126	5	56	5	0	3	7	0	8	0	0	**710**
12:00 PM	4	672	137	3	62	3	0	3	13	0	6	0	0	**903**
13:00	4	719	136	8	63	6	0	8	5	0	6	0	0	**955**
14:00	2	701	146	7	59	10	1	2	7	0	4	0	0	**939**
15:00	6	971	195	15	67	10	0	5	5	0	3	0	0	**1277**
16:00	2	953	222	4	58	5	1	3	2	0	2	0	0	**1252**
17:00	3	993	179	6	40	1	0	0	1	0	0	0	0	**1223**
18:00	0	716	125	0	23	0	0	1	1	0	2	0	0	**868**
19:00	1	527	110	5	20	1	0	1	1	0	0	0	0	**666**
20:00	2	383	49	0	11	2	0	0	1	0	1	0	0	**449**
21:00	0	320	30	1	7	0	0	0	1	0	0	0	0	**359**
22:00	1	209	32	1	9	0	0	0	0	0	0	0	0	**252**
23:00	0	133	12	1	5	0	0	1	0	0	0	0	0	**152**
Totals	**44**	**12361**	**2446**	**93**	**744**	**67**	**2**	**46**	**88**		**64**			**15955**
% of Totals	0%	77%	15%	1%	5%	0%	0%	0%	0.6%		0.4%			100%

AM Volumes	19	5064	1073	42	320	29	0	22	51	0	40	0	0	6660
% AM	0%	32%	7%	0%	2%	0%		0%	0%		0%			42%
AM Peak Hour	07:00	07:00	07:00	08:00	08:00	06:00		07:00	10:00		11:00			07:00
Volume	4	1033	192	13	62	12		5	10		8			1287
PM Volumes	25	7297	1373	51	424	38	2	24	37	0	24	0	0	9295
% PM	0%	46%	9%	0%	3%	0%	0%	0%	0%		0%			58%
PM Peak Hour	15:00	17:00	16:00	15:00	15:00	14:00	14:00	13:00	12:00		12:00			15:00
Volume	6	993	222	15	67	10	1	8	13		6			1277

Directional Peak Periods	**AM 7-9**		**NOON 12-2**		**PM 4-6**		**Off Peak Volumes**	
All Classes	Volume	%	Volume	%	Volume	%	Volume	%
	2472	15%	1858	12%	2475	16%	9150	57%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by NDS/ATD

Prepared by National Data & Surveying Services

VOLUME

Salinas Rd Bet. Fair Way & Hillcrest Rd

Day: Thursday
Date: 2/1/2018

City: Royal Oaks
Project #: CA18_8043_002

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	7,858	8,097	15,955

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00	0	0	18		10		28		**12:00**	0	0	99		120		219	
00:15	0	0	21		14		35		**12:15**	0	0	104		116		220	
00:30	0	0	15		16		31		**12:30**	0	0	97		121		218	
00:45	0	0	25	79	7	47	32	126	**12:45**	0	0	133	433	113	470	246	903
01:00	0	0	8		7		15		**13:00**	0	0	117		103		220	
01:15	0	0	11		6		17		**13:15**	0	0	141		109		250	
01:30	0	0	9		2		11		**13:30**	0	0	112		137		249	
01:45	0	0	9	37	8	23	17	60	**13:45**	0	0	127	497	109	458	236	955
02:00	0	0	7		4		11		**14:00**	0	0	119		93		212	
02:15	0	0	9		2		11		**14:15**	0	0	129		96		225	
02:30	0	0	6		5		11		**14:30**	0	0	144		97		241	
02:45	0	0	8	30	7	18	15	48	**14:45**	0	0	143	535	118	404	261	939
03:00	0	0	5		3		8		**15:00**	0	0	166		128		294	
03:15	0	0	4		7		11		**15:15**	0	0	178		136		314	
03:30	0	0	7		17		24		**15:30**	0	0	224		146		370	
03:45	0	0	6	22	13	40	19	62	**15:45**	0	0	159	727	140	550	299	1277
04:00	0	0	8		19		27		**16:00**	0	0	180		135		315	
04:15	0	0	16		20		36		**16:15**	0	0	173		126		299	
04:30	0	0	14		41		55		**16:30**	0	0	155		148		303	
04:45	0	0	22	60	67	147	89	207	**16:45**	0	0	196	704	139	548	335	1252
05:00	0	0	29		53		82		**17:00**	0	0	187		173		360	
05:15	0	0	28		51		79		**17:15**	0	0	191		128		319	
05:30	0	0	37		101		138		**17:30**	0	0	155		141		296	
05:45	0	0	41	135	115	320	156	455	**17:45**	0	0	131	664	117	559	248	1223
06:00	0	0	56		134		190		**18:00**	0	0	131		118		249	
06:15	0	0	68		194		262		**18:15**	0	0	129		87		216	
06:30	0	0	78		222		300		**18:30**	0	0	129		82		211	
06:45	0	0	99	301	211	761	310	1062	**18:45**	0	0	110	499	82	369	192	868
07:00	0	0	125		187		312		**19:00**	0	0	141		65		206	
07:15	0	0	135		202		337		**19:15**	0	0	115		63		178	
07:30	0	0	111		198		309		**19:30**	0	0	102		53		155	
07:45	0	0	100	471	229	816	329	1287	**19:45**	0	0	74	432	53	234	127	666
08:00	0	0	121		201		322		**20:00**	0	0	67		51		118	
08:15	0	0	113		158		271		**20:15**	0	0	66		37		103	
08:30	0	0	131		168		299		**20:30**	0	0	73		40		113	
08:45	0	0	103	468	190	717	293	1185	**20:45**	0	0	76	282	39	167	115	449
09:00	0	0	103		114		217		**21:00**	0	0	54		34		88	
09:15	0	0	75		101		176		**21:15**	0	0	60		40		100	
09:30	0	0	95		100		195		**21:30**	0	0	46		38		84	
09:45	0	0	67	340	107	422	174	762	**21:45**	0	0	54	214	33	145	87	359
10:00	0	0	79		106		185		**22:00**	0	0	39		32		71	
10:15	0	0	93		95		188		**22:15**	0	0	36		27		63	
10:30	0	0	79		103		182		**22:30**	0	0	31		31		62	
10:45	0	0	67	318	74	378	141	696	**22:45**	0	0	37	143	19	109	56	252
11:00	0	0	82		90		172		**23:00**	0	0	34		10		44	
11:15	0	0	93		87		180		**23:15**	0	0	29		15		44	
11:30	0	0	98		89		187		**23:30**	0	0	25		14		39	
11:45	0	0	92	365	79	345	171	710	**23:45**	0	0	14	102	11	50	25	152
TOTALS				2626		4034		**6660**	**TOTALS**				5232		4063		**9295**
SPLIT %				39.4%		60.6%		**41.7%**	**SPLIT %**				56.3%		43.7%		**58.3%**

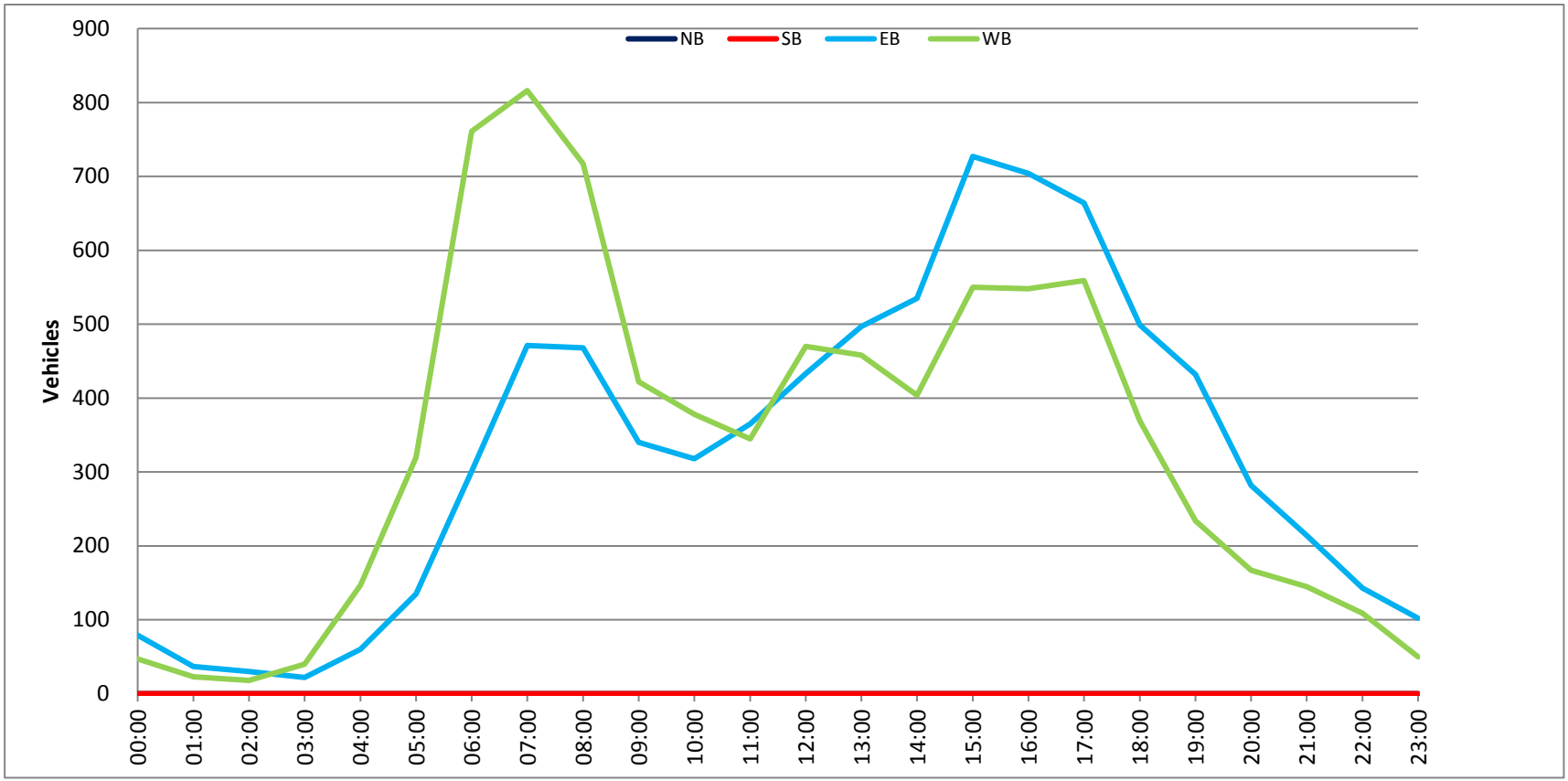
DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	7,858	8,097	15,955

AM Peak Hour				07:00		07:15		**07:15**	**PM Peak Hour**				15:15		16:30		**16:30**
AM Pk Volume				471		830		**1297**	**PM Pk Volume**				741		588		**1317**
Pk Hr Factor				0.872		0.906		**0.962**	**Pk Hr Factor**				0.827		0.850		**0.915**
7 - 9 Volume	0	0		939		1533		**2472**	**4 - 6 Volume**	0	0		1368		1107		**2475**
7 - 9 Peak Hour				07:00		07:15		**07:15**	**4 - 6 Peak Hour**				16:30		16:30		**16:30**
7 - 9 Pk Volume	0	0		471		830		**1297**	**4 - 6 Pk Volume**	0	0		729		588		**1317**
Pk Hr Factor	0.000	0.000		0.872		0.906		**0.962**	**Pk Hr Factor**	0.000	0.000		0.930		0.850		**0.915**

Prepared by NDS/ATD

Project #: CA18_8043_002 **City:** Royal Oaks

Location: Salinas Rd Bet. Fair Way & Hillcrest Rd **Date:** 2/1/2018



Prepared by National Data & Surveying Services

CLASSIFICATION

Elkhorn Rd Bet. Salinas Rd & Garin Rd

Day: Wednesday
Date: 1/31/2018

City: Royal Oaks
Project #: CA18_8043_003

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	112	13	1	8	0	0	2	1	0	1	0	0	**138**
01:00	0	61	7	0	4	0	0	0	1	0	0	0	0	**73**
02:00	0	57	11	0	4	1	0	1	1	0	3	0	0	**78**
03:00	0	87	14	1	6	0	0	0	0	0	3	0	0	**111**
04:00	0	225	40	0	28	2	0	3	1	0	1	0	0	**300**
05:00	0	537	121	2	45	3	0	3	8	0	5	0	0	**724**
06:00	3	1018	211	6	117	13	1	1	8	0	3	0	0	**1381**
07:00	3	1368	236	11	129	10	4	1	7	0	1	0	0	**1770**
08:00	5	946	175	2	109	5	3	5	6	0	4	0	0	**1260**
09:00	3	822	190	12	114	5	1	7	10	1	0	0	0	**1165**
10:00	0	778	171	7	100	11	0	1	7	0	3	0	0	**1078**
11:00	2	858	165	9	114	8	0	9	13	2	1	0	0	**1181**
12:00 PM	3	933	179	11	101	4	0	2	14	1	4	0	0	**1252**
13:00	3	1032	194	11	137	10	0	1	16	1	2	0	0	**1407**
14:00	5	1094	218	12	121	14	0	6	8	0	2	0	0	**1480**
15:00	8	1326	243	8	134	11	0	4	5	0	5	0	0	**1744**
16:00	10	1405	264	6	158	10	0	3	5	0	3	0	0	**1864**
17:00	7	1496	218	2	121	3	0	2	1	0	3	0	0	**1853**
18:00	2	1197	216	2	92	6	1	3	2	0	3	0	0	**1524**
19:00	0	933	127	1	45	1	0	0	4	0	1	0	0	**1112**
20:00	0	682	95	0	46	3	0	0	4	0	1	0	0	**831**
21:00	1	598	77	1	28	1	0	1	0	0	0	0	0	**707**
22:00	0	297	43	3	11	1	0	0	3	0	0	0	0	**358**
23:00	0	175	20	1	9	1	0	1	4	0	0	0	0	**211**
Totals	**55**	**18037**	**3248**	**109**	**1781**	**123**	**10**	**56**	**129**	**5**	**49**			**23602**
% of Totals	0%	76%	14%	0%	8%	1%	0%	0%	0.5%	0.0%	0.2%			100%

AM Volumes	16	6869	1354	51	778	58	9	33	63	3	25	0	0	9259
% AM	0%	29%	6%	0%	3%	0%	0%	0%	0%	0%	0%			39%
AM Peak Hour	08:00	07:00	07:00	09:00	07:00	06:00	07:00	11:00	11:00	11:00	05:00			07:00
Volume	5	1368	236	12	129	13	4	9	13	2	5			1770
PM Volumes	39	11168	1894	58	1003	65	1	23	66	2	24	0	0	14343
% PM	0%	47%	8%	0%	4%	0%	0%	0%	0%	0%	0%			61%
PM Peak Hour	16:00	17:00	16:00	14:00	16:00	14:00	18:00	14:00	13:00	12:00	15:00			16:00
Volume	10	1496	264	12	158	14	1	6	16	1	5			1864

Directional Peak Periods	**AM 7-9**		**NOON 12-2**		**PM 4-6**		**Off Peak Volumes**	
All Classes	Volume	%	Volume	%	Volume	%	Volume	%
	3030	13%	2659	11%	3717	16%	14196	60%

Classification Definitions

1 Motorcycles	**4** Buses	**7** > =4-Axle Single Units	**10** >=6-Axle Single Trailers	**13** >=7-Axle Multi-Trailers
2 Passenger Cars	**5** 2-Axle, 6-Tire Single Units	**8** <=4-Axle Single Trailers	**11** <=5-Axle Multi-Trailers	
3 2-Axle, 4-Tire Single Units	**6** 3-Axle Single Units	**9** 5-Axle Single Trailers	**12** 6-Axle Multi-Trailers	

Prepared by NDS/ATD

Prepared by National Data & Surveying Services

VOLUME

Elkhorn Rd Bet. Salinas Rd & Garin Rd

Day: Wednesday
Date: 1/31/2018

City: Royal Oaks
Project #: CA18_8043_003

DAILY TOTALS	NB	SB	EB	WB	Total
	11,775	11,827	0	0	23,602

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	13		30		0	0	43		**12:00**	144		129		0	0	273	
00:15	16		23		0	0	39		**12:15**	165		158		0	0	323	
00:30	12		18		0	0	30		**12:30**	173		150		0	0	323	
00:45	7	48	19	90	0	0	26	138	**12:45**	169	651	164	601	0	0	333	1252
01:00	10		13		0	0	23		**13:00**	180		153		0	0	333	
01:15	9		9		0	0	18		**13:15**	154		181		0	0	335	
01:30	9		5		0	0	14		**13:30**	204		179		0	0	383	
01:45	11	39	7	34	0	0	18	73	**13:45**	159	697	197	710	0	0	356	1407
02:00	6		9		0	0	15		**14:00**	156		206		0	0	362	
02:15	7		24		0	0	31		**14:15**	148		205		0	0	353	
02:30	6		12		0	0	18		**14:30**	165		215		0	0	380	
02:45	10	29	4	49	0	0	14	78	**14:45**	187	656	198	824	0	0	385	1480
03:00	11		11		0	0	22		**15:00**	186		233		0	0	419	
03:15	14		9		0	0	23		**15:15**	167		245		0	0	412	
03:30	30		8		0	0	38		**15:30**	212		264		0	0	476	
03:45	20	75	8	36	0	0	28	111	**15:45**	204	769	233	975	0	0	437	1744
04:00	35		7		0	0	42		**16:00**	191		243		0	0	434	
04:15	37		14		0	0	51		**16:15**	219		262		0	0	481	
04:30	59		26		0	0	85		**16:30**	207		277		0	0	484	
04:45	78	209	44	91	0	0	122	300	**16:45**	184	801	281	1063	0	0	465	1864
05:00	53		66		0	0	119		**17:00**	178		279		0	0	457	
05:15	89		71		0	0	160		**17:15**	193		291		0	0	484	
05:30	139		99		0	0	238		**17:30**	224		239		0	0	463	
05:45	140	421	67	303	0	0	207	724	**17:45**	196	791	253	1062	0	0	449	1853
06:00	195		85		0	0	280		**18:00**	175		239		0	0	414	
06:15	239		101		0	0	340		**18:15**	169		229		0	0	398	
06:30	221		129		0	0	350		**18:30**	151		223		0	0	374	
06:45	282	937	129	444	0	0	411	1381	**18:45**	124	619	214	905	0	0	338	1524
07:00	265		132		0	0	397		**19:00**	106		217		0	0	323	
07:15	273		165		0	0	438		**19:15**	112		216		0	0	328	
07:30	323		137		0	0	460		**19:30**	98		137		0	0	235	
07:45	321	1182	154	588	0	0	475	1770	**19:45**	87	403	139	709	0	0	226	1112
08:00	102		119		0	0	221		**20:00**	103		139		0	0	242	
08:15	200		155		0	0	355		**20:15**	86		134		0	0	220	
08:30	223		144		0	0	367		**20:30**	81		112		0	0	193	
08:45	208	733	109	527	0	0	317	1260	**20:45**	78	348	98	483	0	0	176	831
09:00	175		137		0	0	312		**21:00**	64		120		0	0	184	
09:15	168		129		0	0	297		**21:15**	65		121		0	0	186	
09:30	160		129		0	0	289		**21:30**	86		105		0	0	191	
09:45	150	653	117	512	0	0	267	1165	**21:45**	76	291	70	416	0	0	146	707
10:00	135		117		0	0	252		**22:00**	46		63		0	0	109	
10:15	134		131		0	0	265		**22:15**	31		58		0	0	89	
10:30	169		113		0	0	282		**22:30**	20		72		0	0	92	
10:45	149	587	130	491	0	0	279	1078	**22:45**	27	124	41	234	0	0	68	358
11:00	134		120		0	0	254		**23:00**	22		34		0	0	56	
11:15	154		144		0	0	298		**23:15**	31		32		0	0	63	
11:30	166		139		0	0	305		**23:30**	20		27		0	0	47	
11:45	165	619	159	562	0	0	324	1181	**23:45**	20	93	25	118	0	0	45	211
TOTALS		5532		3727				**9259**	**TOTALS**		6243		8100				**14343**
SPLIT %		59.7%		40.3%				**39.2%**	**SPLIT %**		43.5%		56.5%				**60.8%**

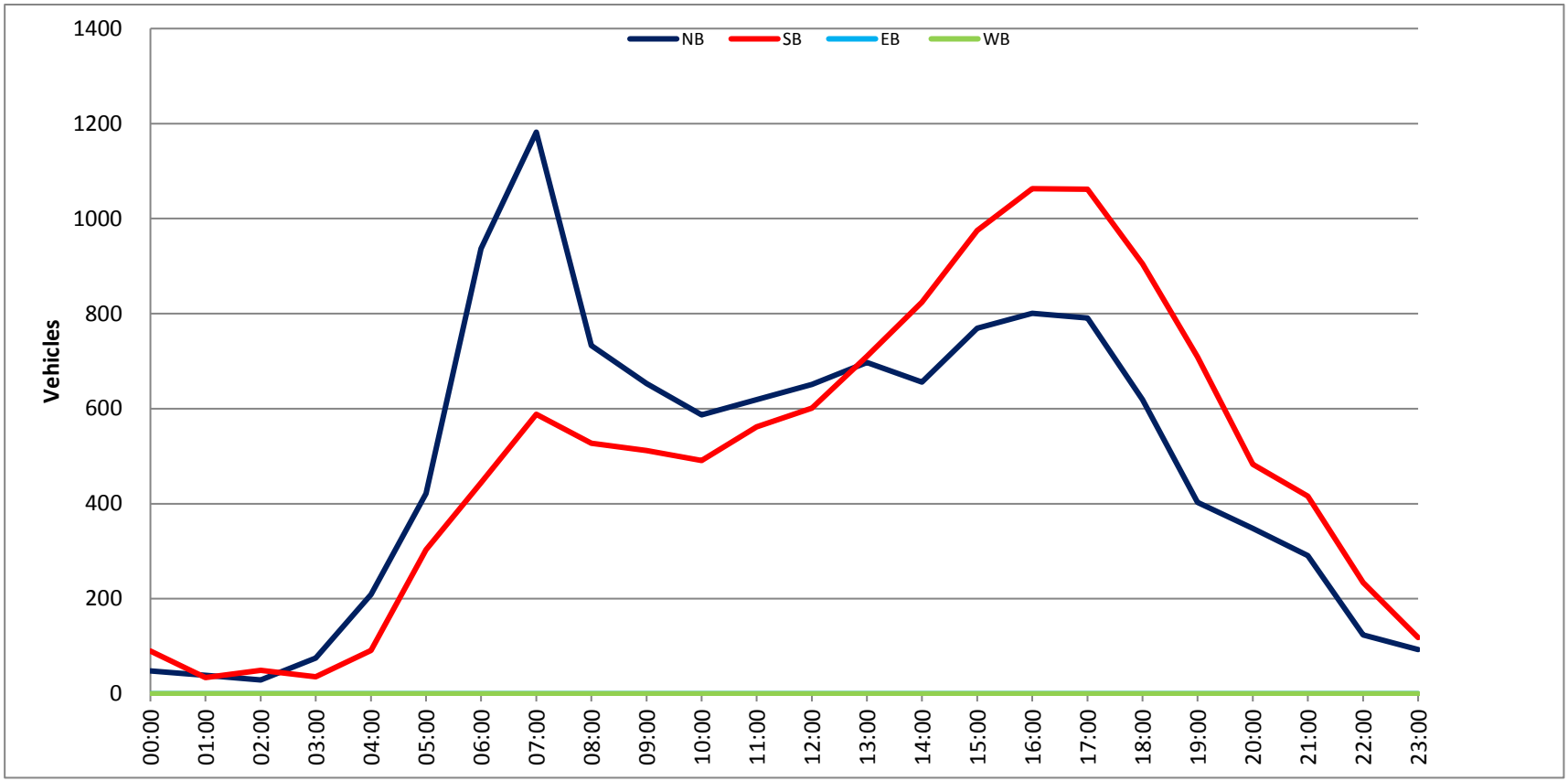
DAILY TOTALS	NB	SB	EB	WB	Total
	11,775	11,827	0	0	23,602

AM Peak Hour	07:00	11:45					**07:00**		**PM Peak Hour**	15:30	16:30					**16:30**	
AM Pk Volume	1182	596					**1770**		**PM Pk Volume**	826	1128					**1890**	
Pk Hr Factor	0.915	0.937					**0.932**		**Pk Hr Factor**	0.943	0.969					**0.976**	
7 - 9 Volume	1915	1115	0	0			**3030**		**4 - 6 Volume**	1592	2125	0	0			**3717**	
7 - 9 Peak Hour	07:00	07:00					**07:00**		**4 - 6 Peak Hour**	16:00	16:30					**16:30**	
7 - 9 Pk Volume	1182	588	0	0			**1770**		**4 - 6 Pk Volume**	801	1128	0	0			**1890**	
Pk Hr Factor	0.915	0.891	0.000	0.000			**0.932**		**Pk Hr Factor**	0.914	0.969	0.000	0.000			**0.976**	

Prepared by NDS/ATD

Project #: CA18_8043_003 **City:** Royal Oaks

Location: Elkhorn Rd Bet. Salinas Rd & Garin Rd **Date:** 1/31/2018



Prepared by National Data & Surveying Services

CLASSIFICATION

Elkhorn Rd Bet. Salinas Rd & Garin Rd

Day: Thursday
Date: 2/1/2018

City: Royal Oaks
Project #: CA18_8043_003

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	151	23	0	12	0	0	1	2	0	3	0	0	**192**
01:00	0	80	8	3	5	1	0	1	1	0	0	0	0	**99**
02:00	0	55	8	1	4	1	0	1	1	0	3	0	0	**74**
03:00	0	74	11	2	12	0	0	0	1	0	1	0	0	**101**
04:00	0	229	53	1	28	1	0	4	4	0	3	0	0	**323**
05:00	0	557	120	1	47	5	0	2	5	0	4	0	0	**741**
06:00	1	1061	233	10	115	6	0	7	6	1	4	0	0	**1444**
07:00	6	1407	221	10	131	9	1	10	4	0	5	0	0	**1804**
08:00	5	1017	181	7	133	4	0	4	6	0	5	0	0	**1362**
09:00	0	808	190	8	112	1	0	7	7	0	6	0	0	**1139**
10:00	0	772	162	8	94	2	0	3	8	0	8	0	0	**1057**
11:00	5	805	163	11	116	8	0	6	9	1	9	0	0	**1133**
12:00 PM	3	921	176	5	132	5	1	4	15	0	3	0	0	**1265**
13:00	4	989	192	9	116	8	0	5	12	0	3	0	0	**1338**
14:00	4	1068	202	15	126	8	0	3	10	0	1	0	0	**1437**
15:00	6	1307	246	19	137	15	1	7	6	1	3	0	0	**1748**
16:00	10	1398	288	9	151	17	3	2	3	0	4	0	0	**1885**
17:00	7	1476	253	3	128	5	0	1	1	1	1	0	0	**1876**
18:00	4	1270	206	5	71	4	0	2	3	0	4	0	0	**1569**
19:00	1	936	165	3	58	1	0	1	2	0	0	0	0	**1167**
20:00	0	699	101	1	42	1	0	0	2	0	1	0	0	**847**
21:00	0	550	59	0	23	2	0	1	2	0	0	0	0	**637**
22:00	0	357	52	1	17	0	0	1	1	0	0	0	0	**429**
23:00	0	216	20	1	11	0	0	1	1	0	0	0	0	**250**
Totals	**56**	**18203**	**3333**	**133**	**1821**	**104**	**6**	**74**	**112**	**4**	**71**			**23917**
% of Totals	0%	76%	14%	1%	8%	0%	0%	0%	0.5%	0.0%	0.3%			100%

AM Volumes	17	7016	1373	62	809	38	1	46	54	2	51	0	0	9469
% AM	0%	29%	6%	0%	3%	0%	0%	0%	0%	0%	0%			40%
AM Peak Hour	07:00	07:00	06:00	11:00	08:00	07:00	07:00	07:00	11:00	06:00	11:00			07:00
Volume	6	1407	233	11	133	9	1	10	9	1	9			1804
PM Volumes	39	11187	1960	71	1012	66	5	28	58	2	20	0	0	14448
% PM	0%	47%	8%	0%	4%	0%	0%	0%	0%	0%	0%			60%
PM Peak Hour	16:00	17:00	16:00	15:00	16:00	16:00	16:00	15:00	12:00	15:00	16:00			16:00
Volume	10	1476	288	19	151	17	3	7	15	1	4			1885

Directional Peak Periods	**AM 7-9**		**NOON 12-2**		**PM 4-6**		**Off Peak Volumes**	
All Classes	Volume	%	Volume	%	Volume	%	Volume	%
	3166	13%	2603	11%	3761	16%	14387	60%

Classification Definitions

1 Motorcycles	**4** Buses	**7** > =4-Axle Single Units	**10** >=6-Axle Single Trailers	**13** >=7-Axle Multi-Trailers
2 Passenger Cars	**5** 2-Axle, 6-Tire Single Units	**8** <=4-Axle Single Trailers	**11** <=5-Axle Multi-Trailers	
3 2-Axle, 4-Tire Single Units	**6** 3-Axle Single Units	**9** 5-Axle Single Trailers	**12** 6-Axle Multi-Trailers	

Prepared by NDS/ATD

Prepared by National Data & Surveying Services

VOLUME

Elkhorn Rd Bet. Salinas Rd & Garin Rd

Day: Thursday
Date: 2/1/2018

City: Royal Oaks
Project #: CA18_8043_003

DAILY TOTALS	NB	SB	EB	WB	Total
	11,964	11,953	0	0	23,917

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	18		29		0	0	47		**12:00**	151		145		0	0	296	
00:15	19		35		0	0	54		**12:15**	170		158		0	0	328	
00:30	25		23		0	0	48		**12:30**	156		167		0	0	323	
00:45	9	71	34	121	0	0	43	192	**12:45**	152	629	166	636	0	0	318	1265
01:00	11		16		0	0	27		**13:00**	153		186		0	0	339	
01:15	11		13		0	0	24		**13:15**	169		162		0	0	331	
01:30	7		18		0	0	25		**13:30**	184		156		0	0	340	
01:45	11	40	12	59	0	0	23	99	**13:45**	144	650	184	688	0	0	328	1338
02:00	7		9		0	0	16		**14:00**	161		169		0	0	330	
02:15	5		16		0	0	21		**14:15**	153		193		0	0	346	
02:30	9		8		0	0	17		**14:30**	179		201		0	0	380	
02:45	8	29	12	45	0	0	20	74	**14:45**	196	689	185	748	0	0	381	1437
03:00	8		8		0	0	16		**15:00**	178		232		0	0	410	
03:15	13		5		0	0	18		**15:15**	158		258		0	0	416	
03:30	27		7		0	0	34		**15:30**	212		242		0	0	454	
03:45	24	72	9	29	0	0	33	101	**15:45**	203	751	265	997	0	0	468	1748
04:00	26		12		0	0	38		**16:00**	200		247		0	0	447	
04:15	40		26		0	0	66		**16:15**	176		271		0	0	447	
04:30	60		25		0	0	85		**16:30**	226		264		0	0	490	
04:45	90	216	44	107	0	0	134	323	**16:45**	221	823	280	1062	0	0	501	1885
05:00	66		51		0	0	117		**17:00**	217		258		0	0	475	
05:15	77		87		0	0	164		**17:15**	212		264		0	0	476	
05:30	151		77		0	0	228		**17:30**	232		258		0	0	490	
05:45	156	450	76	291	0	0	232	741	**17:45**	180	841	255	1035	0	0	435	1876
06:00	174		87		0	0	261		**18:00**	178		252		0	0	430	
06:15	257		89		0	0	346		**18:15**	158		231		0	0	389	
06:30	300		115		0	0	415		**18:30**	167		222		0	0	389	
06:45	287	1018	135	426	0	0	422	1444	**18:45**	131	634	230	935	0	0	361	1569
07:00	256		151		0	0	407		**19:00**	128		215		0	0	343	
07:15	289		183		0	0	472		**19:15**	124		225		0	0	349	
07:30	350		143		0	0	493		**19:30**	86		168		0	0	254	
07:45	283	1178	149	626	0	0	432	1804	**19:45**	90	428	131	739	0	0	221	1167
08:00	178		156		0	0	334		**20:00**	76		156		0	0	232	
08:15	202		138		0	0	340		**20:15**	85		139		0	0	224	
08:30	207		129		0	0	336		**20:30**	75		120		0	0	195	
08:45	228	815	124	547	0	0	352	1362	**20:45**	72	308	124	539	0	0	196	847
09:00	170		124		0	0	294		**21:00**	69		93		0	0	162	
09:15	148		131		0	0	279		**21:15**	86		96		0	0	182	
09:30	149		156		0	0	305		**21:30**	73		79		0	0	152	
09:45	150	617	111	522	0	0	261	1139	**21:45**	55	283	86	354	0	0	141	637
10:00	141		128		0	0	269		**22:00**	63		69		0	0	132	
10:15	155		126		0	0	281		**22:15**	41		62		0	0	103	
10:30	147		116		0	0	263		**22:30**	51		63		0	0	114	
10:45	133	576	111	481	0	0	244	1057	**22:45**	39	194	41	235	0	0	80	429
11:00	126		133		0	0	259		**23:00**	23		47		0	0	70	
11:15	134		139		0	0	273		**23:15**	21		52		0	0	73	
11:30	160		160		0	0	320		**23:30**	21		37		0	0	58	
11:45	145	565	136	568	0	0	281	1133	**23:45**	22	87	27	163	0	0	49	250
TOTALS		5647		3822				**9469**	**TOTALS**		6317		8131				**14448**
SPLIT %		59.6%		40.4%				**39.6%**	**SPLIT %**		43.7%		56.3%				**60.4%**

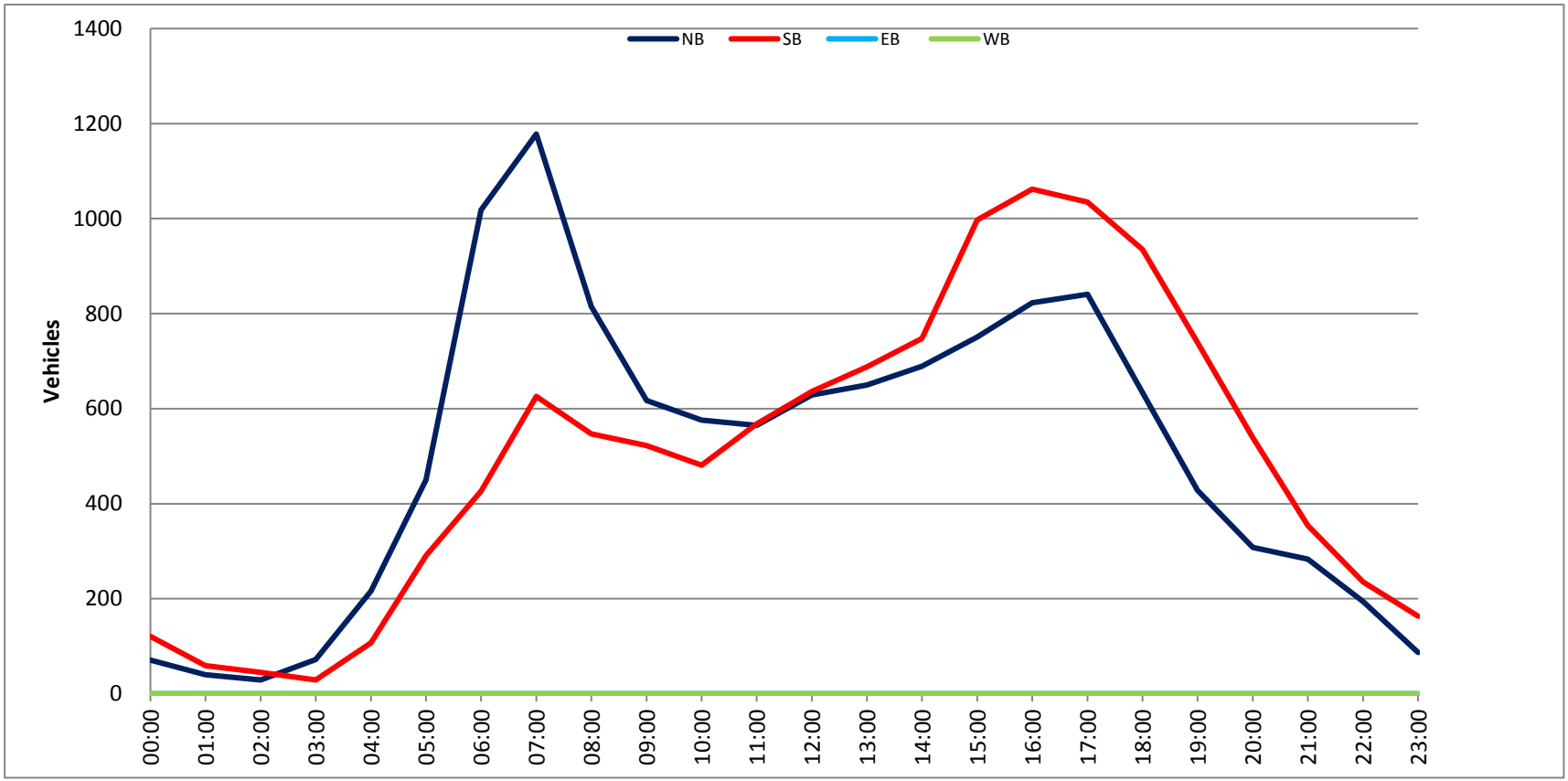
DAILY TOTALS	NB	SB	EB	WB	Total
	11,964	11,953	0	0	23,917

AM Peak Hour	06:45	07:15				**07:00**	**PM Peak Hour**	16:45	16:15					**16:30**
AM Pk Volume	1182	631				**1804**	**PM Pk Volume**	882	1073					**1942**
Pk Hr Factor	0.844	0.862				**0.915**	**Pk Hr Factor**	0.950	0.958					**0.969**
7 - 9 Volume	1993	1173	0	0		**3166**	**4 - 6 Volume**	1664	2097	0	0			**3761**
7 - 9 Peak Hour	07:00	07:15				**07:00**	**4 - 6 Peak Hour**	16:45	16:15					**16:30**
7 - 9 Pk Volume	1178	631	0	0		**1804**	**4 - 6 Pk Volume**	882	1073	0	0			**1942**
Pk Hr Factor	0.841	0.862	0.000	0.000		**0.915**	**Pk Hr Factor**	0.950	0.958	0.000	0.000			**0.969**

Prepared by NDS/ATD

Project #: CA18_8043_003 **City:** Royal Oaks

Location: Elkhorn Rd Bet. Salinas Rd & Garin Rd **Date:** 2/1/2018



Prepared by National Data & Surveying Services

CLASSIFICATION

Hall Rd Bet. Elkhorn Rd & Willow Rd

Day: Wednesday
Date: 1/31/2018

City: Royal Oaks
Project #: CA18_8043_004

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	106	14	1	7	0	0	2	1	0	1	0	0	**132**
01:00	0	59	7	0	3	0	0	0	0	0	0	0	0	**69**
02:00	0	53	15	0	3	1	0	0	2	0	3	0	0	**77**
03:00	0	79	16	1	0	0	0	0	0	0	3	0	0	**99**
04:00	0	217	49	1	14	0	0	4	1	0	2	0	0	**288**
05:00	1	522	129	1	24	4	0	4	8	0	4	0	0	**697**
06:00	3	945	245	13	60	12	0	3	5	0	6	0	0	**1292**
07:00	6	1350	266	11	56	11	0	4	9	0	4	0	0	**1717**
08:00	6	966	214	3	75	3	0	5	6	3	5	0	0	**1286**
09:00	4	747	198	10	70	6	0	5	7	0	1	0	0	**1048**
10:00	0	719	184	7	72	8	0	1	10	0	4	0	0	**1005**
11:00	4	758	178	10	67	7	0	8	7	1	4	0	0	**1044**
12:00 PM	8	831	177	15	69	8	0	1	17	1	3	0	0	**1130**
13:00	4	904	202	13	94	7	1	7	8	1	4	0	0	**1245**
14:00	6	1012	225	13	81	9	1	7	4	0	4	0	0	**1362**
15:00	10	1261	255	6	87	7	0	9	7	1	7	0	0	**1650**
16:00	4	1341	279	5	85	6	2	2	2	0	2	0	0	**1728**
17:00	5	1389	242	0	64	6	1	3	1	0	2	0	0	**1713**
18:00	5	1092	219	1	53	4	1	1	3	0	3	0	0	**1382**
19:00	2	854	122	2	30	2	0	0	6	0	0	0	0	**1018**
20:00	3	613	105	0	21	0	0	0	3	0	3	0	0	**748**
21:00	0	560	73	0	18	0	0	1	0	0	1	0	0	**653**
22:00	0	276	45	5	4	1	0	1	3	0	0	0	0	**335**
23:00	0	164	17	1	8	0	0	1	3	0	0	0	0	**194**
Totals	**71**	**16818**	**3476**	**119**	**1065**	**102**	**6**	**69**	**113**	**7**	**66**			**21912**
% of Totals	0%	77%	16%	1%	5%	0%	0%	0%	0.52%	0.03%	0.30%			100%

AM Volumes	24	6521	1515	58	451	52	0	36	56	4	37	0	0	8754
% AM	0%	30%	7%	0%	2%	0%		0%	0%	0%	0%			40%
AM Peak Hour	07:00	07:00	07:00	06:00	08:00	06:00		11:00	10:00	08:00	06:00			07:00
Volume	6	1350	266	13	75	12		8	10	3	6			1717
PM Volumes	47	10297	1961	61	614	50	6	33	57	3	29	0	0	13158
% PM	0%	47%	9%	0%	3%	0%	0%	0%	0%	0%	0%			60%
PM Peak Hour	15:00	17:00	16:00	12:00	13:00	14:00	16:00	15:00	12:00	12:00	15:00			16:00
Volume	10	1389	279	15	94	9	2	9	17	1	7			1728

Directional Peak Periods	**AM 7-9**		**NOON 12-2**		**PM 4-6**		**Off Peak Volumes**	
All Classes	Volume	%	Volume	%	Volume	%	Volume	%
	3003	14%	2375	11%	3441	16%	13093	60%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by NDS/ATD

Prepared by National Data & Surveying Services

VOLUME

Hall Rd Bet. Elkhorn Rd & Willow Rd

Day: Wednesday
Date: 1/31/2018

City: Royal Oaks
Project #: CA18_8043_004

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	10,805	11,107	21,912

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00	0	0	29		14		43		**12:00**	0	0	118		128		246	
00:15	0	0	23		14		37		**12:15**	0	0	142		142		284	
00:30	0	0	14		12		26		**12:30**	0	0	139		158		297	
00:45	0	0	19	85	7	47	26	132	**12:45**	0	0	145	544	158	586	303	1130
01:00	0	0	12		13		25		**13:00**	0	0	127		153		280	
01:15	0	0	9		9		18		**13:15**	0	0	169		149		318	
01:30	0	0	3		8		11		**13:30**	0	0	159		178		337	
01:45	0	0	5	29	10	40	15	69	**13:45**	0	0	173	628	137	617	310	1245
02:00	0	0	10		6		16		**14:00**	0	0	178		145		323	
02:15	0	0	20		6		26		**14:15**	0	0	195		129		324	
02:30	0	0	14		6		20		**14:30**	0	0	196		154		350	
02:45	0	0	6	50	9	27	15	77	**14:45**	0	0	189	758	176	604	365	1362
03:00	0	0	9		13		22		**15:00**	0	0	190		172		362	
03:15	0	0	8		7		15		**15:15**	0	0	225		207		432	
03:30	0	0	8		27		35		**15:30**	0	0	231		196		427	
03:45	0	0	8	33	19	66	27	99	**15:45**	0	0	226	872	203	778	429	1650
04:00	0	0	9		28		37		**16:00**	0	0	209		178		387	
04:15	0	0	13		36		49		**16:15**	0	0	249		229		478	
04:30	0	0	24		57		81		**16:30**	0	0	232		194		426	
04:45	0	0	45	91	76	197	121	288	**16:45**	0	0	260	950	177	778	437	1728
05:00	0	0	58		48		106		**17:00**	0	0	230		165		395	
05:15	0	0	80		83		163		**17:15**	0	0	274		182		456	
05:30	0	0	99		130		229		**17:30**	0	0	219		218		437	
05:45	0	0	71	308	128	389	199	697	**17:45**	0	0	221	944	204	769	425	1713
06:00	0	0	85		162		247		**18:00**	0	0	214		149		363	
06:15	0	0	97		233		330		**18:15**	0	0	210		142		352	
06:30	0	0	122		219		341		**18:30**	0	0	193		159		352	
06:45	0	0	123	427	251	865	374	1292	**18:45**	0	0	192	809	123	573	315	1382
07:00	0	0	120		249		369		**19:00**	0	0	190		117		307	
07:15	0	0	158		257		415		**19:15**	0	0	189		90		279	
07:30	0	0	142		335		477		**19:30**	0	0	135		103		238	
07:45	0	0	137	557	319	1160	456	1717	**19:45**	0	0	123	637	71	381	194	1018
08:00	0	0	118		212		330		**20:00**	0	0	123		95		218	
08:15	0	0	154		181		335		**20:15**	0	0	112		84		196	
08:30	0	0	143		203		346		**20:30**	0	0	113		67		180	
08:45	0	0	103	518	172	768	275	1286	**20:45**	0	0	75	423	79	325	154	748
09:00	0	0	131		167		298		**21:00**	0	0	109		65		174	
09:15	0	0	110		148		258		**21:15**	0	0	98		64		162	
09:30	0	0	120		126		246		**21:30**	0	0	91		87		178	
09:45	0	0	106	467	140	581	246	1048	**21:45**	0	0	70	368	69	285	139	653
10:00	0	0	118		126		244		**22:00**	0	0	62		45		107	
10:15	0	0	118		125		243		**22:15**	0	0	54		27		81	
10:30	0	0	111		148		259		**22:30**	0	0	57		24		81	
10:45	0	0	121	468	138	537	259	1005	**22:45**	0	0	39	212	27	123	66	335
11:00	0	0	106		108		214		**23:00**	0	0	33		21		54	
11:15	0	0	125		131		256		**23:15**	0	0	31		27		58	
11:30	0	0	132		133		265		**23:30**	0	0	20		21		41	
11:45	0	0	158	521	151	523	309	1044	**23:45**	0	0	22	106	19	88	41	194
TOTALS				3554		5200		**8754**	**TOTALS**				7251		5907		**13158**
SPLIT %				40.6%		59.4%		**40.0%**	**SPLIT %**				55.1%		44.9%		**60.0%**

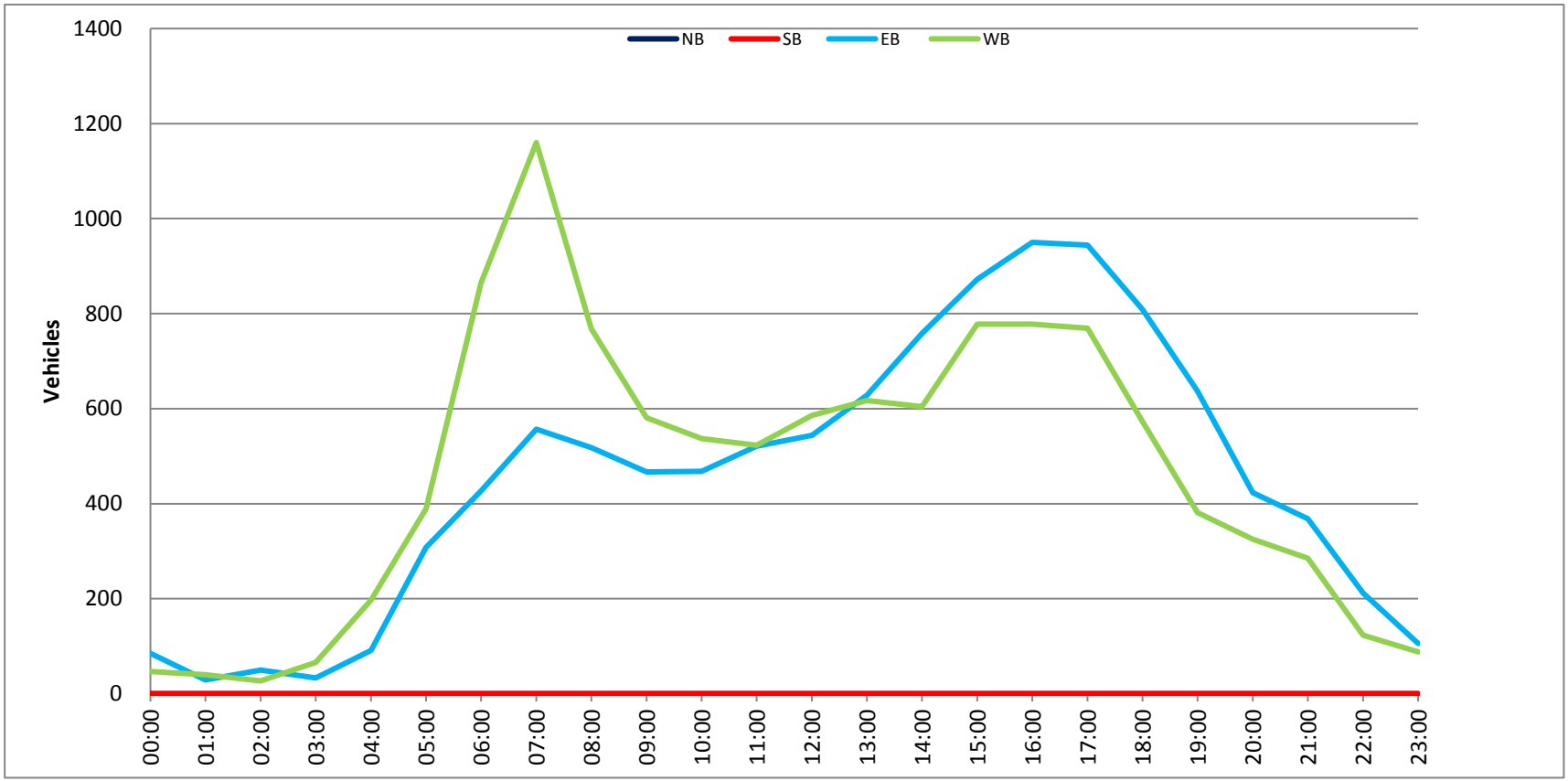
DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	10,805	11,107	21,912

AM Peak Hour			07:00	07:00	**07:00**	**PM Peak Hour**			16:30	15:30	**16:15**
AM Pk Volume			557	1160	**1717**	**PM Pk Volume**			996	806	**1736**
Pk Hr Factor			0.881	0.866	**0.900**	**Pk Hr Factor**			0.909	0.880	**0.908**
7 - 9 Volume	0	0	1075	1928	**3003**	**4 - 6 Volume**	0	0	1894	1547	**3441**
7 - 9 Peak Hour			07:00	07:00	**07:00**	**4 - 6 Peak Hour**			16:30	16:00	**16:15**
7 - 9 Pk Volume	0	0	557	1160	**1717**	**4 - 6 Pk Volume**	0	0	996	778	**1736**
Pk Hr Factor	0.000	0.000	0.881	0.866	**0.900**	**Pk Hr Factor**	0.000	0.000	0.909	0.849	**0.908**

Prepared by NDS/ATD

Project #: CA18_8043_004 **City:** Royal Oaks

Location: Hall Rd Bet. Elkhorn Rd & Willow Rd **Date:** 1/31/2018



Prepared by National Data & Surveying Services

CLASSIFICATION

Hall Rd Bet. Elkhorn Rd & Willow Rd

Day: Thursday
Date: 2/1/2018

City: Royal Oaks
Project #: CA18_8043_004

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	139	23	0	7	0	0	1	2	0	3	0	0	**175**
01:00	0	74	9	2	3	1	0	0	1	0	1	0	0	**91**
02:00	0	55	11	1	3	0	0	3	1	0	1	0	0	**75**
03:00	0	66	16	2	6	0	0	0	0	0	2	0	0	**92**
04:00	0	226	60	1	15	1	0	3	5	0	2	0	0	**313**
05:00	0	551	124	2	23	6	0	3	4	0	3	0	0	**716**
06:00	2	951	268	12	72	5	1	3	6	1	3	0	0	**1324**
07:00	5	1389	263	11	71	8	0	4	10	0	3	0	0	**1764**
08:00	2	990	215	2	89	7	1	3	7	0	6	0	0	**1322**
09:00	3	742	185	9	72	2	0	6	7	1	6	0	0	**1033**
10:00	0	690	168	6	64	3	0	2	11	0	6	0	0	**950**
11:00	3	754	184	9	75	6	0	4	10	0	7	0	0	**1052**
12:00 PM	4	865	203	5	81	4	1	7	12	0	3	0	0	**1185**
13:00	8	913	198	5	74	10	0	7	10	0	3	0	0	**1228**
14:00	5	1004	233	16	71	3	1	5	14	1	5	0	0	**1358**
15:00	5	1250	278	15	97	10	0	6	6	1	2	0	0	**1670**
16:00	7	1325	295	10	64	12	0	3	4	0	4	0	0	**1724**
17:00	8	1399	269	3	69	8	2	0	4	0	2	0	0	**1764**
18:00	4	1165	222	3	33	3	0	1	4	0	3	0	0	**1438**
19:00	0	853	163	3	29	2	0	3	3	0	0	0	0	**1056**
20:00	0	642	109	3	21	1	0	0	2	0	0	0	0	**778**
21:00	0	506	70	0	16	1	0	2	1	0	0	0	0	**596**
22:00	0	326	55	2	6	0	0	1	1	0	0	0	0	**391**
23:00	0	195	20	1	6	0	0	1	2	0	0	0	0	**225**
Totals	**56**	**17070**	**3641**	**123**	**1067**	**93**	**6**	**68**	**127**	**4**	**65**			**22320**
% of Totals	0%	76%	16%	1%	5%	0%	0%	0%	0.57%	0.02%	0.29%			100%

AM Volumes	15	6627	1526	57	500	39	2	32	64	2	43	0	0	8907
% AM	0%	30%	7%	0%	2%	0%	0%	0%	0%	0%	0%			40%
AM Peak Hour	07:00	07:00	06:00	06:00	08:00	07:00	06:00	09:00	10:00	06:00	11:00			07:00
Volume	5	1389	268	12	89	8	1	6	11	1	7			1764
PM Volumes	41	10443	2115	66	567	54	4	36	63	2	22	0	0	13413
% PM	0%	47%	9%	0%	3%	0%	0%	0%	0%	0%	0%			60%
PM Peak Hour	13:00	17:00	16:00	14:00	15:00	16:00	17:00	12:00	14:00	14:00	14:00			17:00
Volume	8	1399	295	16	97	12	2	7	14	1	5			1764

Directional Peak Periods	**AM 7-9**		**NOON 12-2**		**PM 4-6**		**Off Peak Volumes**	
All Classes	Volume	%	Volume	%	Volume	%	Volume	%
	3086	14%	2413	11%	3488	16%	13333	60%

Classification Definitions

1 Motorcycles	**4** Buses	**7** > =4-Axle Single Units	**10** >=6-Axle Single Trailers	**13** >=7-Axle Multi-Trailers
2 Passenger Cars	**5** 2-Axle, 6-Tire Single Units	**8** <=4-Axle Single Trailers	**11** <=5-Axle Multi-Trailers	
3 2-Axle, 4-Tire Single Units	**6** 3-Axle Single Units	**9** 5-Axle Single Trailers	**12** 6-Axle Multi-Trailers	

Prepared by NDS/ATD

Prepared by National Data & Surveying Services

VOLUME

Hall Rd Bet. Elkhorn Rd & Willow Rd

Day: Thursday
Date: 2/1/2018

City: Royal Oaks
Project #: CA18_8043_004

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	11,149	11,171	22,320

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00	0	0	28		16		44		**12:00**	0	0	131		145		276	
00:15	0	0	30		21		51		**12:15**	0	0	147		170		317	
00:30	0	0	19		22		41		**12:30**	0	0	167		141		308	
00:45	0	0	30	107	9	68	39	175	**12:45**	0	0	158	603	126	582	284	1185
01:00	0	0	19		12		31		**13:00**	0	0	156		144		300	
01:15	0	0	11		8		19		**13:15**	0	0	155		167		322	
01:30	0	0	15		6		21		**13:30**	0	0	145		176		321	
01:45	0	0	10	55	10	36	20	91	**13:45**	0	0	154	610	131	618	285	1228
02:00	0	0	9		7		16		**14:00**	0	0	169		149		318	
02:15	0	0	17		5		22		**14:15**	0	0	190		141		331	
02:30	0	0	8		10		18		**14:30**	0	0	184		167		351	
02:45	0	0	11	45	8	30	19	75	**14:45**	0	0	177	720	181	638	358	1358
03:00	0	0	9		7		16		**15:00**	0	0	224		178		402	
03:15	0	0	6		9		15		**15:15**	0	0	232		168		400	
03:30	0	0	7		25		32		**15:30**	0	0	234		196		430	
03:45	0	0	8	30	21	62	29	92	**15:45**	0	0	252	942	186	728	438	1670
04:00	0	0	12		23		35		**16:00**	0	0	212		191		403	
04:15	0	0	21		37		58		**16:15**	0	0	242		167		409	
04:30	0	0	29		60		89		**16:30**	0	0	238		228		466	
04:45	0	0	47	109	84	204	131	313	**16:45**	0	0	252	944	194	780	446	1724
05:00	0	0	47		64		111		**17:00**	0	0	248		222		470	
05:15	0	0	89		79		168		**17:15**	0	0	240		217		457	
05:30	0	0	87		138		225		**17:30**	0	0	238		215		453	
05:45	0	0	73	296	139	420	212	716	**17:45**	0	0	221	947	163	817	384	1764
06:00	0	0	77		157		234		**18:00**	0	0	245		166		411	
06:15	0	0	101		236		337		**18:15**	0	0	215		141		356	
06:30	0	0	119		250		369		**18:30**	0	0	202		151		353	
06:45	0	0	125	422	259	902	384	1324	**18:45**	0	0	198	860	120	578	318	1438
07:00	0	0	155		223		378		**19:00**	0	0	195		112		307	
07:15	0	0	183		276		459		**19:15**	0	0	208		102		310	
07:30	0	0	142		327		469		**19:30**	0	0	145		86		231	
07:45	0	0	145	625	313	1139	458	1764	**19:45**	0	0	122	670	86	386	208	1056
08:00	0	0	161		218		379		**20:00**	0	0	142		73		215	
08:15	0	0	133		178		311		**20:15**	0	0	113		88		201	
08:30	0	0	133		208		341		**20:30**	0	0	115		73		188	
08:45	0	0	113	540	178	782	291	1322	**20:45**	0	0	105	475	69	303	174	778
09:00	0	0	118		153		271		**21:00**	0	0	88		61		149	
09:15	0	0	125		130		255		**21:15**	0	0	96		84		180	
09:30	0	0	131		131		262		**21:30**	0	0	68		73		141	
09:45	0	0	114	488	131	545	245	1033	**21:45**	0	0	71	323	55	273	126	596
10:00	0	0	120		122		242		**22:00**	0	0	63		54		117	
10:15	0	0	118		132		250		**22:15**	0	0	51		40		91	
10:30	0	0	106		137		243		**22:30**	0	0	55		48		103	
10:45	0	0	104	448	111	502	215	950	**22:45**	0	0	44	213	36	178	80	391
11:00	0	0	115		114		229		**23:00**	0	0	44		23		67	
11:15	0	0	145		125		270		**23:15**	0	0	44		22		66	
11:30	0	0	141		152		293		**23:30**	0	0	32		17		49	
11:45	0	0	136	537	124	515	260	1052	**23:45**	0	0	20	140	23	85	43	225
TOTALS				3702		5205		**8907**	**TOTALS**				7447		5966		**13413**
SPLIT %				41.6%		58.4%		**39.9%**	**SPLIT %**				55.5%		44.5%		**60.1%**

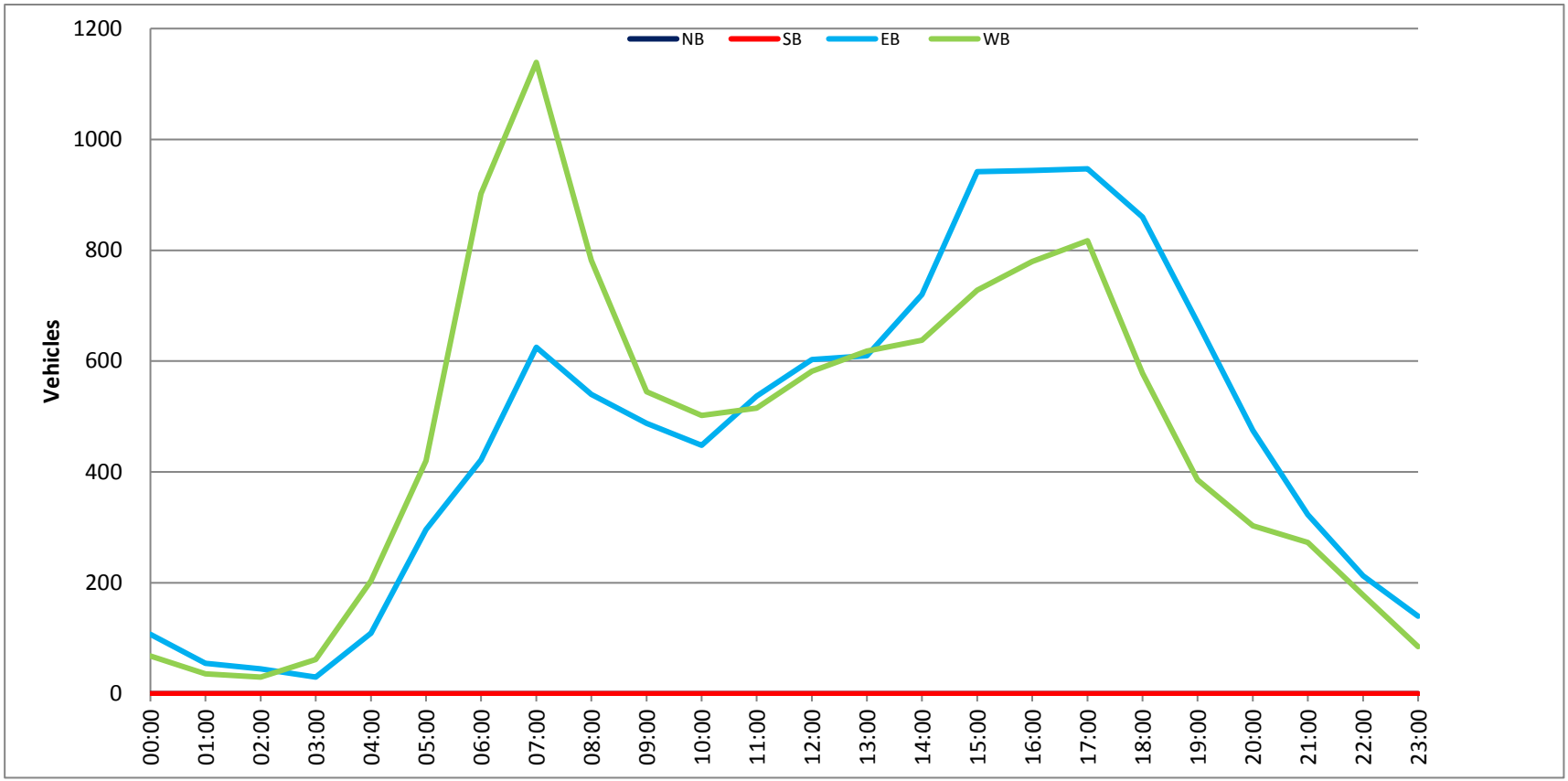
DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	11,149	11,171	22,320

AM Peak Hour				07:15		07:00		**07:15**	**PM Peak Hour**				16:15		16:30		**16:30**
AM Pk Volume				631		1139		**1765**	**PM Pk Volume**				980		861		**1839**
Pk Hr Factor				0.862		0.871		**0.941**	**Pk Hr Factor**				0.972		0.944		**0.978**
7 - 9 Volume	0	0		1165		1921		**3086**	**4 - 6 Volume**	0	0		1891		1597		**3488**
7 - 9 Peak Hour				07:15		07:00		**07:15**	**4 - 6 Peak Hour**				16:15		16:30		**16:30**
7 - 9 Pk Volume	0	0		631		1139		**1765**	**4 - 6 Pk Volume**	0	0		980		861		**1839**
Pk Hr Factor	0.000	0.000		0.862		0.871		**0.941**	**Pk Hr Factor**	0.000	0.000		0.972		0.944		**0.978**

Prepared by NDS/ATD

Project #: CA18_8043_004 **City:** Royal Oaks

Location: Hall Rd Bet. Elkhorn Rd & Willow Rd **Date:** 2/1/2018



Prepared by National Data & Surveying Services

CLASSIFICATION

Hall Rd Bet. Johnson Rd & San Miguel Canyon Rd

Day: Wednesday
Date: 1/31/2018

City: Royal Oaks
Project #: CA18_8043_005

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	78	7	0	12	0	0	1	1	0	1	0	0	**100**
01:00	0	60	6	0	5	0	0	0	0	0	0	0	0	**71**
02:00	0	47	9	0	16	0	0	0	1	0	1	0	0	**74**
03:00	0	72	13	1	9	0	0	0	0	0	1	0	0	**96**
04:00	0	181	31	2	28	0	0	3	1	0	1	0	0	**247**
05:00	5	477	106	2	48	4	0	6	6	0	2	0	0	**656**
06:00	6	789	169	12	101	9	1	2	5	0	5	0	0	**1099**
07:00	5	1061	182	2	106	4	0	6	4	0	4	0	0	**1374**
08:00	2	814	158	1	111	5	0	4	6	0	4	0	0	**1105**
09:00	4	593	145	13	93	3	0	7	5	0	2	0	0	**865**
10:00	0	605	126	7	89	6	0	6	4	0	5	0	0	**848**
11:00	5	574	116	8	115	5	2	10	6	1	2	0	0	**844**
12:00 PM	1	654	131	11	115	3	0	6	10	0	3	0	0	**934**
13:00	4	685	132	9	122	7	0	7	9	1	4	0	0	**980**
14:00	5	767	155	9	136	8	0	5	5	0	3	0	0	**1093**
15:00	4	1011	182	8	150	10	0	4	5	0	4	0	0	**1378**
16:00	6	1063	204	5	124	3	0	5	4	0	3	0	0	**1417**
17:00	6	1147	182	0	101	1	0	0	1	0	0	0	0	**1438**
18:00	5	893	143	0	77	3	0	1	5	0	2	0	0	**1129**
19:00	0	645	79	5	47	0	0	2	3	0	1	0	0	**782**
20:00	1	465	63	0	42	1	0	1	2	0	1	0	0	**576**
21:00	0	392	40	1	20	0	0	1	0	0	0	0	0	**454**
22:00	0	218	33	4	14	0	0	3	1	0	0	0	0	**273**
23:00	0	132	13	0	11	0	0	1	2	0	0	0	0	**159**
Totals	**59**	**13423**	**2425**	**100**	**1692**	**72**	**3**	**81**	**86**	**2**	**49**			**17992**
% of Totals	0%	75%	13%	1%	9%	0%	0%	0%	0.5%	0.0%	0.3%			100%

AM Volumes	27	5351	1068	48	733	36	3	45	39	1	28	0	0	7379
% AM	0%	30%	6%	0%	4%	0%	0%	0%	0%	0%	0%			41%
AM Peak Hour	06:00	07:00	07:00	09:00	11:00	06:00	11:00	11:00	05:00	11:00	06:00			07:00
Volume	6	1061	182	13	115	9	2	10	6	1	5			1374
PM Volumes	32	8072	1357	52	959	36	0	36	47	1	21	0	0	10613
% PM	0%	45%	8%	0%	5%	0%		0%	0%	0%	0%			59%
PM Peak Hour	16:00	17:00	16:00	12:00	15:00	15:00		13:00	12:00	13:00	13:00			17:00
Volume	6	1147	204	11	150	10		7	10	1	4			1438

Directional Peak Periods	**AM 7-9**		**NOON 12-2**		**PM 4-6**		**Off Peak Volumes**	
All Classes	Volume	%	Volume	%	Volume	%	Volume	%
	2479	14%	1914	11%	2855	16%	10744	60%

Classification Definitions

1 Motorcycles	**4** Buses	**7** > =4-Axle Single Units	**10** >=6-Axle Single Trailers	**13** >=7-Axle Multi-Trailers
2 Passenger Cars	**5** 2-Axle, 6-Tire Single Units	**8** <=4-Axle Single Trailers	**11** <=5-Axle Multi-Trailers	
3 2-Axle, 4-Tire Single Units	**6** 3-Axle Single Units	**9** 5-Axle Single Trailers	**12** 6-Axle Multi-Trailers	

Prepared by NDS/ATD

Prepared by National Data & Surveying Services

VOLUME

Hall Rd Bet. Johnson Rd & San Miguel Canyon Rd

Day: Wednesday
Date: 1/31/2018

City: Royal Oaks
Project #: CA18_8043_005

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	8,855	9,137	17,992

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00	0	0	19		11		30		**12:00**	0	0	113		101		214	
00:15	0	0	14		19		33		**12:15**	0	0	104		112		216	
00:30	0	0	9		9		18		**12:30**	0	0	139		128		267	
00:45	0	0	11	53	8	47	19	100	**12:45**	0	0	114	470	123	464	237	934
01:00	0	0	6		9		15		**13:00**	0	0	123		112		235	
01:15	0	0	8		16		24		**13:15**	0	0	135		122		257	
01:30	0	0	6		10		16		**13:30**	0	0	113		123		236	
01:45	0	0	7	27	9	44	16	71	**13:45**	0	0	134	505	118	475	252	980
02:00	0	0	5		5		10		**14:00**	0	0	158		123		281	
02:15	0	0	21		8		29		**14:15**	0	0	138		118		256	
02:30	0	0	14		5		19		**14:30**	0	0	144		130		274	
02:45	0	0	9	49	7	25	16	74	**14:45**	0	0	144	584	138	509	282	1093
03:00	0	0	11		10		21		**15:00**	0	0	151		134		285	
03:15	0	0	10		11		21		**15:15**	0	0	169		188		357	
03:30	0	0	12		11		23		**15:30**	0	0	187		168		355	
03:45	0	0	10	43	21	53	31	96	**15:45**	0	0	169	676	212	702	381	1378
04:00	0	0	13		19		32		**16:00**	0	0	151		179		330	
04:15	0	0	17		31		48		**16:15**	0	0	158		197		355	
04:30	0	0	32		46		78		**16:30**	0	0	176		205		381	
04:45	0	0	39	101	50	146	89	247	**16:45**	0	0	175	660	176	757	351	1417
05:00	0	0	71		39		110		**17:00**	0	0	192		169		361	
05:15	0	0	79		68		147		**17:15**	0	0	166		198		364	
05:30	0	0	115		87		202		**17:30**	0	0	191		170		361	
05:45	0	0	82	347	115	309	197	656	**17:45**	0	0	166	715	186	723	352	1438
06:00	0	0	93		120		213		**18:00**	0	0	167		141		308	
06:15	0	0	112		189		301		**18:15**	0	0	153		139		292	
06:30	0	0	140		162		302		**18:30**	0	0	147		127		274	
06:45	0	0	134	479	149	620	283	1099	**18:45**	0	0	141	608	114	521	255	1129
07:00	0	0	127		165		292		**19:00**	0	0	129		109		238	
07:15	0	0	168		194		362		**19:15**	0	0	123		94		217	
07:30	0	0	163		221		384		**19:30**	0	0	89		91		180	
07:45	0	0	143	601	193	773	336	1374	**19:45**	0	0	77	418	70	364	147	782
08:00	0	0	130		161		291		**20:00**	0	0	97		77		174	
08:15	0	0	139		166		305		**20:15**	0	0	64		77		141	
08:30	0	0	139		145		284		**20:30**	0	0	78		67		145	
08:45	0	0	114	522	111	583	225	1105	**20:45**	0	0	47	286	69	290	116	576
09:00	0	0	102		120		222		**21:00**	0	0	65		50		115	
09:15	0	0	101		117		218		**21:15**	0	0	72		52		124	
09:30	0	0	114		108		222		**21:30**	0	0	72		52		124	
09:45	0	0	94	411	109	454	203	865	**21:45**	0	0	54	263	37	191	91	454
10:00	0	0	96		102		198		**22:00**	0	0	47		41		88	
10:15	0	0	101		124		225		**22:15**	0	0	35		28		63	
10:30	0	0	93		117		210		**22:30**	0	0	41		29		70	
10:45	0	0	107	397	108	451	215	848	**22:45**	0	0	31	154	21	119	52	273
11:00	0	0	91		101		192		**23:00**	0	0	22		20		42	
11:15	0	0	114		101		215		**23:15**	0	0	21		23		44	
11:30	0	0	95		125		220		**23:30**	0	0	20		17		37	
11:45	0	0	106	406	111	438	217	844	**23:45**	0	0	17	80	19	79	36	159
TOTALS				3436		3943		**7379**	**TOTALS**				5419		5194		**10613**
SPLIT %				46.6%		53.4%		**41.0%**	**SPLIT %**				51.1%		48.9%		**59.0%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	8,855	9,137	17,992

AM Peak Hour				07:15		07:00		**07:00**	**PM Peak Hour**				16:45		15:45		**16:30**
AM Pk Volume				604		773		**1374**	**PM Pk Volume**				724		793		**1457**
Pk Hr Factor				0.899		0.874		**0.895**	**Pk Hr Factor**				0.943		0.935		**0.956**
7 - 9 Volume	0	0		1123		1356		**2479**	**4 - 6 Volume**	0	0		1375		1480		**2855**
7 - 9 Peak Hour				07:15		07:00		**07:00**	**4 - 6 Peak Hour**				16:45		16:00		**16:30**
7 - 9 Pk Volume	0	0		604		773		**1374**	**4 - 6 Pk Volume**	0	0		724		757		**1457**
Pk Hr Factor	0.000	0.000		0.899		0.874		**0.895**	**Pk Hr Factor**	0.000	0.000		0.943		0.923		**0.956**

Prepared by NDS/ATD

Project #: CA18_8043_005 **City:** Royal Oaks

Location: Hall Rd Bet. Johnson Rd & San Miguel **Date:** 1/31/2018

Prepared by National Data & Surveying Services

CLASSIFICATION

Hall Rd Bet. Johnson Rd & San Miguel Canyon Rd

Day: Thursday
Date: 2/1/2018

City: Royal Oaks
Project #: CA18_8043_005

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	113	18	0	12	0	0	1	0	0	1	0	0	145
01:00	0	56	3	1	5	0	0	1	0	0	1	0	0	67
02:00	0	49	11	1	5	0	0	2	0	0	2	0	0	70
03:00	0	61	8	2	12	0	0	0	0	0	1	0	0	84
04:00	0	195	38	1	33	0	0	4	1	0	1	0	0	273
05:00	1	486	93	4	57	3	0	5	4	0	3	0	0	656
06:00	5	804	177	11	109	6	0	2	3	1	1	0	0	1119
07:00	5	1043	177	5	108	5	0	6	4	0	1	0	0	1354
08:00	7	773	147	4	126	3	0	4	2	0	3	0	0	1069
09:00	2	581	132	6	85	2	0	7	3	0	8	0	0	826
10:00	4	533	116	2	89	3	0	4	6	0	7	0	0	764
11:00	4	576	137	7	122	10	0	4	3	0	6	0	0	869
12:00 PM	4	622	154	5	112	6	0	9	8	1	5	0	0	926
13:00	6	672	128	8	119	4	0	6	9	0	1	0	0	953
14:00	1	803	167	13	115	1	0	13	6	0	0	0	0	1119
15:00	8	935	184	7	123	6	0	7	4	0	1	0	0	1275
16:00	3	1113	210	9	153	4	0	2	1	0	1	0	0	1496
17:00	7	1066	180	2	132	5	0	4	4	0	1	0	0	1401
18:00	1	886	138	4	68	0	0	2	2	1	2	0	0	1104
19:00	1	673	90	4	64	1	0	2	2	0	0	0	0	837
20:00	0	493	74	1	41	0	0	1	0	0	1	0	0	611
21:00	0	385	50	0	30	0	0	3	0	0	0	0	0	468
22:00	0	259	33	2	14	0	0	0	1	0	0	0	0	309
23:00	0	133	15	1	12	0	0	1	1	0	0	0	0	163
Totals	**59**	**13310**	**2480**	**100**	**1746**	**59**		**90**	**64**	**3**	**47**			**17958**
% of Totals	0%	74%	14%	1%	10%	0%		1%	0.4%	0.0%	0.3%			100%

AM Volumes	28	5270	1057	44	763	32	0	40	26	1	35	0	0	7296
% AM	0%	29%	6%	0%	4%	0%		0%	0%	0%	0%			41%
AM Peak Hour	08:00	07:00	06:00	06:00	08:00	11:00		09:00	10:00	06:00	09:00			07:00
Volume	7	1043	177	11	126	10		7	6	1	8			1354
PM Volumes	31	8040	1423	56	983	27	0	50	38	2	12	0	0	10662
% PM	0%	45%	8%	0%	5%	0%		0%	0%	0%	0%			59%
PM Peak Hour	15:00	16:00	16:00	14:00	16:00	12:00		14:00	13:00	12:00	12:00			16:00
Volume	8	1113	210	13	153	6		13	9	1	5			1496

Directional Peak Periods All Classes	AM 7-9		NOON 12-2		PM 4-6		Off Peak Volumes	
	Volume	%	Volume	%	Volume	%	Volume	%
	2423	13%	1879	10%	2897	16%	10759	60%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by NDS/ATD

Prepared by National Data & Surveying Services

VOLUME

Hall Rd Bet. Johnson Rd & San Miguel Canyon Rd

Day: Thursday
Date: 2/1/2018

City: Royal Oaks
Project #: CA18_8043_005

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	8,952	9,006	17,958

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00	0	0	20		12		32		**12:00**	0	0	107		119		226	
00:15	0	0	27		22		49		**12:15**	0	0	114		124		238	
00:30	0	0	17		19		36		**12:30**	0	0	133		104		237	
00:45	0	0	16	80	12	65	28	145	**12:45**	0	0	113	467	112	459	225	926
01:00	0	0	9		9		18		**13:00**	0	0	125		110		235	
01:15	0	0	6		10		16		**13:15**	0	0	117		117		234	
01:30	0	0	10		8		18		**13:30**	0	0	117		134		251	
01:45	0	0	10	35	5	32	15	67	**13:45**	0	0	121	480	112	473	233	953
02:00	0	0	8		5		13		**14:00**	0	0	136		117		253	
02:15	0	0	10		6		16		**14:15**	0	0	150		112		262	
02:30	0	0	14		9		23		**14:30**	0	0	147		134		281	
02:45	0	0	9	41	9	29	18	70	**14:45**	0	0	135	568	188	551	323	1119
03:00	0	0	9		6		15		**15:00**	0	0	158		131		289	
03:15	0	0	10		9		19		**15:15**	0	0	164		155		319	
03:30	0	0	13		12		25		**15:30**	0	0	168		151		319	
03:45	0	0	11	43	14	41	25	84	**15:45**	0	0	174	664	174	611	348	1275
04:00	0	0	15		15		30		**16:00**	0	0	160		196		356	
04:15	0	0	25		31		56		**16:15**	0	0	182		195		377	
04:30	0	0	40		61		101		**16:30**	0	0	176		195		371	
04:45	0	0	34	114	52	159	86	273	**16:45**	0	0	186	704	206	792	392	1496
05:00	0	0	60		47		107		**17:00**	0	0	182		166		348	
05:15	0	0	100		58		158		**17:15**	0	0	176		184		360	
05:30	0	0	97		98		195		**17:30**	0	0	181		206		387	
05:45	0	0	80	337	116	319	196	656	**17:45**	0	0	182	721	124	680	306	1401
06:00	0	0	85		130		215		**18:00**	0	0	166		144		310	
06:15	0	0	112		194		306		**18:15**	0	0	162		133		295	
06:30	0	0	132		179		311		**18:30**	0	0	143		130		273	
06:45	0	0	127	456	160	663	287	1119	**18:45**	0	0	115	586	111	518	226	1104
07:00	0	0	148		181		329		**19:00**	0	0	151		98		249	
07:15	0	0	183		168		351		**19:15**	0	0	140		103		243	
07:30	0	0	153		193		346		**19:30**	0	0	94		77		171	
07:45	0	0	136	620	192	734	328	1354	**19:45**	0	0	101	486	73	351	174	837
08:00	0	0	145		167		312		**20:00**	0	0	87		79		166	
08:15	0	0	118		136		254		**20:15**	0	0	85		70		155	
08:30	0	0	132		142		274		**20:30**	0	0	90		57		147	
08:45	0	0	107	502	122	567	229	1069	**20:45**	0	0	71	333	72	278	143	611
09:00	0	0	90		111		201		**21:00**	0	0	57		61		118	
09:15	0	0	94		95		189		**21:15**	0	0	78		80		158	
09:30	0	0	119		106		225		**21:30**	0	0	50		44		94	
09:45	0	0	109	412	102	414	211	826	**21:45**	0	0	48	233	50	235	98	468
10:00	0	0	104		93		197		**22:00**	0	0	40		48		88	
10:15	0	0	92		92		184		**22:15**	0	0	39		45		84	
10:30	0	0	94		110		204		**22:30**	0	0	39		35		74	
10:45	0	0	90	380	89	384	179	764	**22:45**	0	0	29	147	34	162	63	309
11:00	0	0	92		94		186		**23:00**	0	0	27		17		44	
11:15	0	0	118		108		226		**23:15**	0	0	27		22		49	
11:30	0	0	135		105		240		**23:30**	0	0	25		16		41	
11:45	0	0	106	451	111	418	217	869	**23:45**	0	0	13	92	16	71	29	163
TOTALS				3471		3825		**7296**	**TOTALS**				5481		5181		**10662**
SPLIT %				47.6%		52.4%		**40.6%**	**SPLIT %**				51.4%		48.6%		**59.4%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	8,952	9,006	17,958

AM Peak Hour				07:00		07:00		**07:00**	**PM Peak Hour**				16:15		16:00		**16:00**
AM Pk Volume				620		734		**1354**	**PM Pk Volume**				726		792		**1496**
Pk Hr Factor				0.847		0.951		**0.964**	**Pk Hr Factor**				0.976		0.961		**0.954**
7 - 9 Volume	0	0		1122		1301		**2423**	**4 - 6 Volume**	0	0		1425		1472		**2897**
7 - 9 Peak Hour				07:00		07:00		**07:00**	**4 - 6 Peak Hour**				16:15		16:00		**16:00**
7 - 9 Pk Volume	0	0		620		734		**1354**	**4 - 6 Pk Volume**	0	0		726		792		**1496**
Pk Hr Factor	0.000	0.000		0.847		0.951		**0.964**	**Pk Hr Factor**	0.000	0.000		0.976		0.961		**0.954**

Prepared by NDS/ATD

Project #: CA18_8043_005 **City:** Royal Oaks

Location: Hall Rd Bet. Johnson Rd & San Miguel **Date:** 2/1/2018

Prepared by National Data & Surveying Services

CLASSIFICATION

San Miguel Canyon Rd Bet. Woodland Hill Ln & Hambey Ln

Day: Wednesday
Date: 1/31/2018

City: Royal Oaks
Project #: CA18_8043_006

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	62	8	1	10	0	0	1	0	0	0	0	0	**82**
01:00	0	37	5	0	5	0	0	0	1	0	0	0	0	**48**
02:00	0	41	8	0	11	0	0	0	1	0	1	0	0	**62**
03:00	0	54	11	1	8	0	0	0	0	0	1	0	0	**75**
04:00	0	142	30	2	10	0	0	3	0	0	2	0	0	**189**
05:00	1	371	86	1	38	1	0	12	1	0	2	0	0	**513**
06:00	3	752	161	7	78	8	0	4	6	0	7	0	0	**1026**
07:00	5	961	161	7	79	5	0	7	6	0	3	0	0	**1234**
08:00	4	717	149	3	78	1	0	5	3	0	4	0	0	**964**
09:00	2	577	123	5	74	4	0	3	7	0	3	0	0	**798**
10:00	0	591	119	9	85	3	0	13	8	0	12	0	0	**840**
11:00	3	649	135	8	82	7	1	12	16	1	14	0	0	**928**
12:00 PM	2	671	124	7	81	5	1	6	10	0	12	0	0	**919**
13:00	2	632	135	8	84	7	0	9	12	0	4	0	0	**893**
14:00	3	683	138	9	102	4	0	7	6	0	3	0	0	**955**
15:00	1	880	172	5	105	6	0	8	7	1	3	0	0	**1188**
16:00	6	985	193	4	93	0	0	5	3	0	0	0	0	**1289**
17:00	2	1058	184	3	78	1	0	3	0	0	1	0	0	**1330**
18:00	1	816	139	0	69	2	0	2	3	0	2	0	0	**1034**
19:00	0	593	62	2	38	1	0	3	3	0	1	0	0	**703**
20:00	0	446	58	1	28	0	0	0	0	0	1	0	0	**534**
21:00	0	357	35	0	15	1	0	1	1	0	0	0	0	**410**
22:00	0	194	21	4	14	0	0	3	1	0	0	0	0	**237**
23:00	0	125	12	0	8	0	0	1	3	0	0	0	0	**149**
Totals	**35**	**12394**	**2269**	**87**	**1273**	**56**	**2**	**108**	**98**	**2**	**76**			**16400**
% of Totals	0%	76%	14%	1%	8%	0%	0%	1%	0.6%	0.0%	0.5%			100%

AM Volumes	18	4954	996	44	558	29	1	60	49	1	49	0	0	6759
% AM	0%	30%	6%	0%	3%	0%	0%	0%	0%	0%	0%			41%
AM Peak Hour	07:00	07:00	06:00	10:00	10:00	06:00	11:00	10:00	11:00	11:00	11:00			07:00
Volume	5	961	161	9	85	8	1	13	16	1	14			1234
PM Volumes	17	7440	1273	43	715	27	1	48	49	1	27	0	0	9641
% PM	0%	45%	8%	0%	4%	0%	0%	0%	0%	0%	0%			59%
PM Peak Hour	16:00	17:00	16:00	14:00	15:00	13:00	12:00	13:00	13:00	15:00	12:00			17:00
Volume	6	1058	193	9	105	7	1	9	12	1	12			1330

Directional Peak Periods	**AM 7-9**		**NOON 12-2**		**PM 4-6**		**Off Peak Volumes**	
All Classes	Volume	%	Volume	%	Volume	%	Volume	%
	2198	13%	1812	11%	2619	16%	9771	60%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by NDS/ATD

Prepared by National Data & Surveying Services

VOLUME

San Miguel Canyon Rd Bet. Woodland Hill Ln & Hambey Ln

Day: Wednesday
Date: 1/31/2018

City: Royal Oaks
Project #: CA18_8043_006

DAILY TOTALS	NB	SB	EB	WB	Total
	8,553	7,847	0	0	16,400

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	9		16		0	0	25		**12:00**	117		99		0	0	216	
00:15	9		13		0	0	22		**12:15**	144		77		0	0	221	
00:30	8		11		0	0	19		**12:30**	129		112		0	0	241	
00:45	7	33	9	49	0	0	16	82	**12:45**	143	533	98	386	0	0	241	919
01:00	7		5		0	0	12		**13:00**	113		101		0	0	214	
01:15	8		6		0	0	14		**13:15**	115		131		0	0	246	
01:30	9		4		0	0	13		**13:30**	107		103		0	0	210	
01:45	5	29	4	19	0	0	9	48	**13:45**	108	443	115	450	0	0	223	893
02:00	3		5		0	0	8		**14:00**	111		148		0	0	259	
02:15	6		16		0	0	22		**14:15**	98		128		0	0	226	
02:30	6		14		0	0	20		**14:30**	109		130		0	0	239	
02:45	6	21	6	41	0	0	12	62	**14:45**	105	423	126	532	0	0	231	955
03:00	9		12		0	0	21		**15:00**	134		136		0	0	270	
03:15	9		5		0	0	14		**15:15**	138		168		0	0	306	
03:30	9		14		0	0	23		**15:30**	134		159		0	0	293	
03:45	10	37	7	38	0	0	17	75	**15:45**	157	563	162	625	0	0	319	1188
04:00	21		9		0	0	30		**16:00**	158		145		0	0	303	
04:15	26		10		0	0	36		**16:15**	174		160		0	0	334	
04:30	47		15		0	0	62		**16:30**	152		172		0	0	324	
04:45	44	138	17	51	0	0	61	189	**16:45**	132	616	196	673	0	0	328	1289
05:00	37		46		0	0	83		**17:00**	149		166		0	0	315	
05:15	74		37		0	0	111		**17:15**	194		176		0	0	370	
05:30	106		54		0	0	160		**17:30**	141		190		0	0	331	
05:45	95	312	64	201	0	0	159	513	**17:45**	161	645	153	685	0	0	314	1330
06:00	133		70		0	0	203		**18:00**	117		151		0	0	268	
06:15	172		105		0	0	277		**18:15**	124		151		0	0	275	
06:30	171		117		0	0	288		**18:30**	121		132		0	0	253	
06:45	161	637	97	389	0	0	258	1026	**18:45**	104	466	134	568	0	0	238	1034
07:00	155		130		0	0	285		**19:00**	96		114		0	0	210	
07:15	174		142		0	0	316		**19:15**	87		100		0	0	187	
07:30	173		144		0	0	317		**19:30**	86		85		0	0	171	
07:45	181	683	135	551	0	0	316	1234	**19:45**	73	342	62	361	0	0	135	703
08:00	140		118		0	0	258		**20:00**	76		79		0	0	155	
08:15	137		123		0	0	260		**20:15**	78		57		0	0	135	
08:30	124		119		0	0	243		**20:30**	68		64		0	0	132	
08:45	100	501	103	463	0	0	203	964	**20:45**	57	279	55	255	0	0	112	534
09:00	102		91		0	0	193		**21:00**	51		46		0	0	97	
09:15	107		103		0	0	210		**21:15**	56		55		0	0	111	
09:30	105		103		0	0	208		**21:30**	43		66		0	0	109	
09:45	107	421	80	377	0	0	187	798	**21:45**	41	191	52	219	0	0	93	410
10:00	106		88		0	0	194		**22:00**	39		36		0	0	75	
10:15	126		89		0	0	215		**22:15**	25		34		0	0	59	
10:30	129		79		0	0	208		**22:30**	28		34		0	0	62	
10:45	135	496	88	344	0	0	223	840	**22:45**	12	104	29	133	0	0	41	237
11:00	128		71		0	0	199		**23:00**	23		19		0	0	42	
11:15	153		97		0	0	250		**23:15**	20		22		0	0	42	
11:30	173		87		0	0	260		**23:30**	15		17		0	0	32	
11:45	114	568	105	360	0	0	219	928	**23:45**	14	72	19	77	0	0	33	149
TOTALS		3876		2883				**6759**	**TOTALS**		4677		4964				**9641**
SPLIT %		57.3%		42.7%				**41.2%**	**SPLIT %**		48.5%		51.5%				**58.8%**

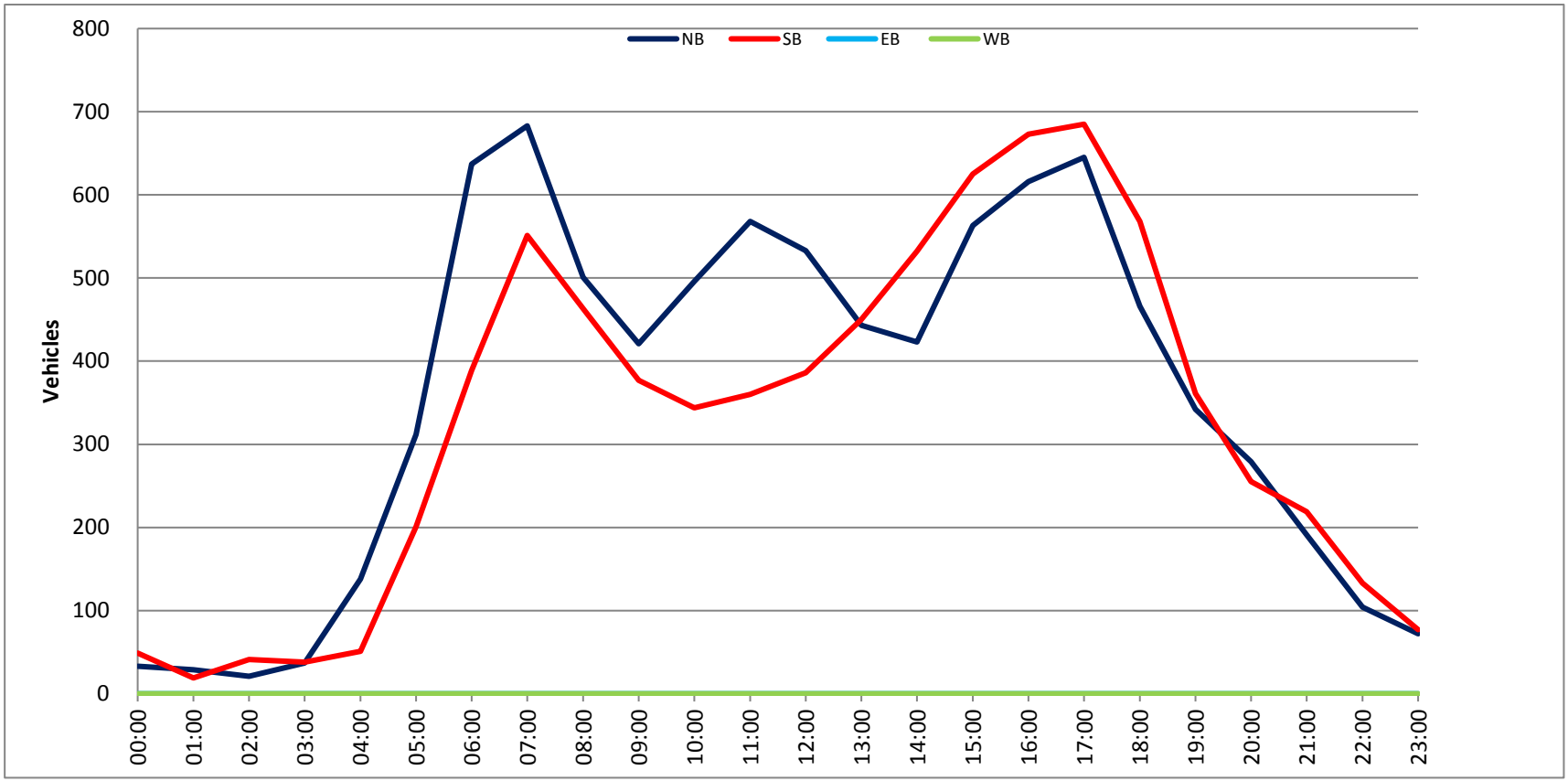
DAILY TOTALS	NB	SB	EB	WB	Total
	8,553	7,847	0	0	16,400

AM Peak Hour	07:00	07:00				**07:00**	**PM Peak Hour**	17:00	16:45					**16:45**
AM Pk Volume	683	551				**1234**	**PM Pk Volume**	645	728					**1344**
Pk Hr Factor	0.943	0.957				**0.973**	**Pk Hr Factor**	0.831	0.929					**0.908**
7 - 9 Volume	1184	1014	0	0		**2198**	**4 - 6 Volume**	1261	1358	0	0			**2619**
7 - 9 Peak Hour	07:00	07:00				**07:00**	**4 - 6 Peak Hour**	17:00	16:45					**16:45**
7 - 9 Pk Volume	683	551	0	0		**1234**	**4 - 6 Pk Volume**	645	728	0	0			**1344**
Pk Hr Factor	0.943	0.957	0.000	0.000		**0.973**	**Pk Hr Factor**	0.831	0.929	0.000	0.000			**0.908**

Prepared by NDS/ATD

Project #: CA18_8043_006 **City:** Royal Oaks

Location: San Miguel Canyon Rd Bet. Woodland Hill Ln **Date:** 1/31/2018



Prepared by National Data & Surveying Services

CLASSIFICATION

San Miguel Canyon Rd Bet. Woodland Hill Ln & Hambey Ln

Day: Thursday
Date: 2/1/2018

City: Royal Oaks
Project #: CA18_8043_006

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	90	13	0	9	0	0	1	2	0	0	0	0	**115**
01:00	0	41	2	0	5	0	0	1	0	0	1	0	0	**50**
02:00	0	42	6	0	10	0	0	3	1	0	0	0	0	**62**
03:00	0	49	12	1	11	0	0	0	0	0	0	0	0	**73**
04:00	0	154	36	1	11	0	0	4	1	0	1	0	0	**208**
05:00	0	362	66	1	35	2	0	8	1	0	2	0	0	**477**
06:00	2	753	181	5	76	3	0	5	6	0	4	0	0	**1035**
07:00	8	960	158	3	81	7	0	4	5	0	3	0	0	**1229**
08:00	3	700	149	6	96	3	0	3	2	0	3	0	0	**965**
09:00	2	584	116	5	77	1	0	7	2	0	6	0	0	**800**
10:00	0	507	107	2	67	2	0	6	5	0	3	0	0	**699**
11:00	3	526	122	4	94	7	0	8	1	0	7	0	0	**772**
12:00 PM	1	592	151	5	92	6	0	8	5	0	3	0	0	**863**
13:00	3	602	142	5	84	2	0	11	7	0	5	0	0	**861**
14:00	2	696	154	7	86	6	0	10	11	0	1	0	0	**973**
15:00	7	880	157	8	97	4	0	7	2	0	1	0	0	**1163**
16:00	4	974	204	8	113	4	0	3	3	0	2	0	0	**1315**
17:00	1	1006	193	1	86	2	0	5	1	0	0	0	0	**1295**
18:00	4	807	148	1	47	0	0	0	2	0	3	0	0	**1012**
19:00	0	579	88	3	37	3	0	4	1	0	0	0	0	**715**
20:00	0	440	66	1	28	0	0	0	1	0	1	0	0	**537**
21:00	0	344	45	0	21	0	0	2	1	0	0	0	0	**413**
22:00	0	234	29	1	12	0	0	1	0	0	0	0	0	**277**
23:00	0	119	13	1	4	0	0	1	2	0	0	0	0	**140**
Totals	**40**	**12041**	**2358**	**69**	**1279**	**52**		**102**	**62**		**46**			**16049**
% of Totals	0%	75%	15%	0%	8%	0%		1%	0.4%		0.3%			100%

AM Volumes	18	4768	968	28	572	25	0	50	26	0	30	0	0	6485
% AM	0%	30%	6%	0%	4%	0%		0%	0%		0%			40%
AM Peak Hour	07:00	07:00	06:00	08:00	08:00	07:00		05:00	06:00		11:00			07:00
Volume	8	960	181	6	96	7		8	6		7			1229
PM Volumes	22	7273	1390	41	707	27	0	52	36	0	16	0	0	9564
% PM	0%	45%	9%	0%	4%	0%		0%	0%		0%			60%
PM Peak Hour	15:00	17:00	16:00	15:00	16:00	12:00		13:00	14:00		13:00			16:00
Volume	7	1006	204	8	113	6		11	11		5			1315

Directional Peak Periods **All Classes**	**AM 7-9**		**NOON 12-2**		**PM 4-6**		**Off Peak Volumes**	
	Volume	%	Volume	%	Volume	%	Volume	%
	2194	14%	1724	11%	2610	16%	9521	59%

Classification Definitions

1 Motorcycles	**4** Buses	**7** > =4-Axle Single Units	**10** >=6-Axle Single Trailers	**13** >=7-Axle Multi-Trailers
2 Passenger Cars	**5** 2-Axle, 6-Tire Single Units	**8** <=4-Axle Single Trailers	**11** <=5-Axle Multi-Trailers	
3 2-Axle, 4-Tire Single Units	**6** 3-Axle Single Units	**9** 5-Axle Single Trailers	**12** 6-Axle Multi-Trailers	

Prepared by NDS/ATD

Prepared by National Data & Surveying Services

VOLUME

San Miguel Canyon Rd Bet. Woodland Hill Ln & Hambey Ln

Day: Thursday
Date: 2/1/2018

City: Royal Oaks
Project #: CA18_8043_006

DAILY TOTALS	NB	SB	EB	WB	Total
	8,072	7,977	0	0	16,049

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	12		13		0	0	25		**12:00**	95		100		0	0	195	
00:15	15		30		0	0	45		**12:15**	112		110		0	0	222	
00:30	8		15		0	0	23		**12:30**	105		125		0	0	230	
00:45	11	46	11	69	0	0	22	115	**12:45**	110	422	106	441	0	0	216	863
01:00	5		4		0	0	9		**13:00**	102		98		0	0	200	
01:15	11		6		0	0	17		**13:15**	119		107		0	0	226	
01:30	4		9		0	0	13		**13:30**	120		98		0	0	218	
01:45	4	24	7	26	0	0	11	50	**13:45**	111	452	106	409	0	0	217	861
02:00	9		9		0	0	18		**14:00**	95		129		0	0	224	
02:15	3		9		0	0	12		**14:15**	100		129		0	0	229	
02:30	9		12		0	0	21		**14:30**	108		162		0	0	270	
02:45	5	26	6	36	0	0	11	62	**14:45**	130	433	120	540	0	0	250	973
03:00	8		9		0	0	17		**15:00**	108		138		0	0	246	
03:15	10		6		0	0	16		**15:15**	139		158		0	0	297	
03:30	8		8		0	0	16		**15:30**	138		173		0	0	311	
03:45	17	43	7	30	0	0	24	73	**15:45**	156	541	153	622	0	0	309	1163
04:00	13		9		0	0	22		**16:00**	167		158		0	0	325	
04:15	24		16		0	0	40		**16:15**	159		169		0	0	328	
04:30	56		19		0	0	75		**16:30**	138		181		0	0	319	
04:45	52	145	19	63	0	0	71	208	**16:45**	157	621	186	694	0	0	343	1315
05:00	35		35		0	0	70		**17:00**	155		170		0	0	325	
05:15	72		40		0	0	112		**17:15**	168		178		0	0	346	
05:30	93		43		0	0	136		**17:30**	168		175		0	0	343	
05:45	111	311	48	166	0	0	159	477	**17:45**	116	607	165	688	0	0	281	1295
06:00	139		76		0	0	215		**18:00**	138		167		0	0	305	
06:15	162		102		0	0	264		**18:15**	121		144		0	0	265	
06:30	174		98		0	0	272		**18:30**	116		127		0	0	243	
06:45	176	651	108	384	0	0	284	1035	**18:45**	88	463	111	549	0	0	199	1012
07:00	147		121		0	0	268		**19:00**	91		115		0	0	206	
07:15	144		148		0	0	292		**19:15**	76		128		0	0	204	
07:30	209		147		0	0	356		**19:30**	65		78		0	0	143	
07:45	190	690	123	539	0	0	313	1229	**19:45**	78	310	84	405	0	0	162	715
08:00	140		122		0	0	262		**20:00**	74		66		0	0	140	
08:15	120		119		0	0	239		**20:15**	65		82		0	0	147	
08:30	122		121		0	0	243		**20:30**	43		72		0	0	115	
08:45	111	493	110	472	0	0	221	965	**20:45**	73	255	62	282	0	0	135	537
09:00	102		91		0	0	193		**21:00**	65		49		0	0	114	
09:15	91		98		0	0	189		**21:15**	67		59		0	0	126	
09:30	100		107		0	0	207		**21:30**	44		39		0	0	83	
09:45	100	393	111	407	0	0	211	800	**21:45**	44	220	46	193	0	0	90	413
10:00	86		91		0	0	177		**22:00**	38		30		0	0	68	
10:15	87		81		0	0	168		**22:15**	47		33		0	0	80	
10:30	94		88		0	0	182		**22:30**	33		37		0	0	70	
10:45	86	353	86	346	0	0	172	699	**22:45**	26	144	33	133	0	0	59	277
11:00	78		95		0	0	173		**23:00**	16		21		0	0	37	
11:15	111		100		0	0	211		**23:15**	20		20		0	0	40	
11:30	80		112		0	0	192		**23:30**	19		20		0	0	39	
11:45	92	361	104	411	0	0	196	772	**23:45**	13	68	11	72	0	0	24	140
TOTALS		3536		2949				**6485**	**TOTALS**		4536		5028				**9564**
SPLIT %		54.5%		45.5%				**40.4%**	**SPLIT %**		47.4%		52.6%				**59.6%**

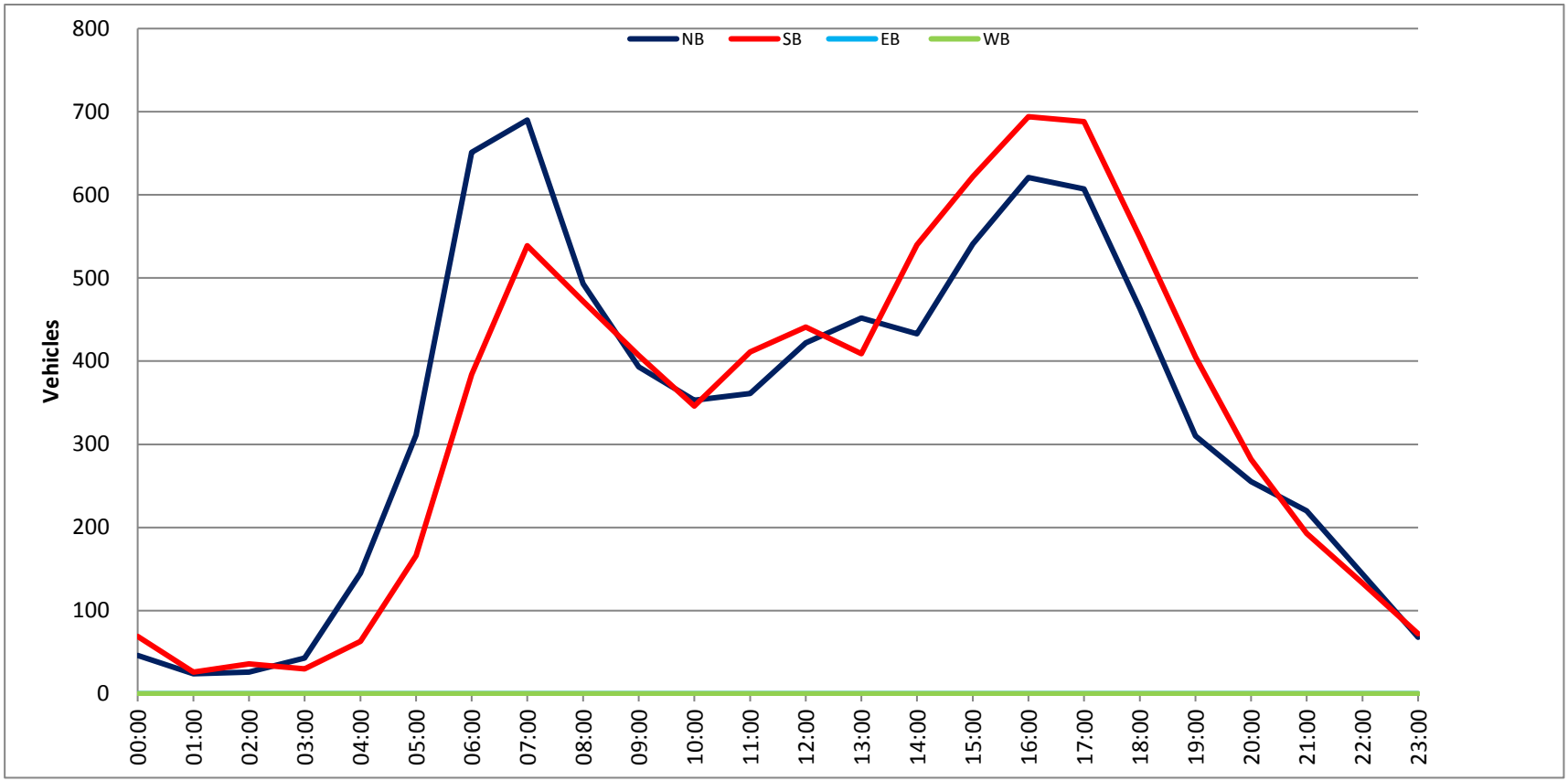
DAILY TOTALS	NB	SB	EB	WB	Total
	8,072	7,977	0	0	16,049

AM Peak Hour	07:00	07:15				**07:00**	**PM Peak Hour**	16:45	16:30				**16:45**
AM Pk Volume	690	540				**1229**	**PM Pk Volume**	648	715				**1357**
Pk Hr Factor	0.825	0.912				**0.863**	**Pk Hr Factor**	0.964	0.961				**0.980**
7 - 9 Volume	1183	1011	0	0		**2194**	**4 - 6 Volume**	1228	1382	0	0		**2610**
7 - 9 Peak Hour	07:00	07:15				**07:00**	**4 - 6 Peak Hour**	16:45	16:30				**16:45**
7 - 9 Pk Volume	690	540	0	0		**1229**	**4 - 6 Pk Volume**	648	715	0	0		**1357**
Pk Hr Factor	0.825	0.912	0.000	0.000		**0.863**	**Pk Hr Factor**	0.964	0.961	0.000	0.000		**0.980**

Prepared by NDS/ATD

Project #: CA18_8043_006 **City:** Royal Oaks

Location: San Miguel Canyon Rd Bet. Woodland Hill Ln **Date:** 2/1/2018



Prepared by National Data & Surveying Services

CLASSIFICATION

San Miguel Canyon Rd Bet. Garlen Ln & Pond Derosa Ln

Day: Wednesday
Date: 1/31/2018

City: Salinas
Project #: CA18_8043_007

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	96	9	0	4	0	0	1	2	0	1	0	0	**113**
01:00	0	47	6	0	7	0	0	0	0	0	0	0	0	**60**
02:00	0	42	17	0	4	0	0	1	0	0	3	0	0	**67**
03:00	0	62	18	1	1	0	0	0	0	0	3	0	0	**85**
04:00	0	177	31	1	17	0	0	1	0	0	1	0	0	**228**
05:00	3	526	112	1	37	2	0	8	3	0	5	0	0	**697**
06:00	0	828	211	7	75	9	1	6	3	0	9	0	0	**1149**
07:00	1	1190	254	12	74	8	0	2	5	0	3	0	0	**1549**
08:00	7	866	192	4	87	6	1	3	2	0	5	0	0	**1173**
09:00	3	644	197	7	56	5	0	3	3	0	4	0	0	**922**
10:00	0	693	159	8	108	5	0	8	8	0	9	0	0	**998**
11:00	2	757	173	8	82	4	0	16	16	0	11	0	0	**1069**
12:00 PM	1	837	203	13	84	6	0	7	14	0	10	0	0	**1175**
13:00	2	730	181	7	79	5	1	13	11	0	15	0	0	**1044**
14:00	3	815	213	6	73	3	0	7	5	0	6	0	0	**1131**
15:00	5	1113	250	6	101	6	0	7	6	0	1	0	0	**1495**
16:00	6	1114	268	5	76	0	0	3	4	0	1	0	0	**1477**
17:00	4	1225	224	2	74	7	0	2	2	0	0	0	0	**1540**
18:00	3	944	186	0	53	1	0	2	4	0	2	0	0	**1195**
19:00	2	715	105	2	44	1	1	1	4	0	1	0	0	**876**
20:00	1	512	81	0	31	0	0	1	3	0	1	0	0	**630**
21:00	0	407	60	0	9	0	0	1	2	0	0	0	0	**479**
22:00	0	224	31	3	9	1	0	2	2	0	0	0	0	**272**
23:00	0	151	18	0	8	0	0	0	2	0	1	0	0	**180**
Totals	**43**	**14715**	**3199**	**93**	**1193**	**69**	**4**	**95**	**101**		**92**			**19604**
% of Totals	0%	75%	16%	0%	6%	0%	0%	0%	0.5%		0.5%			100%

AM Volumes	16	5928	1379	49	552	39	2	49	42	0	54	0	0	8110
% AM	0%	30%	7%	0%	3%	0%	0%	0%	0%		0%			41%
AM Peak Hour	08:00	07:00	07:00	07:00	10:00	06:00	06:00	11:00	11:00		11:00			07:00
Volume	7	1190	254	12	108	9	1	16	16		11			1549
PM Volumes	27	8787	1820	44	641	30	2	46	59	0	38	0	0	11494
% PM	0%	45%	9%	0%	3%	0%	0%	0%	0%		0%			59%
PM Peak Hour	16:00	17:00	16:00	12:00	15:00	17:00	13:00	13:00	12:00		13:00			17:00
Volume	6	1225	268	13	101	7	1	13	14		15			1540

Directional Peak Periods	**AM 7-9**		**NOON 12-2**		**PM 4-6**		**Off Peak Volumes**	
All Classes	Volume	%	Volume	%	Volume	%	Volume	%
	2722	14%	2219	11%	3017	15%	11646	59%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by NDS/ATD

Prepared by National Data & Surveying Services

VOLUME

San Miguel Canyon Rd Bet. Garlen Ln & Pond Derosa Ln

Day: Wednesday
Date: 1/31/2018

City: Salinas
Project #: CA18_8043_007

DAILY TOTALS	NB	SB	EB	WB	Total
	10,201	9,403	0	0	19,604

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	19		11		0	0	30		**12:00**	159		130		0	0	289	
00:15	9		30		0	0	39		**12:15**	164		101		0	0	265	
00:30	8		16		0	0	24		**12:30**	171		135		0	0	306	
00:45	8	44	12	69	0	0	20	113	**12:45**	161	655	154	520	0	0	315	1175
01:00	11		7		0	0	18		**13:00**	121		122		0	0	243	
01:15	10		9		0	0	19		**13:15**	134		137		0	0	271	
01:30	10		5		0	0	15		**13:30**	140		127		0	0	267	
01:45	4	35	4	25	0	0	8	60	**13:45**	137	532	126	512	0	0	263	1044
02:00	7		5		0	0	12		**14:00**	118		163		0	0	281	
02:15	4		14		0	0	18		**14:15**	110		125		0	0	235	
02:30	7		16		0	0	23		**14:30**	148		160		0	0	308	
02:45	7	25	7	42	0	0	14	67	**14:45**	135	511	172	620	0	0	307	1131
03:00	8		9		0	0	17		**15:00**	167		165		0	0	332	
03:15	10		12		0	0	22		**15:15**	169		182		0	0	351	
03:30	6		14		0	0	20		**15:30**	196		203		0	0	399	
03:45	16	40	10	45	0	0	26	85	**15:45**	225	757	188	738	0	0	413	1495
04:00	16		16		0	0	32		**16:00**	188		172		0	0	360	
04:15	26		16		0	0	42		**16:15**	187		165		0	0	352	
04:30	52		19		0	0	71		**16:30**	200		191		0	0	391	
04:45	56	150	27	78	0	0	83	228	**16:45**	169	744	205	733	0	0	374	1477
05:00	48		62		0	0	110		**17:00**	189		190		0	0	379	
05:15	106		49		0	0	155		**17:15**	216		199		0	0	415	
05:30	158		64		0	0	222		**17:30**	196		198		0	0	394	
05:45	123	435	87	262	0	0	210	697	**17:45**	183	784	169	756	0	0	352	1540
06:00	144		82		0	0	226		**18:00**	152		164		0	0	316	
06:15	162		132		0	0	294		**18:15**	165		143		0	0	308	
06:30	180		158		0	0	338		**18:30**	152		147		0	0	299	
06:45	162	648	129	501	0	0	291	1149	**18:45**	134	603	138	592	0	0	272	1195
07:00	166		190		0	0	356		**19:00**	122		125		0	0	247	
07:15	187		168		0	0	355		**19:15**	112		111		0	0	223	
07:30	205		226		0	0	431		**19:30**	117		98		0	0	215	
07:45	199	757	208	792	0	0	407	1549	**19:45**	110	461	81	415	0	0	191	876
08:00	145		156		0	0	301		**20:00**	104		80		0	0	184	
08:15	150		159		0	0	309		**20:15**	101		74		0	0	175	
08:30	130		176		0	0	306		**20:30**	82		57		0	0	139	
08:45	123	548	134	625	0	0	257	1173	**20:45**	75	362	57	268	0	0	132	630
09:00	114		111		0	0	225		**21:00**	67		47		0	0	114	
09:15	116		128		0	0	244		**21:15**	73		57		0	0	130	
09:30	101		125		0	0	226		**21:30**	55		77		0	0	132	
09:45	111	442	116	480	0	0	227	922	**21:45**	52	247	51	232	0	0	103	479
10:00	120		123		0	0	243		**22:00**	45		38		0	0	83	
10:15	137		103		0	0	240		**22:15**	34		34		0	0	68	
10:30	158		103		0	0	261		**22:30**	30		39		0	0	69	
10:45	152	567	102	431	0	0	254	998	**22:45**	22	131	30	141	0	0	52	272
11:00	138		112		0	0	250		**23:00**	27		18		0	0	45	
11:15	173		102		0	0	275		**23:15**	21		25		0	0	46	
11:30	184		126		0	0	310		**23:30**	28		19		0	0	47	
11:45	132	627	102	442	0	0	234	1069	**23:45**	20	96	22	84	0	0	42	180
TOTALS		4318		3792				**8110**	**TOTALS**		5883		5611				**11494**
SPLIT %		53.2%		46.8%				**41.4%**	**SPLIT %**		51.2%		48.8%				**58.6%**

DAILY TOTALS	NB	SB	EB	WB	Total
	10,201	9,403	0	0	19,604

AM Peak Hour	07:00		07:00				**07:00**		**PM Peak Hour**	15:45		16:45				**16:45**	
AM Pk Volume	757		792				**1549**		**PM Pk Volume**	800		792				**1562**	
Pk Hr Factor	0.923		0.876				**0.898**		**Pk Hr Factor**	0.889		0.966				**0.941**	
7 - 9 Volume	1305		1417		0	0	**2722**		**4 - 6 Volume**	1528		1489		0	0	**3017**	
7 - 9 Peak Hour	07:00		07:00				**07:00**		**4 - 6 Peak Hour**	17:00		16:45				**16:45**	
7 - 9 Pk Volume	757		792		0	0	**1549**		**4 - 6 Pk Volume**	784		792		0	0	**1562**	
Pk Hr Factor	0.923		0.876		0.000	0.000	**0.898**		**Pk Hr Factor**	0.907		0.966		0.000	0.000	**0.941**	

Prepared by NDS/ATD

Project #: CA18_8043_007 **City:** Salinas

Location: San Miguel Canyon Rd Bet. Garlen Ln & **Date:** 1/31/2018

Prepared by National Data & Surveying Services

CLASSIFICATION

San Miguel Canyon Rd Bet. Garlen Ln & Pond Derosa Ln

Day: Thursday
Date: 2/1/2018

City: Salinas
Project #: CA18_8043_007

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	111	18	0	6	0	0	2	3	0	1	0	0	**141**
01:00	0	60	5	0	5	0	0	1	0	0	1	0	0	**72**
02:00	0	45	12	1	4	0	0	3	0	0	1	0	0	**66**
03:00	0	62	19	1	3	0	0	0	0	0	2	0	0	**87**
04:00	0	170	44	1	17	0	0	2	1	0	0	0	0	**235**
05:00	0	490	101	0	31	3	0	6	2	0	4	0	0	**637**
06:00	2	840	215	9	74	4	0	4	2	0	6	0	0	**1156**
07:00	5	1141	245	13	83	0	0	8	7	0	4	0	0	**1506**
08:00	3	872	194	8	95	3	0	4	4	0	4	0	0	**1187**
09:00	3	686	159	5	61	3	1	9	1	0	7	0	0	**935**
10:00	0	611	154	2	64	2	0	8	4	0	2	0	0	**847**
11:00	9	655	170	3	86	5	0	9	5	0	5	0	0	**947**
12:00 PM	3	732	180	5	84	4	0	12	9	0	3	0	0	**1032**
13:00	4	702	215	9	77	3	0	13	6	0	7	0	0	**1036**
14:00	2	874	214	17	76	4	1	10	7	0	1	0	0	**1206**
15:00	3	1082	237	11	78	5	0	9	5	0	1	0	0	**1431**
16:00	5	1165	288	7	82	4	0	5	3	0	4	0	0	**1563**
17:00	6	1148	232	2	78	1	0	3	3	0	1	0	0	**1474**
18:00	2	937	188	1	45	0	0	3	4	0	0	0	0	**1180**
19:00	0	699	125	4	31	3	0	2	2	0	1	0	0	**867**
20:00	1	513	98	1	28	0	0	0	2	0	1	0	0	**644**
21:00	0	426	74	0	19	0	0	2	1	0	0	0	0	**522**
22:00	1	272	38	1	7	0	0	2	2	0	1	0	0	**324**
23:00	0	149	15	1	4	0	0	0	1	0	0	0	0	**170**
Totals	**49**	**14442**	**3240**	**102**	**1138**	**44**	**2**	**117**	**74**		**57**			**19265**
% of Totals	0%	75%	17%	1%	6%	0%	0%	1%	0.4%		0.3%			100%

AM Volumes	22	5743	1336	43	529	20	1	56	29	0	37	0	0	7816
% AM	0%	30%	7%	0%	3%	0%	0%	0%	0%		0%			41%
AM Peak Hour	11:00	07:00	07:00	07:00	08:00	11:00	09:00	09:00	07:00		09:00			07:00
Volume	9	1141	245	13	95	5	1	9	7		7			1506
PM Volumes	27	8699	1904	59	609	24	1	61	45	0	20	0	0	11449
% PM	0%	45%	10%	0%	3%	0%	0%	0%	0%		0%			59%
PM Peak Hour	17:00	16:00	16:00	14:00	12:00	15:00	14:00	13:00	12:00		13:00			16:00
Volume	6	1165	288	17	84	5	1	13	9		7			1563

Directional Peak Periods	**AM 7-9**		**NOON 12-2**		**PM 4-6**		**Off Peak Volumes**	
All Classes	Volume	%	Volume	%	Volume	%	Volume	%
	2693	14%	2068	11%	3037	16%	11467	60%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by NDS/ATD

Prepared by National Data & Surveying Services

VOLUME

San Miguel Canyon Rd Bet. Garlen Ln & Pond Derosa Ln

Day: Thursday
Date: 2/1/2018

City: Salinas
Project #: CA18_8043_007

DAILY TOTALS	NB	SB	EB	WB	Total
	9,776	9,489	0	0	19,265

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	17		12		0	0	29		**12:00**	117		119		0	0	236	
00:15	15		41		0	0	56		**12:15**	143		124		0	0	267	
00:30	10		20		0	0	30		**12:30**	133		134		0	0	267	
00:45	15	57	11	84	0	0	26	141	**12:45**	124	517	138	515	0	0	262	1032
01:00	10		9		0	0	19		**13:00**	135		116		0	0	251	
01:15	12		8		0	0	20		**13:15**	140		119		0	0	259	
01:30	8		10		0	0	18		**13:30**	138		130		0	0	268	
01:45	4	34	11	38	0	0	15	72	**13:45**	135	548	123	488	0	0	258	1036
02:00	15		10		0	0	25		**14:00**	129		139		0	0	268	
02:15	4		5		0	0	9		**14:15**	132		136		0	0	268	
02:30	9		12		0	0	21		**14:30**	140		190		0	0	330	
02:45	5	33	6	33	0	0	11	66	**14:45**	153	554	187	652	0	0	340	1206
03:00	7		9		0	0	16		**15:00**	144		169		0	0	313	
03:15	13		8		0	0	21		**15:15**	150		186		0	0	336	
03:30	12		11		0	0	23		**15:30**	190		192		0	0	382	
03:45	16	48	11	39	0	0	27	87	**15:45**	224	708	176	723	0	0	400	1431
04:00	10		15		0	0	25		**16:00**	185		178		0	0	363	
04:15	27		17		0	0	44		**16:15**	209		185		0	0	394	
04:30	58		28		0	0	86		**16:30**	193		202		0	0	395	
04:45	53	148	27	87	0	0	80	235	**16:45**	197	784	214	779	0	0	411	1563
05:00	46		43		0	0	89		**17:00**	175		170		0	0	345	
05:15	101		47		0	0	148		**17:15**	198		204		0	0	402	
05:30	152		55		0	0	207		**17:30**	199		180		0	0	379	
05:45	135	434	58	203	0	0	193	637	**17:45**	157	729	191	745	0	0	348	1474
06:00	141		88		0	0	229		**18:00**	176		156		0	0	332	
06:15	164		108		0	0	272		**18:15**	154		183		0	0	337	
06:30	175		148		0	0	323		**18:30**	157		128		0	0	285	
06:45	188	668	144	488	0	0	332	1156	**18:45**	111	598	115	582	0	0	226	1180
07:00	152		180		0	0	332		**19:00**	119		120		0	0	239	
07:15	176		206		0	0	382		**19:15**	112		129		0	0	241	
07:30	214		202		0	0	416		**19:30**	91		93		0	0	184	
07:45	202	744	174	762	0	0	376	1506	**19:45**	108	430	95	437	0	0	203	867
08:00	152		170		0	0	322		**20:00**	99		62		0	0	161	
08:15	145		165		0	0	310		**20:15**	82		84		0	0	166	
08:30	124		155		0	0	279		**20:30**	77		81		0	0	158	
08:45	121	542	155	645	0	0	276	1187	**20:45**	98	356	61	288	0	0	159	644
09:00	103		113		0	0	216		**21:00**	87		65		0	0	152	
09:15	95		125		0	0	220		**21:15**	88		66		0	0	154	
09:30	119		145		0	0	264		**21:30**	70		41		0	0	111	
09:45	104	421	131	514	0	0	235	935	**21:45**	56	301	49	221	0	0	105	522
10:00	102		108		0	0	210		**22:00**	52		26		0	0	78	
10:15	95		109		0	0	204		**22:15**	61		35		0	0	96	
10:30	109		115		0	0	224		**22:30**	40		42		0	0	82	
10:45	96	402	113	445	0	0	209	847	**22:45**	34	187	34	137	0	0	68	324
11:00	100		116		0	0	216		**23:00**	21		26		0	0	47	
11:15	122		132		0	0	254		**23:15**	30		17		0	0	47	
11:30	104		130		0	0	234		**23:30**	22		22		0	0	44	
11:45	117	443	126	504	0	0	243	947	**23:45**	17	90	15	80	0	0	32	170
TOTALS		3974		3842				**7816**	**TOTALS**		5802		5647				**11449**
SPLIT %		50.8%		49.2%				**40.6%**	**SPLIT %**		50.7%		49.3%				**59.4%**

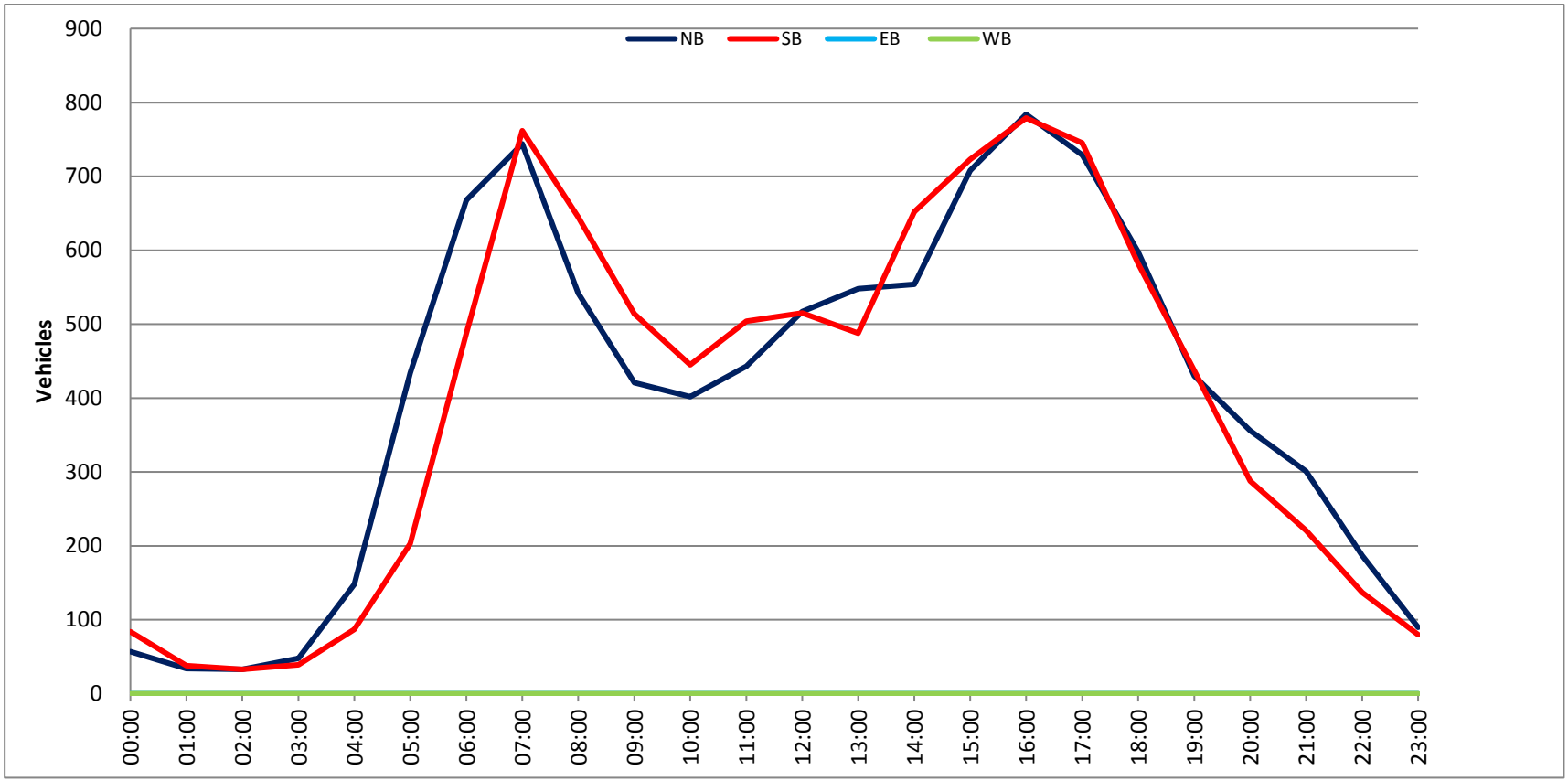
DAILY TOTALS	NB	SB	EB	WB	Total
	9,776	9,489	0	0	19,265

AM Peak Hour	07:00	07:00				**07:00**	**PM Peak Hour**	15:45	16:30				**16:00**
AM Pk Volume	744	762				**1506**	**PM Pk Volume**	811	790				**1563**
Pk Hr Factor	0.869	0.925				**0.905**	**Pk Hr Factor**	0.905	0.923				**0.951**
7 - 9 Volume	1286	1407	0	0		**2693**	**4 - 6 Volume**	1513	1524	0	0		**3037**
7 - 9 Peak Hour	07:00	07:00				**07:00**	**4 - 6 Peak Hour**	16:00	16:30				**16:00**
7 - 9 Pk Volume	744	762	0	0		**1506**	**4 - 6 Pk Volume**	784	790	0	0		**1563**
Pk Hr Factor	0.869	0.925	0.000	0.000		**0.905**	**Pk Hr Factor**	0.938	0.923	0.000	0.000		**0.951**

Prepared by NDS/ATD

Project #: CA18_8043_007 **City:** Salinas

Location: San Miguel Canyon Rd Bet. Garlen Ln & **Date:** 2/1/2018



Prepared by NDS/ATD

VOLUME

San Miguel Canyon Rd Bet. Prunedale North Rd & US 101 SB Off Ramp

Day: Wednesday
Date: 1/31/2018

City: Salinas
Project #: CA18_8043_008

DAILY TOTALS	NB	SB	EB	WB	Total
	14,176	12,093	0	0	26,269

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	22		15				37		**12:00**	208		156				364	
00:15	14		30				44		**12:15**	214		146				360	
00:30	15		16				31		**12:30**	213		185				398	
00:45	11	62	12	73			23	135	**12:45**	223	858	180	667			403	1525
01:00	9		8				17		**13:00**	226		150				376	
01:15	18		10				28		**13:15**	206		178				384	
01:30	10		10				20		**13:30**	220		183				403	
01:45	10	47	6	34			16	81	**13:45**	192	844	198	709			390	1553
02:00	10		6				16		**14:00**	192		218				410	
02:15	4		15				19		**14:15**	181		200				381	
02:30	7		21				28		**14:30**	232		210				442	
02:45	7	28	7	49			14	77	**14:45**	203	808	209	837			412	1645
03:00	10		17				27		**15:00**	238		198				436	
03:15	10		15				25		**15:15**	287		202				489	
03:30	8		20				28		**15:30**	289		266				555	
03:45	17	45	11	63			28	108	**15:45**	298	1112	227	893			525	2005
04:00	15		24				39		**16:00**	280		232				512	
04:15	28		17				45		**16:15**	284		214				498	
04:30	61		34				95		**16:30**	303		258				561	
04:45	52	156	41	116			93	272	**16:45**	286	1153	263	967			549	2120
05:00	67		85				152		**17:00**	262		254				516	
05:15	112		82				194		**17:15**	277		256				533	
05:30	167		84				251		**17:30**	278		230				508	
05:45	140	486	113	364			253	850	**17:45**	245	1062	223	963			468	2025
06:00	176		103				279		**18:00**	210		227				437	
06:15	210		175				385		**18:15**	248		173				421	
06:30	238		194				432		**18:30**	218		157				375	
06:45	216	840	180	652			396	1492	**18:45**	171	847	157	714			328	1561
07:00	208		222				430		**19:00**	138		136				274	
07:15	226		235				461		**19:15**	146		114				260	
07:30	264		280				544		**19:30**	148		127				275	
07:45	276	974	255	992			531	1966	**19:45**	134	566	93	470			227	1036
08:00	198		208				406		**20:00**	138		75				213	
08:15	213		203				416		**20:15**	117		91				208	
08:30	185		253				438		**20:30**	127		67				194	
08:45	179	775	180	844			359	1619	**20:45**	115	497	73	306			188	803
09:00	194		167				361		**21:00**	97		43				140	
09:15	153		174				327		**21:15**	100		68				168	
09:30	175		159				334		**21:30**	78		83				161	
09:45	166	688	152	652			318	1340	**21:45**	80	355	62	256			142	611
10:00	171		182				353		**22:00**	64		42				106	
10:15	190		135				325		**22:15**	54		41				95	
10:30	196		146				342		**22:30**	54		47				101	
10:45	210	767	140	603			350	1370	**22:45**	36	208	40	170			76	378
11:00	201		135				336		**23:00**	46		30				76	
11:15	227		162				389		**23:15**	35		26				61	
11:30	233		161				394		**23:30**	31		24				55	
11:45	203	864	139	597			342	1461	**23:45**	22	134	22	102			44	236
TOTALS		5732		5039				**10771**	**TOTALS**		8444		7054				**15498**
SPLIT %		53.2%		46.8%				**41.0%**	**SPLIT %**		54.5%		45.5%				**59.0%**

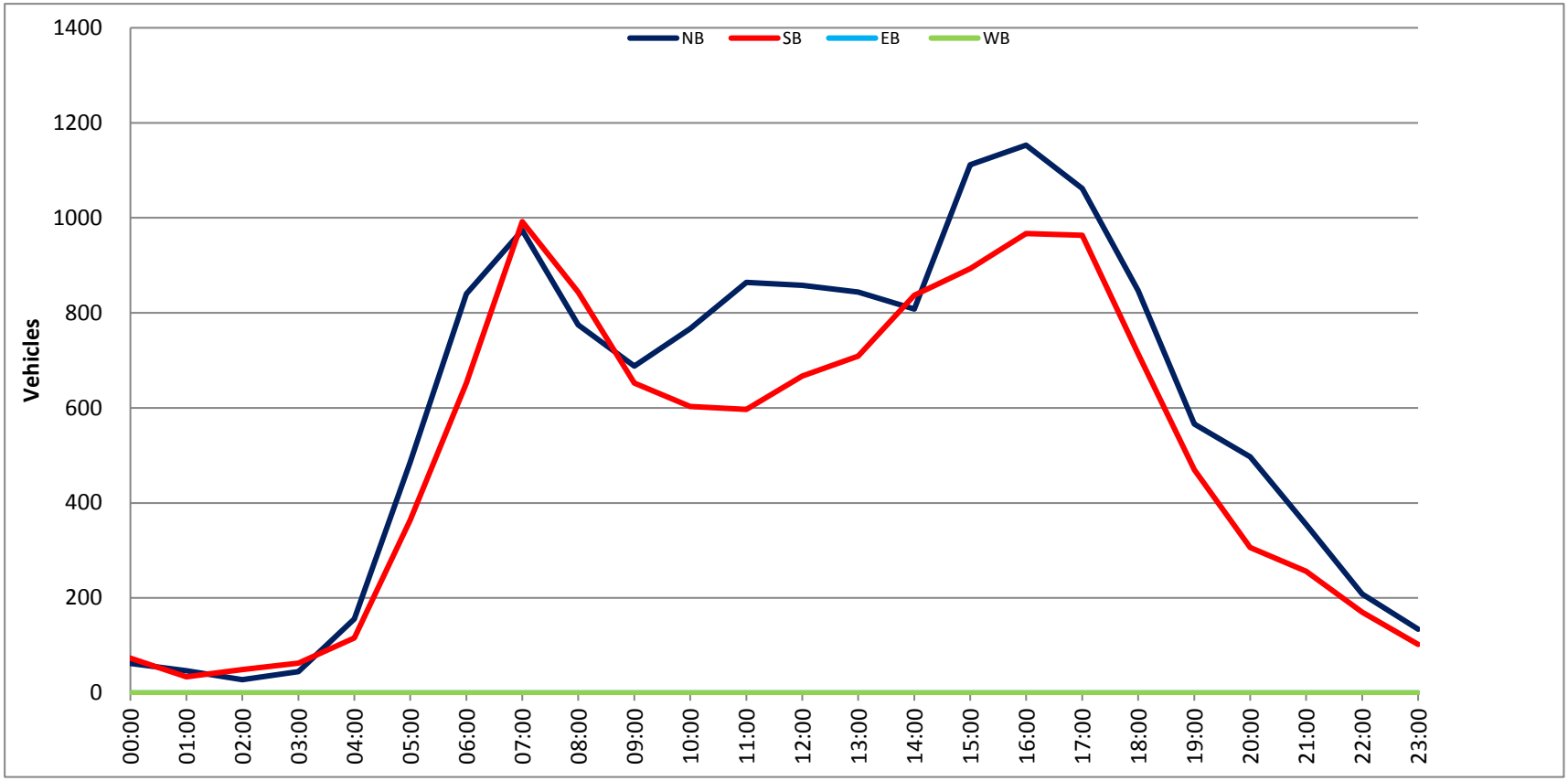
DAILY TOTALS	NB	SB	EB	WB	Total
	14,176	12,093	0	0	26,269

AM Peak Hour	07:00	07:00					**07:00**	**PM Peak Hour**	15:45	16:30					**16:30**
AM Pk Volume	974	992					**1966**	**PM Pk Volume**	1165	1031					**2159**
Pk Hr Factor	0.882	0.886					**0.903**	**Pk Hr Factor**	0.961	0.980					**0.962**
7 - 9 Volume	1749	1836	0	0			**3585**	**4 - 6 Volume**	2215	1930	0	0			**4145**
7 - 9 Peak Hour	07:00	07:00					**07:00**	**4 - 6 Peak Hour**	16:00	16:30					**16:30**
7 - 9 Pk Volume	974	992	0	0			**1966**	**4 - 6 Pk Volume**	1153	1031	0	0			**2159**
Pk Hr Factor	0.882	0.886	0.000	0.000			**0.903**	**Pk Hr Factor**	0.951	0.980	0.000	0.000			**0.962**

Prepared by NDS/ATD

Project #: CA18_8043_008 **City:** Salinas

Location: San Miguel Canyon Rd Bet. Prunedale North **Date:** 1/31/2018



Prepared by NDS/ATD

VOLUME

San Miguel Canyon Rd Bet. Prunedale North Rd & US 101 SB Off Ramp

Day: Thursday
Date: 2/1/2018

City: Salinas
Project #: CA18_8043_008

DAILY TOTALS	NB	SB	EB	WB	Total
	13,808	12,471	0	0	26,279

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	28		22				50		**12:00**	198		167				365	
00:15	16		40				56		**12:15**	207		178				385	
00:30	12		24				36		**12:30**	193		165				358	
00:45	21	77	10	96			31	173	**12:45**	196	794	193	703			389	1497
01:00	10		14				24		**13:00**	200		164				364	
01:15	12		10				22		**13:15**	222		169				391	
01:30	14		16				30		**13:30**	201		166				367	
01:45	8	44	15	55			23	99	**13:45**	210	833	181	680			391	1513
02:00	20		12				32		**14:00**	193		193				386	
02:15	7		9				16		**14:15**	199		199				398	
02:30	11		16				27		**14:30**	234		222				456	
02:45	6	44	6	43			12	87	**14:45**	229	855	220	834			449	1689
03:00	9		12				21		**15:00**	208		218				426	
03:15	17		11				28		**15:15**	249		222				471	
03:30	10		18				28		**15:30**	309		251				560	
03:45	20	56	17	58			37	114	**15:45**	291	1057	257	948			548	2005
04:00	14		21				35		**16:00**	266		220				486	
04:15	36		24				60		**16:15**	291		227				518	
04:30	62		43				105		**16:30**	263		272				535	
04:45	50	162	45	133			95	295	**16:45**	314	1134	276	995			590	2129
05:00	62		65				127		**17:00**	240		233				473	
05:15	114		77				191		**17:15**	287		275				562	
05:30	165		71				236		**17:30**	291		236				527	
05:45	152	493	119	332			271	825	**17:45**	250	1068	242	986			492	2054
06:00	180		115				295		**18:00**	258		198				456	
06:15	212		157				369		**18:15**	206		196				402	
06:30	221		197				418		**18:30**	206		158				364	
06:45	234	847	179	648			413	1495	**18:45**	180	850	166	718			346	1568
07:00	178		210				388		**19:00**	170		125				295	
07:15	229		271				500		**19:15**	155		136				291	
07:30	260		303				563		**19:30**	147		133				280	
07:45	253	920	255	1039			508	1959	**19:45**	153	625	144	538			297	1163
08:00	202		180				382		**20:00**	126		115				241	
08:15	228		213				441		**20:15**	106		96				202	
08:30	191		215				406		**20:30**	122		91				213	
08:45	178	799	199	807			377	1606	**20:45**	115	469	71	373			186	842
09:00	167		148				315		**21:00**	111		75				186	
09:15	163		173				336		**21:15**	111		71				182	
09:30	162		203				365		**21:30**	98		51				149	
09:45	145	637	191	715			336	1352	**21:45**	87	407	56	253			143	660
10:00	161		134				295		**22:00**	73		44				117	
10:15	150		155				305		**22:15**	68		35				103	
10:30	151		156				307		**22:30**	49		53				102	
10:45	144	606	155	600			299	1206	**22:45**	48	238	38	170			86	408
11:00	156		138				294		**23:00**	35		35				70	
11:15	164		168				332		**23:15**	36		21				57	
11:30	176		175				351		**23:30**	29		22				51	
11:45	171	667	172	653			343	1320	**23:45**	26	126	16	94			42	220
TOTALS		5352		5179				**10531**	**TOTALS**		8456		7292				**15748**
SPLIT %		50.8%		49.2%				**40.1%**	**SPLIT %**		53.7%		46.3%				**59.9%**

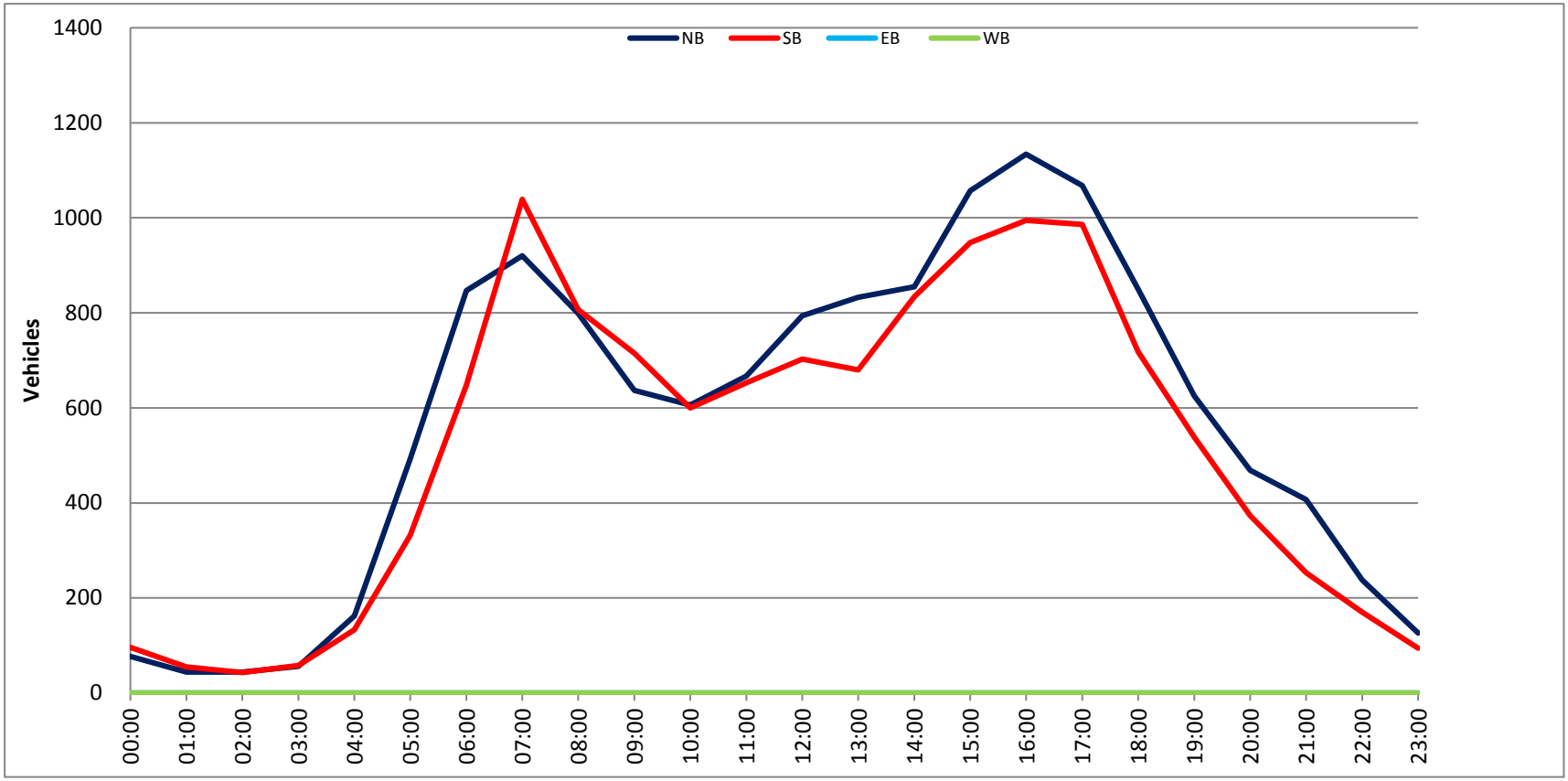
DAILY TOTALS	NB	SB	EB	WB	Total
	13,808	12,471	0	0	26,279

AM Peak Hour	07:15	07:00			**07:00**		**PM Peak Hour**	15:30	16:30				**16:30**	
AM Pk Volume	944	1039			**1959**		**PM Pk Volume**	1157	1056				**2160**	
Pk Hr Factor	0.908	0.857			**0.870**		**Pk Hr Factor**	0.936	0.957				**0.915**	
7 - 9 Volume	1719	1846	0	0	**3565**		**4 - 6 Volume**	2202	1981	0	0		**4183**	
7 - 9 Peak Hour	07:15	07:00			**07:00**		**4 - 6 Peak Hour**	16:00	16:30				**16:30**	
7 - 9 Pk Volume	944	1039	0	0	**1959**		**4 - 6 Pk Volume**	1134	1056	0	0		**2160**	
Pk Hr Factor	0.908	0.857	0.000	0.000	**0.870**		**Pk Hr Factor**	0.903	0.957	0.000	0.000		**0.915**	

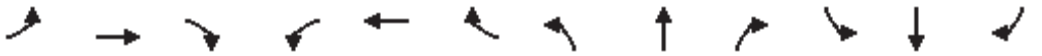
Prepared by NDS/ATD

Project #: CA18_8043_008 **City:** Salinas

Location: San Miguel Canyon Rd Bet. Prunedale North **Date:** 2/1/2018



Appendix G
Synchro Reports



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	7	6	44	7	697	4	769	10	302	589	51
Future Volume (vph)	37	7	6	44	7	697	4	769	10	302	589	51
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	0		0	140		150	80		0	325		0
Storage Lanes	1		1	1		1	1		0	2		0
Taper Length (ft)	25			65			25			80		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.88	1.00	*0.70	0.95	0.97	*0.70	0.95
Ped Bike Factor			0.94					1.00			1.00	
Frt			0.850			0.850		0.998			0.988	
Flt Protected	0.950				0.959		0.950			0.950		
Satd. Flow (prot)	1644	1731	1471	0	1660	2589	1644	2417	0	3190	2389	0
Flt Permitted	0.719				0.786		0.950			0.950		
Satd. Flow (perm)	1244	1731	1384	0	1360	2589	1644	2417	0	3190	2389	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			108			121		1			10	
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		236			563			697			751	
Travel Time (s)		4.6			11.0			19.0			20.5	
Confl. Peds. (#/hr)			32						38			4
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	43	8	7	51	8	801	5	884	11	347	677	59
Shared Lane Traffic (%)												
Lane Group Flow (vph)	43	8	7	0	59	801	5	895	0	347	736	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			0			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane					Yes			Yes				
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA	Perm	Perm	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases		8			4	5	1	6		5	2	
Permitted Phases	8		8	4		4						
Detector Phase	8	8	8	4	4	5	1	6		5	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.2	9.4	8.3		9.2	8.3	
Total Split (s)	20.0	20.0	20.0	20.0	20.0	40.0	20.0	60.0		40.0	60.0	
Total Split (%)	16.7%	16.7%	16.7%	16.7%	16.7%	33.3%	16.7%	50.0%		33.3%	50.0%	
Maximum Green (s)	15.0	15.0	15.0	15.0	15.0	34.8	14.6	55.7		34.8	55.7	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.3		3.5	4.3	
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.7	1.9	0.0		1.7	0.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.2	5.4	4.3		5.2	4.3	
Lead/Lag						Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?						Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.6		1.0	1.6	
Minimum Gap (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0		0.0	2.0	
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Recall Mode	Ped	Ped	Ped	None	None	None	None	None		None	None	
Walk Time (s)	7.0	7.0	7.0					7.0			7.0	
Flash Dont Walk (s)	17.0	17.0	17.0					23.0			24.0	
Pedestrian Calls (#/hr)	32	32	32					38			4	
Act Effct Green (s)	24.6	24.6	24.6		24.6	43.8	4.3	39.2		14.0	56.8	
Actuated g/C Ratio	0.27	0.27	0.27		0.27	0.47	0.05	0.42		0.15	0.61	
v/c Ratio	0.13	0.02	0.02		0.16	0.62	0.07	0.88		0.72	0.50	
Control Delay	33.4	33.0	0.0		33.5	19.4	51.8	34.9		48.1	11.1	
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	33.4	33.0	0.0		33.5	19.4	51.8	34.9		48.1	11.1	
LOS	C	C	A		C	B	D	C		D	B	
Approach Delay		29.3			20.4			35.0			23.0	
Approach LOS		C			C			D			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 92.7			
Natural Cycle: 60			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.88			
Intersection Signal Delay: 26.1		Intersection LOS: C	
Intersection Capacity Utilization 82.2%		ICU Level of Service E	
Analysis Period (min) 15			

* User Entered Value

Splits and Phases: 1: Porter Dr & San Juan Rd

2: Salinas Rd & Porter Dr/Stender Ave Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.0	0.1	0.2	0.1	0.1
Total Del/Veh (s)	0.7	24.2	4.0	54.2	4.1
Travel Time (hr)	1.6	0.3	9.8	0.7	12.4
Vehicles Entered	732	31	927	41	1731

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	81	4	32	14	3	36	9	684	8	28	554	80
Future Volume (vph)	81	4	32	14	3	36	9	684	8	28	554	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	70		0	95		0
Storage Lanes	1		0	0		0	1		0	1		0
Taper Length (ft)	25			25			40			60		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865			0.908			0.998			0.981	
Flt Protected	0.950				0.987		0.950			0.950		
Satd. Flow (prot)	1736	1580	0	0	1637	0	1736	1823	0	1736	1792	0
Flt Permitted	0.719				0.912		0.305			0.218		
Satd. Flow (perm)	1314	1580	0	0	1513	0	557	1823	0	398	1792	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36			40			1			12	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		143			199			944			1262	
Travel Time (s)		3.9			5.4			25.7			34.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	90	4	36	16	3	40	10	760	9	31	616	89
Shared Lane Traffic (%)												
Lane Group Flow (vph)	90	40	0	0	59	0	10	769	0	31	705	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		1	6		5	2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	8			4			6			2		
Detector Phase	8	8		4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		6.0	4.0	
Minimum Split (s)	8.4	8.4		7.8	7.8		7.5	8.3		9.8	8.3	
Total Split (s)	20.0	20.0		20.0	20.0		20.0	60.0		20.0	60.0	
Total Split (%)	20.0%	20.0%		20.0%	20.0%		20.0%	60.0%		20.0%	60.0%	
Maximum Green (s)	15.6	15.6		16.2	16.2		16.5	55.7		16.2	55.7	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	4.3		3.5	4.3	
All-Red Time (s)	0.9	0.9		0.3	0.3		0.0	0.0		0.3	0.0	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.4	4.4			3.8		3.5	4.3		3.8	4.3	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	2.2		1.0	2.2	
Minimum Gap (s)	1.0	1.0		1.0	1.0		1.0	1.3		1.0	1.3	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	2.0		0.0	2.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	None		None	None		None	None		None	None	
Walk Time (s)				7.0	7.0			7.0			7.0	
Flash Dont Walk (s)				13.0	13.0			13.0			9.0	
Pedestrian Calls (#/hr)				0	0			0			0	
Act Effct Green (s)	9.3	9.3			9.8		30.1	31.0		30.9	32.7	
Actuated g/C Ratio	0.20	0.20			0.21		0.65	0.67		0.66	0.70	
v/c Ratio	0.34	0.12			0.17		0.02	0.63		0.06	0.56	
Control Delay	28.2	12.3			14.3		3.0	11.2		3.1	7.8	
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay	28.2	12.3			14.3		3.0	11.2		3.1	7.8	
LOS	C	B			B		A	B		A	A	
Approach Delay		23.3			14.3			11.1			7.7	
Approach LOS		C			B			B			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 46.6			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.63			
Intersection Signal Delay: 10.7		Intersection LOS: B	
Intersection Capacity Utilization 54.9%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 3: Salinas Rd & Pajaro School

4: Salinas Rd & Elkhorn Rd Performance by approach

Approach	NB	SB	NW	All
Denied Del/Veh (s)	0.2	0.0	0.1	0.1
Total Del/Veh (s)	1.8	11.7	15.9	12.8
Travel Time (hr)	0.9	15.1	7.4	23.5
Vehicles Entered	143	672	731	1546

Intersection	
Int Delay, s/veh	9.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	373	703	652	380	0
Future Vol, veh/h	1	373	703	652	380	0
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	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	1	393	740	686	400	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2566	400	400	0	-	0
Stage 1	400	-	-	-	-	-
Stage 2	2166	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.227	-	-	-
Pot Cap-1 Maneuver	29	648	1153	-	-	-
Stage 1	675	-	-	-	-	-
Stage 2	94	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	10	648	1153	-	-	-
Mov Cap-2 Maneuver	10	-	-	-	-	-
Stage 1	242	-	-	-	-	-
Stage 2	94	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	25.9	7	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1153	-	554	-	-
HCM Lane V/C Ratio	0.642	-	0.711	-	-
HCM Control Delay (s)	13.5	-	25.9	-	-
HCM Lane LOS	B	-	D	-	-
HCM 95th %tile Q(veh)	4.9	-	5.7	-	-

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	93	8	11	1221	699	32
Future Vol, veh/h	93	8	11	1221	699	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	0	-	265	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	99	9	12	1299	744	34

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2084	761	744	0	-	0
Stage 1	761	-	-	-	-	-
Stage 2	1323	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.227	-	-	-
Pot Cap-1 Maneuver	~ 58	404	859	-	-	-
Stage 1	459	-	-	-	-	-
Stage 2	248	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 57	404	859	-	-	-
Mov Cap-2 Maneuver	203	-	-	-	-	-
Stage 1	453	-	-	-	-	-
Stage 2	248	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	36	0.1	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	859	-	220	-	-
HCM Lane V/C Ratio	0.014	-	0.488	-	-
HCM Control Delay (s)	9.2	-	36	-	-
HCM Lane LOS	A	-	E	-	-
HCM 95th %tile Q(veh)	0	-	2.4	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	17.9

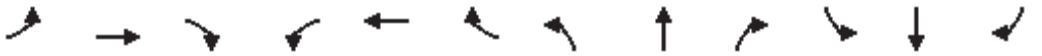
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	701	37	43	1119	71	23
Future Vol, veh/h	701	37	43	1119	71	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	20
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	788	42	48	1257	80	26

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	830	0	2162	809
Stage 1	-	-	-	-	809	-
Stage 2	-	-	-	-	1353	-
Critical Hdwy	-	-	4.13	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.227	-	3.527	3.327
Pot Cap-1 Maneuver	-	-	798	-	~ 52	379
Stage 1	-	-	-	-	436	-
Stage 2	-	-	-	-	239	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	798	-	~ 49	379
Mov Cap-2 Maneuver	-	-	-	-	~ 49	-
Stage 1	-	-	-	-	410	-
Stage 2	-	-	-	-	239	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	$ 374.9
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	49	379	-	-	798	-
HCM Lane V/C Ratio	1.628	0.068	-	-	0.061	-
HCM Control Delay (s)	$ 491.4	15.2	-	-	9.8	-
HCM Lane LOS	F	C	-	-	A	-
HCM 95th %tile Q(veh)	7.7	0.2	-	-	0.2	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	659	0	0	879	29	0	0	0	62	0	310
Future Volume (vph)	85	659	0	0	879	29	0	0	0	62	0	310
Ideal Flow (vphpl)	1500	1200	1500	1600	1600	1600	1900	1900	1900	1600	1600	1600
Storage Length (ft)	190		0	50		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	65			85			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor					1.00							0.96
Frt					0.995							0.850
Flt Protected	0.950										0.950	
Satd. Flow (prot)	1383	1165	0	1553	1545	0	0	1845	0	0	1476	1320
Flt Permitted	0.950										0.950	
Satd. Flow (perm)	1383	1165	0	1553	1545	0	0	1845	0	0	1476	1271
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					2							295
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		416			3376			114			158	
Travel Time (s)		6.3			51.2			2.6			3.6	
Confl. Peds. (#/hr)						1						6
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	90	701	0	0	935	31	0	0	0	66	0	330
Shared Lane Traffic (%)												
Lane Group Flow (vph)	90	701	0	0	966	0	0	0	0	0	66	330
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.35	1.76	1.35	1.24	1.24	1.24	1.00	1.00	1.00	1.24	1.24	1.24
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		Perm	NA					Split	NA	pm+ov
Protected Phases	5	2			6		8	8		4	4	5
Permitted Phases				6								4
Detector Phase	5	2		6	6		8	8		4	4	5
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	8.2	9.0		9.0	9.0		7.5	7.5		7.5	7.5	8.2
Total Split (s)	30.0	60.0		60.0	60.0		20.0	20.0		20.0	20.0	30.0
Total Split (%)	23.1%	46.2%		46.2%	46.2%		15.4%	15.4%		15.4%	15.4%	23.1%
Maximum Green (s)	25.8	55.0		55.0	55.0		16.5	16.5		16.5	16.5	25.8
Yellow Time (s)	3.5	5.0		5.0	5.0		3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	0.7	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.7
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)	4.2	5.0		5.0	5.0			3.5			3.5	4.2
Lead/Lag	Lead			Lag	Lag							Lead
Lead-Lag Optimize?	Yes			Yes	Yes							Yes
Vehicle Extension (s)	1.0	4.8		4.3	4.3		1.0	1.0		1.0	1.0	1.0
Minimum Gap (s)	1.0	1.9		1.5	1.5		1.0	1.0		1.0	1.0	1.0
Time Before Reduce (s)	0.0	2.0		2.0	2.0		0.0	0.0		0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Recall Mode	None	None		None	None		None	None		None	None	None
Walk Time (s)		7.0		7.0	7.0					7.0	7.0	
Flash Dont Walk (s)		13.0		17.0	17.0					15.0	15.0	
Pedestrian Calls (#/hr)		0		1	1					6	6	
Act Effct Green (s)	9.1	70.6			56.0						9.0	16.5
Actuated g/C Ratio	0.11	0.83			0.66						0.11	0.19
v/c Ratio	0.61	0.73			0.95						0.43	0.67
Control Delay	56.3	12.1			36.8						44.8	11.9
Queue Delay	0.0	0.0			0.0						0.0	0.0
Total Delay	56.3	12.1			36.8						44.8	11.9
LOS	E	B			D						D	B
Approach Delay		17.1			36.8						17.4	
Approach LOS		B			D						B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 85.1			
Natural Cycle: 100			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.95			
Intersection Signal Delay: 26.0		Intersection LOS: C	
Intersection Capacity Utilization 88.1%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 8: Las Lomas Dr & Hall Rd

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	53	671	7	2	802	66	2	0	1	35	0	101
Future Vol, veh/h	53	671	7	2	802	66	2	0	1	35	0	101
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	110	-	-	-	-	-	-	-	-	0	-	25
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	60	763	8	2	911	75	2	0	1	40	0	115

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	986	0	0	771	0	0	1897	1877	767	1841	1844	949
Stage 1	-	-	-	-	-	-	887	887	-	953	953	-
Stage 2	-	-	-	-	-	-	1010	990	-	888	891	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	697	-	-	839	-	-	52	71	401	58	75	315
Stage 1	-	-	-	-	-	-	337	361	-	310	336	-
Stage 2	-	-	-	-	-	-	288	323	-	337	359	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	697	-	-	839	-	-	31	65	401	54	68	315
Mov Cap-2 Maneuver	-	-	-	-	-	-	31	65	-	54	68	-
Stage 1	-	-	-	-	-	-	308	330	-	283	334	-
Stage 2	-	-	-	-	-	-	182	321	-	307	328	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0	91.5	61.3
HCM LOS			F	F

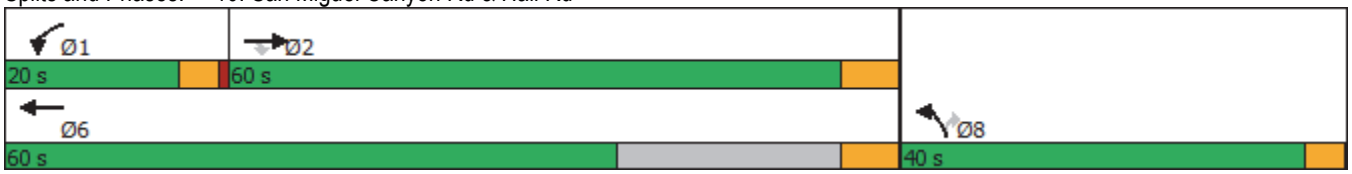
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	45	697	-	-	839	-	-	54	315
HCM Lane V/C Ratio	0.076	0.086	-	-	0.003	-	-	0.737	0.364
HCM Control Delay (s)	91.5	10.7	-	-	9.3	0	-	172.4	22.8
HCM Lane LOS	F	B	-	-	A	A	-	F	C
HCM 95th %tile Q(veh)	0.2	0.3	-	-	0	-	-	3.1	1.6

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	171	528	73	146	654	106
Future Volume (vph)	171	528	73	146	654	106
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		525	320		0	160
Storage Lanes		1	1		1	1
Taper Length (ft)			110		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1845	1568	1752	1845	1752	1568
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1845	1568	1752	1845	1752	1568
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		562				52
Link Speed (mph)	55			55	55	
Link Distance (ft)	3081			697	499	
Travel Time (s)	38.2			8.6	6.2	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	182	562	78	155	696	113
Shared Lane Traffic (%)						
Lane Group Flow (vph)	182	562	78	155	696	113
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2	1	1	2	1	1
Detector Template	Thru	Right	Left	Thru	Left	Right
Leading Detector (ft)	100	20	20	100	20	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	6	20	20	6	20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	2		1	6	8	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Permitted Phases		2				8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	4.0	4.0	6.0	4.0	6.0	6.0
Minimum Split (s)	9.4	9.4	10.4	9.4	9.9	9.9
Total Split (s)	60.0	60.0	20.0	60.0	40.0	40.0
Total Split (%)	50.0%	50.0%	16.7%	50.0%	33.3%	33.3%
Maximum Green (s)	54.6	54.6	15.6	54.6	36.1	36.1
Yellow Time (s)	5.4	5.4	3.5	5.4	3.5	3.5
All-Red Time (s)	0.0	0.0	0.9	0.0	0.4	0.4
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	5.4	4.4	5.4	3.9	3.9
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	3.7	3.7	1.0	3.7	1.0	1.0
Minimum Gap (s)	1.7	1.7	1.0	1.7	1.0	1.0
Time Before Reduce (s)	2.0	2.0	0.0	0.0	2.0	2.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	None
Walk Time (s)	7.0	7.0			7.0	7.0
Flash Dont Walk (s)	16.0	16.0			15.0	15.0
Pedestrian Calls (#/hr)	0	0			0	0
Act Effct Green (s)	13.1	13.1	7.2	22.2	36.7	36.7
Actuated g/C Ratio	0.19	0.19	0.11	0.33	0.54	0.54
v/c Ratio	0.51	0.74	0.42	0.26	0.74	0.13
Control Delay	30.9	9.4	38.4	16.9	21.3	7.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.9	9.4	38.4	16.9	21.3	7.0
LOS	C	A	D	B	C	A
Approach Delay	14.7			24.1	19.3	
Approach LOS	B			C	B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 68.3			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.74			
Intersection Signal Delay: 18.0		Intersection LOS: B	
Intersection Capacity Utilization 61.7%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 10: San Miguel Canyon Rd & Hall Rd



Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	23	44	15	695	709	7
Future Vol, veh/h	23	44	15	695	709	7
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	-	115	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	27	51	17	808	824	8

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1670	828	832	0	-	0
Stage 1	828	-	-	-	-	-
Stage 2	842	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.227	-	-	-
Pot Cap-1 Maneuver	105	369	796	-	-	-
Stage 1	427	-	-	-	-	-
Stage 2	421	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	103	369	796	-	-	-
Mov Cap-2 Maneuver	103	-	-	-	-	-
Stage 1	418	-	-	-	-	-
Stage 2	421	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	35	0.2	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	796	-	196	-	-
HCM Lane V/C Ratio	0.022	-	0.397	-	-
HCM Control Delay (s)	9.6	-	35	-	-
HCM Lane LOS	A	-	E	-	-
HCM 95th %tile Q(veh)	0.1	-	1.8	-	-

Intersection	
Int Delay, s/veh	62.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	138	45	665	164	52	705
Future Vol, veh/h	138	45	665	164	52	705
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	-	-	-	120	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	159	52	764	189	60	810

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1789	859	0	0	953	0
Stage 1	859	-	-	-	-	-
Stage 2	930	-	-	-	-	-
Critical Hdwy	6.44	6.24	-	-	4.14	-
Critical Hdwy Stg 1	5.44	-	-	-	-	-
Critical Hdwy Stg 2	5.44	-	-	-	-	-
Follow-up Hdwy	3.536	3.336	-	-	2.236	-
Pot Cap-1 Maneuver	~ 88	353	-	-	713	-
Stage 1	412	-	-	-	-	-
Stage 2	381	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 81	353	-	-	713	-
Mov Cap-2 Maneuver	~ 81	-	-	-	-	-
Stage 1	377	-	-	-	-	-
Stage 2	381	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 598.7	0	0.7
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	100	713	-
HCM Lane V/C Ratio	-	-	2.103	0.084	-
HCM Control Delay (s)	-	-	$ 598.7	10.5	-
HCM Lane LOS	-	-	F	B	-
HCM 95th %tile Q(veh)	-	-	18.1	0.3	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	5.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	44	164	166	774	783	95
Future Vol, veh/h	44	164	166	774	783	95
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	Yield
Storage Length	0	85	520	-	-	140
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	49	184	187	870	880	107

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2124	880	880	0	-	0
Stage 1	880	-	-	-	-	-
Stage 2	1244	-	-	-	-	-
Critical Hdwy	6.44	6.24	4.14	-	-	-
Critical Hdwy Stg 1	5.44	-	-	-	-	-
Critical Hdwy Stg 2	5.44	-	-	-	-	-
Follow-up Hdwy	3.536	3.336	2.236	-	-	-
Pot Cap-1 Maneuver	54	343	760	-	-	-
Stage 1	402	-	-	-	-	-
Stage 2	269	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 41	343	760	-	-	-
Mov Cap-2 Maneuver	77	-	-	-	-	-
Stage 1	303	-	-	-	-	-
Stage 2	269	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	45.1	2	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	760	-	77	343	-	-
HCM Lane V/C Ratio	0.245	-	0.642	0.537	-	-
HCM Control Delay (s)	11.3	-	112.6	27	-	-
HCM Lane LOS	B	-	F	D	-	-
HCM 95th %tile Q(veh)	1	-	2.9	3	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	3.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	100	55	902	36	11	934
Future Vol, veh/h	100	55	902	36	11	934
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	-	-	-	145	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	110	60	991	40	12	1026

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2061	1011	0	0	1031	0
Stage 1	1011	-	-	-	-	-
Stage 2	1050	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	~ 60	291	-	-	674	-
Stage 1	352	-	-	-	-	-
Stage 2	337	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 59	291	-	-	674	-
Mov Cap-2 Maneuver	231	-	-	-	-	-
Stage 1	346	-	-	-	-	-
Stage 2	337	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	45.9	0	0.1
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	249	674	-
HCM Lane V/C Ratio	-	-	0.684	0.018	-
HCM Control Delay (s)	-	-	45.9	10.4	-
HCM Lane LOS	-	-	E	B	-
HCM 95th %tile Q(veh)	-	-	4.5	0.1	-

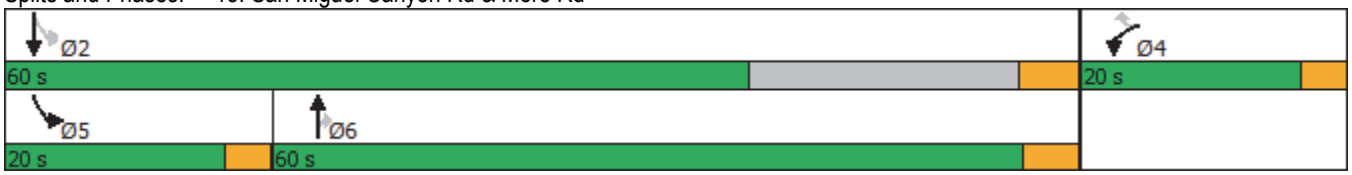
Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

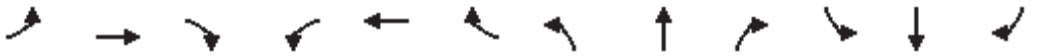
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	96	94	841	49	58	974
Future Volume (vph)	96	94	841	49	58	974
Ideal Flow (vphpl)	1500	1500	1500	1500	1500	1500
Storage Length (ft)	0	80		0	235	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25				65	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1370	1226	1442	1226	1370	1442
Flt Permitted	0.950				0.188	
Satd. Flow (perm)	1370	1226	1442	1226	271	1442
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		102		52		
Link Speed (mph)	30		35			35
Link Distance (ft)	354		474			397
Travel Time (s)	8.0		9.2			7.7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	104	102	914	53	63	1059
Shared Lane Traffic (%)						
Lane Group Flow (vph)	104	102	914	53	63	1059
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.35	1.35	1.35	1.35	1.35	1.35
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (ft)	20	20	100	20	20	100
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	6	20	20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	4		6		5	2

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Permitted Phases		4		6	2	
Detector Phase	4	4	6	6	5	2
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	7.5	7.5	8.3	8.3	7.7	8.6
Total Split (s)	20.0	20.0	60.0	60.0	20.0	60.0
Total Split (%)	20.0%	20.0%	60.0%	60.0%	20.0%	60.0%
Maximum Green (s)	16.5	16.5	55.7	55.7	16.3	55.4
Yellow Time (s)	3.5	3.5	4.3	4.3	3.5	4.6
All-Red Time (s)	0.0	0.0	0.0	0.0	0.2	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.5	3.5	4.3	4.3	3.7	4.6
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	1.0	1.0	3.2	3.2	1.0	3.6
Recall Mode	None	None	None	None	None	None
Walk Time (s)	7.0	7.0	7.0	7.0		
Flash Dont Walk (s)	16.0	16.0	10.0	10.0		
Pedestrian Calls (#/hr)	0	0	0	0		
Act Effct Green (s)	9.5	9.5	56.2	56.2	63.8	62.8
Actuated g/C Ratio	0.12	0.12	0.70	0.70	0.79	0.78
v/c Ratio	0.65	0.44	0.91	0.06	0.22	0.94
Control Delay	53.2	13.6	28.1	2.1	4.2	26.7
Queue Delay	0.0	0.0	13.2	0.0	0.0	0.0
Total Delay	53.2	13.6	41.3	2.1	4.2	26.7
LOS	D	B	D	A	A	C
Approach Delay	33.6		39.1			25.4
Approach LOS	C		D			C

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 80.5			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.94			
Intersection Signal Delay: 31.9		Intersection LOS: C	
Intersection Capacity Utilization 78.8%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 15: San Miguel Canyon Rd & Moro Rd





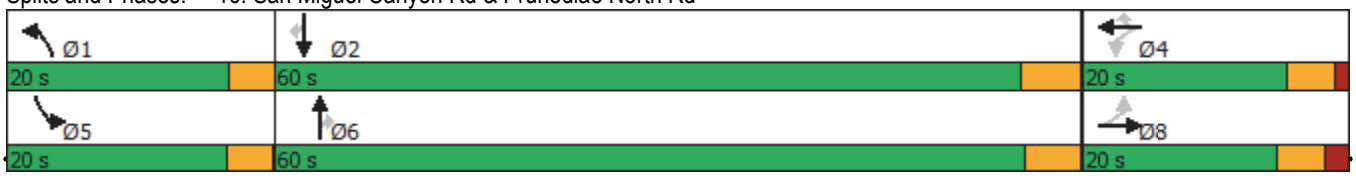
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	9	24	63	8	15	29	814	28	18	908	123
Future Volume (vph)	68	9	24	63	8	15	29	814	28	18	908	123
Ideal Flow (vphpl)	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
Storage Length (ft)	0		25	0		0	145		60	185		125
Storage Lanes	1		1	0		1	1		1	1		2
Taper Length (ft)	60			25			80			65		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	*0.50	1.00	1.00	*0.60	1.00
Frt		0.889				0.850			0.850			0.850
Flt Protected	0.950				0.957		0.950			0.950		
Satd. Flow (prot)	1370	1282	0	0	1380	1226	1370	1442	1226	1370	1731	1226
Flt Permitted	0.704				0.722		0.950			0.950		
Satd. Flow (perm)	1015	1282	0	0	1041	1226	1370	1442	1226	1370	1731	1226
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		28				58			68			79
Link Speed (mph)		40			40			35			35	
Link Distance (ft)		460			118			637			474	
Travel Time (s)		7.8			2.0			12.4			9.2	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	79	10	28	73	9	17	34	947	33	21	1056	143
Shared Lane Traffic (%)												
Lane Group Flow (vph)	79	38	0	0	82	17	34	947	33	21	1056	143
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		8			4		1	6		5	2	

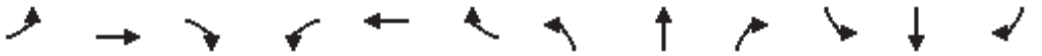
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	8			4		4			6			2
Detector Phase	8	8		4	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	5.0		4.0	4.0	4.0	5.0	5.0	5.0	5.0	4.0	4.0
Minimum Split (s)	10.5	10.5		8.7	8.7	8.7	8.5	9.3	9.3	8.7	8.6	8.6
Total Split (s)	20.0	20.0		20.0	20.0	20.0	20.0	60.0	60.0	20.0	60.0	60.0
Total Split (%)	20.0%	20.0%		20.0%	20.0%	20.0%	20.0%	60.0%	60.0%	20.0%	60.0%	60.0%
Maximum Green (s)	14.5	14.5		15.3	15.3	15.3	16.5	55.7	55.7	16.3	55.4	55.4
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	4.3	4.3	3.5	4.6	4.6
All-Red Time (s)	2.0	2.0		1.2	1.2	1.2	0.0	0.0	0.0	0.2	0.0	0.0
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5			4.7	4.7	3.5	4.3	4.3	3.7	4.6	4.6
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	1.0	1.0		1.0	1.0	1.0	1.0	2.3	2.3	1.0	1.6	1.6
Minimum Gap (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.3	1.3	1.0	1.0	1.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None		None	None	None	None	None	None	None	None	None
Walk Time (s)	7.0	7.0		7.0	7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)	20.0	20.0		18.0	18.0	18.0		10.0	10.0		14.0	14.0
Pedestrian Calls (#/hr)	0	0		0	0	0		0	0		0	0
Act Effct Green (s)	9.5	9.5			9.9	9.9	6.2	60.3	60.3	5.6	58.0	58.0
Actuated g/C Ratio	0.12	0.12			0.12	0.12	0.08	0.76	0.76	0.07	0.73	0.73
v/c Ratio	0.65	0.21			0.64	0.08	0.32	0.87	0.03	0.22	0.84	0.16
Control Delay	60.4	19.8			57.1	0.8	46.7	23.5	0.5	44.8	21.3	3.9
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.4	19.8			57.1	0.8	46.7	23.5	0.5	44.8	21.3	3.9
LOS	E	B			E	A	D	C	A	D	C	A
Approach Delay		47.2			47.5			23.5			19.7	
Approach LOS		D			D			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 79.5			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay: 23.7		Intersection LOS: C	
Intersection Capacity Utilization 51.6%		ICU Level of Service A	
Analysis Period (min) 15			

* User Entered Value

Splits and Phases: 16: San Miguel Canyon Rd & Prunedlae North Rd





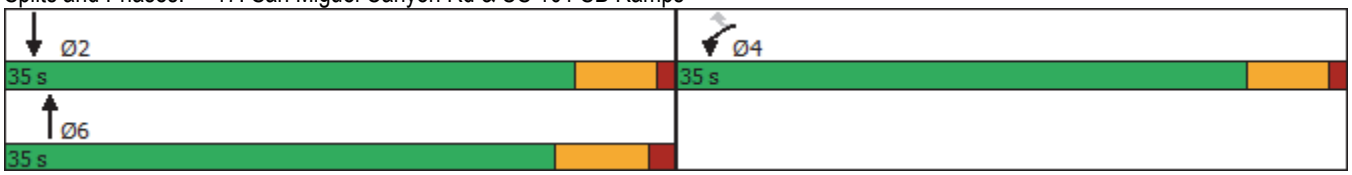
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	9	0	90	0	848	0	0	108	891
Future Volume (vph)	0	0	0	9	0	90	0	848	0	0	108	891
Ideal Flow (vphpl)	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
Storage Length (ft)	0		0	205		0	0		0	0		0
Storage Lanes	0		0	1		1	0		0	0		1
Taper Length (ft)	25			120			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	*0.75	1.00	1.00	1.00	1.00
Frt						0.850						0.850
Flt Protected				0.950								
Satd. Flow (prot)	0	0	0	1370	0	1226	0	2163	0	0	1442	1226
Flt Permitted				0.950								
Satd. Flow (perm)	0	0	0	1370	0	1226	0	2163	0	0	1442	1226
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						53						1036
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		332			650			356			637	
Travel Time (s)		7.5			14.8			6.9			12.4	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	0	0	0	10	0	105	0	986	0	0	126	1036
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	10	0	105	0	986	0	0	126	1036
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1		1		2			2	1
Detector Template				Left		Right		Thru			Thru	Right
Leading Detector (ft)				20		20		100			100	20
Trailing Detector (ft)				0		0		0			0	0
Detector 1 Position(ft)				0		0		0			0	0
Detector 1 Size(ft)				20		20		6			6	20
Detector 1 Type				Cl+Ex		Cl+Ex		Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)				0.0		0.0		0.0			0.0	0.0
Detector 1 Queue (s)				0.0		0.0		0.0			0.0	0.0
Detector 1 Delay (s)				0.0		0.0		0.0			0.0	0.0
Detector 2 Position(ft)								94			94	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	
Turn Type				Prot		Perm		NA			NA	Free
Protected Phases				4				6			2	

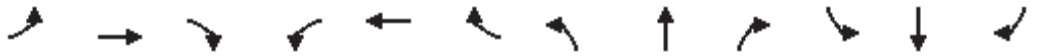
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases						4						Free
Detector Phase				4		4		6			2	
Switch Phase												
Minimum Initial (s)				4.0		4.0		7.0			7.0	
Minimum Split (s)				9.3		9.3		13.4			12.3	
Total Split (s)				35.0		35.0		35.0			35.0	
Total Split (%)				50.0%		50.0%		50.0%			50.0%	
Maximum Green (s)				29.7		29.7		28.6			29.7	
Yellow Time (s)				4.3		4.3		4.9			4.3	
All-Red Time (s)				1.0		1.0		1.5			1.0	
Lost Time Adjust (s)				0.0		0.0		0.0			0.0	
Total Lost Time (s)				5.3		5.3		6.4			5.3	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0		3.0		3.0			3.0	
Recall Mode				None		None		None			None	
Act Effct Green (s)				7.8		7.8		30.8			31.7	46.0
Actuated g/C Ratio				0.17		0.17		0.67			0.69	1.00
v/c Ratio				0.04		0.42		0.68			0.13	0.85
Control Delay				16.8		15.9		11.5			4.9	9.1
Queue Delay				0.0		0.0		0.0			0.0	0.0
Total Delay				16.8		15.9		11.5			4.9	9.1
LOS				B		B		B			A	A
Approach Delay					16.0			11.5			8.6	
Approach LOS					B			B			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 46			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.85			
Intersection Signal Delay: 10.2		Intersection LOS: B	
Intersection Capacity Utilization 46.5%		ICU Level of Service A	
Analysis Period (min) 15			

* User Entered Value

Splits and Phases: 17: San Miguel Canyon Rd & US 101 SB Ramps





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	107	16	24	48	15	524	14	806	21	608	942	87
Future Volume (vph)	107	16	24	48	15	524	14	806	21	608	942	87
Ideal Flow (vphpl)	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
Storage Length (ft)	0		0	140		150	80		0	325		0
Storage Lanes	1		1	1		1	1		0	2		0
Taper Length (ft)	25			65			25			80		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.88	1.00	*0.70	0.95	0.97	*0.65	0.95
Ped Bike Factor			0.96					1.00			1.00	
Frt			0.850			0.850		0.996			0.987	
Flt Protected	0.950				0.963		0.950			0.950		
Satd. Flow (prot)	1397	1471	1250	0	1416	2200	1397	2049	0	2710	1883	0
Flt Permitted	0.715				0.790		0.950			0.950		
Satd. Flow (perm)	1051	1471	1195	0	1162	2200	1397	2049	0	2710	1883	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			108			165		2			10	
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		236			563			697			751	
Travel Time (s)		4.6			11.0			19.0			20.5	
Confl. Peds. (#/hr)			22						14			3
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	110	16	25	49	15	540	14	831	22	627	971	90
Shared Lane Traffic (%)												
Lane Group Flow (vph)	110	16	25	0	64	540	14	853	0	627	1061	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			0			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane					Yes			Yes				
Headway Factor	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	pm+ov	Prot	NA		Prot	NA	

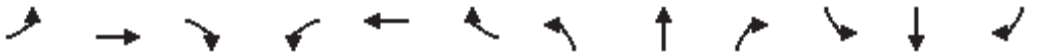
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		8			4	5	1	6		5	2	
Permitted Phases	8		8	4		4						
Detector Phase	8	8	8	4	4	5	1	6		5	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.2	9.4	8.3		9.2	8.3	
Total Split (s)	20.0	20.0	20.0	20.0	20.0	40.0	20.0	60.0		40.0	60.0	
Total Split (%)	16.7%	16.7%	16.7%	16.7%	16.7%	33.3%	16.7%	50.0%		33.3%	50.0%	
Maximum Green (s)	15.0	15.0	15.0	15.0	15.0	34.8	14.6	55.7		34.8	55.7	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.3		3.5	4.3	
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.7	1.9	0.0		1.7	0.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.2	5.4	4.3		5.2	4.3	
Lead/Lag						Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?						Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.6		1.0	1.6	
Minimum Gap (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0		0.0	2.0	
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Recall Mode	Ped	Ped	Ped	None	None	None	None	None		None	None	
Walk Time (s)	7.0	7.0	7.0					7.0			7.0	
Flash Dont Walk (s)	17.0	17.0	17.0					23.0			24.0	
Pedestrian Calls (#/hr)	22	22	22					14			3	
Act Effct Green (s)	24.4	24.4	24.4		24.4	58.8	5.1	49.8		29.3	80.1	
Actuated g/C Ratio	0.21	0.21	0.21		0.21	0.50	0.04	0.42		0.25	0.68	
v/c Ratio	0.51	0.05	0.08		0.27	0.46	0.24	0.99		0.93	0.83	
Control Delay	55.1	43.5	0.5		47.7	14.9	68.4	62.2		66.0	21.9	
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	55.1	43.5	0.5		47.7	14.9	68.4	62.2		66.0	21.9	
LOS	E	D	A		D	B	E	E		E	C	
Approach Delay		44.8			18.4			62.3			38.3	
Approach LOS		D			B			E			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 118.3			
Natural Cycle: 90			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.99			
Intersection Signal Delay: 41.2		Intersection LOS: D	
Intersection Capacity Utilization 84.4%		ICU Level of Service E	
Analysis Period (min) 15			
* User Entered Value			

Splits and Phases: 1: Porter Dr & San Juan Rd

2: Salinas Rd & Porter Dr/Stender Ave Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.0	0.1	0.1	0.1	0.1
Total Del/Veh (s)	0.8	23.2	4.4	65.8	2.9
Travel Time (hr)	2.2	0.1	10.1	0.2	12.6
Vehicles Entered	1040	13	941	8	2002



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	0	2	13	0	24	0	799	5	19	872	3
Future Volume (vph)	12	0	2	13	0	24	0	799	5	19	872	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	75		0	95		0
Storage Lanes	1		0	0		0	1		0	1		0
Taper Length (ft)	25			25			40			60		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.912			0.999				
Flt Protected	0.950				0.983					0.950		
Satd. Flow (prot)	1770	1583	0	0	1670	0	1863	1861	0	1770	1863	0
Flt Permitted					0.964					0.192		
Satd. Flow (perm)	1863	1583	0	0	1638	0	1863	1861	0	358	1863	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		335			56							
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		144			195			980			1262	
Travel Time (s)		3.9			5.3			26.7			34.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	0	2	14	0	26	0	868	5	21	948	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	13	2	0	0	40	0	0	873	0	21	951	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4			6			2		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	8	8		4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		6.0	4.0	
Minimum Split (s)	8.4	8.4		7.8	7.8		7.5	8.3		9.8	8.3	
Total Split (s)	20.0	20.0		20.0	20.0		20.0	60.0		20.0	60.0	
Total Split (%)	20.0%	20.0%		20.0%	20.0%		20.0%	60.0%		20.0%	60.0%	
Maximum Green (s)	15.6	15.6		16.2	16.2		16.5	55.7		16.2	55.7	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	4.3		3.5	4.3	
All-Red Time (s)	0.9	0.9		0.3	0.3		0.0	0.0		0.3	0.0	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.4	4.4			3.8		3.5	4.3		3.8	4.3	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	2.2		1.0	2.2	
Minimum Gap (s)	1.0	1.0		1.0	1.0		1.0	1.3		1.0	1.3	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	2.0		0.0	2.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	None		None	None		None	None		None	None	
Walk Time (s)				7.0	7.0			7.0			7.0	
Flash Dont Walk (s)				13.0	13.0			13.0			9.0	
Pedestrian Calls (#/hr)				0	0			0			0	
Act Effct Green (s)	5.4	5.4			5.7			33.9		33.7	36.5	
Actuated g/C Ratio	0.13	0.13			0.13			0.79		0.79	0.85	
v/c Ratio	0.06	0.00			0.15			0.59		0.04	0.60	
Control Delay	27.4	0.0			8.3			7.6		1.6	4.5	
Queue Delay	0.0	0.0			0.0			0.0		0.0	0.0	
Total Delay	27.4	0.0			8.3			7.6		1.6	4.5	
LOS	C	A			A			A		A	A	
Approach Delay		23.8			8.3			7.6			4.4	
Approach LOS		C			A			A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 42.8			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.60			
Intersection Signal Delay: 6.1		Intersection LOS: A	
Intersection Capacity Utilization 61.9%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 3: Salinas Rd & Parajo School

4: Salinas Rd & Elkhorn Road Performance by approach

Approach	NB	SB	NW	All
Denied Del/Veh (s)	0.2	0.0	0.0	0.0
Total Del/Veh (s)	2.5	230.1	8.3	127.7
Travel Time (hr)	1.2	82.4	4.7	88.3
Vehicles Entered	241	947	600	1788

Intersection	
Int Delay, s/veh	46.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	481	462	580	776	3
Future Vol, veh/h	1	481	462	580	776	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	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	496	476	598	800	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2352	802	803	0	-	0
Stage 1	802	-	-	-	-	-
Stage 2	1550	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	39	~ 384	821	-	-	-
Stage 1	441	-	-	-	-	-
Stage 2	193	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	16	~ 384	821	-	-	-
Mov Cap-2 Maneuver	16	-	-	-	-	-
Stage 1	185	-	-	-	-	-
Stage 2	193	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	205.4	6.8	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	821	-	367	-	-
HCM Lane V/C Ratio	0.58	-	1.354	-	-
HCM Control Delay (s)	15.3	-	205.4	-	-
HCM Lane LOS	C	-	F	-	-
HCM 95th %tile Q(veh)	3.8	-	24	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	56	20	24	956	1115	97
Future Vol, veh/h	56	20	24	956	1115	97
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	0	-	265	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	58	21	25	996	1161	101

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2258	1212	1161	0	-	0
Stage 1	1212	-	-	-	-	-
Stage 2	1046	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	~ 45	222	602	-	-	-
Stage 1	282	-	-	-	-	-
Stage 2	338	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 43	222	602	-	-	-
Mov Cap-2 Maneuver	196	-	-	-	-	-
Stage 1	270	-	-	-	-	-
Stage 2	338	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	24.2	0.3	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	602	-	266	-	-
HCM Lane V/C Ratio	0.042	-	0.298	-	-
HCM Control Delay (s)	11.2	-	24.2	-	-
HCM Lane LOS	B	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	1.2	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

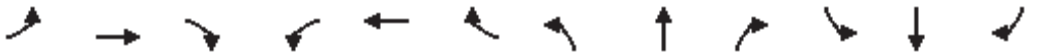
Intersection	
Int Delay, s/veh	6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1012	104	65	891	44	39
Future Vol, veh/h	1012	104	65	891	44	39
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	20
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1043	107	67	919	45	40

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1150	0	2150	1097
Stage 1	-	-	-	-	1097	-
Stage 2	-	-	-	-	1053	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	608	-	53	259
Stage 1	-	-	-	-	320	-
Stage 2	-	-	-	-	336	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	608	-	47	259
Mov Cap-2 Maneuver	-	-	-	-	47	-
Stage 1	-	-	-	-	285	-
Stage 2	-	-	-	-	336	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	145.9
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	47	259	-	-	608	-
HCM Lane V/C Ratio	0.965	0.155	-	-	0.11	-
HCM Control Delay (s)	256.3	21.4	-	-	11.7	-
HCM Lane LOS	F	C	-	-	B	-
HCM 95th %tile Q(veh)	4	0.5	-	-	0.4	-

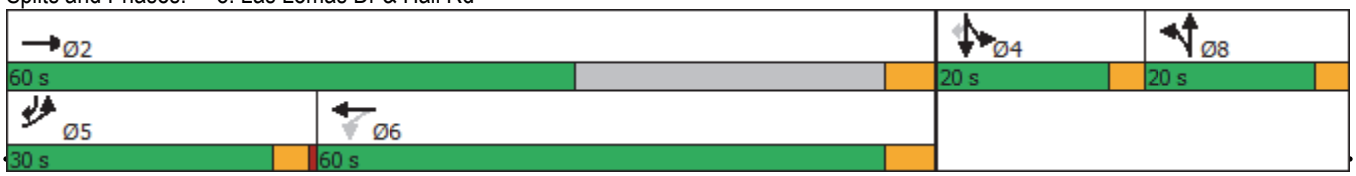


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	274	823	1	1	776	51	0	0	0	50	0	191
Future Volume (vph)	274	823	1	1	776	51	0	0	0	50	0	191
Ideal Flow (vphpl)	1500	1200	1500	1600	1600	1600	1800	1800	1800	1600	1600	1600
Storage Length (ft)	190		0	50		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	65			85			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												0.97
Frt					0.991							0.850
Flt Protected	0.950			0.950							0.950	
Satd. Flow (prot)	1397	1176	0	1490	1555	0	0	1765	0	0	1490	1333
Flt Permitted	0.950			0.350							0.950	
Satd. Flow (perm)	1397	1176	0	549	1555	0	0	1765	0	0	1490	1287
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					3							195
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		416			3376			114			158	
Travel Time (s)		6.3			51.2			2.6			3.6	
Confl. Peds. (#/hr)												5
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	280	840	1	1	792	52	0	0	0	51	0	195
Shared Lane Traffic (%)												
Lane Group Flow (vph)	280	841	0	1	844	0	0	0	0	0	51	195
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.35	1.76	1.35	1.24	1.24	1.24	1.07	1.07	1.07	1.24	1.24	1.24
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Perm	NA					Split	NA	pm+ov

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	5	2			6		8	8		4	4	5
Permitted Phases				6								4
Detector Phase	5	2		6	6		8	8		4	4	5
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	8.2	9.0		9.0	9.0		7.5	7.5		7.5	7.5	8.2
Total Split (s)	30.0	60.0		60.0	60.0		20.0	20.0		20.0	20.0	30.0
Total Split (%)	23.1%	46.2%		46.2%	46.2%		15.4%	15.4%		15.4%	15.4%	23.1%
Maximum Green (s)	25.8	55.0		55.0	55.0		16.5	16.5		16.5	16.5	25.8
Yellow Time (s)	3.5	5.0		5.0	5.0		3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	0.7	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.7
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)	4.2	5.0		5.0	5.0			3.5			3.5	4.2
Lead/Lag	Lead			Lag	Lag							Lead
Lead-Lag Optimize?	Yes			Yes	Yes							Yes
Vehicle Extension (s)	1.0	4.8		4.3	4.3		1.0	1.0		1.0	1.0	1.0
Minimum Gap (s)	1.0	1.9		1.5	1.5		1.0	1.0		1.0	1.0	1.0
Time Before Reduce (s)	0.0	2.0		2.0	2.0		0.0	0.0		0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Recall Mode	None	None		None	None		None	None		None	None	None
Walk Time (s)		7.0		7.0	7.0					7.0	7.0	
Flash Dont Walk (s)		13.0		17.0	17.0					15.0	15.0	
Pedestrian Calls (#/hr)		0		1	1					6	6	
Act Effct Green (s)	25.9	86.6		55.3	55.3						8.9	33.4
Actuated g/C Ratio	0.26	0.85		0.55	0.55						0.09	0.33
v/c Ratio	0.78	0.84		0.00	0.99						0.39	0.34
Control Delay	53.5	16.9		14.0	54.3						51.8	4.7
Queue Delay	0.0	0.0		0.0	0.0						0.0	0.0
Total Delay	53.5	16.9		14.0	54.3						51.8	4.7
LOS	D	B		B	D						D	A
Approach Delay		26.0			54.3						14.4	
Approach LOS		C			D						B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 101.3			
Natural Cycle: 100			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.99			
Intersection Signal Delay: 35.5		Intersection LOS: D	
Intersection Capacity Utilization 89.3%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 8: Las Lomas Dr & Hall Rd



Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	849	5	1	805	51	1	0	3	19	0	23
Future Vol, veh/h	15	849	5	1	805	51	1	0	3	19	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	110	-	-	-	-	-	-	-	-	0	-	25
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	894	5	1	847	54	1	0	3	20	0	24

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	901	0	0	899	0	0	1817	1832	897	1806	1807	874
Stage 1	-	-	-	-	-	-	929	929	-	876	876	-
Stage 2	-	-	-	-	-	-	888	903	-	930	931	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	754	-	-	756	-	-	60	76	339	61	79	349
Stage 1	-	-	-	-	-	-	321	346	-	344	367	-
Stage 2	-	-	-	-	-	-	338	356	-	321	346	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	754	-	-	756	-	-	55	74	339	59	77	349
Mov Cap-2 Maneuver	-	-	-	-	-	-	55	74	-	59	77	-
Stage 1	-	-	-	-	-	-	314	339	-	337	366	-
Stage 2	-	-	-	-	-	-	314	355	-	311	339	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0	30	51.6
HCM LOS			D	F

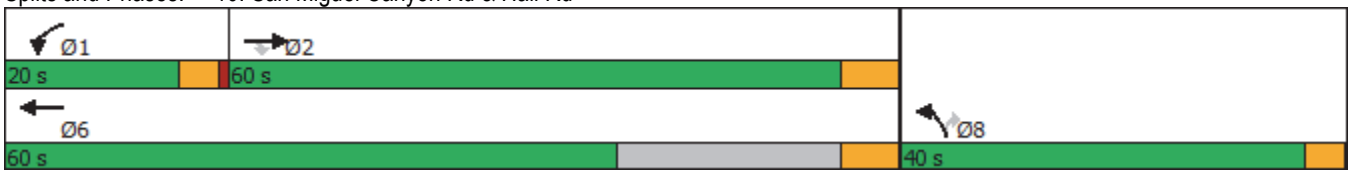
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	148	754	-	-	756	-	-	59	349
HCM Lane V/C Ratio	0.028	0.021	-	-	0.001	-	-	0.339	0.069
HCM Control Delay (s)	30	9.9	-	-	9.8	0	-	94.6	16.1
HCM Lane LOS	D	A	-	-	A	A	-	F	C
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	1.2	0.2

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	124	672	123	227	589	96
Future Volume (vph)	124	672	123	227	589	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		525	320		0	160
Storage Lanes		1	1		1	1
Taper Length (ft)			110		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1863	1583	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1863	1583	1770	1863	1770	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		686				52
Link Speed (mph)	55			55	55	
Link Distance (ft)	3081			697	499	
Travel Time (s)	38.2			8.6	6.2	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	127	686	126	232	601	98
Shared Lane Traffic (%)						
Lane Group Flow (vph)	127	686	126	232	601	98
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2	1	1	2	1	1
Detector Template	Thru	Right	Left	Thru	Left	Right
Leading Detector (ft)	100	20	20	100	20	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	6	20	20	6	20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2				8

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	4.0	4.0	6.0	4.0	6.0	6.0
Minimum Split (s)	9.4	9.4	10.4	9.4	9.9	9.9
Total Split (s)	60.0	60.0	20.0	60.0	40.0	40.0
Total Split (%)	50.0%	50.0%	16.7%	50.0%	33.3%	33.3%
Maximum Green (s)	54.6	54.6	15.6	54.6	36.1	36.1
Yellow Time (s)	5.4	5.4	3.5	5.4	3.5	3.5
All-Red Time (s)	0.0	0.0	0.9	0.0	0.4	0.4
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	5.4	4.4	5.4	3.9	3.9
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	3.7	3.7	1.0	3.7	1.0	1.0
Minimum Gap (s)	1.7	1.7	1.0	1.7	1.0	1.0
Time Before Reduce (s)	2.0	2.0	0.0	0.0	2.0	2.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	None
Walk Time (s)	7.0	7.0			7.0	7.0
Flash Dont Walk (s)	16.0	16.0			15.0	15.0
Pedestrian Calls (#/hr)	0	0			0	0
Act Effct Green (s)	12.7	12.7	8.7	25.9	36.6	36.6
Actuated g/C Ratio	0.18	0.18	0.12	0.36	0.51	0.51
v/c Ratio	0.39	0.81	0.59	0.35	0.67	0.12
Control Delay	29.5	11.1	42.6	17.6	20.3	7.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.5	11.1	42.6	17.6	20.3	7.4
LOS	C	B	D	B	C	A
Approach Delay	14.0			26.4	18.5	
Approach LOS	B			C	B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 71.9			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.81			
Intersection Signal Delay: 18.0		Intersection LOS: B	
Intersection Capacity Utilization 57.5%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 10: San Miguel Canyon Rd & Hall Rd



Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	13	34	46	762	770	35
Future Vol, veh/h	13	34	46	762	770	35
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	-	115	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	36	49	811	819	37

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1747	838	856	0	-	0
Stage 1	838	-	-	-	-	-
Stage 2	909	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	95	366	784	-	-	-
Stage 1	424	-	-	-	-	-
Stage 2	393	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	89	366	784	-	-	-
Mov Cap-2 Maneuver	89	-	-	-	-	-
Stage 1	398	-	-	-	-	-
Stage 2	393	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	29.4	0.6	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	784	-	197	-	-
HCM Lane V/C Ratio	0.062	-	0.254	-	-
HCM Control Delay (s)	9.9	-	29.4	-	-
HCM Lane LOS	A	-	D	-	-
HCM 95th %tile Q(veh)	0.2	-	1	-	-

Intersection	
Int Delay, s/veh	32.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	123	37	754	106	32	782
Future Vol, veh/h	123	37	754	106	32	782
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	-	-	-	120	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	131	39	802	113	34	832

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1759	859	0	0	915	0
Stage 1	859	-	-	-	-	-
Stage 2	900	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	~ 93	356	-	-	745	-
Stage 1	415	-	-	-	-	-
Stage 2	397	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 89	356	-	-	745	-
Mov Cap-2 Maneuver	~ 89	-	-	-	-	-
Stage 1	396	-	-	-	-	-
Stage 2	397	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 369	0	0.4
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	108	745	-
HCM Lane V/C Ratio	-	-	1.576	0.046	-
HCM Control Delay (s)	-	-	$ 369	10.1	-
HCM Lane LOS	-	-	F	B	-
HCM 95th %tile Q(veh)	-	-	12.8	0.1	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	28.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	59	293	215	845	855	74
Future Vol, veh/h	59	293	215	845	855	74
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	Yield
Storage Length	0	85	520	-	-	140
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	63	312	229	899	910	79

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2267	910	910	0	-	0
Stage 1	910	-	-	-	-	-
Stage 2	1357	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	~ 45	333	748	-	-	-
Stage 1	393	-	-	-	-	-
Stage 2	240	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 31	333	748	-	-	-
Mov Cap-2 Maneuver	~ 31	-	-	-	-	-
Stage 1	273	-	-	-	-	-
Stage 2	240	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	184.4	2.4	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	748	-	31	333	-	-
HCM Lane V/C Ratio	0.306	-	2.025	0.936	-	-
HCM Control Delay (s)	11.9	-	$ 750.4	70.4	-	-
HCM Lane LOS	B	-	F	F	-	-
HCM 95th %tile Q(veh)	1.3	-	7.2	9.6	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	44	20	1052	95	49	1101
Future Vol, veh/h	44	20	1052	95	49	1101
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	-	-	-	145	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	46	21	1107	100	52	1159

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2420	1157	0	0	1207	0
Stage 1	1157	-	-	-	-	-
Stage 2	1263	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	~ 36	239	-	-	578	-
Stage 1	299	-	-	-	-	-
Stage 2	266	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 33	239	-	-	578	-
Mov Cap-2 Maneuver	161	-	-	-	-	-
Stage 1	272	-	-	-	-	-
Stage 2	266	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	36.8	0	0.5
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	179	578	-
HCM Lane V/C Ratio	-	-	0.376	0.089	-
HCM Control Delay (s)	-	-	36.8	11.8	-
HCM Lane LOS	-	-	E	B	-
HCM 95th %tile Q(veh)	-	-	1.6	0.3	-

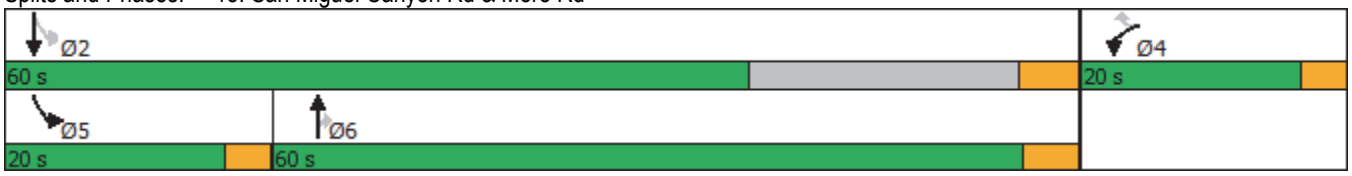
Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

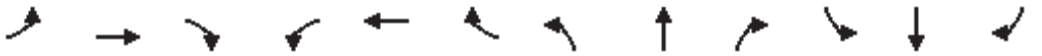
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	91	136	1008	95	86	1063
Future Volume (vph)	91	136	1008	95	86	1063
Ideal Flow (vphpl)	1500	1500	1500	1500	1500	1500
Storage Length (ft)	0	80		0	235	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25				65	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1397	1250	1471	1250	1397	1471
Flt Permitted	0.950				0.111	
Satd. Flow (perm)	1397	1250	1471	1250	163	1471
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		143		84		
Link Speed (mph)	30		35			35
Link Distance (ft)	354		497			425
Travel Time (s)	8.0		9.7			8.3
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	96	143	1061	100	91	1119
Shared Lane Traffic (%)						
Lane Group Flow (vph)	96	143	1061	100	91	1119
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.35	1.35	1.35	1.35	1.35	1.35
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (ft)	20	20	100	20	20	100
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	6	20	20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	4		6		5	2
Permitted Phases		4		6	2	

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	4	4	6	6	5	2
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	7.5	7.5	8.3	8.3	7.7	8.6
Total Split (s)	20.0	20.0	60.0	60.0	20.0	60.0
Total Split (%)	20.0%	20.0%	60.0%	60.0%	20.0%	60.0%
Maximum Green (s)	16.5	16.5	55.7	55.7	16.3	55.4
Yellow Time (s)	3.5	3.5	4.3	4.3	3.5	4.6
All-Red Time (s)	0.0	0.0	0.0	0.0	0.2	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.5	3.5	4.3	4.3	3.7	4.6
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	1.0	1.0	3.2	3.2	1.0	3.6
Recall Mode	None	None	None	None	None	None
Walk Time (s)	7.0	7.0	7.0	7.0		
Flash Dont Walk (s)	16.0	16.0	10.0	10.0		
Pedestrian Calls (#/hr)	0	0	0	0		
Act Effct Green (s)	9.0	9.0	56.3	56.3	64.9	64.0
Actuated g/C Ratio	0.11	0.11	0.69	0.69	0.80	0.79
v/c Ratio	0.62	0.54	1.04	0.11	0.41	0.97
Control Delay	53.4	14.6	57.2	2.5	8.0	30.2
Queue Delay	0.0	0.0	23.0	0.0	0.0	0.0
Total Delay	53.4	14.6	80.2	2.5	8.0	30.2
LOS	D	B	F	A	A	C
Approach Delay	30.2		73.5			28.5
Approach LOS	C		E			C

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 81.2			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.04			
Intersection Signal Delay: 48.7		Intersection LOS: D	
Intersection Capacity Utilization 89.9%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 15: San Miguel Canyon Rd & Moro Rd



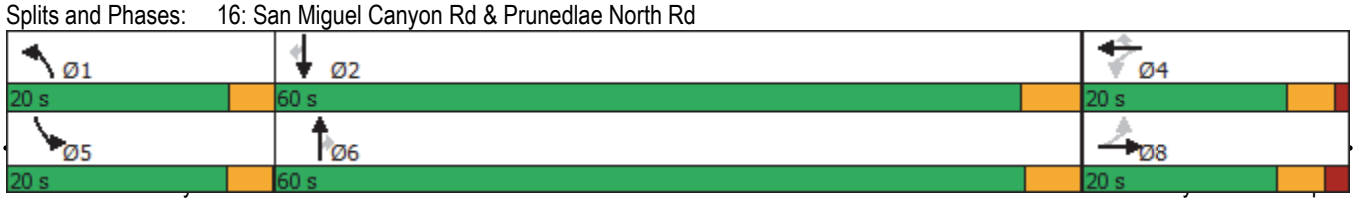


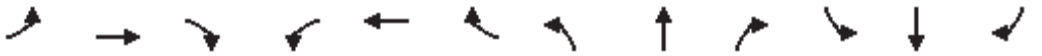
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	108	36	32	95	30	41	42	969	62	46	904	191
Future Volume (vph)	108	36	32	95	30	41	42	969	62	46	904	191
Ideal Flow (vphpl)	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
Storage Length (ft)	0		25	0		0	145		60	185		125
Storage Lanes	1		1	0		1	1		1	1		2
Taper Length (ft)	60			25			80			65		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	*0.50	1.00	1.00	*0.70	1.00
Ped Bike Factor		0.99				0.99			0.98			0.98
Frt		0.930				0.850			0.850			0.850
Flt Protected	0.950				0.963		0.950			0.950		
Satd. Flow (prot)	1397	1358	0	0	1416	1250	1397	1471	1250	1397	2059	1250
Flt Permitted	0.629				0.731		0.950			0.950		
Satd. Flow (perm)	925	1358	0	0	1075	1232	1397	1471	1221	1397	2059	1222
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		33				58			68			143
Link Speed (mph)		30			25			35			35	
Link Distance (ft)		460			118			563			497	
Travel Time (s)		10.5			3.2			11.0			9.7	
Confl. Peds. (#/hr)			3			2			1			1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	113	38	33	99	31	43	44	1009	65	48	942	199
Shared Lane Traffic (%)												
Lane Group Flow (vph)	113	71	0	0	130	43	44	1009	65	48	942	199
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4		4			6			2
Detector Phase	8	8		4	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	5.0		4.0	4.0	4.0	5.0	5.0	5.0	5.0	4.0	4.0
Minimum Split (s)	10.5	10.5		8.7	8.7	8.7	8.5	9.3	9.3	8.7	8.6	8.6
Total Split (s)	20.0	20.0		20.0	20.0	20.0	20.0	60.0	60.0	20.0	60.0	60.0
Total Split (%)	20.0%	20.0%		20.0%	20.0%	20.0%	20.0%	60.0%	60.0%	20.0%	60.0%	60.0%
Maximum Green (s)	14.5	14.5		15.3	15.3	15.3	16.5	55.7	55.7	16.3	55.4	55.4
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	4.3	4.3	3.5	4.6	4.6
All-Red Time (s)	2.0	2.0		1.2	1.2	1.2	0.0	0.0	0.0	0.2	0.0	0.0
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5			4.7	4.7	3.5	4.3	4.3	3.7	4.6	4.6
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	1.0	1.0		1.0	1.0	1.0	1.0	2.3	2.3	1.0	1.6	1.6
Minimum Gap (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.3	1.3	1.0	1.0	1.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None		None	None	None	None	None	None	None	None	None
Walk Time (s)	7.0	7.0		7.0	7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)	20.0	20.0		18.0	18.0	18.0		10.0	10.0		14.0	14.0
Pedestrian Calls (#/hr)	3	3		2	2	2		1	1		1	1
Act Effct Green (s)	15.9	15.9			16.7	16.7	6.8	56.5	56.5	7.0	56.4	56.4
Actuated g/C Ratio	0.18	0.18			0.19	0.19	0.08	0.63	0.63	0.08	0.63	0.63
v/c Ratio	0.68	0.26			0.64	0.15	0.42	1.08	0.08	0.44	0.72	0.24
Control Delay	57.0	22.6			50.0	6.9	54.0	75.2	3.1	54.8	18.0	4.3
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.0	22.6			50.0	6.9	54.0	75.2	3.1	54.8	18.0	4.3
LOS	E	C			D	A	D	E	A	D	B	A
Approach Delay		43.8			39.3			70.2			17.2	
Approach LOS		D			D			E			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 89.1			
Natural Cycle: 110			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.08			
Intersection Signal Delay: 42.7		Intersection LOS: D	
Intersection Capacity Utilization 64.6%		ICU Level of Service C	
Analysis Period (min) 15			
* User Entered Value			

Splits and Phases: 16: San Miguel Canyon Rd & Prunedlae North Rd



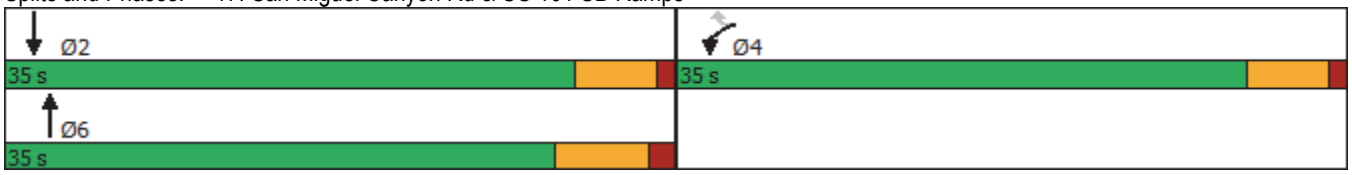


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	24	0	155	0	1025	0	0	128	850
Future Volume (vph)	0	0	0	24	0	155	0	1025	0	0	128	850
Ideal Flow (vphpl)	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
Storage Length (ft)	0		0	205		0	0		0	0		0
Storage Lanes	0		0	1		1	0		0	0		1
Taper Length (ft)	25			120			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	*0.50	1.00	1.00	1.00	1.00
Frt						0.850						0.850
Flt Protected				0.950								
Satd. Flow (prot)	0	0	0	1397	0	1250	0	1471	0	0	1471	1250
Flt Permitted				0.950								
Satd. Flow (perm)	0	0	0	1397	0	1250	0	1471	0	0	1471	1250
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						53						924
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		332			650			416			563	
Travel Time (s)		7.5			14.8			8.1			11.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	26	0	168	0	1114	0	0	139	924
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	26	0	168	0	1114	0	0	139	924
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1		1		2			2	1
Detector Template				Left		Right		Thru			Thru	Right
Leading Detector (ft)				20		20		100			100	20
Trailing Detector (ft)				0		0		0			0	0
Detector 1 Position(ft)				0		0		0			0	0
Detector 1 Size(ft)				20		20		6			6	20
Detector 1 Type				Cl+Ex		Cl+Ex		Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)				0.0		0.0		0.0			0.0	0.0
Detector 1 Queue (s)				0.0		0.0		0.0			0.0	0.0
Detector 1 Delay (s)				0.0		0.0		0.0			0.0	0.0
Detector 2 Position(ft)								94			94	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	
Turn Type				Prot		Perm		NA			NA	Free
Protected Phases				4				6			2	
Permitted Phases						4						Free

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase				4		4		6			2	
Switch Phase												
Minimum Initial (s)				4.0		4.0		7.0			7.0	
Minimum Split (s)				9.3		9.3		13.4			12.3	
Total Split (s)				35.0		35.0		35.0			35.0	
Total Split (%)				50.0%		50.0%		50.0%			50.0%	
Maximum Green (s)				29.7		29.7		28.6			29.7	
Yellow Time (s)				4.3		4.3		4.9			4.3	
All-Red Time (s)				1.0		1.0		1.5			1.0	
Lost Time Adjust (s)				0.0		0.0		0.0			0.0	
Total Lost Time (s)				5.3		5.3		6.4			5.3	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0		3.0		3.0			3.0	
Recall Mode				None		None		None			None	
Act Effct Green (s)				10.0		10.0		31.1			32.0	48.4
Actuated g/C Ratio				0.21		0.21		0.64			0.66	1.00
v/c Ratio				0.09		0.56		1.18			0.14	0.74
Control Delay				16.3		20.4		111.2			6.3	3.9
Queue Delay				0.0		0.0		0.0			0.0	0.0
Total Delay				16.3		20.4		111.2			6.3	3.9
LOS				B		C		F			A	A
Approach Delay					19.9			111.2			4.3	
Approach LOS					B			F			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 48.4			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.18			
Intersection Signal Delay: 55.8		Intersection LOS: E	
Intersection Capacity Utilization 57.8%		ICU Level of Service B	
Analysis Period (min) 15			
* User Entered Value			

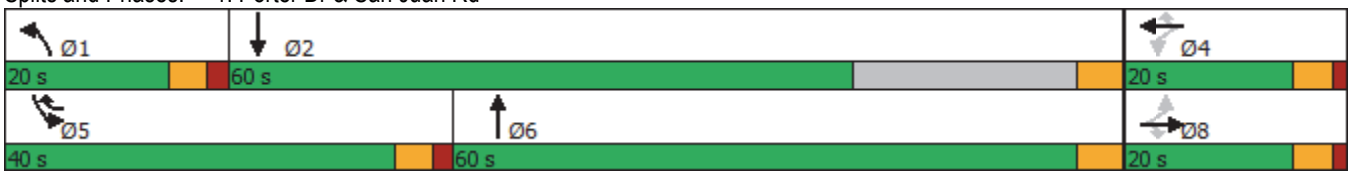
Splits and Phases: 17: San Miguel Canyon Rd & US 101 SB Ramps



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	40	10	10	50	10	750	5	830	325	635
Future Volume (vph)	40	10	10	50	10	750	5	830	325	635
Turn Type	Perm	NA	Perm	Perm	NA	pm+ov	Prot	NA	Prot	NA
Protected Phases		8			4	5	1	6	5	2
Permitted Phases	8		8	4		4				
Detector Phase	8	8	8	4	4	5	1	6	5	2
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.2	9.4	8.3	9.2	8.3
Total Split (s)	20.0	20.0	20.0	20.0	20.0	40.0	20.0	60.0	40.0	60.0
Total Split (%)	16.7%	16.7%	16.7%	16.7%	16.7%	33.3%	16.7%	50.0%	33.3%	50.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.3	3.5	4.3
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.7	1.9	0.0	1.7	0.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.2	5.4	4.3	5.2	4.3
Lead/Lag						Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	14.8	14.8	14.8		14.8	35.8	4.9	36.2	19.0	61.7
Actuated g/C Ratio	0.18	0.18	0.18		0.18	0.43	0.06	0.44	0.23	0.74
v/c Ratio	0.20	0.04	0.03		0.28	0.69	0.05	0.87	0.48	0.42
Control Delay	36.0	34.1	0.2		37.3	21.2	52.0	32.4	38.1	8.3
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.0	34.1	0.2		37.3	21.2	52.0	32.4	38.1	8.3
LOS	D	C	A		D	C	D	C	D	A
Approach Delay		29.7			22.4			32.5		17.9
Approach LOS		C			C			C		B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 83.2	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.87	
Intersection Signal Delay: 24.0	Intersection LOS: C
Intersection Capacity Utilization 79.0%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 1: Porter Dr & San Juan Rd



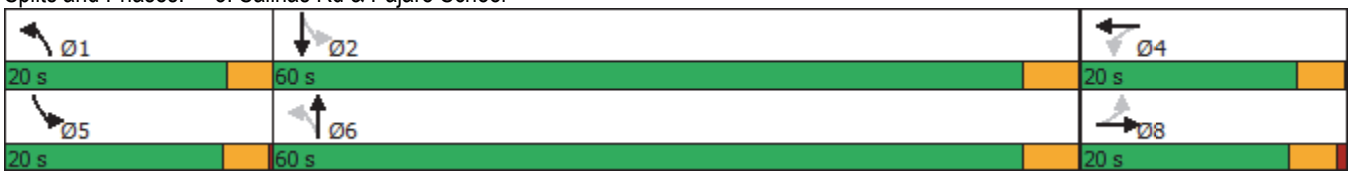
2: Salinas Rd & Porter Dr/Stender Ave Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.0	0.1	0.0	0.1	0.0
Total Del/Veh (s)	0.8	18.6	4.1	68.5	4.4

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	90	5	20	5	10	735	35	600
Future Volume (vph)	90	5	20	5	10	735	35	600
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	pm+pt	NA
Protected Phases		8		4	1	6	5	2
Permitted Phases	8		4		6		2	
Detector Phase	8	8	4	4	1	6	5	2
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	6.0	4.0
Minimum Split (s)	8.4	8.4	7.8	7.8	7.5	8.3	9.8	8.3
Total Split (s)	20.0	20.0	20.0	20.0	20.0	60.0	20.0	60.0
Total Split (%)	20.0%	20.0%	20.0%	20.0%	20.0%	60.0%	20.0%	60.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	4.3	3.5	4.3
All-Red Time (s)	0.9	0.9	0.3	0.3	0.0	0.0	0.3	0.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.4	4.4		3.8	3.5	4.3	3.8	4.3
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None
Act Effct Green (s)	10.2	10.2		10.7	34.0	34.4	36.0	37.9
Actuated g/C Ratio	0.19	0.19		0.20	0.65	0.66	0.69	0.72
v/c Ratio	0.30	0.13		0.21	0.02	0.68	0.08	0.58
Control Delay	29.3	13.1		16.3	3.2	13.4	3.3	8.2
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	29.3	13.1		16.3	3.2	13.4	3.3	8.2
LOS	C	B		B	A	B	A	A
Approach Delay		24.3		16.3		13.3		7.9
Approach LOS		C		B		B		A

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 52.5	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.68	
Intersection Signal Delay: 11.9	Intersection LOS: B
Intersection Capacity Utilization 58.2%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 3: Salinas Rd & Pajaro School



4: Salinas Rd & Elkhorn Rd Performance by approach

Approach	NB	SB	NW	All
Denied Del/Veh (s)	0.2	0.0	0.0	0.0
Total Del/Veh (s)	1.6	10.3	8.2	8.5

Intersection	
Int Delay, s/veh	81

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	405	740	685	410	5
Future Vol, veh/h	5	405	740	685	410	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	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	5	440	804	745	446	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2802	449	451	0	-	0
Stage 1	449	-	-	-	-	-
Stage 2	2353	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.227	-	-	-
Pot Cap-1 Maneuver	20	608	1104	-	-	-
Stage 1	641	-	-	-	-	-
Stage 2	75	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 5	608	1104	-	-	-
Mov Cap-2 Maneuver	~ 5	-	-	-	-	-
Stage 1	174	-	-	-	-	-
Stage 2	75	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	$ 415	8.5	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1104	-	246	-	-
HCM Lane V/C Ratio	0.729	-	1.812	-	-
HCM Control Delay (s)	16.5	-	$ 415	-	-
HCM Lane LOS	C	-	F	-	-
HCM 95th %tile Q(veh)	6.8	-	30.4	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	100	10	15	1285	730	40
Future Vol, veh/h	100	10	15	1285	730	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	0	-	265	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	109	11	16	1397	793	43

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2244	815	793	0	-	0
Stage 1	815	-	-	-	-	-
Stage 2	1429	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.227	-	-	-
Pot Cap-1 Maneuver	~ 46	376	823	-	-	-
Stage 1	433	-	-	-	-	-
Stage 2	220	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 45	376	823	-	-	-
Mov Cap-2 Maneuver	188	-	-	-	-	-
Stage 1	425	-	-	-	-	-
Stage 2	220	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	43.8	0.1	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	823	-	207	-	-
HCM Lane V/C Ratio	0.02	-	0.578	-	-
HCM Control Delay (s)	9.5	-	43.8	-	-
HCM Lane LOS	A	-	E	-	-
HCM 95th %tile Q(veh)	0.1	-	3.2	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	20.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	730	40	45	1185	75	25
Future Vol, veh/h	730	40	45	1185	75	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	20
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	793	43	49	1288	82	27

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	836	0	2201	815
Stage 1	-	-	-	-	815	-
Stage 2	-	-	-	-	1386	-
Critical Hdwy	-	-	4.13	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.227	-	3.527	3.327
Pot Cap-1 Maneuver	-	-	793	-	~ 49	376
Stage 1	-	-	-	-	433	-
Stage 2	-	-	-	-	231	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	793	-	~ 46	376
Mov Cap-2 Maneuver	-	-	-	-	~ 46	-
Stage 1	-	-	-	-	433	-
Stage 2	-	-	-	-	217	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	$ 424.8
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	46	376	-	-	793	-
HCM Lane V/C Ratio	1.772	0.072	-	-	0.062	-
HCM Control Delay (s)	$ 561.3	15.3	-	-	9.8	-
HCM Lane LOS	F	C	-	-	A	-
HCM 95th %tile Q(veh)	8.2	0.2	-	-	0.2	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Lane Group	EBL	EBT	WBT	SBT	SBR	Ø8
Lane Configurations						
Traffic Volume (vph)	90	685	915	0	325	
Future Volume (vph)	90	685	915	0	325	
Turn Type	Prot	NA	NA	NA	pm+ov	
Protected Phases	5	2	6	4	5	8
Permitted Phases					4	
Detector Phase	5	2	6	4	5	
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.2	9.0	9.0	7.5	8.2	7.5
Total Split (s)	30.0	60.0	60.0	20.0	30.0	20.0
Total Split (%)	23.1%	46.2%	46.2%	15.4%	23.1%	15%
Yellow Time (s)	3.5	5.0	5.0	3.5	3.5	3.5
All-Red Time (s)	0.7	0.0	0.0	0.0	0.7	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.2	5.0	5.0	3.5	4.2	
Lead/Lag	Lead		Lag		Lead	
Lead-Lag Optimize?	Yes		Yes		Yes	
Recall Mode	None	None	None	None	None	None
Act Effct Green (s)	9.2	70.8	56.0	9.2	16.9	
Actuated g/C Ratio	0.11	0.83	0.65	0.11	0.20	
v/c Ratio	0.62	0.58	1.02	0.45	0.73	
Control Delay	55.5	6.7	53.5	45.6	15.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	55.5	6.7	53.5	45.6	15.2	
LOS	E	A	D	D	B	
Approach Delay		12.4	53.5	20.3		
Approach LOS		B	D	C		

Intersection Summary	
Cycle Length: 130	
Actuated Cycle Length: 85.5	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.02	
Intersection Signal Delay: 32.3	Intersection LOS: C
Intersection Capacity Utilization 91.9%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 8: Las Lomas Dr & Hall Rd

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	55	700	10	5	835	70	5	0	5	40	0	105
Future Vol, veh/h	55	700	10	5	835	70	5	0	5	40	0	105
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	110	-	-	-	-	-	-	-	-	0	-	25
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	60	761	11	5	908	76	5	0	5	43	0	114

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	984	0	0	772	0	0	1900	1881	767	1845	1848	946
Stage 1	-	-	-	-	-	-	887	887	-	956	956	-
Stage 2	-	-	-	-	-	-	1013	994	-	889	892	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	698	-	-	839	-	-	52	71	401	57	74	316
Stage 1	-	-	-	-	-	-	337	361	-	309	335	-
Stage 2	-	-	-	-	-	-	287	322	-	336	359	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	698	-	-	839	-	-	31	64	401	52	67	316
Mov Cap-2 Maneuver	-	-	-	-	-	-	31	64	-	52	67	-
Stage 1	-	-	-	-	-	-	308	330	-	282	331	-
Stage 2	-	-	-	-	-	-	181	318	-	303	328	-

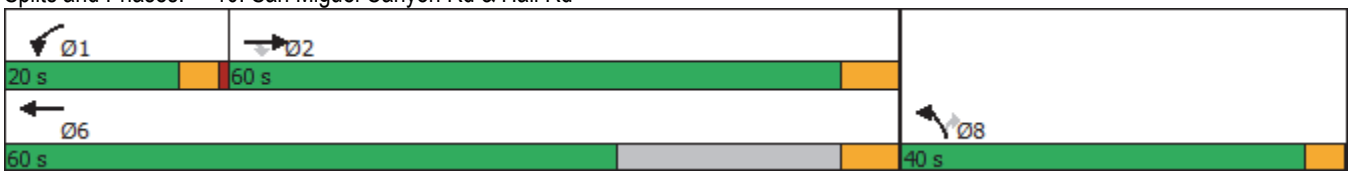
Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0.1	80.9	72.4
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	58	698	-	-	839	-	-	52	316
HCM Lane V/C Ratio	0.187	0.086	-	-	0.006	-	-	0.836	0.361
HCM Control Delay (s)	80.9	10.6	-	-	9.3	0	-	202.9	22.7
HCM Lane LOS	F	B	-	-	A	A	-	F	C
HCM 95th %tile Q(veh)	0.6	0.3	-	-	0	-	-	3.5	1.6

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	180	570	85	155	690	110
Future Volume (vph)	180	570	85	155	690	110
Turn Type	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2				8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	4.0	4.0	6.0	4.0	6.0	6.0
Minimum Split (s)	9.4	9.4	10.4	9.4	9.9	9.9
Total Split (s)	60.0	60.0	20.0	60.0	40.0	40.0
Total Split (%)	50.0%	50.0%	16.7%	50.0%	33.3%	33.3%
Yellow Time (s)	5.4	5.4	3.5	5.4	3.5	3.5
All-Red Time (s)	0.0	0.0	0.9	0.0	0.4	0.4
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	5.4	4.4	5.4	3.9	3.9
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	None	None	None	None	None	None
Act Effct Green (s)	14.4	14.4	7.6	23.8	36.8	36.8
Actuated g/C Ratio	0.21	0.21	0.11	0.34	0.52	0.52
v/c Ratio	0.52	0.76	0.48	0.27	0.82	0.14
Control Delay	30.8	9.4	40.6	16.7	26.4	7.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.8	9.4	40.6	16.7	26.4	7.9
LOS	C	A	D	B	C	A
Approach Delay	14.5			25.1	23.8	
Approach LOS	B			C	C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 70.1	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.82	
Intersection Signal Delay: 20.1	Intersection LOS: C
Intersection Capacity Utilization 64.2%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 10: San Miguel Canyon Rd & Hall Rd



Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	25	50	20	755	770	10
Future Vol, veh/h	25	50	20	755	770	10
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	-	115	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	27	54	22	821	837	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1708	843	848	0	-	0
Stage 1	843	-	-	-	-	-
Stage 2	865	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.227	-	-	-
Pot Cap-1 Maneuver	100	362	785	-	-	-
Stage 1	420	-	-	-	-	-
Stage 2	411	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	97	362	785	-	-	-
Mov Cap-2 Maneuver	97	-	-	-	-	-
Stage 1	408	-	-	-	-	-
Stage 2	411	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	37.8	0.3	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	785	-	189	-	-
HCM Lane V/C Ratio	0.028	-	0.431	-	-
HCM Control Delay (s)	9.7	-	37.8	-	-
HCM Lane LOS	A	-	E	-	-
HCM 95th %tile Q(veh)	0.1	-	2	-	-

Intersection	
Int Delay, s/veh	75.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	150	50	720	180	60	765
Future Vol, veh/h	150	50	720	180	60	765
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	-	-	-	120	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	163	54	783	196	65	832

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1843	881	0	0	979	0
Stage 1	881	-	-	-	-	-
Stage 2	962	-	-	-	-	-
Critical Hdwy	6.44	6.24	-	-	4.14	-
Critical Hdwy Stg 1	5.44	-	-	-	-	-
Critical Hdwy Stg 2	5.44	-	-	-	-	-
Follow-up Hdwy	3.536	3.336	-	-	2.236	-
Pot Cap-1 Maneuver	~ 82	343	-	-	697	-
Stage 1	402	-	-	-	-	-
Stage 2	368	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 74	343	-	-	697	-
Mov Cap-2 Maneuver	~ 74	-	-	-	-	-
Stage 1	402	-	-	-	-	-
Stage 2	334	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 719.1	0	0.8
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	92	697	-
HCM Lane V/C Ratio	-	-	2.363	0.094	-
HCM Control Delay (s)	-	-	$ 719.1	10.7	-
HCM Lane LOS	-	-	F	B	-
HCM 95th %tile Q(veh)	-	-	19.8	0.3	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	50	180	180	840	850	105
Future Vol, veh/h	50	180	180	840	850	105
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	Yield
Storage Length	0	85	520	-	-	140
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	54	196	196	913	924	114

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2229	924	924	0	-	0
Stage 1	924	-	-	-	-	-
Stage 2	1305	-	-	-	-	-
Critical Hdwy	6.44	6.24	4.14	-	-	-
Critical Hdwy Stg 1	5.44	-	-	-	-	-
Critical Hdwy Stg 2	5.44	-	-	-	-	-
Follow-up Hdwy	3.536	3.336	2.236	-	-	-
Pot Cap-1 Maneuver	~ 47	324	731	-	-	-
Stage 1	383	-	-	-	-	-
Stage 2	251	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 34	324	731	-	-	-
Mov Cap-2 Maneuver	178	-	-	-	-	-
Stage 1	280	-	-	-	-	-
Stage 2	251	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	32.2	2.1	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	731	-	178	324	-	-
HCM Lane V/C Ratio	0.268	-	0.305	0.604	-	-
HCM Control Delay (s)	11.7	-	33.9	31.7	-	-
HCM Lane LOS	B	-	D	D	-	-
HCM 95th %tile Q(veh)	1.1	-	1.2	3.7	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	5.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	110	60	975	40	15	1010
Future Vol, veh/h	110	60	975	40	15	1010
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	-	-	-	145	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	120	65	1060	43	16	1098

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2212	1082	0	0	1103	0
Stage 1	1082	-	-	-	-	-
Stage 2	1130	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	~ 48	264	-	-	633	-
Stage 1	325	-	-	-	-	-
Stage 2	308	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 47	264	-	-	633	-
Mov Cap-2 Maneuver	212	-	-	-	-	-
Stage 1	325	-	-	-	-	-
Stage 2	300	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	65.2	0	0.2
HCM LOS	F		

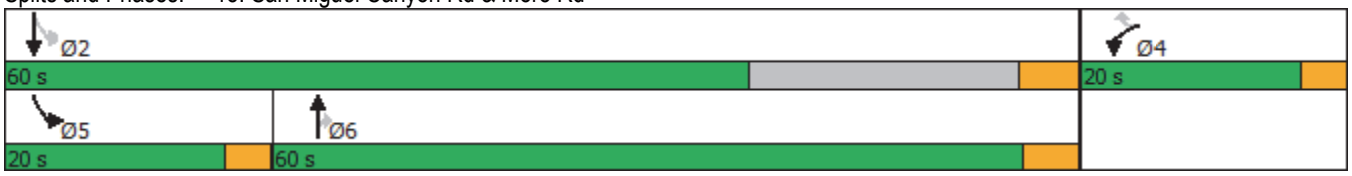
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	228	633	-
HCM Lane V/C Ratio	-	-	0.81	0.026	-
HCM Control Delay (s)	-	-	65.2	10.8	-
HCM Lane LOS	-	-	F	B	-
HCM 95th %tile Q(veh)	-	-	6	0.1	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	105	105	910	55	65	1055
Future Volume (vph)	105	105	910	55	65	1055
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	4		6		5	2
Permitted Phases		4		6	2	
Detector Phase	4	4	6	6	5	2
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	7.5	7.5	8.3	8.3	7.7	8.6
Total Split (s)	20.0	20.0	60.0	60.0	20.0	60.0
Total Split (%)	20.0%	20.0%	60.0%	60.0%	20.0%	60.0%
Yellow Time (s)	3.5	3.5	4.3	4.3	3.5	4.6
All-Red Time (s)	0.0	0.0	0.0	0.0	0.2	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.5	3.5	4.3	4.3	3.7	4.6
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None
Act Effct Green (s)	10.1	10.1	56.2	56.2	64.2	63.3
Actuated g/C Ratio	0.12	0.12	0.69	0.69	0.79	0.78
v/c Ratio	0.67	0.45	1.00	0.07	0.29	1.03
Control Delay	54.3	13.1	45.0	2.6	5.6	46.7
Queue Delay	0.0	0.0	29.3	0.0	0.0	0.0
Total Delay	54.3	13.1	74.2	2.6	5.6	46.7
LOS	D	B	E	A	A	D
Approach Delay	33.7		70.1			44.3
Approach LOS	C		E			D

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 81.6	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.03	
Intersection Signal Delay: 54.2	Intersection LOS: D
Intersection Capacity Utilization 84.9%	ICU Level of Service E
Analysis Period (min) 15	

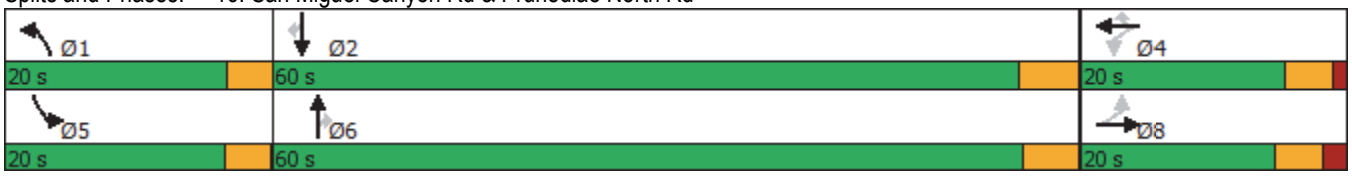
Splits and Phases: 15: San Miguel Canyon Rd & Moro Rd



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	75	10	70	10	20	35	880	35	20	985	135
Future Volume (vph)	75	10	70	10	20	35	880	35	20	985	135
Turn Type	Perm	NA	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		8		4		1	6		5	2	
Permitted Phases	8		4		4			6			2
Detector Phase	8	8	4	4	4	1	6	6	5	2	2
Switch Phase											
Minimum Initial (s)	5.0	5.0	4.0	4.0	4.0	5.0	5.0	5.0	5.0	4.0	4.0
Minimum Split (s)	10.5	10.5	8.7	8.7	8.7	8.5	9.3	9.3	8.7	8.6	8.6
Total Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	60.0	60.0	20.0	60.0	60.0
Total Split (%)	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	60.0%	60.0%	20.0%	60.0%	60.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	4.3	4.3	3.5	4.6	4.6
All-Red Time (s)	2.0	2.0	1.2	1.2	1.2	0.0	0.0	0.0	0.2	0.0	0.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5		4.7	4.7	3.5	4.3	4.3	3.7	4.6	4.6
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	9.8	9.8		10.2	10.2	6.4	60.5	60.5	5.7	58.0	58.0
Actuated g/C Ratio	0.12	0.12		0.13	0.13	0.08	0.76	0.76	0.07	0.72	0.72
v/c Ratio	0.67	0.24		0.65	0.11	0.35	0.88	0.04	0.23	0.85	0.16
Control Delay	61.3	19.2		58.5	1.3	47.6	24.7	0.7	45.2	22.8	4.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.3	19.2		58.5	1.3	47.6	24.7	0.7	45.2	22.8	4.1
LOS	E	B		E	A	D	C	A	D	C	A
Approach Delay		46.6		46.9			24.6			21.0	
Approach LOS		D		D			C			C	

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 80	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.88	
Intersection Signal Delay: 24.9	Intersection LOS: C
Intersection Capacity Utilization 56.9%	ICU Level of Service B
Analysis Period (min) 15	

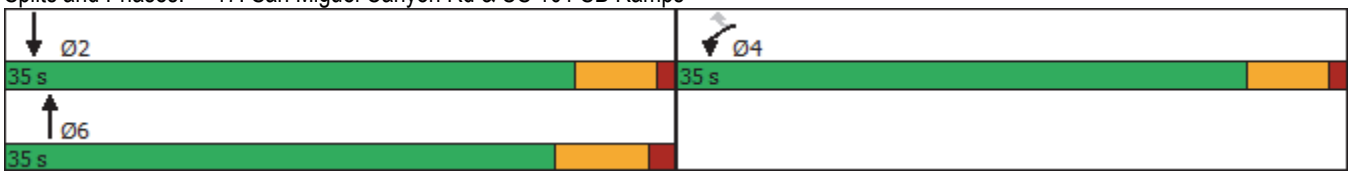
Splits and Phases: 16: San Miguel Canyon Rd & Prunedlae North Rd



Lane Group	WBL	WBR	NBT	SBT	SBR
Lane Configurations					
Traffic Volume (vph)	10	100	920	120	965
Future Volume (vph)	10	100	920	120	965
Turn Type	Prot	Perm	NA	NA	Free
Protected Phases	4		6	2	
Permitted Phases		4			Free
Detector Phase	4	4	6	2	
Switch Phase					
Minimum Initial (s)	4.0	4.0	7.0	7.0	
Minimum Split (s)	9.3	9.3	13.4	12.3	
Total Split (s)	35.0	35.0	35.0	35.0	
Total Split (%)	50.0%	50.0%	50.0%	50.0%	
Yellow Time (s)	4.3	4.3	4.9	4.3	
All-Red Time (s)	1.0	1.0	1.5	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.3	5.3	6.4	5.3	
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	None	None	None	None	
Act Effct Green (s)	7.9	7.9	30.9	31.7	46.2
Actuated g/C Ratio	0.17	0.17	0.67	0.69	1.00
v/c Ratio	0.05	0.43	0.80	0.10	0.68
Control Delay	16.8	16.2	17.3	4.7	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	16.8	16.2	17.3	4.7	2.4
LOS	B	B	B	A	A
Approach Delay			17.3	2.6	
Approach LOS			B	A	

Intersection Summary	
Cycle Length: 70	
Actuated Cycle Length: 46.2	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.80	
Intersection Signal Delay: 9.7	Intersection LOS: A
Intersection Capacity Utilization 49.8%	ICU Level of Service A
Analysis Period (min) 15	

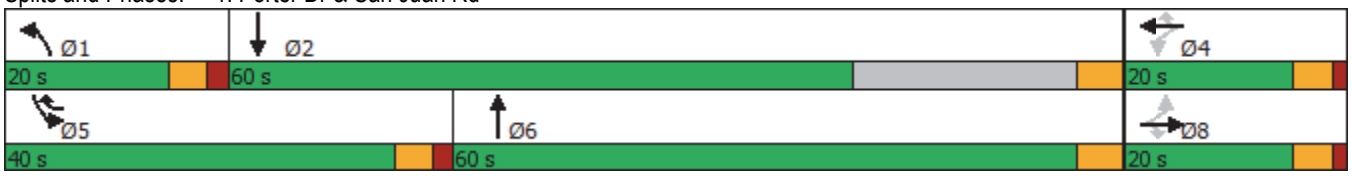
Splits and Phases: 17: San Miguel Canyon Rd & US 101 SB Ramps



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	115	20	30	55	20	565	20	870	655	1015
Future Volume (vph)	115	20	30	55	20	565	20	870	655	1015
Turn Type	Perm	NA	Perm	Perm	NA	pm+ov	Prot	NA	Prot	NA
Protected Phases		8			4	5	1	6	5	2
Permitted Phases	8		8	4		4				
Detector Phase	8	8	8	4	4	5	1	6	5	2
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.2	9.4	8.3	9.2	8.3
Total Split (s)	20.0	20.0	20.0	20.0	20.0	40.0	20.0	60.0	40.0	60.0
Total Split (%)	16.7%	16.7%	16.7%	16.7%	16.7%	33.3%	16.7%	50.0%	33.3%	50.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.3	3.5	4.3
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.7	1.9	0.0	1.7	0.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.2	5.4	4.3	5.2	4.3
Lead/Lag						Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	20.2	20.2	20.2		20.2	57.9	5.7	55.9	32.7	86.7
Actuated g/C Ratio	0.16	0.16	0.16		0.16	0.47	0.05	0.45	0.27	0.70
v/c Ratio	0.74	0.09	0.12		0.44	0.56	0.34	1.05	0.99	0.84
Control Delay	75.1	44.8	0.8		54.8	20.5	72.8	76.8	77.3	23.0
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	75.1	44.8	0.8		54.8	20.5	72.8	76.8	77.3	23.0
LOS	E	D	A		D	C	E	E	E	C
Approach Delay		57.8			24.6			76.7		43.2
Approach LOS		E			C			E		D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 123.3	
Natural Cycle: 110	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.05	
Intersection Signal Delay: 49.2	Intersection LOS: D
Intersection Capacity Utilization 84.7%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 1: Porter Dr & San Juan Rd



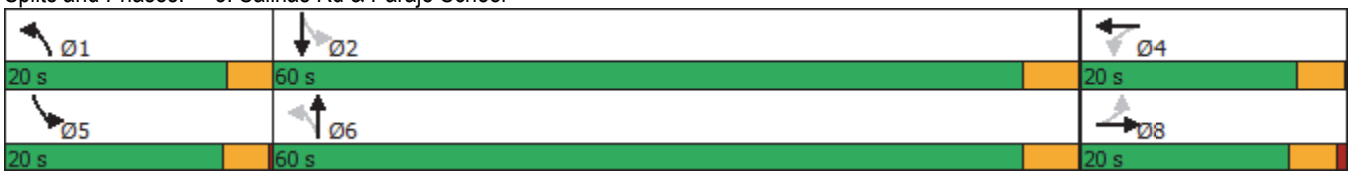
2: Salinas Rd & Porter Dr/Stender Ave Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.0	0.1	0.3	0.1	0.1
Total Del/Veh (s)	1.0	21.8	4.5	67.3	3.4

Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT	Ø1
Lane Configurations								
Traffic Volume (vph)	15	0	15	0	860	25	940	
Future Volume (vph)	15	0	15	0	860	25	940	
Turn Type	Perm	NA	Perm	NA	NA	pm+pt	NA	
Protected Phases		8		4	6	5	2	1
Permitted Phases	8		4			2		
Detector Phase	8	8	4	4	6	5	2	
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	6.0	4.0	4.0
Minimum Split (s)	8.4	8.4	7.8	7.8	8.3	9.8	8.3	7.5
Total Split (s)	20.0	20.0	20.0	20.0	60.0	20.0	60.0	20.0
Total Split (%)	20.0%	20.0%	20.0%	20.0%	60.0%	20.0%	60.0%	20%
Yellow Time (s)	3.5	3.5	3.5	3.5	4.3	3.5	4.3	3.5
All-Red Time (s)	0.9	0.9	0.3	0.3	0.0	0.3	0.0	0.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.4	4.4		3.8	4.3	3.8	4.3	
Lead/Lag					Lag	Lead	Lag	Lead
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None
Act Effct Green (s)	4.9	4.9		5.2	44.4	45.3	47.3	
Actuated g/C Ratio	0.09	0.09		0.10	0.82	0.84	0.87	
v/c Ratio	0.09	0.01		0.25	0.62	0.06	0.63	
Control Delay	32.3	0.0		12.8	7.6	1.6	4.6	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	
Total Delay	32.3	0.0		12.8	7.6	1.6	4.6	
LOS	C	A		B	A	A	A	
Approach Delay		24.6		12.8	7.6		4.5	
Approach LOS		C		B	A		A	

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 54.2	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.63	
Intersection Signal Delay: 6.3	Intersection LOS: A
Intersection Capacity Utilization 66.0%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 3: Salinas Rd & Parajo School



4: Salinas Rd & Elkhorn Road Performance by approach

Approach	NB	SB	NW	All
Denied Del/Veh (s)	0.2	0.0	0.0	0.0
Total Del/Veh (s)	2.6	214.6	7.1	118.9

Intersection	
Int Delay, s/veh	130.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	510	480	605	820	5
Future Vol, veh/h	5	510	480	605	820	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	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	554	522	658	891	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2596	894	896	0	-	0
Stage 1	894	-	-	-	-	-
Stage 2	1702	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	28	~ 340	757	-	-	-
Stage 1	399	-	-	-	-	-
Stage 2	162	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	9	~ 340	757	-	-	-
Mov Cap-2 Maneuver	9	-	-	-	-	-
Stage 1	124	-	-	-	-	-
Stage 2	162	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	$ 597.8	8.7	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	757	-	251	-	-
HCM Lane V/C Ratio	0.689	-	2.23	-	-
HCM Control Delay (s)	19.6	-	$ 597.8	-	-
HCM Lane LOS	C	-	F	-	-
HCM 95th %tile Q(veh)	5.6	-	43.4	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	60	25	25	995	1160	110
Future Vol, veh/h	60	25	25	995	1160	110
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	0	-	265	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	65	27	27	1082	1261	120

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2457	1321	1261	0	-	0
Stage 1	1321	-	-	-	-	-
Stage 2	1136	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	~ 34	191	551	-	-	-
Stage 1	249	-	-	-	-	-
Stage 2	306	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 32	191	551	-	-	-
Mov Cap-2 Maneuver	178	-	-	-	-	-
Stage 1	237	-	-	-	-	-
Stage 2	306	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	27.3	0.3	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	551	-	252	-	-
HCM Lane V/C Ratio	0.049	-	0.367	-	-
HCM Control Delay (s)	11.9	-	27.3	-	-
HCM Lane LOS	B	-	D	-	-
HCM 95th %tile Q(veh)	0.2	-	1.6	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	13.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1055	110	70	925	50	45
Future Vol, veh/h	1055	110	70	925	50	45
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	20
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1147	120	76	1005	54	49

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1267	0	2364	1207
Stage 1	-	-	-	-	1207	-
Stage 2	-	-	-	-	1157	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	548	-	~ 39	223
Stage 1	-	-	-	-	283	-
Stage 2	-	-	-	-	299	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	548	-	~ 34	223
Mov Cap-2 Maneuver	-	-	-	-	~ 34	-
Stage 1	-	-	-	-	283	-
Stage 2	-	-	-	-	257	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	$ 303
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	34	223	-	-	548	-
HCM Lane V/C Ratio	1.598	0.219	-	-	0.139	-
HCM Control Delay (s)	$ 552.6	25.6	-	-	12.6	-
HCM Lane LOS	F	D	-	-	B	-
HCM 95th %tile Q(veh)	6	0.8	-	-	0.5	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Lane Group	EBL	EBT	WBL	WBT	SBT	SBR	Ø8
Lane Configurations							
Traffic Volume (vph)	285	855	5	805	0	200	
Future Volume (vph)	285	855	5	805	0	200	
Turn Type	Prot	NA	Perm	NA	NA	pm+ov	
Protected Phases	5	2		6	4	5	8
Permitted Phases			6			4	
Detector Phase	5	2	6	6	4	5	
Switch Phase							
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.2	9.0	9.0	9.0	7.5	8.2	7.5
Total Split (s)	30.0	60.0	60.0	60.0	20.0	30.0	20.0
Total Split (%)	23.1%	46.2%	46.2%	46.2%	15.4%	23.1%	15%
Yellow Time (s)	3.5	5.0	5.0	5.0	3.5	3.5	3.5
All-Red Time (s)	0.7	0.0	0.0	0.0	0.0	0.7	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.2	5.0	5.0	5.0	3.5	4.2	
Lead/Lag	Lead		Lag	Lag		Lead	
Lead-Lag Optimize?	Yes		Yes	Yes		Yes	
Recall Mode	None	None	None	None	None	None	None
Act Effct Green (s)	26.0	86.7	55.3	55.3	9.3	33.8	
Actuated g/C Ratio	0.26	0.85	0.54	0.54	0.09	0.33	
v/c Ratio	0.87	0.93	0.02	1.11	0.44	0.37	
Control Delay	63.0	27.3	14.2	89.0	53.6	4.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	63.0	27.3	14.2	89.0	53.6	4.7	
LOS	E	C	B	F	D	A	
Approach Delay		36.2		88.6	15.3		
Approach LOS		D		F	B		

Intersection Summary	
Cycle Length: 130	
Actuated Cycle Length: 101.7	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.11	
Intersection Signal Delay: 53.9	Intersection LOS: D
Intersection Capacity Utilization 92.6%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 8: Las Lomas Dr & Hall Rd

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	20	880	10	5	835	55	5	0	5	20	0	25
Future Vol, veh/h	20	880	10	5	835	55	5	0	5	20	0	25
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	110	-	-	-	-	-	-	-	-	0	-	25
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	957	11	5	908	60	5	0	5	22	0	27

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	968	0	0	968	0	0	1969	1985	963	1957	1960	938
Stage 1	-	-	-	-	-	-	1007	1007	-	948	948	-
Stage 2	-	-	-	-	-	-	962	978	-	1009	1012	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	712	-	-	712	-	-	47	61	310	48	63	321
Stage 1	-	-	-	-	-	-	290	319	-	313	339	-
Stage 2	-	-	-	-	-	-	308	329	-	290	317	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	712	-	-	712	-	-	42	58	310	46	60	321
Mov Cap-2 Maneuver	-	-	-	-	-	-	42	58	-	46	60	-
Stage 1	-	-	-	-	-	-	281	309	-	303	334	-
Stage 2	-	-	-	-	-	-	278	324	-	276	307	-

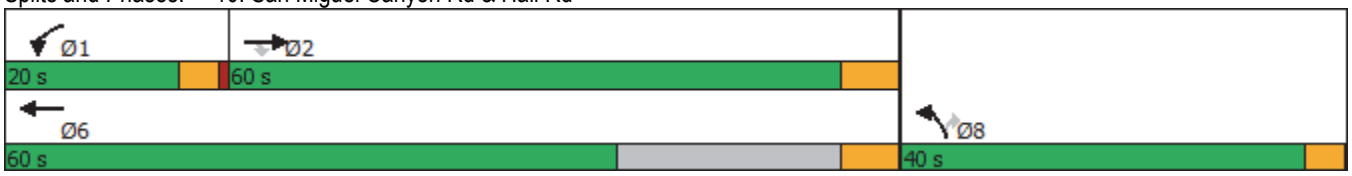
Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.1	61.9	71.8
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	74	712	-	-	712	-	-	46	321
HCM Lane V/C Ratio	0.147	0.031	-	-	0.008	-	-	0.473	0.085
HCM Control Delay (s)	61.9	10.2	-	-	10.1	0	-	139.9	17.3
HCM Lane LOS	F	B	-	-	B	A	-	F	C
HCM 95th %tile Q(veh)	0.5	0.1	-	-	0	-	-	1.7	0.3

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	130	700	150	240	615	130
Future Volume (vph)	130	700	150	240	615	130
Turn Type	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2				8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	4.0	4.0	6.0	4.0	6.0	6.0
Minimum Split (s)	9.4	9.4	10.4	9.4	9.9	9.9
Total Split (s)	60.0	60.0	20.0	60.0	40.0	40.0
Total Split (%)	50.0%	50.0%	16.7%	50.0%	33.3%	33.3%
Yellow Time (s)	5.4	5.4	3.5	5.4	3.5	3.5
All-Red Time (s)	0.0	0.0	0.9	0.0	0.4	0.4
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	5.4	4.4	5.4	3.9	3.9
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	None	None	None	None	None	None
Act Effct Green (s)	14.1	14.1	10.5	29.1	36.7	36.7
Actuated g/C Ratio	0.19	0.19	0.14	0.39	0.49	0.49
v/c Ratio	0.41	0.83	0.66	0.36	0.77	0.17
Control Delay	30.3	11.3	45.2	17.1	26.5	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.3	11.3	45.2	17.1	26.5	8.7
LOS	C	B	D	B	C	A
Approach Delay	14.3			27.9	23.4	
Approach LOS	B			C	C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 75.2	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.83	
Intersection Signal Delay: 20.4	Intersection LOS: C
Intersection Capacity Utilization 60.7%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 10: San Miguel Canyon Rd & Hall Rd



Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	15	40	50	825	830	40
Future Vol, veh/h	15	40	50	825	830	40
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	-	115	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	43	54	897	902	43

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1929	924	945	0	-	0
Stage 1	924	-	-	-	-	-
Stage 2	1005	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	73	327	726	-	-	-
Stage 1	387	-	-	-	-	-
Stage 2	354	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	68	327	726	-	-	-
Mov Cap-2 Maneuver	68	-	-	-	-	-
Stage 1	358	-	-	-	-	-
Stage 2	354	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	40.3	0.6	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	726	-	160	-	-
HCM Lane V/C Ratio	0.075	-	0.374	-	-
HCM Control Delay (s)	10.4	-	40.3	-	-
HCM Lane LOS	B	-	E	-	-
HCM 95th %tile Q(veh)	0.2	-	1.6	-	-

Intersection	
Int Delay, s/veh	62.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	135	40	815	115	35	845
Future Vol, veh/h	135	40	815	115	35	845
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	-	-	-	120	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	147	43	886	125	38	918

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1943	949	0	0	1011	0
Stage 1	949	-	-	-	-	-
Stage 2	994	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	~ 71	316	-	-	686	-
Stage 1	376	-	-	-	-	-
Stage 2	358	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 67	316	-	-	686	-
Mov Cap-2 Maneuver	~ 67	-	-	-	-	-
Stage 1	376	-	-	-	-	-
Stage 2	338	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 711.9	0	0.4
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	82	686	-
HCM Lane V/C Ratio	-	-	2.32	0.055	-
HCM Control Delay (s)	-	-	$ 711.9	10.6	-
HCM Lane LOS	-	-	F	B	-
HCM 95th %tile Q(veh)	-	-	17.6	0.2	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	59.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	65	320	235	915	925	80
Future Vol, veh/h	65	320	235	915	925	80
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	Yield
Storage Length	0	85	520	-	-	140
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	71	348	255	995	1005	87

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2510	1005	1005	0	-	0
Stage 1	1005	-	-	-	-	-
Stage 2	1505	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	~ 31	~ 293	689	-	-	-
Stage 1	354	-	-	-	-	-
Stage 2	203	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 20	~ 293	689	-	-	-
Mov Cap-2 Maneuver	~ 20	-	-	-	-	-
Stage 1	223	-	-	-	-	-
Stage 2	203	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	$ 384.6	2.7	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	689	-	20	293	-	-
HCM Lane V/C Ratio	0.371	-	3.533	1.187	-	-
HCM Control Delay (s)	13.3	-	$ 1536.4	150.7	-	-
HCM Lane LOS	B	-	F	F	-	-
HCM 95th %tile Q(veh)	1.7	-	9.2	15.3	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	50	25	1140	105	55	1190
Future Vol, veh/h	50	25	1140	105	55	1190
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	-	-	-	145	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	54	27	1239	114	60	1293

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2709	1296	0	0	1353	0
Stage 1	1296	-	-	-	-	-
Stage 2	1413	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	~ 23	198	-	-	509	-
Stage 1	256	-	-	-	-	-
Stage 2	225	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 20	198	-	-	509	-
Mov Cap-2 Maneuver	147	-	-	-	-	-
Stage 1	256	-	-	-	-	-
Stage 2	198	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	48.3	0	0.6
HCM LOS	E		

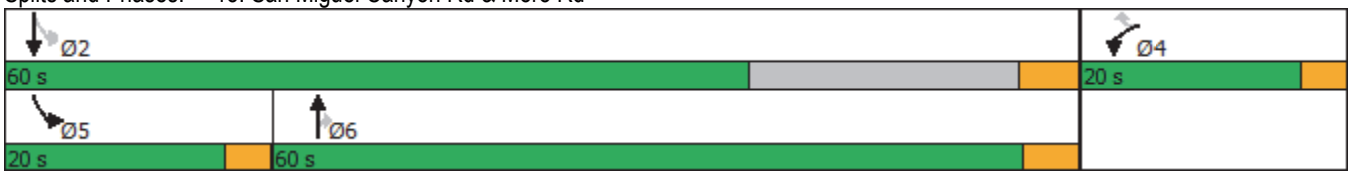
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	161	509	-
HCM Lane V/C Ratio	-	-	0.506	0.117	-
HCM Control Delay (s)	-	-	48.3	13	-
HCM Lane LOS	-	-	E	B	-
HCM 95th %tile Q(veh)	-	-	2.5	0.4	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	100	150	1090	110	95	1150
Future Volume (vph)	100	150	1090	110	95	1150
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	4		6		5	2
Permitted Phases		4		6	2	
Detector Phase	4	4	6	6	5	2
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	7.5	7.5	8.3	8.3	7.7	8.6
Total Split (s)	20.0	20.0	60.0	60.0	20.0	60.0
Total Split (%)	20.0%	20.0%	60.0%	60.0%	20.0%	60.0%
Yellow Time (s)	3.5	3.5	4.3	4.3	3.5	4.6
All-Red Time (s)	0.0	0.0	0.0	0.0	0.2	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.5	3.5	4.3	4.3	3.7	4.6
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None
Act Effct Green (s)	9.8	9.8	56.4	56.4	65.7	64.8
Actuated g/C Ratio	0.12	0.12	0.68	0.68	0.79	0.78
v/c Ratio	0.66	0.56	1.18	0.14	0.56	1.09
Control Delay	55.0	14.0	111.7	3.1	23.3	66.8
Queue Delay	0.0	0.0	0.2	0.0	0.0	0.0
Total Delay	55.0	14.0	111.9	3.1	23.3	66.8
LOS	E	B	F	A	C	E
Approach Delay	30.4		101.9			63.5
Approach LOS	C		F			E

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 82.8	
Natural Cycle: 140	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.18	
Intersection Signal Delay: 77.5	Intersection LOS: E
Intersection Capacity Utilization 96.6%	ICU Level of Service F
Analysis Period (min) 15	

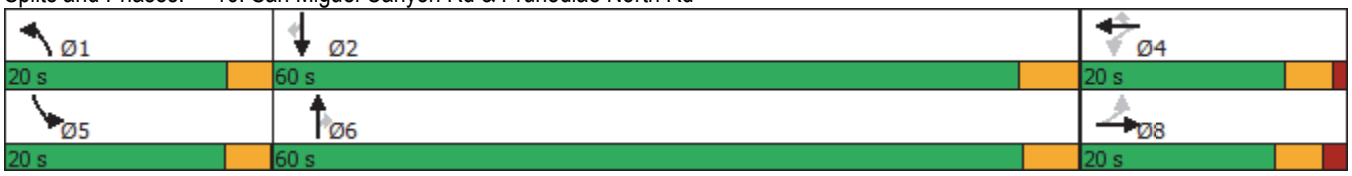
Splits and Phases: 15: San Miguel Canyon Rd & Moro Rd



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	120	40	105	35	45	50	1050	70	50	980	210
Future Volume (vph)	120	40	105	35	45	50	1050	70	50	980	210
Turn Type	Perm	NA	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		8		4		1	6		5	2	
Permitted Phases	8		4		4			6			2
Detector Phase	8	8	4	4	4	1	6	6	5	2	2
Switch Phase											
Minimum Initial (s)	5.0	5.0	4.0	4.0	4.0	5.0	5.0	5.0	5.0	4.0	4.0
Minimum Split (s)	10.5	10.5	8.7	8.7	8.7	8.5	9.3	9.3	8.7	8.6	8.6
Total Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	60.0	60.0	20.0	60.0	60.0
Total Split (%)	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	60.0%	60.0%	20.0%	60.0%	60.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	4.3	4.3	3.5	4.6	4.6
All-Red Time (s)	2.0	2.0	1.2	1.2	1.2	0.0	0.0	0.0	0.2	0.0	0.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5		4.7	4.7	3.5	4.3	4.3	3.7	4.6	4.6
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	16.8	16.8		17.6	17.6	7.4	56.2	56.2	7.4	56.1	56.1
Actuated g/C Ratio	0.18	0.18		0.19	0.19	0.08	0.61	0.61	0.08	0.61	0.61
v/c Ratio	0.85	0.29		0.75	0.17	0.48	1.27	0.10	0.48	0.85	0.28
Control Delay	80.7	23.3		59.0	8.5	56.8	151.9	3.8	56.8	25.0	5.3
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0
Total Delay	80.7	23.3		59.0	8.5	56.8	151.9	3.8	56.8	25.4	5.3
LOS	F	C		E	A	E	F	A	E	C	A
Approach Delay		58.6		46.7			139.0			23.3	
Approach LOS		E		D			F			C	

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 92	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.27	
Intersection Signal Delay: 75.8	Intersection LOS: E
Intersection Capacity Utilization 68.4%	ICU Level of Service C
Analysis Period (min) 15	

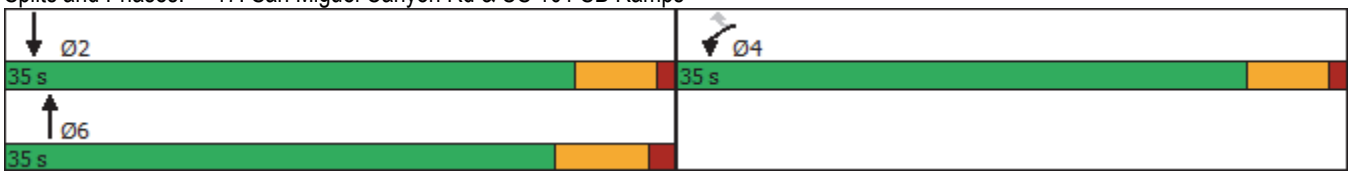
Splits and Phases: 16: San Miguel Canyon Rd & Prunedlae North Rd



Lane Group	WBL	WBR	NBT	SBT	SBR
Lane Configurations					
Traffic Volume (vph)	30	170	1110	145	920
Future Volume (vph)	30	170	1110	145	920
Turn Type	Prot	Perm	NA	NA	Free
Protected Phases	4		6	2	
Permitted Phases		4			Free
Detector Phase	4	4	6	2	
Switch Phase					
Minimum Initial (s)	4.0	4.0	7.0	7.0	
Minimum Split (s)	9.3	9.3	13.4	12.3	
Total Split (s)	35.0	35.0	35.0	35.0	
Total Split (%)	50.0%	50.0%	50.0%	50.0%	
Yellow Time (s)	4.3	4.3	4.9	4.3	
All-Red Time (s)	1.0	1.0	1.5	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.3	5.3	6.4	5.3	
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	None	None	None	None	
Act Effct Green (s)	10.8	10.8	31.3	32.1	49.2
Actuated g/C Ratio	0.22	0.22	0.64	0.65	1.00
v/c Ratio	0.11	0.59	1.29	0.16	0.80
Control Delay	16.3	21.2	159.8	6.8	6.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	16.3	21.2	159.8	6.8	6.3
LOS	B	C	F	A	A
Approach Delay			159.8	6.4	
Approach LOS			F	A	

Intersection Summary	
Cycle Length: 70	
Actuated Cycle Length: 49.2	
Natural Cycle: 100	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.29	
Intersection Signal Delay: 79.3	Intersection LOS: E
Intersection Capacity Utilization 61.9%	ICU Level of Service B
Analysis Period (min) 15	

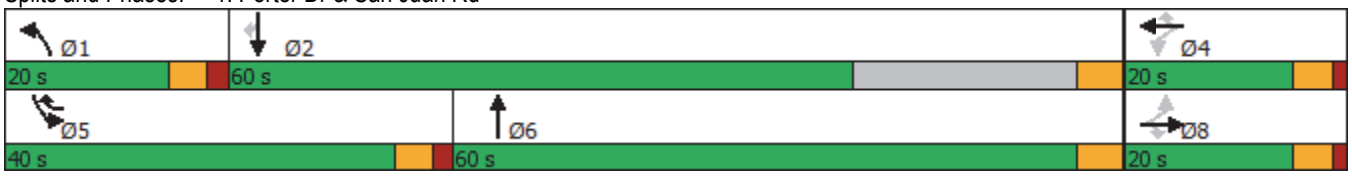
Splits and Phases: 17: San Miguel Canyon Rd & US 101 SB Ramps



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	40	10	10	80	10	750	5	830	325	635	55
Future Volume (vph)	40	10	10	80	10	750	5	830	325	635	55
Turn Type	Perm	NA	Perm	Perm	NA	pm+ov	Prot	NA	Prot	NA	Perm
Protected Phases		8			4	5	1	6	5	2	
Permitted Phases	8		8	4		4					2
Detector Phase	8	8	8	4	4	5	1	6	5	2	2
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.2	9.4	8.3	9.2	8.3	8.3
Total Split (s)	20.0	20.0	20.0	20.0	20.0	40.0	20.0	60.0	40.0	60.0	60.0
Total Split (%)	16.7%	16.7%	16.7%	16.7%	16.7%	33.3%	16.7%	50.0%	33.3%	50.0%	50.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.3	3.5	4.3	4.3
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.7	1.9	0.0	1.7	0.0	0.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.2	5.4	4.3	5.2	4.3	4.3
Lead/Lag						Lead	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	15.4	15.4	15.4		15.8	34.1	4.7	44.8	16.6	67.3	67.3
Actuated g/C Ratio	0.17	0.17	0.17		0.18	0.38	0.05	0.50	0.19	0.75	0.75
v/c Ratio	0.21	0.04	0.03		0.43	0.73	0.06	0.86	0.57	0.53	0.05
Control Delay	37.9	35.1	0.2		42.9	24.7	53.2	31.3	42.5	10.5	1.8
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.9	35.1	0.2		42.9	24.7	53.2	31.3	42.5	10.5	1.8
LOS	D	D	A		D	C	D	C	D	B	A
Approach Delay		31.0			26.6			31.5		20.3	
Approach LOS		C			C			C		C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 89.6	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay: 25.9	Intersection LOS: C
Intersection Capacity Utilization 80.5%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 1: Porter Dr & San Juan Rd



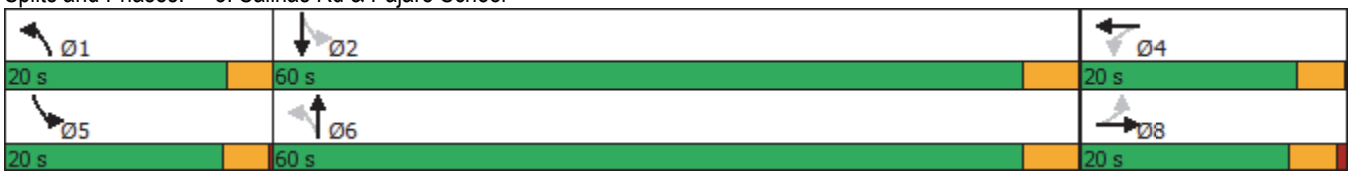
2: Salinas Rd & Porter Dr/Stender Ave Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.0	0.1	0.0	0.1	0.0
Total Del/Veh (s)	0.7	14.0	3.8	9.1	2.6

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	90	5	20	5	10	735	35	600
Future Volume (vph)	90	5	20	5	10	735	35	600
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	pm+pt	NA
Protected Phases		8		4	1	6	5	2
Permitted Phases	8		4		6		2	
Detector Phase	8	8	4	4	1	6	5	2
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	6.0	4.0
Minimum Split (s)	8.4	8.4	7.8	7.8	7.5	8.3	9.8	8.3
Total Split (s)	20.0	20.0	20.0	20.0	20.0	60.0	20.0	60.0
Total Split (%)	20.0%	20.0%	20.0%	20.0%	20.0%	60.0%	20.0%	60.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	4.3	3.5	4.3
All-Red Time (s)	0.9	0.9	0.3	0.3	0.0	0.0	0.3	0.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.4	4.4		3.8	3.5	4.3	3.8	4.3
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None
Act Effct Green (s)	10.2	10.2		10.7	34.0	34.4	36.0	37.9
Actuated g/C Ratio	0.19	0.19		0.20	0.65	0.66	0.69	0.72
v/c Ratio	0.30	0.13		0.21	0.02	0.68	0.08	0.58
Control Delay	29.3	13.1		16.3	3.2	13.4	3.3	8.2
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	29.3	13.1		16.3	3.2	13.4	3.3	8.2
LOS	C	B		B	A	B	A	A
Approach Delay		24.3		16.3		13.3		7.9
Approach LOS		C		B		B		A

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 52.5	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.68	
Intersection Signal Delay: 11.9	Intersection LOS: B
Intersection Capacity Utilization 58.2%	ICU Level of Service B
Analysis Period (min) 15	

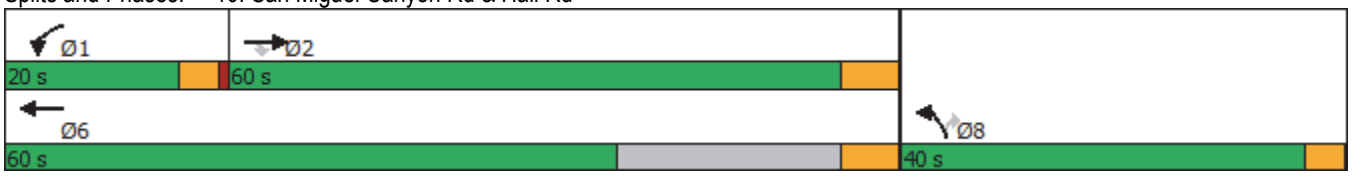
Splits and Phases: 3: Salinas Rd & Pajaro School



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	180	570	85	155	690	110
Future Volume (vph)	180	570	85	155	690	110
Turn Type	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2				8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	4.0	4.0	6.0	4.0	6.0	6.0
Minimum Split (s)	9.4	9.4	10.4	9.4	9.9	9.9
Total Split (s)	60.0	60.0	20.0	60.0	40.0	40.0
Total Split (%)	50.0%	50.0%	16.7%	50.0%	33.3%	33.3%
Yellow Time (s)	5.4	5.4	3.5	5.4	3.5	3.5
All-Red Time (s)	0.0	0.0	0.9	0.0	0.4	0.4
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	5.4	4.4	5.4	3.9	3.9
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	None	None	None	None	None	None
Act Effct Green (s)	14.4	14.4	7.6	23.8	36.8	36.8
Actuated g/C Ratio	0.21	0.21	0.11	0.34	0.52	0.52
v/c Ratio	0.52	0.76	0.48	0.27	0.82	0.14
Control Delay	30.8	9.4	40.6	16.7	26.4	7.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.8	9.4	40.6	16.7	26.4	7.9
LOS	C	A	D	B	C	A
Approach Delay	14.5			25.1	23.8	
Approach LOS	B			C	C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 70.1	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.82	
Intersection Signal Delay: 20.1	Intersection LOS: C
Intersection Capacity Utilization 64.2%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 10: San Miguel Canyon Rd & Hall Rd



Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	25	50	20	755	770	10
Future Vol, veh/h	25	50	20	755	770	10
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	-	115	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	27	54	22	821	837	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1708	843	848	0	-	0
Stage 1	843	-	-	-	-	-
Stage 2	865	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.227	-	-	-
Pot Cap-1 Maneuver	100	362	785	-	-	-
Stage 1	420	-	-	-	-	-
Stage 2	411	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	97	362	785	-	-	-
Mov Cap-2 Maneuver	231	-	-	-	-	-
Stage 1	408	-	-	-	-	-
Stage 2	411	-	-	-	-	-

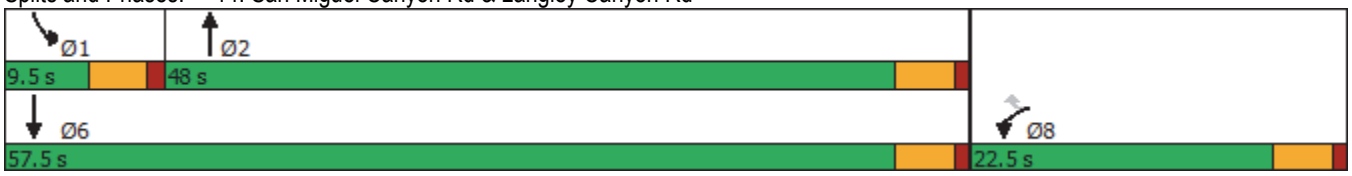
Approach	EB	NB	SB
HCM Control Delay, s	21.1	0.3	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	785	-	304	-	-
HCM Lane V/C Ratio	0.028	-	0.268	-	-
HCM Control Delay (s)	9.7	-	21.1	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	1.1	-	-

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	110	60	975	15	1010
Future Volume (vph)	110	60	975	15	1010
Turn Type	Prot	Perm	NA	Prot	NA
Protected Phases	8		2	1	6
Permitted Phases		8			
Detector Phase	8	8	2	1	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	9.5	22.5
Total Split (s)	22.5	22.5	48.0	9.5	57.5
Total Split (%)	28.1%	28.1%	60.0%	11.9%	71.9%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	None	None	None
Act Effct Green (s)	10.8	10.8	41.7	6.2	43.1
Actuated g/C Ratio	0.19	0.19	0.73	0.11	0.75
v/c Ratio	0.36	0.18	0.43	0.08	0.78
Control Delay	29.3	9.4	6.1	33.4	12.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	29.3	9.4	6.1	33.4	12.7
LOS	C	A	A	C	B
Approach Delay	22.3		6.1		13.0
Approach LOS	C		A		B

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 57.1	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.78	
Intersection Signal Delay: 10.5	Intersection LOS: B
Intersection Capacity Utilization 66.8%	ICU Level of Service C
Analysis Period (min) 15	

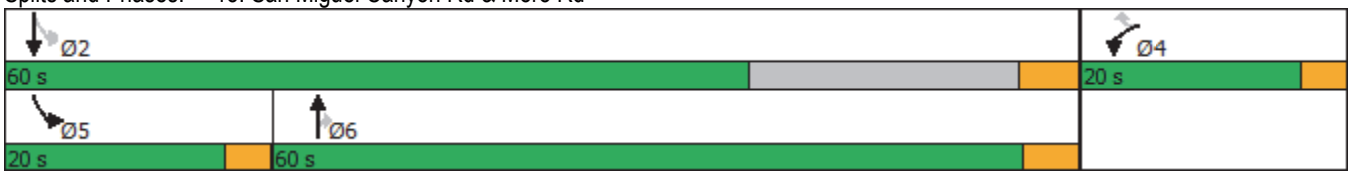
Splits and Phases: 14: San Miguel Canyon Rd & Langley Canyon Rd



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	105	105	910	55	65	1055
Future Volume (vph)	105	105	910	55	65	1055
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	4		6		5	2
Permitted Phases		4		6	2	
Detector Phase	4	4	6	6	5	2
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	7.5	7.5	8.3	8.3	7.7	8.6
Total Split (s)	20.0	20.0	60.0	60.0	20.0	60.0
Total Split (%)	20.0%	20.0%	60.0%	60.0%	20.0%	60.0%
Yellow Time (s)	3.5	3.5	4.3	4.3	3.5	4.6
All-Red Time (s)	0.0	0.0	0.0	0.0	0.2	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.5	3.5	4.3	4.3	3.7	4.6
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None
Act Effct Green (s)	9.6	9.6	49.0	49.0	56.5	55.6
Actuated g/C Ratio	0.13	0.13	0.67	0.67	0.77	0.76
v/c Ratio	0.64	0.44	0.54	0.07	0.21	1.05
Control Delay	46.1	11.8	9.1	4.6	4.2	54.8
Queue Delay	0.0	0.0	0.1	0.0	0.0	0.0
Total Delay	46.1	11.8	9.2	4.6	4.2	54.8
LOS	D	B	A	A	A	D
Approach Delay	29.0		8.9			51.9
Approach LOS	C		A			D

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 73.3	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.05	
Intersection Signal Delay: 31.7	Intersection LOS: C
Intersection Capacity Utilization 84.9%	ICU Level of Service E
Analysis Period (min) 15	

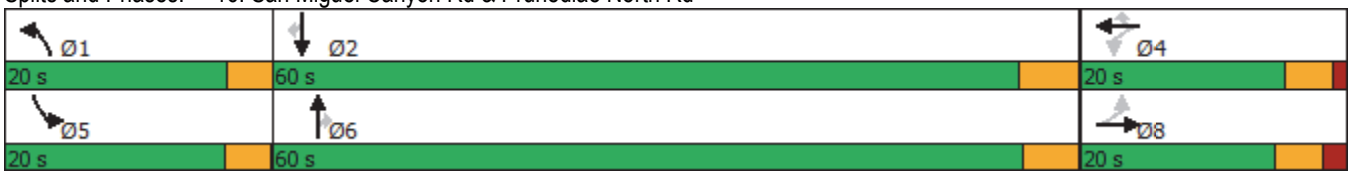
Splits and Phases: 15: San Miguel Canyon Rd & Moro Rd



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	75	10	70	10	20	35	880	35	20	985	135
Future Volume (vph)	75	10	70	10	20	35	880	35	20	985	135
Turn Type	Perm	NA	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		8		4		1	6		5	2	
Permitted Phases	8		4		4			6			2
Detector Phase	8	8	4	4	4	1	6	6	5	2	2
Switch Phase											
Minimum Initial (s)	5.0	5.0	4.0	4.0	4.0	5.0	5.0	5.0	5.0	4.0	4.0
Minimum Split (s)	10.5	10.5	8.7	8.7	8.7	8.5	9.3	9.3	8.7	8.6	8.6
Total Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	60.0	60.0	20.0	60.0	60.0
Total Split (%)	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	60.0%	60.0%	20.0%	60.0%	60.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	4.3	4.3	3.5	4.6	4.6
All-Red Time (s)	2.0	2.0	1.2	1.2	1.2	0.0	0.0	0.0	0.2	0.0	0.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5		4.7	4.7	3.5	4.3	4.3	3.7	4.6	4.6
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	10.6	10.6		10.5	10.5	8.2	30.9	30.9	7.8	30.3	30.3
Actuated g/C Ratio	0.22	0.22		0.22	0.22	0.17	0.65	0.65	0.16	0.63	0.63
v/c Ratio	0.37	0.14		0.38	0.07	0.16	0.54	0.05	0.10	0.62	0.18
Control Delay	29.7	14.2		29.1	1.3	30.1	9.6	1.0	31.1	11.4	3.2
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.7	14.2		29.1	1.3	30.1	9.6	1.0	31.1	11.4	3.2
LOS	C	B		C	A	C	A	A	C	B	A
Approach Delay		24.3		23.5			10.1			10.8	
Approach LOS		C		C			B			B	

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 47.9	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.62	
Intersection Signal Delay: 11.7	Intersection LOS: B
Intersection Capacity Utilization 56.9%	ICU Level of Service B
Analysis Period (min) 15	

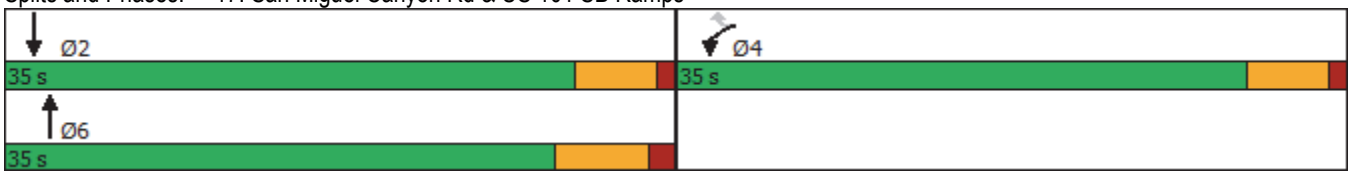
Splits and Phases: 16: San Miguel Canyon Rd & Prunedlae North Rd



Lane Group	WBL	WBR	NBT	SBT	SBR
Lane Configurations					
Traffic Volume (vph)	10	100	920	120	965
Future Volume (vph)	10	100	920	120	965
Turn Type	Prot	Perm	NA	NA	Free
Protected Phases	4		6	2	
Permitted Phases		4			Free
Detector Phase	4	4	6	2	
Switch Phase					
Minimum Initial (s)	4.0	4.0	7.0	7.0	
Minimum Split (s)	9.3	9.3	13.4	12.3	
Total Split (s)	35.0	35.0	35.0	35.0	
Total Split (%)	50.0%	50.0%	50.0%	50.0%	
Yellow Time (s)	4.3	4.3	4.9	4.3	
All-Red Time (s)	1.0	1.0	1.5	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.3	5.3	6.4	5.3	
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	None	None	None	None	
Act Effct Green (s)	8.4	8.4	26.0	26.8	40.5
Actuated g/C Ratio	0.21	0.21	0.64	0.66	1.00
v/c Ratio	0.04	0.37	0.57	0.11	0.68
Control Delay	16.4	14.2	8.3	4.9	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	16.4	14.2	8.3	4.9	2.4
LOS	B	B	A	A	A
Approach Delay			8.3	2.7	
Approach LOS			A	A	

Intersection Summary	
Cycle Length: 70	
Actuated Cycle Length: 40.5	
Natural Cycle: 45	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.68	
Intersection Signal Delay: 5.7	Intersection LOS: A
Intersection Capacity Utilization 49.8%	ICU Level of Service A
Analysis Period (min) 15	

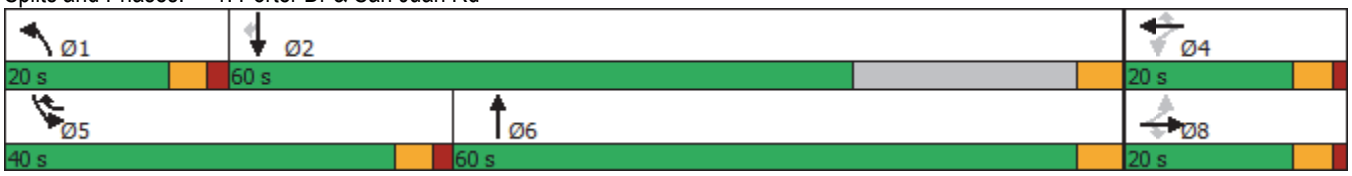
Splits and Phases: 17: San Miguel Canyon Rd & US 101 SB Ramps



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	115	20	30	65	20	565	20	870	655	1015	95
Future Volume (vph)	115	20	30	65	20	565	20	870	655	1015	95
Turn Type	Perm	NA	Perm	Perm	NA	pm+ov	Prot	NA	Prot	NA	Perm
Protected Phases		8			4	5	1	6	5	2	
Permitted Phases	8		8	4		4					2
Detector Phase	8	8	8	4	4	5	1	6	5	2	2
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.2	9.4	8.3	9.2	8.3	8.3
Total Split (s)	20.0	20.0	20.0	20.0	20.0	40.0	20.0	60.0	40.0	60.0	60.0
Total Split (%)	16.7%	16.7%	16.7%	16.7%	16.7%	33.3%	16.7%	50.0%	33.3%	50.0%	50.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.3	3.5	4.3	4.3
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.7	1.9	0.0	1.7	0.0	0.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.2	5.4	4.3	5.2	4.3	4.3
Lead/Lag						Lead	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	18.3	18.3	18.3		18.3	50.9	5.4	53.3	27.5	79.8	79.8
Actuated g/C Ratio	0.16	0.16	0.16		0.16	0.45	0.05	0.47	0.24	0.70	0.70
v/c Ratio	0.66	0.08	0.11		0.44	0.48	0.29	0.97	0.88	0.91	0.10
Control Delay	63.9	43.4	0.7		52.0	19.2	67.2	54.0	55.4	30.2	1.9
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.9	43.4	0.7		52.0	19.2	67.2	54.0	55.4	30.2	1.9
LOS	E	D	A		D	B	E	D	E	C	A
Approach Delay		49.8			23.6			54.3		38.1	
Approach LOS		D			C			D		D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 114	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.97	
Intersection Signal Delay: 40.2	Intersection LOS: D
Intersection Capacity Utilization 89.7%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 1: Porter Dr & San Juan Rd



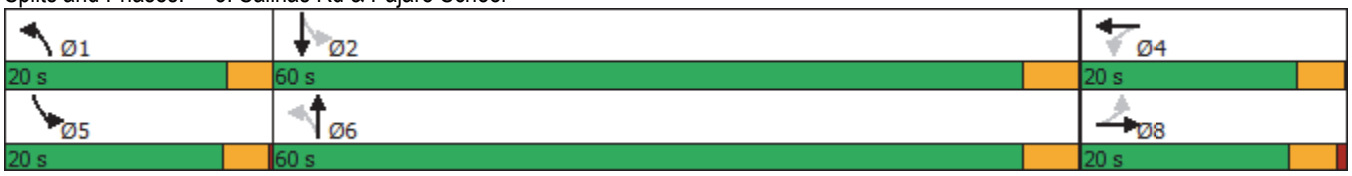
2: Salinas Rd & Porter Dr/Stender Ave Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.0	0.1	0.2	0.1	0.1
Total Del/Veh (s)	1.4	21.2	4.4	12.2	3.0

Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT	Ø1
Lane Configurations								
Traffic Volume (vph)	15	0	15	0	860	25	940	
Future Volume (vph)	15	0	15	0	860	25	940	
Turn Type	Perm	NA	Perm	NA	NA	pm+pt	NA	
Protected Phases		8		4	6	5	2	1
Permitted Phases	8		4			2		
Detector Phase	8	8	4	4	6	5	2	
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	6.0	4.0	4.0
Minimum Split (s)	8.4	8.4	7.8	7.8	8.3	9.8	8.3	7.5
Total Split (s)	20.0	20.0	20.0	20.0	60.0	20.0	60.0	20.0
Total Split (%)	20.0%	20.0%	20.0%	20.0%	60.0%	20.0%	60.0%	20%
Yellow Time (s)	3.5	3.5	3.5	3.5	4.3	3.5	4.3	3.5
All-Red Time (s)	0.9	0.9	0.3	0.3	0.0	0.3	0.0	0.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.4	4.4		3.8	4.3	3.8	4.3	
Lead/Lag					Lag	Lead	Lag	Lead
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None
Act Effct Green (s)	4.8	4.8		5.1	47.9	49.1	50.9	
Actuated g/C Ratio	0.08	0.08		0.09	0.83	0.85	0.88	
v/c Ratio	0.11	0.01		0.27	0.63	0.06	0.64	
Control Delay	33.4	0.0		13.5	7.7	1.6	4.8	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	
Total Delay	33.4	0.0		13.5	7.7	1.6	4.8	
LOS	C	A		B	A	A	A	
Approach Delay		25.4		13.5	7.7		4.7	
Approach LOS		C		B	A		A	

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 58	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.64	
Intersection Signal Delay: 6.5	Intersection LOS: A
Intersection Capacity Utilization 66.0%	ICU Level of Service C
Analysis Period (min) 15	

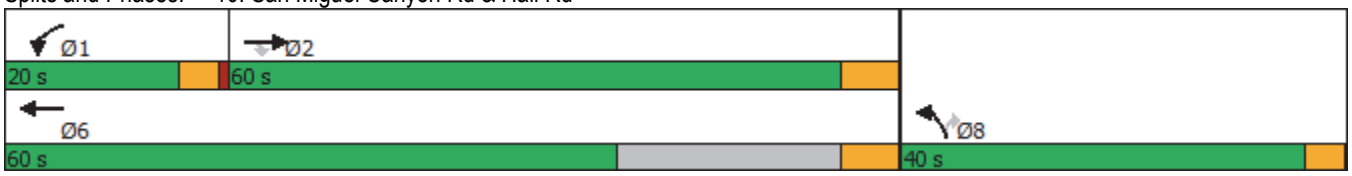
Splits and Phases: 3: Salinas Rd & Pajaro School



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	130	700	150	240	615	130
Future Volume (vph)	130	700	150	240	615	130
Turn Type	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2				8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	4.0	4.0	6.0	4.0	6.0	6.0
Minimum Split (s)	9.4	9.4	10.4	9.4	9.9	9.9
Total Split (s)	60.0	60.0	20.0	60.0	40.0	40.0
Total Split (%)	50.0%	50.0%	16.7%	50.0%	33.3%	33.3%
Yellow Time (s)	5.4	5.4	3.5	5.4	3.5	3.5
All-Red Time (s)	0.0	0.0	0.9	0.0	0.4	0.4
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	5.4	4.4	5.4	3.9	3.9
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	None	None	None	None	None	None
Act Effct Green (s)	14.2	14.2	10.6	29.3	36.7	36.7
Actuated g/C Ratio	0.19	0.19	0.14	0.39	0.49	0.49
v/c Ratio	0.41	0.83	0.66	0.36	0.78	0.18
Control Delay	30.3	11.5	45.4	17.1	27.2	8.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.3	11.5	45.4	17.1	27.2	8.8
LOS	C	B	D	B	C	A
Approach Delay	14.4			28.0	24.0	
Approach LOS	B			C	C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 75.4	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.83	
Intersection Signal Delay: 20.8	Intersection LOS: C
Intersection Capacity Utilization 60.7%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 10: San Miguel Canyon Rd & Hall Rd



Intersection	
Int Delay, s/veh	1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	15	40	50	825	830	40
Future Vol, veh/h	15	40	50	825	830	40
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	-	115	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	16	43	54	897	902	43

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1929	924	945	0	-	0
Stage 1	924	-	-	-	-	-
Stage 2	1005	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.227	-	-	-
Pot Cap-1 Maneuver	72	325	722	-	-	-
Stage 1	385	-	-	-	-	-
Stage 2	352	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	67	325	722	-	-	-
Mov Cap-2 Maneuver	192	-	-	-	-	-
Stage 1	356	-	-	-	-	-
Stage 2	352	-	-	-	-	-

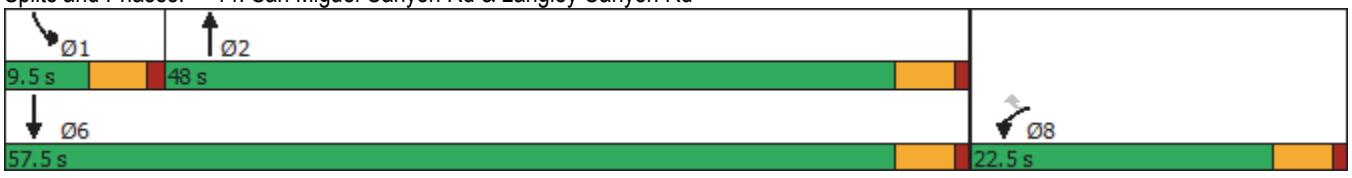
Approach	EB	NB	SB
HCM Control Delay, s	21.8	0.6	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	722	-	273	-	-
HCM Lane V/C Ratio	0.075	-	0.219	-	-
HCM Control Delay (s)	10.4	-	21.8	-	-
HCM Lane LOS	B	-	C	-	-
HCM 95th %tile Q(veh)	0.2	-	0.8	-	-

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	50	25	1140	55	1190
Future Volume (vph)	50	25	1140	55	1190
Turn Type	Prot	Perm	NA	Prot	NA
Protected Phases	8		2	1	6
Permitted Phases		8			
Detector Phase	8	8	2	1	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	9.5	22.5
Total Split (s)	22.5	22.5	48.0	9.5	57.5
Total Split (%)	28.1%	28.1%	60.0%	11.9%	71.9%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	None	None	None
Act Effct Green (s)	7.5	7.5	50.3	5.1	55.6
Actuated g/C Ratio	0.11	0.11	0.77	0.08	0.85
v/c Ratio	0.27	0.13	0.50	0.44	0.82
Control Delay	31.3	13.3	6.9	42.5	12.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	31.3	13.3	6.9	42.5	12.6
LOS	C	B	A	D	B
Approach Delay	25.3		6.9		13.9
Approach LOS	C		A		B

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 65.4	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.82	
Intersection Signal Delay: 10.8	Intersection LOS: B
Intersection Capacity Utilization 74.3%	ICU Level of Service D
Analysis Period (min) 15	

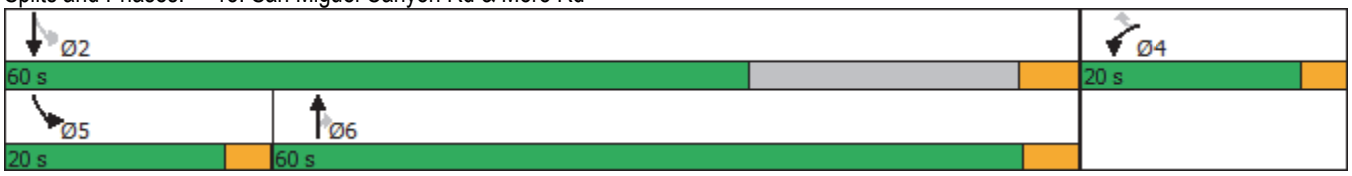
Splits and Phases: 14: San Miguel Canyon Rd & Langley Canyon Rd



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	100	150	1090	110	95	1150
Future Volume (vph)	100	150	1090	110	95	1150
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	4		6		5	2
Permitted Phases		4		6	2	
Detector Phase	4	4	6	6	5	2
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	7.5	7.5	8.3	8.3	7.7	8.6
Total Split (s)	20.0	20.0	60.0	60.0	20.0	60.0
Total Split (%)	20.0%	20.0%	60.0%	60.0%	20.0%	60.0%
Yellow Time (s)	3.5	3.5	4.3	4.3	3.5	4.6
All-Red Time (s)	0.0	0.0	0.0	0.0	0.2	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.5	3.5	4.3	4.3	3.7	4.6
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None
Act Effct Green (s)	9.6	9.6	50.7	50.7	59.0	58.1
Actuated g/C Ratio	0.13	0.13	0.67	0.67	0.78	0.77
v/c Ratio	0.63	0.55	0.65	0.14	0.36	1.13
Control Delay	48.4	13.2	11.1	5.0	6.2	86.1
Queue Delay	0.0	0.0	0.1	0.0	0.0	0.0
Total Delay	48.4	13.2	11.3	5.0	6.2	86.1
LOS	D	B	B	A	A	F
Approach Delay	27.3		10.7			80.0
Approach LOS	C		B			F

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 75.9	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.13	
Intersection Signal Delay: 44.3	Intersection LOS: D
Intersection Capacity Utilization 90.9%	ICU Level of Service E
Analysis Period (min) 15	

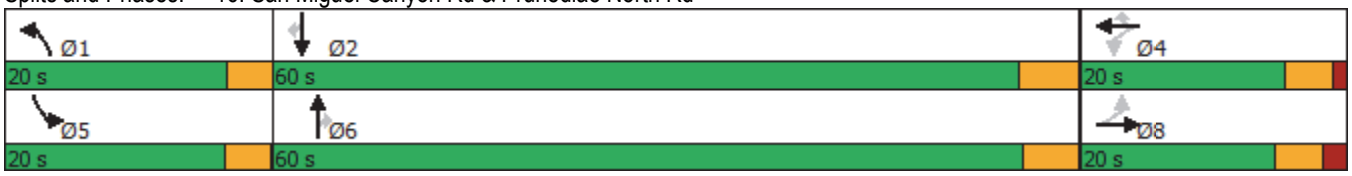
Splits and Phases: 15: San Miguel Canyon Rd & Moro Rd



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	120	40	105	35	45	50	1050	70	50	980	210
Future Volume (vph)	120	40	105	35	45	50	1050	70	50	980	210
Turn Type	Perm	NA	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		8		4		1	6		5	2	
Permitted Phases	8		4		4			6			2
Detector Phase	8	8	4	4	4	1	6	6	5	2	2
Switch Phase											
Minimum Initial (s)	5.0	5.0	4.0	4.0	4.0	5.0	5.0	5.0	5.0	4.0	4.0
Minimum Split (s)	10.5	10.5	8.7	8.7	8.7	8.5	9.3	9.3	8.7	8.6	8.6
Total Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	60.0	60.0	20.0	60.0	60.0
Total Split (%)	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	60.0%	60.0%	20.0%	60.0%	60.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	4.3	4.3	3.5	4.6	4.6
All-Red Time (s)	2.0	2.0	1.2	1.2	1.2	0.0	0.0	0.0	0.2	0.0	0.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5		4.7	4.7	3.5	4.3	4.3	3.7	4.6	4.6
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	15.6	15.6		16.4	16.4	7.0	33.6	33.6	7.0	33.4	33.4
Actuated g/C Ratio	0.24	0.24		0.25	0.25	0.11	0.51	0.51	0.11	0.51	0.51
v/c Ratio	0.58	0.23		0.58	0.14	0.37	0.82	0.12	0.37	0.77	0.32
Control Delay	42.7	19.9		40.4	8.8	40.2	19.3	3.4	40.2	17.5	3.6
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.7	19.9		40.4	8.8	40.2	19.3	3.4	40.2	17.5	3.6
LOS	D	B		D	A	D	B	A	D	B	A
Approach Delay		33.9		32.7			19.2			16.1	
Approach LOS		C		C			B			B	

Intersection Summary			
Cycle Length: 100			
Actuated Cycle Length: 65.8			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.82			
Intersection Signal Delay: 19.7		Intersection LOS: B	
Intersection Capacity Utilization 68.1%		ICU Level of Service C	
Analysis Period (min) 15			

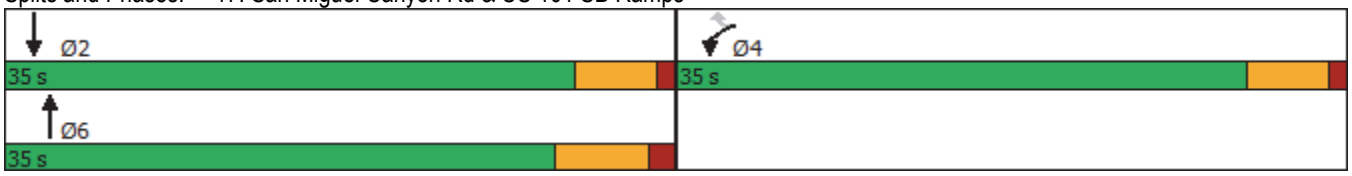
Splits and Phases: 16: San Miguel Canyon Rd & Prunedlae North Rd



Lane Group	WBL	WBR	NBT	SBT	SBR
Lane Configurations					
Traffic Volume (vph)	30	170	1110	145	920
Future Volume (vph)	30	170	1110	145	920
Turn Type	Prot	Perm	NA	NA	Free
Protected Phases	4		6	2	
Permitted Phases		4			Free
Detector Phase	4	4	6	2	
Switch Phase					
Minimum Initial (s)	4.0	4.0	7.0	7.0	
Minimum Split (s)	9.3	9.3	13.4	12.3	
Total Split (s)	35.0	35.0	35.0	35.0	
Total Split (%)	50.0%	50.0%	50.0%	50.0%	
Yellow Time (s)	4.3	4.3	4.9	4.3	
All-Red Time (s)	1.0	1.0	1.5	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.3	5.3	6.4	5.3	
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	None	None	None	None	
Act Effct Green (s)	10.9	10.9	31.3	32.1	49.3
Actuated g/C Ratio	0.22	0.22	0.63	0.65	1.00
v/c Ratio	0.11	0.59	0.69	0.13	0.64
Control Delay	16.3	21.5	13.3	6.5	2.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	16.3	21.5	13.3	6.5	2.1
LOS	B	C	B	A	A
Approach Delay			13.3	2.7	
Approach LOS			B	A	

Intersection Summary	
Cycle Length: 70	
Actuated Cycle Length: 49.3	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.69	
Intersection Signal Delay: 9.2	Intersection LOS: A
Intersection Capacity Utilization 61.9%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 17: San Miguel Canyon Rd & US 101 SB Ramps



Appendix H
Sidra Reports

LANE SUMMARY

Site: 104-5 [Intersection 4-5]

Network: N101 [AM Peak Hour]

Elkhorn Rd/Werner Rd/Salinas Rd
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows		Arrival Flows		Cap.	Deg. Satn	Lane Util.	Average Delay	Level of Service	95% Back of Queue		Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	Total veh/h	HV %	Total veh/h	HV %	veh/h	v/c	%	sec		Veh	Dist ft		ft	%	%
South: Elkhorn Rd															
Lane 1[d]	881	5.0	881	5.0	1406	0.626	100	9.9	LOS A	6.8	178.1	Short	300	0.0	NA
Lane 2	815	5.0	815	5.0	1193	0.684	100	12.7	LOS B	7.9	204.2	Full	4100	0.0	0.0
Approach	1696	5.0	1696	5.0		0.684		11.2	LOS B	7.9	204.2				
North: Hall Rd															
Lane 1[d]	548	5.0	548	5.0	701	0.781	100	24.8	LOS C	13.6	353.0	Full	7300	0.0	0.0
Lane 2	131	5.0	131	5.0	491	0.267	100	11.3	LOS B	1.9	49.3	Short	250	0.0	NA
Approach	679	5.0	679	5.0		0.781		22.2	LOS C	13.6	353.0				
West: Werner Rd / Salinas Rd															
Lane 1[d]	167	5.0	167	5.0	931	0.179	100	5.6	LOS A	1.4	35.4	Full	1300	0.0	0.0
Lane 2	482	5.0	482	5.0	1533	0.314	100	0.0	LOS A	0.0	0.0	Short	100	0.0	NA
Approach	649	5.0	649	5.0		0.314		1.5	LOS A	1.4	35.4				
Intersection	3024	5.0	3024	5.0		0.781		11.6	LOS B	13.6	353.0				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Network Data dialog (Network tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

LANE SUMMARY

Site: 106 [Intersection 6]

Network: N101 [AM Peak Hour]

Hall Rd/Elkhorn Rd
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows		Arrival Flows		Cap.	Deg. Satn	Lane Util.	Average Delay	Level of Service	95% Back of Queue		Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	Total veh/h	HV %	Total veh/h	HV %	veh/h	v/c	%	sec		Veh	Dist ft		ft	%	%
South: Hall Rd															
Lane 1[d]	1383	3.0	1383	3.0	1423	0.972	100	35.0	LOS D	44.9	1150.7	Full	2800	0.0	0.0
Approach	1383	3.0	1383	3.0		0.972		35.0	LOS D	44.9	1150.7				
North: Elkhorn Rd															
Lane 1[d]	819	3.0	819	3.0	1639	0.500	100	6.9	LOS A	5.2	134.1	Full	4100	0.0	0.0
Approach	819	3.0	819	3.0		0.500		6.9	LOS A	5.2	134.1				
West: Elkhorn Rd															
Lane 1[d]	117	3.0	117	3.0	782	0.150	100	6.2	LOS A	0.9	22.6	Full	220	0.0	0.0
Approach	117	3.0	117	3.0		0.150		6.2	LOS A	0.9	22.6				
Intersection	2319	3.0	2319	3.0		0.972		23.6	LOS C	44.9	1150.7				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Network Data dialog (Network tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

LANE SUMMARY

Site: 107 [Intersection 7]

Network: N101 [AM Peak Hour]

Hall Rd/Willow Rd
Site Category: (None)
Stop (Two-Way)

Lane Use and Performance

	Demand Flows		Arrival Flows		Cap.	Deg. Satn	Lane Util.	Average Delay	Level of Service	95% Back of Queue		Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	Total veh/h	HV %	Total veh/h	HV %	veh/h	v/c	%	sec		Veh	Dist ft		ft	%	%
South: Willow Rd															
Lane 1	112	3.0	112	3.0	372	0.302	100	18.8	LOS C	0.7	18.6	Full	870	0.0	0.0
Approach	112	3.0	112	3.0		0.302		18.8	LOS C	0.7	18.6				
East: Hall Rd															
Lane 1	51	3.0	51	3.0	727	0.070	100	5.7	LOS A	0.3	6.4	Short	50	0.0	NA
Lane 2	1331	3.0	1331	3.0	1827	0.729	100	0.1	LOS A	0.0	0.0	Full	320	0.0	0.0
Approach	1382	3.0	1382	3.0		0.729		0.3	NA	0.3	6.4				
West: Hall Rd															
Lane 1	865	3.0	865	3.0	1828	0.473	100	0.1	LOS A	0.0	0.0	Full	2800	0.0	0.0
Approach	865	3.0	865	3.0		0.473		0.1	NA	0.0	0.0				
Intersection	2360	3.0	2360	3.0		0.729		1.0	NA	0.7	18.6				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Minor Road Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road lanes.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

LANE SUMMARY

Site: 108 [Intersection 8]

Network: N101 [AM Peak Hour]

Hall Rd and Las Lomas Dr
Site Category: Roundabout
Roundabout

Lane Use and Performance

	Demand Flows		Arrival Flows		Cap.	Deg. Satn	Lane Util.	Average Delay	Level of Service	95% Back of Queue		Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	Total veh/h	HV %	Total veh/h	HV %	veh/h	v/c	%	sec		Veh	Dist ft		ft	%	%
East: Hall Rd															
Lane 1[d]	1011	3.0	1011	3.0	1419	0.712	100	12.1	LOS B	9.0	231.4	Full	3350	0.0	0.0
Approach	1011	3.0	1011	3.0		0.712		12.1	LOS B	9.0	231.4				
NorthEast: Sill Rd															
Lane 1[d]	109	3.0	109	3.0	447	0.243	100	11.9	LOS B	1.8	46.8	Full	200	0.0	0.0
Approach	109	3.0	109	3.0		0.243		11.9	LOS B	1.8	46.8				
NorthWest: Las Lomas Dr															
Lane 1[d]	317	3.0	317	3.0	449	0.706	100	28.6	LOS D	8.7	222.8	Full	200	0.0	8.3
Approach	317	3.0	317	3.0		0.706		28.6	LOS D	8.7	222.8				
West: Hall Rd															
Lane 1[d]	826	3.0	826	3.0	1453	0.568	100	8.5	LOS A	6.3	160.6	Full	320	0.0	0.0
Approach	826	3.0	826	3.0		0.568		8.5	LOS A	6.3	160.6				
Intersection	2262	3.0	2262	3.0		0.712		13.1	LOS B	9.0	231.4				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Network Data dialog (Network tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

LANE SUMMARY

Site: 109 [Intersection 9]

Network: N101 [AM Peak Hour]

Hall Rd/Sill Rd
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows		Arrival Flows		Cap.	Deg. Satn	Lane Util.	Average Delay	Level of Service	95% Back of Queue		Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	Total veh/h	HV %	Total veh/h	HV %	veh/h	v/c	%	sec		Veh	Dist ft		ft	%	%
East: Hall Rd															
Lane 1[d]	1034	3.0	1034	3.0	1481	0.698	100	11.3	LOS B	9.0	231.2	Full	8300	0.0	0.0
Approach	1034	3.0	1034	3.0		0.698		11.3	LOS B	9.0	231.2				
North: Sill Rd															
Lane 1[d]	165	3.0	165	3.0	531	0.311	100	11.4	LOS B	2.3	58.5	Full	750	0.0	0.0
Approach	165	3.0	165	3.0		0.311		11.4	LOS B	2.3	58.5				
West: Hall Rd															
Lane 1[d]	869	3.0	869	3.0	1469	0.592	100	8.9	LOS A	7.4	188.8	Full	3350	0.0	0.0
Approach	869	3.0	869	3.0		0.592		8.9	LOS A	7.4	188.8				
Intersection	2068	3.0	2068	3.0		0.698		10.3	LOS B	9.0	231.2				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Network Data dialog (Network tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

LANE SUMMARY

Site: 112 [Intersection 12]

Network: N101 [AM Peak Hour]

San Miguel Canyon Rd & Echo Valley Rd
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows		Arrival Flows		Cap.	Deg. Satn	Lane Util.	Average Delay	Level of Service	95% Back of Queue		Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	Total veh/h	HV %	Total veh/h	HV %	veh/h	v/c	%	sec		Veh	Dist ft		ft	%	%
South: San Miguel Canyon Rd															
Lane 1[d]	1034	4.0	1034	4.0	1447	0.715	100	12.0	LOS B	10.7	276.6	Full	4925	0.0	0.0
Approach	1034	4.0	1034	4.0		0.715		12.0	LOS B	10.7	276.6				
East: Echo Valley Rd															
Lane 1[d]	230	4.0	230	4.0	592	0.388	100	11.9	LOS B	3.0	76.1	Full	890	0.0	0.0
Approach	230	4.0	230	4.0		0.388		11.9	LOS B	3.0	76.1				
North: San Miguel Canyon Rd															
Lane 1[d]	948	4.0	948	4.0	1227	0.773	100	15.9	LOS C	14.6	377.2	Full	1350	0.0	0.0
Approach	948	4.0	948	4.0		0.773		15.9	LOS C	14.6	377.2				
Intersection	2213	4.0	2213	4.0		0.773		13.7	LOS B	14.6	377.2				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Network Data dialog (Network tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

LANE SUMMARY

Site: 113 [Intersection 13]

Network: N101 [AM Peak Hour]

San Miguel Canyon Rd & Castroville Blvd
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows		Arrival Flows		Cap.	Deg. Satn	Lane Util.	Average Delay	Level of Service	95% Back of Queue		Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	Total veh/h	HV %	Total veh/h	HV %	veh/h	v/c	%	sec		Veh	Dist ft		ft	%	%
SouthEast: San Miguel Canyon Rd															
Lane 1[d]	810	4.0	810	4.0	1632	0.496	100	6.8	LOS A	4.9	125.8	Full	1850	0.0	0.0
Lane 2	336	4.0	336	4.0	1254	0.268	54[6]	5.3	LOS A	1.9	48.7	Full	1850	0.0	0.0
Approach	1146	4.0	1146	4.0		0.496		6.4	LOS A	4.9	125.8				
NorthWest: San Miguel Canyon Rd															
Lane 1[d]	1073	4.0	1073	4.0	1235	0.869	100	22.6	LOS C	29.9	772.3	Full	4925	0.0	0.0
Approach	1073	4.0	1073	4.0		0.869		22.6	LOS C	29.9	772.3				
SouthWest: Castroville Blvd															
Lane 1[d]	258	4.0	258	4.0	394	0.656	100	28.3	LOS D	7.6	195.6	Full	1500	0.0	0.0
Approach	258	4.0	258	4.0		0.656		28.3	LOS D	7.6	195.6				
Intersection	2478	4.0	2478	4.0		0.869		15.7	LOS C	29.9	772.3				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Network Data dialog (Network tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

6 Lane under-utilisation due to downstream effects
d Dominant lane on roundabout approach

LANE SUMMARY

Site: 104-5 [Intersection 4-5]

Network: N101 [PM Peak Hour]

Elkhorn Rd/Werner Rd/Salinas Rd
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows		Arrival Flows		Cap.	Deg. Satn	Lane Util.	Average Delay	Level of Service	95% Back of Queue		Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	Total veh/h	HV %	Total veh/h	HV %	veh/h	v/c	%	sec		Veh	Dist ft		ft	%	%
South: Elkhorn Rd															
Lane 1	500	2.0	500	2.0	1082	0.462	100	8.5	LOS A	3.9	100.0	Short	300	0.0	NA
Lane 2[d]	630	2.0	630	2.0	1320	0.477	100	7.6	LOS A	4.4	111.5	Full	4100	0.0	0.0
Approach	1130	2.0	1130	2.0		0.477		8.0	LOS A	4.4	111.5				
North: Hall Rd															
Lane 1[d]	859	2.0	859	2.0	1121	0.767	100	16.7	LOS C	15.4	392.2	Full	7300	0.0	0.0
Lane 2	172	2.0	172	2.0	755	0.228	100	7.3	LOS A	1.5	37.2	Short	250	0.0	NA
Approach	1031	2.0	1031	2.0		0.767		15.2	LOS C	15.4	392.2				
West: Werner Rd / Salinas Rd															
Lane 1[d]	271	2.0	271	2.0	650	0.417	100	11.6	LOS B	3.9	98.6	Full	1300	0.0	0.0
Lane 2	531	2.0	531	2.0	1579	0.337	100	0.0	LOS A	0.0	0.0	Short	100	0.0	NA
Approach	802	2.0	802	2.0		0.417		3.9	LOS A	3.9	98.6				
Intersection	2964	2.0	2963[N1]	2.0		0.767		9.4	LOS A	15.4	392.2				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Network Data dialog (Network tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

LANE SUMMARY

Site: 106 [Intersection 6]

Network: N101 [PM Peak Hour]

Hall Rd/Elkhorn Rd
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows		Arrival Flows		Cap.	Deg. Satn	Lane Util.	Average Delay	Level of Service	95% Back of Queue		Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	Total veh/h	HV %	Total veh/h	HV %	veh/h	v/c	%	sec		Veh	Dist ft		ft	%	%
South: Hall Rd															
Lane 1[d]	1063	2.0	1062	2.0	1508	0.704	100	11.4	LOS B	9.8	249.8	Full	2800	0.0	0.0
Approach	1063	2.0	1062	2.0		0.704		11.4	LOS B	9.8	249.8				
North: Elkhorn Rd															
Lane 1[d]	1323	2.0	1323	2.0	1643	0.805	100	14.5	LOS B	15.5	394.5	Full	4100	0.0	0.0
Approach	1323	2.0	1323	2.0		0.805		14.5	LOS B	15.5	394.5				
West: Elkhorn Rd															
Lane 1[d]	89	2.0	89	2.0	441	0.201	100	11.3	LOS B	1.5	37.0	Full	220	0.0	0.0
Approach	89	2.0	89	2.0		0.201		11.3	LOS B	1.5	37.0				
Intersection	2474	2.0	2473[N1]	2.0		0.805		13.0	LOS B	15.5	394.5				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Network Data dialog (Network tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

LANE SUMMARY

Site: 107 [Intersection 7]

Network: N101 [PM Peak Hour]

Hall Rd/Willow Rd
Site Category: (None)
Stop (Two-Way)

Lane Use and Performance

	Demand Flows		Arrival Flows		Cap.	Deg. Satn	Lane Util.	Average Delay	Level of Service	95% Back of Queue		Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	Total veh/h	HV %	Total veh/h	HV %	veh/h	v/c	%	sec		Veh	Dist ft		ft	%	%
South: Willow Rd															
Lane 1	98	2.0	98	2.0	423	0.232	100	15.8	LOS C	0.5	12.9	Full	870	-2.8 N3	0.0
Approach	98	2.0	98	2.0		0.232		15.8	LOS C	0.5	12.9				
East: Hall Rd															
Lane 1	72	2.0	72	2.0	561	0.129	100	8.0	LOS A	0.5	11.6	Short	50	0.0	NA
Lane 2	954	2.0	953	2.0	1851	0.515	100	0.0	LOS A	0.0	0.0	Full	320	0.0	0.0
Approach	1026	2.0	1025 N1	2.0		0.515		0.6	NA	0.5	11.6				
West: Hall Rd															
Lane 1	1201	2.0	1201	2.0	1736	0.692	100	0.4	LOS A	0.0	0.0	Full	2800	-5.2 N3	0.0
Approach	1201	2.0	1201	2.0		0.692		0.4	NA	0.0	0.0				
Intersection	2325	2.0	2324 N1	2.0		0.692		0.9	NA	0.5	12.9				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Minor Road Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road lanes.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.
N3 Capacity Adjustment due to downstream lane blockage determined by the program.

LANE SUMMARY

Site: 108 [Intersection 8]

Network: N101 [PM Peak Hour]

Hall Rd/Las Lomas Dr
Site Category: Roundabout
Roundabout

Lane Use and Performance

	Demand Flows		Arrival Flows		Cap.	Deg. Satn	Lane Util.	Average Delay	Level of Service	95% Back of Queue		Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	Total veh/h	HV %	Total veh/h	HV %	veh/h	v/c	%	sec		Veh	Dist ft		ft	%	%
East: Hall Rd															
Lane 1[d]	878	2.0	877	2.0	1131	0.776	100	17.1	LOS C	17.1	435.2	Full	3350	0.0	0.0
Approach	878	2.0	877[N1]	2.0		0.776		17.1	LOS C	17.1	435.2				
NorthEast: Sill Rd															
Lane 1[d]	70	2.0	70	2.0	412	0.171	100	11.5	LOS B	1.3	33.5	Full	200	0.0	0.0
Approach	70	2.0	70	2.0		0.171		11.5	LOS B	1.3	33.5				
NorthWest: Las Lomas Dr															
Lane 1[d]	200	2.0	200	2.0	524	0.382	100	13.0	LOS B	3.1	78.1	Full	200	0.0	0.0
Approach	200	2.0	200	2.0		0.382		13.0	LOS B	3.1	78.1				
West: Hall Rd															
Lane 1[d]	1163	2.0	1163	2.0	1527	0.762	100	13.2	LOS B	12.9	328.1	Full	320	0.0	5.7
Approach	1163	2.0	1163	2.0		0.762		13.2	LOS B	12.9	328.1				
Intersection	2311	2.0	2311	2.0		0.776		14.6	LOS B	17.1	435.2				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Network Data dialog (Network tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

LANE SUMMARY

Site: 109 [Intersection 9]

Network: N101 [PM Peak Hour]

Hall Rd/Sill Rd
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows		Arrival Flows		Cap.	Deg. Satn	Lane Util.	Average Delay	Level of Service	95% Back of Queue		Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	Total veh/h	HV %	Total veh/h	HV %	veh/h	v/c	%	sec		Veh	Dist ft		ft	%	%
East: Hall Rd															
Lane 1[d]	942	2.0	941	2.0	1622	0.580	100	8.1	LOS A	6.0	152.4	Full	8300	0.0	0.0
Approach	942	2.0	941[N1]	2.0		0.580		8.1	LOS A	6.0	152.4				
North: Sill Rd															
Lane 1[d]	47	2.0	47	2.0	656	0.072	100	6.3	LOS A	0.5	11.6	Full	750	0.0	0.0
Approach	47	2.0	47	2.0		0.072		6.3	LOS A	0.5	11.6				
West: Hall Rd															
Lane 1[d]	958	2.0	958	2.0	1637	0.585	100	8.2	LOS A	7.3	185.5	Full	3350	0.0	0.0
Approach	958	2.0	958	2.0		0.585		8.2	LOS A	7.3	185.5				
Intersection	1947	2.0	1947	2.0		0.585		8.1	LOS A	7.3	185.5				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Network Data dialog (Network tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

LANE SUMMARY

Site: 112 [Intersection 12]

Network: N101 [PM Peak Hour]

San Miguel Canyon Rd & Echo Valley Rd
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows		Arrival Flows		Cap.	Deg. Satn	Lane Util.	Average Delay	Level of Service	95% Back of Queue		Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	Total veh/h	HV %	Total veh/h	HV %	veh/h	v/c	%	sec		Veh	Dist ft		ft	%	%
South: San Miguel Canyon Rd															
Lane 1[d]	989	2.0	988	2.0	1576	0.627	100	9.2	LOS A	8.1	205.6	Full	4925	0.0	0.0
Approach	989	2.0	988[N1]	2.0		0.627		9.2	LOS A	8.1	205.6				
East: Echo Valley Rd															
Lane 1[d]	186	2.0	186	2.0	648	0.287	100	9.3	LOS A	2.0	51.3	Full	890	0.0	0.0
Approach	186	2.0	186	2.0		0.287		9.3	LOS A	2.0	51.3				
North: San Miguel Canyon Rd															
Lane 1[d]	936	2.0	936	2.0	1313	0.713	100	12.8	LOS B	9.3	235.1	Full	1350	0.0	0.0
Approach	936	2.0	936	2.0		0.713		12.8	LOS B	9.3	235.1				
Intersection	2112	2.0	2110[N1]	2.0		0.713		10.8	LOS B	9.3	235.1				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Network Data dialog (Network tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

LANE SUMMARY

Site: 113 [Intersection 13]

Network: N101 [PM Peak Hour]

San Miguel Canyon Rd & Castroville Blvd
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows		Arrival Flows		Cap.	Deg. Satn	Lane Util.	Average Delay	Level of Service	95% Back of Queue		Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	Total veh/h	HV %	Total veh/h	HV %	veh/h	v/c	%	sec		Veh	Dist ft		ft	%	%
SouthEast: San Miguel Canyon Rd															
Lane 1[d]	865	2.0	865	2.0	1641	0.527	100	7.3	LOS A	5.4	137.5	Full	1850	0.0	0.0
Lane 2	358	2.0	358	2.0	1259	0.285	54[6]	5.4	LOS A	2.0	51.9	Full	1850	0.0	0.0
Approach	1223	2.0	1223	2.0		0.527		6.7	LOS A	5.4	137.5				
NorthWest: San Miguel Canyon Rd															
Lane 1[d]	1069	2.0	1069	2.0	1201	0.891	100	25.3	LOS D	33.9	861.7	Full	4925	0.0	0.0
Approach	1069	2.0	1069	2.0		0.891		25.3	LOS D	33.9	861.7				
SouthWest: Castroville Blvd															
Lane 1[d]	410	2.0	410	2.0	400	1.024	100	84.2	LOS F	26.6	676.6	Full	1500	0.0	0.0
Approach	410	2.0	410	2.0		1.024		84.2	LOS F	26.6	676.6				
Intersection	2702	2.0	2702	2.0		1.024		25.8	LOS D	33.9	861.7				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Network Data dialog (Network tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

6 Lane under-utilisation due to downstream effects
d Dominant lane on roundabout approach

ROUTE TRAVEL PERFORMANCE

Route: R101 [2040 Vol. - Options - AM NB]

Network: N101 [AM Peak Hour]

New Route
Network Category: (None)
Network Cycle Time = 100 seconds (Network User-Given Cycle Time)

Route Travel Performance			
Performance Measure	**Vehicles**	**Per Unit Distance**	**Persons**
Travel Speed (Average)	33.1 mph		33.1 mph
Travel Distance (Average)	54206.3 ft		54206.3 ft
Travel Time (Average)	1118.1 sec	108.9 sec/mi	1118.1 sec
Route Delay (Average)	219.0 sec	21.3 sec/mi	219.0 sec
Route Stop Rate	6.97	0.68 per mi	6.97
Desired Speed	40.0 mph		
Route Level of Service (LOS)	LOS A		
Travel Time Index	8.07		
Speed Efficiency	0.83		
Congestion Coefficient	1.21		

Route Travel Movement Performance

Mov ID	Turn	Trav Dist ft	Trav Time sec	Aver. Speed mph	Aver. Delay sec	Prop. Queued	Eff. Stop Rate	Aver. No. Cycles	Dem. Flow Rate veh/h	Arv. Flow Rate veh/h	Deg. of Satn
Site ID: 117 Site Name: Intersection 17											
South Approach											
8	T1	836.0	24.9	22.9	8.6	0.74	0.64	0.74	1070	1070	0.586
Site ID: 116 Site Name: Intersection 16											
South Approach											
8	T1	563.0	24.6	15.6	13.6	0.78	0.68	0.78	1023	1023	0.614
Site ID: 115 Site Name: Intersection 15											
South Approach											
8	T1	443.2	26.0	11.6	17.1	0.84	0.74	0.88	989	989	0.677
Site ID: 114 Site Name: Intersection 14											
South Approach											
8	T1	691.6	25.2	18.7	11.6	0.62	0.55	0.64	1071	1071	0.502
Site ID: 113 Site Name: Intersection 13											
SouthEast Approach											
8x	T1	1987.8	38.3	35.4	6.3	0.29	0.12	0.29	944	944	0.496
Site ID: 112 Site Name: Intersection 12											
South Approach											
8	T1	5034.5	80.9	42.5	12.0	0.57	0.27	0.57	828	828	0.715
Site ID: 111 Site Name: Intersection 11											
South Approach											
8	T1	1386.0	17.2	54.8	0.0	0.00	0.00	0.00	878	878	0.479
Site ID: 110A Site Name: Intersection 10A											
South Approach											

8	T1	2126.5	40.6	35.7	7.6	0.22	0.07	0.22	658	658	0.492
Site ID: 110 Site Name: Intersection 10											
South Approach											
3	L2	12186.4	177.3	46.9	15.1	0.81	0.63	0.99	734	734	0.739
Site ID: 109 Site Name: Intersection 9											
East Approach											
6	T1	8418.7	122.2	47.0	11.3	0.48	0.22	0.48	955	955	0.698
Site ID: 108 Site Name: Intersection 8											
East Approach											
6	T1	3482.5	69.6	34.1	12.1	0.59	0.32	0.59	973	973	0.712
Site ID: 107 Site Name: Intersection 7											
East Approach											
6	T1	356.0	5.4	44.6	0.0	0.00	0.00	0.00	1331	1331	0.729
Site ID: 106 Site Name: Intersection 6											
South Approach											
8	T1	2925.4	77.8	25.6	35.0	1.00	0.67	1.21	1367	1367	0.972
Site ID: 104-5 Site Name: Intersection 4-5											
South Approach											
8	T1	4234.4	71.6	40.3	12.7	0.74	0.49	0.74	815	815	0.684
Site ID: 103 Site Name: Intersection 3											
South Approach											
8	T1	7348.0	219.3	22.8	18.8	0.85	0.78	0.94	817	817	0.817
Site ID: 102 Site Name: Intersection 2											
South Approach											
8	T1	1264.1	34.8	24.8	0.0	0.00	0.00	0.00	965	965	0.566
Site ID: 101 Site Name: Intersection 1											
South Approach											
8	T1	922.1	62.4	10.1	37.2	0.89	0.79	0.98	954	954	0.711

ROUTE TRAVEL PERFORMANCE

Route: R101 [2040 Vol. - Options - AM SB]

Network: N101 [AM Peak Hour]

New Route
Network Category: (None)
Network Cycle Time = 100 seconds (Network User-Given Cycle Time)

Route Travel Performance								
Performance Measure	**Vehicles**			**Per Unit Distance**		**Persons**		
Travel Speed (Average)	38.0	mph				38.0	mph	
Travel Distance (Average)	54527.7	ft				54527.7	ft	
Travel Time (Average)	977.7	sec		94.7	sec/mi	977.7	sec	
Route Delay (Average)	171.6	sec		16.6	sec/mi	171.6	sec	
Route Stop Rate	6.52			0.63	per mi	6.52		
Desired Speed	40.0	mph						
Route Level of Service (LOS)	LOS A							
Travel Time Index	9.45							
Speed Efficiency	0.95							
Congestion Coefficient	1.05							

Route Travel Movement Performance											
Mov ID	Turn	Trav Dist ft	Trav Time sec	Aver. Speed mph	Aver. Delay sec	Prop. Queued	Eff. Stop Rate	Aver. No. Cycles	Dem. Flow Rate veh/h	Arv. Flow Rate veh/h	Deg. of Satn
Site ID: 101 Site Name: Intersection 1											
North Approach											
4	T1	1230.5	50.3	16.7	16.5	0.65	0.57	0.66	730	730	0.449
Site ID: 102 Site Name: Intersection 2											
North Approach											
4	T1	849.6	28.1	20.6	4.6	0.10	0.00	0.19	788	788	0.473
Site ID: 103 Site Name: Intersection 3											
North Approach											
4	T1	1263.5	50.7	17.0	15.8	0.81	0.74	0.88	667	667	0.758
Site ID: 104-5 Site Name: Intersection 4-5											
North Approach											
4	T1	7427.9	123.6	41.0	24.8	1.00	1.25	1.87	548	548	0.781
Site ID: 106 Site Name: Intersection 6											
North Approach											
4	T1	4220.5	65.7	43.8	6.9	0.17	0.04	0.17	777	777	0.500
Site ID: 107 Site Name: Intersection 7											
West Approach											
2	T1	2836.8	43.5	44.5	0.0	0.00	0.00	0.00	820	820	0.473
Site ID: 108 Site Name: Intersection 8											
West Approach											
2	T1	468.0	20.3	15.8	8.5	0.44	0.20	0.44	729	729	0.568
Site ID: 109 Site Name: Intersection 9											
West Approach											

2	T1	3481.5	59.0	40.2	8.9	0.38	0.15	0.38	801	801	0.592
Site ID: 110 Site Name: Intersection 10											
West Approach											
12	R2	8368.0	120.7	47.3	10.8	0.57	0.30	0.57	606	606	0.633
Site ID: 110A Site Name: Intersection 10A											
North Approach											
4	T1	12123.4	164.4	50.3	7.6	0.17	0.05	0.17	672	672	0.493
Site ID: 111 Site Name: Intersection 11											
North Approach											
4	T1	2036.2	25.4	54.6	0.0	0.00	0.00	0.00	895	895	0.493
Site ID: 112 Site Name: Intersection 12											
North Approach											
4	T1	1480.5	41.2	24.5	15.9	0.87	0.65	1.01	879	879	0.773
Site ID: 113 Site Name: Intersection 13											
NorthWest Approach											
4x	T1	5041.2	91.6	37.5	22.6	1.00	0.95	1.57	955	955	0.869
Site ID: 114 Site Name: Intersection 14											
North Approach											
4	T1	1886.0	30.0	42.9	6.6	0.46	0.41	0.46	1110	1110	0.431
Site ID: 115 Site Name: Intersection 15											
North Approach											
4	T1	703.0	20.3	23.6	6.6	0.55	0.49	0.55	1147	1147	0.492
Site ID: 116 Site Name: Intersection 16											
North Approach											
4	T1	443.0	23.9	12.6	15.3	0.82	0.72	0.82	1145	1145	0.685
Site ID: 117 Site Name: Intersection 17											
North Approach											
14	R2	668.1	19.1	23.9	0.1	0.00	0.00	0.00	1122	1122	0.725

ROUTE TRAVEL PERFORMANCE

Route: R101 [2040 Vol. - Options - PM NB]

Network: N101 [PM Peak Hour]

New Route
Network Category: (None)
Network Cycle Time = 100 seconds (Network User-Given Cycle Time)

Route Travel Performance								
Performance Measure	**Vehicles**			**Per Unit Distance**		**Persons**		
Travel Speed (Average)	31.4	mph				31.4	mph	
Travel Distance (Average)	54211.2	ft				54211.2	ft	
Travel Time (Average)	1178.1	sec		114.7	sec/mi	1178.1	sec	
Route Delay (Average)	278.1	sec		27.1	sec/mi	278.1	sec	
Route Stop Rate	7.49			0.73	per mi	7.49		
Desired Speed	40.0	mph						
Route Level of Service (LOS)	LOS B							
Travel Time Index	7.60							
Speed Efficiency	0.78							
Congestion Coefficient	1.27							

Route Travel Movement Performance											
Mov ID	Turn	Trav Dist ft	Trav Time sec	Aver. Speed mph	Aver. Delay sec	Prop. Queued	Eff. Stop Rate	Aver. No. Cycles	Dem. Flow Rate veh/h	Arv. Flow Rate veh/h	Deg. of Satn
Site ID: 117 Site Name: Intersection 17											
South Approach											
8	T1	836.0	66.1	8.6	49.8	1.00	1.16	1.37	1207	1207	0.989
Site ID: 116 Site Name: Intersection 16											
South Approach											
8	T1	563.0	72.5	5.3	61.5	0.99	1.10	1.24	1094	1094	0.984
Site ID: 115 Site Name: Intersection 15											
South Approach											
8	T1	443.3	33.5	9.0	24.5	0.86	0.78	0.89	1147	1147	0.744
Site ID: 114 Site Name: Intersection 14											
South Approach											
8	T1	692.2	24.2	19.5	10.3	0.60	0.55	0.62	1200	1200	0.556
Site ID: 113 Site Name: Intersection 13											
SouthEast Approach											
8x	T1	1989.7	38.8	35.0	6.6	0.33	0.14	0.33	973	973	0.527
Site ID: 112 Site Name: Intersection 12											
South Approach											
8	T1	5040.2	78.1	44.0	9.2	0.33	0.12	0.33	867	866	0.627
Site ID: 111 Site Name: Intersection 11											
South Approach											
8	T1	1386.0	17.2	54.8	0.0	0.00	0.00	0.00	878	876	0.474
Site ID: 110A Site Name: Intersection 10A											
South Approach											

8	T1	2129.2	40.8	35.6	7.6	0.15	0.04	0.15	659	658	0.498
Site ID: 110 Site Name: Intersection 10											
South Approach											
3	L2	12180.6	172.6	48.1	10.7	0.62	0.37	0.62	628	627	0.619
Site ID: 109 Site Name: Intersection 9											
East Approach											
6	T1	8419.8	119.0	48.2	8.1	0.22	0.07	0.22	884	883	0.580
Site ID: 108 Site Name: Intersection 8											
East Approach											
6	T1	3481.2	74.5	31.8	17.1	0.92	0.95	1.43	821	821	0.776
Site ID: 107 Site Name: Intersection 7											
East Approach											
6	T1	356.0	5.4	44.8	0.0	0.00	0.00	0.00	954	953	0.515
Site ID: 106 Site Name: Intersection 6											
South Approach											
8	T1	2926.4	54.3	36.7	11.4	0.48	0.22	0.48	1036	1036	0.704
Site ID: 104-5 Site Name: Intersection 4-5											
South Approach											
8	T1	4234.4	66.5	43.4	7.6	0.67	0.46	0.67	630	630	0.477
Site ID: 103 Site Name: Intersection 3											
South Approach											
8	T1	7348.0	217.2	23.1	16.7	0.81	0.75	0.89	935	934	0.814
Site ID: 102 Site Name: Intersection 2											
South Approach											
8	T1	1263.1	35.0	24.6	0.0	0.00	0.00	0.00	898	898	0.555
Site ID: 101 Site Name: Intersection 1											
South Approach											
8	T1	922.1	62.3	10.1	37.1	0.89	0.79	1.00	897	897	0.698

ROUTE TRAVEL PERFORMANCE

Route: R101 [2040 Vol. - Options - PM SB]

Network: N101 [PM Peak Hour]

New Route
Network Category: (None)
Network Cycle Time = 100 seconds (Network User-Given Cycle Time)

Route Travel Performance								
Performance Measure	**Vehicles**			**Per Unit Distance**		**Persons**		
Travel Speed (Average)	36.7	mph				36.7	mph	
Travel Distance (Average)	54527.7	ft				54527.7	ft	
Travel Time (Average)	1011.9	sec		98.0	sec/mi	1011.9	sec	
Route Delay (Average)	205.0	sec		19.9	sec/mi	205.0	sec	
Route Stop Rate	6.83			0.66	per mi	6.83		
Desired Speed	40.0	mph						
Route Level of Service (LOS)	LOS A							
Travel Time Index	9.09							
Speed Efficiency	0.92							
Congestion Coefficient	1.09							

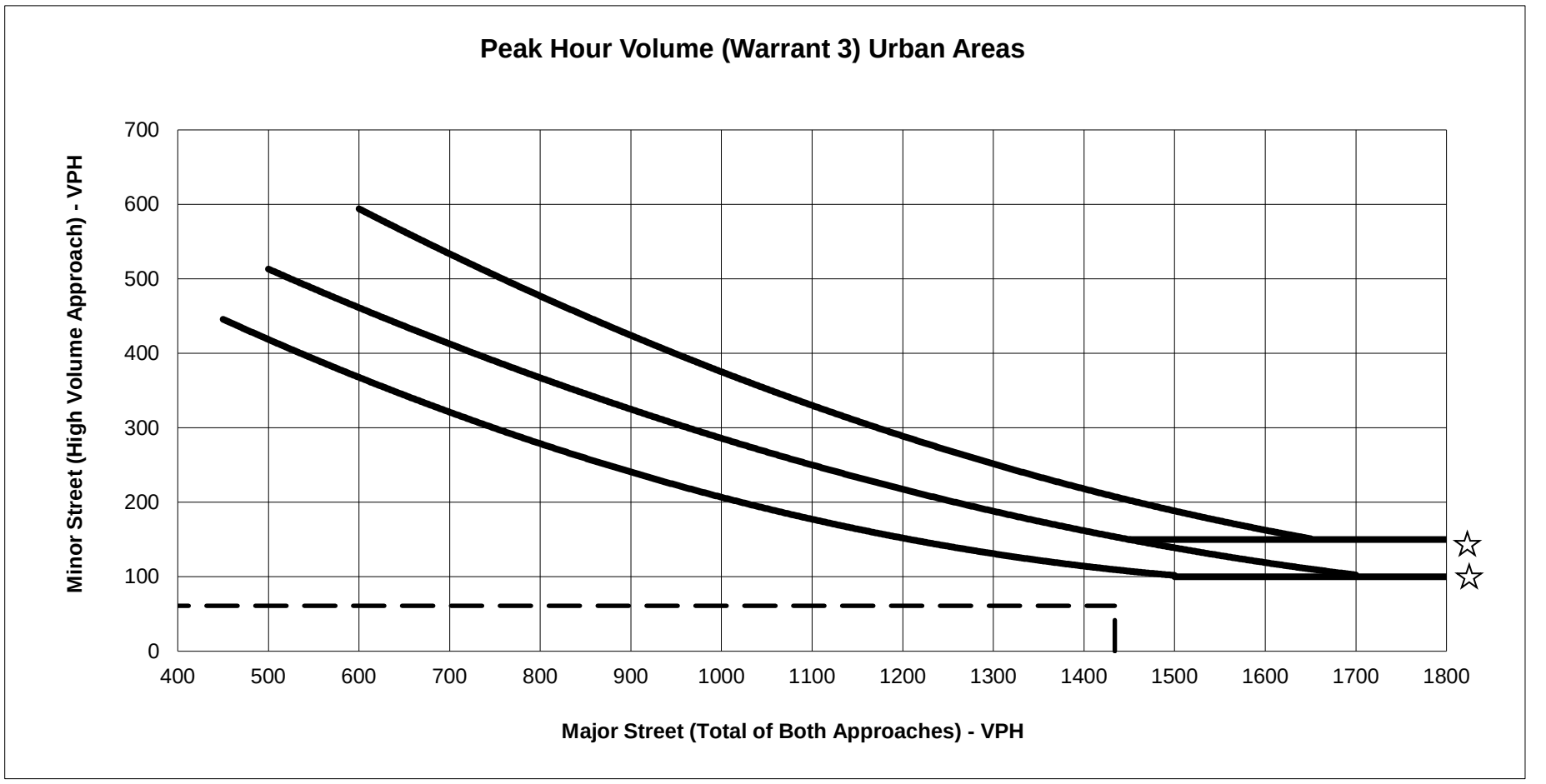
Route Travel Movement Performance											
Mov ID	Turn	Trav Dist ft	Trav Time sec	Aver. Speed mph	Aver. Delay sec	Prop. Queued	Eff. Stop Rate	Aver. No. Cycles	Dem. Flow Rate veh/h	Arv. Flow Rate veh/h	Deg. of Satn
Site ID: 101 Site Name: Intersection 1											
North Approach											
4	T1	1230.4	54.7	15.3	20.9	0.76	0.68	0.77	1046	1046	0.649
Site ID: 102 Site Name: Intersection 2											
North Approach											
4	T1	849.5	30.3	19.1	6.8	0.17	0.01	0.36	1015	1015	0.611
Site ID: 103 Site Name: Intersection 3											
North Approach											
4	T1	1263.0	58.2	14.8	23.7	0.90	0.90	1.07	1022	1022	0.909
Site ID: 104-5 Site Name: Intersection 4-5											
North Approach											
4	T1	7427.9	115.5	43.8	16.7	0.99	1.07	1.62	859	859	0.767
Site ID: 106 Site Name: Intersection 6											
North Approach											
4	T1	4218.0	73.3	39.3	14.5	0.36	0.11	0.36	1208	1208	0.805
Site ID: 107 Site Name: Intersection 7											
West Approach											
2	T1	2837.5	44.0	44.0	0.0	0.00	0.00	0.00	1088	1088	0.692
Site ID: 108 Site Name: Intersection 8											
West Approach											
2	T1	483.5	26.1	12.6	13.2	0.56	0.25	0.56	872	872	0.762
Site ID: 109 Site Name: Intersection 9											
West Approach											

2	T1	3477.1	58.0	40.9	8.2	0.23	0.06	0.23	932	932	0.585
Site ID: 110 Site Name: Intersection 10											
West Approach											
12	R2	8361.8	123.3	46.2	13.5	0.76	0.49	0.76	714	714	0.709
Site ID: 110A Site Name: Intersection 10A											
North Approach											
4	T1	12121.0	164.6	50.2	7.9	0.26	0.10	0.26	663	663	0.509
Site ID: 111 Site Name: Intersection 11											
North Approach											
4	T1	2036.7	25.7	54.0	0.0	0.00	0.00	0.00	883	883	0.501
Site ID: 112 Site Name: Intersection 12											
North Approach											
4	T1	1477.7	37.8	26.6	12.8	0.73	0.45	0.73	899	899	0.713
Site ID: 113 Site Name: Intersection 13											
NorthWest Approach											
4x	T1	5043.5	94.3	36.5	25.3	1.00	1.10	1.85	984	984	0.891
Site ID: 114 Site Name: Intersection 14											
North Approach											
4	T1	1886.0	28.7	44.9	5.3	0.42	0.38	0.42	1253	1245	0.470
Site ID: 115 Site Name: Intersection 15											
North Approach											
4	T1	703.0	25.8	18.6	12.1	0.63	0.57	0.63	1211	1203	0.644
Site ID: 116 Site Name: Intersection 16											
North Approach											
4	T1	443.0	32.7	9.2	24.0	0.74	0.66	0.74	1021	1015	0.646
Site ID: 117 Site Name: Intersection 17											
North Approach											
14	R2	668.1	19.1	23.9	0.1	0.00	0.00	0.00	1000	995	0.631

Appendix I
Traffic Signal Warrant Analysis

Both 1 Lane Approaches		2 or more Lane and One Lane Approaches		Both 2 or more Lane Approaches	
Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach
500	420	500	505	500	N/A
600	360	600	460	600	590
700	325	700	420	700	540
800	285	800	360	800	475
900	245	900	325	900	425
1000	200	1000	285	1000	370
1100	175	1100	250	1100	340
1200	150	1200	220	1200	285
1300	130	1300	190	1300	250
1400	120	1400	155	1400	220
1500	100	1500	145	1500	180
1600	100	1600	120	1600	170
1700	100	1700	100	1650	150
1800	100	1800	100	1800	150

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*



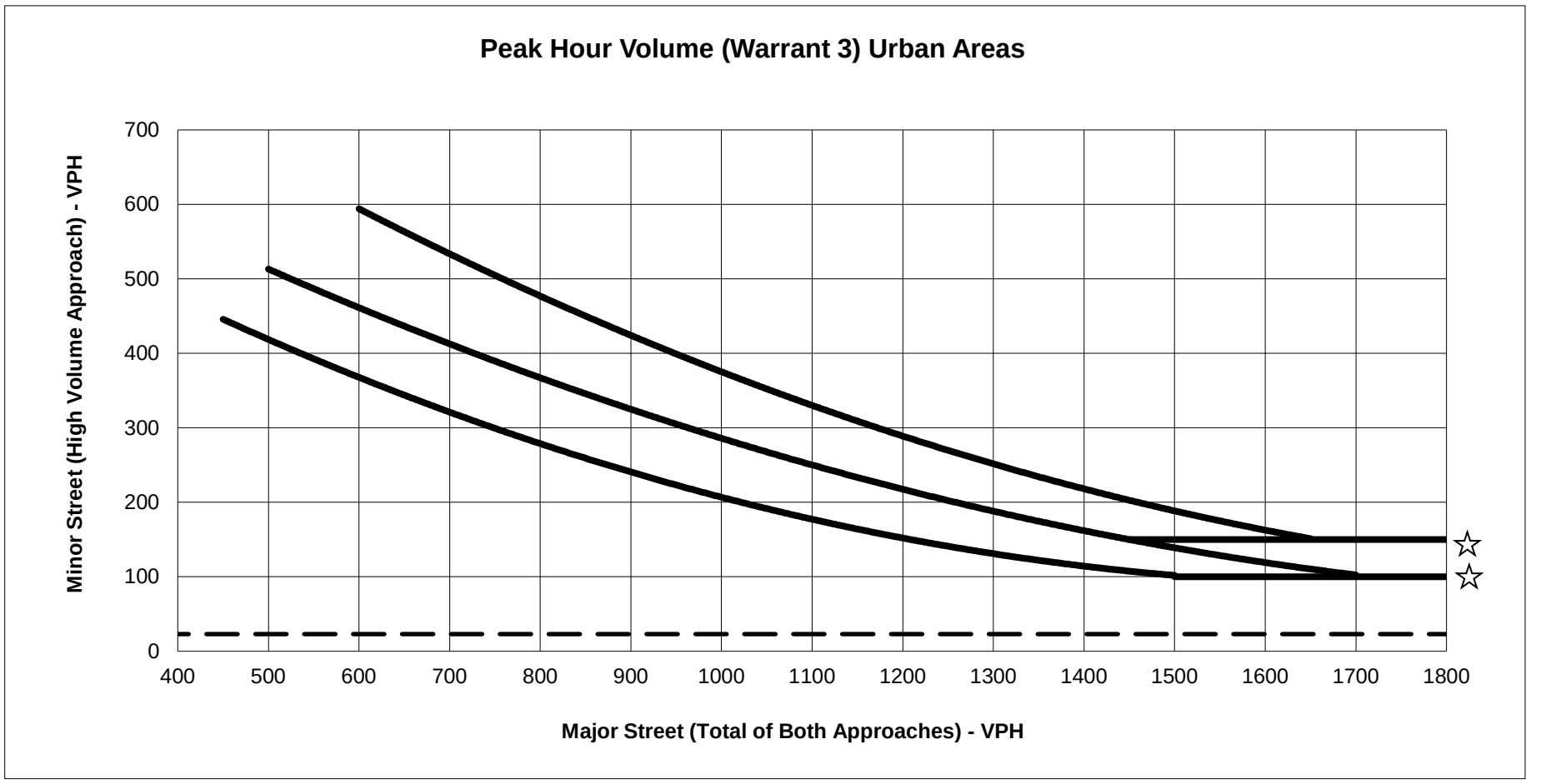
☆ NOTE:
150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

Existing (AM)		
		Number of Lanes
Major Approach	Salinas/Porter	1
Minor Approach	Stender/Salinas	1

Major St. Volume:	1434	
Minor St. Volume:	61	Added both minor streets due to geometry
Warrant Met?:	**No**	

Both 1 Lane Approaches		2 or more Lane and One Lane Approaches		Both 2 or more Lane Approaches	
Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach
500	420	500	505	500	N/A
600	360	600	460	600	590
700	325	700	420	700	540
800	285	800	360	800	475
900	245	900	325	900	425
1000	200	1000	285	1000	370
1100	175	1100	250	1100	340
1200	150	1200	220	1200	285
1300	130	1300	190	1300	250
1400	120	1400	155	1400	220
1500	100	1500	145	1500	180
1600	100	1600	120	1600	170
1700	100	1700	100	1650	150
1800	100	1800	100	1800	150

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*



☆ NOTE:
150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

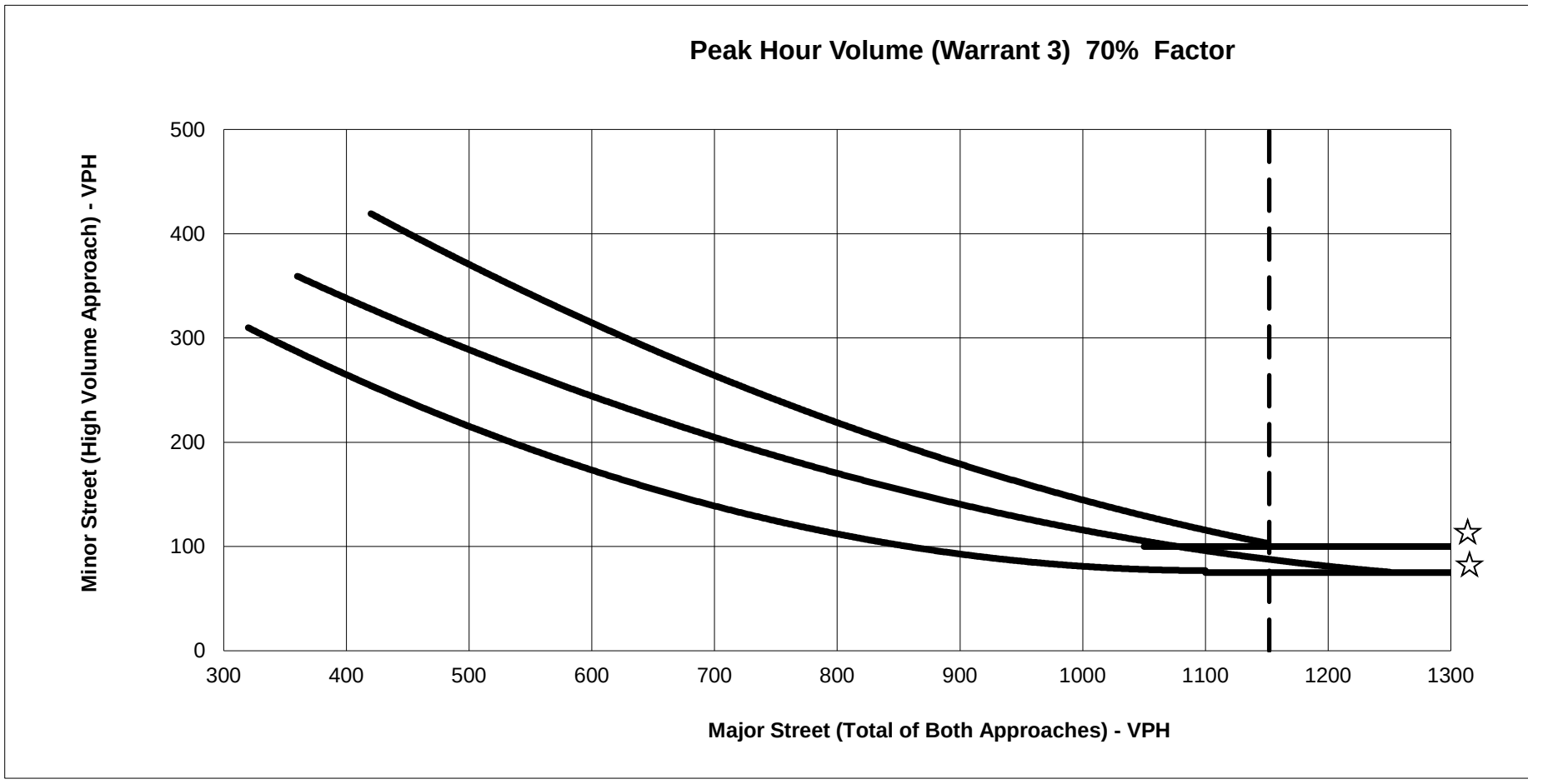
EXISTING (PM)

		Number of Lanes
Major Approach	Salinas/Porter	1
Minor Approach	Stender/Salinas	1

Major St. Volume:	1877	
Minor St. Volume:	23	Added both minor streets due to geometry
Warrant Met?:	**No**	

Both 1 Lane Approaches		2 or more Lane and One Lane Approaches		Both 2 or more Lane Approaches	
Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach
400	265	400	340	400	N/A
500	210	500	290	500	375
600	180	600	240	600	310
700	150	700	200	700	260
800	90	800	175	800	220
900	100	900	140	900	180
1000	85	1000	120	1000	150
1100	75	1100	95	1150	100
1200	75	1200	80	1200	100
1300	75	1250	75	1300	100

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*



☆ NOTE:

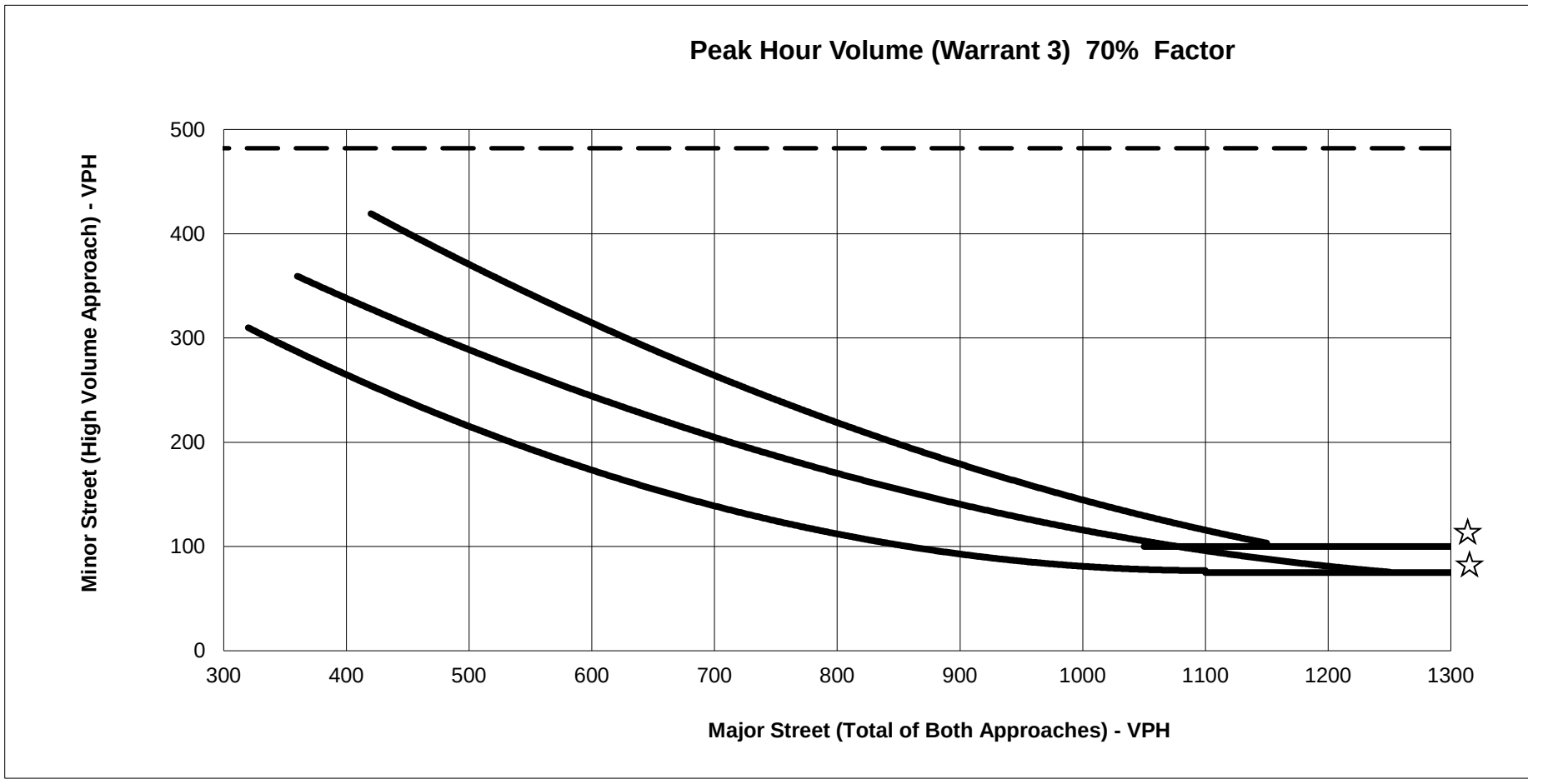
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

EXISTING (PM)		
		Number of Lanes
Major Approach	Salinas Road	1
Minor Approach	Elkhorn Road	1

Major St. Volume:	1152
Minor St. Volume:	555
Warrant Met?:	**Yes**

Both 1 Lane Approaches		2 or more Lane and One Lane Approaches		Both 2 or more Lane Approaches	
Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach
400	265	400	340	400	N/A
500	210	500	290	500	375
600	180	600	240	600	310
700	150	700	200	700	260
800	90	800	175	800	220
900	100	900	140	900	180
1000	85	1000	120	1000	150
1100	75	1100	95	1150	100
1200	75	1200	80	1200	100
1300	75	1250	75	1300	100

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*



☆ NOTE:

100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

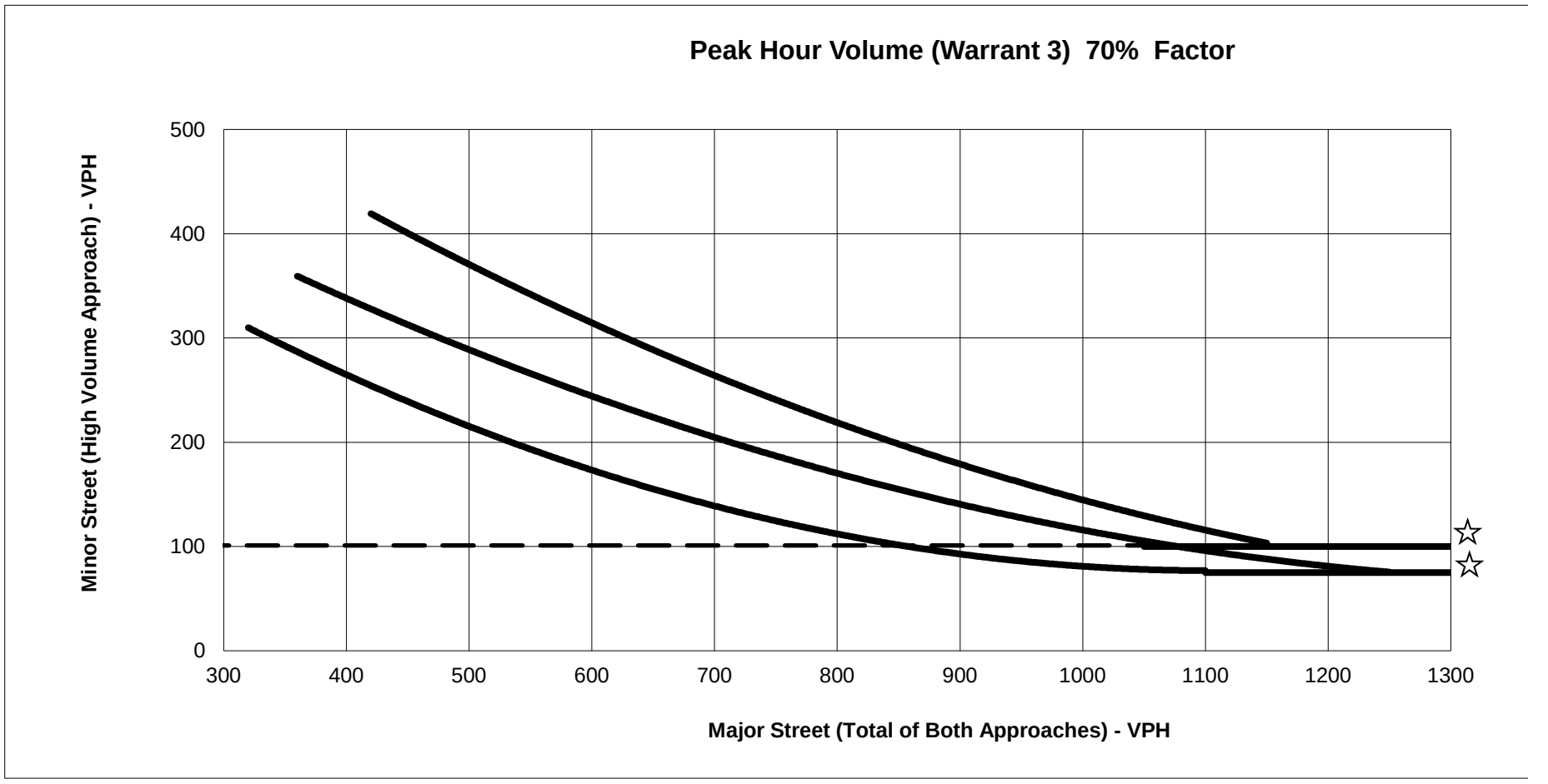
EXISTING (PM)

		Number of Lanes
Major Approach	Elkhorn Road	1
Minor Approach	Werner Road	1

Major St. Volume:	1821
Minor St. Volume:	482
Warrant Met?:	**Yes**

Both 1 Lane Approaches		2 or more Lane and One Lane Approaches		Both 2 or more Lane Approaches	
Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach
400	265	400	340	400	N/A
500	210	500	290	500	375
600	180	600	240	600	310
700	150	700	200	700	260
800	90	800	175	800	220
900	100	900	140	900	180
1000	85	1000	120	1000	150
1100	75	1100	95	1150	100
1200	75	1200	80	1200	100
1300	75	1250	75	1300	100

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*



☆ NOTE:

100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

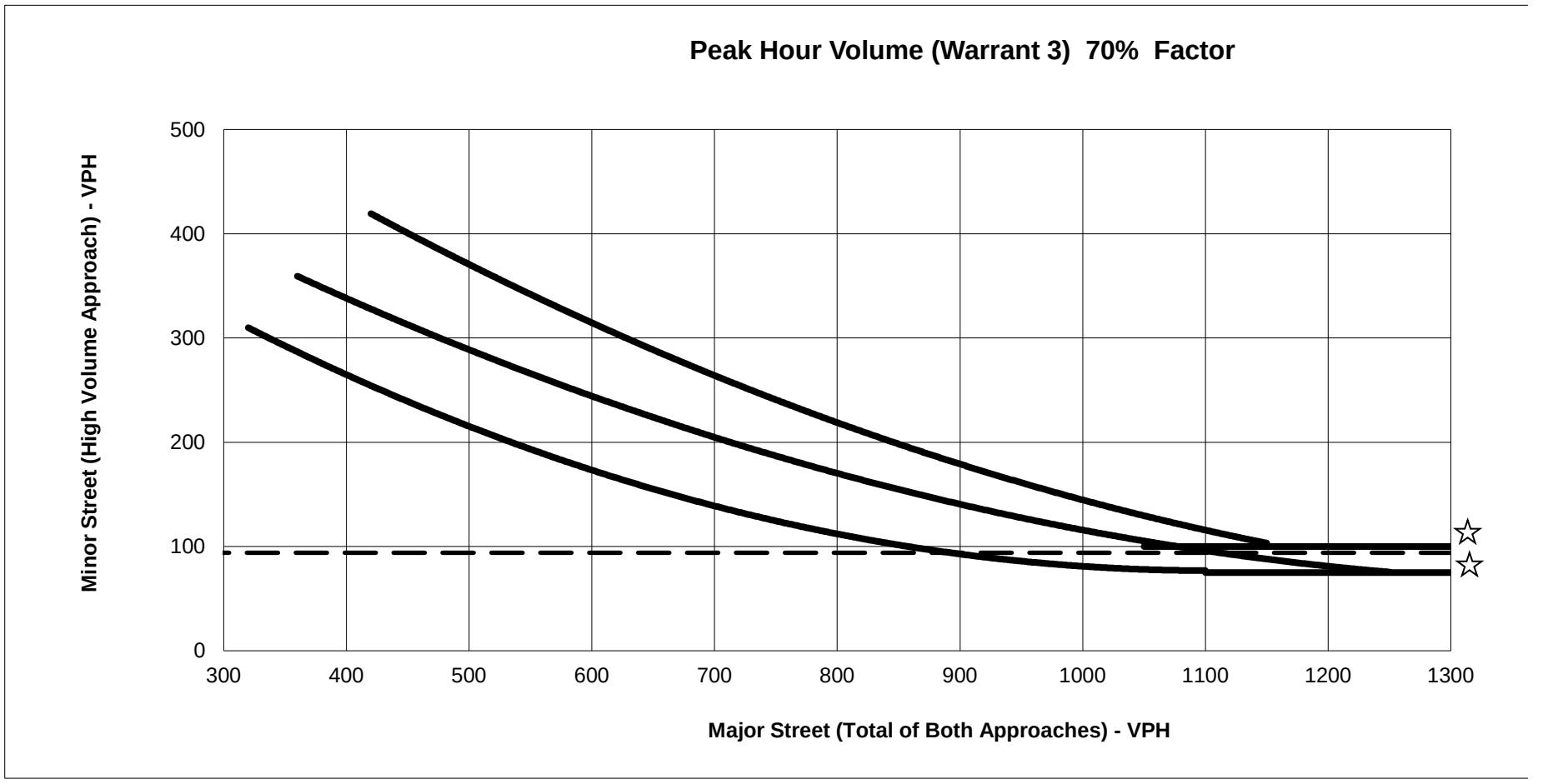
EXISTING (AM)

		Number of Lanes
Major Approach	Hall Road	1
Minor Approach	Elkhorn Road	1

Major St. Volume:	1963
Minor St. Volume:	101
Warrant Met?:	**Yes**

Both 1 Lane Approaches		2 or more Lane and One Lane Approaches		Both 2 or more Lane Approaches	
Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach
400	265	400	340	400	N/A
500	210	500	290	500	375
600	180	600	240	600	310
700	150	700	200	700	260
800	90	800	175	800	220
900	100	900	140	900	180
1000	85	1000	120	1000	150
1100	75	1100	95	1150	100
1200	75	1200	80	1200	100
1300	75	1250	75	1300	100

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*



☆ NOTE:

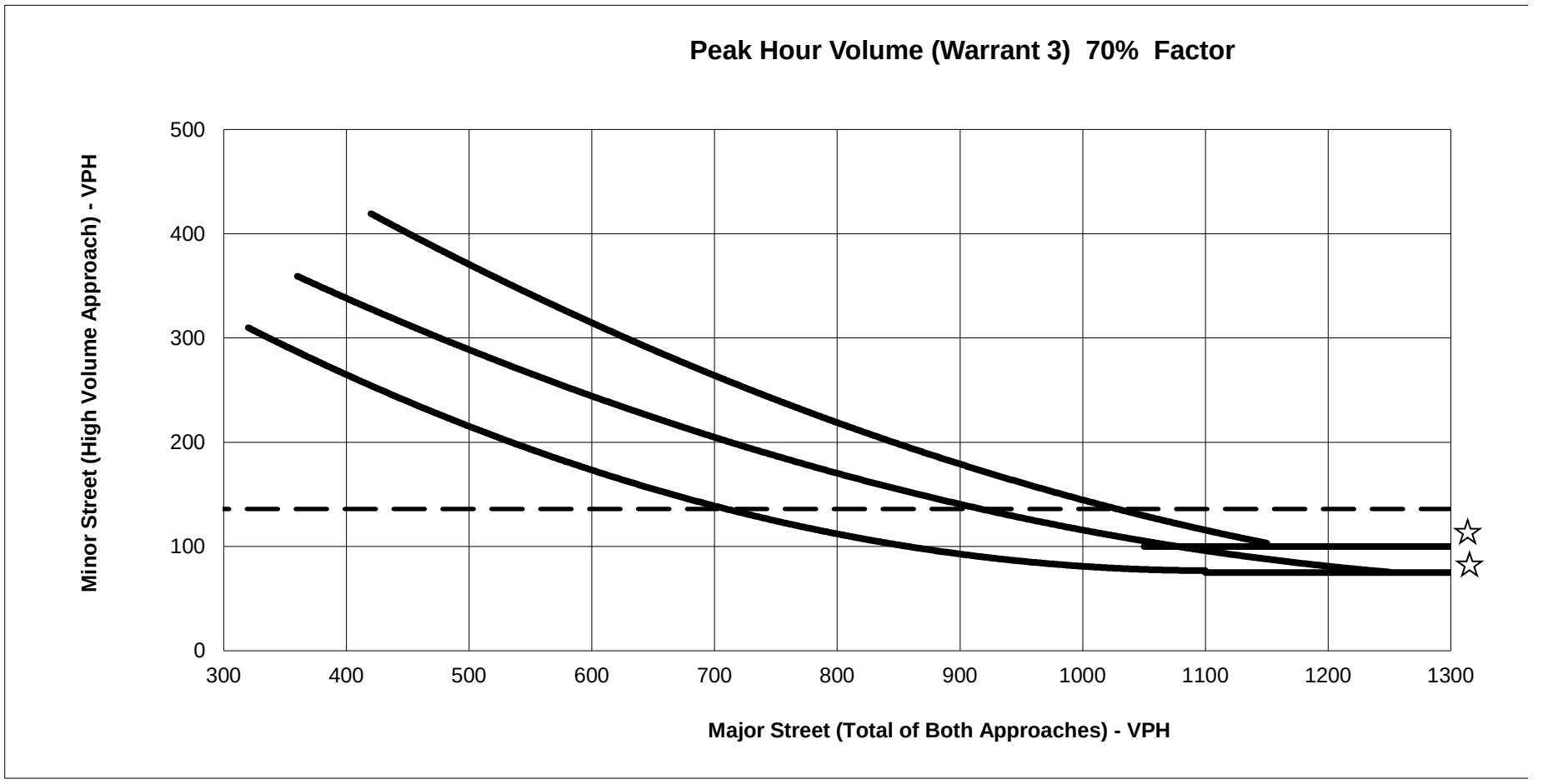
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

EXISTING (AM)		
		Number of Lanes
Major Approach	Hall Road	1
Minor Approach	Willow Road	1

Major St. Volume:	1900
Minor St. Volume:	94
Warrant Met?:	**Yes**

Both 1 Lane Approaches		2 or more Lane and One Lane Approaches		Both 2 or more Lane Approaches	
Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach
400	265	400	340	400	N/A
500	210	500	290	500	375
600	180	600	240	600	310
700	150	700	200	700	260
800	90	800	175	800	220
900	100	900	140	900	180
1000	85	1000	120	1000	150
1100	75	1100	95	1150	100
1200	75	1200	80	1200	100
1300	75	1250	75	1300	100

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*



☆ NOTE:

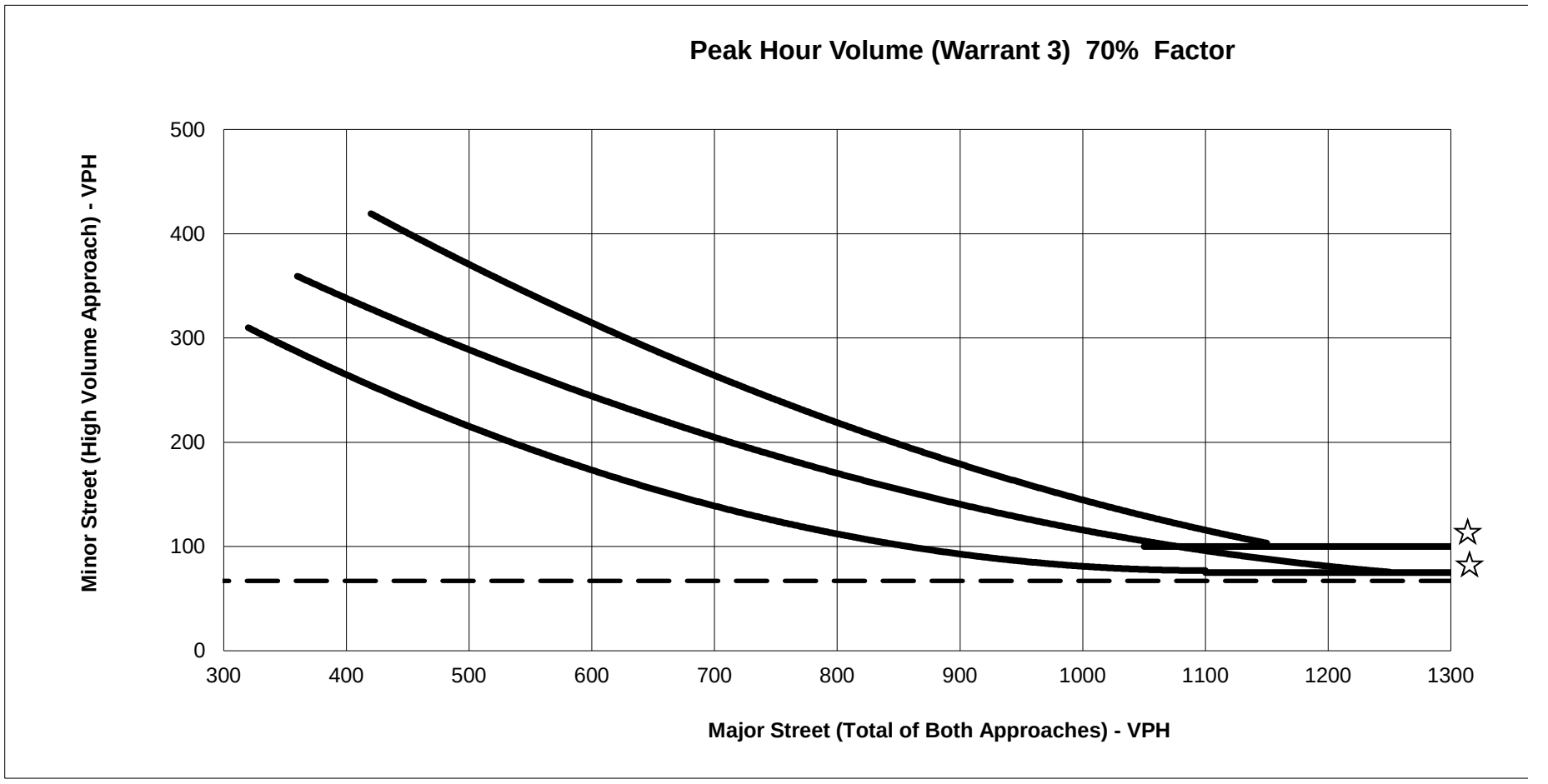
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

EXISTING (AM)		
		Number of Lanes
Major Approach	Hall Road	1
Minor Approach	Sill Road	1

Major St. Volume:	1601
Minor St. Volume:	136
Warrant Met?:	**Yes**

Both 1 Lane Approaches		2 or more Lane and One Lane Approaches		Both 2 or more Lane Approaches	
Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach
400	265	400	340	400	N/A
500	210	500	290	500	375
600	180	600	240	600	310
700	150	700	200	700	260
800	90	800	175	800	220
900	100	900	140	900	180
1000	85	1000	120	1000	150
1100	75	1100	95	1150	100
1200	75	1200	80	1200	100
1300	75	1250	75	1300	100

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*



☆ NOTE:

100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

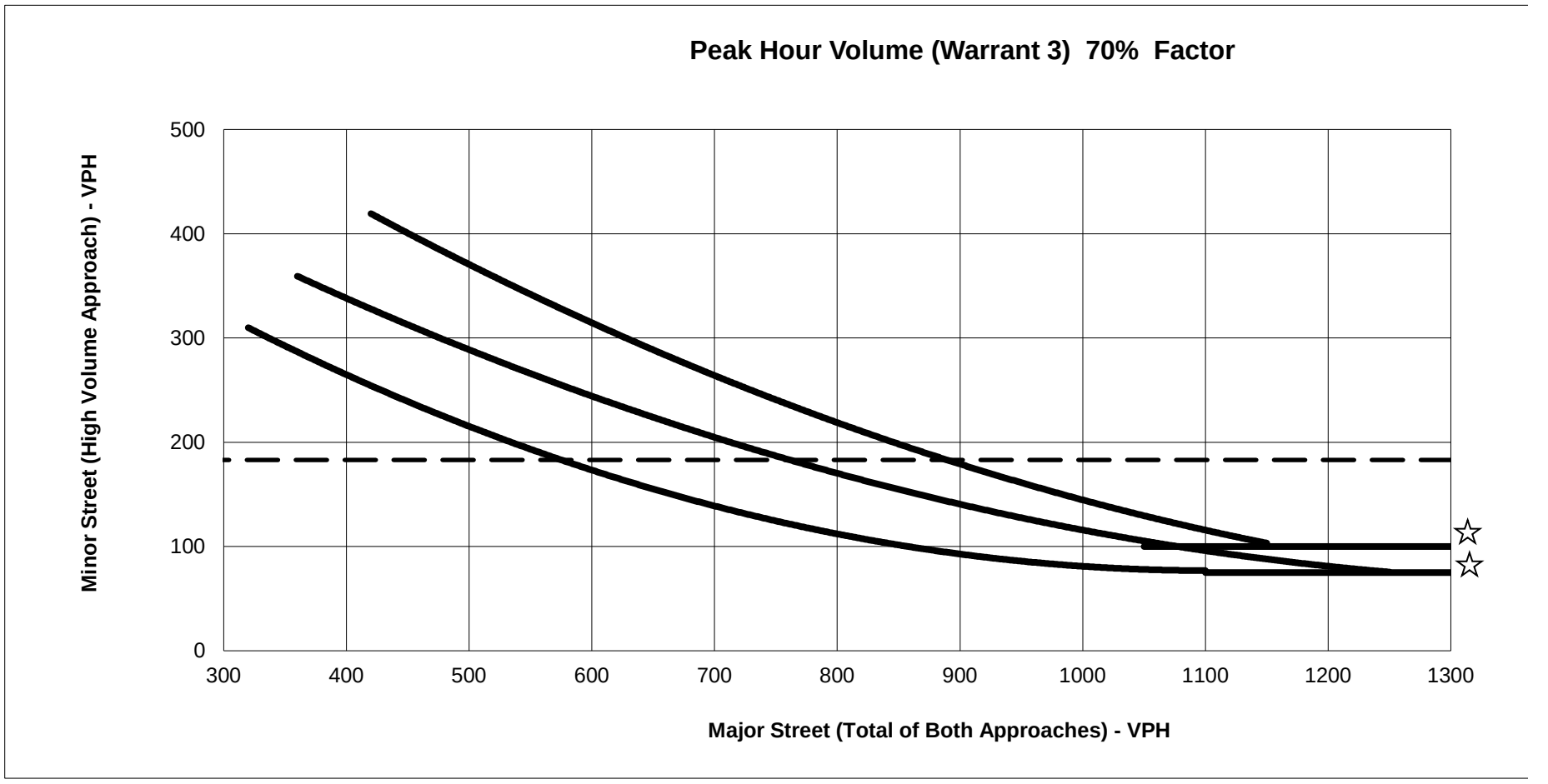
EXISTING (AM)

		Number of Lanes
Major Approach	San Miguel Canyon Rd	1
Minor Approach	Paraadise Rd	1

Major St. Volume:	1426
Minor St. Volume:	67
Warrant Met?:	**No**

Both 1 Lane Approaches		2 or more Lane and One Lane Approaches		Both 2 or more Lane Approaches	
Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach
400	265	400	340	400	N/A
500	210	500	290	500	375
600	180	600	240	600	310
700	150	700	200	700	260
800	90	800	175	800	220
900	100	900	140	900	180
1000	85	1000	120	1000	150
1100	75	1100	95	1150	100
1200	75	1200	80	1200	100
1300	75	1250	75	1300	100

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*



☆ NOTE:

100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

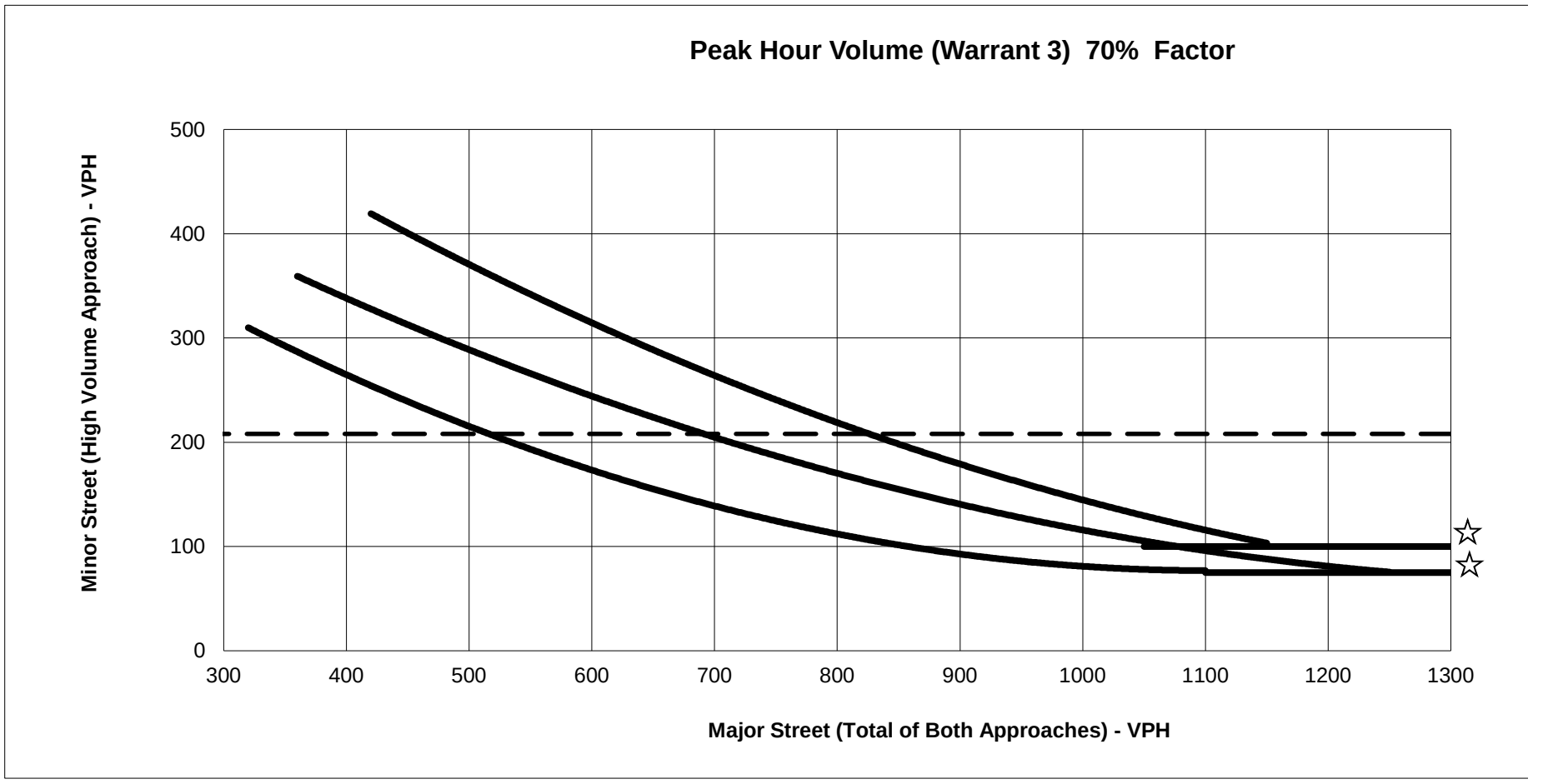
EXISTING (AM)

		Number of Lanes
Major Approach	San Miguel Canyon Rd	1
Minor Approach	Echo Valley Rd	1

Major St. Volume:	1586
Minor St. Volume:	183
Warrant Met?:	**Yes**

Both 1 Lane Approaches		2 or more Lane and One Lane Approaches		Both 2 or more Lane Approaches	
Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach
400	265	400	340	400	N/A
500	210	500	290	500	375
600	180	600	240	600	310
700	150	700	200	700	260
800	90	800	175	800	220
900	100	900	140	900	180
1000	85	1000	120	1000	150
1100	75	1100	95	1150	100
1200	75	1200	80	1200	100
1300	75	1250	75	1300	100

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*



☆ NOTE:

100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

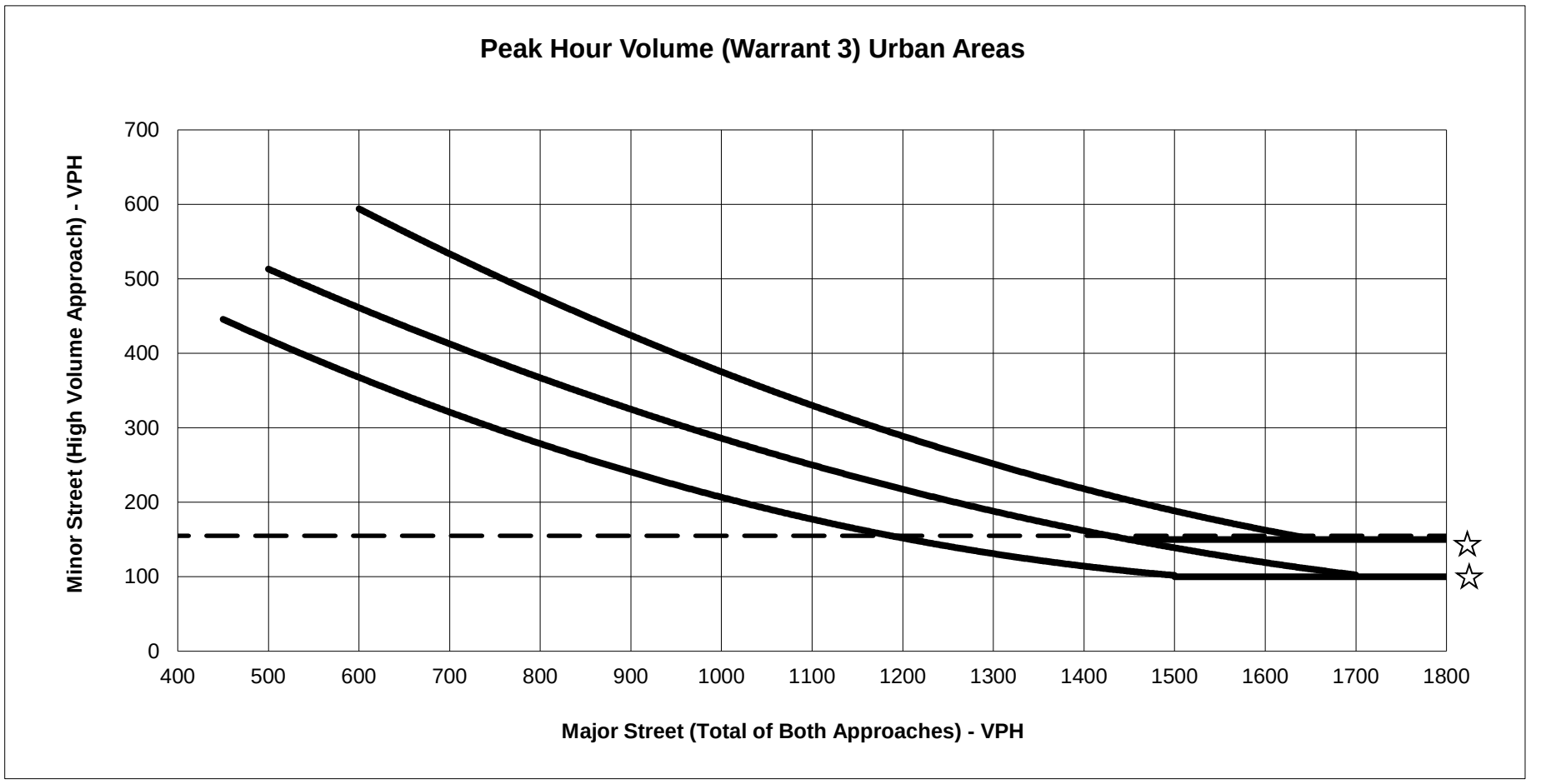
EXISTING (AM)

		Number of Lanes
Major Approach	San Miguel Canyon Rd	1
Minor Approach	Castroville Rd	1

Major St. Volume:	1723
Minor St. Volume:	208
Warrant Met?:	**Yes**

Both 1 Lane Approaches		2 or more Lane and One Lane Approaches		Both 2 or more Lane Approaches	
Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach
500	420	500	505	500	N/A
600	360	600	460	600	590
700	325	700	420	700	540
800	285	800	360	800	475
900	245	900	325	900	425
1000	200	1000	285	1000	370
1100	175	1100	250	1100	340
1200	150	1200	220	1200	285
1300	130	1300	190	1300	250
1400	120	1400	155	1400	220
1500	100	1500	145	1500	180
1600	100	1600	120	1600	170
1700	100	1700	100	1650	150
1800	100	1800	100	1800	150

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*



☆ NOTE:
150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

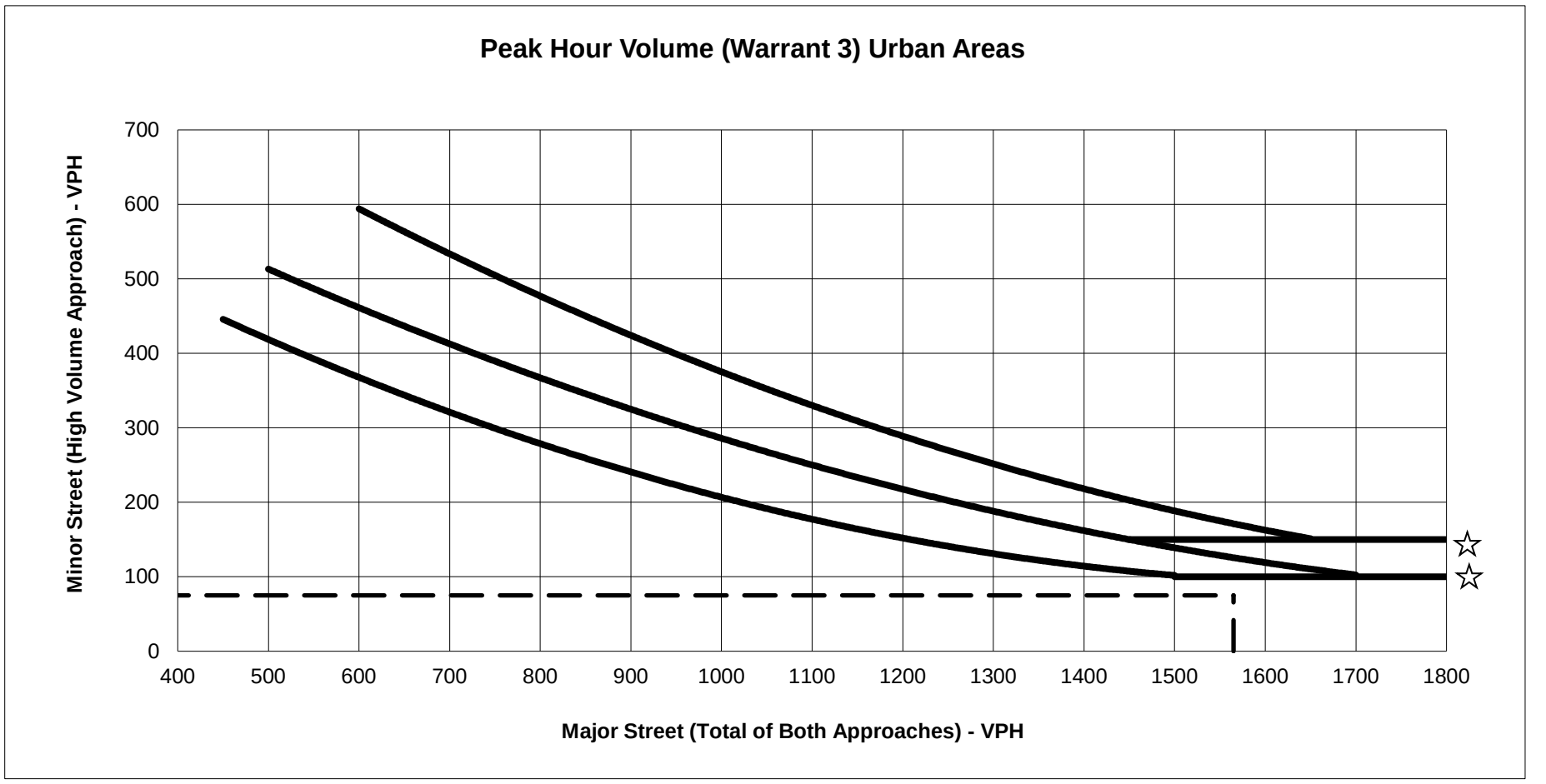
Existing (AM)

		Number of Lanes
Major Approach	San Miguel Canyon Rd	1
Minor Approach	Langley Canyon Rd	1

Major St. Volume:	1883
Minor St. Volume:	155
Warrant Met?:	**Yes**

Both 1 Lane Approaches		2 or more Lane and One Lane Approaches		Both 2 or more Lane Approaches	
Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach
500	420	500	505	500	N/A
600	360	600	460	600	590
700	325	700	420	700	540
800	285	800	360	800	475
900	245	900	325	900	425
1000	200	1000	285	1000	370
1100	175	1100	250	1100	340
1200	150	1200	220	1200	285
1300	130	1300	190	1300	250
1400	120	1400	155	1400	220
1500	100	1500	145	1500	180
1600	100	1600	120	1600	170
1700	100	1700	100	1650	150
1800	100	1800	100	1800	150

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*



☆ NOTE:
150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

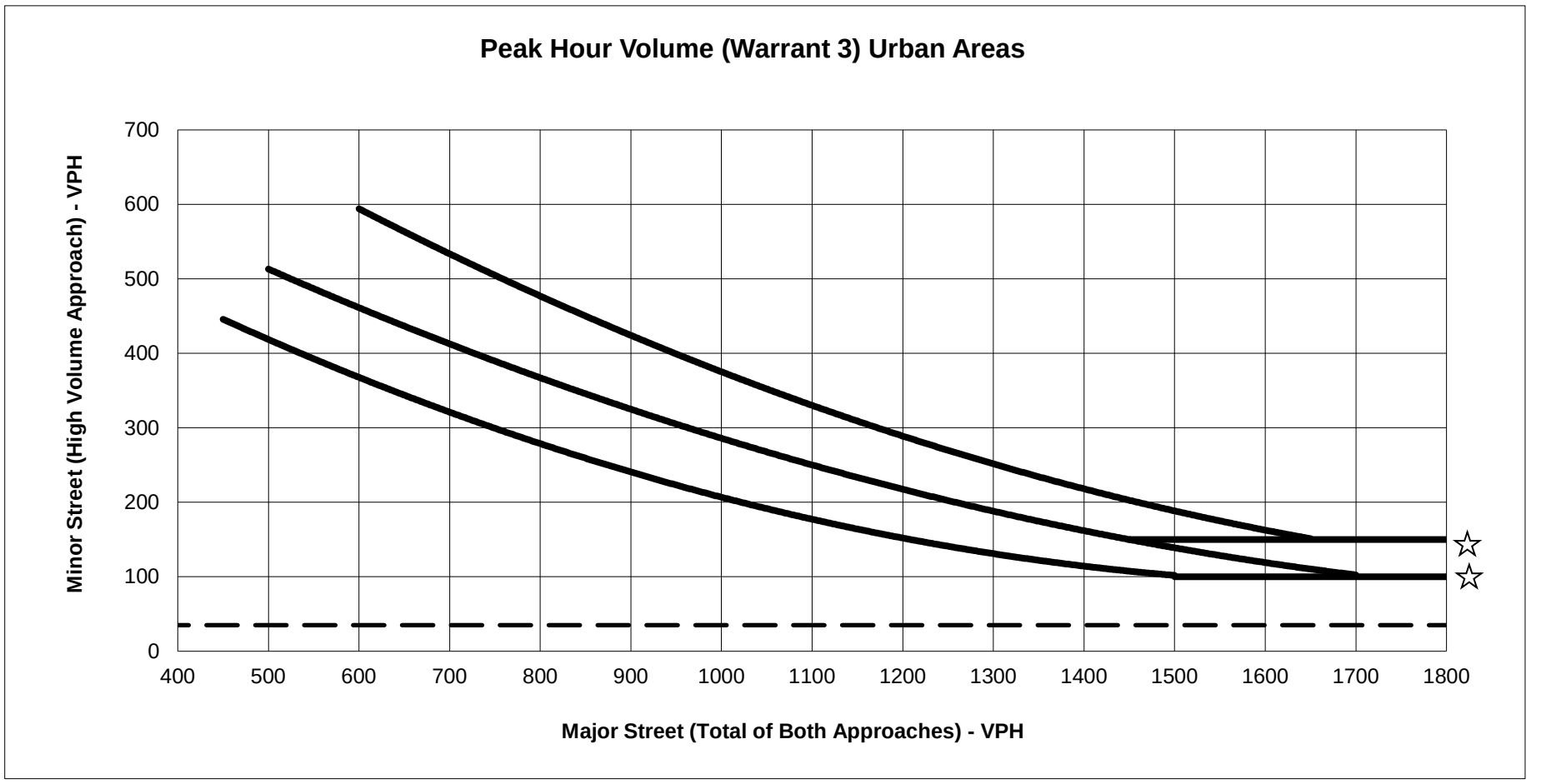
2040 (AM)		
		Number of Lanes
Major Approach	Salinas/Porter	1
Minor Approach	Stender/Salinas	1

Major St. Volume:	1565
Minor St. Volume:	75
Warrant Met?:	**No**

Added both minor streets due to geometry

Both 1 Lane Approaches		2 or more Lane and One Lane Approaches		Both 2 or more Lane Approaches	
Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach
500	420	500	505	500	N/A
600	360	600	460	600	590
700	325	700	420	700	540
800	285	800	360	800	475
900	245	900	325	900	425
1000	200	1000	285	1000	370
1100	175	1100	250	1100	340
1200	150	1200	220	1200	285
1300	130	1300	190	1300	250
1400	120	1400	155	1400	220
1500	100	1500	145	1500	180
1600	100	1600	120	1600	170
1700	100	1700	100	1650	150
1800	100	1800	100	1800	150

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*



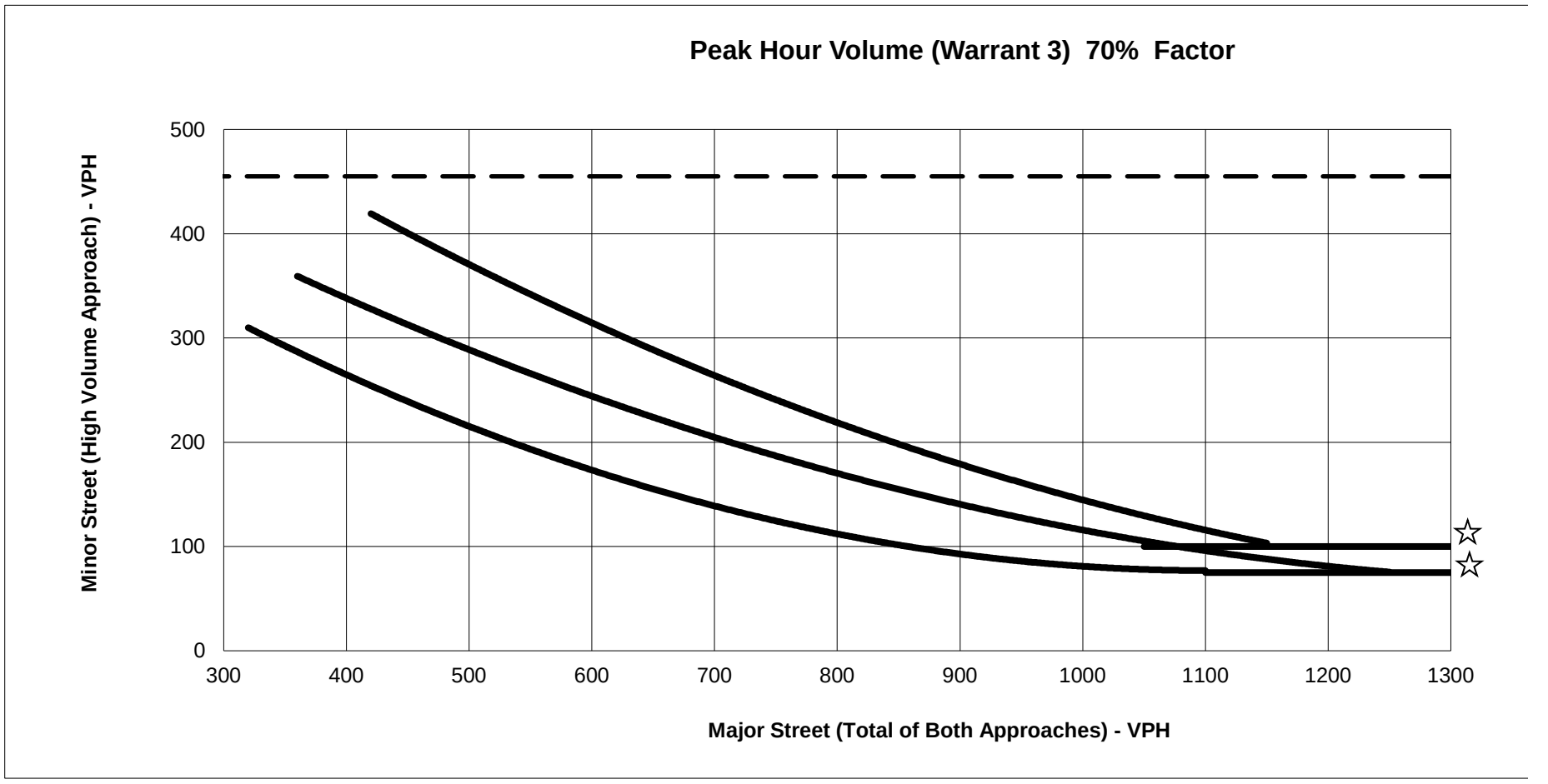
☆ NOTE:
150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

2040 (PM)		
		Number of Lanes
Major Approach	Salinas/Porter	1
Minor Approach	Stender/Salinas	1

Major St. Volume:	2040	
Minor St. Volume:	35	Added both minor streets due to geometry
Warrant Met?:	**No**	

Both 1 Lane Approaches		2 or more Lane and One Lane Approaches		Both 2 or more Lane Approaches	
Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach
400	265	400	340	400	N/A
500	210	500	290	500	375
600	180	600	240	600	310
700	150	700	200	700	260
800	90	800	175	800	220
900	100	900	140	900	180
1000	85	1000	120	1000	150
1100	75	1100	95	1150	100
1200	75	1200	80	1200	100
1300	75	1250	75	1300	100

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*



☆ NOTE:

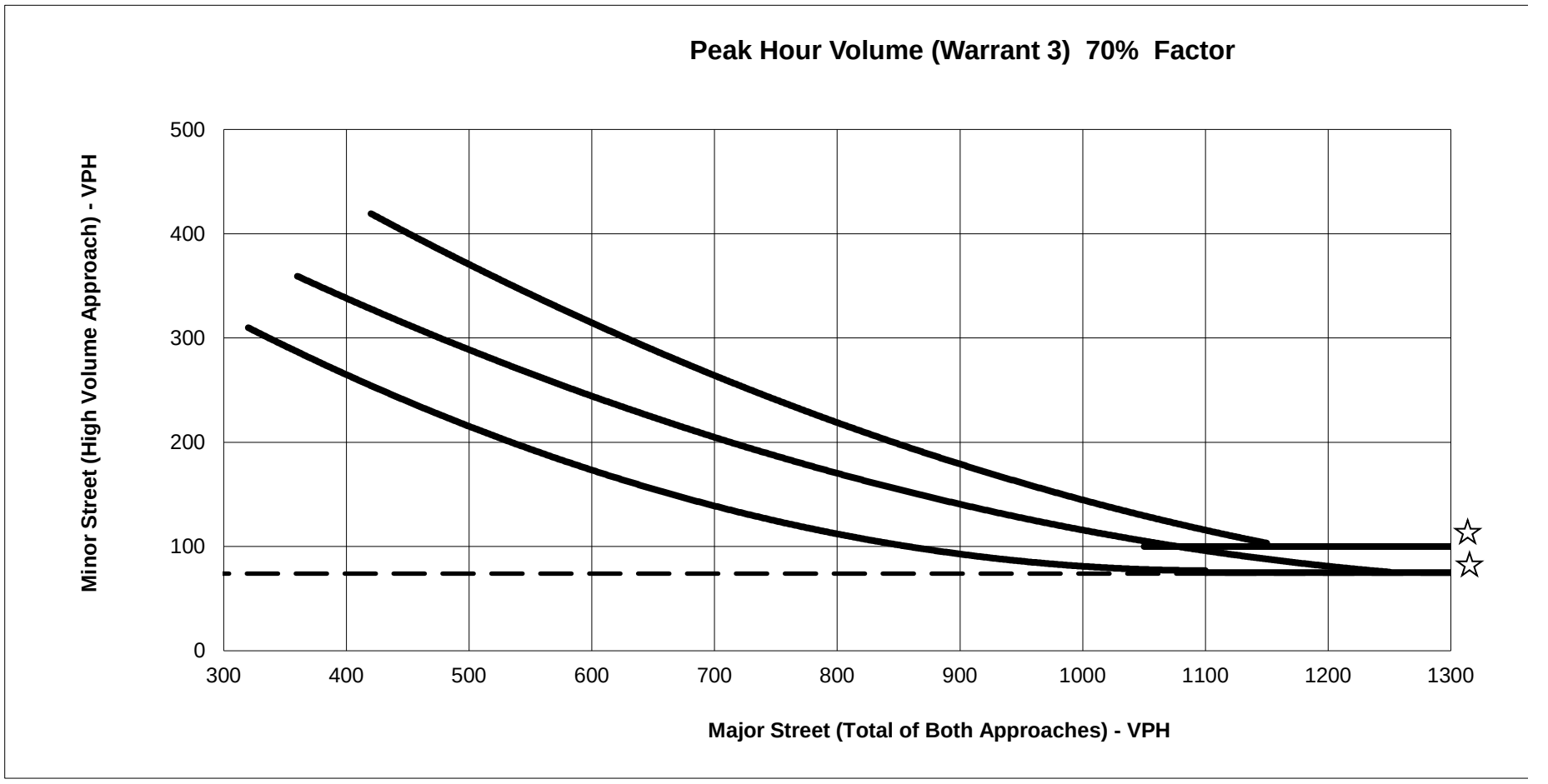
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

2040 (AM)		
		Number of Lanes
Major Approach	Elkhorn Road	1
Minor Approach	Werner Road	1

Major St. Volume:	1840
Minor St. Volume:	455
Warrant Met?:	**Yes**

Both 1 Lane Approaches		2 or more Lane and One Lane Approaches		Both 2 or more Lane Approaches	
Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach
400	265	400	340	400	N/A
500	210	500	290	500	375
600	180	600	240	600	310
700	150	700	200	700	260
800	90	800	175	800	220
900	100	900	140	900	180
1000	85	1000	120	1000	150
1100	75	1100	95	1150	100
1200	75	1200	80	1200	100
1300	75	1250	75	1300	100

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*



☆ NOTE:

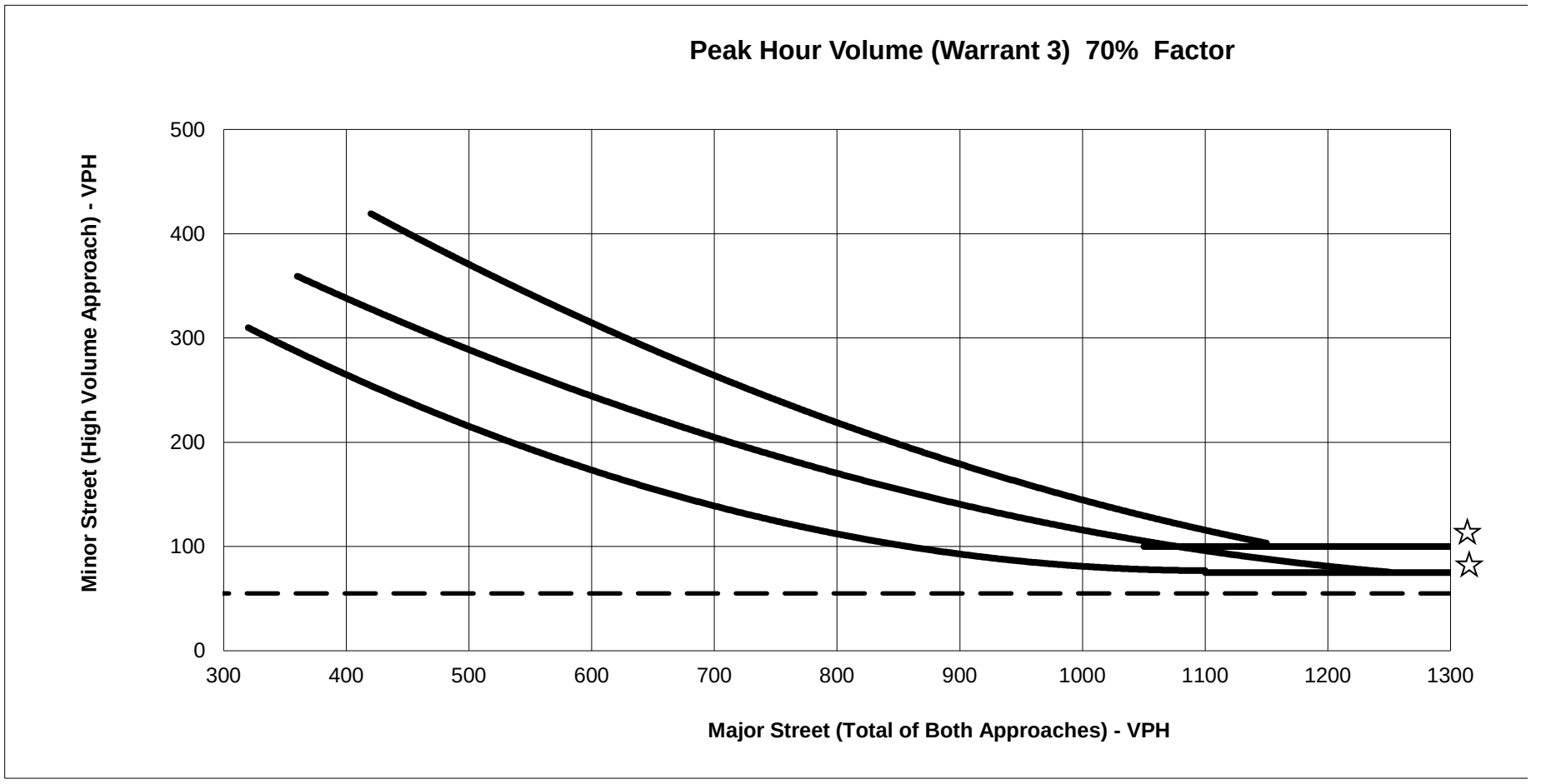
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

2040 (AM)		
		Number of Lanes
Major Approach	San Miguel Canyon Rd	1
Minor Approach	Paraadise Rd	1

Major St. Volume:	1555
Minor St. Volume:	74
Warrant Met?:	**No**

Both 1 Lane Approaches		2 or more Lane and One Lane Approaches		Both 2 or more Lane Approaches	
Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach
400	265	400	340	400	N/A
500	210	500	290	500	375
600	180	600	240	600	310
700	150	700	200	700	260
800	90	800	175	800	220
900	100	900	140	900	180
1000	85	1000	120	1000	150
1100	75	1100	95	1150	100
1200	75	1200	80	1200	100
1300	75	1250	75	1300	100

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*



☆ NOTE:

100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

2040 (PM)		
		Number of Lanes
Major Approach	San Miguel Canyon Rd	1
Minor Approach	Paraadise Rd	1

Major St. Volume:	1745
Minor St. Volume:	55
Warrant Met?:	**No**

Appendix J
Highway Capacity Software (HCS 7) Worksheets

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	KI3
Agency/Co.	Omni Means, a GHD Company
Date Performed	3/1/2018
Analysis Time Period	AM Peak Hour
Highway	G12 - Elkhorn Rd NB
From/To	Werner Rd/Garin Rd
Jurisdiction	Monterey County
Analysis Year	Existing Conditions
Description	G12 Corridor Study

Input Data

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	9	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.4	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	0	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	10	/mi

Analysis direction volume, Vd	1180	veh/h
Opposing direction volume, Vo	607	veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.0		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	1.000		0.991	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	1283	pc/h	666	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.5	mi/h
Free-flow speed, FFSd	57.5	mi/h
Adjustment for no-passing zones, fnp	1.8	mi/h
Average travel speed, ATSd	40.6	mi/h
Percent Free Flow Speed, PFFS	70.6	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	1283 pc/h	660 pc/h
Base percent time-spent-following,(note-4) BPTSFd	82.3 %	
Adjustment for no-passing zones, fnp	16.4	
Percent time-spent-following, PTSFd	93.1 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.75	
Peak 15-min vehicle-miles of travel, VMT15	128	veh-mi
Peak-hour vehicle-miles of travel, VMT60	472	veh-mi
Peak 15-min total travel time, TT15	3.2	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.4	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	40.6	mi/h
Percent time-spent-following, PTSFd (from above)	93.1	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1282.6
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	5.88
Bicycle LOS	F

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	RS
Agency/Co.	Omni Means, a GHD Company
Date Performed	3/1/2018
Analysis Time Period	AM Peak Hour
Highway	G12 - Elkhorn Rd SB
From/To	Werner Rd/Garin Rd
Jurisdiction	Monterey County
Analysis Year	Existing Conditions
Description	G12 Corridor Study

Input Data

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	9	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.4	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	0	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	10	/mi

Analysis direction volume, Vd 607 veh/h
Opposing direction volume, Vo 1180 veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.1		1.0	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	0.991		1.000	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	666	pc/h	1283	pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.5	mi/h
Free-flow speed, FFSd	57.5	mi/h
Adjustment for no-passing zones, fnp	1.0	mi/h
Average travel speed, ATSd	41.4	mi/h
Percent Free Flow Speed, PFFS	72.0	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	660 pc/h	1283 pc/h
Base percent time-spent-following,(note-4) BPTSFd	69.0 %	
Adjustment for no-passing zones, fnp	16.4	
Percent time-spent-following, PTSFd	74.6 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.39	
Peak 15-min vehicle-miles of travel, VMT15	66	veh-mi
Peak-hour vehicle-miles of travel, VMT60	243	veh-mi
Peak 15-min total travel time, TT15	1.6	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.4	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	41.4	mi/h
Percent time-spent-following, PTSFd (from above)	74.6	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	659.8
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	5.54
Bicycle LOS	F

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	KI3
Agency/Co.	Omni Means, a GHD Company
Date Performed	3/1/2018
Analysis Time Period	AM Peak Hour
Highway	G12 - Hall Rd EB
From/To	Elkhorn Rd/Willow Rd
Jurisdiction	Monterey County
Analysis Year	Existing Conditions
Description	G12 Corridor Study

Input Data

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.5	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	0	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 591 veh/h
Opposing direction volume, Vo 1150 veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.1		1.0	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	0.994		1.000	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	646	pc/h	1250	pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	5.0	mi/h
Free-flow speed, FFSd	50.0	mi/h
Adjustment for no-passing zones, fnp	0.9	mi/h
Average travel speed, ATSd	34.3	mi/h
Percent Free Flow Speed, PFFS	68.7	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	642 pc/h	1250 pc/h
Base percent time-spent-following,(note-4) BPTSFd	67.8 %	
Adjustment for no-passing zones, fnp	17.2	
Percent time-spent-following, PTSFd	73.6 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.38	
Peak 15-min vehicle-miles of travel, VMT15	80	veh-mi
Peak-hour vehicle-miles of travel, VMT60	296	veh-mi
Peak 15-min total travel time, TT15	2.3	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.5	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	34.3	mi/h
Percent time-spent-following, PTSFd (from above)	73.6	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	45
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	642.4
Effective width of outside lane, We	24.00
Effective speed factor, St	4.42
Bicycle LOS Score, BLOS	4.27
Bicycle LOS	D

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	RS
Agency/Co.	Omni Means, a GHD Company
Date Performed	3/1/2018
Analysis Time Period	AM Peak Hour
Highway	G12 - Hall Rd WB
From/To	Elkhorn Rd/Willow Rd
Jurisdiction	Monterey County
Analysis Year	Existing Conditions
Description	G12 Corridor Study

Input Data

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.5	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	0	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd	1150	veh/h
Opposing direction volume, Vo	591	veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.0		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	1.000		0.994	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	1250	pc/h	646	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	5.0	mi/h
Free-flow speed, FFSd	50.0	mi/h
Adjustment for no-passing zones, fnp	1.8	mi/h
Average travel speed, ATSd	33.5	mi/h
Percent Free Flow Speed, PFFS	67.1	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	1250 pc/h	642 pc/h
Base percent time-spent-following,(note-4) BPTSFd	81.4 %	
Adjustment for no-passing zones, fnp	17.2	
Percent time-spent-following, PTSFd	92.8 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.74	
Peak 15-min vehicle-miles of travel, VMT15	156	veh-mi
Peak-hour vehicle-miles of travel, VMT60	575	veh-mi
Peak 15-min total travel time, TT15	4.7	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.5	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	33.5	mi/h
Percent time-spent-following, PTSFd (from above)	92.8	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	45
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1250.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.42
Bicycle LOS Score, BLOS	4.60
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	RS
Agency/Co.	Omni Means, a GHD Company
Date Performed	3/1/2018
Analysis Time Period	AM Peak Hour
Highway	G12 - Hall Rd EB
From/To	Sill Rd/San Miguel Canyon
Jurisdiction	Monterey County
Analysis Year	Existing Conditions
Description	G12 Corridor Study

Input Data

Highway class	Class 3		Peak hour factor, PHF	0.93	
Shoulder width	6.0	ft	% Trucks and buses	9	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	1.5	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	0	%
Grade: Length	-	mi	% No-passing zones	69	%
Up/down	-	%	Access point density	15	/mi

Analysis direction volume, Vd	611	veh/h
Opposing direction volume, Vo	754	veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.1		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	0.991		0.991	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	663	pc/h	818	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	3.8	mi/h
Free-flow speed, FFSd	56.3	mi/h
Adjustment for no-passing zones, fnp	1.1	mi/h
Average travel speed, ATSd	43.6	mi/h
Percent Free Flow Speed, PFFS	77.6	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	657 pc/h	811 pc/h
Base percent time-spent-following,(note-4) BPTSFd	63.2 %	
Adjustment for no-passing zones, fnp	25.2	
Percent time-spent-following, PTSFd	74.5 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.39	
Peak 15-min vehicle-miles of travel, VMT15	246	veh-mi
Peak-hour vehicle-miles of travel, VMT60	917	veh-mi
Peak 15-min total travel time, TT15	5.6	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	1.5	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	43.6	mi/h
Percent time-spent-following, PTSFd (from above)	74.5	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	657.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	5.54
Bicycle LOS	F

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	RS
Agency/Co.	Omni Means, a GHD Company
Date Performed	3/1/2018
Analysis Time Period	AM Peak Hour
Highway	G12 - Hall Rd WB
From/To	Sill Rd/San Miguel Canyon
Jurisdiction	Monterey County
Analysis Year	Existing Conditions
Description	G12 Corridor Study

Input Data

Highway class	Class 3		Peak hour factor, PHF	0.93	
Shoulder width	6.0	ft	% Trucks and buses	9	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	1.5	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	0	%
Grade: Length	-	mi	% No-passing zones	69	%
Up/down	-	%	Access point density	15	/mi

Analysis direction volume, Vd	754	veh/h
Opposing direction volume, Vo	611	veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.1		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	0.991		0.991	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	818	pc/h	663	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	3.8	mi/h
Free-flow speed, FFSd	56.3	mi/h
Adjustment for no-passing zones, fnp	1.5	mi/h
Average travel speed, ATSd	43.2	mi/h
Percent Free Flow Speed, PFFS	76.8	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	811 pc/h	657 pc/h
Base percent time-spent-following,(note-4) BPTSFd	67.9 %	
Adjustment for no-passing zones, fnp	25.2	
Percent time-spent-following, PTSFd	81.8 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.48	
Peak 15-min vehicle-miles of travel, VMT15	304	veh-mi
Peak-hour vehicle-miles of travel, VMT60	1131	veh-mi
Peak 15-min total travel time, TT15	7.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	1.5	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	43.2	mi/h
Percent time-spent-following, PTSFd (from above)	81.8	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	810.8
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	5.64
Bicycle LOS	F

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	RS
Agency/Co.	Omni Means, a GHD Company
Date Performed	3/1/2018
Analysis Time Period	AM Peak Hour
Highway	G12 - San Miguel Canyon Rd NB
From/To	Apricot Ln/Strawberry Rd
Jurisdiction	Monterey County
Analysis Year	Existing Conditions
Description	G12 Corridor Study

Input Data

Highway class	Class 3		Peak hour factor, PHF	0.91	
Shoulder width	6.0	ft	% Trucks and buses	9	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	1.9	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Rolling		% Recreational vehicles	0	%
Grade: Length	-	mi	% No-passing zones	64	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd	687	veh/h
Opposing direction volume, Vo	546	veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.5		1.7	
PCE for RVs, ER	1.1		1.1	
Heavy-vehicle adj. factor,(note-5) fHV	0.957		0.941	
Grade adj. factor,(note-1) fg	0.99		0.97	
Directional flow rate,(note-2) vi	797	pc/h	657	pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	5.0	mi/h
Free-flow speed, FFSd	55.0	mi/h
Adjustment for no-passing zones, fnp	1.5	mi/h
Average travel speed, ATSd	42.2	mi/h
Percent Free Flow Speed, PFFS	76.8	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.2
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	0.982
Grade adjustment factor,(note-1) fg	1.00	0.97
Directional flow rate,(note-2) vi	755 pc/h	630 pc/h
Base percent time-spent-following,(note-4) BPTSFd	65.8 %	
Adjustment for no-passing zones, fnp	26.3	
Percent time-spent-following, PTSFd	80.1 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.46	
Peak 15-min vehicle-miles of travel, VMT15	359	veh-mi
Peak-hour vehicle-miles of travel, VMT60	1305	veh-mi
Peak 15-min total travel time, TT15	8.5	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1656	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	1.9	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	42.2	mi/h
Percent time-spent-following, PTSFd (from above)	80.1	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	754.9
Effective width of outside lane, We	24.00
Effective speed factor, St	4.62
Bicycle LOS Score, BLOS	5.48
Bicycle LOS	E

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

HCS7: Two-Lane Highways Release 7.4

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	RS
Agency/Co.	Omni Means, a GHD Company
Date Performed	3/1/2018
Analysis Time Period	AM Peak Hour
Highway	G12 - San Miguel Canyon Rd SB
From/To	Apricot Ln/Strawberry Rd
Jurisdiction	Monterey County
Analysis Year	Existing Conditions
Description	G12 Corridor Study

Input Data

Highway class	Class 3		Peak hour factor, PHF	0.91	
Shoulder width	6.0	ft	% Trucks and buses	9	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	1.9	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Rolling		% Recreational vehicles	0	%
Grade: Length	-	mi	% No-passing zones	64	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd	546	veh/h
Opposing direction volume, Vo	687	veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.7		1.5	
PCE for RVs, ER	1.1		1.1	
Heavy-vehicle adj. factor,(note-5) fHV	0.941		0.957	
Grade adj. factor,(note-1) fg	0.97		0.99	
Directional flow rate,(note-2) vi	657	pc/h	797	pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	5.0	mi/h
Free-flow speed, FFSd	55.0	mi/h
Adjustment for no-passing zones, fnp	1.1	mi/h
Average travel speed, ATSd	42.6	mi/h
Percent Free Flow Speed, PFFS	77.4	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.2	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.982	1.000
Grade adjustment factor,(note-1) fg	0.97	1.00
Directional flow rate,(note-2) vi	630 pc/h	755 pc/h
Base percent time-spent-following,(note-4) BPTSFd	61.3 %	
Adjustment for no-passing zones, fnp	26.3	
Percent time-spent-following, PTSFd	73.3 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.36	
Peak 15-min vehicle-miles of travel, VMT15	285	veh-mi
Peak-hour vehicle-miles of travel, VMT60	1037	veh-mi
Peak 15-min total travel time, TT15	6.7	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1656	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	1.9	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	42.6	mi/h
Percent time-spent-following, PTSFd (from above)	73.3	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	600.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.62
Bicycle LOS Score, BLOS	5.36
Bicycle LOS	E

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	RS
Agency/Co.	Omni Means, a GHD Company
Date Performed	3/1/2018
Analysis Time Period	AM Peak Hour
Highway	G12 - San Miguel Canyon Rd NB
From/To	Garlen Ln/Pond Derosa Ln
Jurisdiction	Monterey County
Analysis Year	Existing Conditions
Description	G12 Corridor Study

Input Data

Highway class	Class 3		Peak hour factor, PHF	0.90	
Shoulder width	6.0	ft	% Trucks and buses	7	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.3	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	0	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	17	/mi

Analysis direction volume, Vd	751	veh/h
Opposing direction volume, Vo	777	veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.1		1.0	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	0.993		1.000	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	840	pc/h	863	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	4.3	mi/h
Free-flow speed, FFSd	55.8	mi/h
Adjustment for no-passing zones, fnp	1.3	mi/h
Average travel speed, ATSd	41.2	mi/h
Percent Free Flow Speed, PFFS	73.9	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	834 pc/h	863 pc/h
Base percent time-spent-following,(note-4) BPTSFd	71.0 %	
Adjustment for no-passing zones, fnp	23.6	
Percent time-spent-following, PTSFd	82.6 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.49	
Peak 15-min vehicle-miles of travel, VMT15	63	veh-mi
Peak-hour vehicle-miles of travel, VMT60	225	veh-mi
Peak 15-min total travel time, TT15	1.5	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.3	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	41.2	mi/h
Percent time-spent-following, PTSFd (from above)	82.6	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	834.4
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.93
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	KI3
Agency/Co.	Omni Means, a GHD Company
Date Performed	3/1/2018
Analysis Time Period	AM Peak Hour
Highway	G12 - San Miguel Canyon Rd SB
From/To	Garlen Ln/Pond Derosa Ln
Jurisdiction	Monterey County
Analysis Year	Existing Conditions
Description	G12 Corridor Study

Input Data

Highway class	Class 3		Peak hour factor, PHF	0.90	
Shoulder width	6.0	ft	% Trucks and buses	7	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.3	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	0	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	17	/mi

Analysis direction volume, Vd	777	veh/h
Opposing direction volume, Vo	751	veh/h

Average Travel Speed

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	1.000	0.993
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	863 pc/h	840 pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	4.3	mi/h
Free-flow speed, FFSd	55.8	mi/h
Adjustment for no-passing zones, fnp	1.3	mi/h
Average travel speed, ATSd	41.2	mi/h
Percent Free Flow Speed, PFFS	73.9	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	863 pc/h	834 pc/h
Base percent time-spent-following,(note-4) BPTSFd	72.1 %	
Adjustment for no-passing zones, fnp	23.6	
Percent time-spent-following, PTSFd	84.1 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.51	
Peak 15-min vehicle-miles of travel, VMT15	65	veh-mi
Peak-hour vehicle-miles of travel, VMT60	233	veh-mi
Peak 15-min total travel time, TT15	1.6	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.3	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	41.2	mi/h
Percent time-spent-following, PTSFd (from above)	84.1	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	863.3
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.95
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	RS
Agency/Co.	Omni Means, a GHD Company
Date Performed	3/1/2018
Analysis Time Period	PM Peak Hour
Highway	G12 - Elkhorn Rd NB
From/To	Werner Rd/Garin Rd
Jurisdiction	Monterey County
Analysis Year	Existing Conditions
Description	G12 Corridor Study

Input Data

Highway class	Class 3		Peak hour factor, PHF	0.97	
Shoulder width	6.0	ft	% Trucks and buses	9	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.4	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	0	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	10	/mi

Analysis direction volume, Vd 819 veh/h
Opposing direction volume, Vo 1097 veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.1		1.0	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	0.991		1.000	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	852	pc/h	1131	pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.5	mi/h
Free-flow speed, FFSd	57.5	mi/h
Adjustment for no-passing zones, fnp	1.1	mi/h
Average travel speed, ATSd	41.0	mi/h
Percent Free Flow Speed, PFFS	71.4	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	844 pc/h	1131 pc/h
Base percent time-spent-following,(note-4) BPTSFd	74.3 %	
Adjustment for no-passing zones, fnp	18.1	
Percent time-spent-following, PTSFd	82.0 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.50	
Peak 15-min vehicle-miles of travel, VMT15	84	veh-mi
Peak-hour vehicle-miles of travel, VMT60	328	veh-mi
Peak 15-min total travel time, TT15	2.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.4	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	41.0	mi/h
Percent time-spent-following, PTSFd (from above)	82.0	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	844.3
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	5.69
Bicycle LOS	F

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	RS
Agency/Co.	Omni Means, a GHD Company
Date Performed	3/1/2018
Analysis Time Period	PM Peak Hour
Highway	G12 - Elkhorn Rd SB
From/To	Werner Rd/Garin Rd
Jurisdiction	Monterey County
Analysis Year	Existing Conditions
Description	G12 Corridor Study

Input Data

Highway class	Class 3		Peak hour factor, PHF	0.97	
Shoulder width	6.0	ft	% Trucks and buses	9	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.4	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	0	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	10	/mi

Analysis direction volume, Vd	1097	veh/h
Opposing direction volume, Vo	819	veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.0		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	1.000		0.991	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	1131	pc/h	852	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.5	mi/h
Free-flow speed, FFSd	57.5	mi/h
Adjustment for no-passing zones, fnp	1.3	mi/h
Average travel speed, ATSd	40.8	mi/h
Percent Free Flow Speed, PFFS	70.9	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	1131 pc/h	844 pc/h
Base percent time-spent-following,(note-4) BPTSFd	79.7 %	
Adjustment for no-passing zones, fnp	18.1	
Percent time-spent-following, PTSFd	90.1 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.67	
Peak 15-min vehicle-miles of travel, VMT15	113	veh-mi
Peak-hour vehicle-miles of travel, VMT60	439	veh-mi
Peak 15-min total travel time, TT15	2.8	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.4	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	40.8	mi/h
Percent time-spent-following, PTSFd (from above)	90.1	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1130.9
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	5.81
Bicycle LOS	F

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	KI3
Agency/Co.	Omni Means, a GHD Company
Date Performed	3/1/2018
Analysis Time Period	PM Peak Hour
Highway	G12 - Hall Rd EB
From/To	Elkhorn Rd/Willow Rd
Jurisdiction	Monterey County
Analysis Year	Existing Conditions
Description	G12 Corridor Study

Input Data

Highway class	Class 3		Peak hour factor, PHF	0.96	
Shoulder width	6.0	ft	% Trucks and buses	5	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.5	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	0	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd	790	veh/h
Opposing direction volume, Vo	987	veh/h

Average Travel Speed

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.995	1.000
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	827 pc/h	1028 pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	5.0	mi/h
Free-flow speed, FFSd	50.0	mi/h
Adjustment for no-passing zones, fnp	1.1	mi/h
Average travel speed, ATSd	34.5	mi/h
Percent Free Flow Speed, PFFS	69.0	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	823 pc/h	1028 pc/h
Base percent time-spent-following,(note-4) BPTSFd	72.7 %	
Adjustment for no-passing zones, fnp	20.4	
Percent time-spent-following, PTSFd	81.8 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.48	
Peak 15-min vehicle-miles of travel, VMT15	103	veh-mi
Peak-hour vehicle-miles of travel, VMT60	395	veh-mi
Peak 15-min total travel time, TT15	3.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.5	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	34.5	mi/h
Percent time-spent-following, PTSFd (from above)	81.8	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	45
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	822.9
Effective width of outside lane, We	24.00
Effective speed factor, St	4.42
Bicycle LOS Score, BLOS	4.11
Bicycle LOS	D

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	RS
Agency/Co.	Omni Means, a GHD Company
Date Performed	3/1/2018
Analysis Time Period	PM Peak Hour
Highway	G12 - Hall Rd WB
From/To	Elkhorn Rd/Willow Rd
Jurisdiction	Monterey County
Analysis Year	Existing Conditions
Description	G12 Corridor Study

Input Data

Highway class	Class 3		Peak hour factor, PHF	0.96	
Shoulder width	6.0	ft	% Trucks and buses	5	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.5	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	0	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd	987	veh/h
Opposing direction volume, Vo	790	veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.0		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	1.000		0.995	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	1028	pc/h	827	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	5.0	mi/h
Free-flow speed, FFSd	50.0	mi/h
Adjustment for no-passing zones, fnp	1.3	mi/h
Average travel speed, ATSd	34.3	mi/h
Percent Free Flow Speed, PFFS	68.7	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	1028 pc/h	823 pc/h
Base percent time-spent-following,(note-4) BPTSFd	76.6 %	
Adjustment for no-passing zones, fnp	20.4	
Percent time-spent-following, PTSFd	87.9 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.60	
Peak 15-min vehicle-miles of travel, VMT15	129	veh-mi
Peak-hour vehicle-miles of travel, VMT60	494	veh-mi
Peak 15-min total travel time, TT15	3.8	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.5	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	34.3	mi/h
Percent time-spent-following, PTSFd (from above)	87.9	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1028.1
Effective width of outside lane, We	24.00
Effective speed factor, St	4.42
Bicycle LOS Score, BLOS	4.22
Bicycle LOS	D

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	RS
Agency/Co.	Omni Means, a GHD Company
Date Performed	3/1/2018
Analysis Time Period	PM Peak Hour
Highway	G12 - Hall Rd EB
From/To	Sill Rd/San Miguel Canyon
Jurisdiction	Monterey County
Analysis Year	Existing Conditions
Description	G12 Corridor Study

Input Data

Highway class	Class 3		Peak hour factor, PHF	0.95	
Shoulder width	6.0	ft	% Trucks and buses	10	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	1.5	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	0	%
Grade: Length	-	mi	% No-passing zones	69	%
Up/down	-	%	Access point density	15	/mi

Analysis direction volume, Vd	714	veh/h
Opposing direction volume, Vo	755	veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.1		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	0.990		0.990	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	759	pc/h	803	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	3.8	mi/h
Free-flow speed, FFSd	56.3	mi/h
Adjustment for no-passing zones, fnp	1.2	mi/h
Average travel speed, ATSd	43.0	mi/h
Percent Free Flow Speed, PFFS	76.4	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	752 pc/h	795 pc/h
Base percent time-spent-following,(note-4) BPTSFd	67.6 %	
Adjustment for no-passing zones, fnp	24.4	
Percent time-spent-following, PTSFd	79.5 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.44	
Peak 15-min vehicle-miles of travel, VMT15	282	veh-mi
Peak-hour vehicle-miles of travel, VMT60	1071	veh-mi
Peak 15-min total travel time, TT15	6.6	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	1.5	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	43.0	mi/h
Percent time-spent-following, PTSFd (from above)	79.5	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	751.6
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	6.00
Bicycle LOS	F

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	RS
Agency/Co.	Omni Means, a GHD Company
Date Performed	3/1/2018
Analysis Time Period	PM Peak Hour
Highway	G12 - Hall Rd WB
From/To	Sill Rd/San Miguel Canyon
Jurisdiction	Monterey County
Analysis Year	Existing Conditions
Description	G12 Corridor Study

Input Data

Highway class	Class 3		Peak hour factor, PHF	0.95	
Shoulder width	6.0	ft	% Trucks and buses	10	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	1.5	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	0	%
Grade: Length	-	mi	% No-passing zones	69	%
Up/down	-	%	Access point density	15	/mi

Analysis direction volume, Vd	755	veh/h
Opposing direction volume, Vo	714	veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.1		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	0.990		0.990	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	803	pc/h	759	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	3.8	mi/h
Free-flow speed, FFSd	56.3	mi/h
Adjustment for no-passing zones, fnp	1.3	mi/h
Average travel speed, ATSd	42.9	mi/h
Percent Free Flow Speed, PFFS	76.2	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	795 pc/h	752 pc/h
Base percent time-spent-following,(note-4) BPTSFd	68.7 %	
Adjustment for no-passing zones, fnp	24.4	
Percent time-spent-following, PTSFd	81.2 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.47	
Peak 15-min vehicle-miles of travel, VMT15	298	veh-mi
Peak-hour vehicle-miles of travel, VMT60	1133	veh-mi
Peak 15-min total travel time, TT15	7.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	1.5	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	42.9	mi/h
Percent time-spent-following, PTSFd (from above)	81.2	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	794.7
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	6.04
Bicycle LOS	F

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	RS
Agency/Co.	Omni Means, a GHD Company
Date Performed	3/1/2018
Analysis Time Period	PM Peak Hour
Highway	G12 - San Miguel Canyon Rd NB
From/To	Apricot Ln/Strawberry Rd
Jurisdiction	Monterey County
Analysis Year	Existing Conditions
Description	G12 Corridor Study

Input Data

Highway class	Class 3		Peak hour factor, PHF	0.94	
Shoulder width	6.0	ft	% Trucks and buses	7	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	1.9	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Rolling		% Recreational vehicles	0	%
Grade: Length	-	mi	% No-passing zones	64	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd	632	veh/h
Opposing direction volume, Vo	719	veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.6		1.5	
PCE for RVs, ER	1.1		1.1	
Heavy-vehicle adj. factor,(note-5) fHV	0.960		0.966	
Grade adj. factor,(note-1) fg	0.98		0.99	
Directional flow rate,(note-2) vi	715	pc/h	800	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	5.0	mi/h
Free-flow speed, FFSd	55.0	mi/h
Adjustment for no-passing zones, fnp	1.1	mi/h
Average travel speed, ATSd	42.1	mi/h
Percent Free Flow Speed, PFFS	76.6	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	0.98	1.00
Directional flow rate,(note-2) vi	686 pc/h	765 pc/h
Base percent time-spent-following,(note-4) BPTSFd	64.3 %	
Adjustment for no-passing zones, fnp	25.4	
Percent time-spent-following, PTSFd	76.3 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.40	
Peak 15-min vehicle-miles of travel, VMT15	319	veh-mi
Peak-hour vehicle-miles of travel, VMT60	1201	veh-mi
Peak 15-min total travel time, TT15	7.6	veh-h
Capacity from ATS, CdATS	1664	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1664	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	1.9	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	42.1	mi/h
Percent time-spent-following, PTSFd (from above)	76.3	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	672.3
Effective width of outside lane, We	24.00
Effective speed factor, St	4.62
Bicycle LOS Score, BLOS	4.72
Bicycle LOS	E

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	RS
Agency/Co.	Omni Means, a GHD Company
Date Performed	3/1/2018
Analysis Time Period	PM Peak Hour
Highway	G12 - San Miguel Canyon Rd SB
From/To	Apricot Ln/Strawberry Rd
Jurisdiction	Monterey County
Analysis Year	Existing Conditions
Description	G12 Corridor Study

Input Data

Highway class	Class 3		Peak hour factor, PHF	0.94	
Shoulder width	6.0	ft	% Trucks and buses	7	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	1.9	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Rolling		% Recreational vehicles	0	%
Grade: Length	-	mi	% No-passing zones	64	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd	719	veh/h
Opposing direction volume, Vo	632	veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.5		1.6	
PCE for RVs, ER	1.1		1.1	
Heavy-vehicle adj. factor,(note-5) fHV	0.966		0.960	
Grade adj. factor,(note-1) fg	0.99		0.98	
Directional flow rate,(note-2) vi	800	pc/h	715	pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	5.0	mi/h
Free-flow speed, FFSd	55.0	mi/h
Adjustment for no-passing zones, fnp	1.3	mi/h
Average travel speed, ATSd	41.9	mi/h
Percent Free Flow Speed, PFFS	76.2	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	0.98
Directional flow rate,(note-2) vi	765 pc/h	686 pc/h
Base percent time-spent-following,(note-4) BPTSFd	66.8 %	
Adjustment for no-passing zones, fnp	25.4	
Percent time-spent-following, PTSFd	80.2 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.46	
Peak 15-min vehicle-miles of travel, VMT15	363	veh-mi
Peak-hour vehicle-miles of travel, VMT60	1366	veh-mi
Peak 15-min total travel time, TT15	8.7	veh-h
Capacity from ATS, CdATS	1664	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1664	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	1.9	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	41.9	mi/h
Percent time-spent-following, PTSFd (from above)	80.2	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	764.9
Effective width of outside lane, We	24.00
Effective speed factor, St	4.62
Bicycle LOS Score, BLOS	4.78
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	KI3
Agency/Co.	Omni Means, a GHD Company
Date Performed	3/1/2018
Analysis Time Period	PM Peak Hour
Highway	G12 - San Miguel Canyon Rd SB
From/To	Garlen Ln/Pond Derosa Ln
Jurisdiction	Monterey County
Analysis Year	Existing Conditions
Description	G12 Corridor Study

Input Data

Highway class	Class 3		Peak hour factor, PHF	0.94	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.3	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	0	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	17	/mi

Analysis direction volume, Vd 769 veh/h
Opposing direction volume, Vo 788 veh/h

Average Travel Speed

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.994	0.994
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	823 pc/h	843 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	4.3	mi/h
Free-flow speed, FFSd	55.8	mi/h
Adjustment for no-passing zones, fnp	1.3	mi/h
Average travel speed, ATSd	41.5	mi/h
Percent Free Flow Speed, PFFS	74.4	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	818 pc/h	838 pc/h
Base percent time-spent-following,(note-4) BPTSFd	70.5 %	
Adjustment for no-passing zones, fnp	24.3	
Percent time-spent-following, PTSFd	82.5 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.48	
Peak 15-min vehicle-miles of travel, VMT15	61	veh-mi
Peak-hour vehicle-miles of travel, VMT60	231	veh-mi
Peak 15-min total travel time, TT15	1.5	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.3	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	41.5	mi/h
Percent time-spent-following, PTSFd (from above)	82.5	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	818.1
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.59
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	RS
Agency/Co.	Omni Means, a GHD Company
Date Performed	3/1/2018
Analysis Time Period	PM Peak Hour
Highway	G12 - San Miguel Canyon Rd NB
From/To	Garlen Ln/Pond Derosa Ln
Jurisdiction	Monterey County
Analysis Year	Existing Conditions
Description	G12 Corridor Study

Input Data

Highway class	Class 3		Peak hour factor, PHF	0.94	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.3	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	0	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	17	/mi

Analysis direction volume, Vd	788	veh/h
Opposing direction volume, Vo	769	veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.1		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	0.994		0.994	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	843	pc/h	823	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	4.3	mi/h
Free-flow speed, FFSd	55.8	mi/h
Adjustment for no-passing zones, fnp	1.4	mi/h
Average travel speed, ATSd	41.5	mi/h
Percent Free Flow Speed, PFFS	74.4	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	838 pc/h	818 pc/h
Base percent time-spent-following,(note-4) BPTSFd	70.6 %	
Adjustment for no-passing zones, fnp	24.3	
Percent time-spent-following, PTSFd	82.9 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.49	
Peak 15-min vehicle-miles of travel, VMT15	63	veh-mi
Peak-hour vehicle-miles of travel, VMT60	236	veh-mi
Peak 15-min total travel time, TT15	1.5	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.3	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	41.5	mi/h
Percent time-spent-following, PTSFd (from above)	82.9	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	838.3
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.62
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	RS
Agency/Co.	GHD Inc.
Date Performed	3/13/2019
Analysis Time Period	AM Peak Hour
Highway	G12 - Elkhorn Rd NB
From/To	Werner Rd/Garin Rd
Jurisdiction	Monterey County
Analysis Year	2040 Conditions
Description	G12 Corridor Study

Input Data

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	9	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.4	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	0	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	10	/mi

Analysis direction volume, Vd 1222 veh/h
Opposing direction volume, Vo 629 veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.0		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	1.000		0.991	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	1328	pc/h	690	pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.5	mi/h
Free-flow speed, FFSd	57.5	mi/h
Adjustment for no-passing zones, fnp	1.7	mi/h
Average travel speed, ATSd	40.1	mi/h
Percent Free Flow Speed, PFFS	69.8	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	1328 pc/h	684 pc/h
Base percent time-spent-following,(note-4) BPTSFd	82.9 %	
Adjustment for no-passing zones, fnp	15.6	
Percent time-spent-following, PTSFd	93.2 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.78	
Peak 15-min vehicle-miles of travel, VMT15	133	veh-mi
Peak-hour vehicle-miles of travel, VMT60	489	veh-mi
Peak 15-min total travel time, TT15	3.3	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.4	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	40.1	mi/h
Percent time-spent-following, PTSFd (from above)	93.2	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1328.3
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	5.89
Bicycle LOS	F

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	RS
Agency/Co.	GHD Inc.
Date Performed	3/13/2019
Analysis Time Period	AM Peak Hour
Highway	G12 - Elkhorn Rd SB
From/To	Werner Rd/Garin Rd
Jurisdiction	Monterey County
Analysis Year	2040 Conditions
Description	G12 Corridor Study

Input Data

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	9	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.4	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	0	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	10	/mi

Analysis direction volume, Vd 629 veh/h
Opposing direction volume, Vo 1222 veh/h

Average Travel Speed

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.991	1.000
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	690 pc/h	1328 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.5	mi/h
Free-flow speed, FFSd	57.5	mi/h
Adjustment for no-passing zones, fnp	1.0	mi/h
Average travel speed, ATSd	40.9	mi/h
Percent Free Flow Speed, PFFS	71.1	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	684 pc/h	1328 pc/h
Base percent time-spent-following,(note-4) BPTSFd	70.5 %	
Adjustment for no-passing zones, fnp	15.6	
Percent time-spent-following, PTSFd	75.8 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.40	
Peak 15-min vehicle-miles of travel, VMT15	68	veh-mi
Peak-hour vehicle-miles of travel, VMT60	252	veh-mi
Peak 15-min total travel time, TT15	1.7	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.4	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	40.9	mi/h
Percent time-spent-following, PTSFd (from above)	75.8	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	683.7
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	5.53
Bicycle LOS	F

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	RS
Agency/Co.	GHD Inc.
Date Performed	3/13/2019
Analysis Time Period	AM Peak Hour
Highway	G12 - Hall Rd EB
From/To	Elkhorn Rd/Willow Rd
Jurisdiction	Monterey County
Analysis Year	2040 Conditions
Description	G12 Corridor Study

Input Data

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.5	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	0	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 612 veh/h
Opposing direction volume, Vo 1191 veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.1		1.0	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	0.994		1.000	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	669	pc/h	1295	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	5.0	mi/h
Free-flow speed, FFSd	50.0	mi/h
Adjustment for no-passing zones, fnp	0.9	mi/h
Average travel speed, ATSd	33.9	mi/h
Percent Free Flow Speed, PFFS	67.7	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	665 pc/h	1295 pc/h
Base percent time-spent-following,(note-4) BPTSFd	69.2 %	
Adjustment for no-passing zones, fnp	16.2	
Percent time-spent-following, PTSFd	74.7 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.39	
Peak 15-min vehicle-miles of travel, VMT15	83	veh-mi
Peak-hour vehicle-miles of travel, VMT60	306	veh-mi
Peak 15-min total travel time, TT15	2.5	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.5	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	33.9	mi/h
Percent time-spent-following, PTSFd (from above)	74.7	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	45
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	665.2
Effective width of outside lane, We	24.00
Effective speed factor, St	4.42
Bicycle LOS Score, BLOS	4.28
Bicycle LOS	D

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	RS
Agency/Co.	GHD Inc.
Date Performed	3/13/2019
Analysis Time Period	AM Peak Hour
Highway	G12 - Hall Rd WB
From/To	Elkhorn Rd/Willow Rd
Jurisdiction	Monterey County
Analysis Year	2040 Conditions
Description	G12 Corridor Study

Input Data

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.5	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	0	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd	1191	veh/h
Opposing direction volume, Vo	612	veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.0		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	1.000		0.994	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	1295	pc/h	669	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	5.0	mi/h
Free-flow speed, FFSd	50.0	mi/h
Adjustment for no-passing zones, fnp	1.7	mi/h
Average travel speed, ATSd	33.1	mi/h
Percent Free Flow Speed, PFFS	66.1	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	1295 pc/h	665 pc/h
Base percent time-spent-following,(note-4) BPTSFd	82.3 %	
Adjustment for no-passing zones, fnp	16.2	
Percent time-spent-following, PTSFd	93.0 %	

Level of Service and Other Performance Measures

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.76	
Peak 15-min vehicle-miles of travel, VMT15	162	veh-mi
Peak-hour vehicle-miles of travel, VMT60	596	veh-mi
Peak 15-min total travel time, TT15	4.9	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.5	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	33.1	mi/h
Percent time-spent-following, PTSFd (from above)	93.0	
Level of service, LOSd (from above)	E	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	45
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1294.6
Effective width of outside lane, We	24.00
Effective speed factor, St	4.42
Bicycle LOS Score, BLOS	4.62
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	RS
Agency/Co.	GHD Inc.
Date Performed	3/13/2019
Analysis Time Period	AM Peak Hour
Highway	G12 - Hall Rd EB
From/To	Sill Rd/San Miguel Canyon
Jurisdiction	Monterey County
Analysis Year	2040 Conditions
Description	G12 Corridor Study

Input Data

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	9	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	1.5	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	0	%
Grade: Length	-	mi	% No-passing zones	69	%
Up/down	-	%	Access point density	15	/mi

Analysis direction volume, Vd 633 veh/h
Opposing direction volume, Vo 781 veh/h

Average Travel Speed

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.991	0.991
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	694 pc/h	857 pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	3.8	mi/h
Free-flow speed, FFSd	56.3	mi/h
Adjustment for no-passing zones, fnp	1.1	mi/h
Average travel speed, ATSd	43.1	mi/h
Percent Free Flow Speed, PFFS	76.7	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	688 pc/h	849 pc/h
Base percent time-spent-following,(note-4) BPTSFd	65.2 %	
Adjustment for no-passing zones, fnp	24.2	
Percent time-spent-following, PTSFd	76.0 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.40	
Peak 15-min vehicle-miles of travel, VMT15	258	veh-mi
Peak-hour vehicle-miles of travel, VMT60	950	veh-mi
Peak 15-min total travel time, TT15	6.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	1.5	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	43.1	mi/h
Percent time-spent-following, PTSFd (from above)	76.0	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	688.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	5.56
Bicycle LOS	F

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	RS
Agency/Co.	GHD Inc
Date Performed	3/13/2019
Analysis Time Period	AM Peak Hour
Highway	G12 - Hall Rd WB
From/To	Sill Rd/San Miguel Canyon
Jurisdiction	Monterey County
Analysis Year	2040 Conditions
Description	G12 Corridor Study

Input Data

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	9	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	1.5	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	0	%
Grade: Length	-	mi	% No-passing zones	69	%
Up/down	-	%	Access point density	15	/mi

Analysis direction volume, Vd 781 veh/h
Opposing direction volume, Vo 633 veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.1		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	0.991		0.991	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	857	pc/h	694	pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	3.8	mi/h
Free-flow speed, FFSd	56.3	mi/h
Adjustment for no-passing zones, fnp	1.4	mi/h
Average travel speed, ATSd	42.8	mi/h
Percent Free Flow Speed, PFFS	76.0	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	849 pc/h	688 pc/h
Base percent time-spent-following,(note-4) BPTSFd	70.0 %	
Adjustment for no-passing zones, fnp	24.2	
Percent time-spent-following, PTSFd	83.4 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.50	
Peak 15-min vehicle-miles of travel, VMT15	318	veh-mi
Peak-hour vehicle-miles of travel, VMT60	1172	veh-mi
Peak 15-min total travel time, TT15	7.4	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	1.5	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	42.8	mi/h
Percent time-spent-following, PTSFd (from above)	83.4	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	848.9
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	5.67
Bicycle LOS	F

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	RS
Agency/Co.	GHD
Date Performed	3/13/2019
Analysis Time Period	AM Peak Hour
Highway	G12 - San Miguel Canyon Rd NB
From/To	Apricot Ln/Strawberry Rd
Jurisdiction	Monterey County
Analysis Year	2040 Conditions
Description	G12 Corridor Study

Input Data

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	9	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	1.9	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Rolling		% Recreational vehicles	0	%
Grade: Length	-	mi	% No-passing zones	64	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 742 veh/h
Opposing direction volume, Vo 590 veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.4		1.7	
PCE for RVs, ER	1.1		1.1	
Heavy-vehicle adj. factor,(note-5) fHV	0.965		0.941	
Grade adj. factor,(note-1) fg	0.99		0.97	
Directional flow rate,(note-2) vi	844	pc/h	703	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	5.0	mi/h
Free-flow speed, FFSd	55.0	mi/h
Adjustment for no-passing zones, fnp	1.4	mi/h
Average travel speed, ATSd	41.6	mi/h
Percent Free Flow Speed, PFFS	75.7	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	0.98
Directional flow rate,(note-2) vi	807 pc/h	654 pc/h
Base percent time-spent-following,(note-4) BPTSFd	68.0 %	
Adjustment for no-passing zones, fnp	25.0	
Percent time-spent-following, PTSFd	81.8 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.49	
Peak 15-min vehicle-miles of travel, VMT15	383	veh-mi
Peak-hour vehicle-miles of travel, VMT60	1410	veh-mi
Peak 15-min total travel time, TT15	9.2	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1656	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	1.9	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	41.6	mi/h
Percent time-spent-following, PTSFd (from above)	81.8	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	50
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	806.5
Effective width of outside lane, We	24.00
Effective speed factor, St	4.62
Bicycle LOS Score, BLOS	5.51
Bicycle LOS	F

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	RS
Agency/Co.	GHD Inc.
Date Performed	3/13/2019
Analysis Time Period	AM Peak Hour
Highway	G12 - San Miguel Canyon Rd SB
From/To	Apricot Ln/Strawberry Rd
Jurisdiction	Monterey County
Analysis Year	2040 Conditions
Description	G12 Corridor Study

Input Data

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	9	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	1.9	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Rolling		% Recreational vehicles	0	%
Grade: Length	-	mi	% No-passing zones	64	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd	590	veh/h
Opposing direction volume, Vo	742	veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.7		1.4	
PCE for RVs, ER	1.1		1.1	
Heavy-vehicle adj. factor,(note-5) fHV	0.941		0.965	
Grade adj. factor,(note-1) fg	0.97		0.99	
Directional flow rate,(note-2) vi	703	pc/h	844	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	5.0	mi/h
Free-flow speed, FFSd	55.0	mi/h
Adjustment for no-passing zones, fnp	1.1	mi/h
Average travel speed, ATSd	41.9	mi/h
Percent Free Flow Speed, PFFS	76.3	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	0.98	1.00
Directional flow rate,(note-2) vi	654 pc/h	807 pc/h
Base percent time-spent-following,(note-4) BPTSFd	63.1 %	
Adjustment for no-passing zones, fnp	25.0	
Percent time-spent-following, PTSFd	74.3 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.39	
Peak 15-min vehicle-miles of travel, VMT15	305	veh-mi
Peak-hour vehicle-miles of travel, VMT60	1121	veh-mi
Peak 15-min total travel time, TT15	7.3	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1656	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	1.9	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	41.9	mi/h
Percent time-spent-following, PTSFd (from above)	74.3	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	50
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	641.3
Effective width of outside lane, We	24.00
Effective speed factor, St	4.62
Bicycle LOS Score, BLOS	5.40
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	RS
Agency/Co.	GHD Inc.
Date Performed	3/13/2019
Analysis Time Period	AM Peak Hour
Highway	G12 - San Miguel Canyon Rd NB
From/To	Garlen Ln/Pond Derosa Ln
Jurisdiction	Monterey County
Analysis Year	2040 Conditions
Description	G12 Corridor Study

Input Data

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	7	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.3	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	0	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	17	/mi

Analysis direction volume, Vd	811	veh/h
Opposing direction volume, Vo	839	veh/h

Average Travel Speed

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	1.000	1.000
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	882 pc/h	912 pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	4.3	mi/h
Free-flow speed, FFSd	55.8	mi/h
Adjustment for no-passing zones, fnp	1.2	mi/h
Average travel speed, ATSd	40.6	mi/h
Percent Free Flow Speed, PFFS	72.8	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	882 pc/h	912 pc/h
Base percent time-spent-following,(note-4) BPTSFd	73.2 %	
Adjustment for no-passing zones, fnp	22.0	
Percent time-spent-following, PTSFd	84.0 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.52	
Peak 15-min vehicle-miles of travel, VMT15	66	veh-mi
Peak-hour vehicle-miles of travel, VMT60	243	veh-mi
Peak 15-min total travel time, TT15	1.6	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.3	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	40.6	mi/h
Percent time-spent-following, PTSFd (from above)	84.0	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	881.5
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.96
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	RS
Agency/Co.	GHD Inc.
Date Performed	3/13/2019
Analysis Time Period	AM Peak Hour
Highway	G12 - San Miguel Canyon Rd SB
From/To	Garlen Ln/Pond Derosa Ln
Jurisdiction	Monterey County
Analysis Year	2040 Conditions
Description	G12 Corridor Study

Input Data

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	7	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.3	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	0	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	17	/mi

Analysis direction volume, Vd 839 veh/h
Opposing direction volume, Vo 811 veh/h

Average Travel Speed

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	1.000	1.000
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	912 pc/h	882 pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	4.3	mi/h
Free-flow speed, FFSd	55.8	mi/h
Adjustment for no-passing zones, fnp	1.3	mi/h
Average travel speed, ATSd	40.5	mi/h
Percent Free Flow Speed, PFFS	72.7	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	912 pc/h	882 pc/h
Base percent time-spent-following,(note-4) BPTSFd	74.2 %	
Adjustment for no-passing zones, fnp	22.0	
Percent time-spent-following, PTSFd	85.4 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.54	
Peak 15-min vehicle-miles of travel, VMT15	68	veh-mi
Peak-hour vehicle-miles of travel, VMT60	252	veh-mi
Peak 15-min total travel time, TT15	1.7	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.3	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	40.5	mi/h
Percent time-spent-following, PTSFd (from above)	85.4	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	912.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.98
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	RS
Agency/Co.	GHD Inc.
Date Performed	3/13/2019
Analysis Time Period	PM Peak Hour
Highway	G12 - Elkhorn Rd NB
From/To	Werner Rd/Garin Rd
Jurisdiction	Monterey County
Analysis Year	2040 Conditions
Description	G12 Corridor Study

Input Data

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	9	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.4	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	0	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	10	/mi

Analysis direction volume, Vd 848 veh/h
Opposing direction volume, Vo 1136 veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.0		1.0	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	1.000		1.000	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	922	pc/h	1235	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.5	mi/h
Free-flow speed, FFSd	57.5	mi/h
Adjustment for no-passing zones, fnp	1.0	mi/h
Average travel speed, ATSd	39.7	mi/h
Percent Free Flow Speed, PFFS	69.1	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	922 pc/h	1235 pc/h
Base percent time-spent-following,(note-4) BPTSFd	78.2 %	
Adjustment for no-passing zones, fnp	15.8	
Percent time-spent-following, PTSFd	85.0 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.54	
Peak 15-min vehicle-miles of travel, VMT15	92	veh-mi
Peak-hour vehicle-miles of travel, VMT60	339	veh-mi
Peak 15-min total travel time, TT15	2.3	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.4	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	39.7	mi/h
Percent time-spent-following, PTSFd (from above)	85.0	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	921.7
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	5.71
Bicycle LOS	F

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	RS
Agency/Co.	GHD Inc.
Date Performed	3/13/2019
Analysis Time Period	PM Peak Hour
Highway	G12 - Elkhorn Rd SB
From/To	Werner Rd/Garin Rd
Jurisdiction	Monterey County
Analysis Year	2040 Conditions
Description	G12 Corridor Study

Input Data

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	9	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.4	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	0	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	10	/mi

Analysis direction volume, Vd	1136	veh/h
Opposing direction volume, Vo	848	veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.0		1.0	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	1.000		1.000	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	1235	pc/h	922	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.5	mi/h
Free-flow speed, FFSd	57.5	mi/h
Adjustment for no-passing zones, fnp	1.2	mi/h
Average travel speed, ATSd	39.5	mi/h
Percent Free Flow Speed, PFFS	68.7	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	1235 pc/h	922 pc/h
Base percent time-spent-following,(note-4) BPTSFd	82.5 %	
Adjustment for no-passing zones, fnp	15.8	
Percent time-spent-following, PTSFd	91.5 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.73	
Peak 15-min vehicle-miles of travel, VMT15	123	veh-mi
Peak-hour vehicle-miles of travel, VMT60	454	veh-mi
Peak 15-min total travel time, TT15	3.1	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.4	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	39.5	mi/h
Percent time-spent-following, PTSFd (from above)	91.5	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1234.8
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	5.86
Bicycle LOS	F

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	RS
Agency/Co.	GHD Inc.
Date Performed	3/13/2019
Analysis Time Period	PM Peak Hour
Highway	G12 - Hall Rd EB
From/To	Elkhorn Rd/Willow Rd
Jurisdiction	Monterey County
Analysis Year	2040 Conditions
Description	G12 Corridor Study

Input Data

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	5	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.5	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	0	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 818 veh/h
Opposing direction volume, Vo 1023 veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.0		1.0	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	1.000		1.000	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	889	pc/h	1112	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	5.0	mi/h
Free-flow speed, FFSd	50.0	mi/h
Adjustment for no-passing zones, fnp	1.0	mi/h
Average travel speed, ATSd	33.4	mi/h
Percent Free Flow Speed, PFFS	66.9	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	889 pc/h	1112 pc/h
Base percent time-spent-following,(note-4) BPTSFd	76.0 %	
Adjustment for no-passing zones, fnp	18.0	
Percent time-spent-following, PTSFd	84.0 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.52	
Peak 15-min vehicle-miles of travel, VMT15	111	veh-mi
Peak-hour vehicle-miles of travel, VMT60	409	veh-mi
Peak 15-min total travel time, TT15	3.3	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.5	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	33.4	mi/h
Percent time-spent-following, PTSFd (from above)	84.0	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	45
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	889.1
Effective width of outside lane, We	24.00
Effective speed factor, St	4.42
Bicycle LOS Score, BLOS	4.14
Bicycle LOS	D

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	RS
Agency/Co.	GHD Inc.
Date Performed	3/13/2019
Analysis Time Period	PM Peak Hour
Highway	G12 - Hall Rd WB
From/To	Elkhorn Rd/Willow Rd
Jurisdiction	Monterey County
Analysis Year	2040 Conditions
Description	G12 Corridor Study

Input Data

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	5	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.5	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	0	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 1023 veh/h
Opposing direction volume, Vo 818 veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.0		1.0	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	1.000		1.000	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	1112	pc/h	889	pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	5.0	mi/h
Free-flow speed, FFSd	50.0	mi/h
Adjustment for no-passing zones, fnp	1.2	mi/h
Average travel speed, ATSd	33.3	mi/h
Percent Free Flow Speed, PFFS	66.5	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	1112 pc/h	889 pc/h
Base percent time-spent-following,(note-4) BPTSFd	79.8 %	
Adjustment for no-passing zones, fnp	18.0	
Percent time-spent-following, PTSFd	89.8 %	

Level of Service and Other Performance Measures

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.65	
Peak 15-min vehicle-miles of travel, VMT15	139	veh-mi
Peak-hour vehicle-miles of travel, VMT60	512	veh-mi
Peak 15-min total travel time, TT15	4.2	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.5	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	33.3	mi/h
Percent time-spent-following, PTSFd (from above)	89.8	
Level of service, LOSd (from above)	E	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	45
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1112.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.42
Bicycle LOS Score, BLOS	4.26
Bicycle LOS	D

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	RS
Agency/Co.	GHD Inc.
Date Performed	3/13/2019
Analysis Time Period	PM Peak Hour
Highway	G12 - Hall Rd EB
From/To	Sill Rd/San Miguel Canyon
Jurisdiction	Monterey County
Analysis Year	2040 Conditions
Description	G12 Corridor Study

Input Data

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	10	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	1.5	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	0	%
Grade: Length	-	mi	% No-passing zones	69	%
Up/down	-	%	Access point density	15	/mi

Analysis direction volume, Vd 740 veh/h
Opposing direction volume, Vo 782 veh/h

Average Travel Speed

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.990	0.990
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	812 pc/h	859 pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	3.8	mi/h
Free-flow speed, FFSd	56.3	mi/h
Adjustment for no-passing zones, fnp	1.1	mi/h
Average travel speed, ATSd	42.2	mi/h
Percent Free Flow Speed, PFFS	75.0	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	804 pc/h	850 pc/h
Base percent time-spent-following,(note-4) BPTSFd	69.9 %	
Adjustment for no-passing zones, fnp	22.8	
Percent time-spent-following, PTSFd	81.0 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.47	
Peak 15-min vehicle-miles of travel, VMT15	302	veh-mi
Peak-hour vehicle-miles of travel, VMT60	1110	veh-mi
Peak 15-min total travel time, TT15	7.2	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	1.5	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	42.2	mi/h
Percent time-spent-following, PTSFd (from above)	81.0	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	804.3
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	6.04
Bicycle LOS	F

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	RS
Agency/Co.	GHD Inc.
Date Performed	3/13/2019
Analysis Time Period	PM Peak Hour
Highway	G12 - Hall Rd WB
From/To	Sill Rd/San Miguel Canyon
Jurisdiction	Monterey County
Analysis Year	2040 Conditions
Description	G12 Corridor Study

Input Data

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	10	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	1.5	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	0	%
Grade: Length	-	mi	% No-passing zones	69	%
Up/down	-	%	Access point density	15	/mi

Analysis direction volume, Vd 782 veh/h
Opposing direction volume, Vo 740 veh/h

Average Travel Speed

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.990	0.990
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	859 pc/h	812 pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	3.8	mi/h
Free-flow speed, FFSd	56.3	mi/h
Adjustment for no-passing zones, fnp	1.1	mi/h
Average travel speed, ATSd	42.1	mi/h
Percent Free Flow Speed, PFFS	74.9	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	850 pc/h	804 pc/h
Base percent time-spent-following,(note-4) BPTSFd	71.1 %	
Adjustment for no-passing zones, fnp	22.8	
Percent time-spent-following, PTSFd	82.8 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.50	
Peak 15-min vehicle-miles of travel, VMT15	319	veh-mi
Peak-hour vehicle-miles of travel, VMT60	1173	veh-mi
Peak 15-min total travel time, TT15	7.6	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	1.5	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	42.1	mi/h
Percent time-spent-following, PTSFd (from above)	82.8	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	850.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	6.05
Bicycle LOS	F

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	RS
Agency/Co.	GHD Inc.
Date Performed	3/13/2019
Analysis Time Period	PM Peak Hour
Highway	G12 - San Miguel Canyon Rd NB
From/To	Apricot Ln/Strawberry Rd
Jurisdiction	Monterey County
Analysis Year	2040 Conditions
Description	G12 Corridor Study

Input Data

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	7	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	1.9	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Rolling		% Recreational vehicles	0	%
Grade: Length	-	mi	% No-passing zones	64	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd	683	veh/h
Opposing direction volume, Vo	777	veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.5		1.4	
PCE for RVs, ER	1.1		1.1	
Heavy-vehicle adj. factor,(note-5) fHV	0.966		0.973	
Grade adj. factor,(note-1) fg	0.98		0.99	
Directional flow rate,(note-2) vi	784	pc/h	877	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	5.0	mi/h
Free-flow speed, FFSd	55.0	mi/h
Adjustment for no-passing zones, fnp	1.0	mi/h
Average travel speed, ATSd	41.1	mi/h
Percent Free Flow Speed, PFFS	74.7	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	0.99	1.00
Directional flow rate,(note-2) vi	750 pc/h	845 pc/h
Base percent time-spent-following,(note-4) BPTSFd	67.8 %	
Adjustment for no-passing zones, fnp	23.2	
Percent time-spent-following, PTSFd	78.7 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.45	
Peak 15-min vehicle-miles of travel, VMT15	353	veh-mi
Peak-hour vehicle-miles of travel, VMT60	1298	veh-mi
Peak 15-min total travel time, TT15	8.6	veh-h
Capacity from ATS, CdATS	1664	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1664	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	1.9	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	41.1	mi/h
Percent time-spent-following, PTSFd (from above)	78.7	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	50
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	742.4
Effective width of outside lane, We	24.00
Effective speed factor, St	4.62
Bicycle LOS Score, BLOS	4.77
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	RS
Agency/Co.	GHD Inc.
Date Performed	3/13/2019
Analysis Time Period	PM Peak Hour
Highway	G12 - San Miguel Canyon Rd SB
From/To	Apricot Ln/Strawberry Rd
Jurisdiction	Monterey County
Analysis Year	2040 Conditions
Description	G12 Corridor Study

Input Data

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	7	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	1.9	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Rolling		% Recreational vehicles	0	%
Grade: Length	-	mi	% No-passing zones	64	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd	777	veh/h
Opposing direction volume, Vo	683	veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.4		1.5	
PCE for RVs, ER	1.1		1.1	
Heavy-vehicle adj. factor,(note-5) fHV	0.973		0.966	
Grade adj. factor,(note-1) fg	0.99		0.98	
Directional flow rate,(note-2) vi	877	pc/h	784	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	5.0	mi/h
Free-flow speed, FFSd	55.0	mi/h
Adjustment for no-passing zones, fnp	1.2	mi/h
Average travel speed, ATSd	40.9	mi/h
Percent Free Flow Speed, PFFS	74.5	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	0.99
Directional flow rate,(note-2) vi	845 pc/h	750 pc/h
Base percent time-spent-following,(note-4) BPTSFd	70.6 %	
Adjustment for no-passing zones, fnp	23.2	
Percent time-spent-following, PTSFd	82.9 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.51	
Peak 15-min vehicle-miles of travel, VMT15	401	veh-mi
Peak-hour vehicle-miles of travel, VMT60	1476	veh-mi
Peak 15-min total travel time, TT15	9.8	veh-h
Capacity from ATS, CdATS	1664	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1664	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	1.9	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	40.9	mi/h
Percent time-spent-following, PTSFd (from above)	82.9	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	50
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	844.6
Effective width of outside lane, We	24.00
Effective speed factor, St	4.62
Bicycle LOS Score, BLOS	4.83
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	RS
Agency/Co.	GHD Inc.
Date Performed	3/13/2019
Analysis Time Period	PM Peak Hour
Highway	G12 - San Miguel Canyon Rd NB
From/To	Garlen Ln/Pond Derosa Ln
Jurisdiction	Monterey County
Analysis Year	2040 Conditions
Description	G12 Corridor Study

Input Data

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.3	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	0	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	17	/mi

Analysis direction volume, Vd 831 veh/h
Opposing direction volume, Vo 851 veh/h

Average Travel Speed

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	1.000	1.000
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	903 pc/h	925 pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	4.3	mi/h
Free-flow speed, FFSd	55.8	mi/h
Adjustment for no-passing zones, fnp	1.2	mi/h
Average travel speed, ATSd	40.3	mi/h
Percent Free Flow Speed, PFFS	72.4	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	903 pc/h	925 pc/h
Base percent time-spent-following,(note-4) BPTSFd	73.9 %	
Adjustment for no-passing zones, fnp	21.5	
Percent time-spent-following, PTSFd	84.5 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.53	
Peak 15-min vehicle-miles of travel, VMT15	68	veh-mi
Peak-hour vehicle-miles of travel, VMT60	249	veh-mi
Peak 15-min total travel time, TT15	1.7	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.3	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	40.3	mi/h
Percent time-spent-following, PTSFd (from above)	84.5	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	903.3
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.64
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	RS
Agency/Co.	GHD Inc.
Date Performed	3/13/2019
Analysis Time Period	PM Peak Hour
Highway	G12 - San Miguel Canyon Rd SB
From/To	Garlen Ln/Pond Derosa Ln
Jurisdiction	Monterey County
Analysis Year	2040 Conditions
Description	G12 Corridor Study

Input Data

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.3	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	0	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	17	/mi

Analysis direction volume, Vd 851 veh/h
Opposing direction volume, Vo 831 veh/h

Average Travel Speed

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	1.000	1.000
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	925 pc/h	903 pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	4.3	mi/h
Free-flow speed, FFSd	55.8	mi/h
Adjustment for no-passing zones, fnp	1.3	mi/h
Average travel speed, ATSd	40.3	mi/h
Percent Free Flow Speed, PFFS	72.3	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	925 pc/h	903 pc/h
Base percent time-spent-following,(note-4) BPTSFd	74.6 %	
Adjustment for no-passing zones, fnp	21.5	
Percent time-spent-following, PTSFd	85.5 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.54	
Peak 15-min vehicle-miles of travel, VMT15	69	veh-mi
Peak-hour vehicle-miles of travel, VMT60	255	veh-mi
Peak 15-min total travel time, TT15	1.7	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.3	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	40.3	mi/h
Percent time-spent-following, PTSFd (from above)	85.5	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	925.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.64
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
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