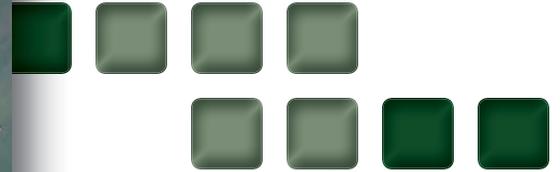




Final Transportation Impact Analysis Report
VALERO BENICIA REFINERY
CRUDE BY RAIL PROJECT



Prepared for:

Valero Refining Company — CA
ERM

October 2013

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WC13-3005

FEHR  PEERS

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1.0 INTRODUCTION

1.1 BACKGROUND

The Valero Refinery is located on 880 acres north of the Carquinez Strait in the City of Benicia, California. The refinery was built in 1968 and has undergone significant modifications and upgrades to become one of the most complex refineries in the United States. The refinery processes domestic crude from the San Joaquin Valley in California and the Alaskan North Slope, along with foreign crudes. The refinery has a feedstock throughput capacity of 170,000 barrels per day and employs approximately 480 people. Crude oil deliveries currently arrive by pipeline and marine vessels. A regional vicinity map of the refinery is provided on **Figure 1-1**. This report documents the most recent version of the transportation impact analysis conducted for the proposed Project.

1.2 PROJECT DESCRIPTION

The proposed Valero Benicia Refinery Crude by Rail Project would ship crude oil from North American sources by rail into the refinery. The Project would expand the proportion of crude oil delivered to the refinery by railcar, to up to 70,000 barrels per day, but would not increase the total volume of crude oil delivered to the refinery because train deliveries would replace ship deliveries. Railcar deliveries would use an existing Union Pacific Railroad (UPRR) track to access the refinery, crossing the existing at-grade railroad crossing at Park Road, just east of the intersection of Park Road/Bayshore Road. The deliveries would arrive at the refinery each day and in trains up to 50 railcars in length per delivery. Up to two railcar deliveries are expected per day, totaling approximately 100 railcars. The Project would not increase the number of employees at the refinery.

A typical rail car handling scenario is described below:

1. UPRR-operated locomotives would haul up to 100 crude oil railcars (in two trains of up to 50 cars) a day from the UPRR Roseville rail yard to the Refinery. Each railcar is nominally 60 feet long, with a capacity of approximately 700 barrels and a maximum estimated load of 211,600 pounds.
2. For each delivery, UPRR-operated locomotives would haul in a full 50-railcar train crossing Park Road on Track 700 and then travel on Track 732 to the unloading rack. Twenty-five rail cars would be spotted on each unloading track located on each side of the unloading rack. UPRR would leave its locomotives attached to each 25-rail-car train.



3. The Refinery would unload the delivered rail cars.
4. After the rail cars are emptied, the empty rail cars would be moved onto the “departure” spur on Refinery property adjacent to the unloading rack, to assemble a 50-railcar train.
5. The empty 50-railcar train on the departure spur would be moved onto Track 700, across Park Road, and transported off site by a UPRR operator.

Steps 2 through 5 above would take approximately 8 to 10 hours for 50 rail cars. The proposed Project would result in four 50-car train crossings of Park Road per day (two trips into the Refinery and two trips out). UPRR would deliver one full 50-car train and pull out an empty 50-car train between the hours of 8:00 PM and 5:00 AM. A second 50-car train would either be delivered and empty 50-car train pulled out during this time period or during the non-peak daytime hours (avoiding 6:00 AM to 9:00 AM, 12:00 PM to 1:00 PM, and 4:00 PM to 6:00 PM). A train with 200 feet of locomotive and 50 railcars in length would take about 7.3 minutes to cross Park Road at a speed of 5 mph. The at-grade crossing traffic controls provide a 30-second buffer time before and after each train crossing on Park Road. Each 50-railcar train movement is estimated to block traffic on Park Road for approximately 8.3 minutes. Operations would occur 24 hours per day/7 days per week/365 days per year.

1.3 STUDY PURPOSE

The purpose of this study is to evaluate potential impacts to local roadways and intersections with implementation of the Project. The study of anticipated impacts to the transportation system was undertaken to maintain compliance with California Environmental Quality Act (CEQA) requirements and to assist in identifying additional traffic controls or mitigation that may be needed to reduce potential impacts from Project activities to levels of insignificance. This study focuses on the potential transportation impacts of the increased rail crossings on the local transportation network under existing and cumulative conditions.





Figure 1-1.

Regional Vicinity

WC13-3005_1-1_RegVic



1.4 STUDY AREA

The five intersections listed below and shown on **Figure 1-2** are the most likely to be affected by increased vehicle queues that could form at intersections during train crossings, and were thus selected for analysis.

1. Park Road / Bayshore Road
2. Interstate 680 (I-680) Southbound On-Ramp / Bayshore Road
3. I-680 Northbound Off-Ramp / Bayshore Road
4. Park Road / Bay Vista Court
5. Park Road / Valero Refinery Entrance

The I-680 ramp-terminal intersections listed above fall under the jurisdiction of Caltrans; all other intersections fall under the jurisdiction of the City of Benicia.

Freeway operations along segments of I-680 and I-780 within the study area were not analyzed as part of this study. Generally, a freeway analysis is undertaken if a project would increase peak hour trips in the peak direction by more than three percent. The Project would not generate new vehicle trips, and therefore would not increase peak hour trips on freeways in the study area.

1.5 ANALYSIS SCENARIOS

Study intersection operations were evaluated for the following scenarios:

Scenario 1: Existing Conditions – Evaluates intersection operations based on traffic counts collected in January and September 2013 and observed intersection lane configurations and traffic control devices. Existing rail operations were also documented for a 7-day period in April.

Scenario 2: Existing Plus Project Conditions – Evaluates intersection operations based on traffic counts collected in January and September 2013 and assuming rail deliveries of up to 50 railcars in length utilizing the Park Road at-grade railroad crossing.

Scenario 3: Cumulative No Project Conditions – Cumulative No Project traffic forecasts were developed to reflect year 2035 conditions. The analysis assumes the same intersection lane configurations and traffic control devices as Existing conditions.





Figure 1-2.

Study Area

WC13-3005_1-2_StudyArea

Scenario 4: Cumulative Plus Project Conditions – Evaluates intersection operations based on year 2035 forecast estimates developed under Scenario 3 and assuming rail deliveries of up to 50 railcars in length utilizing the Park Road at-grade railroad crossing.

1.6 ANALYSIS METHODS

The operations of roadway facilities are described with the term “level of service” (LOS). LOS is a qualitative description of traffic flow from a vehicle driver’s perspective based on factors such as speed, travel time, delay, and freedom to maneuver. Six levels of service are defined ranging from LOS A (best operating conditions) to LOS F (worst operating conditions). LOS E corresponds to operations “at capacity.” When volumes exceed capacity, stop-and-go conditions result and operations are designated as LOS F.

1.6.1 UNSIGNALIZED INTERSECTIONS

For unsignalized (all-way stop-controlled and side-street stop-controlled) intersections, the Transportation Research Board’s 2000 *Highway Capacity Manual* (HCM) method for unsignalized intersections was used. With this method, operations are defined by the average control delay per vehicle (measured in seconds). The control delay incorporates delay associated with deceleration, acceleration, stopping, and moving up in queue. **Table 1-1** summarizes the relationship between delay and LOS for unsignalized intersections. At side-street stop-controlled intersections, the delay is calculated for each stop-controlled movement, the left-turn movement from the major street, as well as the intersection average. The intersection average delay and highest movement/approach delay are reported for side-street stop-controlled intersections.



**TABLE 1-1
 UNSIGNALIZED INTERSECTION LOS CRITERIA**

Level of Service	Description	Delay in Seconds
A	Little or no delays	≤ 10.0
B	Short traffic delays	> 10.0 to 15.0
C	Average traffic delays	> 15.0 to 25.0
D	Long traffic delays	> 25.0 to 35.0
E	Very long traffic delays	> 35.0 to 50.0
F	Extreme traffic delays with intersection capacity exceeded	> 50.0

Source: 2000 Highway Capacity Manual.

1.6.2 TRAFFIC OPERATIONS ANALYSIS SOFTWARE

The traffic operations analysis for the project utilized the VISSIM software platform. VISSIM is a micro-simulation software that analyzes the traffic operations of cars, trucks, transit vehicles, trains, pedestrians, and bicycles. The software can analyze both arterial and freeway corridors, signalized and unsignalized intersections, roundabouts, ramp meters, and at-grade railroad crossings. The development of a VISSIM model requires many components. These components include lane geometries, traffic controls, traffic volumes, and vehicle behavior characteristics. Micro-simulation provides the capability of analyzing the study area as a system and accounts for queuing interactions between intersections. Micro-simulation also provides an accurate assessment of average vehicle delay and queue lengths at each study intersection. VISSIM has the capability to simulate roadway blockages due to at-grade train crossings and evaluate the congestion that builds as the roadway is blocked.

1.7 SIGNIFICANCE CRITERIA

Significance criteria are used to determine whether a project impact is considered significant and therefore requires mitigation. The *City of Benicia General Plan* provides a LOS standard of D for intersection operations but does not provide standards for at-grade railroad crossing operations. This LOS D criterion is typically used to assess impacts of development projects that would potentially increase vehicle trips at intersections within the study area. However, the Project would not increase vehicle trips within the study area, and level of service is not the only metric that can be used to evaluate impacts of increased rail activity on the surrounding transportation network. LOS is solely based on average delay



incurred on vehicles at an intersection. Generally, people that drive through industrial areas served by at-grade railroad crossings have a higher tolerance of delay associated with intermittent at-grade rail activity compared to delay at intersections that are not in the vicinity of an at-grade railroad crossing. Therefore, LOS delay thresholds that apply to intersections are not readily applicable to at-grade railroad crossings.

Vehicle queues that result from at-grade rail activity have a major influence on roadway and intersection traffic operations within the vicinity of the at-grade crossing. Vehicle queues and delay are directly related, the longer the vehicle queues are, the higher the average delay becomes. This is certainly the case during times of the day when traffic volumes are high. However, during times of the day when traffic volumes are low, it is possible for an at-grade train crossing to result in average delays in the LOS F range with resulting vehicle queues accommodated within the storage capacity provided at the intersection. Even though average delay might be high during a long train crossing, if resulting queues are accommodated within the provided storage then it is less likely that the at-grade train crossing would adversely affect the surrounding transportation network.

Although the City of Benicia does not have adopted significance criteria for at-grade railroad crossing operations, the Project team recommends the following criteria to evaluate impacts associated with increased rail activity on at-grade crossings:

- A Project impact would be considered significant if rail crossing activity causes vehicle queues that impede other traffic, such as queue spillback to the freeway mainline or to an adjacent intersection and traffic not destined over the crossing is unable to continue along the travel way.

Additional significance criteria considered as part of this study include:

- Would the Project conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads and highways?
- Would the Project result in a change in traffic patterns, including either an increase in traffic levels or a change in location that result in substantial safety risks?
- Would the Project substantially increase traffic hazards due to a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment), or due to the proposed increased frequency and length of train crossings?
- Would the project result in inadequate emergency access?



- Would the Project conflict with adopted policies, plans, or programs regarding public transit, bicycle or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

1.8 REPORT ORGANIZATION

This report is divided into four chapters as described below:

Chapter 1 – Introduction discusses the study purpose, analysis scenarios and methods, significance criteria, and organization of the report.

Chapter 2 – Existing Conditions describes the transportation facilities and existing traffic operations in the project vicinity, including the surrounding roadway network, typical vehicular traffic volumes, and intersection operations. Existing rail crossing operations are also discussed in addition to a review of reported incidents at the rail crossing and collisions at study intersections.

Chapter 3 – Existing Plus Project Conditions presents relevant Project information, and evaluates existing conditions assuming proposed Project railcar deliveries at the at-grade Park Road railroad crossing.

Chapter 4 – Cumulative Conditions addresses year 2035 conditions without and with the Project and discusses cumulative impacts.



2.0 EXISTING CONDITIONS

This chapter describes the transportation system in the Project study area and the existing operations of the study intersections.

2.1 PROJECT LOCATION

The Valero Benicia Refinery is located in an industrial area of Benicia, California, northeast of the main residential and commercial center of the city, as shown previously on **Figure 1-1**. The site is generally bounded by I-680 and Suisun Bay to the south, East Channel Road to the east, and East 2nd Street to the west and to the north.

2.2 STUDY AREA ROADWAYS

Regional access to the Project site is provided primarily from I-680, while local access is provided via Industrial Way, Bayshore Road and Park Road. The roadways in the study area are described below and their locations in relation to the Project site are shown in **Figure 1-2**.

Interstate 680 (I-680) is a north-south freeway connecting Santa Clara County in the south to Solano County to the north, traversing eastern Alameda County and central Contra Costa county. The freeway terminates in the City of Fairfield, where it merges into I-80. I-680 is oriented along a northeast/southwest axis along the southern edge of the Valero Refinery, and provides two lanes in each direction. Interchanges at Bayshore Road and Industrial Way provide access to the southern portions of the refinery.

Park Road is a 2-lane arterial that connects the industrial port area along the southeastern edge of the City of Benicia to the industrial areas to the northeast. Its path largely parallels that of I-680. It intersects the existing Union Pacific Railroad (UPRR) track at an at-grade railroad crossing located just east of Bayshore Road. The posted speed limit varies from 30 to 35 mph.

Bayshore Road is a 2-lane arterial that connects the Valero Benicia Refinery to the industrial port area along the southeastern edge of the City of Benicia, following the Suisun Bay shoreline. A partial interchange with I-680 provides access to and from the south. The posted speed limit is 35 mph.

Industrial Way is a 2-lane arterial that loops through the industrial area where the Valero Refinery is situated, providing access to numerous industrial parcels either directly or via connections with local



streets. A partial interchange with I-680 provides access to and from the north. The posted speed limit is 40 mph.

Bay Vista Court is a local street providing direct access to two industrial parcels, from Park Road.

2.3 EXISTING PEDESTRIAN AND BICYCLE FACILITIES

This section describes the existing pedestrian and bicycle facilities in the study area.

2.3.1 PEDESTRIAN FACILITIES

Typical pedestrian facilities include sidewalks, crosswalks, and pedestrian signals at signalized intersections. The study area lacks substantial pedestrian facilities, which is typical of industrial areas. Sidewalks are not provided along any of the roads in the study area, and none of the study intersections—all unsignalized—feature crosswalks.

2.3.2 BICYCLE FACILITIES

Bicycle facilities include the following:

- Bike paths (Class I) – Paved trails that are separated from roadways.
- Bike lanes (Class II) – Lanes on roadways designated for use by bicycles through striping, pavement legends, and signs.
- Bike routes (Class III) – Designated roadways for bicycle use by signs only; may or may not include additional pavement width for cyclists.

No designated bicycle facilities are provided within the study area. According to the *City of Benicia General Plan*, a future Class III bike route is planned along Park Road southwest of Industrial Way.

2.4 EXISTING TRANSIT SERVICE

Fairfield and Suisun Transit (FAST) operates an express intercity route—Route 40—that connects the City of Vacaville to the BART station in the City of Walnut Creek. Route 40 has one stop at Park Road and Industrial Way, roughly a quarter of a mile east of the at-grade Union Pacific railroad crossing on Park Road. From here, the northbound route continues via I-680 to the City of Fairfield, and the southbound route continues via I-680 to the Pleasant Hill BART Station; both utilize the I-680 interchanges at Industrial Way and Bayshore Road. Headways and fares are summarized in **Table 2-1**.



**TABLE 2-1
 FAIRFIELD AND SUISUN TRANSIT (FAST) TRANSIT SERVICE SUMMARY**

Agency	FAST	
Route	40	
Hours of Operation	<i>Weekdays</i>	5:30 – 9:00 AM 3:30 – 8:00 PM
	<i>Weekends</i>	No Service
Headways	20-60 minutes	
Standard One-Way Fare	Varies from \$1.50 to \$6.75, based on distance traveled	
Nearest Stop to Project Site	Park Road and Industrial Way (0.25 mile east of at-grade railroad crossing)	

Source: FAST Transit Website (Accessed February 2013)

2.5 EXISTING FREIGHT RAIL

The study area is served by the Union Pacific Railroad (UPRR), which operates a fleet of over 8,000 locomotives across a network that spans 23 states and 32,000 miles of track. The City of Benicia serves as the terminus for what is commonly referred to as the Overland Route, which connects Chicago to the San Francisco Bay Area. A railroad drawbridge built in 1930 alongside the Benicia-Martinez Bridge connects the Benicia terminus via the Port of Oakland to San Jose, where service continues as the UPRR Coast Line to Los Angeles Union Station.

The Valero Benicia Refinery is served by a spur off the Overland Route mainline that runs between the industrial port area along the southeastern edge of the City of Benicia and the refinery itself, terminating north of Park Road. This spur features an at-grade crossing at Park Road, east of Bayshore Road. The spur also serves the industrial areas northeast of the refinery. Switching activity between tracks typically occurs just south of the Park Road at-grade railroad crossing. The Park Road crossing is controlled by two gates and mast-mounted flashing lights. The freight rail network through the study area is shown in **Figure 1-2**.

Train crossing counts were collected at the Park Road at-grade intersection in addition to the at-grade crossing at the Iron Workers Union Driveway just 700 feet southeast of Park Road. Video cameras were placed adjacent to the at-grade crossings for the week of Monday, April 15 through Sunday, April 21, 2013. The video data was reviewed to determine the number of train crossings per day, number of railcars per crossing, time of day for each crossing, and the blockage time at each at-grade intersection. A summary of the video data is provided in **Table 2-2** and in **Appendix A**.



**TABLE 2-2
 EXISTING AT-GRADE RAIL OPERATIONS**

Measure	Park Road At-Grade Crossing	Iron Workers Union Driveway At-Grade Crossing
Range of Crossings Per Day	4 - 18	4 - 6
Average Crossings Per Day – Weekdays	10	5
Average Crossing Duration – Weekdays	02:50	03:15
Average Number of Railcars Per Day – Weekdays	95	69
Average Number of Railcars Per Crossing - Weekdays	10	15
Range of Number of Railcars Per Crossing - Weekdays	2 - 35	2 - 43
Maximum Observed Crossing Duration – Weekdays	16:17	24:50
% of Crossings With Duration Under 5 Minutes – Weekdays	86%	87%
Average Crossings Per Day – Weekend	7	5
Average Crossing Duration – Weekend	01:42	00:18
Average Number of Railcars Per Day – Weekend	45	40
Average Number of Railcars Per Crossing - Weekend	7	8
Range of Number of Railcars Per Crossing - Weekend	2 - 18	2 - 18
Maximum Observed Crossing Duration – Weekend	05:56	03:21
% of Crossings With Duration Under 5 Minutes – Weekend	92%	100%

Source: Fehr & Peers, 2013.

As shown in **Table 2-2**, the number of train crossings is higher at the Park Road at-grade intersection compared to the Iron Workers Union Driveway intersection. The reason for the higher number of crossings at Park Road is because the majority of switching activity between tracks serving the Valero refinery and tracks serving other industrial areas northeast of the refinery occur on the segment just south of Park Road and north of the Iron Workers Union Driveway. It is common for UPRR trains to access the Valero refinery, then exit the refinery, cross Park Road, perform the track switching, and cross Park Road again to access the other industrial areas northeast of the refinery, and vice versa.

The majority of train crossings at both at-grade intersections occurred between the 9:00 AM and 7:30 PM on weekdays and between 12:00 PM and 6:30 PM on weekends. An average of 10 train crossings totaling 95 railcars during the weekdays were observed on Park Road, with the average crossing duration



estimated at 2 minutes and 50 seconds. About 86 percent of all crossings on Park Road had a duration less than 5 minutes. The majority of train crossings on Park Road had a duration typically under 2 minutes, however a maximum crossing duration was observed at 16 minutes and 17 seconds on Wednesday, April 17, 2013 around 2:00 PM. On average, train crossing durations greater than 8 minutes occurred once a day during the weekdays and typically during the afternoon period.

Similarly, the majority of train crossings on the Iron Workers Union Driveway had a duration under 2 minutes, however a maximum crossing duration was observed at 24 minutes and 50 seconds on Wednesday, April 17, 2013 around 2:00 PM. Some trains were observed to perform back and forth movements to disengage railcars from the locomotive and at times trains would come to a complete stop, which blocks the Iron Workers Union Driveway for a substantial period of time and explains why the observed maximum crossing duration is greater at the Iron Workers Union Driveway compared to the Park Road crossing. The average number of train crossings and duration of each crossing is generally lower on weekends compared to weekdays.

In addition to the video count data, UPPR also provided an estimate of their delivery schedule at Park Road for the time period between January 4th and January 14th, 2013; the UPPR data is provided in **Appendix A**. The UPPR data provides the delivery schedule but does not provide the number of train crossings across Park Road. It is common for a single train delivery to cross Park Road multiple times due to switching or train cutting activity. Therefore, the video count data was the primary source of train crossing information to perform the transportation impact assessment for the Project.

2.6 EXISTING TRUCK ROUTES

The Surface Transportation Assistance Act (STAA) designates two types of truck routes: national network routes and terminal access routes. The entire length of I-680 is a designated national network route, and the interchanges at Bayshore Road and Industrial Way provide local access to the refinery site. The ramp-terminal intersections of the interchanges within the study area have been designed to appropriately accommodate large truck turning movements.

Truck freight movement through Benicia is heaviest along the northern I-680 corridor, where the Valero Benicia Refinery is located, and in the industrial port area adjacent to the Benicia-Martinez Bridge. Freeway signs direct traffic destined for these industrial areas to use I-680 exits.



2.7 EXISTING EMERGENCY VEHICLE RESPONSE TIMES

The City of Benicia Fire Department recently provided an emergency response time analysis for year 2012. According to the National Fire Protection Association (NFPA) standard 1710, fire departments should arrive to structure fires within 5 minutes of initial dispatch. The City of Benicia Fire Department also has a contract with the Solano County Emergency Medical Service Authority to provide an advance life support staffed engine to all emergency medical calls within 7 minutes from the time the station is alerted. The fire department strives to reach the standard of a seven minute response time to all emergency incident types for 90 percent of the total incidents. In 2012, the fire department responded to 2,099 incidents with an average response time of 5 minutes and 13 seconds throughout the entire City of Benicia. For the industrial areas along Park Road and Bayshore Road the fire department responded to a total of 27 incidents in 2012 with an average response time of 6 minutes and 35 seconds. Thus in 2012, the average emergency response time for the project study area was higher than the average response for the entire City of Benicia. The City of Benicia Fire Department year 2012 emergency vehicle response time data is provided in **Appendix A**.

2.8 COLLISION HISTORY

The Federal Railroad Administration (FRA) provided collision history data for the Park Road at-grade crossing. According to the FRA, no train-vehicle collisions were reported at the Park Road crossing within the last three years. The last reported collision at the Park Road at-grade crossing was in April 1995, in which a train collided with a truck. The FRA collision history data for the study area is provided in **Appendix A**.

Collision history data from January 2009 through January 2012 was also obtained from the California Highway Patrol's Statewide Integrated Traffic Records System (SWITRS). The SWITRS collision data for the study area is summarized in **Table 2-3**, the data is also provided in **Appendix A**. As shown in **Table 2-3**, a total of nine collisions were reported within the study area between 2009 and 2012, six of which occurred within the vicinity of the intersection of Park Road/Bayshore Road. Three collisions were reported in the vicinity of the I-680 on-ramp intersection with Bayshore Road. Neither of the collisions between January 2009 and January 2012 resulted in an injury or fatality within the study area.



**TABLE 2-3
 STUDY AREA COLLISION HISTORY SUMMARY – JANUARY 2009 THRU JANUARY 2012**

Location	Total Collisions	Collisions Involving Pedestrians	Collisions Involving Bicyclists	Collisions Resulting in Injury	Collisions Resulting in Fatality
1. Park Road / Bayshore Road	6	0	0	0	0
2. I-680 SB On-Ramp / Bayshore Road	3	0	0	0	0
3. I-680 NB Off-Ramp / Bayshore Road	0	0	0	0	0
4. Park Road / Bay Vista Court	0	0	0	0	0
5. Park Road / Valero Refinery Driveway	0	0	0	0	0

Source: California Highway Patrol Statewide Integrated Traffic Records System, 2013.

2.9 EXISTING LANE CONFIGURATIONS AND TRAFFIC VOLUMES

Intersection turning movement and vehicle classification counts were originally collected on January 23, 2013 between 6:00 and 9:00 AM, when traffic volumes through the study area generally peak on a typical weekday. This peak period was identified based on an analysis of seven days of roadway segment volumes collected at Park Road just west of the refinery entrance; these counts were collected between Monday, January 7, 2013 and Sunday, January 13, 2013. Due to concerns of counts typically being lower during the month of January, additional turning movement counts at the study intersections along the Bayshore Road were collected between 9:00 AM and Noon and between 1:00 and 4:00 PM in September 2013. Additional roadway segment counts on Park Road were collected between Friday, September 6, 2013 and Thursday, September 12th, 2013. Overall, weekday roadway segment counts collected in September were about 3 percent higher than counts collected in January 2013. The counts collected in September 2013 were used to conduct the traffic operations analysis for this study. Observed weekday traffic volumes by time of day are shown on **Figure 2-1**. As shown on **Figure 2-1**, the peak hour for typical weekday conditions generally occurs between 7:15 and 8:15 AM, which was also confirmed by the intersection counts. The PM peak hour generally occurs between 4:15 and 5:15 PM.

When this study was initiated the time of day in which the project train crossings would occur had not yet been identified. To provide flexibility with the traffic operations analysis, AM peak period counts were collected to determine project impacts when traffic volumes in the area are the highest to present a worst-case scenario of potential Project impacts. However, the project proposes train crossings that would occur during the non-peak hours (avoiding 6:00 AM to 9:00 AM, 12:00 PM to 1:00 PM, and 4:00 PM to 6:00 PM). This study assesses operational impacts for off-peak hours of a typical weekday, including the



2:45 to 3:45 PM hour to be representative of 9:00 AM to 4:00 PM and 6:00 to 7:00 PM conditions, and the 9:00 to 10:00 PM hour, which is representative of conditions from approximately 7:00 PM to 6:00 AM. Although weekday counts were not collected for the non-peak hour between 9:00 and 10:00 PM, the volumes were estimated based on the average daily traffic counts collected on Park Road. The Park Road average daily traffic counts indicate that the hourly volumes between 9:00 and 10:00 PM are about 90 percent lower than the AM peak hour. Thus, the reduction factors derived from the Park Road daily counts were applied to the AM peak hour intersection counts to estimate the non-peak hour intersection volumes.

Field reconnaissance was performed in which lane configurations, turn pocket lengths, and speed limits were documented. These were used to corroborate satellite image observations publicly available online. Existing intersection lane configurations, traffic control, and PM off-peak hour intersection traffic volumes are shown on **Figure 2-2**. Collected count data is provided in **Appendix A**.



Average Weekday Traffic Volumes – Park Road

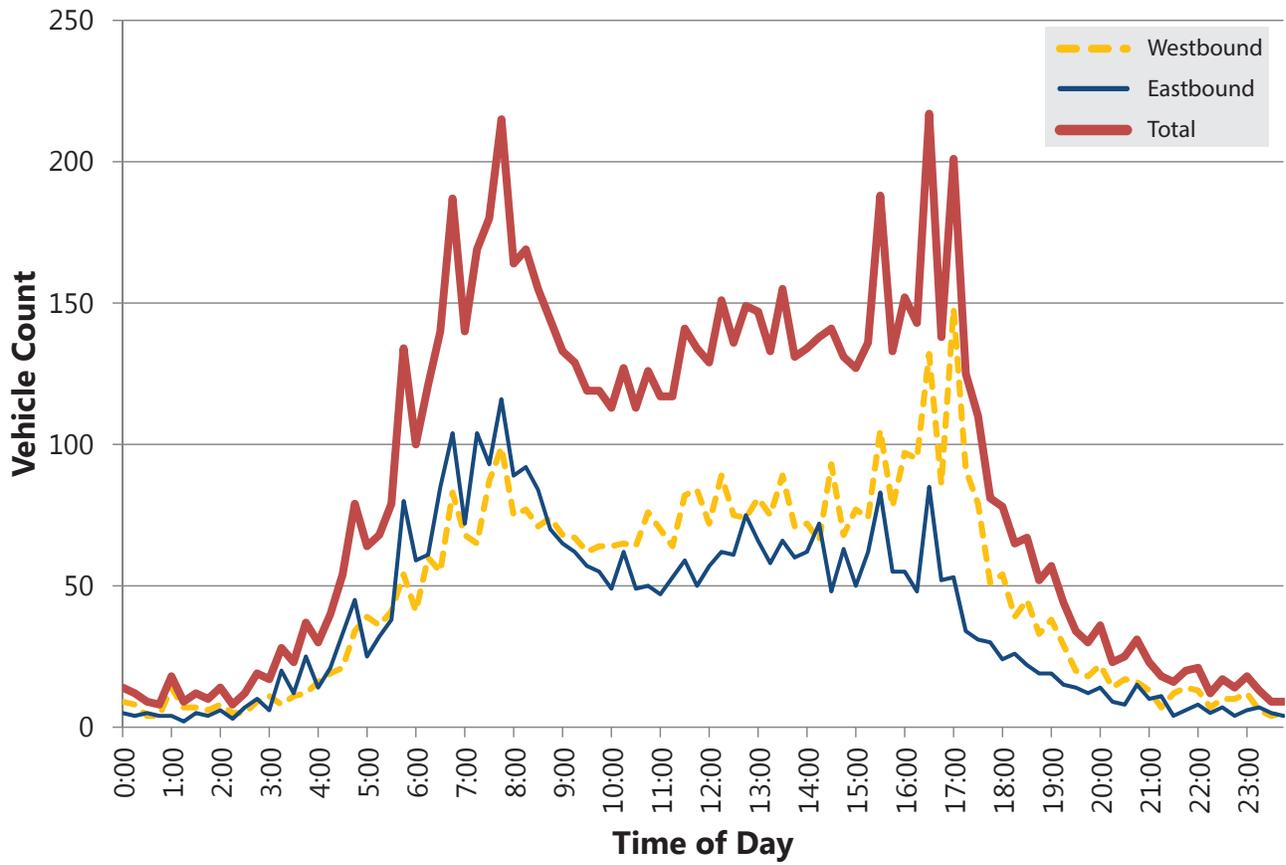
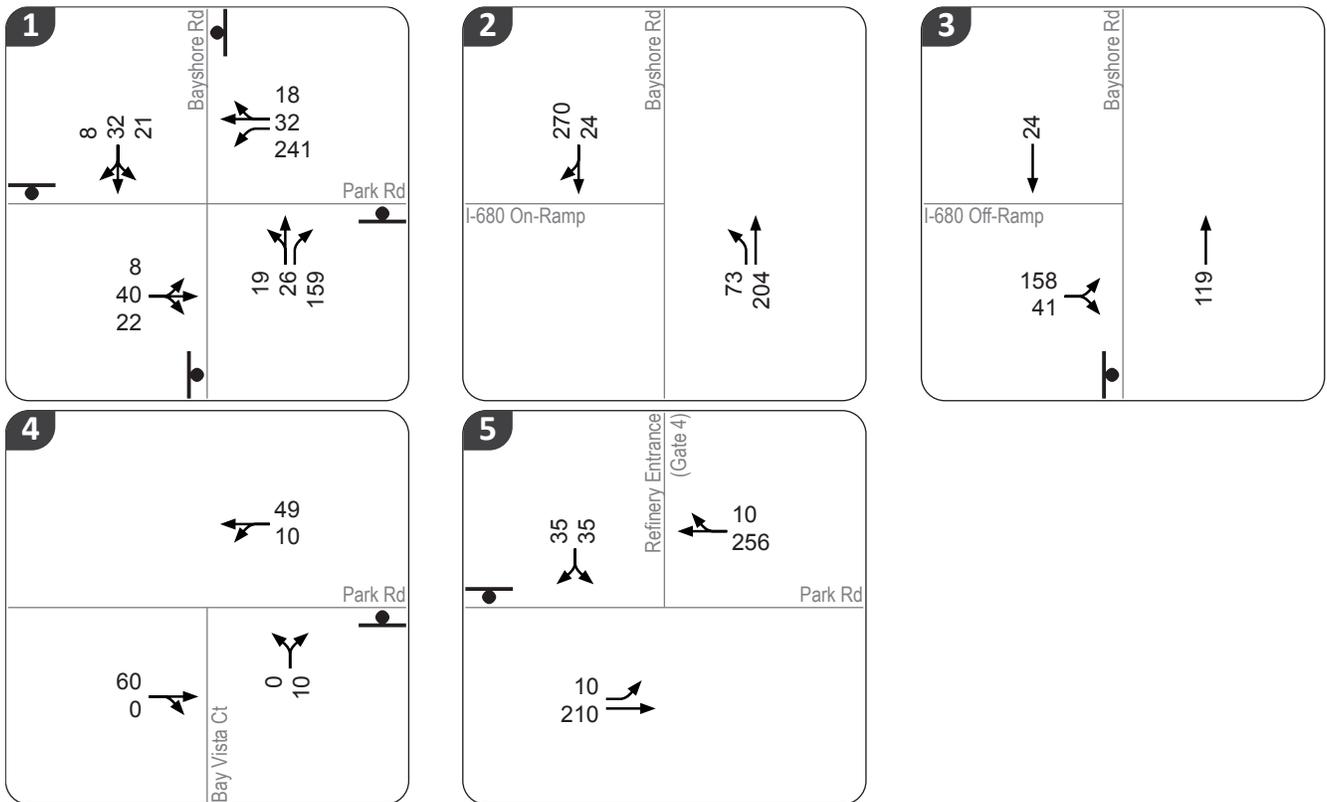


Figure 2-1.



VOLUMES KEY

- XX 2:45 - 3:45 PM Hour Traffic Volumes
- Stop Sign

MAP KEY

- ① Study Intersection
- UPRR At-Grade Crossing
- ▬ Roadway Count Location
- UPRR Overland Route (Spur)
- ▬ UPRR Overland Route (Mainline)



Figure 2-2.

Existing Conditions
Intersection 2:45 - 3:45 PM Hour Traffic Volumes and Lane Configurations

WC13-3005_2-2_ExVol

2.10 EXISTING INTERSECTION OPERATIONS

The highest weekday volumes throughout the day generally occur during the AM peak hour (7:15 to 8:15 AM) and the PM peak hour (4:15 to 5:15 PM). Project trains would avoid crossing Park Road between 6:00 AM to 9:00 AM, 12:00 PM to 1:00 PM, and 4:00 PM to 6:00 PM. The 2:45 to 3:45 PM hour was the hour selected for analysis because it represents the highest total volume hour within the off-peak periods in which project trains would cross Park Road. Existing off-peak hour operations at the five study intersections were evaluated based on the HCM 2000 method described in Chapter 1. Below is a description of the traffic operations model development and calibration process, in addition to the off-peak hour LOS and queuing results.

2.10.1 MODEL APPROACH

The traffic operations analysis for the project utilized the VISSIM software platform. VISSIM is a micro-simulation software that analyzes the traffic operations of cars, trucks, transit vehicles, trains, pedestrians, and bicycles. The software can analyze both arterial and freeway corridors, signalized and unsignalized intersections, roundabouts, ramp meters, and at-grade railroad crossings. The development of a VISSIM model requires many components. These components include lane geometries, traffic controls, traffic volumes, and vehicle behavior characteristics.

2.10.2 MODEL VALIDATION

During the validation process, the VISSIM model output is compared against field data to determine if the model output is within acceptable levels and therefore presenting a reasonable approximation of existing operations. The Federal Highway Administration (FHWA) suggests the following validation criteria (*Volume III – Guidelines for Applying Traffic Microsimulation Modeling Software*, Federal Highway Administration, 2003).

- Link volumes for more than 85 percent of cases meet the following criteria:
 - For volumes less than 700 vehicles per hour (vph), within 100 vph
 - For volumes between 700 and 2,700 vph, within 15 percent
 - For volumes greater than 2,700, within 400 vph
- Link volumes for more than 85 percent of cases have a GEH statistic (measuring model volumes versus count volumes) less than 5
- Queuing at bottlenecks match field observations



Based on our previous experience, Fehr & Peers has developed the following additional validation criterion, which has a narrower tolerance for intersection and interchange volumes (which are aggregated link volumes) than the criteria suggested by FHWA.

- Peak-hour volumes at intersections within 5 percent of traffic counts

The VISSIM models were calibrated and validated to the AM peak hour counts and field observations. The calibrated model was then used to evaluate intersection operations for the off-peak hours. **Table 2-4** shows the validation results for the existing conditions VISSIM models for the AM peak hour. The model meets the validation criteria thresholds.

**TABLE 2-4
 VALIDATION CRITERIA THRESHOLDS COMPARISON**

Category	Criteria	Threshold	% Met Target	AM Peak Period	
				% Met	Pass/Fail
Link Volumes	< 700 vph	100 vph	> 85%	100%	Pass
	GEH Statistic	5	> 85%	100%	Pass
Aggregated Volumes	Intersections	5%	100%	100%	Pass
Visual Inspection	Queuing	Match observations		--	Pass

Source: Fehr & Peers, 2013

2.10.3 INTERSECTION OPERATIONS RESULTS

Existing off-peak hour (2:45-3:45 PM) operations at the five study intersections were evaluated based on the methods previously described and the lane configurations and traffic controls shown on **Figure 2-2**. The LOS results are summarized in **Table 2-5** and the queuing results are summarized in **Table 2-6**. Intersection analysis worksheets are provided in **Appendix B**. The existing off-peak hour analysis evaluated two scenarios: existing conditions without train crossings and existing conditions with train crossings. According to the train crossing counts collected in April, train crossing durations greater than 8 minutes occurred on average once a day during the weekdays and typically during the afternoon period. Train crossing durations of up to 16 minutes and 17 seconds were observed along the Park Road at-grade railroad crossing. For this analysis, the baseline condition assumes an existing train crossing duration of 11 minutes and 50 seconds, which is consistent with the maximum train crossing duration observed at the existing Park Road at-grade crossing on Tuesday, April 16, 2013. A summary of the existing train crossing data is provided in **Table 2-2** and in **Appendix A**.



As shown, all study intersections currently operate at acceptable service levels during the 2:45 to 3:45 PM hour assuming no trains cross during the hour. However, if longer trains with crossing durations greater than 8 minutes in length occur during the PM off-peak hour, the intersection level of service generally degrades to LOS F. Assuming an existing train crossing duration of 11 minutes and 50 seconds along Park Road would degrade all five study intersections to LOS F, as shown in **Table 2-5**. The long train crossing duration would result in vehicle queues on the east side of the tracks that extend upstream from the at-grade railroad crossing to the intersection at Industrial Way along westbound Park Road. Vehicle queues on the west side of the tracks typically extend upstream to the northbound off-ramp from I-680 to Bayshore Road during long train crossings, however, vehicle queues do not back up to the northbound I-680 mainline. Train crossing durations greater than 11 minutes and 50 seconds have been observed along Park Road during a typical weekday afternoon. Generally, the longer the train crossing duration, the higher the probability is for vehicle queues to build up and extend to adjacent study intersections, thus affecting their operations.

**TABLE 2-5
 EXISTING OFF-PEAK HOUR INTERSECTION LEVEL OF SERVICE¹**

Location	Control ²	Without Rail Activity		With Rail Activity ⁴	
		Delay ³	LOS	Delay ³	LOS
1. Park Road / Bayshore Road	AWSC	6	A	236	F
2. I-680 SB On-Ramp / Bayshore Road	FREE	1	A	54	F
3. I-680 NB Off-Ramp / Bayshore Road	SSSC	6 (10)	A (A)	152 (212)	F (F)
4. Park Road / Bay Vista Court	SSSC	1 (4)	A (A)	27 (51)	D (F)
5. Park Road / Valero Refinery Driveway	SSSC	1 (8)	A (A)	148 (285)	F (F)

Notes: **Bold** denotes locations where level of service threshold is exceeded.

1. Analysis hour is between 2:45 and 3:45 PM, which represents the highest total volume hour within the off-peak periods (9:00 AM to Noon, 1:00 to 4:00 PM, 6:00 PM to 6:00 AM).
2. AWSC = all way stop controlled intersection, SSSC = side street stop controlled intersection, Free = uncontrolled intersection.
3. Intersection level of service based on average intersection control delay (in seconds) according to the *Highway Capacity Manual* (Transportation Research Board, 2000). For side-street stop-controlled intersections, delay is reported as intersection average (worst case approach).
4. Assumes an existing single train crossing duration of 11 minutes and 50 seconds at the Park Road at-grade railroad crossing.

Source: Fehr & Peers, 2013.



**TABLE 2-6
 EXISTING OFF-PEAK HOUR INTERSECTION QUEUING¹**

Intersection	Movement ²	Available Storage (ft)	Without Rail Activity		With Rail Activity ³	
			Average Queue Length (ft)	Maximum Queue Length (ft)	Average Queue Length (ft)	Maximum Queue Length (ft)
1. Park Road / Bayshore Road	NB-LT	140	25	70	25	70
	NB-R	275	25	85	400	600
	SB-LTR	220	25	70	60	180
	EB-LTR	250	25	70	135	370
	WB-L	200	25	100	920	1,575
	WB-TR	500	25	75	920	1,575
2. I-680 SB On-Ramp / Bayshore Road	NB-L	115	0	25	0	25
3. I-680 NB Off-Ramp / Bayshore Road	NB-T	200	0	0	50	240
	EB-LR	1,300	25	135	340	975
4. Park Road / Bay Vista Court	NB-LR	275	0	25	0	25
5. Park Road / Valero Refinery Driveway	SB-LR	200	25	50	55	190
	EB-L	150	0	0	0	0
	WB-TR	950	0	0	420	1,075

Notes: **Bold** denotes locations where storage length is exceeded.

1. Analysis hour is between 2:45 and 3:45 PM, which represents the highest total volume hour within the off-peak periods (9:00 AM to Noon, 1:00 to 4:00 PM, 6:00 PM to 6:00 AM).
2. NB – northbound, SB – southbound, EB – eastbound, WB – westbound, L – left turn movement, T – through movement, R – right turn movement.
3. Assumes existing sing train crossing duration of 11 minutes and 50 seconds at the Park Road at-grade railroad crossing.

Source: Fehr & Peers, 2013.



3.0 EXISTING PLUS PROJECT CONDITIONS

The proposed Project would expand the proportion of crude oil delivered to the refinery by railcar, to up to 70,000 barrels per day, replacing quantities currently received by ship, but would not increase the amount of crude oil processed at the refinery. Currently the refinery receives crude oil via pipeline or marine vessels. Railcar deliveries would use the existing UPRR track to access the refinery, crossing the existing at-grade railroad crossing at Park Road, just east of the intersection of Park Road/Bayshore Road. The deliveries would arrive at the refinery each day and utilize trains up to 50 railcars in length per delivery, and up to 100 railcar deliveries are expected per day. This chapter discusses the assumptions and analysis results for traffic conditions under Existing Plus Project conditions.

3.1 PROJECT ASSUMPTIONS

The VISSIM model developed for Existing conditions was used to model a single train crossing during the weekday 2:45 to 3:45 PM hour. The 2:45 to 3:45 PM hour was chosen as it represents the highest total volume hour within the off-peak periods in which project trains would cross Park Road. Below is a summary of the Project assumptions for Existing Plus Project conditions:

- Up to 100 railcars will be delivered daily, however, single train deliveries of up to 50 railcars in length are expected
- A minimum headway of one hour between Project train deliveries is assumed
- Typical railcar length is 60 feet
- Up to 200 feet of locomotive is expected per train delivery
- Average travel speed across the Park Road at-grade railroad crossing is 5 mph
- All switching activity between tracks will occur within the Valero refinery site north of Park Road

For the purposes of this study, a single train crossing of 50 railcars in length was assumed to cross Park Road during PM off-peak hour conditions to determine potential impacts to the surrounding transportation network. A train with 200 feet of locomotive and 50 railcars in length would take approximately 7.3 minutes to cross Park Road at a speed of 5 mph. The at-grade crossing traffic controls provide a 30-second buffer time before and after each train crossing on Park Road. Therefore, each 50-railcar train delivery would block traffic on Park Road for approximately 8 minutes and 18 seconds. The estimated blockage time on Park Road due to the proposed project is lower than other existing observed train crossings. The April 2013 maximum observed train crossing duration was 16 minutes and 17 seconds, which is nearly double the blockage time of the train crossings due to the project.



In addition, a project impact analysis was performed for the off-peak hour between 9:00 to 10:00 PM of a typical weekday. Based on the daily traffic volumes on Park Road, this study assumes the 9:00 to 10:00 PM hour to be representative of conditions from approximately 7:00 PM to 6:00 AM.

3.2 INTERSECTION OPERATIONS RESULTS

3.2.1 OFF-PEAK HOUR OPERATIONS RESULTS

The Existing off-peak hours of 2:45 – 3:45 PM and 9:00 – 10:00 PM were evaluated assuming a 50-railcar project train crossing at Park Road, LOS results are presented in **Table 3-1** and queuing results in **Table 3-2**. Four out of the five study intersections are expected to operate at LOS F during the 2:45 – 3:45 PM hour. Vehicle queues associated with the 50-railcar crossing are expected to extend back onto the northbound I-680 off-ramp but not onto the I-680 mainline. Queues are also expected to extend back to the Park Road/Valero Refinery Driveway but will not reach Industrial Way. The segment of Park Road between the at-grade railroad crossing and Industrial Way provides a two-way left-turn lane which will likely be utilized as a queue storage lane by some drivers stuck on westbound Park Road waiting for the 8.3 minute train crossing to clear. The results for the PM off-peak hour are similar to what drivers under Existing No Project conditions already experience. In general, project train crossings that would occur during the off-peak periods between 9:00 AM – Noon and 1:00 – 4:00 PM would result in average intersection delays and maximum intersection queues that are lower than existing train crossings. Train crossings of durations greater than 8 minutes already occur about once a day between the 9:00 AM – 7:30 PM periods, the time of train crossing varies however.

Figure 3-1 provides a graphical comparison of the extent of the maximum queues expected with the project train crossings at Park Road assuming 2:45 – 3:45 PM hour conditions compared to Existing No Project conditions. The analysis for No Project conditions assumes an existing train crossing duration of 11 minutes and 50 seconds. Detailed intersection analysis worksheets are provided in **Appendix B**

Traffic volumes in the evenings and late nights are much lower within the study area compared to the AM and PM peak periods. As shown in **Table 3-1**, during the 9:00 – 10:00 PM hour all intersections are expected to operate at LOS A except for Park Road/Bayshore Road, which would operate at LOS F due to its close proximity to the at-grade railroad crossing. Although the intersection operates at LOS F, the resulting queues would be no longer than 4 vehicles on either approach of the intersection. Although the proposed 50-railcar train crossing would block Park Road for over 8 minutes, the resulting queues would be contained within the provided intersection storage capacity at Park Road/Basyhore Road during the 9:00 – 10:00 PM hour.



Generally, train crossings at the Park Road at-grade intersection that take longer than 5 minutes to cross result in LOS E or F operations at the adjacent intersection of Park Road/Bayshore Road, regardless of the time of day in which the train crossing occurs. Therefore, LOS E or F operations at the Park Road/Bayshore Road intersection when rail activity occurs are part of the baseline condition. The longer the train crossing duration, the higher the probability is for vehicle queues to build up and extend to adjacent study intersections, thus affecting their operations as well.

**TABLE 3-1
 EXISTING PLUS PROJECT OFF-PEAK HOUR INTERSECTION LEVEL OF SERVICE¹**

Location	Control ²	Existing No Project 2:45 – 3:45 PM ⁴		Existing Plus Project 2:45 – 3:45 PM ⁵		Existing Plus Project 9:00 – 10:00 PM ⁶	
		Delay ³	LOS	Delay ³	LOS	Delay ³	LOS
1. Park Road / Bayshore Road	AWSC	236	F	116	F	113	F
2. I-680 SB On-Ramp / Bayshore Road	FREE	54	F	50	F	1	A
3. I-680 NB Off-Ramp / Bayshore Road	SSSC	152 (212)	F (F)	57 (80)	F (F)	5 (5)	A (A)
4. Park Road / Bay Vista Court	SSSC	27 (51)	D (F)	3 (8)	A (A)	1 (1)	A (A)
5. Park Road / Valero Refinery Driveway	SSSC	148 (285)	F (F)	57 (97)	F (F)	1 (5)	A (A)

Notes: **Bold** denotes locations where level of service threshold is exceeded.

1. Analysis hour is between 2:45 and 3:45 PM, which represents the highest total volume hour within the off-peak periods (9:00 AM to 12:00 PM, 1:00 to 4:00 PM, 6:00 PM to 6:00 AM).
2. AWSC = all way stop controlled intersection, SSSC = side street stop controlled intersection, Free = uncontrolled intersection.
3. Intersection level of service based on average intersection control delay (in seconds) according to the *Highway Capacity Manual* (Transportation Research Board, 2000). For side-street stop-controlled intersections, delay is reported as intersection average (worst case approach).
4. Assumes an existing single train crossing duration of 11 minutes and 50 seconds at the Park Road at-grade railroad crossing.
5. Time period representative of the 9:00 AM to 12:00 PM, 1:00 to 4:00 PM, and 6:00 to 7:00 PM periods along westbound and eastbound Park Road. Assumes a single project train crossing duration of 8 minutes and 18 seconds at the Park Road at-grade railroad crossing.
6. Time period representative of the 7:00 PM to 6:00 AM time period along westbound and eastbound Park Road. Assumes a single project train crossing duration of 8 minutes and 18 seconds at the Park Road at-grade railroad crossing.

Source: Fehr & Peers, 2013.



**TABLE 3-2
 EXISTING PLUS PROJECT OFF-PEAK HOUR INTERSECTION QUEUING¹**

Intersection	Movement ²	Available Storage (ft)	Existing No Project 2:45 – 3:45 PM ³		Existing Plus Project 2:45-3:45 PM ⁴		Existing Plus Project 9:00 – 10:00 PM ⁵	
			Average Queue Length (ft)	Max Queue Length (ft)	Average Queue Length (ft)	Max Queue Length (ft)	Average Queue Length (ft)	Max Queue Length (ft)
1. Park Road / Bayshore Road	NB-LT	140	25	70	25	60	0	30
	NB-R	275	400	600	250	600	25	50
	SB-LTR	220	60	180	30	130	0	30
	EB-LTR	250	135	370	65	235	0	30
	WB-L	200	920	1,575	505	1,220	25	70
	WB-TR	500	920	1,575	505	1,220	25	30
2. I-680 SB On-Ramp / Bayshore Road	NB-L	115	0	25	0	25	0	0
3. I-680 NB Off-Ramp / Bayshore Road	NB-T	200	50	240	25	85	0	0
	EB-LR	1,300	340	975	130	520	25	40
4. Park Road / Bay Vista Court	NB-LR	275	0	25	0	25	0	0
5. Park Road / Valero Refinery Driveway	SB-LR	200	55	190	25	95	0	30
	EB-L	150	0	0	0	0	0	0
	WB-TR	950	420	1,075	25	720	0	0

Notes: **Bold** denotes locations where storage length is exceeded.

1. Analysis hour is between 2:45 and 3:45 PM, which represents the highest total volume hour within the off-peak periods (9:00 AM to 12:00 PM, 1:00 to 4:00 PM, 6:00 PM to 6:00 AM).
2. NB – northbound, SB – southbound, EB – eastbound, WB – westbound, L – left turn movement, T – through movement, R – right turn movement.
3. Assumes an existing single train crossing duration of 11 minutes and 50 seconds at the Park Road at-grade railroad crossing.
4. Time period representative of the 9:00 AM to 12:00 PM, 1:00 to 4:00 PM, and 6:00 to 7:00 PM periods along westbound and eastbound Park Road. Assumes a single project train crossing duration of 8 minutes and 18 seconds at the Park Road at-grade railroad crossing.
5. Time period representative of the 7:00 PM to 6:00 AM time period along westbound and eastbound Park Road. Assumes a single project train crossing duration of 8 minutes and 18 seconds at the Park Road at-grade railroad crossing.

Source: Fehr & Peers, 2013.





Figure 3-1.

Existing Plus Project Queueing Analysis

WC13-3005_3-1_ExQueue

3.3 EXISTING PROJECT IMPACTS AND MITIGATION MEASURES

The following criteria were applied to evaluate potential impacts associated with increased rail activity on at-grade crossings:

- A Project impact would be considered significant if rail crossing activity causes vehicle queues that impede other traffic, such as queue spillback to the freeway mainline or to an adjacent intersection and traffic not destined over the crossing is unable to continue along the travel way.

The proposed increase of daily crude oil deliveries by rail across Park Road would result in vehicle queues that would spillback onto the I-680/Bayshore Road ramp-terminal intersections if deliveries occur during the 9:00 AM – Noon, 1:00 – 4:00 PM, and 6:00 – 7:00 PM periods. From a queuing perspective, the Project would impede other traffic during the 9:00 AM – Noon, 1:00 – 4:00 PM, and 6:00 – 7:00 PM off-peak hours because vehicle queues that result from the train crossing would likely extend to the I-680/Bayshore Road ramp-terminal intersections, causing queues to build on the off-ramp, although not spilling back to the freeway mainline. Even though project train crossings would affect the operations at the I-680/Bayshore Road ramp-terminal intersections, the maximum queues that result from the 8.3 minute Park Road blockage time would be less than the maximum queues that already develop due to longer train crossings under Existing No Project conditions. Therefore, project impacts at these locations would be **less-than-significant**.

If the proposed train crossings occur during the 7:00 PM – 6:00 AM period, resulting queues on the west side and east side of the tracks would not exceed the provided storage capacity. Only the intersection of Park Road/Bayshore Road would operate at LOS F conditions during the hour of the crossing, but resulting queues would not extend back and affect the operations of other study intersections.

Existing video data collected at the Park Road at-grade railroad crossing indicates that on average there is one train a day that crosses Park Road with a duration over eight minutes within the 9:00 AM to 7:00 PM period. The longest observed existing train crossing on Park Road was measured at about 16 minutes and 17 seconds, nearly double the duration of a single 50-railcar crossing proposed by the Project. The Proposed project would increase the frequency of 8-minute crossings that occur in the area, but the increased crossing frequency is within the current range of crossing variability. Although the Project would increase the train frequency on Park Road by four train crossings (two trips into the refinery and two trips out of the refinery) a day, the proposed crossing duration of each Project train trip is lower than train crossing durations that already exist today without the Project.



3.3.1 TRANSIT IMPACTS

FAST operates one weekday transit route (Route 40) along both directions of Park Road within the study area; the nearest bus stop is located at the intersection of Park Road/Industrial Way. Route 40 provides four buses in each direction during the AM commute period between 5:30 and 9:00 AM, and five buses in each direction during the PM commute period between 3:30 and 8:00 PM. Project train crossings are not planned to occur during the AM peak period, thus the Project would not affect transit service during the AM peak period.

It is likely that Project train crossings will occur during the 3:30 – 4:00 PM, 6:00 – 8:00 PM period. On average, about one bus per hour travels along Park Road in each direction during the PM period. The chances of buses attempting to cross Park Road in the event of a Project train crossing are small, but possible. Although the Project would increase the train frequency on Park Road by four train crossings a day, the proposed crossing duration of each Project train trip is lower than train crossing durations that already exist today without the Project. In addition, Route 40 travels along congested segments of I-80 and I-680 between the Vacaville Transportation Center and the Walnut Creek BART Station during the weekday commute periods, thus delay experienced by Route 40 buses is variable throughout each day. The potential increase in transit delay incurred by the Project is within the delay variability already experienced by Route 40 during the PM peak commute period.

3.4 EMERGENCY VEHICLE ACCESS

The City of Benicia Fire Department strives to reach the standard of a seven minute response time to all emergency incident types for 90 percent of the total incidents. In 2012, the fire department responded to a total of 27 incidents along the industrial areas of Park Road and Bayshore Road with an average response time of 6 minutes and 35 seconds. The average emergency response time for the Project study area was higher than the average response for the entire City of Benicia.

The same railroad track that crosses Park Road at-grade also crosses the driveways of three industrial parcels south of Park Road. The three driveways south of Park Road are the only access points between the industrial parcels and Bayshore Road. Thus existing train movements within the study area temporarily block their only access point. Video counts collected at the Iron Workers Union Driveway observed train crossings that blocked the driveway for as long as 24 minutes and 50 seconds on a weekday during the month of April 2013, which is about three times the duration of the train crossings proposed by the Project. Thus, workers within the three industrial parcels south of Park Road already experience train crossings blocking the driveways well over 8 minutes.



Although the Project would increase the train frequency within the study area by four train crossings (two trips into the refinery and two trips out of the refinery) a day, the proposed crossing duration of each Project train trip is lower than train crossing durations that already exist today without the Project. The proposed increased crossing frequency is within the current range of crossing variability. According to the 2012 emergency response data provided by the fire department, an average of about two emergency incidents a month occurred along the industrial areas of Park Road and Bayshore Road. The probability of an emergency incident occurring at the same time as a Project train crossing is low. It is unlikely that the Project would cause the average emergency vehicle response time to increase to over 7 minutes for the Park Road and Bayshore Road industrial areas.

Impact 1: Emergency vehicle response time to some portions of the study area would increase during rail crossing events, resulting in a potentially significant impact.

Mitigation Measure 1: The Project Applicant shall work with emergency responders in the area to implement the following measures to eliminate or minimize potential Project impacts in regards to emergency vehicle access:

- Coordinate with the City of Benicia Fire Department to prepare an action plan in the event that an emergency occurs during a Project train crossing. The action plan would provide methods of adequately informing the Fire Department of the expected train crossing schedule and alternate routes to access the Park Road and Bayshore Road industrial areas during the event that a train crosses Park Road.
- The Valero refinery provides an emergency response team on site. The refinery's emergency response team would be available to assist with responding to off-site emergencies within the Park Road and Bayshore Road industrial areas if an emergency occurs during the event of a train crossing on Park Road.

Implementation of these measures would reduce the impact to a **less-than-significant** level.



4.0 CUMULATIVE CONDITIONS

A Cumulative conditions analysis was performed to identify potential impacts in year 2035. This chapter discusses the methodology used to develop Cumulative conditions volume forecasts and traffic operations models under Cumulative No Project and Cumulative Plus Project scenarios.

4.1 CUMULATIVE YEAR VOLUME FORECASTS

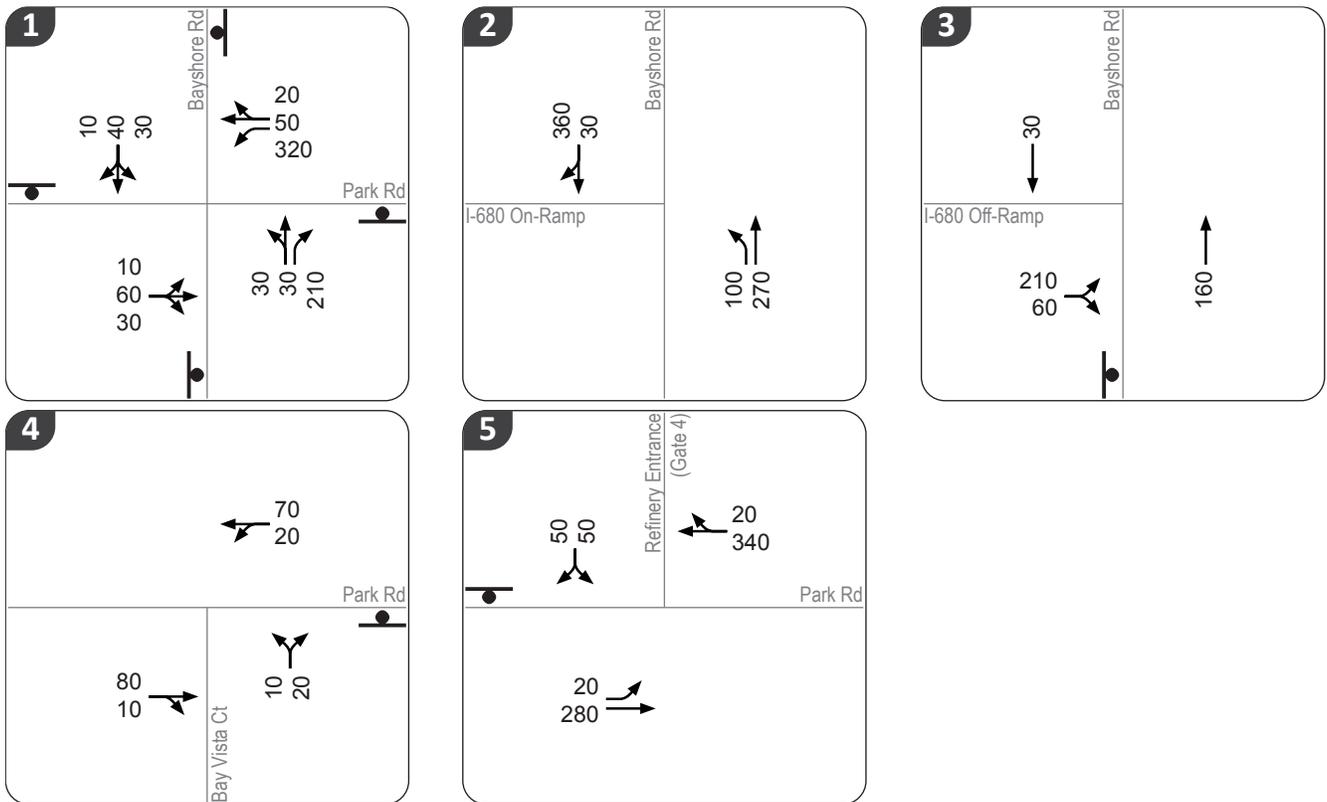
The latest version of the Solano-Napa Travel Demand Model (STA Model) was initially utilized to develop year 2035 volume forecasts for each of the study intersections. The STA Model outputs were used to develop annual growth rates for the study area. Two scenario years of the model, 2010 and 2030, were run and annual average growth rates derived. According to the STA model, the annual growth rate for the study area was about 6.6 percent for the AM peak hour. Fehr & Peers obtained peak hour traffic counts collected in January 2006 at the intersection of Park Road/Bayshore Road as part of the *Benicia Business Park EIR*. Comparing the 2013 counts to the 2006 counts indicates that the total intersection volumes have not increased during the seven year period, indicating that an annual growth rate of 6.6 percent may overstate future traffic volumes. Several unfunded roadway improvements are included in the 2030 STA model network, such as widening Park Road to four lanes. A review of the 2030 STA model output also indicates a significant amount of cut-through traffic from I-680 and East 2nd Street on Park Road within the AM peak hour that may overstate future traffic volumes in the area.

Instead of applying model-based growth rates to the existing intersection turning movement counts, a 1.5 percent per year growth rate was applied. This rate is similar to the annual rate of 1.6 percent used in the *Benicia Business Park EIR* for the period between 2006 and 2030. However, according to 2006 and 2013 count data collected at the intersection of Park Road/Bayshore Road, traffic volumes have not increased during the seven year period, potentially due to the recent economic downturn. Therefore, to account for the recent economic downturn, an annual growth rate of 1.5% is reasonable to assume for the study area.

Figure 4-1 presents the weekday 2:45 – 3:45 PM hour intersection forecasts for Cumulative conditions.

In addition, Cumulative intersection forecasts for the 9:00 – 10:00 PM off-peak were estimated by applying a 10 percent reduction factor derived from the existing Park Road daily counts to the Cumulative AM peak hour intersection forecasts. Cumulative 7:15-8:15 AM peak hour forecasts are provided in **Appendix A**, however this report did not evaluate AM peak hour intersection operations as project trains would avoid crossing Park Road during the 6:00 – 9:00 AM peak period.





VOLUMES KEY

- XX 2:45 - 3:45 PM Hour Traffic Volumes
- Stop Sign

MAP KEY

- ① Study Intersection
- UPRR At-Grade Crossing
- ▬ Roadway Count Location
- UPRR Overland Route (Spur)
- ▬ UPRR Overland Route (Mainline)



Figure 4-1.

**Cumulative Conditions
Intersection 2:45 - 3:45 PM Hour Traffic Volumes and Lane Configurations**

WC13-3005_4-1_CumuVols



4.2 CUMULATIVE YEAR ROADWAY NETWORK

Standard CEQA practice is to assume future transportation improvements that are reasonably foreseeable. To meet this definition, a planned improvement must be fully funded by the Cumulative Year 2035. According to the *City of Benicia Capital Improvement Program FY 2011-16* (CIP) the following roadway improvements are planned within the study area:

- Park Road widening to four lanes between Industrial Way and Sulphur Springs Creek Bridge
- Bayshore Road extension from Park Road to Industrial Way
- Park Road/Bayshore Road intersection signalization
- I-680/Bayshore Road ramp-terminal intersection signalization
- I-680/Bayshore Road interchange improvements

Although the above improvements are listed in the CIP, City of Benicia staff have confirmed that funding for the improvements has not yet been secured and the timing of their construction is uncertain. Therefore, none of the improvements identified above were assumed as part of the Cumulative traffic operations analysis. The existing lane configurations and traffic controls were assumed to remain in place for the Cumulative condition. The Cumulative year lane configurations and traffic control assumptions are also shown on **Figure 4-1**.

4.3 INTERSECTION OPERATIONS RESULTS

4.3.1 OFF-PEAK HOUR OPERATIONS RESULTS

The Cumulative off-peak hours of 2:45 – 3:45 PM and 9:00 – 10:00 PM were evaluated assuming a 50-railcar project train crossing at Park Road, LOS results are presented in **Table 4-1** and queuing results in **Table 4-2**. All five study intersections are expected to operate at LOS F during the 2:45 – 3:45 PM hour under No Project conditions (assuming a train crossing duration of 11 minutes and 50 seconds), compared to four study intersections that are expected to operate at LOS F as a result of a project train crossing duration of 8 minutes and 18 seconds. Vehicle queues associated with the 50-railcar crossing due to the project are expected to extend back onto the northbound I-680 off-ramp but not onto the I-680 mainline. Queues are also expected to extend back to the Park Road/Valero Refinery Driveway and eventually extend beyond the Park Road/Industrial Way intersection for both Cumulative No Project and Plus Project conditions. The segment of Park Road between the at-grade railroad crossing and Industrial Way provides a two-way left-turn lane which will likely be utilized as a queue storage lane by some drivers stuck on westbound Park Road waiting for the 8.3 minute train crossing to clear. In general, project train



crossings that would occur during the off-peak periods between 9:00 AM – Noon, 1:00 – 4:00 PM, and 6:00 – 7:00 PM would result in average intersection delays and maximum intersection queues that are lower than longer train crossings under No Project conditions. Train crossings of durations greater than 8 minutes already occur about once a day between the 9:00 AM – 7:30 PM periods.

Figure 4-2 provides a graphical comparison of the extent of the maximum queues expected with the project train crossings at Park Road assuming 2:45 – 3:45 PM hour conditions compared to Cumulative No Project conditions. The analysis for No Project conditions assumes an existing train crossing duration of 11 minutes and 50 seconds. Detailed intersection analysis worksheets are provided in **Appendix B**.

Traffic volumes in the evenings and late nights are much lower within the study area compared to the morning peak period. As shown in **Table 4-1**, during the 9:00 – 10:00 PM hour all intersections are expected to operate at LOS A except for Park Road/Bayshore Road, which would operate at LOS F due to its close proximity to the at-grade railroad crossing. Although the intersection operates at LOS F, the resulting queues would be no longer than 5 vehicles on either approach of the intersection. Although the proposed 50-railcar train crossing would block Park Road for over 8 minutes, the resulting queues would be contained within the provided intersection storage capacity at Park Road/Basyhore Road during the 9:00 – 10:00 PM hour.

Generally, train crossings at the Park Road at-grade intersection that take longer than 5 minutes to cross result in LOS E or F operations at the adjacent intersection of Park Road/Bayshore Road, regardless of the time of day in which the train crossing occurs. Therefore, LOS E or F operations at the Park Road/Bayshore Road intersection when rail activity occurs are part of the baseline condition. The longer the train crossing duration, the higher the probability is for vehicle queues to build up and extend to adjacent study intersections, thus affecting their operations as well.



**TABLE 4-1
 CUMULATIVE PLUS PROJECT OFF-PEAK HOUR INTERSECTION LEVEL OF SERVICE**

Location	Control ¹	Cumulative No Project 2:45 – 3:45 PM ³		Cumulative Plus Project 2:45 – 3:45 PM ⁴		Cumulative Plus Project 9:00 – 10:00 PM ⁵	
		Delay ²	LOS	Delay ²	LOS	Delay ²	LOS
1. Park Road / Bayshore Road	AWSC	253	F	116	F	102	F
2. I-680 SB On-Ramp / Bayshore Road	FREE	69	F	50	F	1	A
3. I-680 NB Off-Ramp / Bayshore Road	SSSC	148 (220)	F (F)	109 (158)	F (F)	5 (6)	A (A)
4. Park Road / Bay Vista Court	SSSC	72 (104)	F (F)	13 (22)	A (C)	1 (1)	A (A)
5. Park Road / Valero Refinery Driveway	SSSC	170 (375)	F (F)	114 (223)	F (F)	1 (4)	A (A)

Notes: **Bold** denotes locations where level of service threshold is exceeded.

1. AWSC = all way stop controlled intersection, SSSC = side street stop controlled intersection, Free = uncontrolled intersection.
2. Intersection level of service based on average intersection control delay (in seconds) according to the *Highway Capacity Manual* (Transportation Research Board, 2000). For side-street stop-controlled intersections, delay is reported as intersection average (worst case approach).
3. Assumes an existing single train crossing duration of 11 minutes and 50 seconds at the Park Road at-grade railroad crossing.
4. Time period representative of the 9:00 AM to 12:00 PM, 1:00 to 4:00 PM, and 6:00 to 7:00 PM periods along westbound and eastbound Park Road. Assumes a single project train crossing duration of 8 minutes and 18 seconds at the Park Road at-grade railroad crossing.
5. Time period representative of the 7:00 PM to 6:00 AM time period along westbound and eastbound Park Road. Assumes a single project train crossing duration of 8 minutes and 18 seconds at the Park Road at-grade railroad crossing.

Source: Fehr & Peers, 2013.



**TABLE 4-2
 CUMULATIVE PLUS PROJECT OFF-PEAK HOUR INTERSECTION QUEUING**

Intersection	Movement ¹	Available Storage (ft)	Cumulative No Project 2:45 – 3:45 PM ²		Cumulative Plus Project 2:45-3:45 PM ³		Cumulative Plus Project 9:00 – 10:00 PM ⁴	
			Average Queue Length (ft)	Max Queue Length (ft)	Average Queue Length (ft)	Max Queue Length (ft)	Average Queue Length (ft)	Max Queue Length (ft)
1. Park Road / Bayshore Road	NB-LT	140	25	65	25	65	0	30
	NB-R	275	440	620	295	615	25	50
	SB-LTR	220	120	305	50	200	0	30
	EB-LTR	250	220	510	100	350	0	30
	WB-L	200	940	2,200	940	1,570	30	100
	WB-TR	500	940	2,200	940	1,570	25	40
2. I-680 SB On-Ramp / Bayshore Road	NB-L	115	25	40	0	25	0	0
3. I-680 NB Off-Ramp / Bayshore Road	NB-T	200	90	260	30	220	0	0
	EB-LR	1,300	570	1,640	330	985	25	50
4. Park Road / Bay Vista Court	NB-LR	275	25	40	0	25	0	0
5. Park Road / Valero Refinery Driveway	SB-LR	200	105	225	50	170	0	30
	EB-L	150	0	25	0	25	0	0
	WB-TR	950	440	1,700	440	1,070	0	0

Notes: **Bold** denotes locations where storage length is exceeded.

1. NB – northbound, SB – southbound, EB – eastbound, WB – westbound, L – left turn movement, T – through movement, R – right turn movement.
2. Assumes an existing single train crossing duration of 11 minutes and 50 seconds at the Park Road at-grade railroad crossing.
3. Time period representative of the 9:00 AM to 12:00 PM, 1:00 to 4:00 PM, and 6:00 to 7:00 PM periods along westbound and eastbound Park Road. Assumes a single project train crossing duration of 8 minutes and 18 seconds at the Park Road at-grade railroad crossing.
4. Time period representative of the 7:00 PM to 6:00 AM time period along westbound and eastbound Park Road. Assumes a single project train crossing duration of 8 minutes and 18 seconds at the Park Road at-grade railroad crossing.

Source: Fehr & Peers, 2013.



4.4 CUMULATIVE PROJECT IMPACTS AND MITIGATION MEASURES

The proposed increase of daily crude oil deliveries by rail across Park Road would result in vehicle queues that would spillback onto the I-680/Bayshore Road ramp-terminal intersections and the intersection of Park Road/Industrial Way if deliveries occur during the 9:00 AM – Noon, 1:00 – 4:00 PM, and 6:00 – 7:00 PM periods. From a queuing perspective, the Project would impede other traffic during the 9:00 AM – Noon, 1:00 – 4:00 PM, and 6:00 – 7:00 PM off-peak hours because vehicle queues that result from the train crossing would likely extend to the I-680/Bayshore Road ramp-terminal intersections and the intersection of Park Road/Industrial Way. Even though project train crossings would affect the operations at these intersections, the maximum queues that result from the 8.3 minute Park Road blockage time would be less than the maximum queues that develop due to longer train crossings under Cumulative No Project conditions. Therefore, project impacts at these locations would be **less-than-significant**.

If the proposed train crossings occur during the 7:00 PM – 6:00 AM period, resulting queues on the west side and east side of the tracks would not exceed the provided storage capacity. Only the intersection of Park Road/Bayshore Road would operate at LOS F conditions during the hour of the crossing, but resulting queues would not extend back and affect the operations of other study intersections.

Existing video data collected at the Park Road at-grade railroad crossing indicates that on average there is one train a day that crosses Park Road with a duration over eight minutes within the 9:00 AM to 7:00 PM period. The longest observed existing train crossing on Park Road was measured at about 16 minutes and 17 seconds, nearly double the duration of a single 50-railcar crossing proposed by the Project. The Proposed project would increase the frequency of 8-minute crossings that occur in the area, but the increased crossing frequency is within the current range of crossing variability. Although the Project would increase the train frequency on Park Road by four train crossings (two trips into the refinery and two trips out of the refinery) a day, the proposed crossing duration of each Project train trip is lower than train crossing durations that already exist today without the Project.





Figure 4-2.

Cumulative Plus Project Queueing Analysis

WC13-3005_4-2_CumuQueue

APPENDIX A: EXISTING TRAFFIC DATA



Prepared by NDS/ATD

Volumes for: Friday, September 06, 2013

City: Benicia

Project #: 13-7499-001

Location: Park Road north of Bayshore Road

Start Time	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	8	64			23	75				
12:15	2	54			3	76				
12:30	4	51			3	46				
12:45	0	64	14	233	1	44	30	241	44	474
1:00	1	70			3	46				
1:15	8	88			6	50				
1:30	6	68			5	74				
1:45	4	62	19	288	4	48	18	218	37	506
2:00	7	61			6	61				
2:15	4	42			9	61				
2:30	4	64			4	73				
2:45	13	74	28	241	8	59	27	254	55	495
3:00	11	47			8	68				
3:15	10	73			3	60				
3:30	16	80			1	80				
3:45	22	43	59	243	4	77	16	285	75	528
4:00	8	44			3	93				
4:15	15	46			14	43				
4:30	28	79			8	41				
4:45	47	39	98	208	25	69	50	246	148	454
5:00	25	45			30	74				
5:15	46	33			22	50				
5:30	48	29			29	53				
5:45	58	21	177	128	33	28	114	205	291	333
6:00	61	27			33	45				
6:15	60	21			45	27				
6:30	89	20			56	32				
6:45	109	22	319	90	67	27	201	131	520	221
7:00	84	18			75	21				
7:15	84	16			57	21				
7:30	105	11			52	15				
7:45	101	16	374	61	67	12	251	69	625	130
8:00	92	16			46	18				
8:15	90	7			63	6				
8:30	84	5			63	3				
8:45	79	12	345	40	58	14	230	41	575	81
9:00	74	5			63	6				
9:15	59	13			41	12				
9:30	55	8			61	8				
9:45	57	5	245	31	65	10	230	36	475	67
10:00	57	2			54	10				
10:15	63	4			45	5				
10:30	52	11			51	8				
10:45	63	6	235	23	47	11	197	34	432	57
11:00	65	2			63	10				
11:15	63	4			64	3				
11:30	58	4			61	6				
11:45	62	4	248	14	78	2	266	21	514	35
Total	2161	1600	2161	1600	1630	1781	1630	1781	3791	3381
Combined Total	3761		3761		3411		3411		7172	
AM Peak	7:30 AM				11:30 AM					
Vol.	388				290					
P.H.F.	0.924				0.929					
PM Peak	12:45 PM				3:15 PM					
Vol.	290				310					
P.H.F.	0.824				0.833					
Percentage	57.5%	42.5%			47.8%	52.2%				

Prepared by NDS/ATD

Volumes for: Friday, September 06, 2013

City: Benicia

Project #: 13-7499-001

Location: Park Road just south of the Refinery Entrance (Southbound Total Volume)

Start Time	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	0	0			24	91				
12:15	0	0			3	101				
12:30	0	0			4	78				
12:45	0	0	0	0	1	72	32	342	32	342
1:00	0	0			4	77				
1:15	0	0			6	82				
1:30	0	0			10	91				
1:45	0	0	0	0	5	66	25	316	25	316
2:00	0	0			11	84				
2:15	0	0			15	72				
2:30	0	0			7	87				
2:45	0	0	0	0	15	73	48	316	48	316
3:00	0	0			14	83				
3:15	0	0			6	71				
3:30	0	0			1	104				
3:45	0	0	0	0	8	100	29	358	29	358
4:00	0	0			10	107				
4:15	0	0			30	77				
4:30	0	0			15	87				
4:45	0	0	0	0	36	90	91	361	91	361
5:00	0	0			43	127				
5:15	0	0			34	69				
5:30	0	0			47	57				
5:45	0	0	0	0	52	48	176	301	176	301
6:00	0	0			49	49				
6:15	0	0			47	35				
6:30	0	0			73	49				
6:45	0	0	0	0	82	27	251	160	251	160
7:00	0	0			92	27				
7:15	0	0			86	28				
7:30	0	0			64	18				
7:45	0	0	0	0	108	23	350	96	350	96
8:00	0	0			53	25				
8:15	0	0			82	8				
8:30	0	0			84	3				
8:45	0	0	0	0	95	18	314	54	314	54
9:00	0	0			81	8				
9:15	0	0			56	13				
9:30	0	0			83	11	0			
9:45	0	0	0	0	80	19	300	51	300	51
10:00	0	0			79	11				
10:15	0	0			56	5				
10:30	0	0			74	15				
10:45	0	0	0	0	60	14	269	45	269	45
11:00	0	0			83	14				
11:15	0	0			83	4				
11:30	0	0			98	9				
11:45	0	0	0	0	109	3	373	30	373	30
Total	0	0	0	0	2258	2430	2258	2430	2258	2430
Combined Total	0		0		4688		4688		4688	
AM Peak					11:30 AM					
Vol.					399					
P.H.F.					0.915					
PM Peak						3:30 PM				
Vol.						388				
P.H.F.						0.907				
Percentage					48.2%	51.8%				

Prepared by NDS/ATD

Volumes for: Saturday, September 07, 2013

City: Benicia

Project #: 13-7499-001

Location: Park Road north of Bayshore Road

Start Time	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	1	12			10	20				
12:15	6	17			5	28				
12:30	6	18			3	28				
12:45	1	13	14	60	6	20	24	96	38	156
1:00	5	16			3	21				
1:15	2	19			3	19				
1:30	2	17			3	17				
1:45	1	14	10	66	2	20	11	77	21	143
2:00	3	13			4	21				
2:15	4	27			2	16				
2:30	3	11			2	15				
2:45	8	25	18	76	3	16	11	68	29	144
3:00	3	13			10	21				
3:15	8	20			1	24				
3:30	14	20			2	23				
3:45	6	18	31	71	3	13	16	81	47	152
4:00	10	15			5	16				
4:15	8	11			3	17				
4:30	5	18			1	12				
4:45	12	10	35	54	5	17	14	62	49	116
5:00	8	15			8	17				
5:15	7	13			8	14				
5:30	10	10			10	11				
5:45	23	20	48	58	13	10	39	52	87	110
6:00	19	11			10	6				
6:15	18	18			11	10				
6:30	39	10			30	13				
6:45	49	7	125	46	14	7	65	36	190	82
7:00	20	19			13	10				
7:15	30	8			19	13				
7:30	21	10			13	8				
7:45	25	9	96	46	17	5	62	36	158	82
8:00	16	11			30	11				
8:15	20	7			10	3				
8:30	11	6			13	7				
8:45	17	7	64	31	21	7	74	28	138	59
9:00	11	3			19	4				
9:15	18	7			19	7				
9:30	26	9			30	3				
9:45	23	5	78	24	13	4	81	18	159	42
10:00	22	5			24	8				
10:15	10	10			29	3				
10:30	13	2			8	8				
10:45	12	7	57	24	22	1	83	20	140	44
11:00	24	3			12	2				
11:15	19	7			14	3				
11:30	26	1			25	4				
11:45	14	5	83	16	19	4	70	13	153	29
Total	659	572	659	572	550	587	550	587	1209	1159
Combined Total	1231		1231		1137		1137		2368	
AM Peak	6:30 AM				9:30 AM					
Vol.	138				96					
P.H.F.	0.704				0.800					
PM Peak	2:45 PM				12:15 PM					
Vol.	78				97					
P.H.F.	0.780				0.866					
Percentage	53.5%	46.5%			48.4%	51.6%				

Prepared by NDS/ATD

Volumes for: Saturday, September 07, 2013

City: Benicia

Project #: 13-7499-001

Location: Park Road just south of the Refinery Entrance (Southbound Total Volume)

Start Time	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	0	0			13	32				
12:15	0	0			12	38				
12:30	0	0			3	33				
12:45	0	0	0	0	8	24	36	127	36	127
1:00	0	0			3	30				
1:15	0	0			4	30				
1:30	0	0			5	25				
1:45	0	0	0	0	8	23	20	108	20	108
2:00	0	0			4	34				
2:15	0	0			5	18				
2:30	0	0			4	21				
2:45	0	0	0	0	7	18	20	91	20	91
3:00	0	0			13	26				
3:15	0	0			3	31				
3:30	0	0			2	24				
3:45	0	0	0	0	5	13	23	94	23	94
4:00	0	0			11	20				
4:15	0	0			5	21				
4:30	0	0			1	18				
4:45	0	0	0	0	15	22	32	81	32	81
5:00	0	0			8	21				
5:15	0	0			15	24				
5:30	0	0			12	11				
5:45	0	0	0	0	18	13	53	69	53	69
6:00	0	0			13	9				
6:15	0	0			15	13				
6:30	0	0			35	16				
6:45	0	0	0	0	21	9	84	47	84	47
7:00	0	0			16	13				
7:15	0	0			21	15				
7:30	0	0			13	9				
7:45	0	0	0	0	18	7	68	44	68	44
8:00	0	0			34	11				
8:15	0	0			12	3				
8:30	0	0			15	10				
8:45	0	0	0	0	22	7	83	31	83	31
9:00	0	0			24	4				
9:15	0	0			26	9				
9:30	0	0			31	3	0			
9:45	0	0	0	0	21	6	102	22	102	22
10:00	0	0			31	9				
10:15	0	0			37	3				
10:30	0	0			14	9				
10:45	0	0	0	0	25	1	107	22	107	22
11:00	0	0			15	3				
11:15	0	0			25	5				
11:30	0	0			30	5				
11:45	0	0	0	0	23	5	93	18	93	18
Total	0	0	0	0	721	754	721	754	721	754
Combined Total	0		0		1475		1475		1475	
AM Peak					11:45 AM					
Vol.					126					
P.H.F.					0.829					
PM Peak					12:00 PM					
Vol.					127					
P.H.F.					0.836					
Percentage					48.9%	51.1%				

Prepared by NDS/ATD

Volumes for: Sunday, September 08, 2013

City: Benicia

Project #: 13-7499-001

Location: Park Road north of Bayshore Road

Start Time	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	3	16			3	9				
12:15	4	8			2	7				
12:30	1	9			1	6				
12:45	4	5	12	38	2	3	8	25	20	63
1:00	0	9			1	13				
1:15	3	14			3	13				
1:30	0	10			1	9				
1:45	4	12	7	45	0	9	5	44	12	89
2:00	3	10			1	11				
2:15	2	4			0	8				
2:30	4	12			3	5				
2:45	4	14	13	40	0	11	4	35	17	75
3:00	4	7			3	20				
3:15	6	13			0	9				
3:30	6	11			2	16				
3:45	2	12	18	43	1	13	6	58	24	101
4:00	2	9			2	19				
4:15	2	8			2	12				
4:30	4	12			3	8				
4:45	6	5	14	34	6	9	13	48	27	82
5:00	5	12			5	19				
5:15	2	13			1	10				
5:30	3	19			5	11				
5:45	4	10	14	54	9	9	20	49	34	103
6:00	11	8			3	5				
6:15	8	8			10	11				
6:30	12	10			3	5				
6:45	18	6	49	32	6	4	22	25	71	57
7:00	11	7			9	7				
7:15	8	4			10	4				
7:30	19	6			7	4				
7:45	13	9	51	26	10	4	36	19	87	45
8:00	10	6			7	3				
8:15	6	6			7	5				
8:30	4	2			5	2				
8:45	3	3	23	17	2	3	21	13	44	30
9:00	9	5			6	4				
9:15	11	4			10	8				
9:30	7	4			9	3				
9:45	5	5	32	18	5	2	30	17	62	35
10:00	7	5			9	3				
10:15	9	11			3	4				
10:30	9	4			16	8				
10:45	16	6	41	26	14	3	42	18	83	44
11:00	15	3			15	2				
11:15	3	2			9	3				
11:30	10	2			13	3				
11:45	5	4	33	11	11	2	48	10	81	21
Total	307	384	307	384	255	361	255	361	562	745
Combined Total	691		691		616		616		1307	
AM Peak	6:45 AM				10:30 AM					
Vol.	56				54					
P.H.F.	0.737				0.844					
PM Peak	5:00 PM				3:30 PM					
Vol.	54				60					
P.H.F.	0.711				0.789					
Percentage	44.4%	55.6%			41.4%	58.6%				

Prepared by NDS/ATD

Volumes for: Sunday, September 08, 2013

City: Benicia

Project #: 13-7499-001

Location: Park Road just south of the Refinery Entrance (Southbound Total Volume)

Start Time	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	0	0			6	10				
12:15	0	0			2	8				
12:30	0	0			3	7				
12:45	0	0	0	0	4	6	15	31	15	31
1:00	0	0			1	15				
1:15	0	0			5	15				
1:30	0	0			2	9				
1:45	0	0	0	0	1	11	9	50	9	50
2:00	0	0			1	16				
2:15	0	0			0	10				
2:30	0	0			5	8				
2:45	0	0	0	0	0	13	6	47	6	47
3:00	0	0			3	30				
3:15	0	0			1	10				
3:30	0	0			6	25				
3:45	0	0	0	0	3	15	13	80	13	80
4:00	0	0			5	30				
4:15	0	0			3	17				
4:30	0	0			3	13				
4:45	0	0	0	0	11	13	22	73	22	73
5:00	0	0			5	24				
5:15	0	0			1	15				
5:30	0	0			10	18				
5:45	0	0	0	0	10	9	26	66	26	66
6:00	0	0			4	7				
6:15	0	0			12	15				
6:30	0	0			3	7				
6:45	0	0	0	0	8	5	27	34	27	34
7:00	0	0			13	8				
7:15	0	0			13	6				
7:30	0	0			8	5				
7:45	0	0	0	0	11	4	45	23	45	23
8:00	0	0			10	3				
8:15	0	0			9	12				
8:30	0	0			5	4				
8:45	0	0	0	0	3	7	27	26	27	26
9:00	0	0			8	5				
9:15	0	0			13	9				
9:30	0	0			10	3	0			
9:45	0	0	0	0	5	2	36	19	36	19
10:00	0	0			11	5				
10:15	0	0			3	6				
10:30	0	0			17	8				
10:45	0	0	0	0	16	3	47	22	47	22
11:00	0	0			16	2				
11:15	0	0			13	3				
11:30	0	0			17	3				
11:45	0	0	0	0	13	5	59	13	59	13
Total	0	0	0	0	332	484	332	484	332	484
Combined Total	0		0		816		816		816	
AM Peak Vol.					10:30 AM					
P.H.F.					62					
PM Peak Vol.					0.912					
P.H.F.					3:30 PM					
					87					
					0.725					
Percentage					40.7%	59.3%				

Prepared by NDS/ATD

Volumes for: Monday, September 09, 2013

City: Benicia

Project #: 13-7499-001

Location: Park Road north of Bayshore Road

Start Time	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	3	57			2	78				
12:15	2	49			4	61				
12:30	5	61			4	64				
12:45	5	57	15	224	4	35	14	238	29	462
1:00	4	88			4	64				
1:15	3	59			2	70				
1:30	4	52			0	60				
1:45	4	58	15	257	2	42	8	236	23	493
2:00	3	60			2	46				
2:15	3	66			2	50				
2:30	4	50			2	73				
2:45	13	56	23	232	2	67	8	236	31	468
3:00	9	63			3	52				
3:15	3	59			6	54				
3:30	13	83			5	65				
3:45	21	59	46	264	3	65	17	236	63	500
4:00	13	57			7	84				
4:15	26	45			7	91				
4:30	27	86			8	87				
4:45	45	45	111	233	24	72	46	334	157	567
5:00	25	39			22	67				
5:15	36	30			13	72				
5:30	56	26			30	44				
5:45	61	32	178	127	50	52	115	235	293	362
6:00	51	27			38	33				
6:15	45	21			32	30				
6:30	77	22			53	34				
6:45	98	15	271	85	74	20	197	117	468	202
7:00	78	18			48	24				
7:15	98	7			56	20				
7:30	103	12			80	13				
7:45	85	10	364	47	94	16	278	73	642	120
8:00	106	12			79	15				
8:15	110	8			58	13				
8:30	64	6			68	2				
8:45	78	8	358	34	55	8	260	38	618	72
9:00	48	5			41	11				
9:15	56	7			48	4				
9:30	49	9			36	12				
9:45	58	10	211	31	45	11	170	38	381	69
10:00	52	3			63	11				
10:15	52	1			42	5				
10:30	47	3			42	11				
10:45	42	1	193	8	48	1	195	28	388	36
11:00	52	6			43	5				
11:15	47	5			52	5				
11:30	55	5			50	5				
11:45	65	8	219	24	50	2	195	17	414	41
Total	2004	1566	2004	1566	1503	1826	1503	1826	3507	3392
Combined Total	3570		3570		3329		3329		6899	
AM Peak	7:30 AM				7:30 AM					
Vol.	404				311					
P.H.F.	0.918				0.827					
PM Peak	12:30 PM				4:00 PM					
Vol.	265				334					
P.H.F.	0.753				0.918					
Percentage	56.1%	43.9%			45.1%	54.9%				

Prepared by NDS/ATD

Volumes for: Monday, September 09, 2013

City: Benicia

Project #: 13-7499-001

Location: Park Road just south of the Refinery Entrance (Southbound Total Volume)

Start Time	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	0	0			2	116				
12:15	0	0			6	73				
12:30	0	0			8	76				
12:45	0	0	0	0	5	57	21	322	21	322
1:00	0	0			8	90				
1:15	0	0			4	75				
1:30	0	0			1	70				
1:45	0	0	0	0	3	60	16	295	16	295
2:00	0	0			6	63				
2:15	0	0			3	97				
2:30	0	0			5	91				
2:45	0	0	0	0	2	80	16	331	16	331
3:00	0	0			7	81				
3:15	0	0			14	72				
3:30	0	0			10	104				
3:45	0	0	0	0	8	75	39	332	39	332
4:00	0	0			16	98				
4:15	0	0			22	120				
4:30	0	0			15	155				
4:45	0	0	0	0	34	87	87	460	87	460
5:00	0	0			39	152				
5:15	0	0			18	89				
5:30	0	0			48	46				
5:45	0	0	0	0	58	58	163	345	163	345
6:00	0	0			55	41				
6:15	0	0			41	42				
6:30	0	0			61	34				
6:45	0	0	0	0	76	26	233	143	233	143
7:00	0	0			61	27				
7:15	0	0			70	23				
7:30	0	0			97	17				
7:45	0	0	0	0	105	16	333	83	333	83
8:00	0	0			118	19				
8:15	0	0			78	15				
8:30	0	0			75	3				
8:45	0	0	0	0	67	10	338	47	338	47
9:00	0	0			52	14				
9:15	0	0			62	4				
9:30	0	0			47	15	0			
9:45	0	0	0	0	70	16	231	49	231	49
10:00	0	0			77	11				
10:15	0	0			62	9				
10:30	0	0			58	12				
10:45	0	0	0	0	68	1	265	33	265	33
11:00	0	0			58	6				
11:15	0	0			63	5				
11:30	0	0			65	6				
11:45	0	0	0	0	61	4	247	21	247	21
Total	0	0	0	0	1989	2461	1989	2461	1989	2461
Combined Total	0		0		4450		4450		4450	
AM Peak					7:30 AM					
Vol.					398					
P.H.F.					0.843					
PM Peak						4:15 PM				
Vol.						514				
P.H.F.						0.829				
Percentage					44.7%	55.3%				

Prepared by NDS/ATD

Volumes for: Tuesday, September 10, 2013

City: Benicia

Project #: 13-7499-001

Location: Park Road north of Bayshore Road

Start Time	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	5	78			7	39				
12:15	2	49			7	55				
12:30	5	65			3	53				
12:45	4	65	16	257	1	68	18	215	34	472
1:00	3	54			11	35				
1:15	4	59			4	48				
1:30	7	66			6	58				
1:45	9	55	23	234	6	46	27	187	50	421
2:00	6	54			2	53				
2:15	2	76			3	44				
2:30	4	40			6	71				
2:45	10	56	22	226	5	46	16	214	38	440
3:00	3	44			4	53				
3:15	20	52			5	56				
3:30	8	83			3	96				
3:45	27	47	58	226	7	58	19	263	77	489
4:00	11	54			6	56				
4:15	26	51			9	63				
4:30	34	86			9	66				
4:45	41	48	112	239	20	85	44	270	156	509
5:00	34	50			19	111				
5:15	39	39			28	71				
5:30	37	30			39	63				
5:45	85	30	195	149	43	44	129	289	324	438
6:00	59	31			32	53				
6:15	56	21			44	27				
6:30	88	25			43	38				
6:45	106	15	309	92	74	29	193	147	502	239
7:00	74	26			54	21				
7:15	114	15			51	24				
7:30	98	9			55	17				
7:45	123	10	409	60	61	12	221	74	630	134
8:00	80	13			68	15				
8:15	86	5			62	4				
8:30	85	9			60	11				
8:45	67	12	318	39	54	7	244	37	562	76
9:00	68	2			47	9				
9:15	64	9			48	6				
9:30	58	3			44	12				
9:45	55	7	245	21	36	15	175	42	420	63
10:00	63	6			47	8				
10:15	63	7			28	3				
10:30	46	6			45	6				
10:45	40	4	212	23	44	7	164	24	376	47
11:00	39	8			46	11				
11:15	52	8			46	4				
11:30	54	6			60	1				
11:45	24	4	169	26	29	2	181	18	350	44
Total	2088	1592	2088	1592	1431	1780	1431	1780	3519	3372
Combined Total	3680		3680		3211		3211		6891	
AM Peak	7:15 AM				7:45 AM					
Vol.	415				251					
P.H.F.	0.843				0.923					
PM Peak	12:00 PM				4:30 PM					
Vol.	257				333					
P.H.F.	0.824				0.750					
Percentage	56.7%	43.3%			44.6%	55.4%				

Prepared by NDS/ATD

Volumes for: Tuesday, September 10, 2013

City: Benicia

Project #: 13-7499-001

Location: Park Road just south of the Refinery Entrance (Southbound Total Volume)

Start Time	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	0	0			7	81				
12:15	0	0			11	73				
12:30	0	0			5	64				
12:45	0	0	0	0	1	78	24	296	24	296
1:00	0	0			12	55				
1:15	0	0			4	63				
1:30	0	0			6	69				
1:45	0	0	0	0	11	72	33	259	33	259
2:00	0	0			7	68				
2:15	0	0			5	55				
2:30	0	0			9	78				
2:45	0	0	0	0	6	63	27	264	27	264
3:00	0	0			11	83				
3:15	0	0			8	59				
3:30	0	0			8	97				
3:45	0	0	0	0	9	64	36	303	36	303
4:00	0	0			16	76				
4:15	0	0			17	99				
4:30	0	0			17	130				
4:45	0	0	0	0	33	102	83	407	83	407
5:00	0	0			33	141				
5:15	0	0			47	83				
5:30	0	0			53	66				
5:45	0	0	0	0	60	65	193	355	193	355
6:00	0	0			42	58				
6:15	0	0			55	36				
6:30	0	0			58	45				
6:45	0	0	0	0	93	32	248	171	248	171
7:00	0	0			62	28				
7:15	0	0			66	30				
7:30	0	0			69	20				
7:45	0	0	0	0	86	16	283	94	283	94
8:00	0	0			80	19				
8:15	0	0			74	6				
8:30	0	0			81	15				
8:45	0	0	0	0	60	14	295	54	295	54
9:00	0	0			62	13				
9:15	0	0			51	6				
9:30	0	0			51	20	0			
9:45	0	0	0	0	49	21	213	60	213	60
10:00	0	0			55	12				
10:15	0	0			48	5				
10:30	0	0			50	7				
10:45	0	0	0	0	57	11	210	35	210	35
11:00	0	0			65	18				
11:15	0	0			66	4				
11:30	0	0			73	3				
11:45	0	0	0	0	40	4	244	29	244	29
Total	0	0	0	0	1889	2327	1889	2327	1889	2327
Combined Total	0		0		4216		4216		4216	
AM Peak					7:45 AM					
Vol.					321					
P.H.F.					0.933					
PM Peak						4:15 PM				
Vol.						472				
P.H.F.						0.837				
Percentage					44.8%	55.2%				

Prepared by NDS/ATD

Volumes for: Wednesday, September 11, 2013

City: Benicia

Project #: 13-7499-001

Location: Park Road north of Bayshore Road

Start Time	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	5	55			8	75				
12:15	9	63			10	73				
12:30	4	53			2	53				
12:45	5	81	23	252	5	50	25	251	48	503
1:00	6	73			15	58				
1:15	1	63			4	55				
1:30	5	65			4	79				
1:45	1	64	13	265	2	50	25	242	38	507
2:00	6	59			8	43				
2:15	5	70			2	66				
2:30	7	53			2	78				
2:45	13	56	31	238	9	60	21	247	52	485
3:00	13	54			6	55				
3:15	22	61			4	66				
3:30	8	83			6	102				
3:45	25	52	68	250	7	65	23	288	91	538
4:00	17	46			8	82				
4:15	21	52			12	73				
4:30	30	85			13	88				
4:45	47	56	115	239	19	59	52	302	167	541
5:00	17	62			27	46				
5:15	29	33			23	92				
5:30	43	27			33	60				
5:45	85	34	174	156	41	45	124	243	298	399
6:00	55	21			28	45				
6:15	63	27			51	32				
6:30	80	24			50	48				
6:45	107	18	305	90	76	27	205	152	510	242
7:00	62	13			44	37				
7:15	97	14			45	18				
7:30	98	21			61	15				
7:45	111	9	368	57	78	15	228	85	596	142
8:00	83	18			54	14				
8:15	92	15			57	14				
8:30	83	4			47	7				
8:45	74	12	332	49	68	14	226	49	558	98
9:00	61	6			50	10				
9:15	53	10			60	6				
9:30	57	5			52	6				
9:45	59	4	230	25	49	5	211	27	441	52
10:00	46	7			36	11				
10:15	53	3			52	6				
10:30	42	6			40	6				
10:45	60	3	201	19	47	7	175	30	376	49
11:00	48	4			45	6				
11:15	57	8			52	3				
11:30	48	4			62	3				
11:45	63	4	216	20	78	3	237	15	453	35
Total	2076	1660	2076	1660	1552	1931	1552	1931	3628	3591
Combined Total	3736		3736		3483		3483		7219	
AM Peak	7:15 AM				11:30 AM					
Vol.	389				288					
P.H.F.	0.876				0.923					
PM Peak	12:45 PM				3:30 PM					
Vol.	282				322					
P.H.F.	0.870				0.789					
Percentage	55.6%	44.4%			44.6%	55.4%				

Prepared by NDS/ATD

Volumes for: Wednesday, September 11, 2013

City: Benicia

Project #: 13-7499-001

Location: Park Road just south of the Refinery Entrance (Southbound Total Volume)

Start Time	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	0	0			9	94				
12:15	0	0			11	90				
12:30	0	0			3	76				
12:45	0	0	0	0	9	75	32	335	32	335
1:00	0	0			19	86				
1:15	0	0			8	66				
1:30	0	0			6	97				
1:45	0	0	0	0	2	66	35	315	35	315
2:00	0	0			9	74				
2:15	0	0			5	81				
2:30	0	0			3	97				
2:45	0	0	0	0	15	75	32	327	32	327
3:00	0	0			10	75				
3:15	0	0			12	75				
3:30	0	0			15	121				
3:45	0	0	0	0	12	76	49	347	49	347
4:00	0	0			12	111				
4:15	0	0			28	86				
4:30	0	0			17	123				
4:45	0	0	0	0	32	71	89	391	89	391
5:00	0	0			41	161				
5:15	0	0			33	93				
5:30	0	0			39	78				
5:45	0	0	0	0	58	47	171	379	171	379
6:00	0	0			46	56				
6:15	0	0			69	38				
6:30	0	0			53	56				
6:45	0	0	0	0	78	36	246	186	246	186
7:00	0	0			55	45				
7:15	0	0			53	23				
7:30	0	0			78	20				
7:45	0	0	0	0	94	20	280	108	280	108
8:00	0	0			59	19				
8:15	0	0			69	18				
8:30	0	0			55	12				
8:45	0	0	0	0	86	17	269	66	269	66
9:00	0	0			71	10				
9:15	0	0			72	8				
9:30	0	0			61	7	0			
9:45	0	0	0	0	67	6	271	31	271	31
10:00	0	0			68	17				
10:15	0	0			75	7				
10:30	0	0			54	10				
10:45	0	0	0	0	75	10	272	44	272	44
11:00	0	0			64	9				
11:15	0	0			77	4				
11:30	0	0			100	4				
11:45	0	0	0	0	110	5	351	22	351	22
Total	0	0	0	0	2097	2551	2097	2551	2097	2551
Combined Total	0		0		4648		4648		4648	
AM Peak					11:30 AM					
Vol.					394					
P.H.F.					0.895					
PM Peak						4:30 PM				
Vol.						448				
P.H.F.						0.696				
Percentage					45.1%	54.9%				

Prepared by NDS/ATD

Volumes for: Thursday, September 12, 2013

City: Benicia

Project #: 13-7499-001

Location: Park Road north of Bayshore Road

Start Time	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	6	38			9	36				
12:15	1	74			1	39				
12:30	6	64			3	64				
12:45	3	79	16	255	1	52	14	191	30	446
1:00	2	71			6	66				
1:15	0	52			4	51				
1:30	3	66			7	70				
1:45	1	61	6	250	6	52	23	239	29	489
2:00	6	72			7	53				
2:15	2	71			2	52				
2:30	11	52			2	84				
2:45	8	76	27	271	3	50	14	239	41	510
3:00	2	52			11	57				
3:15	17	73			2	74				
3:30	19	83			4	68				
3:45	22	65	60	273	8	70	25	269	85	542
4:00	14	65			12	97				
4:15	15	41			7	56				
4:30	34	83			16	81				
4:45	46	51	109	240	25	59	60	293	169	533
5:00	25	48			28	103				
5:15	27	30			19	63				
5:30	35	36			19	64				
5:45	70	27	157	141	34	33	100	263	257	404
6:00	63	19			24	43				
6:15	64	31			43	40				
6:30	86	18			43	33				
6:45	98	25	311	93	62	23	172	139	483	232
7:00	79	17			56	34				
7:15	100	17			61	25				
7:30	84	13			90	13				
7:45	115	17	378	64	85	13	292	85	670	149
8:00	104	12			68	18				
8:15	97	8			55	17				
8:30	84	10			62	17				
8:45	68	21	353	51	51	13	236	65	589	116
9:00	65	22			55	9				
9:15	69	13			59	6				
9:30	56	5			48	9				
9:45	52	7	242	47	54	9	216	33	458	80
10:00	39	10			48	5				
10:15	71	6			50	8				
10:30	58	9			56	6				
10:45	50	5	218	30	50	8	204	27	422	57
11:00	53	5			61	8				
11:15	50	5			38	6				
11:30	74	4			49	5				
11:45	63	5	240	19	80	6	228	25	468	44
Total	2117	1734	2117	1734	1584	1868	1584	1868	3701	3602
Combined Total	3851		3851		3452		3452		7303	
AM Peak	7:15 AM				7:15 AM					
Vol.	403				304					
P.H.F.	0.876				0.844					
PM Peak	12:15 PM				3:15 PM					
Vol.	288				309					
P.H.F.	0.911				0.796					
Percentage	55.0%	45.0%			45.9%	54.1%				

Prepared by NDS/ATD

Volumes for: Thursday, September 12, 2013

City: Benicia

Project #: 13-7499-001

Location: Park Road just south of the Refinery Entrance (Southbound Total Volume)

Start Time	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	0	0			10	42				
12:15	0	0			2	103				
12:30	0	0			4	86				
12:45	0	0	0	0	3	70	19	301	19	301
1:00	0	0			10	103				
1:15	0	0			8	95				
1:30	0	0			8	101				
1:45	0	0	0	0	6	76	32	375	32	375
2:00	0	0			7	75				
2:15	0	0			6	62				
2:30	0	0			4	104				
2:45	0	0	0	0	6	66	23	307	23	307
3:00	0	0			13	73				
3:15	0	0			5	88				
3:30	0	0			11	97				
3:45	0	0	0	0	16	95	45	353	45	353
4:00	0	0			19	105				
4:15	0	0			13	100				
4:30	0	0			28	142				
4:45	0	0	0	0	36	86	96	433	96	433
5:00	0	0			42	141				
5:15	0	0			27	96				
5:30	0	0			32	92				
5:45	0	0	0	0	43	40	144	369	144	369
6:00	0	0			36	48				
6:15	0	0			55	42				
6:30	0	0			55	34				
6:45	0	0	0	0	77	32	223	156	223	156
7:00	0	0			87	41				
7:15	0	0			77	33				
7:30	0	0			115	21				
7:45	0	0	0	0	118	17	397	112	397	112
8:00	0	0			85	27				
8:15	0	0			87	19				
8:30	0	0			76	24				
8:45	0	0	0	0	76	16	324	86	324	86
9:00	0	0			70	16				
9:15	0	0			79	7				
9:30	0	0			73	9	0			
9:45	0	0	0	0	75	15	297	47	297	47
10:00	0	0			70	10				
10:15	0	0			71	9				
10:30	0	0			87	12				
10:45	0	0	0	0	96	10	324	41	324	41
11:00	0	0			82	10				
11:15	0	0			48	10				
11:30	0	0			74	5				
11:45	0	0	0	0	101	7	305	32	305	32
Total	0	0	0	0	2229	2612	2229	2612	2229	2612
Combined Total	0		0		4841		4841		4841	
AM Peak					7:30 AM					
Vol.					405					
P.H.F.					0.858					
PM Peak						4:15 PM				
Vol.						469				
P.H.F.						0.826				
Percentage					46.0%	54.0%				

ALL TRAFFIC DATA

City of Benicia
 All Vehicles on Unshifted
 Heavy Trucks on Bank 1
 Nothing on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 13-7498-001 I-680 Northbound Off-Ramp-Bayshore Road.pj
 Date : 9/10/2013

Unshifted Count = All Vehicles

START TIME	Southbound					Bayshore Road Westbound				I-680 Northbound Off-Ramp Northbound					Bayshore Road Eastbound					Total	Ped Total	
	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS			APP.TOTAL
09:00	0	0	0	0	0	0	11	0	0	11	64	0	9	0	73	0	6	0	0	6	90	0
09:15	0	0	0	0	0	0	9	0	0	9	58	0	13	0	71	0	5	0	0	5	85	0
09:30	0	0	0	0	0	0	33	0	0	33	42	0	15	0	57	0	3	0	0	3	93	0
09:45	0	0	0	0	0	0	21	0	0	21	45	0	10	0	55	0	5	0	0	5	81	0
Total	0	0	0	0	0	0	74	0	0	74	209	0	47	0	256	0	19	0	0	19	349	0
10:00	0	0	0	0	0	0	12	0	0	12	47	0	7	0	54	0	5	0	0	5	71	0
10:15	0	0	0	0	0	0	21	0	0	21	48	0	9	0	57	0	5	0	0	5	83	0
10:30	0	0	0	0	0	0	13	0	0	13	36	0	8	0	44	0	7	0	0	7	64	0
10:45	0	0	0	0	0	0	16	0	0	16	37	0	8	0	45	0	6	0	0	6	67	0
Total	0	0	0	0	0	0	62	0	0	62	168	0	32	0	200	0	23	0	0	23	285	0
11:00	0	0	0	0	0	0	13	0	0	13	35	0	7	0	42	0	5	0	0	5	60	0
11:15	0	0	0	0	0	0	9	0	0	9	48	0	10	0	58	0	4	0	0	4	71	0
11:30	0	0	0	0	0	0	15	0	0	15	38	0	9	0	47	0	6	0	0	6	68	0
11:45	0	0	0	0	0	0	10	0	0	10	48	0	11	0	59	0	5	0	0	5	74	0
Total	0	0	0	0	0	0	47	0	0	47	169	0	37	0	206	0	20	0	0	20	273	0
13:00	0	0	0	0	0	0	24	0	0	24	59	0	10	0	69	0	9	0	0	9	102	0
13:15	0	0	0	0	0	0	13	0	0	13	51	0	7	0	58	0	7	0	0	7	78	0
13:30	0	0	0	0	0	0	16	0	0	16	59	0	12	0	71	0	8	0	0	8	95	0
13:45	0	0	0	0	0	0	8	0	0	8	45	0	7	0	52	0	3	0	0	3	63	0
Total	0	0	0	0	0	0	61	0	0	61	214	0	36	0	250	0	27	0	0	27	338	0
14:00	0	0	0	0	0	0	13	0	0	13	52	0	5	0	57	0	7	0	0	7	77	0
14:15	0	0	0	0	0	0	22	0	0	22	42	0	9	0	51	0	4	0	0	4	77	0
14:30	0	0	0	0	0	0	12	0	0	12	42	0	4	0	46	0	9	0	0	9	67	0
14:45	0	0	0	0	0	0	34	0	0	34	48	0	12	0	60	0	4	0	0	4	98	0
Total	0	0	0	0	0	0	81	0	0	81	184	0	30	0	214	0	24	0	0	24	319	0
15:00	0	0	0	0	0	0	19	0	0	19	39	0	12	0	51	0	9	0	0	9	79	0
15:15	0	0	0	0	0	0	20	0	0	20	31	0	12	0	43	0	5	0	0	5	68	0
15:30	0	0	0	0	0	0	42	0	0	42	40	0	5	0	45	0	6	0	0	6	93	0
15:45	0	0	0	0	0	0	18	0	0	18	48	0	6	0	54	0	9	0	0	9	81	0
Total	0	0	0	0	0	0	99	0	0	99	158	0	35	0	193	0	29	0	0	29	321	0
Grand Total	0	0	0	0	0	0	424	0	0	424	1102	0	217	0	1319	0	142	0	0	142	1885	0
Apprch %	0.0%	0.0%	0.0%			0.0%	100.0%	0.0%			83.5%	0.0%	16.5%			0.0%	100.0%	0.0%				
Total %	0.0%	0.0%	0.0%		0.0%		22.5%				58.5%	0.0%	11.5%		70.0%		7.5%					100.0%

AM PEAK HOUR	Southbound					Bayshore Road Westbound				I-680 Northbound Off-Ramp Northbound					Bayshore Road Eastbound					Total	
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 09:00 to 10:00																					
Peak Hour For Entire Intersection Begins at 09:00																					
09:00	0	0	0	0	0	0	11	0	0	11	64	0	9	0	73	0	6	0	0	6	90
09:15	0	0	0	0	0	0	9	0	0	9	58	0	13	0	71	0	5	0	0	5	85
09:30	0	0	0	0	0	0	33	0	0	33	42	0	15	0	57	0	3	0	0	3	93
09:45	0	0	0	0	0	0	21	0	0	21	45	0	10	0	55	0	5	0	0	5	81
Total Volume	0	0	0	0	0	0	74	0	0	74	209	0	47	0	256	0	19	0	0	19	349
% App Total	0.0%	0.0%	0.0%			0.0%	100.0%	0.0%			81.6%	0.0%	18.4%			0.0%	100.0%	0.0%			
PHF	.000	.000	.000		.000	.000	.561	.000		.561	.816	.000	.783		.877	.000	.792	.000		.792	.938

PM PEAK HOUR	Southbound					Bayshore Road Westbound				I-680 Northbound Off-Ramp Northbound					Bayshore Road Eastbound					Total	
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 13:00 to 14:00																					
Peak Hour For Entire Intersection Begins at 13:00																					
13:00	0	0	0	0	0	0	24	0	0	24	59	0	10	0	69	0	9	0	0	9	102
13:15	0	0	0	0	0	0	13	0	0	13	51	0	7	0	58	0	7	0	0	7	78
13:30	0	0	0	0	0	0	16	0	0	16	59	0	12	0	71	0	8	0	0	8	95
13:45	0	0	0	0	0	0	8	0	0	8	45	0	7	0	52	0	3	0	0	3	63
Total Volume	0	0	0	0	0	0	61	0	0	61	214	0	36	0	250	0	27	0	0	27	338
% App Total	0.0%	0.0%	0.0%			0.0%	100.0%	0.0%			85.6%	0.0%	14.4%			0.0%	100.0%	0.0%			
PHF	.000	.000	.000		.000	.000	.635	.000		.635	.907	.000	.750		.880	.000	.750	.000		.750	.828

ALL TRAFFIC DATA

City of Benicia
 All Vehicles on Unshifted
 Heavy Trucks on Bank 1
 Nothing on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 13-7498-002 I-680 Southbound On-Ramp-Bayshore Road.p
 Date : 9/10/2013

Unshifted Count = All Vehicles

START TIME	I-680 Southbound On-Ramp Southbound					Bayshore Road Westbound					Driveway Northbound					Bayshore Road Eastbound					Total	Ped Total
	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL		
09:00	0	0	0	0	0	12	64	0	0	76	0	0	0	0	0	0	5	40	0	45	121	0
09:15	0	0	0	0	0	3	62	0	0	65	0	0	0	0	0	0	5	44	0	49	114	0
09:30	0	0	0	0	0	17	60	0	0	77	0	0	0	0	0	0	3	36	0	39	116	0
09:45	0	0	0	0	0	13	52	0	0	65	0	0	0	0	0	0	6	39	0	45	110	0
Total	0	0	0	0	0	45	238	0	0	283	0	0	0	0	0	0	19	159	0	178	461	0
10:00	0	0	0	0	0	11	49	0	0	60	0	0	0	0	0	0	4	45	0	49	109	0
10:15	0	0	0	0	0	17	50	0	0	67	0	0	0	0	0	0	5	30	0	35	102	0
10:30	0	0	0	0	0	7	44	0	0	51	0	0	0	0	0	0	6	38	0	44	95	0
10:45	0	0	0	0	0	15	36	0	0	51	0	0	0	0	0	0	7	36	0	43	94	0
Total	0	0	0	0	0	50	179	0	0	229	0	0	0	0	0	0	22	149	0	171	400	0
11:00	0	0	0	0	0	11	38	0	0	49	0	0	0	0	0	0	5	50	0	55	104	0
11:15	0	0	0	0	0	3	52	0	0	55	0	0	0	0	0	0	4	42	0	46	101	0
11:30	0	0	0	0	0	9	45	0	0	54	0	0	0	0	0	0	6	55	0	61	115	0
11:45	0	0	0	0	0	9	42	0	0	51	0	0	0	0	0	0	5	30	0	35	86	0
Total	0	0	0	0	0	32	177	0	0	209	0	0	0	0	0	0	20	177	0	197	406	0
13:00	0	0	0	0	0	19	61	0	0	80	0	0	0	0	0	0	8	43	0	51	131	0
13:15	0	0	0	0	0	10	55	0	0	65	0	0	0	0	0	0	7	47	0	54	119	0
13:30	0	0	0	0	0	10	64	0	0	74	0	1	0	1	0	0	7	52	0	59	134	0
13:45	0	0	0	0	0	5	49	0	0	54	0	0	0	0	0	0	3	58	0	61	115	0
Total	0	0	0	0	0	44	229	0	0	273	0	1	0	1	0	0	25	200	0	225	499	0
14:00	0	0	0	0	0	5	61	0	0	66	0	0	0	0	0	0	7	54	0	61	127	0
14:15	0	0	0	0	0	10	52	0	0	62	0	0	0	0	0	0	4	61	0	65	127	0
14:30	0	0	0	0	0	10	45	0	0	55	1	0	0	0	1	0	10	71	0	81	137	0
14:45	0	0	0	0	0	25	56	0	0	81	1	0	0	0	1	0	4	59	0	63	145	0
Total	0	0	0	0	0	50	214	0	0	264	2	0	0	2	0	0	25	245	0	270	536	0
15:00	0	0	0	0	0	13	48	0	0	61	0	1	0	0	1	0	9	66	0	75	137	0
15:15	0	0	0	0	0	15	34	0	0	49	0	0	0	0	0	0	5	48	0	53	102	0
15:30	0	0	0	0	0	20	65	0	0	85	0	1	0	0	1	0	6	97	0	103	189	0
15:45	0	0	0	0	0	10	53	0	0	63	0	0	0	0	0	0	9	56	0	65	128	0
Total	0	0	0	0	0	58	200	0	0	258	0	2	0	2	0	0	29	267	0	296	556	0
Grand Total	0	0	0	0	0	279	1237	0	0	1516	2	3	0	0	5	0	140	1197	0	1337	2858	0
Apprch %	0.0%	0.0%	0.0%			18.4%	81.6%	0.0%		53.0%	40.0%	60.0%	0.0%			0.0%	10.5%	89.5%		46.8%	100.0%	
Total %	0.0%	0.0%	0.0%		0.0%	9.8%	43.3%	0.0%			0.1%	0.1%	0.0%		0.2%	0.0%	4.9%	41.9%				

AM PEAK HOUR	I-680 Southbound On-Ramp Southbound					Bayshore Road Westbound					Driveway Northbound					Bayshore Road Eastbound					Total
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 09:00 to 10:00																					
Peak Hour For Entire Intersection Begins at 09:00																					
09:00	0	0	0	0	0	12	64	0	0	76	0	0	0	0	0	0	5	40	0	45	121
09:15	0	0	0	0	0	3	62	0	0	65	0	0	0	0	0	0	5	44	0	49	114
09:30	0	0	0	0	0	17	60	0	0	77	0	0	0	0	0	0	3	36	0	39	116
09:45	0	0	0	0	0	13	52	0	0	65	0	0	0	0	0	0	6	39	0	45	110
Total Volume	0	0	0	0	0	45	238	0	0	283	0	0	0	0	0	0	19	159	0	178	461
% App Total	0.0%	0.0%	0.0%			15.9%	84.1%	0.0%		53.0%	0.0%	0.0%	0.0%			0.0%	10.7%	89.3%		46.8%	100.0%
PHF	.000	.000	.000			.662	.930	.000		.919	.000	.000	.000		.000	.000	.792	.903		.908	.952

PM PEAK HOUR	I-680 Southbound On-Ramp Southbound					Bayshore Road Westbound					Driveway Northbound					Bayshore Road Eastbound					Total
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 14:45 to 15:45																					
Peak Hour For Entire Intersection Begins at 14:45																					
14:45	0	0	0	0	0	25	56	0	0	81	1	0	0	0	1	0	4	59	0	63	145
15:00	0	0	0	0	0	13	48	0	0	61	0	1	0	0	1	0	9	66	0	75	137
15:15	0	0	0	0	0	15	34	0	0	49	0	0	0	0	0	0	5	48	0	53	102
15:30	0	0	0	0	0	20	65	0	0	85	0	1	0	0	1	0	6	97	0	103	189
Total Volume	0	0	0	0	0	73	203	0	0	276	1	2	0	0	3	0	24	270	0	294	573
% App Total	0.0%	0.0%	0.0%			26.4%	73.6%	0.0%		53.0%	33.3%	66.7%	0.0%		.750	0.0%	8.2%	91.8%		.714	.758
PHF	.000	.000	.000			.730	.781	.000		.812	.250	.500	.000		.750	.000	.667	.696		.714	.758

ALL TRAFFIC DATA

City of Benicia
 All Vehicles on Unshifted
 Heavy Trucks on Bank 1
 Nothing on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 13-7498-003 Park Road-Bayshore Road.ppd
 Date : 9/10/2013

Unshifted Count = All Vehicles

START TIME	Park Road Southbound					Bayshore Road Westbound					Park Road Northbound					Bayshore Road Eastbound					Total	Ped Total
	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL		
09:00	41	9	7	0	57	6	2	58	0	66	1	6	5	0	12	2	2	1	0	5	140	0
09:15	40	9	6	0	55	9	2	47	0	58	3	13	9	0	25	8	4	2	0	14	152	0
09:30	31	6	8	0	45	9	2	52	0	63	1	3	5	0	9	5	1	2	0	8	125	0
09:45	37	9	9	0	55	4	1	42	0	47	2	5	3	0	10	5	8	1	0	14	126	0
Total	149	33	30	0	212	28	7	199	0	234	7	27	22	0	56	20	15	6	0	41	543	0
10:00	38	9	7	0	54	4	2	43	0	49	2	14	7	0	23	8	1	4	0	13	139	0
10:15	31	3	4	0	38	1	1	44	0	46	0	9	5	0	14	11	3	1	0	15	113	0
10:30	41	4	3	0	48	3	5	39	0	47	4	5	2	0	11	4	2	2	0	8	114	0
10:45	36	6	5	0	47	4	3	28	0	35	0	3	3	0	6	7	2	0	0	9	97	0
Total	146	22	19	0	187	12	11	154	0	177	6	31	17	0	54	30	8	7	0	45	463	0
11:00	47	12	3	0	62	3	3	35	0	41	1	3	5	0	9	5	5	1	0	11	123	0
11:15	36	8	9	0	53	3	3	44	0	50	1	6	1	0	8	4	5	2	0	11	122	0
11:30	48	12	12	0	72	5	4	36	0	45	2	10	6	0	18	11	9	5	0	25	160	0
11:45	23	5	4	0	32	4	4	15	0	23	4	5	5	0	14	2	3	3	0	8	77	0
Total	154	37	28	0	219	15	14	130	0	159	8	24	17	0	49	22	22	11	0	55	482	0
13:00	41	7	10	0	58	8	3	51	0	62	1	8	8	0	17	5	5	2	0	12	149	0
13:15	48	6	3	0	57	5	5	49	0	59	3	7	4	0	14	3	1	2	0	6	136	0
13:30	51	0	5	0	56	4	3	49	0	56	0	5	2	0	7	3	2	0	0	5	124	0
13:45	64	7	6	0	77	3	3	48	0	54	1	5	3	0	9	5	4	3	0	12	152	0
Total	204	20	24	0	248	20	14	197	0	231	5	25	17	0	47	16	12	7	0	35	561	0
14:00	47	10	6	0	63	7	1	50	0	58	2	6	6	0	14	2	4	2	0	8	143	0
14:15	47	6	4	0	57	1	5	53	0	59	2	14	9	0	25	5	7	4	0	16	157	0
14:30	66	7	6	0	79	3	5	33	0	41	2	6	7	0	15	3	8	1	0	12	147	0
14:45	52	7	2	0	61	4	7	47	0	58	1	6	3	0	10	3	8	1	0	12	141	0
Total	212	30	18	0	260	15	18	183	0	216	7	32	25	0	64	13	27	8	0	48	588	0
15:00	62	13	4	0	79	6	6	33	0	45	1	12	8	0	21	5	5	4	0	14	159	0
15:15	46	3	3	0	52	4	9	21	0	34	2	6	5	0	13	9	5	0	0	14	113	0
15:30	81	9	9	0	99	5	4	58	0	67	4	16	6	0	26	4	14	3	0	21	213	0
15:45	49	6	4	0	59	3	3	43	0	49	0	3	7	0	10	6	6	0	0	12	130	0
Total	238	31	20	0	289	18	22	155	0	195	7	37	26	0	70	24	30	7	0	61	615	0
Grand Total	1103	173	139	0	1415	108	86	1018	0	1212	40	176	124	0	340	125	114	46	0	285	3252	0
Apprch %	78.0%	12.2%	9.8%			8.9%	7.1%	84.0%			11.8%	51.8%	36.5%			43.9%	40.0%	16.1%				
Total %	33.9%	5.3%	4.3%		43.5%	3.3%	2.6%	31.3%		37.3%	1.2%	5.4%	3.8%		10.5%	3.8%	3.5%	1.4%		8.8%	100.0%	

AM PEAK HOUR	Park Road Southbound					Bayshore Road Westbound					Park Road Northbound					Bayshore Road Eastbound					Total	
START TIME	LEFT	THRU	RIGHT		APP.TOTAL	LEFT	THRU	RIGHT		APP.TOTAL	LEFT	THRU	RIGHT		APP.TOTAL	LEFT	THRU	RIGHT		APP.TOTAL	Total	
Peak Hour Analysis From 09:00 to 10:00																						
Peak Hour For Entire Intersection Begins at 09:00																						
09:00	41	9	7		57	6	2	58		66	1	6	5		12	2	2	1		5	140	
09:15	40	9	6		55	9	2	47		58	3	13	9		25	8	4	2		14	152	
09:30	31	6	8		45	9	2	52		63	1	3	5		9	5	1	2		8	125	
09:45	37	9	9		55	4	1	42		47	2	5	3		10	5	8	1		14	126	
Total Volume	149	33	30		212	28	7	199		234	7	27	22		56	20	15	6		41	543	
% App Total	70.3%	15.6%	14.2%			12.0%	3.0%	85.0%			12.5%	48.2%	39.3%			48.8%	36.6%	14.6%				
PHF	.909	.917	.833		.930	.778	.875	.858		.886	.583	.519	.611		.560	.625	.469	.750		.732	.893	

PM PEAK HOUR	Park Road Southbound					Bayshore Road Westbound					Park Road Northbound					Bayshore Road Eastbound					Total	
START TIME	LEFT	THRU	RIGHT		APP.TOTAL	LEFT	THRU	RIGHT		APP.TOTAL	LEFT	THRU	RIGHT		APP.TOTAL	LEFT	THRU	RIGHT		APP.TOTAL	Total	
Peak Hour Analysis From 14:45 to 15:45																						
Peak Hour For Entire Intersection Begins at 14:45																						
14:45	52	7	2		61	4	7	47		58	1	6	3		10	3	8	1		12	141	
15:00	62	13	4		79	6	6	33		45	1	12	8		21	5	5	4		14	159	
15:15	46	3	3		52	4	9	21		34	2	6	5		13	9	5	0		14	113	
15:30	81	9	9		99	5	4	58		67	4	16	6		26	4	14	3		21	213	
Total Volume	241	32	18		291	19	26	159		204	8	40	22		70	21	32	8		61	626	
% App Total	82.8%	11.0%	6.2%			9.3%	12.7%	77.9%			11.4%	57.1%	31.4%			34.4%	52.5%	13.1%				
PHF	.744	.615	.500		.735	.792	.722	.685		.761	.500	.625	.688		.673	.583	.571	.500		.726	.735	

13-7217 Benicia Train Crossing Study

Monday, April 15, 2013

Park Road Crossing								Iron Workers Union Driveway Crossing						
Train #	Start Time	End Time	# of Cars	Direction	Left or Right Track?	Moving Back and Forth?	Crossing Duration	Train #	Start Time	End Time	# of Cars	Direction	Moving Back and Forth?	Crossing Duration
1	10:43:30	10:44:20	2	NB	Right	No	0:00:50	1	10:40:54	10:41:10	2	NB	No	0:00:16
2	10:53:20	10:54:45	5	NB	Right	No	0:01:25	2	14:24:26	14:25:09	9	SB	No	0:00:43
3	10:55:46	10:57:16	5	SB	Left	No	0:01:30	3	18:49:50	18:50:35	9	NB	No	0:00:45
4	11:48:34	11:50:23	11	SB	Left	No	0:01:49	4	19:15:51	19:16:31	9	SB	No	0:00:40
5	11:54:01	11:56:02	11	NB	Right	No	0:02:01							
6	12:15:31	12:16:25	2	SB	Right	No	0:00:54							
7	12:17:51	12:18:44	2	NB	Left	No	0:00:53							
8	12:29:48	12:31:41	7	SB	Left	No	0:01:53							
9	12:32:37	12:34:05	7	NB	Right	No	0:01:28							
10	13:10:10	13:12:16	7	SB	Right	No	0:02:06							
11	13:14:00	13:16:40	7	NB	Left	No	0:02:40							
12	13:43:23	13:44:30	2	SB	Left	No	0:01:07							
13	13:46:11	13:47:05	2	NB	Right	No	0:00:54							
14	14:20:28	14:25:12	9	SB	Right	No	0:04:44							
15	18:51:44	18:53:46	9	NB	Left	No	0:02:02							
16	19:08:07	19:08:48	2	SB	Left	No	0:00:41							
17	19:09:17	19:10:10	2	NB	Right	No	0:00:53							
18	19:15:00	19:16:35	9	SB	Right	No	0:01:35							

13-7217 Benicia Train Crossing Study

Tuesday, April 16, 2013

Park Road Crossing								Iron Workers Union Driveway Crossing						
Train #	Start Time	End Time	# of Cars	Direction	Left or Right Track?	Moving Back and Forth?	Crossing Duration	Train #	Start Time	End Time	# of Cars	Direction	Moving Back and Forth?	Crossing Duration
1	13:14:15	13:26:06	16	NB	Right	No	0:11:51	1	13:05:10	13:22:48	16	NB	No	0:17:38
2	17:20:01	17:21:30	2	SB to NB	Right to Left	Yes	0:01:29	2	17:37:38	17:38:18	10	SB	No	0:00:40
3	17:37:07	17:38:20	10	SB	Left	No	0:01:13	3	18:11:30	18:12:08	10	NB	No	0:00:38
4	18:12:31	18:13:57	10	NB	Left	No	0:01:26	4	18:36:35	18:38:32	5	SB to NB	Yes	0:01:57
5	18:22:18	18:24:19	3	SB to NB	Left to Right	Yes	0:02:01	5	18:48:21	18:50:52	35	SB	No	0:02:31
6	18:32:09	18:40:05	18	SB to NB	Right	Yes	0:07:56							
7	18:47:35	18:50:59	35	SB	Right	No	0:03:24							

13-7217 Benicia Train Crossing Study

Wednesday, April 17, 2013

Park Road Crossing								Iron Workers Union Driveway Crossing						
Train #	Start Time	End Time	# of Cars	Direction	Left or Right Track?	Moving Back and Forth?	Crossing Duration	Train #	Start Time	End Time	# of Cars	Direction	Moving Back and Forth?	Crossing Duration
1	13:51:08	14:07:25	31	NB to SB	Right	Yes	0:16:17	1	13:48:48	14:13:38	43	NB	Yes	0:24:50
2	14:09:55	14:18:35	31	NB	Right	No	0:08:40	2	17:36:02	17:36:42	9	SB	No	0:00:40
3	16:51:33	16:53:17	4	SB	Right	No	0:01:44	3	18:14:19	18:14:57	9	NB	No	0:00:38
4	16:54:06	16:55:26	4	NB	Left	No	0:01:20	4	18:36:15	18:37:41	20	SB	No	0:01:26
5	17:34:04	17:35:20	9	SB	Left	No	0:01:16							
6	18:14:07	18:15:25	9	NB	Left	No	0:01:18							
7	18:25:07	18:26:06	2	SB	Left	No	0:00:59							
8	18:26:25	18:27:24	2	NB	Right	No	0:00:59							
9	18:34:10	18:36:18	20	SB	Right	No	0:02:08							

13-7217 Benicia Train Crossing Study

Thursday, April 18, 2013

Park Road Crossing

Iron Workers Union Driveway Crossing

Train #	Start Time	End Time	# of Cars	Direction	Left or Right Track?	Moving Back and Forth?	Crossing Duration	Train #	Start Time	End Time	# of Cars	Direction	Moving Back and Forth?	Crossing Duration
1	11:20:15	11:24:30	26	NB	Right	No	0:04:15	1	6:30:49	6:34:56	26	NB	Yes	0:04:07
2	13:51:10	13:59:32	16+	SB to NB	Right	Yes	0:08:22	2	11:15:35	11:22:37	26	NB	No	0:07:02
								3	13:53:54	13:55:30	3+	SB to NB	Yes	0:01:36
								4	17:18:39	17:19:20	10	SB	No	0:00:41
								5	17:57:36	17:58:11	9	NB	No	0:00:35
								6	18:22:04	18:24:14	26	SB	No	0:02:10

missing video from 1627 to 2400

13-7217 Benicia Train Crossing Study

Friday, April 19, 2013

Park Road Crossing								Iron Workers Union Driveway Crossing						
Train #	Start Time	End Time	# of Cars	Direction	Left or Right Track?	Moving Back and Forth?	Crossing Duration	Train #	Start Time	End Time	# of Cars	Direction	Moving Back and Forth?	Crossing Duration
1	9:29:07	9:30:37	2	NB	Right	No	0:01:30	1	9:27:51	9:28:06	2	NB	No	0:00:15
2	10:19:03	10:21:08	2	SB to NB	Right to Left	Yes	0:02:05	2	10:43:33	10:44:16	10	SB	No	0:00:43
3	10:43:04	10:43:44	10	SB	Left	No	0:00:40	3	12:17:56	12:20:22	24	NB	No	0:02:26
4	12:19:38	12:27:55	24	NB	Right to Left	Yes	0:08:17	4	14:15:06	14:16:57	25	SB	No	0:01:51
5	12:42:57	12:43:52	2	SB	Left	No	0:00:55							
6	12:44:25	12:45:23	2	NB	Right	No	0:00:58							
7	12:48:29	12:52:10	9+	SB to NB	Right	Yes	0:03:41							
8	14:00:14	14:01:38	3+	SB to NB	Right	Yes	0:01:24							
9	14:10:07	14:16:52	25	SB	Right	No	0:06:45							

missing video from 0000 to 0603

13-7217 Benicia Train Crossing Study

Saturday, April 20, 2013

Park Road Crossing

Iron Workers Union Driveway Crossing

Train #	Start Time	End Time	# of Cars	Direction	Left or Right Track?	Moving Back and Forth?	Crossing Duration	Train #	Start Time	End Time	# of Cars	Direction	Moving Back and Forth?	Crossing Duration
1	12:54:10	13:00:06	16	NB	Right	No	0:05:56	1	12:52:53	12:54:22	16	NB	No	0:01:29
2	17:10:32	17:11:58	10	SB	Left	No	0:01:26	2	17:11:38	17:12:17	10	SB	No	0:00:39
3	17:51:43	17:52:58	9	NB	Left	No	0:01:15	3	17:50:37	17:51:10	9	NB	No	0:00:33
4	18:03:01	18:03:59	2	SB	Left	No	0:00:58	4	18:03:51	18:04:06	2	SB	No	0:00:15

13-7217 Benicia Train Crossing Study

Sunday, April 21, 2013

Park Road Crossing								Iron Workers Union Driveway Crossing						
Train #	Start Time	End Time	# of Cars	Direction	Left or Right Track?	Moving Back and Forth?	Crossing Duration	Train #	Start Time	End Time	# of Cars	Direction	Moving Back and Forth?	Crossing Duration
1	12:17:58	12:19:52	18	NB	Right	No	0:01:54	1	12:16:05	12:19:26	18	NB	No	0:03:21
2	13:36:26	13:37:20	2	SB	Right	No	0:00:54	2	14:06:44	14:07:15	9	SB	No	0:00:31
3	13:38:02	13:38:56	2	NB	Left	No	0:00:54	3	14:54:32	14:55:05	9	NB	No	0:00:33
4	14:04:05	14:05:32	9	SB	Left	No	0:01:27	4	15:08:55	15:09:08	2	SB	No	0:00:13
5	14:54:03	14:55:45	9	NB	Right	No	0:01:42	5	17:34:40	17:34:53	2	NB	No	0:00:13
6	15:06:29	15:07:28	2	SB	Left	No	0:00:59	6	18:02:28	18:02:40	2	SB	No	0:00:12
7	17:35:25	17:37:05	2	NB	Right	No	0:01:40							
8	17:55:24	17:57:36	6+	SB to NB	Right	Yes	0:02:12							
9	18:00:02	18:00:55	2	SB	Right	No	0:00:53							

UPPR DATA - Delivery Schedule Estimate

Park Road Rail Crossing --- Estimate only based on partial load data

Outbound Loads and Empties

Date	Tankcars	Footage	Boxcar	Footage	Total Cars	Total Footage
1/4/2013	16	960	1	50	17	1010
1/5/2013	23	1380	9	450	32	1830
1/6/2013	16	960	1	50	17	1010
1/7/2013	20	1200	6	300	26	1500
1/8/2013	11	660	11	550	22	1210
1/9/2013	23	1380	5	250	28	1630
1/10/2013	20	1200	8	400	28	1600
1/11/2013	13	780	0	0	13	780
1/12/2013	38	2280	7	350	45	2630
1/13/2013	11	660		0	11	660
1/14/2013	12	720		0	12	720

Inbound Loads and Empties

Date	Tankcars	Footage	Boxcar	Footage	Total Cars	Total Footage
1/4/2013	7	420	0	0	7	420
1/5/2013	11	660	0	0	11	660
1/6/2013	16	960	1	50	17	1010
1/7/2013	34	2040	9	450	43	2490
1/8/2013	0	0	0	0	0	0
1/9/2013	20	1200	6	300	26	1500
1/10/2013	15	900	11	550	26	1450
1/11/2013	16	960	5	250	21	1210
1/12/2013	25	1500	8	400	33	1900
1/13/2013	9	540	0	0	9	540
1/14/2013	34	2040	7	350	41	2390

Assumptions:

60' tankcars

50' boxcars

Empty movements are estimates only; based on cars on spot average 2 days

7 cars per day added to Valero tank cars inbound and outbound (coke turn)

UPPR DATA - Delivery Schedule Estimate

Benicia Inbound Loads (Auto excluded)

Outbound Empties - Not actual data - estimated assuming 2 days loaded spot to empty outbound move

Waybill Date	Sys Dest Circ7	CONSIGNEE	Units	Mgrl Car Kind	Cmdy Desc	Date	Units	Car Type	Load/Empty
1/6/2013	RV385	CROWN IMPORTS	1	BOX50	BEER	1/4/2013	1	BOXPL050	Empty
1/6/2013	RV385	VALERO MARKETING SUPPLY	9	TANK	LPG	1/4/2013	9	TANK	Empty
1/7/2013	RV385	CROWN IMPORTS	9	BOX50	BEER	1/5/2013	9	BOXPL050	Empty
1/7/2013	RV385	VALERO MARKETING SUPPLY	16	TANK	LPG	1/5/2013	16	TANK	Empty
1/9/2013	RV385	CROWN IMPORTS	6	BOX50	BEER	1/7/2013	6	BOXPL050	Empty
1/9/2013	RV385	VALERO MARKETING SUPPLY	9	TANK	LPG	1/7/2013	9	TANK	Empty
1/10/2013	RV385	CROWN IMPORTS	11	BOX50	BEER	1/8/2013	11	BOXPL050	Empty
1/10/2013	RV385	VALERO MARKETING SUPPLY	4	TANK	LPG	1/8/2013	4	TANK	Empty
1/11/2013	RV385	CROWN IMPORTS	5	BOX50	BEER	1/9/2013	5	BOXPL050	Empty
1/11/2013	RV385	VALERO MARKETING SUPPLY	5	TANK	LPG	1/9/2013	5	TANK	Empty
1/12/2013	RV385	CROWN IMPORTS	8	BOX50	BEER	1/10/2013	8	BOXPL050	Empty
1/12/2013	RV385	VALERO MARKETING SUPPLY	13	TANK	LPG	1/10/2013	13	TANK	Empty
1/13/2013	RV385	VALERO MARKETING SUPPLY	2	TANK	LPG	1/11/2013	2	TANK	Empty
1/14/2013	RV385	CROWN IMPORTS	7	BOX50	BEER	1/12/2013	7	BOXPL050	Empty
1/14/2013	RV385	VALERO MARKETING SUPPLY	27	TANK	LPG	1/12/2013	27	TANK	Empty

Benicia Outbound Loads (Auto excluded)

Inbound Empties - Not actual data - estimated assuming on 2 days empty spot to loaded outbound move

Waybill Date	Sys Orig Circ7	Shpr Name	Units	Mgrl Car Kind	Cmdy Desc	Date	Units	Car Type	Load/Empty
1/7/2013	RV385	VALERO MARKETING SUPPLY	4	TANK	LPG	1/5/2013	4	Tank	Empty
1/9/2013	RV385	VALERO MARKETING SUPPLY	11	TANK	LPG	1/7/2013	11	Tank	Empty
1/11/2013	RV385	VALERO MARKETING SUPPLY	4	TANK	LPG	1/9/2013	4	Tank	Empty
1/12/2013	RV385	VALERO MARKETING SUPPLY	4	TANK	LPG	1/10/2013	4	Tank	Empty
1/13/2013	RV385	VALERO MARKETING SUPPLY	4	TANK	LPG	1/11/2013	4	Tank	Empty
1/14/2013	RV385	VALERO MARKETING SUPPLY	4	TANK	LPG	1/12/2013	5	Tank	Empty
1/14/2013	RV385	VALERO MARKETING SUPPLY	1	TANK	CAUS SODA LIQ				

Add 7 loads, 7 empties pet coke tank cars daily

Prepared by NDS/ATD

Volumes for: Monday, January 07, 2013

City: Benicia

Project #: 13-7021-001

Location: Park Road just west of Refinery Entrance (Day 1).

Start Time	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	6	79			1	54				
12:15	3	49			1	60				
12:30	4	59			6	51				
12:45	1	65	14	252	0	64	8	229	22	481
1:00	5	47			2	55				
1:15	3	59			3	22				
1:30	1	81			1	47				
1:45	3	13	12	200	3	14	9	138	21	338
2:00	4	94			1	38				
2:15	0	65			1	42				
2:30	3	61			1	51				
2:45	3	54	10	274	3	76	6	207	16	481
3:00	6	61			2	62				
3:15	3	51			5	68				
3:30	11	52			3	67				
3:45	6	92	26	256	2	95	12	292	38	548
4:00	27	56			3	76				
4:15	19	54			3	85				
4:30	12	48			6	71				
4:45	28	65	86	223	5	93	17	325	103	548
5:00	35	36			24	67				
5:15	25	36			16	89				
5:30	37	33			16	63				
5:45	47	49	144	154	14	68	70	287	214	441
6:00	63	22			34	53				
6:15	65	20			33	38				
6:30	64	19			47	23				
6:45	75	24	267	85	56	27	170	141	437	226
7:00	86	16			65	20				
7:15	104	7			43	9				
7:30	106	6			63	11				
7:45	92	5	388	34	62	7	233	47	621	81
8:00	106	6			72	6				
8:15	102	8			43	12				
8:30	88	10			70	9				
8:45	75	6	371	30	51	5	236	32	607	62
9:00	88	8			56	6				
9:15	61	3			45	9				
9:30	50	5			54	7				
9:45	67	10	266	26	42	6	197	28	463	54
10:00	57	5			33	5				
10:15	61	11			48	12				
10:30	73	8			36	4				
10:45	44	2	235	26	53	2	170	23	405	49
11:00	41	2			47	1				
11:15	53	2			42	6				
11:30	41	6			16	4				
11:45	39	4	174	14	20	4	125	15	299	29
Total	1993	1574	1993	1574	1253	1764	1253	1764	3246	3338
Combined Total	3567		3567		3017		3017		6584	
AM Peak	7:15 AM				7:45 AM					
Vol.	408				247					
P.H.F.	0.962				0.858					
PM Peak	2:00 PM				3:45 PM					
Vol.	274				327					
P.H.F.	0.729				0.861					
Percentage	55.9%	44.1%			41.5%	58.5%				

Prepared by NDS/ATD

Volumes for: Monday, January 07, 2013

City: Benicia

Project #: 13-7021-001

Location: Park Road just west of the Refinery Entrance.

Start Time	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	0	0			3	68				
12:15	0	0			2	85				
12:30	0	0			11	79				
12:45	0	0	0	0	0	74	16	306	16	306
1:00	0	0			3	66				
1:15	0	0			3	68				
1:30	0	0			2	74				
1:45	0	0	0	0	4	18	12	226	12	226
2:00	0	0			3	82				
2:15	0	0			3	57				
2:30	0	0			3	63				
2:45	0	0	0	0	5	98	14	300	14	300
3:00	0	0			4	70				
3:15	0	0			8	87				
3:30	0	0			5	87				
3:45	0	0	0	0	6	121	23	365	23	365
4:00	0	0			6	89				
4:15	0	0			7	130				
4:30	0	0			17	81				
4:45	0	0	0	0	9	146	39	446	39	446
5:00	0	0			36	93				
5:15	0	0			32	122				
5:30	0	0			25	83				
5:45	0	0	0	0	24	94	117	392	117	392
6:00	0	0			51	57				
6:15	0	0			43	45				
6:30	0	0			55	35				
6:45	0	0	0	0	71	33	220	170	220	170
7:00	0	0			70	27				
7:15	0	0			55	17				
7:30	0	0			75	12				
7:45	0	0	0	0	68	11	268	67	268	67
8:00	0	0			83	10				
8:15	0	0			55	19				
8:30	0	0			82	15				
8:45	0	0	0	0	65	10	285	54	285	54
9:00	0	0			69	7				
9:15	0	0			61	15				
9:30	0	0			62	9				
9:45	0	0	0	0	64	7	256	38	256	38
10:00	0	0			47	14				
10:15	0	0			59	16				
10:30	0	0			56	5				
10:45	0	0	0	0	73	4	235	39	235	39
11:00	0	0			58	3				
11:15	0	0			70	6				
11:30	0	0			53	4				
11:45	0	0	0	0	50	8	231	21	231	21
Total	0	0	0	0	1716	2424	1716	2424	1716	2424
Combined Total	0		0		4140		4140		4140	
AM Peak					7:45 AM					
Vol.					288					
P.H.F.					0.867					
PM Peak						4:15 PM				
Vol.						450				
P.H.F.						0.771				
Percentage					41.4%	58.6%				

Volumes for: Tuesday, January 08, 2013

City: Benicia

Project #: 13-7021-001

Location: Park Road just west of Refinery Entrance (Day 2).

Start Time	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	6	61			6	71				
12:15	6	73			10	62				
12:30	6	69			2	59				
12:45	3	65	21	268	6	57	24	249	45	517
1:00	3	80			3	39				
1:15	5	51			14	58				
1:30	1	61			3	36				
1:45	0	55	9	247	2	60	22	193	31	440
2:00	6	65			2	37				
2:15	5	68			0	59				
2:30	3	72			6	58				
2:45	3	62	17	267	2	71	10	225	27	492
3:00	4	54			2	59				
3:15	7	50			7	61				
3:30	11	61			2	59				
3:45	12	88	34	253	6	86	17	265	51	518
4:00	26	52			6	84				
4:15	25	72			8	84				
4:30	16	51			10	75				
4:45	24	73	91	248	9	64	33	307	124	555
5:00	31	40			14	71				
5:15	26	55			15	114				
5:30	36	39			19	62				
5:45	41	41	134	175	22	60	70	307	204	482
6:00	63	27			37	60				
6:15	54	33			32	39				
6:30	76	15			51	32				
6:45	72	22	265	97	50	27	170	158	435	255
7:00	105	22			67	24				
7:15	95	12			57	25				
7:30	108	15			47	14				
7:45	100	12	408	61	51	16	222	79	630	140
8:00	114	12			78	18				
8:15	94	10			67	17				
8:30	83	10			59	14				
8:45	66	9	357	41	42	8	246	57	603	98
9:00	71	8			51	6				
9:15	60	3			55	15				
9:30	52	9			48	14				
9:45	62	3	245	23	58	9	212	44	457	67
10:00	67	9			44	7				
10:15	56	5			37	13				
10:30	64	5			60	4				
10:45	59	6	246	25	40	3	181	27	427	52
11:00	31	1			42	0				
11:15	45	5			33	8				
11:30	51	3			56	2				
11:45	48	1	175	10	62	1	193	11	368	21
Total	2002	1715	2002	1715	1400	1922	1400	1922	3402	3637
Combined Total	3717		3717		3322		3322		7039	
AM Peak	7:15 AM				7:45 AM					
Vol.	417				255					
P.H.F.	0.914				0.817					
PM Peak	12:15 PM				3:45 PM					
Vol.	287				329					
P.H.F.	0.897				0.956					
Percentage	53.9%	46.1%			42.1%	57.9%				

Prepared by NDS/ATD

Volumes for: Tuesday, January 08, 2013

City: Benicia

Project #: 13-7021-001

Location: Park Road just west of the Refinery Entrance.

Start Time	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	0	0			9	82				
12:15	0	0			12	76				
12:30	0	0			2	70				
12:45	0	0	0	0	9	82	32	310	32	310
1:00	0	0			3	74				
1:15	0	0			18	71				
1:30	0	0			6	50				
1:45	0	0	0	0	5	79	32	274	32	274
2:00	0	0			3	57				
2:15	0	0			1	78				
2:30	0	0			12	62				
2:45	0	0	0	0	3	98	19	295	19	295
3:00	0	0			3	68				
3:15	0	0			9	85				
3:30	0	0			8	76				
3:45	0	0	0	0	15	107	35	336	35	336
4:00	0	0			7	90				
4:15	0	0			12	86				
4:30	0	0			23	91				
4:45	0	0	0	0	15	149	57	416	57	416
5:00	0	0			24	77				
5:15	0	0			30	169				
5:30	0	0			34	89				
5:45	0	0	0	0	33	80	121	415	121	415
6:00	0	0			58	74				
6:15	0	0			43	54				
6:30	0	0			61	38				
6:45	0	0	0	0	65	35	227	201	227	201
7:00	0	0			70	28				
7:15	0	0			68	25				
7:30	0	0			55	15				
7:45	0	0	0	0	70	22	263	90	263	90
8:00	0	0			86	25				
8:15	0	0			78	23				
8:30	0	0			73	18				
8:45	0	0	0	0	51	13	288	79	288	79
9:00	0	0			63	7				
9:15	0	0			65	18				
9:30	0	0			57	18				
9:45	0	0	0	0	74	13	259	56	259	56
10:00	0	0			59	7				
10:15	0	0			49	16				
10:30	0	0			82	7				
10:45	0	0	0	0	51	3	241	33	241	33
11:00	0	0			67	0				
11:15	0	0			48	9				
11:30	0	0			74	2				
11:45	0	0	0	0	68	1	257	12	257	12
Total	0	0	0	0	1831	2517	1831	2517	1831	2517
Combined Total	0		0		4348		4348		4348	
AM Peak					7:45 AM					
Vol.					307					
P.H.F.					0.892					
PM Peak						4:30 PM				
Vol.						486				
P.H.F.						0.719				
Percentage					42.1%	57.9%				

Prepared by NDS/ATD

Volumes for: Wednesday, January 09, 2013

City: Benicia

Project #: 13-7021-001

Location: Park Road just west of Refinery Entrance (Day 3).

Start Time	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	3	75			0	58				
12:15	4	63			6	59				
12:30	5	62			8	55				
12:45	7	78	19	278	4	54	18	226	37	504
1:00	9	64			5	54				
1:15	2	75			13	53				
1:30	4	60			8	46				
1:45	2	60	17	259	7	42	33	195	50	454
2:00	2	60			0	24				
2:15	2	65			2	36				
2:30	2	70			0	55				
2:45	7	54	13	249	0	75	2	190	15	439
3:00	5	59			4	59				
3:15	3	59			8	58				
3:30	9	57			2	60				
3:45	10	77	27	252	5	74	19	251	46	503
4:00	23	61			2	78				
4:15	20	56			9	94				
4:30	15	59			6	66				
4:45	30	77	88	253	7	67	24	305	112	558
5:00	36	49			10	70				
5:15	20	50			17	80				
5:30	31	27			14	71				
5:45	42	79	129	205	16	79	57	300	186	505
6:00	77	92			36	39				
6:15	64	66			32	41				
6:30	70	24			48	27				
6:45	69	20	280	202	60	29	176	136	456	338
7:00	109	21			72	22				
7:15	105	19			46	21				
7:30	113	12			47	17				
7:45	102	16	429	68	71	12	236	72	665	140
8:00	110	15			87	8				
8:15	110	6			62	16				
8:30	76	9			49	9				
8:45	83	7	379	37	59	7	257	40	636	77
9:00	57	6			53	6				
9:15	78	9			59	9				
9:30	55	4			47	9				
9:45	50	2	240	21	49	10	208	34	448	55
10:00	53	9			53	2				
10:15	54	9			50	7				
10:30	41	6			41	3				
10:45	51	3	199	27	41	5	185	17	384	44
11:00	47	5			38	5				
11:15	47	1			55	6				
11:30	51	2			49	7				
11:45	60	5	205	13	60	4	202	22	407	35
Total	2025	1864	2025	1864	1417	1788	1417	1788	3442	3652
Combined Total	3889		3889		3205		3205		7094	
AM Peak	7:30 AM				7:45 AM					
Vol.	435				269					
P.H.F.	0.962				0.773					
PM Peak	12:30 PM				3:45 PM					
Vol.	279				312					
P.H.F.	0.894				0.830					
Percentage	52.1%	47.9%			44.2%	55.8%				

Prepared by NDS/ATD

Volumes for: Wednesday, January 09, 2013

City: Benicia

Project #: 13-7021-001

Location: Park Road just west of the Refinery Entrance.

Start Time	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	0	0			0	82				
12:15	0	0			8	79				
12:30	0	0			10	93				
12:45	0	0	0	0	4	72	22	326	22	326
1:00	0	0			5	72				
1:15	0	0			14	68				
1:30	0	0			10	62				
1:45	0	0	0	0	9	82	38	284	38	284
2:00	0	0			1	49				
2:15	0	0			3	77				
2:30	0	0			3	71				
2:45	0	0	0	0	1	94	8	291	8	291
3:00	0	0			5	75				
3:15	0	0			10	81				
3:30	0	0			6	82				
3:45	0	0	0	0	10	118	31	356	31	356
4:00	0	0			6	92				
4:15	0	0			10	119				
4:30	0	0			10	100				
4:45	0	0	0	0	14	176	40	487	40	487
5:00	0	0			22	85				
5:15	0	0			24	124				
5:30	0	0			25	77				
5:45	0	0	0	0	30	89	101	375	101	375
6:00	0	0			42	40				
6:15	0	0			50	45				
6:30	0	0			59	31				
6:45	0	0	0	0	77	37	228	153	228	153
7:00	0	0			75	23				
7:15	0	0			53	26				
7:30	0	0			55	31				
7:45	0	0	0	0	79	14	262	94	262	94
8:00	0	0			103	11				
8:15	0	0			73	17				
8:30	0	0			62	13				
8:45	0	0	0	0	67	15	305	56	305	56
9:00	0	0			71	9				
9:15	0	0			73	11				
9:30	0	0			64	10				
9:45	0	0	0	0	64	12	272	42	272	42
10:00	0	0			63	4				
10:15	0	0			65	10				
10:30	0	0			56	5				
10:45	0	0	0	0	62	6	246	25	246	25
11:00	0	0			61	13				
11:15	0	0			91	6				
11:30	0	0			64	11				
11:45	0	0	0	0	73	4	289	34	289	34
Total	0	0	0	0	1842	2523	1842	2523	1842	2523
Combined Total	0		0		4365		4365		4365	
AM Peak					11:45 AM					
Vol.					327					
P.H.F.					0.879					
PM Peak						4:00 PM				
Vol.						487				
P.H.F.						0.692				
Percentage					42.2%	57.8%				

Prepared by NDS/ATD

Volumes for: Thursday, January 10, 2013

City: Benicia

Project #: 13-7021-001

Location: Park Road just west of Refinery Entrance (Day 4).

Start Time	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	2	66			4	50				
12:15	9	58			4	62				
12:30	0	42			6	57				
12:45	5	59	16	225	4	47	18	216	34	441
1:00	3	67			3	41				
1:15	2	51			10	51				
1:30	1	76			6	45				
1:45	1	62	7	256	3	58	22	195	29	451
2:00	4	67			1	46				
2:15	1	61			3	41				
2:30	1	75			1	49				
2:45	3	47	9	250	3	70	8	206	17	456
3:00	10	66			4	53				
3:15	9	58			6	63				
3:30	10	64			4	54				
3:45	12	92	41	280	5	96	19	266	60	546
4:00	28	61			5	72				
4:15	22	52			8	107				
4:30	15	52			10	65				
4:45	24	55	89	220	9	113	32	357	121	577
5:00	35	35			13	61				
5:15	20	46			15	84				
5:30	40	33			13	69				
5:45	54	43	149	157	24	79	65	293	214	450
6:00	64	29			34	50				
6:15	69	28			32	41				
6:30	68	34			41	32				
6:45	66	24	267	115	51	36	158	159	425	274
7:00	96	24			71	34				
7:15	106	16			47	22				
7:30	108	14			59	11				
7:45	91	14	401	68	65	12	242	79	643	147
8:00	105	12			80	17				
8:15	95	10			64	14				
8:30	78	5			52	6				
8:45	63	27	341	54	38	8	234	45	575	99
9:00	79	10			59	10				
9:15	62	9			43	5				
9:30	59	11			48	13				
9:45	55	3	255	33	40	8	190	36	445	69
10:00	51	5			49	5				
10:15	52	10			42	11				
10:30	41	7			37	8				
10:45	47	3	191	25	39	5	167	29	358	54
11:00	53	3			43	5				
11:15	50	1			43	7				
11:30	46	5			52	2				
11:45	55	5	204	14	38	2	176	16	380	30
Total	1970	1697	1970	1697	1331	1897	1331	1897	3301	3594
Combined Total	3667		3667		3228		3228		6895	
AM Peak	7:15 AM				7:30 AM					
Vol.	410				268					
P.H.F.	0.949				0.838					
PM Peak	3:00 PM				4:00 PM					
Vol.	280				357					
P.H.F.	0.761				0.790					
Percentage	53.7%	46.3%			41.2%	58.8%				

Prepared by NDS/ATD

Volumes for: Thursday, January 10, 2013

City: Benicia

Project #: 13-7021-001

Location: Park Road just west of the Refinery Entrance.

Start Time	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	0	0			9	86				
12:15	0	0			4	77				
12:30	0	0			7	82				
12:45	0	0	0	0	5	67	25	312	25	312
1:00	0	0			5	63				
1:15	0	0			18	64				
1:30	0	0			10	60				
1:45	0	0	0	0	6	93	39	280	39	280
2:00	0	0			1	64				
2:15	0	0			4	56				
2:30	0	0			2	63				
2:45	0	0	0	0	5	94	12	277	12	277
3:00	0	0			7	76				
3:15	0	0			7	82				
3:30	0	0			14	69				
3:45	0	0	0	0	9	113	37	340	37	340
4:00	0	0			7	77				
4:15	0	0			8	120				
4:30	0	0			14	108				
4:45	0	0	0	0	15	141	44	446	44	446
5:00	0	0			20	116				
5:15	0	0			32	151				
5:30	0	0			26	91				
5:45	0	0	0	0	44	105	122	463	122	463
6:00	0	0			51	67				
6:15	0	0			42	43				
6:30	0	0			55	40				
6:45	0	0	0	0	64	43	212	193	212	193
7:00	0	0			90	35				
7:15	0	0			57	25				
7:30	0	0			73	20				
7:45	0	0	0	0	80	18	300	98	300	98
8:00	0	0			85	22				
8:15	0	0			79	20				
8:30	0	0			58	8				
8:45	0	0	0	0	58	13	280	63	280	63
9:00	0	0			66	16				
9:15	0	0			64	7				
9:30	0	0			70	21				
9:45	0	0	0	0	50	10	250	54	250	54
10:00	0	0			61	7				
10:15	0	0			54	13				
10:30	0	0			53	12				
10:45	0	0	0	0	58	5	226	37	226	37
11:00	0	0			57	5				
11:15	0	0			56	7				
11:30	0	0			66	4				
11:45	0	0	0	0	70	2	249	18	249	18
Total	0	0	0	0	1796	2581	1796	2581	1796	2581
Combined Total	0		0		4377		4377		4377	
AM Peak					7:30 AM					
Vol.					317					
P.H.F.					0.932					
PM Peak						4:30 PM				
Vol.						516				
P.H.F.						0.854				
Percentage					41.0%	59.0%				

Prepared by NDS/ATD

Volumes for: Friday, January 11, 2013

City: Benicia

Project #: 13-7021-001

Location: Park Road just west of Refinery Entrance (Day 5).

Start Time	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	7	60			6	55				
12:15	8	55			14	51				
12:30	2	51			5	61				
12:45	5	51	22	217	5	68	30	235	52	452
1:00	1	84			7	58				
1:15	3	72			11	56				
1:30	1	79			3	60				
1:45	3	74	8	309	3	64	24	238	32	547
2:00	4	65			1	56				
2:15	1	68			0	56				
2:30	5	64			4	62				
2:45	7	49	17	246	2	87	7	261	24	507
3:00	8	53			5	59				
3:15	5	63			6	60				
3:30	11	60			7	66				
3:45	16	72	40	248	5	82	23	267	63	515
4:00	27	45			1	70				
4:15	18	43			10	97				
4:30	19	44			8	70				
4:45	27	67	91	199	10	58	29	295	120	494
5:00	38	30			15	59				
5:15	20	34			11	76				
5:30	38	30			16	65				
5:45	37	28	133	122	17	54	59	254	192	376
6:00	84	23			30	38				
6:15	53	15			33	24				
6:30	60	22			32	22				
6:45	82	14	279	74	55	18	150	102	429	176
7:00	89	18			63	27				
7:15	121	15			47	16				
7:30	96	12			54	15				
7:45	103	11	409	56	65	15	229	73	638	129
8:00	107	8			96	14				
8:15	90	13			54	6				
8:30	88	5			65	14				
8:45	71	3	356	29	42	10	257	44	613	73
9:00	69	10			39	2				
9:15	54	12			36	6				
9:30	57	5			46	7				
9:45	36	1	216	28	41	3	162	18	378	46
10:00	30	3			11	10				
10:15	73	6			31	11				
10:30	39	4			41	4				
10:45	41	3	183	16	40	2	123	27	306	43
11:00	44	6			32	5				
11:15	52	1			34	7				
11:30	46	4			45	4				
11:45	73	5	215	16	54	2	165	18	380	34
Total	1969	1560	1969	1560	1258	1832	1258	1832	3227	3392
Combined Total	3529		3529		3090		3090		6619	
AM Peak	7:15 AM				7:45 AM					
Vol.	427				280					
P.H.F.	0.882				0.729					
PM Peak	1:00 PM				3:45 PM					
Vol.	309				319					
P.H.F.	0.920				0.822					
Percentage	55.8%	44.2%			40.7%	59.3%				

Prepared by NDS/ATD

Volumes for: Friday, January 11, 2013

City: Benicia

Project #: 13-7021-001

Location: Park Road just west of the Refinery Entrance.

Start Time	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	0	0			8	62				
12:15	0	0			16	68				
12:30	0	0			6	73				
12:45	0	0	0	0	5	79	35	282	35	282
1:00	0	0			11	83				
1:15	0	0			16	74				
1:30	0	0			6	79				
1:45	0	0	0	0	7	85	40	321	40	321
2:00	0	0			1	73				
2:15	0	0			2	71				
2:30	0	0			8	79				
2:45	0	0	0	0	2	103	13	326	13	326
3:00	0	0			10	76				
3:15	0	0			7	74				
3:30	0	0			12	75				
3:45	0	0	0	0	10	104	39	329	39	329
4:00	0	0			3	85				
4:15	0	0			17	123				
4:30	0	0			11	95				
4:45	0	0	0	0	23	138	54	441	54	441
5:00	0	0			22	70				
5:15	0	0			22	103				
5:30	0	0			23	79				
5:45	0	0	0	0	29	69	96	321	96	321
6:00	0	0			46	42				
6:15	0	0			59	31				
6:30	0	0			42	22				
6:45	0	0	0	0	64	22	211	117	211	117
7:00	0	0			71	30				
7:15	0	0			62	20				
7:30	0	0			65	18				
7:45	0	0	0	0	75	17	273	85	273	85
8:00	0	0			105	17				
8:15	0	0			62	8				
8:30	0	0			79	23				
8:45	0	0	0	0	49	12	295	60	295	60
9:00	0	0			83	2				
9:15	0	0			53	10				
9:30	0	0			70	8				
9:45	0	0	0	0	59	4	265	24	265	24
10:00	0	0			54	12				
10:15	0	0			46	19				
10:30	0	0			58	4				
10:45	0	0	0	0	52	2	210	37	210	37
11:00	0	0			52	7				
11:15	0	0			54	8				
11:30	0	0			56	6				
11:45	0	0	0	0	67	3	229	24	229	24
Total	0	0	0	0	1760	2367	1760	2367	1760	2367
Combined Total	0		0		4127		4127		4127	
AM Peak					7:45 AM					
Vol.					321					
P.H.F.					0.764					
PM Peak						4:00 PM				
Vol.						441				
P.H.F.						0.799				
Percentage					42.6%	57.4%				

Prepared by NDS/ATD

Volumes for: Saturday, January 12, 2013

City: Benicia

Project #: 13-7021-001

Location: Park Road just west of Refinery Entrance (Day 6).

Start Time	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	5	14			1	19				
12:15	5	17			7	25				
12:30	0	15			4	16				
12:45	2	14	12	60	8	22	20	82	32	142
1:00	4	14			2	17				
1:15	5	22			9	11				
1:30	2	18			9	17				
1:45	4	14	15	68	3	19	23	64	38	132
2:00	5	18			3	14				
2:15	0	25			4	26				
2:30	3	24			2	22				
2:45	0	22	8	89	0	17	9	79	17	168
3:00	8	27			3	22				
3:15	0	12			4	27				
3:30	6	14			1	23				
3:45	8	21	22	74	4	20	12	92	34	166
4:00	12	13			6	17				
4:15	8	11			4	19				
4:30	8	6			4	18				
4:45	7	11	35	41	5	15	19	69	54	110
5:00	11	8			5	12				
5:15	9	10			9	17				
5:30	12	5			13	12				
5:45	12	5	44	28	5	7	32	48	76	76
6:00	25	8			7	10				
6:15	21	6			16	6				
6:30	18	4			14	3				
6:45	30	8	94	26	11	4	48	23	142	49
7:00	31	12			2	5				
7:15	26	1			13	12				
7:30	34	10			10	4				
7:45	19	7	110	30	12	2	37	23	147	53
8:00	18	4			18	8				
8:15	11	4			16	2				
8:30	22	3			17	3				
8:45	21	5	72	16	25	2	76	15	148	31
9:00	16	8			22	3				
9:15	12	5			18	4				
9:30	18	1			16	4				
9:45	13	2	59	16	14	0	70	11	129	27
10:00	21	8			18	2				
10:15	17	8			14	6				
10:30	11	4			20	2				
10:45	8	2	57	22	14	2	66	12	123	34
11:00	17	5			17	3				
11:15	15	1			18	3				
11:30	10	3			13	1				
11:45	15	1	57	10	27	4	75	11	132	21
Total	585	480	585	480	487	529	487	529	1072	1009
Combined Total	1065		1065		1016		1016		2081	
AM Peak	6:45 AM				11:45 AM					
Vol.	121				87					
P.H.F.	0.890				0.806					
PM Peak	2:15 PM				3:00 PM					
Vol.	98				92					
P.H.F.	0.907				0.852					
Percentage	54.9%	45.1%			47.9%	52.1%				

Prepared by NDS/ATD

Volumes for: Saturday, January 12, 2013

City: Benicia

Project #: 13-7021-001

Location: Park Road just west of the Refinery Entrance.

Start Time	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	0	0			2	25				
12:15	0	0			7	30				
12:30	0	0			7	16				
12:45	0	0	0	0	9	27	25	98	25	98
1:00	0	0			3	19				
1:15	0	0			12	11				
1:30	0	0			11	23				
1:45	0	0	0	0	5	21	31	74	31	74
2:00	0	0			5	20				
2:15	0	0			11	30				
2:30	0	0			4	25				
2:45	0	0	0	0	0	18	20	93	20	93
3:00	0	0			5	26				
3:15	0	0			6	28				
3:30	0	0			2	30				
3:45	0	0	0	0	8	26	21	110	21	110
4:00	0	0			12	17				
4:15	0	0			9	25				
4:30	0	0			10	20				
4:45	0	0	0	0	7	19	38	81	38	81
5:00	0	0			10	13				
5:15	0	0			17	22				
5:30	0	0			14	14				
5:45	0	0	0	0	8	9	49	58	49	58
6:00	0	0			11	11				
6:15	0	0			22	9				
6:30	0	0			18	4				
6:45	0	0	0	0	15	5	66	29	66	29
7:00	0	0			7	6				
7:15	0	0			19	14				
7:30	0	0			13	5				
7:45	0	0	0	0	21	3	60	28	60	28
8:00	0	0			21	9				
8:15	0	0			18	4				
8:30	0	0			22	3				
8:45	0	0	0	0	29	2	90	18	90	18
9:00	0	0			25	3				
9:15	0	0			21	4				
9:30	0	0			17	4				
9:45	0	0	0	0	18	0	81	11	81	11
10:00	0	0			27	4				
10:15	0	0			18	9				
10:30	0	0			20	2				
10:45	0	0	0	0	19	2	84	17	84	17
11:00	0	0			24	5				
11:15	0	0			23	3				
11:30	0	0			15	2				
11:45	0	0	0	0	33	4	95	14	95	14
Total	0	0	0	0	660	631	660	631	660	631
Combined Total	0		0		1291		1291		1291	
AM Peak					11:45 AM					
Vol.					104					
P.H.F.					0.788					
PM Peak						3:00 PM				
Vol.						110				
P.H.F.						0.917				
Percentage					51.1%	48.9%				

Prepared by NDS/ATD

Volumes for: Sunday, January 13, 2013

City: Benicia

Project #: 13-7021-001

Location: Park Road just west of Refinery Entrance (Day 7).

Start Time	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	5	12			2	10				
12:15	3	9			8	5				
12:30	4	10			0	5				
12:45	1	11	13	42	2	23	12	43	25	85
1:00	1	7			4	5				
1:15	3	5			3	5				
1:30	0	9			1	7				
1:45	1	7	5	28	0	3	8	20	13	48
2:00	2	12			1	10				
2:15	0	13			2	9				
2:30	1	8			0	13				
2:45	1	12	4	45	1	8	4	40	8	85
3:00	1	8			1	9				
3:15	1	6			2	10				
3:30	4	11			2	11				
3:45	5	11	11	36	1	10	6	40	17	76
4:00	11	9			2	8				
4:15	7	5			5	10				
4:30	0	12			1	14				
4:45	4	11	22	37	5	7	13	39	35	76
5:00	2	7			3	10				
5:15	5	13			3	11				
5:30	5	8			5	12				
5:45	5	7	17	35	3	9	14	42	31	77
6:00	9	8			1	4				
6:15	6	9			1	3				
6:30	5	12			4	6				
6:45	8	6	28	35	3	4	9	17	37	52
7:00	7	2			5	4				
7:15	8	7			4	6				
7:30	2	6			4	4				
7:45	5	5	22	20	5	6	18	20	40	40
8:00	12	4			5	2				
8:15	13	3			10	3				
8:30	7	4			5	2				
8:45	4	4	36	15	3	12	23	19	59	34
9:00	3	3			4	4				
9:15	10	8			3	4				
9:30	5	1			5	2				
9:45	5	6	23	18	6	4	18	14	41	32
10:00	4	4			4	1				
10:15	7	2			3	7				
10:30	4	2			8	6				
10:45	4	0	19	8	6	1	21	15	40	23
11:00	6	1			4	2				
11:15	5	4			4	2				
11:30	8	2			11	1				
11:45	12	4	31	11	5	2	24	7	55	18
Total	231	330	231	330	170	316	170	316	401	646
Combined Total	561		561		486		486		1047	
AM Peak	11:45 AM				11:30 AM					
Vol.	43				31					
P.H.F.	0.896				0.705					
PM Peak		2:00 PM				12:00 PM				
Vol.		45				43				
P.H.F.		0.865				0.467				
Percentage	41.2%	58.8%			35.0%	65.0%				

Prepared by NDS/ATD

Volumes for: Sunday, January 13, 2013

City: Benicia

Project #: 13-7021-001

Location: Park Road just west of the Refinery Entrance.

Start Time	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	0	0			2	11				
12:15	0	0			10	7				
12:30	0	0			0	16				
12:45	0	0	0	0	2	25	14	59	14	59
1:00	0	0			4	9				
1:15	0	0			3	5				
1:30	0	0			5	10				
1:45	0	0	0	0	0	10	12	34	12	34
2:00	0	0			2	13				
2:15	0	0			3	16				
2:30	0	0			0	13				
2:45	0	0	0	0	1	8	6	50	6	50
3:00	0	0			1	14				
3:15	0	0			2	11				
3:30	0	0			2	13				
3:45	0	0	0	0	1	18	6	56	6	56
4:00	0	0			4	12				
4:15	0	0			8	11				
4:30	0	0			5	18				
4:45	0	0	0	0	8	14	25	55	25	55
5:00	0	0			6	13				
5:15	0	0			5	17				
5:30	0	0			5	15				
5:45	0	0	0	0	3	10	19	55	19	55
6:00	0	0			1	6				
6:15	0	0			2	4				
6:30	0	0			7	7				
6:45	0	0	0	0	4	6	14	23	14	23
7:00	0	0			7	7				
7:15	0	0			4	8				
7:30	0	0			7	7				
7:45	0	0	0	0	6	6	24	28	24	28
8:00	0	0			7	4				
8:15	0	0			13	3				
8:30	0	0			5	9				
8:45	0	0	0	0	3	15	28	31	28	31
9:00	0	0			10	4				
9:15	0	0			3	6				
9:30	0	0			7	3				
9:45	0	0	0	0	9	7	29	20	29	20
10:00	0	0			4	2				
10:15	0	0			4	9				
10:30	0	0			9	6				
10:45	0	0	0	0	9	4	26	21	26	21
11:00	0	0			10	2				
11:15	0	0			4	2				
11:30	0	0			12	1				
11:45	0	0	0	0	6	2	32	7	32	7
Total	0	0	0	0	235	439	235	439	235	439
Combined Total	0		0		674		674		674	
AM Peak					11:45 AM					
Vol.					40					
P.H.F.					0.625					
PM Peak						4:30 PM				
Vol.						62				
P.H.F.						0.861				
Percentage					34.9%	65.1%				

All Traffic Data

(916) 771-8700

City of Benicia
 All Vehicles on Unshifted tab
 Heavy Vehicles on Bank 1 tab

File Name : 13-7020-003 Bayshore-Park
 Site Code : 00000000
 Start Date : 1/23/2013
 Page No : 1

Groups Printed- Unshifted

Start Time	Bayshore Road Southbound				Park Road Westbound				Bayshore Road Northbound				Park Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
06:00	3	2	0	5	36	1	4	41	4	2	58	64	2	0	0	2	112
06:15	1	1	0	2	41	7	6	54	1	3	66	70	0	2	0	2	128
06:30	1	3	0	4	43	6	12	61	5	8	77	90	0	3	0	3	158
06:45	1	3	0	4	46	11	23	80	10	14	99	123	0	8	1	9	216
Total	6	9	0	15	166	25	45	236	20	27	300	347	2	13	1	16	614
07:00	1	2	4	7	39	5	6	50	5	5	101	111	3	2	0	5	173
07:15	4	6	1	11	32	5	15	52	7	8	104	119	2	3	2	7	189
07:30	6	1	2	9	49	9	24	82	2	5	77	84	0	3	2	5	180
07:45	5	3	1	9	62	15	18	95	11	9	104	124	2	6	2	10	238
Total	16	12	8	36	182	34	63	279	25	27	386	438	7	14	6	27	780
08:00	7	2	0	9	44	11	6	61	8	4	83	95	0	7	6	13	178
08:15	8	3	1	12	47	2	9	58	3	1	67	71	1	3	1	5	146
08:30	5	2	4	11	49	4	9	62	10	5	69	84	0	4	1	5	162
08:45	4	2	0	6	44	7	7	58	3	3	60	66	2	4	0	6	136
Total	24	9	5	38	184	24	31	239	24	13	279	316	3	18	8	29	622
Grand Total	46	30	13	89	532	83	139	754	69	67	965	1101	12	45	15	72	2016
Apprch %	51.7	33.7	14.6		70.6	11	18.4		6.3	6.1	87.6		16.7	62.5	20.8		
Total %	2.3	1.5	0.6	4.4	26.4	4.1	6.9	37.4	3.4	3.3	47.9	54.6	0.6	2.2	0.7	3.6	

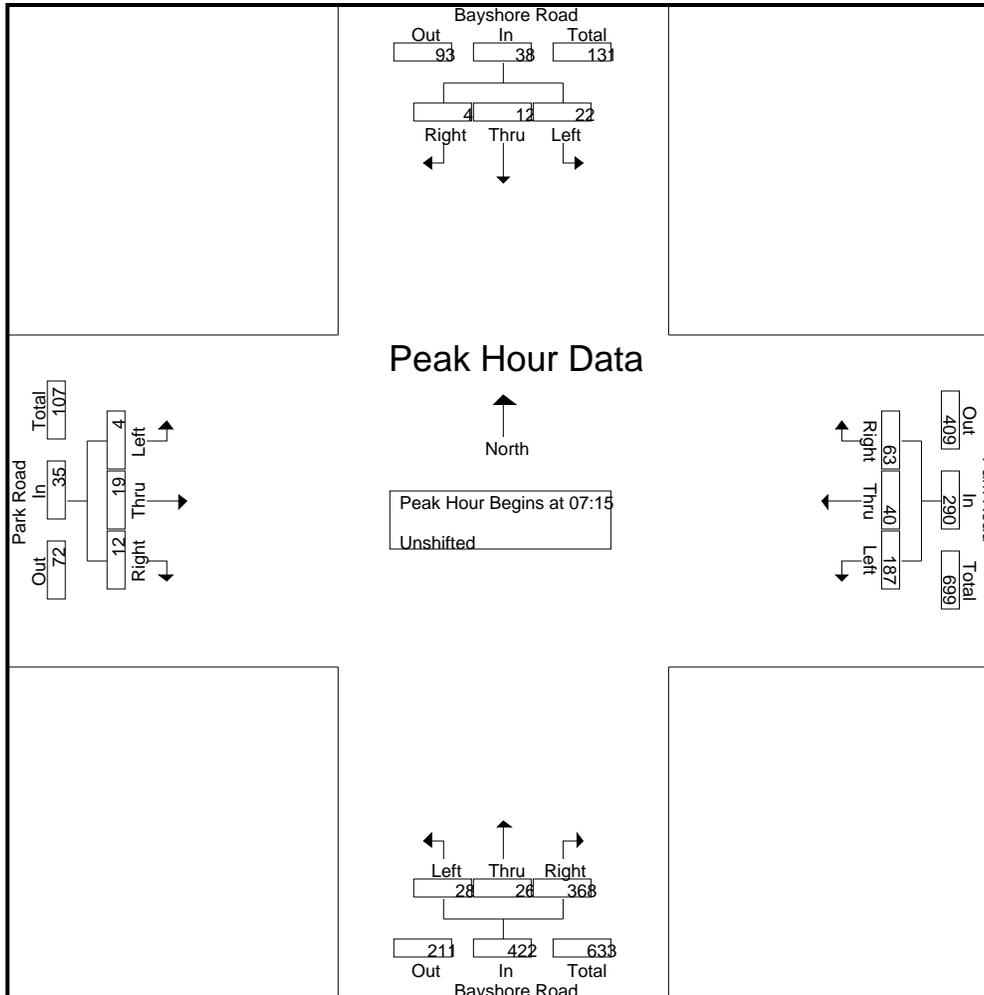
Start Time	Bayshore Road Southbound				Park Road Westbound				Bayshore Road Northbound				Park Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 06:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	4	6	1	11	32	5	15	52	7	8	104	119	2	3	2	7	189
07:30	6	1	2	9	49	9	24	82	2	5	77	84	0	3	2	5	180
07:45	5	3	1	9	62	15	18	95	11	9	104	124	2	6	2	10	238
08:00	7	2	0	9	44	11	6	61	8	4	83	95	0	7	6	13	178
Total Volume	22	12	4	38	187	40	63	290	28	26	368	422	4	19	12	35	785
% App. Total	57.9	31.6	10.5		64.5	13.8	21.7		6.6	6.2	87.2		11.4	54.3	34.3		
PHF	.786	.500	.500	.864	.754	.667	.656	.763	.636	.722	.885	.851	.500	.679	.500	.673	.825

All Traffic Data

(916) 771-8700

City of Benicia
 All Vehicles on Unshifted tab
 Heavy Vehicles on Bank 1 tab

File Name : 13-7020-003 Bayshore-Park
 Site Code : 00000000
 Start Date : 1/23/2013
 Page No : 2



All Traffic Data

(916) 771-8700

City of Benicia
 All Vehicles on Unshifted tab
 Heavy Vehicles on Bank 1 tab

File Name : 13-7020-003 Bayshore-Park
 Site Code : 00000000
 Start Date : 1/23/2013
 Page No : 1

Groups Printed- Bank 1

Start Time	Bayshore Road Southbound				Park Road Westbound				Bayshore Road Northbound				Park Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
06:00	0	1	0	1	13	0	1	14	0	0	7	7	0	0	0	0	22
06:15	1	0	0	1	11	0	3	14	0	0	10	10	0	0	0	0	25
06:30	0	3	0	3	11	0	2	13	0	1	8	9	0	1	0	1	26
06:45	1	1	0	2	12	0	1	13	0	1	2	3	0	1	0	1	19
Total	2	5	0	7	47	0	7	54	0	2	27	29	0	2	0	2	92
07:00	0	1	0	1	13	0	1	14	0	1	14	15	0	0	0	0	30
07:15	0	3	0	3	4	0	2	6	0	3	5	8	0	0	0	0	17
07:30	0	1	0	1	7	2	1	10	0	2	4	6	0	0	2	2	19
07:45	2	1	0	3	19	0	0	19	0	1	7	8	0	1	2	3	33
Total	2	6	0	8	43	2	4	49	0	7	30	37	0	1	4	5	99
08:00	1	2	0	3	9	0	1	10	0	2	6	8	0	2	0	2	23
08:15	3	3	0	6	13	0	1	14	1	0	3	4	0	1	0	1	25
08:30	0	2	0	2	18	0	0	18	0	2	12	14	0	0	0	0	34
08:45	0	1	0	1	20	0	1	21	0	2	6	8	0	1	0	1	31
Total	4	8	0	12	60	0	3	63	1	6	27	34	0	4	0	4	113
Grand Total	8	19	0	27	150	2	14	166	1	15	84	100	0	7	4	11	304
Apprch %	29.6	70.4	0		90.4	1.2	8.4		1	15	84		0	63.6	36.4		
Total %	2.6	6.2	0	8.9	49.3	0.7	4.6	54.6	0.3	4.9	27.6	32.9	0	2.3	1.3	3.6	

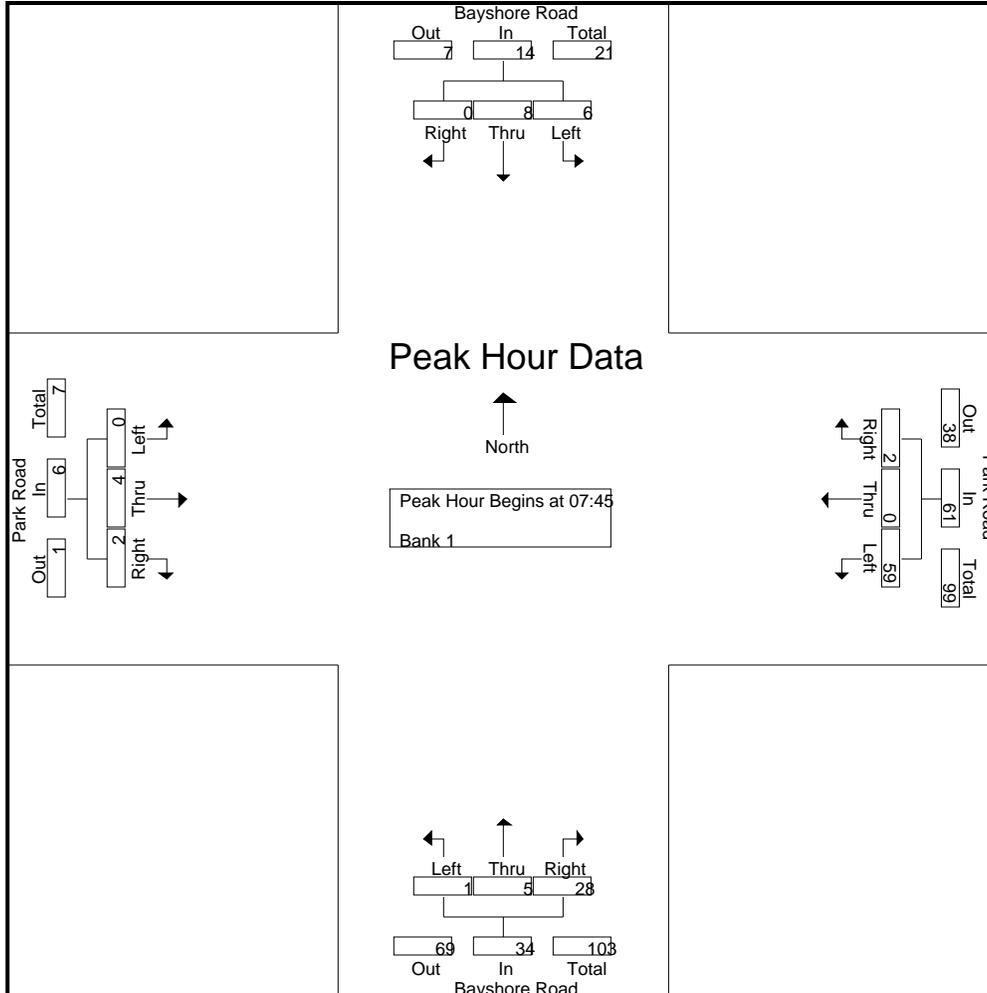
Start Time	Bayshore Road Southbound				Park Road Westbound				Bayshore Road Northbound				Park Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 06:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45																	
07:45	2	1	0	3	19	0	0	19	0	1	7	8	0	1	2	3	33
08:00	1	2	0	3	9	0	1	10	0	2	6	8	0	2	0	2	23
08:15	3	3	0	6	13	0	1	14	1	0	3	4	0	1	0	1	25
08:30	0	2	0	2	18	0	0	18	0	2	12	14	0	0	0	0	34
Total Volume	6	8	0	14	59	0	2	61	1	5	28	34	0	4	2	6	115
% App. Total	42.9	57.1	0		96.7	0	3.3		2.9	14.7	82.4		0	66.7	33.3		
PHF	.500	.667	.000	.583	.776	.000	.500	.803	.250	.625	.583	.607	.000	.500	.250	.500	.846

All Traffic Data

(916) 771-8700

City of Benicia
 All Vehicles on Unshifted tab
 Heavy Vehicles on Bank 1 tab

File Name : 13-7020-003 Bayshore-Park
 Site Code : 00000000
 Start Date : 1/23/2013
 Page No : 2



All Traffic Data

(916) 771-8700

City of Benicia
 All Vehicles on Unshifted tab
 Heavy Vehicles on Bank 1 tab

File Name : 13-7020-002 Bayshore-I 680 SB On Ramp
 Site Code : 00000000
 Start Date : 1/23/2013
 Page No : 1

Groups Printed- Unshifted

Start Time	Bayshore Road Southbound				Driveway Westbound				Bayshore Road Northbound				I-680 SB On-Ramp Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
06:00	0	9	30	39	0	0	0	0	2	64	0	66	0	0	0	0	105
06:15	0	8	33	41	0	0	0	0	3	70	0	73	0	0	0	0	114
06:30	0	11	36	47	0	0	0	0	3	93	0	96	0	0	0	0	143
06:45	0	9	39	48	0	0	0	0	2	126	0	128	0	0	0	0	176
Total	0	37	138	175	0	0	0	0	10	353	0	363	0	0	0	0	538
07:00	0	10	33	43	0	0	0	0	5	107	0	112	0	0	0	0	155
07:15	0	5	36	41	0	0	0	0	4	122	0	126	0	0	0	0	167
07:30	0	2	50	52	0	0	0	0	3	85	0	88	0	0	0	0	140
07:45	0	19	51	70	0	0	1	1	7	125	0	132	0	0	0	0	203
Total	0	36	170	206	0	0	1	1	19	439	0	458	0	0	0	0	665
08:00	0	4	47	51	2	1	0	3	8	97	2	107	0	0	0	0	161
08:15	0	2	49	51	1	0	0	1	4	73	1	78	0	0	0	0	130
08:30	1	9	43	53	0	0	0	0	4	82	2	88	0	0	0	0	141
08:45	0	4	43	47	0	0	1	1	5	66	1	72	0	0	0	0	120
Total	1	19	182	202	3	1	1	5	21	318	6	345	0	0	0	0	552
Grand Total	1	92	490	583	3	1	2	6	50	1110	6	1166	0	0	0	0	1755
Apprch %	0.2	15.8	84		50	16.7	33.3		4.3	95.2	0.5		0	0	0		
Total %	0.1	5.2	27.9	33.2	0.2	0.1	0.1	0.3	2.8	63.2	0.3	66.4	0	0	0	0	

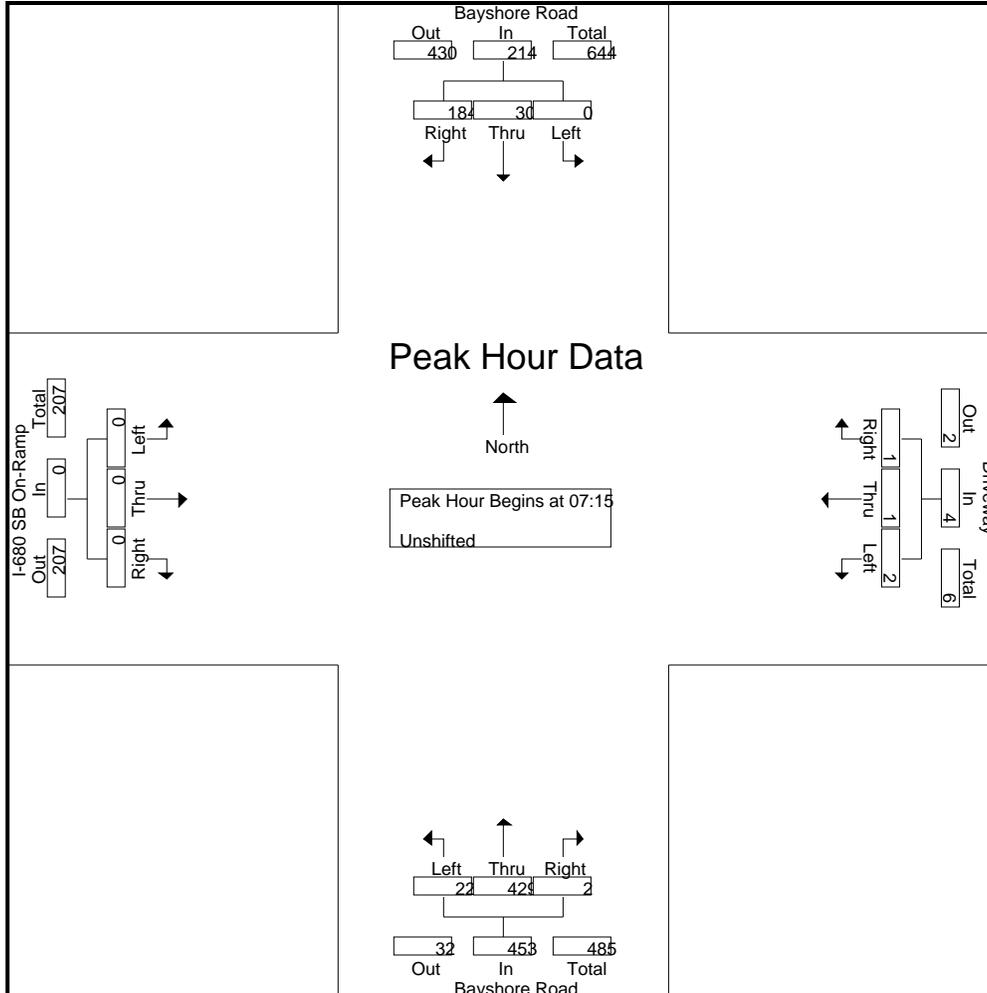
Start Time	Bayshore Road Southbound				Driveway Westbound				Bayshore Road Northbound				I-680 SB On-Ramp Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 06:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	0	5	36	41	0	0	0	0	4	122	0	126	0	0	0	0	167
07:30	0	2	50	52	0	0	0	0	3	85	0	88	0	0	0	0	140
07:45	0	19	51	70	0	0	1	1	7	125	0	132	0	0	0	0	203
08:00	0	4	47	51	2	1	0	3	8	97	2	107	0	0	0	0	161
Total Volume	0	30	184	214	2	1	1	4	22	429	2	453	0	0	0	0	671
% App. Total	0	14	86		50	25	25		4.9	94.7	0.4		0	0	0		
PHF	.000	.395	.902	.764	.250	.250	.250	.333	.688	.858	.250	.858	.000	.000	.000	.000	.826

All Traffic Data

(916) 771-8700

City of Benicia
 All Vehicles on Unshifted tab
 Heavy Vehicles on Bank 1 tab

File Name : 13-7020-002 Bayshore-I 680 SB On Ramp
 Site Code : 00000000
 Start Date : 1/23/2013
 Page No : 2



All Traffic Data

(916) 771-8700

City of Benicia
 All Vehicles on Unshifted tab
 Heavy Vehicles on Bank 1 tab

File Name : 13-7020-002 Bayshore-I 680 SB On Ramp
 Site Code : 00000000
 Start Date : 1/23/2013
 Page No : 1

Groups Printed- Bank 1

Start Time	Bayshore Road Southbound				Driveway Westbound				Bayshore Road Northbound				I-680 SB On-Ramp Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
06:00	0	1	13	14	0	0	0	0	0	8	0	8	0	0	0	0	22
06:15	0	1	11	12	0	0	0	0	0	9	0	9	0	0	0	0	21
06:30	0	0	13	13	0	0	0	0	1	9	0	10	0	0	0	0	23
06:45	0	0	14	14	0	0	0	0	1	4	0	5	0	0	0	0	19
Total	0	2	51	53	0	0	0	0	2	30	0	32	0	0	0	0	85
07:00	0	2	12	14	0	0	0	0	3	14	0	17	0	0	0	0	31
07:15	0	0	7	7	0	0	0	0	3	8	0	11	0	0	0	0	18
07:30	0	0	12	12	0	0	0	0	1	7	0	8	0	0	0	0	20
07:45	0	2	19	21	0	0	0	0	0	8	0	8	0	0	0	0	29
Total	0	4	50	54	0	0	0	0	7	37	0	44	0	0	0	0	98
08:00	0	2	10	12	0	0	0	0	1	9	0	10	0	0	0	0	22
08:15	0	0	16	16	0	0	0	0	1	4	0	5	0	0	0	0	21
08:30	0	2	17	19	0	0	0	0	0	15	0	15	0	0	0	0	34
08:45	0	0	22	22	0	0	0	0	0	7	0	7	0	0	0	0	29
Total	0	4	65	69	0	0	0	0	2	35	0	37	0	0	0	0	106
Grand Total	0	10	166	176	0	0	0	0	11	102	0	113	0	0	0	0	289
Apprch %	0	5.7	94.3		0	0	0		9.7	90.3	0		0	0	0		
Total %	0	3.5	57.4	60.9	0	0	0	0	3.8	35.3	0	39.1	0	0	0	0	

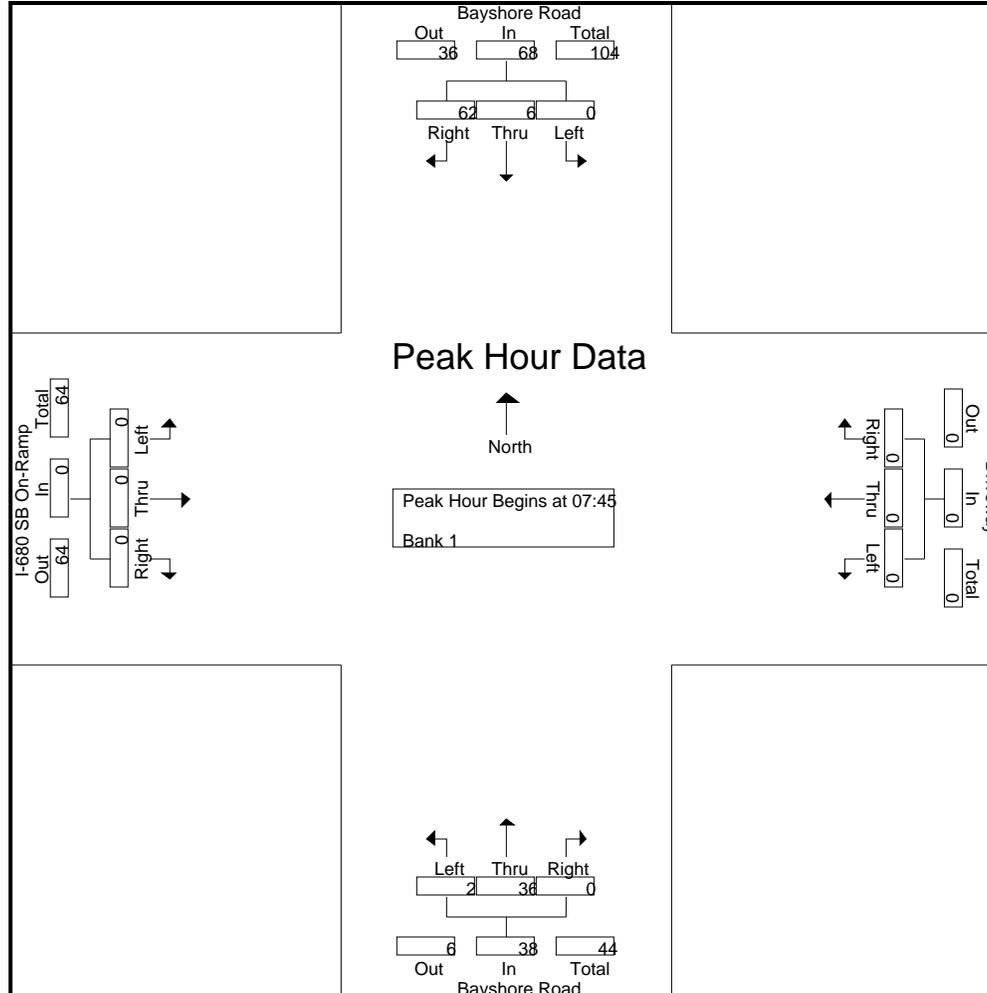
Start Time	Bayshore Road Southbound				Driveway Westbound				Bayshore Road Northbound				I-680 SB On-Ramp Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 06:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45																	
07:45	0	2	19	21	0	0	0	0	0	8	0	8	0	0	0	0	29
08:00	0	2	10	12	0	0	0	0	1	9	0	10	0	0	0	0	22
08:15	0	0	16	16	0	0	0	0	1	4	0	5	0	0	0	0	21
08:30	0	2	17	19	0	0	0	0	0	15	0	15	0	0	0	0	34
Total Volume	0	6	62	68	0	0	0	0	2	36	0	38	0	0	0	0	106
% App. Total	0	8.8	91.2		0	0	0		5.3	94.7	0		0	0	0		
PHF	.000	.750	.816	.810	.000	.000	.000	.000	.500	.600	.000	.633	.000	.000	.000	.000	.779

All Traffic Data

(916) 771-8700

City of Benicia
 All Vehicles on Unshifted tab
 Heavy Vehicles on Bank 1 tab

File Name : 13-7020-002 Bayshore-I 680 SB On Ramp
 Site Code : 00000000
 Start Date : 1/23/2013
 Page No : 2



All Traffic Data

(916) 771-8700

City of Benicia
 All Vehicles on Unshifted tab
 Heavy Vehicles on Bank 1 tab

File Name : 13-7020-001 Bayshore-I 680 NB Off Ramp
 Site Code : 00000000
 Start Date : 1/23/2013
 Page No : 1

Groups Printed- Unshifted

Start Time	Bayshore Road Southbound				Driveway Westbound				Bayshore Road Northbound				I-680 NB Off-Ramp Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
06:00	0	9	0	9	0	0	0	0	0	3	0	3	65	0	7	72	84
06:15	0	8	0	8	0	0	0	0	0	4	0	4	70	0	9	79	91
06:30	0	10	0	10	0	0	0	0	0	3	0	3	91	0	9	100	113
06:45	0	10	0	10	0	0	0	0	0	3	0	3	128	0	22	150	163
Total	0	37	0	37	0	0	0	0	0	13	0	13	354	0	47	401	451
07:00	0	9	0	9	0	0	0	0	0	6	0	6	103	0	14	117	132
07:15	0	6	0	6	0	0	0	0	0	8	0	8	119	0	11	130	144
07:30	0	3	0	3	0	0	0	0	0	7	0	7	80	1	8	89	99
07:45	0	17	0	17	0	0	0	0	0	8	0	8	125	2	16	143	168
Total	0	35	0	35	0	0	0	0	0	29	0	29	427	3	49	479	543
08:00	1	7	0	8	0	0	0	0	0	12	0	12	94	0	11	105	125
08:15	0	3	0	3	0	0	0	0	0	9	0	9	73	0	7	80	92
08:30	1	8	0	9	0	0	0	0	0	11	0	11	73	1	8	82	102
08:45	0	4	0	4	0	0	0	0	0	8	0	8	64	0	3	67	79
Total	2	22	0	24	0	0	0	0	0	40	0	40	304	1	29	334	398
Grand Total	2	94	0	96	0	0	0	0	0	82	0	82	1085	4	125	1214	1392
Apprch %	2.1	97.9	0		0	0	0		0	100	0		89.4	0.3	10.3		
Total %	0.1	6.8	0	6.9	0	0	0	0	0	5.9	0	5.9	77.9	0.3	9	87.2	

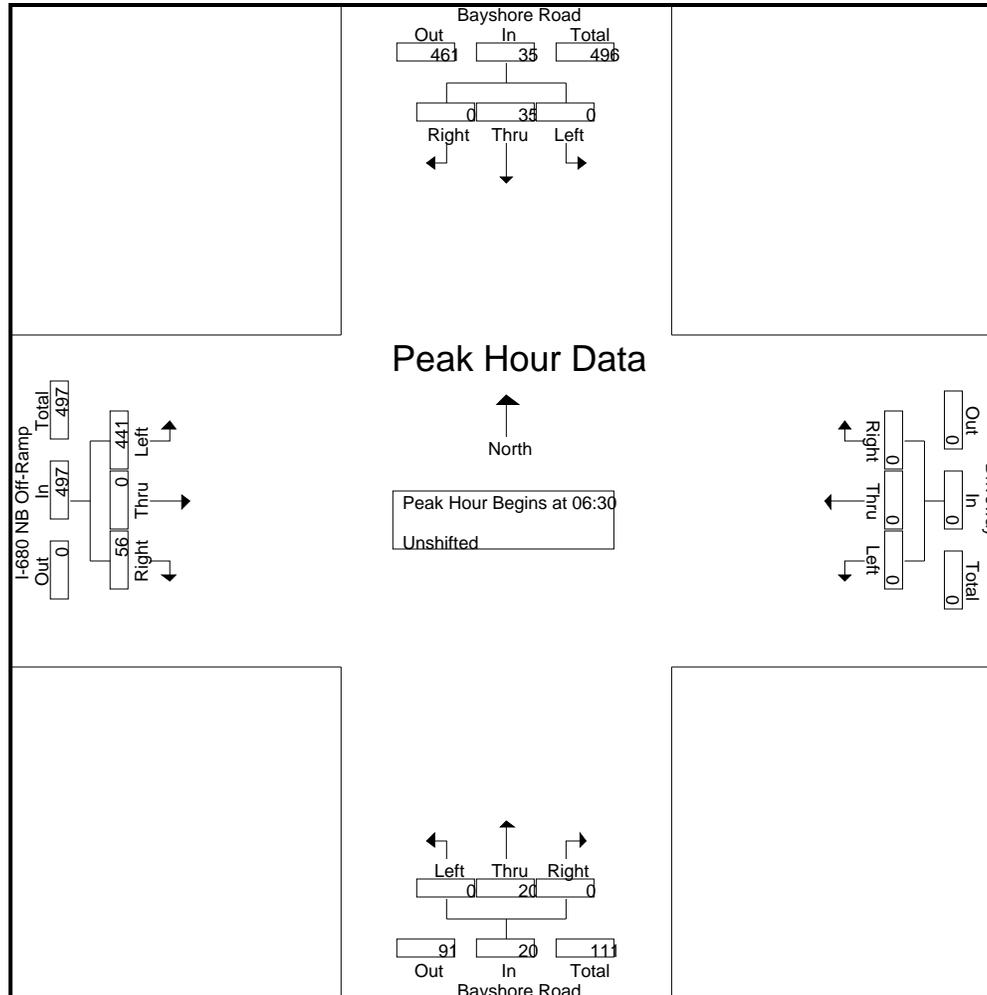
Start Time	Bayshore Road Southbound				Driveway Westbound				Bayshore Road Northbound				I-680 NB Off-Ramp Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 06:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 06:30																	
06:30	0	10	0	10	0	0	0	0	0	3	0	3	91	0	9	100	113
06:45	0	10	0	10	0	0	0	0	0	3	0	3	128	0	22	150	163
07:00	0	9	0	9	0	0	0	0	0	6	0	6	103	0	14	117	132
07:15	0	6	0	6	0	0	0	0	0	8	0	8	119	0	11	130	144
Total Volume	0	35	0	35	0	0	0	0	0	20	0	20	441	0	56	497	552
% App. Total	0	100	0		0	0	0		0	100	0		88.7	0	11.3		
PHF	.000	.875	.000	.875	.000	.000	.000	.000	.000	.625	.000	.625	.861	.000	.636	.828	.847

All Traffic Data

(916) 771-8700

City of Benicia
 All Vehicles on Unshifted tab
 Heavy Vehicles on Bank 1 tab

File Name : 13-7020-001 Bayshore-I 680 NB Off Ramp
 Site Code : 00000000
 Start Date : 1/23/2013
 Page No : 2



All Traffic Data

(916) 771-8700

City of Benicia
 All Vehicles on Unshifted tab
 Heavy Vehicles on Bank 1 tab

File Name : 13-7020-001 Bayshore-I 680 NB Off Ramp
 Site Code : 00000000
 Start Date : 1/23/2013
 Page No : 1

Groups Printed- Bank 1

Start Time	Bayshore Road Southbound				Driveway Westbound				Bayshore Road Northbound				I-680 NB Off-Ramp Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
06:00	0	1	0	1	0	0	0	0	0	0	0	0	7	0	0	7	8
06:15	0	1	0	1	0	0	0	0	0	2	0	2	8	0	0	8	11
06:30	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	8
06:45	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	7
Total	0	2	0	2	0	0	0	0	0	2	0	2	30	0	0	30	34
07:00	0	2	0	2	0	0	0	0	0	2	0	2	12	0	0	12	16
07:15	0	0	0	0	0	0	0	0	0	2	0	2	9	0	0	9	11
07:30	0	0	0	0	0	0	0	0	0	1	0	1	8	0	0	8	9
07:45	0	2	0	2	0	0	0	0	0	1	0	1	6	0	0	6	9
Total	0	4	0	4	0	0	0	0	0	6	0	6	35	0	0	35	45
08:00	0	1	0	1	0	0	0	0	0	2	0	2	9	0	1	10	13
08:15	0	1	0	1	0	0	0	0	0	0	0	0	5	0	0	5	6
08:30	0	1	0	1	0	0	0	0	0	2	0	2	11	0	0	11	14
08:45	0	0	0	0	0	0	0	0	0	2	0	2	6	0	0	6	8
Total	0	3	0	3	0	0	0	0	0	6	0	6	31	0	1	32	41
Grand Total	0	9	0	9	0	0	0	0	0	14	0	14	96	0	1	97	120
Apprch %	0	100	0		0	0	0		0	100	0		99	0	1		
Total %	0	7.5	0	7.5	0	0	0	0	0	11.7	0	11.7	80	0	0.8	80.8	

Start Time	Bayshore Road Southbound				Driveway Westbound				Bayshore Road Northbound				I-680 NB Off-Ramp Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00	0	2	0	2	0	0	0	0	0	2	0	2	12	0	0	12	16
07:15	0	0	0	0	0	0	0	0	0	2	0	2	9	0	0	9	11
07:30	0	0	0	0	0	0	0	0	0	1	0	1	8	0	0	8	9
07:45	0	2	0	2	0	0	0	0	0	1	0	1	6	0	0	6	9
Total Volume	0	4	0	4	0	0	0	0	0	6	0	6	35	0	0	35	45
% App. Total	0	100	0		0	0	0		0	100	0		100	0	0		
PHF	.000	.500	.000	.500	.000	.000	.000	.000	.000	.750	.000	.750	.729	.000	.000	.729	.703

Peak Hour Analysis From 06:00 to 08:45 - Peak 1 of 1

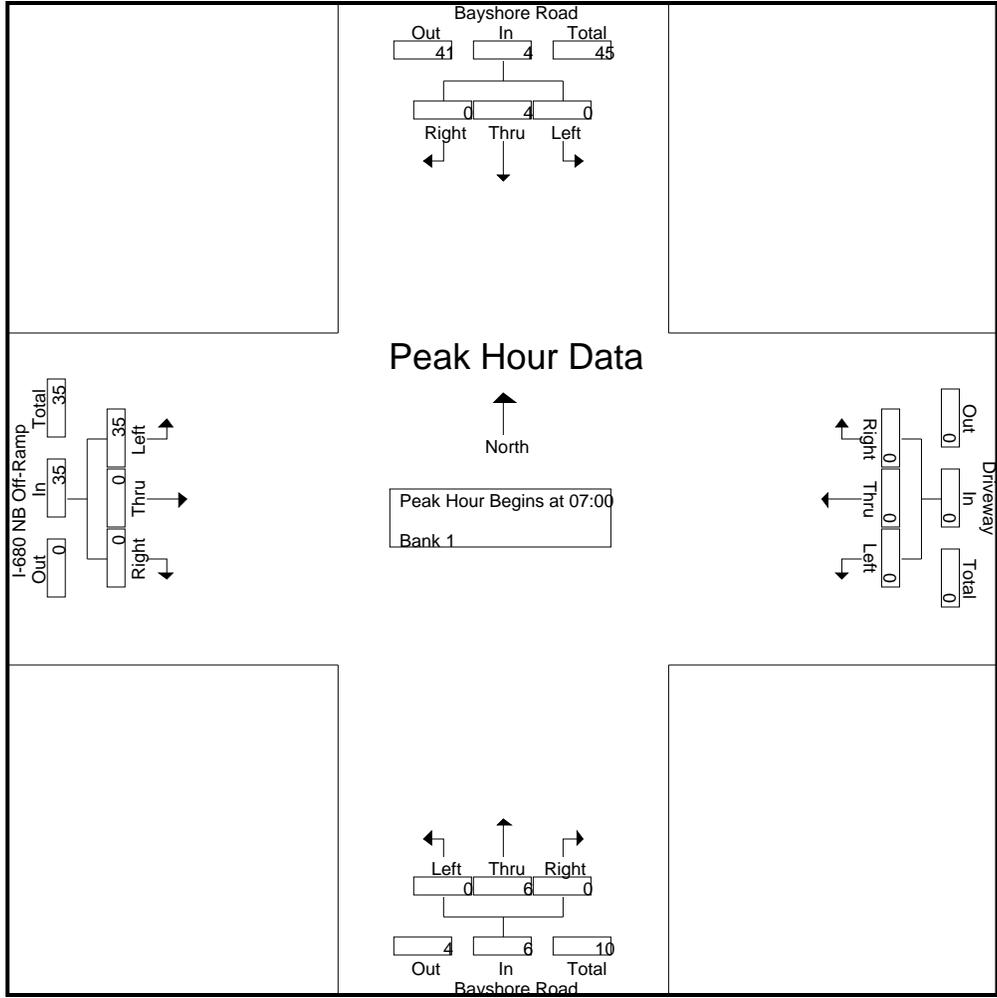
Peak Hour for Entire Intersection Begins at 07:00

All Traffic Data

(916) 771-8700

City of Benicia
 All Vehicles on Unshifted tab
 Heavy Vehicles on Bank 1 tab

File Name : 13-7020-001 Bayshore-I 680 NB Off Ramp
 Site Code : 00000000
 Start Date : 1/23/2013
 Page No : 2



All Traffic Data

(916) 771-8700

City of Benicia
 All Vehicles on Unshifted tab
 Heavy Vehicles on Bank 1 tab

File Name : 13-7020-004 Bay Vista-Park
 Site Code : 00000000
 Start Date : 1/23/2013
 Page No : 1

Groups Printed- Unshifted

Start Time	Southbound				Park Road Westbound				Bay Vista Court Northbound				Park Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
06:00	0	0	0	0	1	5	0	6	0	0	0	0	0	2	0	2	8
06:15	0	0	0	0	0	8	0	8	0	0	0	0	0	2	0	2	10
06:30	0	0	0	0	4	7	0	11	0	0	0	0	0	3	0	3	14
06:45	0	0	0	0	7	14	0	21	0	0	0	0	0	9	0	9	30
Total	0	0	0	0	12	34	0	46	0	0	0	0	0	16	0	16	62
07:00	0	0	0	0	2	11	0	13	0	0	1	1	0	4	0	4	18
07:15	0	0	0	0	2	10	0	12	0	0	0	0	0	8	0	8	20
07:30	0	0	0	0	0	11	0	11	0	0	0	0	0	4	0	4	15
07:45	0	0	0	0	9	15	0	24	0	0	0	0	0	14	0	14	38
Total	0	0	0	0	13	47	0	60	0	0	1	1	0	30	0	30	91
08:00	0	0	0	0	8	11	0	19	0	0	4	4	0	4	0	4	27
08:15	0	0	0	0	0	6	0	6	0	0	0	0	0	4	0	4	10
08:30	0	0	0	0	7	11	0	18	1	0	0	1	0	4	0	4	23
08:45	0	0	0	0	2	9	0	11	0	0	0	0	0	7	0	7	18
Total	0	0	0	0	17	37	0	54	1	0	4	5	0	19	0	19	78
Grand Total	0	0	0	0	42	118	0	160	1	0	5	6	0	65	0	65	231
Apprch %	0	0	0		26.2	73.8	0		16.7	0	83.3		0	100	0		
Total %	0	0	0		18.2	51.1	0	69.3	0.4	0	2.2	2.6	0	28.1	0	28.1	

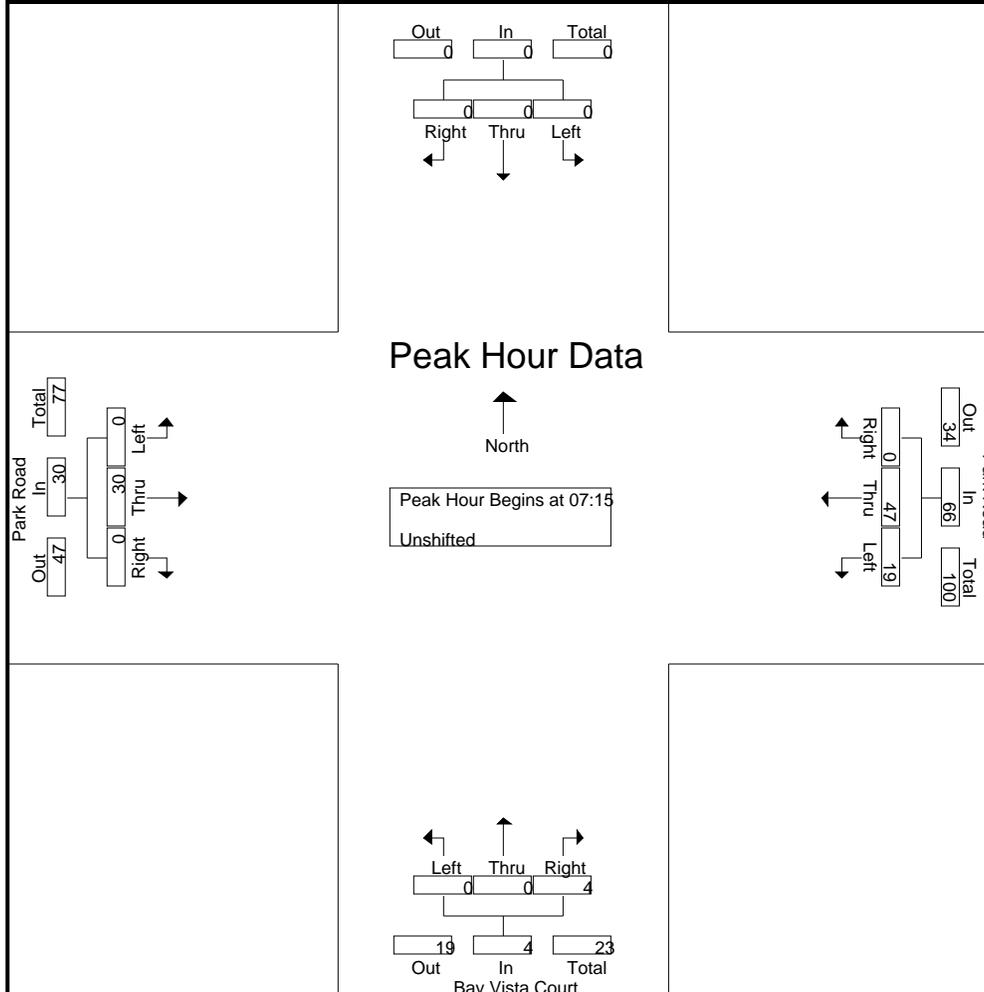
Start Time	Southbound				Park Road Westbound				Bay Vista Court Northbound				Park Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 06:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	0	0	0	0	2	10	0	12	0	0	0	0	0	8	0	8	20
07:30	0	0	0	0	0	11	0	11	0	0	0	0	0	4	0	4	15
07:45	0	0	0	0	9	15	0	24	0	0	0	0	0	14	0	14	38
08:00	0	0	0	0	8	11	0	19	0	0	4	4	0	4	0	4	27
Total Volume	0	0	0	0	19	47	0	66	0	0	4	4	0	30	0	30	100
% App. Total	0	0	0		28.8	71.2	0		0	0	100		0	100	0		
PHF	.000	.000	.000	.000	.528	.783	.000	.688	.000	.000	.250	.250	.000	.536	.000	.536	.658

All Traffic Data

(916) 771-8700

City of Benicia
 All Vehicles on Unshifted tab
 Heavy Vehicles on Bank 1 tab

File Name : 13-7020-004 Bay Vista-Park
 Site Code : 00000000
 Start Date : 1/23/2013
 Page No : 2



All Traffic Data

(916) 771-8700

City of Benicia
 All Vehicles on Unshifted tab
 Heavy Vehicles on Bank 1 tab

File Name : 13-7020-004 Bay Vista-Park
 Site Code : 00000000
 Start Date : 1/23/2013
 Page No : 1

Groups Printed- Bank 1

Start Time	Southbound				Park Road Westbound				Bay Vista Court Northbound				Park Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
06:30	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
06:45	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	3
07:30	0	0	0	0	0	2	0	2	0	0	0	0	0	2	0	2	4
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	3
Total	0	0	0	0	0	2	0	2	0	0	0	0	0	5	0	5	7
08:00	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
08:30	0	0	0	0	0	1	0	1	1	0	0	1	0	0	0	0	2
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total	0	0	0	0	0	1	0	1	1	0	1	2	0	2	0	2	5
Grand Total	0	0	0	0	0	3	0	3	1	0	1	2	0	10	0	10	15
Apprch %	0	0	0	0	0	100	0	0	50	0	50	0	0	100	0	0	0
Total %	0	0	0	0	0	20	0	20	6.7	0	6.7	13.3	0	66.7	0	66.7	0

Start Time	Southbound				Park Road Westbound				Bay Vista Court Northbound				Park Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:30	0	0	0	0	0	2	0	2	0	0	0	0	0	2	0	2	4
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	3
08:00	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total Volume	0	0	0	0	0	2	0	2	0	0	1	1	0	6	0	6	9
% App. Total	0	0	0	0	0	100	0	0	0	0	100	0	0	100	0	0	0
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.250	.250	.000	.500	.000	.500	.563

Peak Hour Analysis From 06:00 to 08:45 - Peak 1 of 1

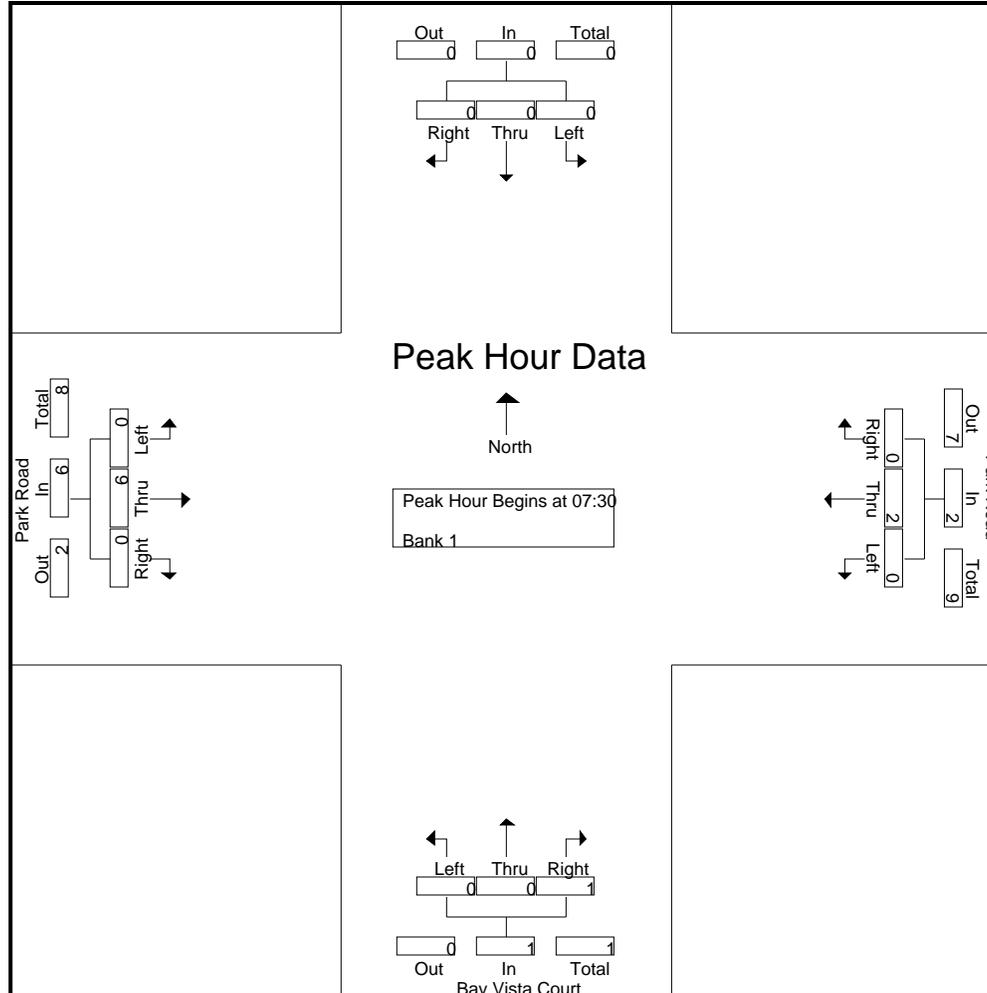
Peak Hour for Entire Intersection Begins at 07:30

All Traffic Data

(916) 771-8700

City of Benicia
 All Vehicles on Unshifted tab
 Heavy Vehicles on Bank 1 tab

File Name : 13-7020-004 Bay Vista-Park
 Site Code : 00000000
 Start Date : 1/23/2013
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All Traffic Data

(916) 771-8700

City of Benicia
 All Vehicles on Unshifted tab
 Heavy Vehicles on Bank 1 tab

File Name : 13-7020-005 Valero Refinery-Park
 Site Code : 00000000
 Start Date : 1/23/2013
 Page No : 1

Groups Printed- Unshifted

Start Time	Valero Refinery Entrance Southbound				Park Road Westbound				Northbound				Park Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
06:00	1	0	0	1	0	38	1	39	0	0	0	0	5	56	0	61	101
06:15	2	0	0	2	0	51	7	58	0	0	0	0	10	57	0	67	127
06:30	0	0	6	6	0	54	8	62	0	0	0	0	9	75	0	84	152
06:45	0	0	3	3	0	78	4	82	0	0	0	0	2	103	0	105	190
Total	3	0	9	12	0	221	20	241	0	0	0	0	26	291	0	317	570
07:00	0	0	2	2	0	48	8	56	0	0	0	0	12	90	0	102	160
07:15	0	0	5	5	0	45	16	61	0	0	0	0	25	89	0	114	180
07:30	1	0	9	10	0	75	17	92	0	0	0	0	8	80	0	88	190
07:45	0	0	7	7	0	88	3	91	0	0	0	0	0	114	0	114	212
Total	1	0	23	24	0	256	44	300	0	0	0	0	45	373	0	418	742
08:00	0	0	0	0	0	61	0	61	0	0	0	0	0	101	0	101	162
08:15	0	0	1	1	0	58	3	61	0	0	0	0	0	79	0	79	141
08:30	1	0	1	2	0	61	1	62	0	0	0	0	0	81	0	81	145
08:45	0	0	0	0	0	60	1	61	0	0	0	0	0	65	0	65	126
Total	1	0	2	3	0	240	5	245	0	0	0	0	0	326	0	326	574
Grand Total	5	0	34	39	0	717	69	786	0	0	0	0	71	990	0	1061	1886
Apprch %	12.8	0	87.2		0	91.2	8.8		0	0	0		6.7	93.3	0		
Total %	0.3	0	1.8	2.1	0	38	3.7	41.7	0	0	0	0	3.8	52.5	0	56.3	

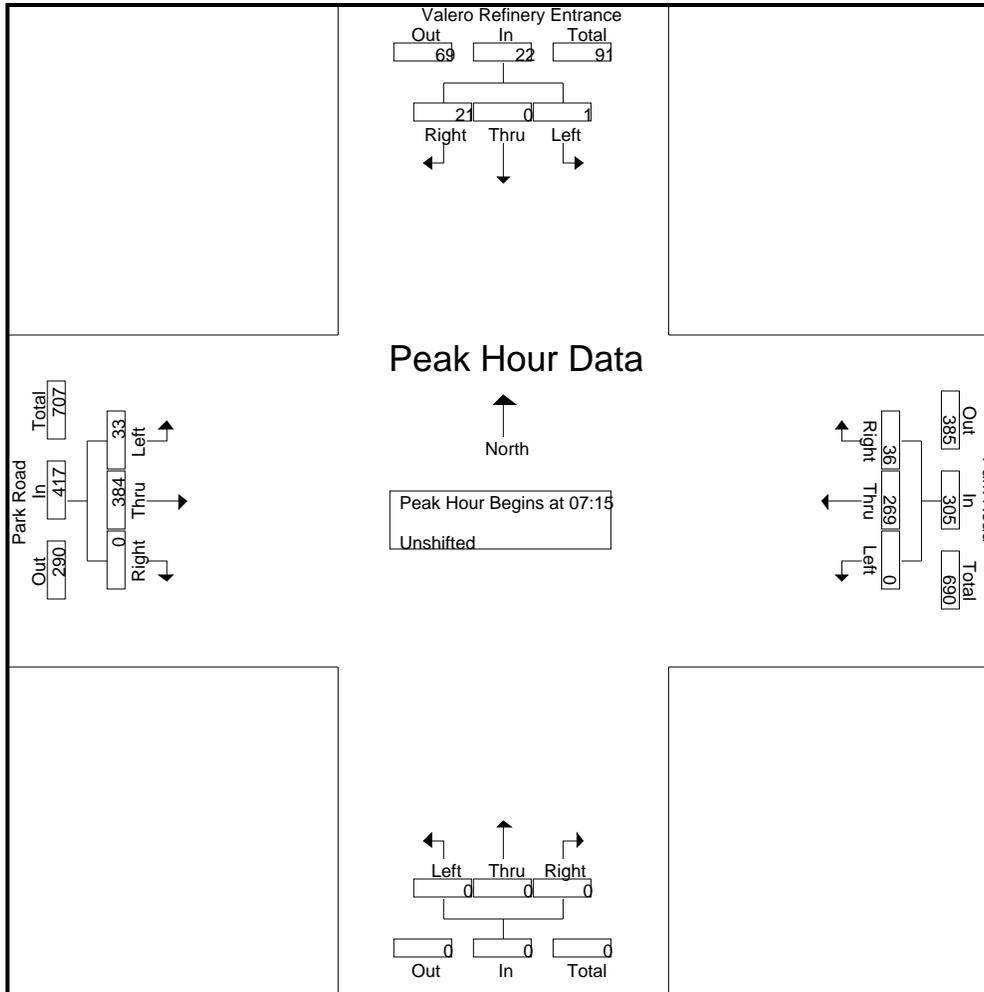
Start Time	Valero Refinery Entrance Southbound				Park Road Westbound				Northbound				Park Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 06:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	0	0	5	5	0	45	16	61	0	0	0	0	25	89	0	114	180
07:30	1	0	9	10	0	75	17	92	0	0	0	0	8	80	0	88	190
07:45	0	0	7	7	0	88	3	91	0	0	0	0	0	114	0	114	212
08:00	0	0	0	0	0	61	0	61	0	0	0	0	0	101	0	101	162
Total Volume	1	0	21	22	0	269	36	305	0	0	0	0	33	384	0	417	744
% App. Total	4.5	0	95.5		0	88.2	11.8		0	0	0		7.9	92.1	0		
PHF	.250	.000	.583	.550	.000	.764	.529	.829	.000	.000	.000	.000	.330	.842	.000	.914	.877

All Traffic Data

(916) 771-8700

City of Benicia
 All Vehicles on Unshifted tab
 Heavy Vehicles on Bank 1 tab

File Name : 13-7020-005 Valero Refinery-Park
 Site Code : 00000000
 Start Date : 1/23/2013
 Page No : 2



All Traffic Data

(916) 771-8700

City of Benicia
 All Vehicles on Unshifted tab
 Heavy Vehicles on Bank 1 tab

File Name : 13-7020-005 Valero Refinery-Park
 Site Code : 00000000
 Start Date : 1/23/2013
 Page No : 1

Groups Printed- Bank 1

Start Time	Valero Refinery Entrance Southbound				Park Road Westbound				Northbound				Park Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
06:00	0	0	0	0	0	14	0	14	0	0	0	0	0	9	0	9	23
06:15	0	0	0	0	0	15	1	16	0	0	0	0	0	10	0	10	26
06:30	0	0	0	0	0	12	0	12	0	0	0	0	0	9	0	9	21
06:45	0	0	0	0	0	13	0	13	0	0	0	0	0	3	0	3	16
Total	0	0	0	0	0	54	1	55	0	0	0	0	0	31	0	31	86
07:00	0	0	0	0	0	14	0	14	0	0	0	0	0	16	0	16	30
07:15	0	0	0	0	0	6	0	6	0	0	0	0	0	5	0	5	11
07:30	0	0	0	0	0	9	0	9	0	0	0	0	0	4	0	4	13
07:45	0	0	0	0	0	18	0	18	0	0	0	0	0	8	0	8	26
Total	0	0	0	0	0	47	0	47	0	0	0	0	0	33	0	33	80
08:00	0	0	0	0	0	11	0	11	0	0	0	0	0	8	0	8	19
08:15	0	0	0	0	0	12	0	12	0	0	0	0	0	4	0	4	16
08:30	0	0	0	0	0	17	1	18	0	0	0	0	0	14	0	14	32
08:45	0	0	0	0	0	23	0	23	0	0	0	0	0	8	0	8	31
Total	0	0	0	0	0	63	1	64	0	0	0	0	0	34	0	34	98
Grand Total	0	0	0	0	0	164	2	166	0	0	0	0	0	98	0	98	264
Apprch %	0	0	0		0	98.8	1.2		0	0	0		0	100	0		
Total %	0	0	0		0	62.1	0.8	62.9	0	0	0		0	37.1	0	37.1	

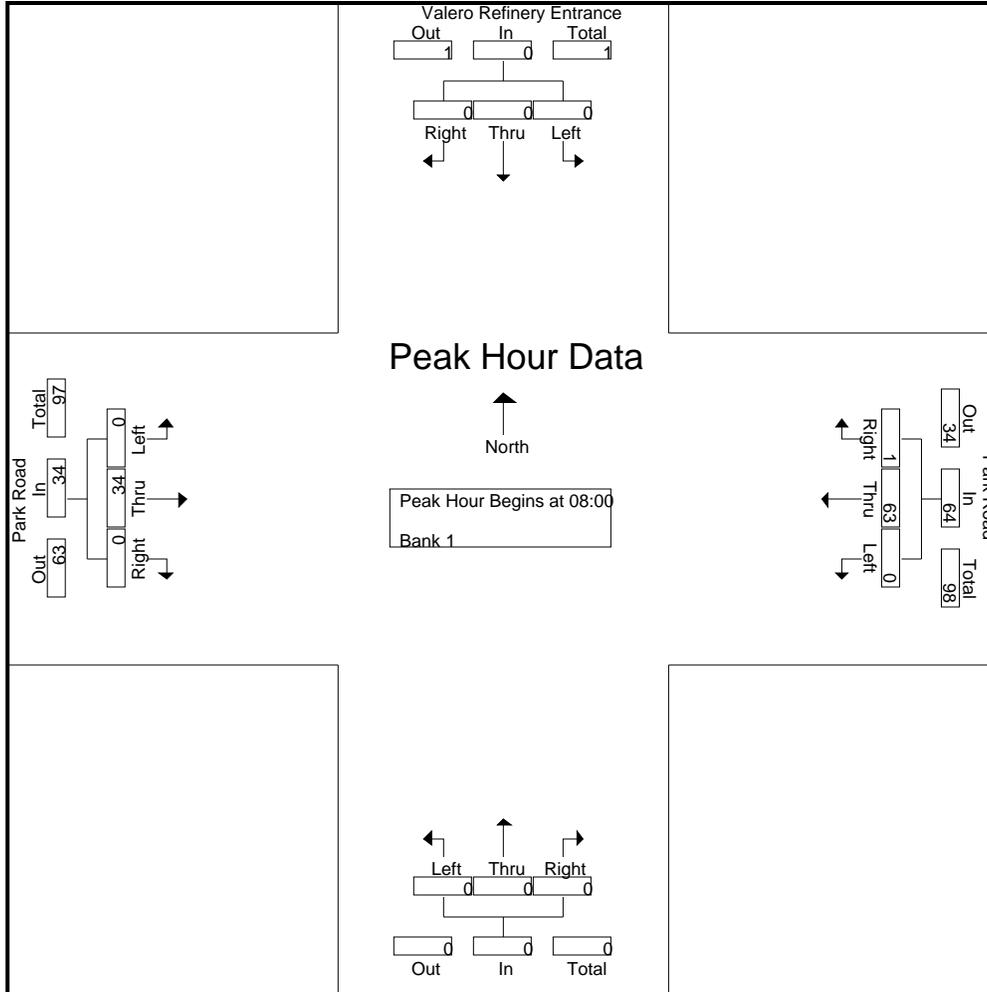
Start Time	Valero Refinery Entrance Southbound				Park Road Westbound				Northbound				Park Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 06:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00																	
08:00	0	0	0	0	0	11	0	11	0	0	0	0	0	8	0	8	19
08:15	0	0	0	0	0	12	0	12	0	0	0	0	0	4	0	4	16
08:30	0	0	0	0	0	17	1	18	0	0	0	0	0	14	0	14	32
08:45	0	0	0	0	0	23	0	23	0	0	0	0	0	8	0	8	31
Total Volume	0	0	0	0	0	63	1	64	0	0	0	0	0	34	0	34	98
% App. Total	0	0	0		0	98.4	1.6		0	0	0		0	100	0		
PHF	.000	.000	.000	.000	.000	.685	.250	.696	.000	.000	.000	.000	.000	.607	.000	.607	.766

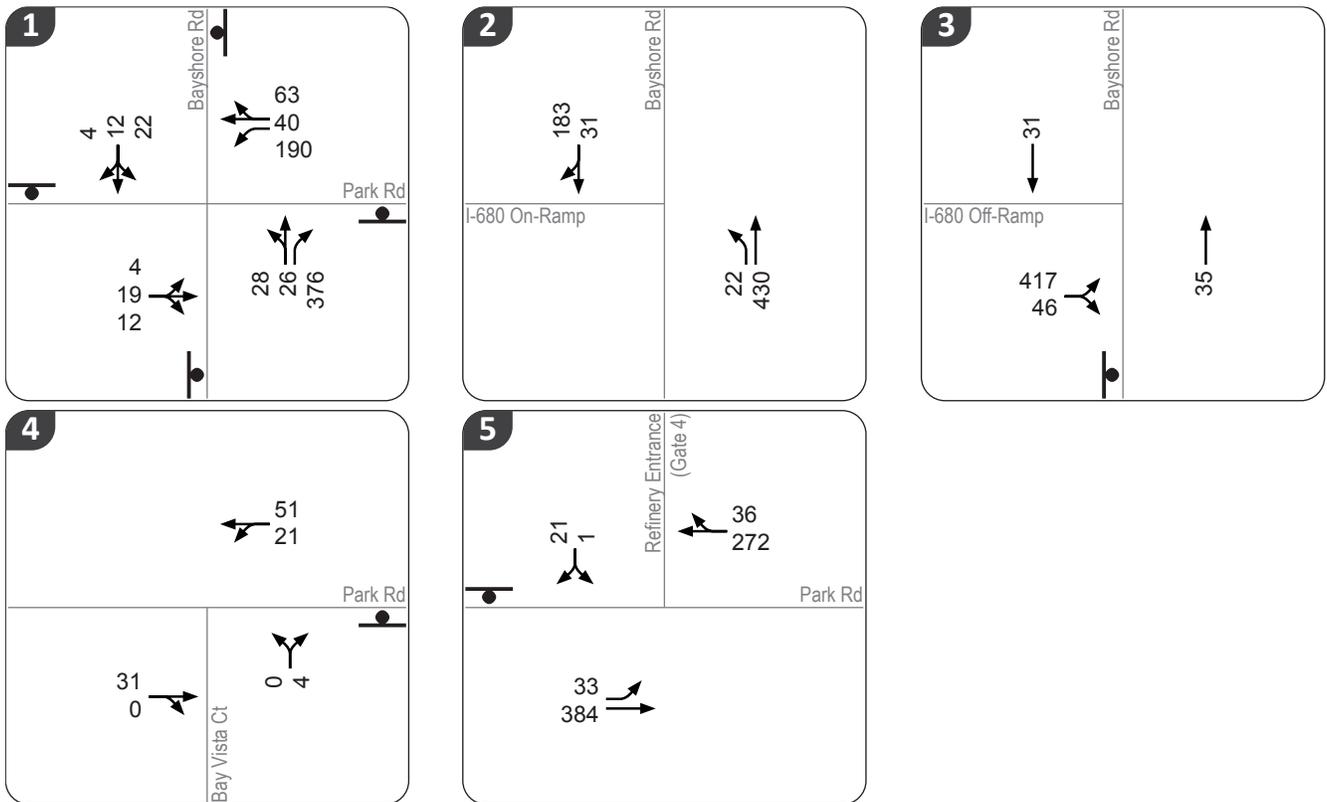
All Traffic Data

(916) 771-8700

City of Benicia
 All Vehicles on Unshifted tab
 Heavy Vehicles on Bank 1 tab

File Name : 13-7020-005 Valero Refinery-Park
 Site Code : 00000000
 Start Date : 1/23/2013
 Page No : 2





VOLUMES KEY

- XX AM Peak Hour Traffic Volumes
- Stop Sign

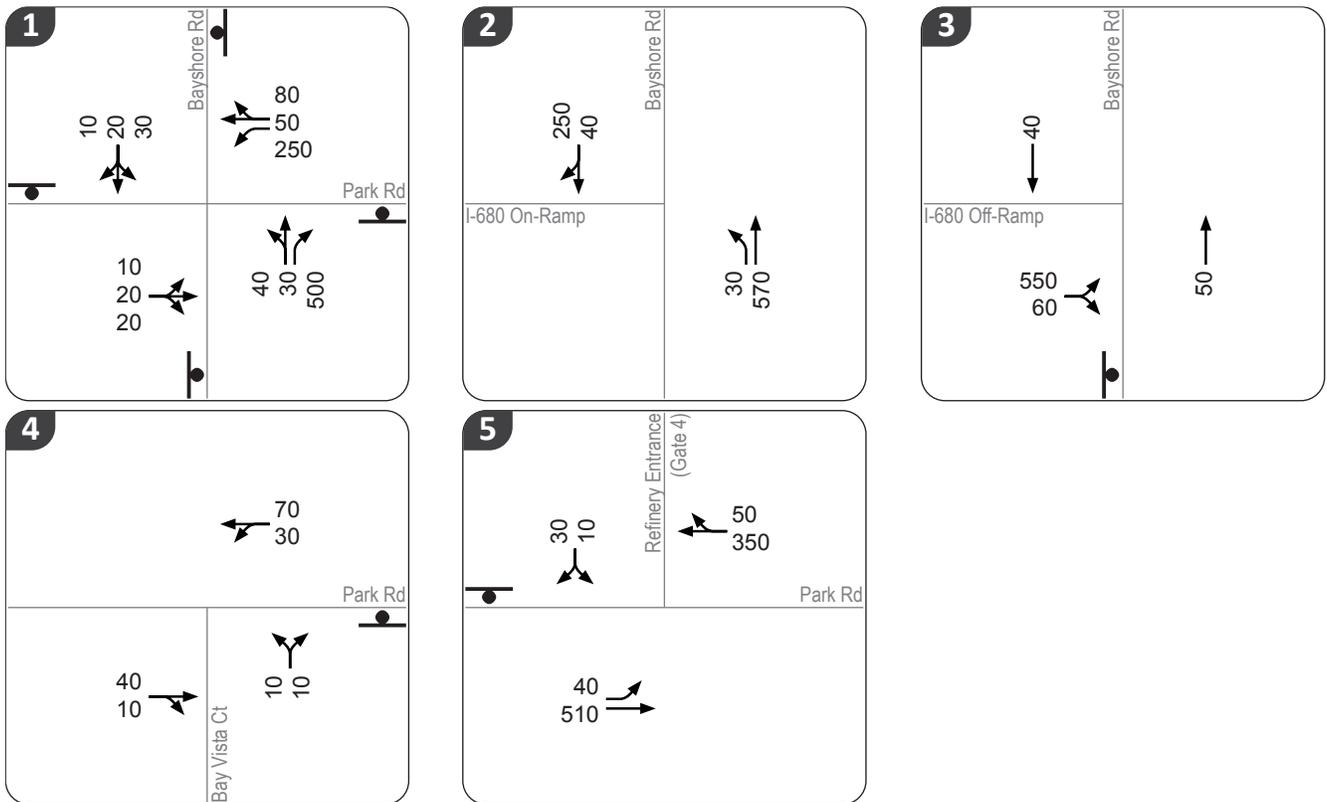
MAP KEY

- ① Study Intersection
- UPRR At-Grade Crossing
- ▬ Roadway Count Location
- UPRR Overland Route (Spur)
- ▬ UPRR Overland Route (Mainline)



Figure A1.
Existing Conditions
Intersection Peak Hour Traffic Volumes and Lane Configurations

WC13-3005_2-2_ExVol



VOLUMES KEY

- XX AM Peak Hour Traffic Volumes
- Stop Sign

MAP KEY

- ① Study Intersection
- UPRR At-Grade Crossing
- ▬ Roadway Count Location
- UPRR Overland Route (Spur)
- ▬ UPRR Overland Route (Mainline)



Figure A2.
 Cumulative Conditions
 Intersection Peak Hour Traffic Volumes and Lane Configurations

WC13-3005_4-1_CumuVols

Primary Rd	O ST	Distance (ft)	276	Direction	W	Secondary Rd	E 5TH ST	NCIC	4801	State Hwy?	N	Route	3475	Postmile Prefix	20090425	Time	0857	SAT	Date	20091217
City	Benicia	County	Solano	Rpt Dist	P28	Beat	001	Type	0	CalTrans		Badge	3475	Collision Date	20090425	Time	0857	SAT	Date	20091217
Primary Collision Factor	DRVR ALCIDRG	Weather?	CLEAR	Violation	23152A	Collision Type	REAR END	Severity	NO UNUSL CN	Ped Action										
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DAYLIGHT															
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Move	Pre	Dir	SW	Veh	CHP	Veh	Make	Year	SP	Info	OAF1	Viol	0	3
1F	DRVR	36	F	H	HBD-JI	PROC ST	E	A	0700	GMC	2001	-	3	A	23152					
2	DRVR	998	-		IMP UNK	IMP UNK	E	A	0800	NISSA	2004	-	3	N						
Primary Rd	OFARRELL DR	Distance (ft)	209	Direction	W	Secondary Rd	PLYMOUTH CT	NCIC	4801	State Hwy?	N	Route		Postmile Prefix		Time				
City	Benicia	County	Solano	Rpt Dist	22107	Collision Type	REAR END	Severity	NO UNUSL CN	Ped Action										
Primary Collision Factor	IMPROP TURN	Weather?	CLOUDY	Violation	22107	Collision Type	REAR END	Severity	NO UNUSL CN	Ped Action										
Hit and Run		Motor Vehicle Involved With	PKD MV	Lighting	DAYLIGHT															
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Move	Pre	Dir	SW	Veh	CHP	Veh	Make	Year	SP	Info	OAF1	Viol	0	3
1F	DRVR	67	F	W	HNBD	UNSTURN	W	A	0100	HONDA	2007	-	3	N						
2	PRKD	998	-			PARKED	W	A	0700	GMC	1995	-	3	N						
Primary Rd	OXFORD DR	Distance (ft)	366	Direction	W	Secondary Rd	ROSE DR	NCIC	4801	State Hwy?	N	Route		Postmile Prefix		Time				
City	Benicia	County	Solano	Rpt Dist	4801	Collision Type	HIT OBJECT	Severity	NO UNUSL CN	Ped Action										
Primary Collision Factor	UNSAFE SPEED	Weather?	CLEAR	Violation	22350	Collision Type	HIT OBJECT	Severity	NO UNUSL CN	Ped Action										
Hit and Run		Motor Vehicle Involved With	FIXED OBJ	Lighting	DAYLIGHT															
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Move	Pre	Dir	SW	Veh	CHP	Veh	Make	Year	SP	Info	OAF1	Viol	0	3
1F	DRVR	29	F	W	HNBD	PROC ST	E	A	0100	VOLKS	2003	-	3	M						
2	PRKD	998	-			PARKED	W	A	0700	GMC	1995	-	3	N						
Primary Rd	PARK RD	Distance (ft)	50	Direction	N	Secondary Rd	BAYSHORE RD	NCIC	4801	State Hwy?	N	Route		Postmile Prefix		Time				
City	Benicia	County	Solano	Rpt Dist	P-66	Beat	004	Type	0	CalTrans		Badge	1395	Collision Date	20090221	Time	1229	SAT	Date	20090929
Primary Collision Factor	STOP SGN/SIG	Weather?	RAINING	Violation	22451A	Collision Type	HIT OBJECT	Severity	NO UNUSL CN	Ped Action										
Hit and Run		Motor Vehicle Involved With	OTHER OBJ	Lighting	DAYLIGHT															
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Move	Pre	Dir	SW	Veh	CHP	Veh	Make	Year	SP	Info	OAF1	Viol	0	3
1F	DRVR	998	-		IMP UNK	IMP UNK	N	-	-00											
2	DRVR	998	-		IMP UNK	IMP UNK	N	-	-00											
Primary Rd	PARK RD	Distance (ft)	50	Direction	N	Secondary Rd	BAYSHORE RD	NCIC	4801	State Hwy?	N	Route		Postmile Prefix		Time				
City	Benicia	County	Solano	Rpt Dist	22451A	Collision Type	HIT OBJECT	Severity	NO UNUSL CN	Ped Action										
Primary Collision Factor	STOP SGN/SIG	Weather?	CLEAR	Violation	22451A	Collision Type	HIT OBJECT	Severity	NO UNUSL CN	Ped Action										
Hit and Run		Motor Vehicle Involved With	FIXED OBJ	Lighting	DAYLIGHT															
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Move	Pre	Dir	SW	Veh	CHP	Veh	Make	Year	SP	Info	OAF1	Viol	0	3
1F	DRVR	998	-		IMP UNK	IMP UNK	N	-	-00											
2	DRVR	998	-		IMP UNK	IMP UNK	N	-	-00											

Primary Rd	ROSE DR	Distance (ft)	72	Direction	S	Secondary Rd	TYNE CT	NCIC	4801	State Hwy?	N	Route	4801	Postmile Prefix	Postmile	Side of Hwy									
City	Benicia	County	Solano	Rpt Dist	P56	Beat	003	Type	0	CalTrans		Badge	2914	Collision Date	20090629	Time	1940								
Primary Collision Factor	DRVR ALCIDRG	Weather?	CLEAR	Weather?	MSDMNR	Motor Vehicle Involved With	PKD MV	Lighting	DAYLIGHT	Ped Action	NO UNUSL CND	Rdwy Cond2	NO UNUSL CND	Rdwy Cond2	Spec Cond	0	Process Date	20100206							
Hit and Run																									
Party Type	Age Sex Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected			
1F	DRVR 55 M W	HBD-JI		PROG ST	S	A	0100	NISSA	2004	-	3	N	-	L	G	DRVR	COMP	PN	55	M	1	0	L	G	
2	PRKD 998 -			PARKED	S	A	0100	TOYOT	2004	-	3	N	-	-	-										
Party Type	Age Sex Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected			
1F	DRVR 16 M W	HNBD		RAN OFF RD	S	A	0100	TOYOT	1997	-	3	N	-	M	G	DRVR	OTH	VIS	16	M	1	0	M	G	
Party Type	Age Sex Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected			
1F	DRVR 16 M W	HNBD		RAN OFF RD	S	A	0100	TOYOT	1997	-	3	N	-	M	G	DRVR	OTH	VIS	16	M	1	0	M	G	
Party Type	Age Sex Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected			
1F	DRVR 25 M O	HNBD		FATG	S	A	0100	TOYOT	1997	-	3	N	-	L	G	DRVR	OTH	VIS	16	M	1	0	M	G	
Party Type	Age Sex Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected			
1F	DRVR 25 M O	HNBD		FATG	S	A	0100	TOYOT	1997	-	3	N	-	L	G	DRVR	OTH	VIS	16	M	1	0	M	G	
Party Type	Age Sex Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected			
1F	DRVR 19 F W	HNBD		OTHER	N	A	0100	TOYOT	2004	-	3	N	-	M	G	PASS			19	M	3	0	M	G	
Party Type	Age Sex Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected			
1F	DRVR 19 F W	HNBD		OTHER	N	A	0100	TOYOT	2004	-	3	N	-	M	G	PASS			19	M	3	0	M	G	
Party Type	Age Sex Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected			
1F	DRVR 41 F A	HNBD		PROG ST	N	A	0100	CHRS	2006	-	3	N	-	M	G	DRVR	OTH	VIS	16	M	1	0	M	G	

Primary Rd		BAYSHORE AV		Distance (ft)		0		Direction		RT 680		Y Route		680		Postmile Prefix		R Postmile		.797		Side of Hwy		N							
City		Benicia		County		Solano		Sobriety1		Sobriety2		HNB		HNB		HNB		HNB		HNB		HNB		HNB		HNB					
Primary Collision Factor		STOP SGNISIG		Weather1		CLOUDY		Weather2		Weather3		Weather4		Weather5		Weather6		Weather7		Weather8		Weather9		Weather10		Weather11					
Hit and Run		Hit and Run		Hit and Run		Hit and Run		Hit and Run		Hit and Run		Hit and Run		Hit and Run		Hit and Run		Hit and Run		Hit and Run		Hit and Run		Hit and Run		Hit and Run					
Party Type		Age Sex Race		Sobriety1		Sobriety2		Move Pre		Dir		SW Veh		CHP Veh		Make		Year		SP Info		OAF1		Viol		OAF2		Safety			
1F		DRVR 67 F W		HNB		HNB		PROC ST		N		A		0700		FORD 2006		-		3		N		N		M		G			
2		DRVR 59 M H		HNB		HNB		PROC ST		E		H		1500		FORD 1998		-		3		N		N		M		G			
Party Type		Age Sex Race		Sobriety1		Sobriety2		Move Pre		Dir		SW Veh		CHP Veh		Make		Year		SP Info		OAF1		Viol		OAF2		Safety			
1F		DRVR 56 M B		HNB		HNB		LFT TURN		W		D		2200		FORD 1995		-		3		N		N		M		G			
2		DRVR 36 F B		HNB		HNB		PROC ST		E		D		2200		FORD 1998		-		3		N		N		M		G			
Party Type		Age Sex Race		Sobriety1		Sobriety2		Move Pre		Dir		SW Veh		CHP Veh		Make		Year		SP Info		OAF1		Viol		OAF2		Safety			
1F		DRVR 24 M H		HNB		HNB		PROC ST		E		A		0100		JAGUA 1998		-		3		A		22107		-		M		G	
2		DRVR 57 M A		HNB		HNB		OTHER		S		G		2731		FREIG 2006		-		3		N		N		P		G			
Party Type		Age Sex Race		Sobriety1		Sobriety2		Move Pre		Dir		SW Veh		CHP Veh		Make		Year		SP Info		OAF1		Viol		OAF2		Safety			
1		DRVR 42 M O		HNB		HNB		OTHER		S		G		2731		FREIG 2006		-		3		N		N		P		G			
2		DRVR 57 M A		HNB		HNB		OTHER		S		A		0100		TOYOT 1997		-		3		N		N		M		G			
Party Type		Age Sex Race		Sobriety1		Sobriety2		Move Pre		Dir		SW Veh		CHP Veh		Make		Year		SP Info		OAF1		Viol		OAF2		Safety			
1F		DRVR 24 M H		HNB		HNB		PROC ST		E		A		0100		JAGUA 1998		-		3		A		22107		-		M		G	
2		DRVR 57 M A		HNB		HNB		OTHER		S		G		2731		FREIG 2006		-		3		N		N		P		G			
Party Type		Age Sex Race		Sobriety1		Sobriety2		Move Pre		Dir		SW Veh		CHP Veh		Make		Year		SP Info		OAF1		Viol		OAF2		Safety			
1F		DRVR 24 M H		HNB		HNB		PROC ST		E		A		0100		JAGUA 1998		-		3		A		22107		-		M		G	
2		DRVR 57 M A		HNB		HNB		OTHER		S		G		2731		FREIG 2006		-		3		N		N		P		G			
Party Type		Age Sex Race		Sobriety1		Sobriety2		Move Pre		Dir		SW Veh		CHP Veh		Make		Year		SP Info		OAF1		Viol		OAF2		Safety			
1F		DRVR 24 M H		HNB		HNB		PROC ST		E		A		0100		JAGUA 1998		-		3		A		22107		-		M		G	
2		DRVR 57 M A		HNB		HNB		OTHER		S		G		2731		FREIG 2006		-		3		N		N		P		G			
Party Type		Age Sex Race		Sobriety1		Sobriety2		Move Pre		Dir		SW Veh		CHP Veh		Make		Year		SP Info		OAF1		Viol		OAF2		Safety			
1F		DRVR 24 M H		HNB		HNB		PROC ST		E		A		0100		JAGUA 1998		-		3		A		22107		-		M		G	
2		DRVR 57 M A		HNB		HNB		OTHER		S		G		2731		FREIG 2006		-		3		N		N		P		G			
Party Type		Age Sex Race		Sobriety1		Sobriety2		Move Pre		Dir		SW Veh		CHP Veh		Make		Year		SP Info		OAF1		Viol		OAF2		Safety			
1F		DRVR 24 M H		HNB		HNB		PROC ST		E		A		0100		JAGUA 1998		-		3		A		22107		-		M		G	
2		DRVR 57 M A		HNB		HNB		OTHER		S		G		2731		FREIG 2006		-		3		N		N		P		G			
Party Type		Age Sex Race		Sobriety1		Sobriety2		Move Pre		Dir		SW Veh		CHP Veh		Make		Year		SP Info		OAF1		Viol		OAF2		Safety			
1F		DRVR 24 M H		HNB		HNB		PROC ST		E		A		0100		JAGUA 1998		-		3		A		22107		-		M		G	
2		DRVR 57 M A		HNB		HNB		OTHER		S		G		2731		FREIG 2006		-		3		N		N		P		G			
Party Type		Age Sex Race		Sobriety1		Sobriety2		Move Pre		Dir		SW Veh		CHP Veh		Make		Year		SP Info		OAF1		Viol		OAF2		Safety			
1F		DRVR 24 M H		HNB		HNB		PROC ST		E		A		0100		JAGUA 1998		-		3		A		22107		-		M		G	
2		DRVR 57 M A		HNB		HNB		OTHER		S		G		2731		FREIG 2006		-		3		N		N		P		G			
Party Type		Age Sex Race		Sobriety1		Sobriety2		Move Pre		Dir		SW Veh		CHP Veh		Make		Year		SP Info		OAF1		Viol		OAF2		Safety			
1F		DRVR 24 M H		HNB		HNB		PROC ST		E		A		0100		JAGUA 1998		-		3		A		22107		-		M		G	
2		DRVR 57 M A		HNB		HNB		OTHER		S		G		2731		FREIG 2006		-		3		N		N		P		G			
Party Type		Age Sex Race		Sobriety1		Sobriety2		Move Pre		Dir		SW Veh		CHP Veh		Make		Year		SP Info		OAF1		Viol		OAF2		Safety			
1F		DRVR 24 M H		HNB		HNB		PROC ST		E		A		0100		JAGUA 1998		-		3		A		22107		-		M		G	
2		DRVR 57 M A		HNB		HNB		OTHER		S		G		2731		FREIG 2006		-		3		N		N		P		G			
Party Type		Age Sex Race		Sobriety1		Sobriety2		Move Pre		Dir		SW Veh		CHP Veh		Make		Year		SP Info		OAF1		Viol		OAF2		Safety			
1F		DRVR 24 M H		HNB		HNB		PROC ST		E		A		0100		JAGUA 1998		-		3		A		22107		-		M		G	
2		DRVR 57 M A		HNB		HNB		OTHER		S		G		2731		FREIG 2006		-		3		N		N		P		G			
Party Type		Age Sex Race		Sobriety1		Sobriety2		Move Pre		Dir		SW Veh		CHP Veh		Make		Year		SP Info		OAF1		Viol		OAF2		Safety			
1F		DRVR 24 M H		HNB		HNB		PROC ST		E		A		0100		JAGUA 1998		-		3		A		22107		-		M		G	
2		DRVR 57 M A		HNB		HNB		OTHER		S		G		2731		FREIG 2006		-		3		N		N		P		G			
Party Type		Age Sex Race		Sobriety1		Sobriety2		Move Pre		Dir		SW Veh		CHP Veh		Make		Year		SP Info		OAF1		Viol		OAF2		Safety			
1F		DRVR 24 M H		HNB		HNB		PROC ST		E		A		0100		JAGUA 1998		-		3		A		22107		-		M		G	
2		DRVR 57 M A		HNB		HNB		OTHER		S		G		2731		FREIG 2006		-		3		N		N		P		G			
Party Type		Age Sex Race		Sobriety1		Sobriety2		Move Pre		Dir		SW Veh		CHP Veh		Make		Year		SP Info		OAF1		Viol		OAF2		Safety			
1F		DRVR 24 M H		HNB		HNB		PROC ST		E		A		0100		JAGUA 1998		-		3		A		22107		-		M		G	
2		DRVR 57 M A		HNB		HNB		OTHER		S		G		2731		FREIG 2006		-		3		N		N		P		G			
Party Type		Age Sex Race		Sobriety1		Sobriety2		Move Pre		Dir		SW Veh		CHP Veh		Make		Year		SP Info		OAF1		Viol		OAF2		Safety			
1F		DRVR 24 M H		HNB		HNB		PROC ST		E		A		0100		JAGUA 1998		-		3		A		22107		-		M		G	
2		DRVR 57 M A		HNB		HNB		OTHER		S		G		2731		FREIG 2006		-		3		N		N		P		G			
Party Type		Age Sex Race		Sobriety1		Sobriety2		Move Pre		Dir		SW Veh		CHP Veh		Make		Year		SP Info		OAF1		Viol		OAF2		Safety			
1F		DRVR 24 M H		HNB		HNB		PROC ST		E		A		0100		JAGUA 1998		-		3		A		22107		-		M		G	
2		DRVR 57 M A		HNB		HNB		OTHER		S		G		2731		FREIG 2006		-		3		N		N		P		G			
Party Type		Age Sex Race		Sobriety1		Sobriety2		Move Pre		Dir		SW Veh		CHP Veh		Make		Year		SP Info		OAF1		Viol		OAF2		Safety			
1F		DRVR 24 M H		HNB		HNB		PROC ST		E		A		0100		JAGUA 1998		-		3		A		22107		-		M		G	
2		DRVR 57 M A		HNB		HNB		OTHER		S		G		2731		FREIG 2006		-		3		N		N		P		G			
Party Type		Age Sex Race		Sobriety1		Sobriety2		Move Pre		Dir		SW Veh		CHP Veh		Make		Year		SP Info		OAF1		Viol		OAF2		Safety			
1F		DRVR 24 M H		HNB		HNB		PROC ST		E		A		0100		JAGUA 1998		-		3		A		22107		-		M		G	
2		DRVR 57 M A		HNB		HNB		OTHER		S		G		2731		FREIG 2006		-		3		N		N		P		G			
Party Type		Age Sex Race		Sobriety1		Sobriety2		Move Pre		Dir		SW Veh		CHP Veh		Make		Year		SP Info		OAF1		Viol</							

Primary Rd	Distance (ft)	Direction	S	Secondary Rd	TUSTIN CT	NCIC	4801	State Hwy?	N	Route	Postmile Prefix	2092	Collision Date	20101116	Time	1343	Day	TUE	
City	Benicia	County	Solano	Rpt Dist	0B3	Type	0	CalTrans	0	Badge	#Killed	0	#Injured	0	Tow Away?	N	Process Date	20120120	
Primary Collision Factor	R-O-W PED	Violation	21954B	Collision Type	AUTO/PEDESTRIAN	Severity	PDO	NO UNUSL CND	Rdwy Cond2	0	Spec Cond	0	NT PRS/FCTR	Loc Type	Ramp/Int				
Weather1	CLEAR	Weather2	DRY	Lighting	DAYLIGHT	Ped Action	NOT IN X-	Cntrl Dev											
Hit and Run	Motor Vehicle Involved With	Other Veh	Involved With	Other Veh	Involved With	Other Veh	Involved With	Other Veh	Involved With	Other Veh	Involved With	Other Veh	Involved With	Other Veh	Involved With	Other Veh	Involved With	Other Veh	
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Move	Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety	EQUIP	Ejected
1F	DRVR	63	F	W	HNBD	PROC	ST	N	A	0100	NISSA	2005	-	3	N	-	M	G	
2	PED	60	M	W	HNBD			E	N	6000									
Party Info																			
Primary Rd	PARK RD	Distance (ft)	25	Direction	N	Secondary Rd	BAYSHORE RD	NCIC	4801	State Hwy?	N	Route	3572	Collision Date	20101124	Time	1305	Day	WED
City	Benicia	County	Solano	Rpt Dist	004	Type	0	CalTrans	0	Badge	#Killed	0	#Injured	0	Tow Away?	N	Process Date	20120214	
Primary Collision Factor	STRNGIBCKNG	Violation	22106	Collision Type	HIT OBJECT	Severity	PDO	NO UNUSL CND	Rdwy Cond2	0	Spec Cond	0	NT PRS/FCTR	Loc Type	Ramp/Int				
Weather1	CLEAR	Weather2	DRY	Lighting	DAYLIGHT	Ped Action	FIXED OBJ	Cntrl Dev											
Hit and Run	Motor Vehicle Involved With	Other Veh	Involved With	Other Veh	Involved With	Other Veh	Involved With	Other Veh	Involved With	Other Veh	Involved With	Other Veh	Involved With	Other Veh	Involved With	Other Veh	Involved With	Other Veh	Involved With
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Move	Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety	EQUIP	Ejected
1F	DRVR	62	M	W	HNBD	PROC	ST	N	-	-00	HINO	2005	-	-	N	-	-	G	
Party Info																			
Primary Rd	PARK RD	Distance (ft)	54	Direction	S	Secondary Rd	INDUSTRIAL WY	NCIC	4801	State Hwy?	N	Route	1466	Collision Date	20100713	Time	0749	Day	TUE
City	Benicia	County	Solano	Rpt Dist	004	Type	0	CalTrans	0	Badge	#Killed	0	#Injured	0	Tow Away?	N	Process Date	20110801	
Primary Collision Factor	IMPROP TURN	Violation	22107	Collision Type	SIDESWIPE	Severity	PDO	NO UNUSL CND	Rdwy Cond2	0	Spec Cond	0	NT PRS/FCTR	Loc Type	Ramp/Int				
Weather1	CLEAR	Weather2	DRY	Lighting	DAYLIGHT	Ped Action	OTHER MV	Cntrl Dev											
Hit and Run	Motor Vehicle Involved With	Other Veh	Involved With	Other Veh	Involved With	Other Veh	Involved With	Other Veh	Involved With	Other Veh	Involved With	Other Veh	Involved With	Other Veh	Involved With	Other Veh	Involved With	Other Veh	Involved With
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Move	Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety	EQUIP	Ejected
1F	DRVR	55	M	W	HNBD	PASSING	N	-	-31	-	2000	-	3	N	-	-	M	G	
2	DRVR	50	M	O	HNBD	STOPPED	N	I	2000										
Party Info																			
Primary Rd	PARK RD	Distance (ft)	33	Direction	S	Secondary Rd	INDUSTRIAL WY	NCIC	4801	State Hwy?	N	Route	1466	Collision Date	20100719	Time	0859	Day	MON
City	Benicia	County	Solano	Rpt Dist	004	Type	0	CalTrans	0	Badge	#Killed	0	#Injured	0	Tow Away?	N	Process Date	20110727	
Primary Collision Factor	UNSAFE SPEED	Violation	22350	Collision Type	BROADSIDE	Severity	PDO	NO UNUSL CND	Rdwy Cond2	0	Spec Cond	0	NT PRS/FCTR	Loc Type	Ramp/Int				
Weather1	CLEAR	Weather2	DRY	Lighting	DAYLIGHT	Ped Action		Cntrl Dev											
Hit and Run	Motor Vehicle Involved With	Other Veh	Involved With	Other Veh	Involved With	Other Veh	Involved With	Other Veh	Involved With	Other Veh	Involved With	Other Veh	Involved With	Other Veh	Involved With	Other Veh	Involved With	Other Veh	Involved With
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Move	Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety	EQUIP	Ejected
1F	DRVR	61	M	H	HNBD	SLOWING	N	F	2600	KENW	2009	-	3	N	-	-	M	G	
2	DRVR	25	F	A	HNBD			N	A	0100	HONDA	2006	-	3	N	-	M	G	
Party Info																			
Primary Rd	RESERVOIR RD	Distance (ft)	2112	Direction	E	Secondary Rd	LAKE HERMAN RD	NCIC	4801	State Hwy?	N	Route	2092	Collision Date	20100725	Time	0835	Day	MON
City	Benicia	County	Solano	Rpt Dist	4801	Type	0	CalTrans	0	Badge	#Killed	0	#Injured	0	Tow Away?	N	Process Date	20101025	
Primary Collision Factor	IMPROP TURN	Violation	22107	Collision Type	HIT OBJECT	Severity	PDO	NO UNUSL CND	Rdwy Cond2	0	Spec Cond	0	NT PRS/FCTR	Loc Type	Ramp/Int				
Weather1	CLOUDY	Weather2	WET	Lighting	DAYLIGHT	Ped Action		Cntrl Dev											
Hit and Run	Motor Vehicle Involved With	Other Veh	Involved With	Other Veh	Involved With	Other Veh	Involved With	Other Veh	Involved With	Other Veh	Involved With	Other Veh	Involved With	Other Veh	Involved With	Other Veh	Involved With	Other Veh	Involved With
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Move	Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety	EQUIP	Ejected
1F	DRVR	26	F	A	HNBD	PROC	ST	E	A	0700	TOYOT	2007	-	3	N	-	M	G	
Party Info																			
Primary Rd	PARK RD	Distance (ft)	54	Direction	S	Secondary Rd	INDUSTRIAL WY	NCIC	4801	State Hwy?	N	Route	1466	Collision Date	20100719	Time	0859	Day	MON
City	Benicia	County	Solano	Rpt Dist	004	Type	0	CalTrans	0	Badge	#Killed	0	#Injured	0	Tow Away?	N	Process Date	20110727	
Primary Collision Factor	UNSAFE SPEED	Violation	22350	Collision Type	BROADSIDE	Severity	PDO	NO UNUSL CND	Rdwy Cond2	0	Spec Cond	0	NT PRS/FCTR	Loc Type	Ramp/Int				
Weather1	CLEAR	Weather2	DRY	Lighting	DAYLIGHT	Ped Action		Cntrl Dev											
Hit and Run	Motor Vehicle Involved With	Other Veh	Involved With	Other Veh	Involved With	Other Veh	Involved With	Other Veh	Involved With	Other Veh	Involved With	Other Veh	Involved With	Other Veh	Involved With	Other Veh	Involved With	Other Veh	Involved With
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Move	Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety	EQUIP	Ejected
1F	DRVR	61	M	H	HNBD	SLOWING	N	F	2600	KENW	2009	-	3	N	-	-	M	G	
2	DRVR	25	F	A	HNBD			N	A	0100	HONDA	2006	-	3	N	-	M	G	
Party Info																			
Primary Rd	RESERVOIR RD	Distance (ft)	2112	Direction	E	Secondary Rd	LAKE HERMAN RD	NCIC	4801	State Hwy?	N	Route	2092	Collision Date	20100725	Time	0835	Day	MON
City	Benicia	County	Solano	Rpt Dist	4801	Type	0	CalTrans	0	Badge	#Killed	0	#Injured	0	Tow Away?	N	Process Date	20101025	
Primary Collision Factor	IMPROP TURN	Violation	22107	Collision Type	HIT OBJECT	Severity	PDO	NO UNUSL CND	Rdwy Cond2	0	Spec Cond	0	NT PRS/FCTR	Loc Type	Ramp/Int				
Weather1	CLOUDY	Weather2	WET	Lighting	DAYLIGHT	Ped Action		Cntrl Dev											
Hit and Run	Motor Vehicle Involved With	Other Veh	Involved With	Other Veh	Involved With	Other Veh	Involved With	Other Veh	Involved With	Other Veh	Involved With	Other Veh	Involved With	Other Veh	Involved With	Other Veh	Involved With	Other Veh	Involved With
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Move	Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety	EQUIP	Ejected
1F	DRVR	26	F	A	HNBD	PROC	ST	E	A	0700	TOYOT	2007	-	3	N	-	M	G	
Party Info																			

Include State Highways cases

Primary Rd	RT	680	Distance (ft)	1056	Direction	S	Secondary Rd	BAYSHORE RD	NCIC	9365	State Hwy?	Y	Route	680	Postmile Prefix	R	Postmile	.8	Side of Hwy	S		
City	Benicia	County	Solano	4	Rpt Dist	4	Collision Type	HIT OBJECT	Type	1	CalTrans	4	Badge	17647	Collision Date	20100115	Time	1228	Day	FRI		
Primary Collision Factor	IMPROP TURN	Weather?	CLOUDY	Motor Vehicle Involved With	FIXED OBJ	Lighting	DAYLIGHT	Ped Action	NO UNUSL CND	Rdwy Cond?	NO UNUSL CND	Rdwy Cond?	NO UNUSL CND	Rdwy Cond?	NO UNUSL CND	Rdwy Cond?	NO UNUSL CND	Rdwy Cond?	NO UNUSL CND	Rdwy Cond?	NO UNUSL CND	
Hit and Run	Hit and Run	Hit and Run	Hit and Run	Hit and Run	Hit and Run	Hit and Run	Hit and Run	Hit and Run	Hit and Run	Hit and Run	Hit and Run	Hit and Run	Hit and Run	Hit and Run	Hit and Run	Hit and Run	Hit and Run	Hit and Run	Hit and Run	Hit and Run	Hit and Run	
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Dir	SW Veh	CHP Veh	Make	Year	SP Info	SP Info	SP Info	SP Info	SP Info	SP Info	SP Info	SP Info	SP Info	SP Info	SP Info	
1F	DRVR	73	M	W	HNBD	S	A	0100	FORD	1932	-	3	N	-	P	D	DRVR	COMP	PN	73	M	1
2	DRVR	42	M	H	HNBD	S	G	2530	FREIG	2000	-	2	N	-	P	G	DRVR	COMP	PN	73	M	1
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Dir	SW Veh	CHP Veh	Make	Year	SP Info	SP Info	SP Info	SP Info	SP Info	SP Info	SP Info	SP Info	SP Info	SP Info	SP Info	
1F	DRVR	48	M	W	HNBD	S	A	0100	BMW	2008	-	3	N	-	L	G	DRVR	COMP	PN	48	M	1
2	DRVR	48	M	W	HNBD	S	A	0100	BMW	2008	-	3	N	-	L	G	DRVR	COMP	PN	48	M	1
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Dir	SW Veh	CHP Veh	Make	Year	SP Info	SP Info	SP Info	SP Info	SP Info	SP Info	SP Info	SP Info	SP Info	SP Info	SP Info	
1F	DRVR	48	M	W	HNBD	S	A	0100	BMW	2008	-	3	N	-	L	G	DRVR	COMP	PN	48	M	1
2	DRVR	48	M	W	HNBD	S	A	0100	BMW	2008	-	3	N	-	L	G	DRVR	COMP	PN	48	M	1
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Dir	SW Veh	CHP Veh	Make	Year	SP Info	SP Info	SP Info	SP Info	SP Info	SP Info	SP Info	SP Info	SP Info	SP Info	SP Info	
1F	DRVR	44	F	O	HNBD	S	A	0100	BUICK	1982	-	3	N	-	M	G	DRVR	COMP	PN	48	M	1
2	DRVR	44	F	O	HNBD	S	A	0100	BUICK	1982	-	3	N	-	M	G	DRVR	COMP	PN	48	M	1
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Dir	SW Veh	CHP Veh	Make	Year	SP Info	SP Info	SP Info	SP Info	SP Info	SP Info	SP Info	SP Info	SP Info	SP Info	SP Info	
1F	DRVR	20	M	W	HNBD	S	A	0100	HONDA	2000	-	3	N	-	M	G	DRVR	COMP	PN	48	M	1
2	DRVR	38	M	W	HNBD	S	A	0700	MERCE	2007	-	3	N	-	M	G	DRVR	COMP	PN	48	M	1
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Dir	SW Veh	CHP Veh	Make	Year	SP Info	SP Info	SP Info	SP Info	SP Info	SP Info	SP Info	SP Info	SP Info	SP Info	SP Info	
1F	DRVR	20	M	W	HNBD	S	A	0100	HONDA	2000	-	3	N	-	M	G	DRVR	COMP	PN	48	M	1
2	DRVR	38	M	W	HNBD	S	A	0700	MERCE	2007	-	3	N	-	M	G	DRVR	COMP	PN	48	M	1
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Dir	SW Veh	CHP Veh	Make	Year	SP Info	SP Info	SP Info	SP Info	SP Info	SP Info	SP Info	SP Info	SP Info	SP Info	SP Info	
1F	DRVR	20	M	W	HNBD	S	A	0100	HONDA	2000	-	3	N	-	M	G	DRVR	COMP	PN	48	M	1
2	DRVR	38	M	W	HNBD	S	A	0700	MERCE	2007	-	3	N	-	M	G	DRVR	COMP	PN	48	M	1
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Dir	SW Veh	CHP Veh	Make	Year	SP Info	SP Info	SP Info	SP Info	SP Info	SP Info	SP Info	SP Info	SP Info	SP Info	SP Info	
1F	DRVR	20	M	W	HNBD	S	A	0100	HONDA	2000	-	3	N	-	M	G	DRVR	COMP	PN	48	M	1
2	DRVR	38	M	W	HNBD	S	A	0700	MERCE	2007	-	3	N	-	M	G	DRVR	COMP	PN	48	M	1
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Dir	SW Veh	CHP Veh	Make	Year	SP Info	SP Info	SP Info	SP Info	SP Info	SP Info	SP Info	SP Info	SP Info	SP Info	SP Info	
1F	DRVR	49	M	W	HNBD	S	F	2400	PETER	1984	-	3	N	-	M	C	DRVR	COMP	PN	56	M	1
2	DRVR	56	M	H	HNBD	S	A	0100	MERCE	2003	-	3	N	-	L	G	DRVR	COMP	PN	56	M	1
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Dir	SW Veh	CHP Veh	Make	Year	SP Info	SP Info	SP Info	SP Info	SP Info	SP Info	SP Info	SP Info	SP Info	SP Info	SP Info	
1F	DRVR	49	M	W	HNBD	S	F	2400	PETER	1984	-	3	N	-	M	C	DRVR	COMP	PN	56	M	1
2	DRVR	56	M	H	HNBD	S	A	0100	MERCE	2003	-	3	N	-	L	G	DRVR	COMP	PN	56	M	1

Include State Highways cases

Primary Rd	Distance (ft)	Direction	Secondary Rd	NCIC	4801	State Hwy?	N	Route	Postmile	Postmile Prefix	3471	Collision Date	20110814	Time	2257	Day	SUN	Side of Hwy			
City	Solano	Population	4	Rpt Dist	4801	CalTrans	0	Badge	20110814	Tow Away?	0	Process Date	20130312	Spec Cond	0						
Primary Collision Factor	STRINGBACKG	Violation	22106	Collision Type	OTHER	Severity	PDO	Rdwy Cond2	REDUCED RD	Rdwy Cond	0	Cntrl Dev	NT PRS/FCTR	Loc Type							
Weather1	CLEAR	Weather2	Motor Vehicle Involved With	PKD MV	Lighting	DARK - ST	Ped Action														
Hit and Run																					
Party Type	Age Sex Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make Year	SP Info	OAF1 Viol	OAF2 Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected		
1F	DRVR 54 M H	HNBD		BACKING	E	E	2235	FORD 1994	- 3	N	-	M	G								
2	PRKD 998			PARKED	W	A	0100	MAZDA 2002	-	N	-	M	G								
Party Type	Age Sex Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make Year	SP Info	OAF1 Viol	OAF2 Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected		
1F	DRVR 17 M B	HNBD		BACKING	S	A	0100	TOYOT 2004	- 3	N	-	M	G								
2	DRVR 31 M O	HNBD		PROC ST	W	A	0100	NISSA 2006	- 3	N	-	M	G								
Party Type	Age Sex Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make Year	SP Info	OAF1 Viol	OAF2 Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected		
1F	DRVR 18 M W	HBD-JI		RAN OFF RD	W	A	0100	HONDA 2006	- 3	A	22107	-	M	G							
2	DRVR 39			PROC ST	E	E	0100	VIOLET CT	- 3	N	-	M	G								
Party Type	Age Sex Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make Year	SP Info	OAF1 Viol	OAF2 Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected		
1F	DRVR 17 M B	HNBD		BACKING	S	A	0100	TOYOT 2004	- 3	N	-	M	G								
2	DRVR 31 M O	HNBD		PROC ST	W	A	0100	NISSA 2006	- 3	N	-	M	G								
Party Type	Age Sex Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make Year	SP Info	OAF1 Viol	OAF2 Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected		
1F	DRVR 18 M W	HBD-JI		RAN OFF RD	W	A	0100	HONDA 2006	- 3	A	22107	-	M	G							
2	DRVR 39			PROC ST	E	E	0100	VIOLET CT	- 3	N	-	M	G								
Party Type	Age Sex Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make Year	SP Info	OAF1 Viol	OAF2 Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected		
1F	DRVR 17 M B	HNBD		BACKING	S	A	0100	TOYOT 2004	- 3	N	-	M	G								
2	DRVR 31 M O	HNBD		PROC ST	W	A	0100	NISSA 2006	- 3	N	-	M	G								
Party Type	Age Sex Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make Year	SP Info	OAF1 Viol	OAF2 Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected		
1F	DRVR 18 M W	HBD-JI		RAN OFF RD	W	A	0100	HONDA 2006	- 3	A	22107	-	M	G							
2	DRVR 39			PROC ST	E	E	0100	VIOLET CT	- 3	N	-	M	G								
Party Type	Age Sex Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make Year	SP Info	OAF1 Viol	OAF2 Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected		
1F	DRVR 17 M B	HNBD		BACKING	S	A	0100	TOYOT 2004	- 3	N	-	M	G								
2	DRVR 31 M O	HNBD		PROC ST	W	A	0100	NISSA 2006	- 3	N	-	M	G								
Party Type	Age Sex Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make Year	SP Info	OAF1 Viol	OAF2 Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected		
1F	DRVR 18 M W	HBD-JI		RAN OFF RD	W	A	0100	HONDA 2006	- 3	A	22107	-	M	G							
2	DRVR 39			PROC ST	E	E	0100	VIOLET CT	- 3	N	-	M	G								
Party Type	Age Sex Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make Year	SP Info	OAF1 Viol	OAF2 Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected		
1F	DRVR 17 M B	HNBD		BACKING	S	A	0100	TOYOT 2004	- 3	N	-	M	G								
2	DRVR 31 M O	HNBD		PROC ST	W	A	0100	NISSA 2006	- 3	N	-	M	G								
Party Type	Age Sex Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make Year	SP Info	OAF1 Viol	OAF2 Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected		
1F	DRVR 18 M W	HBD-JI		RAN OFF RD	W	A	0100	HONDA 2006	- 3	A	22107	-	M	G							
2	DRVR 39			PROC ST	E	E	0100	VIOLET CT	- 3	N	-	M	G								
Party Type	Age Sex Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make Year	SP Info	OAF1 Viol	OAF2 Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected		
1F	DRVR 17 M B	HNBD		BACKING	S	A	0100	TOYOT 2004	- 3	N	-	M	G								
2	DRVR 31 M O	HNBD		PROC ST	W	A	0100	NISSA 2006	- 3	N	-	M	G								
Party Type	Age Sex Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make Year	SP Info	OAF1 Viol	OAF2 Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected		
1F	DRVR 18 M W	HBD-JI		RAN OFF RD	W	A	0100	HONDA 2006	- 3	A	22107	-	M	G							
2	DRVR 39			PROC ST	E	E	0100	VIOLET CT	- 3	N	-	M	G								
Party Type	Age Sex Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make Year	SP Info	OAF1 Viol	OAF2 Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected		
1F	DRVR 17 M B	HNBD		BACKING	S	A	0100	TOYOT 2004	- 3	N	-	M	G								
2	DRVR 31 M O	HNBD		PROC ST	W	A	0100	NISSA 2006	- 3	N	-	M	G								
Party Type	Age Sex Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make Year	SP Info	OAF1 Viol	OAF2 Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected		
1F	DRVR 18 M W	HBD-JI		RAN OFF RD	W	A	0100	HONDA 2006	- 3	A	22107	-	M	G							
2	DRVR 39			PROC ST	E	E	0100	VIOLET CT	- 3	N	-	M	G								
Party Type	Age Sex Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make Year	SP Info	OAF1 Viol	OAF2 Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected		
1F	DRVR 17 M B	HNBD		BACKING	S	A	0100	TOYOT 2004	- 3	N	-	M	G								
2	DRVR 31 M O	HNBD		PROC ST	W	A	0100	NISSA 2006	- 3	N	-	M	G								
Party Type	Age Sex Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make Year	SP Info	OAF1 Viol	OAF2 Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected		
1F	DRVR 18 M W	HBD-JI		RAN OFF RD	W	A	0100	HONDA 2006	- 3	A	22107	-	M	G							
2	DRVR 39			PROC ST	E	E	0100	VIOLET CT	- 3	N	-	M	G								
Party Type	Age Sex Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make Year	SP Info	OAF1 Viol	OAF2 Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected		
1F	DRVR 17 M B	HNBD		BACKING	S	A	0100	TOYOT 2004	- 3	N	-	M	G								
2	DRVR 31 M O	HNBD		PROC ST	W	A	0100	NISSA 2006	- 3	N	-	M	G								
Party Type	Age Sex Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make Year	SP Info	OAF1 Viol	OAF2 Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected		
1F	DRVR 18 M W	HBD-JI		RAN OFF RD	W	A	0100	HONDA 2006	- 3	A	22107	-	M	G							
2	DRVR 39			PROC ST	E	E	0100	VIOLET CT	- 3	N	-	M	G								
Party Type	Age Sex Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make Year	SP Info	OAF1 Viol	OAF2 Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected		
1F	DRVR 17 M B	HNBD		BACKING	S	A	0100	TOYOT 2004	- 3	N	-	M	G								
2	DRVR 31 M O	HNBD		PROC ST	W	A	0100	NISSA 2006	- 3	N	-	M	G								
Party Type	Age Sex Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make Year	SP Info	OAF1 Viol	OAF2 Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected		
1F	DRVR 18 M W	HBD-JI		RAN OFF RD	W	A	0100	HONDA 2006	- 3	A	22107	-	M	G							
2	DRVR 39			PROC ST	E	E	0100	VIOLET CT	- 3	N	-	M	G								
Party Type	Age Sex Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make Year	SP Info	OAF1 Viol	OAF2 Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected		
1F	DRVR 17 M B	HNBD		BACKING	S	A	0100	TOYOT 2004	- 3	N	-	M	G								
2	DRVR 31 M O	HNBD		PROC ST	W	A	0100	NISSA 2006	- 3	N	-	M	G								
Party Type	Age Sex Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make Year	SP Info	OAF1 Viol	OAF2 Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected		
1F	DRVR 18 M W	HBD-JI		RAN OFF RD	W	A	0100	HONDA 2006	- 3	A	22107	-	M	G							
2	DRVR 39			PROC ST	E	E	0100	VIOLET CT	- 3	N	-	M	G								
Party Type	Age Sex Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make Year	SP Info	OAF1 Viol	OAF2 Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected		
1F	DRVR 17 M B	HNBD		BACKING	S	A	0100	TOYOT 2004	- 3												

HIGHWAY-RAIL GRADE CROSSING

ACCIDENT/INCIDENT REPORT

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION (FRA)

OMB Approval No. 2130-0500

Name Of				Alphabetic Code	RR Accident/Incident No.
1. Reporting Railroad Southern Pacific Transportation Co. [SP]				1a. SP	1b. A0755
2. Other Railroad Involved in Train Accident/Incident				2a.	2b.
3. Railroad Responsible for Track Maintenance Southern Pacific Transportation Co. [SP]				3a. SP	3b. A0755
4. U.S. DOT-AAR Grade Crossing ID No. 751527E		5. Date of Accident/Incident 04/24/95		6. Time of Accident/Incident 03:56 PM	
7. Nearest Railroad Station BENICIA		8. Division		9. County SOLANO	
11. City (if in a city) BENICIA		12. Highway Name or No. PARK STREET		10. State Abbr. 06 Code CA	
				<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private	
Highway User Involved			Rail Equipment Involved		
13. Type C. Truck-trailer F. Bus J. Other Motor Vehicle Code A. Auto D. Pick-up truck G. School Bus K. Pedestrian B. Truck E. Van H. Motorcycle M. Other (specify) B			17. Equipment 4. Car(s) (moving) 8. Other (specify) Code 1. Train (units pulling) 5. Car(s) (standing) A. Train pulling- RCL 2. Train (units pushing) 6. Light loco(s) (moving) B. Train pushing- RCL 3. Train (standing) 7. Light loco(s) (standing) C. Train standing- RCL 6		
14. Vehicle Speed (est. mph at impact) 30		15. Direction (geographical) Code 1. North 2. South 3. East 4. West 2		18. Position of Car Unit in Train 1	
16. Position 1. Stalled on crossing 3. Moving over crossing Code 2. Stopped on Crossing 4. Trapped 3		19. Circumstance 1. Rail equipment struck highway user Code 2. Rail equipment struck by highway user 1			
20a. Was the highway user and/or rail equipment involved in the impact transporting hazardous materials? Code 1. Highway User 2. Rail Equipment 3. Both 4. Neither 4		20b. Was there a hazardous materials release by Code 1. Highway User 2. Rail Equipment 3. Both 4. Neither			
20c. State the name and quantity of the hazardous material released, if any					
21. Temperature (specify if minus) 78 °F		22. Visibility (single entry) Code 1. Dawn 2. Day 3. Dusk 4. Dark 2		23. Weather (single entry) Code 1. Clear 2. Cloudy 3. Rain 4. Fog 5. Sleet 6. Snow 1	
24. Type of Equipment A. Spec. MoW Equip Consist 1. Freight train 4. Work train 7. Yard/Switching (single entry) 2. Passenger train 5. Single car 8. Light loco(s) Code 3. Commuter train 6. Cut of cars 9. Main./inspect. car 8			25. Track Type Used by Rail Code Equipment Involved 1. Main 2. Yard 3. Siding 4. Industry 2		26. Track Number or Name 0700
27. FRA Track Class 1	28. Number of Locomotive Units 1	29. Number of Cars 0	30. Consist Speed (Recorded if available) Code R. Recorded E. Estimated 5 mph E	31. Time Table Direction Code 1. North 2. South 3. East 4. West 4	
32. Type of Crossing 1. Gates 4. Wig wags 7. Crossbucks 10. Flagged by crew Warning 2. Cantilever FLS 5. Hwy. traffic signals 8. Stop signs 11. Other (specify) 3. Standard FLS 6. Audible 9. Watchman 12. None			33. Signaled Crossing Warning		34. Whistle Ban Code 1. Yes 2. No 3. Unknown
35. Location of Warning Code 1. Both Sides 2. Side of Vehicle Approach 3. Opposite Side of Vehicle Approach 1		36. Crossing Warning Interconnected with Highway Signals Code 1. Yes 2. No 3. Unknown 2		37. Crossing Illuminated by Street Lights or Special Lights Code 1. Yes 2. No 3. Unknown 2	
38. Driver's Age	39. Driver's Gender Code 1. Male 2. Female	40. Driver Drove Behind or in Front of Train and Struck or was Struck by Second Train Code 1. Yes 2. No 3. Unknown 2		41. Driver Code 1. Drove around or thru the gate 4. Stopped on crossing 2. Stopped and then proceeded 5. Other (specify) 3. Did not stop 3	
42. Driver Passed Standing Highway Vehicle Code 1. Yes 2. No 3. Unknown 2		43. View of Track Obscured by (primary obstruction) Code 1. Permanent Structure 3. Passing Train 5. Vegetation 7. Other (specify) 2. Standing railroad equipment 4. Topography 6. Highway Vehicles 8. Not Obstructed 1			
Casualties to:		Killed	Injured	44. Driver was Code 1. Killed 2. Injured 3. Uninjured 3	
46. Highway-Rail Crossing Users 0		0	47. Highway Vehicle Property Damage (est. dollar damage) \$1,000		48. Total Number of Highway-Rail Crossing Users (include driver) 1
49. Railroad Employees 0	0	50. Total Number of People on Train (include passengers and crew)		51. Is a Rail Equipment Accident / Incident Report Being Filed Code 1. Yes 2. No 2	
52. Passengers on Train 0	0				
53a. Special Study Block			53b. Special Study Block		
54. Narrative Description					
55. Typed Name and Title		56. Signature			57. Date

HIGHWAY-RAIL GRADE CROSSING

ACCIDENT/INCIDENT REPORT

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION (FRA)

OMB Approval No. 2130-0500

Name Of				Alphabetic Code	RR Accident/Incident No.
1. Reporting Railroad Southern Pacific Transportation Co. [SP]				1a. SP	1b. A0055
2. Other Railroad Involved in Train Accident/Incident				2a.	2b.
3. Railroad Responsible for Track Maintenance Southern Pacific Transportation Co. [SP]				3a. SP	3b. A0055
4. U.S. DOT-AAR Grade Crossing ID No. 751527E		5. Date of Accident/Incident 01/07/95		6. Time of Accident/Incident 06:30 PM	
7. Nearest Railroad Station BAHIA		8. Division		9. County SOLANO	
11. City (if in a city) BENICIA		12. Highway Name or No. PARK RD.		10. State Abbr. 06 Code CA	
<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private					
Highway User Involved			Rail Equipment Involved		
13. Type C. Truck-trailer F. Bus J. Other Motor Vehicle Code A. Auto D. Pick-up truck G. School Bus K. Pedestrian B. Truck E. Van H. Motorcycle M. Other (specify) B			17. Equipment 4. Car(s) (moving) 8. Other (specify) Code 1. Train (units pulling) 5. Car(s) (standing) A. Train pulling- RCL 2. Train (units pushing) 6. Light loco(s) (moving) B. Train pushing- RCL 3. Train (standing) 7. Light loco(s) (standing) C. Train standing- RCL 1		
14. Vehicle Speed (est. mph at impact) 5		15. Direction (geographical) Code 1. North 2. South 3. East 4. West 4		18. Position of Car Unit in Train 1	
16. Position 1. Stalled on crossing 3. Moving over crossing Code 2. Stopped on Crossing 4. Trapped 3		19. Circumstance 1. Rail equipment struck highway user Code 2. Rail equipment struck by highway user 1			
20a. Was the highway user and/or rail equipment involved in the impact transporting hazardous materials? Code 1. Highway User 2. Rail Equipment 3. Both 4. Neither 4		20b. Was there a hazardous materials release by Code 1. Highway User 2. Rail Equipment 3. Both 4. Neither			
20c. State the name and quantity of the hazardous material released, if any					
21. Temperature (specify if minus) 50 °F		22. Visibility (single entry) Code 1. Dawn 2. Day 3. Dusk 4. Dark 4		23. Weather (single entry) Code 1. Clear 2. Cloudy 3. Rain 4. Fog 5. Sleet 6. Snow 3	
24. Type of Equipment A. Spec. MoW Equip Consist 1. Freight train 4. Work train 7. Yard/Switching (single entry) 2. Passenger train 5. Single car 8. Light loco(s) Code 3. Commuter train 6. Cut of cars 9. Main./inspect. car 7			25. Track Type Used by Rail Code Equipment Involved 1. Main 2. Yard 3. Siding 4. Industry 4		26. Track Number or Name 0700
27. FRA Track Class 1	28. Number of Locomotive Units 1	29. Number of Cars 5	30. Consist Speed (Recorded if available) Code R. Recorded 5 mph E. Estimated E	31. Time Table Direction Code 1. North 2. South 3. East 4. West 4	
32. Type of Crossing 1. Gates 4. Wig wags 7. Crossbucks 10. Flagged by crew Warning 2. Cantilever FLS 5. Hwy. traffic signals 8. Stop signs 11. Other (specify) 3. Standard FLS 6. Audible 9. Watchman 12. None			33. Signaled Crossing Warning		34. Whistle Ban Code 1. Yes 2. No 3. Unknown
Code(s) 07					
35. Location of Warning Code 1. Both Sides 2. Side of Vehicle Approach 3. Opposite Side of Vehicle Approach 1		36. Crossing Warning Interconnected with Highway Signals Code 1. Yes 2. No 3. Unknown 2		37. Crossing Illuminated by Street Lights or Special Lights Code 1. Yes 2. No 3. Unknown 2	
38. Driver's Age	39. Driver's Gender Code 1. Male 2. Female	40. Driver Drove Behind or in Front of Train and Struck or was Struck by Second Train Code 1. Yes 2. No 3. Unknown 2		41. Driver Code 1. Drove around or thru the gate 4. Stopped on crossing 2. Stopped and then proceeded 5. Other (specify) 3. Did not stop 3	
42. Driver Passed Standing Highway Vehicle Code 1. Yes 2. No 3. Unknown 2		43. View of Track Obscured by (primary obstruction) Code 1. Permanent Structure 3. Passing Train 5. Vegetation 7. Other (specify) 2. Standing railroad equipment 4. Topography 6. Highway Vehicles 8. Not Obstructed 8			
Casualties to:		Killed	Injured	44. Driver was Code 1. Killed 2. Injured 3. Uninjured 3	
46. Highway-Rail Crossing Users 0		0	47. Highway Vehicle Property Damage (est. dollar damage) \$1,000		48. Total Number of Highway-Rail Crossing Users (include driver) 1
49. Railroad Employees 0	0	50. Total Number of People on Train (include passengers and crew)		51. Is a Rail Equipment Accident / Incident Report Being Filed Code 1. Yes 2. No 2	
52. Passengers on Train 0	0				
53a. Special Study Block			53b. Special Study Block		
54. Narrative Description					
55. Typed Name and Title		56. Signature			57. Date

HIGHWAY-RAIL GRADE CROSSING

ACCIDENT/INCIDENT REPORT

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION (FRA)

OMB Approval No. 2130-0500

Name Of				Alphabetic Code	RR Accident/Incident No.
1. Reporting Railroad Southern Pacific Transportation Co. [SP]				1a. SP	1b. A2523
2. Other Railroad Involved in Train Accident/Incident				2a.	2b.
3. Railroad Responsible for Track Maintenance Southern Pacific Transportation Co. [SP]				3a. SP	3b. A2523
4. U.S. DOT-AAR Grade Crossing ID No. 751527E		5. Date of Accident/Incident 11/29/93		6. Time of Accident/Incident 06:10 PM	
7. Nearest Railroad Station BENICIA		8. Division SOLANO		10. State Abbr. 06	Code CA
11. City (if in a city) BENICIA		12. Highway Name or No. PARK STREET			<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private
Highway User Involved			Rail Equipment Involved		
13. Type C. Truck-trailer F. Bus J. Other Motor Vehicle A. Auto D. Pick-up truck G. School Bus K. Pedestrian B. Truck E. Van H. Motorcycle M. Other (specify) Code A			17. Equipment 1. Train (units pulling) 4. Car(s) (moving) 8. Other (specify) 2. Train (units pushing) 5. Car(s) (standing) A. Train pulling- RCL 3. Train (standing) 7. Light loco(s) (standing) B. Train pushing- RCL Code 2		
14. Vehicle Speed (est. mph at impact) 10		15. Direction (geographical) 1. North 2. South 3. East 4. West Code 3		18. Position of Car Unit in Train 15	
16. Position 1. Stalled on crossing 3. Moving over crossing 2. Stopped on Crossing 4. Trapped Code 3			19. Circumstance 1. Rail equipment struck highway user 2. Rail equipment struck by highway user Code 2		
20a. Was the highway user and/or rail equipment involved in the impact transporting hazardous materials? 1. Highway User 2. Rail Equipment 3. Both 4. Neither Code 2			20b. Was there a hazardous materials release by 1. Highway User 2. Rail Equipment 3. Both 4. Neither Code		
20c. State the name and quantity of the hazardous material released, if any					
21. Temperature (specify if minus) 65 °F		22. Visibility (single entry) 1. Dawn 2. Day 3. Dusk 4. Dark Code 4		23. Weather (single entry) 1. Clear 2. Cloudy 3. Rain 4. Fog 5. Sleet 6. Snow Code 2	
24. Type of Equipment Consist 1. Freight train 4. Work train 7. Yard/Switching (single entry) 2. Passenger train 5. Single car 8. Light loco(s) 3. Commuter train 6. Cut of cars 9. Main./inspect. car Code 7			25. Track Type Used by Rail Equipment Involved 1. Main 2. Yard 3. Siding 4. Industry Code 2		26. Track Number or Name 0700 LEWAD
27. FRA Track Class 1	28. Number of Locomotive Units 1	29. Number of Cars 15	30. Consist Speed (Recorded if available) R. Recorded E. Estimated 2 mph Code E	31. Time Table Direction 1. North 2. South 3. East 4. West Code 3	
32. Type of Crossing 1. Gates 4. Wig wags 7. Crossbucks 10. Flagged by crew 2. Cantilever FLS 5. Hwy. traffic signals 8. Stop signs 11. Other (specify) 3. Standard FLS 6. Audible 9. Watchman 12. None Code(s) 07 10			33. Signaled Crossing Warning		34. Whistle Ban 1. Yes 2. No 3. Unknown Code
35. Location of Warning 1. Both Sides 2. Side of Vehicle Approach 3. Opposite Side of Vehicle Approach Code 1			36. Crossing Warning Interconnected with Highway Signals 1. Yes 2. No 3. Unknown Code 2		37. Crossing Illuminated by Street Lights or Special Lights 1. Yes 2. No 3. Unknown Code 2
38. Driver's Age	39. Driver's Gender 1. Male 2. Female Code	40. Driver Drove Behind or in Front of Train and Struck or was Struck by Second Train 1. Yes 2. No 3. Unknown Code 2		41. Driver 1. Drove around or thru the gate 4. Stopped on crossing 2. Stopped and then proceeded 5. Other (specify) 3. Did not stop Code 3	
42. Driver Passed Standing Highway Vehicle 1. Yes 2. No 3. Unknown Code 2		43. View of Track Obscured by (primary obstruction) 1. Permanent Structure 3. Passing Train 5. Vegetation 7. Other (specify) 2. Standing railroad equipment 4. Topography 6. Highway Vehicles 8. Not Obstructed Code 8			
Casualties to:		Killed	Injured	44. Driver was 1. Killed 2. Injured 3. Uninjured Code 3	45. Was Driver in the Vehicle? 1. Yes 2. No Code 1
46. Highway-Rail Crossing Users 0		0	47. Highway Vehicle Property Damage (est. dollar damage) \$3,000		48. Total Number of Highway-Rail Crossing Users (include driver) 3
49. Railroad Employees 0		0	50. Total Number of People on Train (include passengers and crew)		51. Is a Rail Equipment Accident / Incident Report Being Filed 1. Yes 2. No Code 2
52. Passengers on Train 0		0			
53a. Special Study Block			53b. Special Study Block		
54. Narrative Description					
55. Typed Name and Title			56. Signature		57. Date

HIGHWAY-RAIL GRADE CROSSING

ACCIDENT/INCIDENT REPORT

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION (FRA)

OMB Approval No. 2130-0500

Name Of				Alphabetic Code	RR Accident/Incident No.
1. Reporting Railroad Southern Pacific Transportation Co. [SP]				1a. SP	1b. A3672
2. Other Railroad Involved in Train Accident/Incident				2a.	2b.
3. Railroad Responsible for Track Maintenance Southern Pacific Transportation Co. [SP]				3a. SP	3b. A3672
4. U.S. DOT-AAR Grade Crossing ID No. 751527E		5. Date of Accident/Incident 10/23/92		6. Time of Accident/Incident 06:10 PM	
7. Nearest Railroad Station BENICIA		8. Division		9. County SOLANO	
11. City (if in a city) BENICIA		12. Highway Name or No. PARK ST		10. State Abbr. 06 Code CA	
				<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private	
Highway User Involved			Rail Equipment Involved		
13. Type C. Truck-trailer F. Bus J. Other Motor Vehicle Code A. Auto D. Pick-up truck G. School Bus K. Pedestrian B. Truck E. Van H. Motorcycle M. Other (specify) C			17. Equipment 4. Car(s) (moving) 8. Other (specify) Code 1. Train (units pulling) 5. Car(s) (standing) A. Train pulling- RCL 2. Train (units pushing) 6. Light loco(s) (moving) B. Train pushing- RCL 3. Train (standing) 7. Light loco(s) (standing) C. Train standing- RCL 6		
14. Vehicle Speed (est. mph at impact) 3		15. Direction (geographical) Code 1. North 2. South 3. East 4. West 1		18. Position of Car Unit in Train 1	
16. Position 1. Stalled on crossing 3. Moving over crossing Code 2. Stopped on Crossing 4. Trapped 3		19. Circumstance 1. Rail equipment struck highway user Code 2. Rail equipment struck by highway user 1			
20a. Was the highway user and/or rail equipment involved in the impact transporting hazardous materials? Code 1. Highway User 2. Rail Equipment 3. Both 4. Neither 4		20b. Was there a hazardous materials release by Code 1. Highway User 2. Rail Equipment 3. Both 4. Neither			
20c. State the name and quantity of the hazardous material released, if any					
21. Temperature (specify if minus) 70 °F		22. Visibility (single entry) Code 1. Dawn 2. Day 3. Dusk 4. Dark 4		23. Weather (single entry) Code 1. Clear 2. Cloudy 3. Rain 4. Fog 5. Sleet 6. Snow 1	
24. Type of Equipment A. Spec. MoW Equip Consist 1. Freight train 4. Work train 7. Yard/Switching (single entry) 2. Passenger train 5. Single car 8. Light loco(s) Code 3. Commuter train 6. Cut of cars 9. Main./inspect. car 8			25. Track Type Used by Rail Code Equipment Involved 1. Main 2. Yard 3. Siding 4. Industry 2		26. Track Number or Name 728 LD
27. FRA Track Class 1	28. Number of Locomotive Units 1	29. Number of Cars 0	30. Consist Speed (Recorded if available) Code R. Recorded E. Estimated 5 mph E		31. Time Table Direction Code 1. North 2. South 3. East 4. West 1
32. Type of Crossing 1. Gates 4. Wig wags 7. Crossbucks 10. Flagged by crew Warning 2. Cantilever FLS 5. Hwy. traffic signals 8. Stop signs 11. Other (specify) 3. Standard FLS 6. Audible 9. Watchman 12. None			33. Signaled Crossing Warning		34. Whistle Ban Code 1. Yes 2. No 3. Unknown
Code(s) 07		35. Location of Warning Code 1. Both Sides 2. Side of Vehicle Approach 3. Opposite Side of Vehicle Approach 1		36. Crossing Warning Interconnected with Highway Signals Code 1. Yes 2. No 3. Unknown 2	
37. Crossing Illuminated by Street Lights or Special Lights Code 1. Yes 2. No 3. Unknown 2		38. Driver's Age		39. Driver's Gender Code 1. Male 2. Female	
40. Driver Drove Behind or in Front of Train and Struck or was Struck by Second Train Code 1. Yes 2. No 3. Unknown 2		41. Driver Code 1. Drove around or thru the gate 4. Stopped on crossing 2. Stopped and then proceeded 5. Other (specify) 3. Did not stop 3			
42. Driver Passed Standing Highway Vehicle Code 1. Yes 2. No 3. Unknown 2		43. View of Track Obscured by (primary obstruction) Code 1. Permanent Structure 3. Passing Train 5. Vegetation 7. Other (specify) 2. Standing railroad equipment 4. Topography 6. Highway Vehicles 8. Not Obstructed 8			
Casualties to:		Killed	Injured	44. Driver was Code 1. Killed 2. Injured 3. Uninjured 3	
45. Was Driver in the Vehicle? Code 1. Yes 2. No 1		46. Highway-Rail Crossing Users 0 0		47. Highway Vehicle Property Damage (est. dollar damage) \$500	
48. Total Number of Highway-Rail Crossing Users (include driver) 1		49. Railroad Employees 0 1		50. Total Number of People on Train (include passengers and crew)	
51. Is a Rail Equipment Accident / Incident Report Being Filed Code 1. Yes 2. No 2		52. Passengers on Train 0 0		53a. Special Study Block	
53b. Special Study Block		54. Narrative Description			
55. Typed Name and Title		56. Signature			57. Date

HIGHWAY-RAIL GRADE CROSSING

ACCIDENT/INCIDENT REPORT

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION (FRA)

OMB Approval No. 2130-0500

Name Of				Alphabetic Code	RR Accident/Incident No.
1. Reporting Railroad Southern Pacific Transportation Co. [SP]				1a. SP	1b. A1111
2. Other Railroad Involved in Train Accident/Incident				2a.	2b.
3. Railroad Responsible for Track Maintenance Southern Pacific Transportation Co. [SP]				3a. SP	3b. A1111
4. U.S. DOT-AAR Grade Crossing ID No. 751527E		5. Date of Accident/Incident 04/16/91		6. Time of Accident/Incident 09:15 AM	
7. Nearest Railroad Station ARMY POINT		8. Division		9. County SOLANO	
11. City (if in a city) BENICA		12. Highway Name or No. PARK ST		10. State Abbr. 06 Code CA	
<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private					
Highway User Involved			Rail Equipment Involved		
13. Type C. Truck-trailer F. Bus J. Other Motor Vehicle Code A. Auto D. Pick-up truck G. School Bus K. Pedestrian B. Truck E. Van H. Motorcycle M. Other (specify) C			17. Equipment 4. Car(s) (moving) 8. Other (specify) Code 1. Train (units pulling) 5. Car(s) (standing) A. Train pulling- RCL 2. Train (units pushing) 6. Light loco(s) (moving) B. Train pushing- RCL 3. Train (standing) 7. Light loco(s) (standing) C. Train standing- RCL 1		
14. Vehicle Speed (est. mph at impact) 7		15. Direction (geographical) Code 1. North 2. South 3. East 4. West 4		18. Position of Car Unit in Train 1	
16. Position 1. Stalled on crossing 3. Moving over crossing Code 2. Stopped on Crossing 4. Trapped 3		19. Circumstance 1. Rail equipment struck highway user Code 2. Rail equipment struck by highway user 1			
20a. Was the highway user and/or rail equipment involved in the impact transporting hazardous materials? Code 1. Highway User 2. Rail Equipment 3. Both 4. Neither 4		20b. Was there a hazardous materials release by Code 1. Highway User 2. Rail Equipment 3. Both 4. Neither			
20c. State the name and quantity of the hazardous material released, if any					
21. Temperature (specify if minus) 75 °F		22. Visibility (single entry) Code 1. Dawn 2. Day 3. Dusk 4. Dark 2		23. Weather (single entry) Code 1. Clear 2. Cloudy 3. Rain 4. Fog 5. Sleet 6. Snow 1	
24. Type of Equipment A. Spec. MoW Equip Consist 1. Freight train 4. Work train 7. Yard/Switching (single entry) 2. Passenger train 5. Single car 8. Light loco(s) Code 3. Commuter train 6. Cut of cars 9. Main./inspect. car 7			25. Track Type Used by Rail Code Equipment Involved 1. Main 2. Yard 3. Siding 4. Industry 2		26. Track Number or Name 0712
27. FRA Track Class 1	28. Number of Locomotive Units 1	29. Number of Cars 5	30. Consist Speed (Recorded if available) Code R. Recorded 10 mph E. Estimated E	31. Time Table Direction Code 1. North 2. South 3. East 4. West 4	
32. Type of Crossing 1. Gates 4. Wig wags 7. Crossbucks 10. Flagged by crew Warning 2. Cantilever FLS 5. Hwy. traffic signals 8. Stop signs 11. Other (specify) 3. Standard FLS 6. Audible 9. Watchman 12. None			33. Signaled Crossing Warning		34. Whistle Ban Code 1. Yes 2. No 3. Unknown
Code(s) 07					
35. Location of Warning Code 1. Both Sides 2. Side of Vehicle Approach 3. Opposite Side of Vehicle Approach 1			36. Crossing Warning Interconnected with Highway Signals Code 1. Yes 2. No 3. Unknown 2		37. Crossing Illuminated by Street Lights or Special Lights Code 1. Yes 2. No 3. Unknown 2
38. Driver's Age	39. Driver's Gender Code 1. Male 2. Female	40. Driver Drove Behind or in Front of Train and Struck or was Struck by Second Train Code 1. Yes 2. No 3. Unknown 2		41. Driver Code 1. Drove around or thru the gate 4. Stopped on crossing 2. Stopped and then proceeded 5. Other (specify) 3. Did not stop 3	
42. Driver Passed Standing Highway Vehicle Code 1. Yes 2. No 3. Unknown 2		43. View of Track Obscured by (primary obstruction) Code 1. Permanent Structure 3. Passing Train 5. Vegetation 7. Other (specify) 2. Standing railroad equipment 4. Topography 6. Highway Vehicles 8. Not Obstructed 8			
Casualties to:		Killed	Injured	44. Driver was Code 1. Killed 2. Injured 3. Uninjured 3	
46. Highway-Rail Crossing Users		0	0	47. Highway Vehicle Property Damage (est. dollar damage) \$1,000	
49. Railroad Employees		0	0	48. Total Number of Highway-Rail Crossing Users (include driver) 1	
52. Passengers on Train		0	0	50. Total Number of People on Train (include passengers and crew)	
				51. Is a Rail Equipment Accident / Incident Report Being Filed Code 1. Yes 2. No 2	
53a. Special Study Block			53b. Special Study Block		
54. Narrative Description					
55. Typed Name and Title			56. Signature		57. Date

HIGHWAY-RAIL GRADE CROSSING

ACCIDENT/INCIDENT REPORT

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION (FRA)

OMB Approval No. 2130-0500

Name Of				Alphabetic Code	RR Accident/Incident No.
1. Reporting Railroad Southern Pacific Transportation Co. [SP]				1a. SP	1b. E1300
2. Other Railroad Involved in Train Accident/Incident				2a.	2b.
3. Railroad Responsible for Track Maintenance Southern Pacific Transportation Co. [SP]				3a. SP	3b. E1300
4. U.S. DOT-AAR Grade Crossing ID No. 751527E		5. Date of Accident/Incident 03/06/90		6. Time of Accident/Incident 12:05 PM	
7. Nearest Railroad Station ARMY POINT		8. Division		9. County SOLANO	
11. City (if in a city) BENICIA		12. Highway Name or No. PARK STREET		10. State Abbr. 06 Code CA	
Highway User Involved			Rail Equipment Involved		
13. Type C. Truck-trailer F. Bus J. Other Motor Vehicle A. Auto D. Pick-up truck G. School Bus K. Pedestrian B. Truck E. Van H. Motorcycle M. Other (specify) Code A			17. Equipment 1. Train (units pulling) 4. Car(s) (moving) 8. Other (specify) 2. Train (units pushing) 5. Car(s) (standing) A. Train pulling- RCL 3. Train (standing) 7. Light loco(s) (standing) B. Train pushing- RCL Code 6		
14. Vehicle Speed (est. mph at impact) 7		15. Direction (geographical) 1. North 2. South 3. East 4. West Code 4		18. Position of Car Unit in Train 1	
16. Position 1. Stalled on crossing 3. Moving over crossing 2. Stopped on Crossing 4. Trapped Code 3		19. Circumstance 1. Rail equipment struck highway user 2. Rail equipment struck by highway user Code 1			
20a. Was the highway user and/or rail equipment involved in the impact transporting hazardous materials? 1. Highway User 2. Rail Equipment 3. Both 4. Neither Code 4		20b. Was there a hazardous materials release by 1. Highway User 2. Rail Equipment 3. Both 4. Neither Code			
20c. State the name and quantity of the hazardous material released, if any					
21. Temperature (specify if minus) 70 °F		22. Visibility (single entry) 1. Dawn 2. Day 3. Dusk 4. Dark Code 2		23. Weather (single entry) 1. Clear 2. Cloudy 3. Rain 4. Fog 5. Sleet 6. Snow Code 1	
24. Type of Equipment Consist 1. Freight train 4. Work train 7. Yard/Switching (single entry) 2. Passenger train 5. Single car 8. Light loco(s) 3. Commuter train 6. Cut of cars 9. Main./inspect. car Code 8			25. Track Type Used by Rail Equipment Involved 1. Main 2. Yard 3. Siding 4. Industry Code 2		26. Track Number or Name 0710
27. FRA Track Class 1	28. Number of Locomotive Units 1	29. Number of Cars 0	30. Consist Speed (Recorded if available) R. Recorded E. Estimated 7 mph Code E		31. Time Table Direction 1. North 2. South 3. East 4. West Code 4
32. Type of Crossing 1. Gates 4. Wig wags 7. Crossbucks 10. Flagged by crew 2. Cantilever FLS 5. Hwy. traffic signals 8. Stop signs 11. Other (specify) 3. Standard FLS 6. Audible 9. Watchman 12. None Code(s) 07			33. Signaled Crossing Warning		34. Whistle Ban 1. Yes 2. No 3. Unknown Code
35. Location of Warning 1. Both Sides 2. Side of Vehicle Approach 3. Opposite Side of Vehicle Approach Code 1		36. Crossing Warning Interconnected with Highway Signals 1. Yes 2. No 3. Unknown Code 2		37. Crossing Illuminated by Street Lights or Special Lights 1. Yes 2. No 3. Unknown Code 2	
38. Driver's Age	39. Driver's Gender 1. Male 2. Female Code	40. Driver Drove Behind or in Front of Train and Struck or was Struck by Second Train 1. Yes 2. No 3. Unknown Code 2		41. Driver 1. Drove around or thru the gate 4. Stopped on crossing 2. Stopped and then proceeded 5. Other (specify) 3. Did not stop Code 4	
42. Driver Passed Standing Highway Vehicle 1. Yes 2. No 3. Unknown Code 2		43. View of Track Obscured by (primary obstruction) 1. Permanent Structure 3. Passing Train 5. Vegetation 7. Other (specify) 2. Standing railroad equipment 4. Topography 6. Highway Vehicles 8. Not Obstructed Code 8			
Casualties to:		Killed	Injured	44. Driver was 1. Killed 2. Injured 3. Uninjured Code 3	
46. Highway-Rail Crossing Users 0		0	47. Highway Vehicle Property Damage (est. dollar damage) \$500		48. Total Number of Highway-Rail Crossing Users (include driver) 1
49. Railroad Employees 0		0	50. Total Number of People on Train (include passengers and crew)		51. Is a Rail Equipment Accident / Incident Report Being Filed 1. Yes 2. No Code 2
52. Passengers on Train 0		0			
53a. Special Study Block			53b. Special Study Block		
54. Narrative Description					
55. Typed Name and Title		56. Signature			57. Date

HIGHWAY-RAIL GRADE CROSSING

ACCIDENT/INCIDENT REPORT

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION (FRA)

OMB Approval No. 2130-0500

Name Of				Alphabetic Code	RR Accident/Incident No.
1. Reporting Railroad Southern Pacific Transportation Co. [SP]				1a. SP	1b. 50329
2. Other Railroad Involved in Train Accident/Incident				2a.	2b.
3. Railroad Responsible for Track Maintenance Southern Pacific Transportation Co. [SP]				3a. SP	3b. 50329
4. U.S. DOT-AAR Grade Crossing ID No. 751527E		5. Date of Accident/Incident 01/25/89		6. Time of Accident/Incident 12:12 PM	
7. Nearest Railroad Station ARMY POINT		8. Division		9. County SOLANO	
11. City (if in a city) BENICIA		12. Highway Name or No. PARK		10. State Abbr. 06 Code CA	
<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private					
Highway User Involved			Rail Equipment Involved		
13. Type C. Truck-trailer F. Bus J. Other Motor Vehicle Code A. Auto D. Pick-up truck G. School Bus K. Pedestrian B. Truck E. Van H. Motorcycle M. Other (specify) A			17. Equipment 4. Car(s) (moving) 8. Other (specify) Code 1. Train (units pulling) 5. Car(s) (standing) A. Train pulling- RCL 2. Train (units pushing) 6. Light loco(s) (moving) B. Train pushing- RCL 3. Train (standing) 7. Light loco(s) (standing) C. Train standing- RCL 6		
14. Vehicle Speed (est. mph at impact) 5		15. Direction (geographical) Code 1. North 2. South 3. East 4. West 3		18. Position of Car Unit in Train 1	
16. Position 1. Stalled on crossing 3. Moving over crossing Code 2. Stopped on Crossing 4. Trapped 3		19. Circumstance 1. Rail equipment struck highway user Code 2. Rail equipment struck by highway user 1			
20a. Was the highway user and/or rail equipment involved in the impact transporting hazardous materials? Code 1. Highway User 2. Rail Equipment 3. Both 4. Neither 4		20b. Was there a hazardous materials release by Code 1. Highway User 2. Rail Equipment 3. Both 4. Neither			
20c. State the name and quantity of the hazardous material released, if any					
21. Temperature (specify if minus) 55 °F		22. Visibility (single entry) Code 1. Dawn 2. Day 3. Dusk 4. Dark 2		23. Weather (single entry) Code 1. Clear 2. Cloudy 3. Rain 4. Fog 5. Sleet 6. Snow 1	
24. Type of Equipment Consist 1. Freight train 4. Work train 7. Yard/Switching (single entry) 2. Passenger train 5. Single car 8. Light loco(s) 3. Commuter train 6. Cut of cars 9. Main./inspect. car Code 8			25. Track Type Used by Rail Equipment Involved Code 1. Main 2. Yard 3. Siding 4. Industry 2		26. Track Number or Name 700 LEAD
27. FRA Track Class 1		28. Number of Locomotive Units 1	29. Number of Cars 0	30. Consist Speed (Recorded if available) Code R. Recorded 5 mph E E. Estimated	
31. Time Table Direction Code 1. North 2. South 3. East 4. West 3					
32. Type of Crossing 1. Gates 4. Wig wags 7. Crossbucks 10. Flagged by crew Warning 2. Cantilever FLS 5. Hwy. traffic signals 8. Stop signs 11. Other (specify) Code(s) 07 3. Standard FLS 6. Audible 9. Watchman 12. None			33. Signaled Crossing Warning		34. Whistle Ban Code 1. Yes 2. No 3. Unknown
35. Location of Warning Code 1. Both Sides 2. Side of Vehicle Approach 3. Opposite Side of Vehicle Approach 1		36. Crossing Warning Interconnected with Highway Signals Code 1. Yes 2. No 3. Unknown 2		37. Crossing Illuminated by Street Lights or Special Lights Code 1. Yes 2. No 3. Unknown 2	
38. Driver's Age	39. Driver's Gender Code 1. Male 2. Female	40. Driver Drove Behind or in Front of Train and Struck or was Struck by Second Train Code 1. Yes 2. No 3. Unknown 2		41. Driver Code 1. Drove around or thru the gate 4. Stopped on crossing 2. Stopped and then proceeded 5. Other (specify) 3. Did not stop 3	
42. Driver Passed Standing Highway Vehicle Code 1. Yes 2. No 3. Unknown 2		43. View of Track Obscured by (primary obstruction) Code 1. Permanent Structure 3. Passing Train 5. Vegetation 7. Other (specify) 2. Standing railroad equipment 4. Topography 6. Highway Vehicles 8. Not Obstructed 8			
Casualties to:		Killed	Injured	44. Driver was Code 1. Killed 2. Injured 3. Uninjured 3	
46. Highway-Rail Crossing Users 0		0	0	47. Highway Vehicle Property Damage (est. dollar damage) \$1,500	
49. Railroad Employees 0		0	0	48. Total Number of Highway-Rail Crossing Users (include driver) 1	
52. Passengers on Train 0		0	0	50. Total Number of People on Train (include passengers and crew)	
53a. Special Study Block		53b. Special Study Block			
54. Narrative Description					
55. Typed Name and Title		56. Signature			57. Date

APPENDIX B: INTERSECTION ANALYSIS WORKSHEETS



Intersection 1

Bayshore Road/Park Road

All-way Stop

Direction	Movement	Volume (vph)		Percent Served	GEH	Total Delay (sec/veh)		
		Demand	Served			Average	Std. Dev.	LOS
NB	Left Turn	19	18	95.3%	0.2	5.7	1.1	A
	Through	26	26	99.2%	0.0	4.5	1.7	A
	Right Turn	159	153	96.5%	0.4	5.7	0.8	A
	Subtotal	204	197	96.7%	0.5	5.6	0.7	A
SB	Left Turn	21	19	89.5%	0.5	6.0	0.6	A
	Through	32	31	97.2%	0.2	6.9	0.8	A
	Right Turn	8	8	98.8%	0.0	5.1	2.4	A
	Subtotal	61	58	94.8%	0.4	6.4	0.8	A
EB	Left Turn	8	8	105.0%	0.1	4.0	1.7	A
	Through	40	40	99.0%	0.1	6.8	0.6	A
	Right Turn	22	21	96.8%	0.2	6.6	2.1	A
	Subtotal	70	69	99.0%	0.1	6.4	0.7	A
WB	Left Turn	241	239	99.2%	0.1	7.3	1.3	A
	Through	32	31	96.3%	0.2	5.0	0.8	A
	Right Turn	18	19	103.3%	0.1	4.4	1.0	A
	Subtotal	291	288	99.1%	0.2	6.9	1.1	A
Total		626	613	97.9%	0.5	6.4	0.6	A

Intersection 2

Bayshore Road/I-680 SB On-Ramp

Uncontrolled

Direction	Movement	Volume (vph)		Percent Served	GEH	Total Delay (sec/veh)		
		Demand	Served			Average	Std. Dev.	LOS
NB	Left Turn	73	73	100.1%	0.0	2.4	0.7	A
	Through	204	197	96.6%	0.5	0.8	0.2	A
	Right Turn							
	Subtotal	277	270	97.5%	0.4	1.2	0.2	A
SB	Left Turn							
	Through	24	24	99.6%	0.0	0.9	0.3	A
	Right Turn	270	268	99.1%	0.1	1.2	0.1	A
	Subtotal	294	292	99.1%	0.1	1.2	0.1	A
EB	Left Turn							
	Through							
	Right Turn							
	Subtotal							
WB	Left Turn							
	Through							
	Right Turn							
	Subtotal							
Total		571	562	98.4%	0.4	1.2	0.1	A

Intersection 3 Bayshore Road/I-680 NB Off-Ramp

Side-street Stop

Direction	Movement	Volume (vph)		Percent Served	GEH	Total Delay (sec/veh)		
		Demand	Served			Average	Std. Dev.	LOS
NB	Left Turn							
	Through	119	116	97.6%	0.3	0.3	0.1	A
	Right Turn							
	Subtotal	119	116	97.6%	0.3	0.3	0.1	A
SB	Left Turn							
	Through	24	24	99.6%	0.0	0.0	0.1	A
	Right Turn							
	Subtotal	24	24	99.6%	0.0	0.0	0.1	A
EB	Left Turn	158	154	97.7%	0.3	10.2	1.1	B
	Through							
	Right Turn	41	43	103.7%	0.2	7.0	0.8	A
	Subtotal	199	197	98.9%	0.2	9.6	0.9	A
WB	Left Turn							
	Through							
	Right Turn							
	Subtotal							
Total		342	337	98.5%	0.3	5.7	0.5	A

Intersection 4 Bay Vista Court/Park Road

Side-street Stop

Direction	Movement	Volume (vph)		Percent Served	GEH	Total Delay (sec/veh)		
		Demand	Served			Average	Std. Dev.	LOS
NB	Left Turn							
	Through							
	Right Turn	10	12	119.0%	0.6	4.1	0.7	A
	Subtotal	10	12	119.0%	0.6	4.1	0.7	A
SB	Left Turn							
	Through							
	Right Turn							
	Subtotal							
EB	Left Turn							
	Through	60	58	96.2%	0.3	0.4	0.1	A
	Right Turn							
	Subtotal	60	58	96.2%	0.3	0.4	0.1	A
WB	Left Turn	10	10	95.0%	0.2	0.3	0.2	A
	Through	49	47	96.1%	0.3	0.1	0.0	A
	Right Turn							
	Subtotal	59	57	95.9%	0.3	0.1	0.1	A
Total		129	126	97.8%	0.2	0.6	0.1	A

Intersection 5

Valero Refinery Entrance/Park Road

Side-street Stop

Direction	Movement	Volume (vph)		Percent Served	GEH	Total Delay (sec/veh)		
		Demand	Served			Average	Std. Dev.	LOS
NB	Left Turn							
	Through							
	Right Turn							
	Subtotal							
SB	Left Turn	35	34	96.9%	0.2	8.7	1.2	A
	Through							
	Right Turn	35	36	103.7%	0.2	6.9	1.9	A
	Subtotal	70	70	100.3%	0.0	8.0	1.1	A
EB	Left Turn	10	9	85.0%	0.5	1.3	2.1	A
	Through	210	203	96.8%	0.5	0.1	0.0	A
	Right Turn							
	Subtotal	220	212	96.3%	0.6	0.2	0.1	A
WB	Left Turn							
	Through	256	252	98.5%	0.2	0.3	0.1	A
	Right Turn	10	10	101.0%	0.0	0.5	0.2	A
	Subtotal	266	262	98.6%	0.2	0.3	0.1	A
Total		556	544	97.9%	0.5	1.2	0.2	A

Intersection 0

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Direction	Movement	Volume (vph)		Percent Served	GEH	Total Delay (sec/veh)		
		Demand	Served			Average	Std. Dev.	LOS
NB	Left Turn					#N/A	#N/A	#N/A
	Through					#N/A	#N/A	#N/A
	Right Turn					#N/A	#N/A	#N/A
	Subtotal					#N/A	#N/A	#N/A
SB	Left Turn					#N/A	#N/A	#N/A
	Through					#N/A	#N/A	#N/A
	Right Turn					#N/A	#N/A	#N/A
	Subtotal					#N/A	#N/A	#N/A
EB	Left Turn					#N/A	#N/A	#N/A
	Through					#N/A	#N/A	#N/A
	Right Turn					#N/A	#N/A	#N/A
	Subtotal					#N/A	#N/A	#N/A
WB	Left Turn					#N/A	#N/A	#N/A
	Through					#N/A	#N/A	#N/A
	Right Turn					#N/A	#N/A	#N/A
	Subtotal					#N/A	#N/A	#N/A
Total						0.0	#N/A	A

VISSIM Post-Processor
Average Values from 10 Runs
Queue Counter

Valero Refinery TIA
Existing PM
PM Peak Hour

Queue Counter	Int	Mov	Description	Average Queue (feet)			
				Average	Std. Dev.	Maximum	Std. Dev.
12			Bayshore/Park SB	1	0	69	9
15			Bayshore/Park WB TR	1	0	73	20
16			Bayshore/Park WB L	5	1	102	16
17			Bayshore/Park NB R	4	1	85	11
18			Bayshore/Park NB TL	1	0	68	4
29			Bayshore/I-680 On L	0	0	6	13
38			Bayshore/I-680 Off NB	0	0	0	0
48			Bay Vista/Park NB	0	0	0	0
52			Valero/Park SB	2	0	51	5
55			Valero/Park WB	0	0	0	0
111			Bayshore/Park EB	1	0	69	8
311			Bayshore/I-680 Off EB	7	1	136	30
511			Bayshore/Park EB	0	0	0	0
901			RR Track T	0	0	5	11
902			RR Track L	2	1	101	59

Intersection 1

Bayshore Road/Park Road

All-way Stop

Direction	Movement	Volume (vph)		Percent Served	GEH	Total Delay (sec/veh)		
		Demand	Served			Average	Std. Dev.	LOS
NB	Left Turn	19	18	92.1%	0.4	35.5	61.9	E
	Through	26	26	98.8%	0.1	34.4	43.0	D
	Right Turn	159	154	96.7%	0.4	199.2	37.0	F
	Subtotal	204	197	96.5%	0.5	160.5	19.5	F
SB	Left Turn	21	20	96.2%	0.2	310.0	138.9	F
	Through	32	29	90.6%	0.5	135.1	130.5	F
	Right Turn	8	9	107.5%	0.2	144.0	207.3	F
	Subtotal	61	58	94.8%	0.4	185.7	135.2	F
EB	Left Turn	8	8	98.8%	0.0	311.7	198.5	F
	Through	40	36	91.0%	0.6	275.9	53.0	F
	Right Turn	22	22	97.7%	0.1	214.4	88.7	F
	Subtotal	70	66	94.0%	0.5	262.7	29.4	F
WB	Left Turn	241	238	98.8%	0.2	331.3	39.3	F
	Through	32	32	98.4%	0.1	276.7	123.4	F
	Right Turn	18	19	105.0%	0.2	266.6	217.1	F
	Subtotal	291	289	99.2%	0.1	313.9	35.0	F
Total		626	609	97.3%	0.7	235.8	26.4	F

Intersection 2

Bayshore Road/I-680 SB On-Ramp

Uncontrolled

Direction	Movement	Volume (vph)		Percent Served	GEH	Total Delay (sec/veh)		
		Demand	Served			Average	Std. Dev.	LOS
NB	Left Turn	73	73	99.5%	0.0	13.0	15.0	B
	Through	204	197	96.6%	0.5	128.5	29.4	F
	Right Turn							
	Subtotal	277	270	97.4%	0.4	95.4	21.6	F
SB	Left Turn							
	Through	24	24	99.6%	0.0	2.0	0.9	A
	Right Turn	270	265	98.3%	0.3	2.1	0.3	A
	Subtotal	294	289	98.4%	0.3	2.1	0.3	A
EB	Left Turn							
	Through							
	Right Turn							
	Subtotal							
WB	Left Turn							
	Through							
	Right Turn							
	Subtotal							
Total		571	559	97.9%	0.5	54.4	11.4	F

Intersection 3

Bayshore Road/I-680 NB Off-Ramp

Side-street Stop

Direction	Movement	Volume (vph)		Percent Served	GEH	Total Delay (sec/veh)		
		Demand	Served			Average	Std. Dev.	LOS
NB	Left Turn							
	Through	119	116	97.4%	0.3	113.8	34.9	F
	Right Turn							
	Subtotal	119	116	97.4%	0.3	113.8	34.9	F
SB	Left Turn							
	Through	24	24	99.6%	0.0	0.6	1.2	A
	Right Turn							
	Subtotal	24	24	99.6%	0.0	0.6	1.2	A
EB	Left Turn	158	154	97.3%	0.3	227.7	58.5	F
	Through							
	Right Turn	41	43	103.7%	0.2	142.8	66.8	F
	Subtotal	199	196	98.6%	0.2	212.1	57.8	F
WB	Left Turn							
	Through							
	Right Turn							
	Subtotal							
Total		342	336	98.2%	0.3	152.1	32.9	F

Intersection 4

Bay Vista Court/Park Road

Side-street Stop

Direction	Movement	Volume (vph)		Percent Served	GEH	Total Delay (sec/veh)		
		Demand	Served			Average	Std. Dev.	LOS
NB	Left Turn							
	Through							
	Right Turn	10	8	79.0%	0.7	50.5	56.5	F
	Subtotal	10	8	79.0%	0.7	50.5	56.5	F
SB	Left Turn							
	Through							
	Right Turn							
	Subtotal							
EB	Left Turn							
	Through	60	58	96.7%	0.3	38.5	25.1	E
	Right Turn							
	Subtotal	60	58	96.7%	0.3	38.5	25.1	E
WB	Left Turn	10	11	106.0%	0.2	0.8	1.3	A
	Through	49	47	95.7%	0.3	0.2	0.1	A
	Right Turn							
	Subtotal	59	58	97.5%	0.2	0.3	0.4	A
Total		129	123	95.7%	0.5	26.5	14.9	D

Intersection 5

Valero Refinery Entrance/Park Road

Side-street Stop

Direction	Movement	Volume (vph)		Percent Served	GEH	Total Delay (sec/veh)		
		Demand	Served			Average	Std. Dev.	LOS
NB	Left Turn							
	Through							
	Right Turn							
	Subtotal							
SB	Left Turn	35	34	96.6%	0.2	104.0	71.7	F
	Through							
	Right Turn	35	36	103.4%	0.2	184.2	61.2	F
	Subtotal	70	70	100.0%	0.0	148.3	49.0	F
EB	Left Turn	10	9	94.0%	0.2	3.7	4.1	A
	Through	210	201	95.7%	0.6	18.4	0.9	C
	Right Turn							
	Subtotal	220	210	95.6%	0.7	17.7	0.7	C
WB	Left Turn							
	Through	256	252	98.4%	0.3	294.1	40.8	F
	Right Turn	10	9	92.0%	0.3	137.0	174.9	F
	Subtotal	266	261	98.1%	0.3	284.7	39.0	F
Total		556	541	97.4%	0.6	147.5	16.7	F

Intersection 0

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Direction	Movement	Volume (vph)		Percent Served	GEH	Total Delay (sec/veh)		
		Demand	Served			Average	Std. Dev.	LOS
NB	Left Turn					#N/A	#N/A	#N/A
	Through					#N/A	#N/A	#N/A
	Right Turn					#N/A	#N/A	#N/A
	Subtotal					#N/A	#N/A	#N/A
SB	Left Turn					#N/A	#N/A	#N/A
	Through					#N/A	#N/A	#N/A
	Right Turn					#N/A	#N/A	#N/A
	Subtotal					#N/A	#N/A	#N/A
EB	Left Turn					#N/A	#N/A	#N/A
	Through					#N/A	#N/A	#N/A
	Right Turn					#N/A	#N/A	#N/A
	Subtotal					#N/A	#N/A	#N/A
WB	Left Turn					#N/A	#N/A	#N/A
	Through					#N/A	#N/A	#N/A
	Right Turn					#N/A	#N/A	#N/A
	Subtotal					#N/A	#N/A	#N/A
Total						0.0	#N/A	A

VISSIM Post-Processor
Average Values from 10 Runs
Queue Counter

Valero Refinery TIA
Existing (With Train) PM
PM Peak Hour

Queue Counter	Int	Mov	Description	Average Queue (feet)			
				Average	Std. Dev.	Maximum	Std. Dev.
12			Bayshore/Park SB	60	55	179	90
15			Bayshore/Park WB TR	1	1	81	24
16			Bayshore/Park WB L	11	1	126	21
17			Bayshore/Park NB R	399	41	613	13
18			Bayshore/Park NB TL	1	0	65	10
29			Bayshore/I-680 On L	0	1	23	38
38			Bayshore/I-680 Off NB	52	24	240	36
48			Bay Vista/Park NB	0	0	0	0
52			Valero/Park SB	54	19	190	45
55			Valero/Park WB	29	21	268	128
111			Bayshore/Park EB	134	26	369	70
311			Bayshore/I-680 Off EB	340	115	973	211
511			Bayshore/Park EB	0	0	0	0
901			RR Track T	99	269	187	492
902			RR Track L	919	56	1574	16

Intersection 1 Bayshore Road/Park Road

All-way Stop

Direction	Movement	Volume (vph)		Percent Served	GEH	Total Delay (sec/veh)		
		Demand	Served			Average	Std. Dev.	LOS
NB	Left Turn	19	17	91.6%	0.4	23.1	37.1	C
	Through	26	26	100.0%	0.0	22.8	26.1	C
	Right Turn	159	154	97.0%	0.4	104.1	16.9	F
	Subtotal	204	198	96.9%	0.5	86.0	10.3	F
SB	Left Turn	21	21	98.6%	0.1	154.3	106.5	F
	Through	32	29	89.1%	0.6	64.6	75.0	F
	Right Turn	8	9	107.5%	0.2	67.9	128.0	F
	Subtotal	61	58	94.8%	0.4	88.2	75.9	F
EB	Left Turn	8	8	97.5%	0.1	144.5	140.6	F
	Through	40	37	91.8%	0.5	171.5	38.0	F
	Right Turn	22	21	96.8%	0.2	115.8	54.4	F
	Subtotal	70	66	94.0%	0.5	149.5	27.0	F
WB	Left Turn	241	238	98.7%	0.2	135.8	10.8	F
	Through	32	31	97.8%	0.1	138.6	57.7	F
	Right Turn	18	18	101.7%	0.1	95.6	62.5	F
	Subtotal	291	288	98.8%	0.2	134.4	9.2	F
Total		626	609	97.2%	0.7	116.3	10.7	F

Intersection 2 Bayshore Road/I-680 SB On-Ramp

Uncontrolled

Direction	Movement	Volume (vph)		Percent Served	GEH	Total Delay (sec/veh)		
		Demand	Served			Average	Std. Dev.	LOS
NB	Left Turn	73	72	99.2%	0.1	7.1	5.5	A
	Through	204	198	96.9%	0.5	57.3	15.4	F
	Right Turn							
	Subtotal	277	270	97.5%	0.4	43.1	11.4	E
SB	Left Turn							
	Through	24	23	95.4%	0.2	1.9	0.6	A
	Right Turn	270	265	98.3%	0.3	2.1	0.2	A
	Subtotal	294	288	98.0%	0.3	2.1	0.2	A
EB	Left Turn							
	Through							
	Right Turn							
	Subtotal							
WB	Left Turn							
	Through							
	Right Turn							
	Subtotal							
Total		571	558	97.8%	0.5	22.0	5.7	C

Intersection 3

Bayshore Road/I-680 NB Off-Ramp

Side-street Stop

Direction	Movement	Volume (vph)		Percent Served	GEH	Total Delay (sec/veh)		
		Demand	Served			Average	Std. Dev.	LOS
NB	Left Turn							
	Through	119	116	97.3%	0.3	32.0	17.9	D
	Right Turn							
	Subtotal	119	116	97.3%	0.3	32.0	17.9	D
SB	Left Turn							
	Through	24	23	95.4%	0.2	0.4	0.6	A
	Right Turn							
	Subtotal	24	23	95.4%	0.2	0.4	0.6	A
EB	Left Turn	158	154	97.5%	0.3	83.3	46.8	F
	Through							
	Right Turn	41	42	102.7%	0.2	62.4	54.4	F
	Subtotal	199	196	98.6%	0.2	79.9	46.5	F
WB	Left Turn							
	Through							
	Right Turn							
	Subtotal							
Total		342	335	97.9%	0.4	57.4	31.8	F

Intersection 4

Bay Vista Court/Park Road

Side-street Stop

Direction	Movement	Volume (vph)		Percent Served	GEH	Total Delay (sec/veh)		
		Demand	Served			Average	Std. Dev.	LOS
NB	Left Turn							
	Through							
	Right Turn	10	8	79.0%	0.7	8.2	7.0	A
	Subtotal	10	8	79.0%	0.7	8.2	7.0	A
SB	Left Turn							
	Through							
	Right Turn							
	Subtotal							
EB	Left Turn							
	Through	60	58	96.7%	0.3	3.9	3.2	A
	Right Turn							
	Subtotal	60	58	96.7%	0.3	3.9	3.2	A
WB	Left Turn	10	11	111.0%	0.3	0.4	0.2	A
	Through	49	46	94.1%	0.4	0.1	0.1	A
	Right Turn							
	Subtotal	59	57	96.9%	0.2	0.1	0.1	A
Total		129	123	95.4%	0.5	2.6	1.7	A

Intersection 5

Valero Refinery Entrance/Park Road

Side-street Stop

Direction	Movement	Volume (vph)		Percent Served	GEH	Total Delay (sec/veh)		
		Demand	Served			Average	Std. Dev.	LOS
NB	Left Turn							
	Through							
	Right Turn							
	Subtotal							
SB	Left Turn	35	35	98.6%	0.1	32.8	30.9	D
	Through							
	Right Turn	35	36	101.4%	0.1	65.1	35.7	F
	Subtotal	70	70	100.0%	0.0	49.7	25.8	E
EB	Left Turn	10	9	90.0%	0.3	3.2	3.2	A
	Through	210	203	96.6%	0.5	10.1	1.0	B
	Right Turn							
	Subtotal	220	212	96.3%	0.6	9.7	0.9	A
WB	Left Turn							
	Through	256	251	98.2%	0.3	99.6	16.0	F
	Right Turn	10	9	94.0%	0.2	47.1	44.5	E
	Subtotal	266	261	98.0%	0.3	97.4	15.6	F
Total		556	543	97.6%	0.6	57.0	9.1	F

Intersection 0

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Direction	Movement	Volume (vph)		Percent Served	GEH	Total Delay (sec/veh)		
		Demand	Served			Average	Std. Dev.	LOS
NB	Left Turn					#N/A	#N/A	#N/A
	Through					#N/A	#N/A	#N/A
	Right Turn					#N/A	#N/A	#N/A
	Subtotal					#N/A	#N/A	#N/A
SB	Left Turn					#N/A	#N/A	#N/A
	Through					#N/A	#N/A	#N/A
	Right Turn					#N/A	#N/A	#N/A
	Subtotal					#N/A	#N/A	#N/A
EB	Left Turn					#N/A	#N/A	#N/A
	Through					#N/A	#N/A	#N/A
	Right Turn					#N/A	#N/A	#N/A
	Subtotal					#N/A	#N/A	#N/A
WB	Left Turn					#N/A	#N/A	#N/A
	Through					#N/A	#N/A	#N/A
	Right Turn					#N/A	#N/A	#N/A
	Subtotal					#N/A	#N/A	#N/A
Total						0.0	#N/A	A

VISSIM Post-Processor
Average Values from 10 Runs
Queue Counter

Valero Refinery TIA
EPP PM
PM Peak Hour

Queue Counter	Int	Mov	Description	Average Queue (feet)			
				Average	Std. Dev.	Maximum	Std. Dev.
12			Bayshore/Park SB	28	30	129	80
15			Bayshore/Park WB TR	1	1	76	26
16			Bayshore/Park WB L	9	1	114	17
17			Bayshore/Park NB R	250	48	604	10
18			Bayshore/Park NB TL	1	0	59	4
29			Bayshore/I-680 On L	0	0	17	28
38			Bayshore/I-680 Off NB	7	9	84	66
48			Bay Vista/Park NB	0	0	0	0
52			Valero/Park SB	14	8	94	34
55			Valero/Park WB	0	0	0	0
111			Bayshore/Park EB	64	14	234	59
311			Bayshore/I-680 Off EB	128	90	521	213
511			Bayshore/Park EB	0	0	0	0
901			RR Track T	60	150	158	362
902			RR Track L	505	65	1218	117

Intersection 1

Bayshore Road/Park Road

All-way Stop

Direction	Movement	Volume (vph)		Percent Served	GEH	Total Delay (sec/veh)		
		Demand	Served			Average	Std. Dev.	LOS
NB	Left Turn	3	3	113.3%	0.2	2.4	2.0	A
	Through	2	1	65.0%	0.5	1.8	2.9	A
	Right Turn	34	32	94.7%	0.3	131.2	59.3	F
	Subtotal	39	37	94.6%	0.3	103.7	49.3	F
SB	Left Turn	2	4	205.0%	1.2	140.0	162.1	F
	Through	1	0	0.0%	1.4			
	Right Turn							
	Subtotal	3	4	136.7%	0.6	115.8	137.4	F
EB	Left Turn							
	Through	2	2	115.0%	0.2	118.6	175.0	F
	Right Turn	1	2	170.0%	0.6	0.9	1.2	A
	Subtotal	3	4	133.3%	0.5	81.6	114.0	F
WB	Left Turn	18	19	106.1%	0.3	130.7	63.7	F
	Through	4	4	100.0%	0.0	88.4	145.5	F
	Right Turn	6	6	98.3%	0.0	84.3	119.0	F
	Subtotal	28	29	103.6%	0.2	117.2	41.2	F
Total		73	74	101.4%	0.1	113.4	21.1	F

Intersection 2

Bayshore Road/I-680 SB On-Ramp

Uncontrolled

Direction	Movement	Volume (vph)		Percent Served	GEH	Total Delay (sec/veh)		
		Demand	Served			Average	Std. Dev.	LOS
NB	Left Turn	2	2	120.0%	0.3	0.1	0.2	A
	Through	39	37	94.6%	0.3	0.3	0.1	A
	Right Turn							
	Subtotal	41	39	95.9%	0.3	0.3	0.1	A
SB	Left Turn							
	Through	3	2	80.0%	0.4	0.6	0.9	A
	Right Turn	17	18	107.1%	0.3	0.5	0.3	A
	Subtotal	20	21	103.0%	0.1	0.5	0.3	A
EB	Left Turn							
	Through							
	Right Turn							
	Subtotal							
WB	Left Turn							
	Through							
	Right Turn							
	Subtotal							
Total		61	60	98.2%	0.1	0.4	0.1	A

Intersection 3

Bayshore Road/I-680 NB Off-Ramp

Side-street Stop

Direction	Movement	Volume (vph)		Percent Served	GEH	Total Delay (sec/veh)		
		Demand	Served			Average	Std. Dev.	LOS
NB	Left Turn							
	Through	3	4	133.3%	0.5	0.1	0.3	A
	Right Turn							
	Subtotal	3	4	133.3%	0.5	0.1	0.3	A
SB	Left Turn							
	Through	3	2	80.0%	0.4	0.0	0.0	A
	Right Turn							
	Subtotal	3	2	80.0%	0.4	0.0	0.0	A
EB	Left Turn	38	35	92.9%	0.4	5.6	0.6	A
	Through							
	Right Turn	4	5	132.5%	0.6	4.1	2.1	A
	Subtotal	42	41	96.7%	0.2	5.4	0.7	A
WB	Left Turn							
	Through							
	Right Turn							
	Subtotal							
Total		48	47	97.9%	0.1	4.6	0.6	A

Intersection 4

Bay Vista Court/Park Road

Side-street Stop

Direction	Movement	Volume (vph)		Percent Served	GEH	Total Delay (sec/veh)		
		Demand	Served			Average	Std. Dev.	LOS
NB	Left Turn							
	Through							
	Right Turn							
	Subtotal							
SB	Left Turn							
	Through							
	Right Turn							
	Subtotal							
EB	Left Turn							
	Through	3	4	133.3%	0.5	0.1	0.0	A
	Right Turn							
	Subtotal	3	4	133.3%	0.5	0.1	0.0	A
WB	Left Turn	2	3	125.0%	0.3	0.2	0.2	A
	Through	5	5	98.0%	0.0	0.1	0.1	A
	Right Turn							
	Subtotal	7	7	105.7%	0.1	0.1	0.1	A
Total		10	11	114.0%	0.4	0.1	0.0	A

Intersection 5

Valero Refinery Entrance/Park Road

Side-street Stop

Direction	Movement	Volume (vph)		Percent Served	GEH	Total Delay (sec/veh)		
		Demand	Served			Average	Std. Dev.	LOS
NB	Left Turn							
	Through							
	Right Turn							
	Subtotal							
SB	Left Turn							
	Through							
	Right Turn	2	4	205.0%	1.2	4.6	1.0	A
	Subtotal	2	4	205.0%	1.2	4.6	1.0	A
EB	Left Turn	3	3	96.7%	0.1	0.1	0.1	A
	Through	35	36	102.0%	0.1	0.0	0.0	A
	Right Turn							
	Subtotal	38	39	101.6%	0.1	0.0	0.1	A
WB	Left Turn							
	Through	26	25	95.4%	0.2	0.0	0.0	A
	Right Turn	3	3	93.3%	0.1	0.2	0.2	A
	Subtotal	29	28	95.2%	0.3	0.1	0.1	A
Total		69	70	101.9%	0.2	0.4	0.1	A

Intersection 1 Bayshore Road/Park Road

All-way Stop

Direction	Movement	Volume (vph)		Percent Served	GEH	Total Delay (sec/veh)		
		Demand	Served			Average	Std. Dev.	LOS
NB	Left Turn	30	27	88.7%	0.6	44.1	79.4	E
	Through	30	33	108.3%	0.4	39.9	68.1	E
	Right Turn	210	203	96.8%	0.5	244.0	32.3	F
	Subtotal	270	262	97.2%	0.5	192.9	26.7	F
SB	Left Turn	30	27	90.3%	0.5	330.8	112.7	F
	Through	40	39	97.3%	0.2	215.3	116.5	F
	Right Turn	10	9	87.0%	0.4	166.6	133.7	F
	Subtotal	80	75	93.4%	0.6	248.3	108.4	F
EB	Left Turn	10	9	87.0%	0.4	222.3	218.9	F
	Through	60	60	99.5%	0.0	234.9	42.3	F
	Right Turn	30	30	99.7%	0.0	145.4	71.4	F
	Subtotal	100	98	98.3%	0.2	211.9	17.5	F
WB	Left Turn	320	323	100.9%	0.2	356.7	40.0	F
	Through	50	48	95.4%	0.3	420.9	204.6	F
	Right Turn	20	19	92.5%	0.3	298.5	233.4	F
	Subtotal	390	389	99.8%	0.0	347.9	21.1	F
Total		840	825	98.2%	0.5	253.2	18.5	F

Intersection 2 Bayshore Road/I-680 SB On-Ramp

Uncontrolled

Direction	Movement	Volume (vph)		Percent Served	GEH	Total Delay (sec/veh)		
		Demand	Served			Average	Std. Dev.	LOS
NB	Left Turn	100	98	98.0%	0.2	15.6	12.0	C
	Through	270	262	97.0%	0.5	159.2	29.2	F
	Right Turn							
	Subtotal	370	360	97.2%	0.5	120.0	19.8	F
SB	Left Turn							
	Through	30	31	104.0%	0.2	2.1	1.2	A
	Right Turn	360	360	100.1%	0.0	2.6	0.4	A
	Subtotal	390	392	100.4%	0.1	2.6	0.3	A
EB	Left Turn							
	Through							
	Right Turn							
	Subtotal							
WB	Left Turn							
	Through							
	Right Turn							
	Subtotal							
Total		760	751	98.9%	0.3	68.7	10.3	F

Intersection 3 Bayshore Road/I-680 NB Off-Ramp

Side-street Stop

Direction	Movement	Volume (vph)		Percent Served	GEH	Total Delay (sec/veh)		
		Demand	Served			Average	Std. Dev.	LOS
NB	Left Turn							
	Through	160	157	98.3%	0.2	0.7	0.3	A
	Right Turn							
	Subtotal	160	157	98.3%	0.2	0.7	0.3	A
SB	Left Turn							
	Through	30	31	104.0%	0.2	0.3	0.2	A
	Right Turn							
	Subtotal	30	31	104.0%	0.2	0.3	0.2	A
EB	Left Turn	210	203	96.7%	0.5	218.3	46.5	F
	Through							
	Right Turn	60	64	106.0%	0.5	223.3	50.8	F
	Subtotal	270	267	98.8%	0.2	219.7	45.4	F
WB	Left Turn							
	Through							
	Right Turn							
	Subtotal							
Total		460	455	98.9%	0.2	147.9	33.0	F

Intersection 4 Bay Vista Court/Park Road

Side-street Stop

Direction	Movement	Volume (vph)		Percent Served	GEH	Total Delay (sec/veh)		
		Demand	Served			Average	Std. Dev.	LOS
NB	Left Turn	10	10	96.0%	0.1	10.5	18.0	B
	Through							
	Right Turn	20	20	97.5%	0.1	92.3	45.5	F
	Subtotal	30	29	97.0%	0.2	69.6	36.1	F
SB	Left Turn							
	Through							
	Right Turn							
	Subtotal							
EB	Left Turn							
	Through	80	79	98.6%	0.1	107.2	54.0	F
	Right Turn	10	11	109.0%	0.3	77.7	87.4	F
	Subtotal	90	90	99.8%	0.0	103.6	50.5	F
WB	Left Turn	20	20	101.5%	0.1	1.8	3.4	A
	Through	70	63	89.9%	0.9	0.1	0.1	A
	Right Turn							
	Subtotal	90	83	92.4%	0.7	0.3	0.4	A
Total		210	202	96.2%	0.6	71.8	30.7	F

Intersection 5

Valero Refinery Entrance/Park Road

Side-street Stop

Direction	Movement	Volume (vph)		Percent Served	GEH	Total Delay (sec/veh)		
		Demand	Served			Average	Std. Dev.	LOS
NB	Left Turn							
	Through							
	Right Turn							
	Subtotal							
SB	Left Turn	50	48	95.4%	0.3	163.0	71.3	F
	Through							
	Right Turn	50	52	103.2%	0.2	246.4	93.1	F
	Subtotal	100	99	99.3%	0.1	202.7	73.0	F
EB	Left Turn	20	19	96.0%	0.2	15.8	35.0	C
	Through	280	271	96.9%	0.5	14.6	5.2	B
	Right Turn							
	Subtotal	300	291	96.9%	0.5	15.2	1.3	C
WB	Left Turn							
	Through	340	337	99.0%	0.2	381.4	40.5	F
	Right Turn	20	20	97.5%	0.1	365.1	222.1	F
	Subtotal	360	356	98.9%	0.2	375.1	43.7	F
Total		760	746	98.2%	0.5	170.1	25.0	F

Intersection 0

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Direction	Movement	Volume (vph)		Percent Served	GEH	Total Delay (sec/veh)		
		Demand	Served			Average	Std. Dev.	LOS
NB	Left Turn					#N/A	#N/A	#N/A
	Through					#N/A	#N/A	#N/A
	Right Turn					#N/A	#N/A	#N/A
	Subtotal					#N/A	#N/A	#N/A
SB	Left Turn					#N/A	#N/A	#N/A
	Through					#N/A	#N/A	#N/A
	Right Turn					#N/A	#N/A	#N/A
	Subtotal					#N/A	#N/A	#N/A
EB	Left Turn					#N/A	#N/A	#N/A
	Through					#N/A	#N/A	#N/A
	Right Turn					#N/A	#N/A	#N/A
	Subtotal					#N/A	#N/A	#N/A
WB	Left Turn					#N/A	#N/A	#N/A
	Through					#N/A	#N/A	#N/A
	Right Turn					#N/A	#N/A	#N/A
	Subtotal					#N/A	#N/A	#N/A
Total						0.0	#N/A	A

VISSIM Post-Processor
Average Values from 10 Runs
Queue Counter

Valero Refinery TIA
CB (With Train) PM
PM Peak Hour

Queue Counter	Int	Mov	Description	Average Queue (feet)			
				Average	Std. Dev.	Maximum	Std. Dev.
12			Bayshore/Park SB	118	60	304	77
15			Bayshore/Park WB TR	1	0	71	15
16			Bayshore/Park WB L	18	1	125	12
17			Bayshore/Park NB R	440	24	616	14
18			Bayshore/Park NB TL	1	0	62	5
29			Bayshore/I-680 On L	1	1	37	37
38			Bayshore/I-680 Off NB	91	18	258	7
48			Bay Vista/Park NB	2	4	37	22
52			Valero/Park SB	103	34	225	3
55			Valero/Park WB	941	62	2202	141
111			Bayshore/Park EB	221	59	510	121
311			Bayshore/I-680 Off EB	565	114	1641	210
511			Bayshore/Park EB	0	0	7	15
901			RR Track T	44	100	87	145
902			RR Track L	397	11	498	13

Intersection 1

Bayshore Road/Park Road

All-way Stop

Direction	Movement	Volume (vph)		Percent Served	GEH	Total Delay (sec/veh)		
		Demand	Served			Average	Std. Dev.	LOS
NB	Left Turn	30	28	91.7%	0.5	16.2	20.9	C
	Through	30	32	105.3%	0.3	16.9	23.7	C
	Right Turn	210	202	96.1%	0.6	95.3	7.5	F
	Subtotal	270	261	96.7%	0.6	79.3	7.7	F
SB	Left Turn	30	27	89.7%	0.6	147.3	71.6	F
	Through	40	39	98.0%	0.1	91.8	69.6	F
	Right Turn	10	9	88.0%	0.4	54.8	61.9	F
	Subtotal	80	75	93.6%	0.6	105.6	61.0	F
EB	Left Turn	10	9	89.0%	0.4	121.8	134.3	F
	Through	60	60	100.0%	0.0	144.1	30.2	F
	Right Turn	30	30	98.3%	0.1	77.2	47.0	F
	Subtotal	100	98	98.4%	0.2	123.2	21.5	F
WB	Left Turn	320	320	100.0%	0.0	149.7	5.5	F
	Through	50	50	100.0%	0.0	133.7	59.7	F
	Right Turn	20	20	98.5%	0.1	119.4	78.3	F
	Subtotal	390	390	99.9%	0.0	146.2	7.2	F
Total		840	824	98.1%	0.6	115.8	6.7	F

Intersection 2

Bayshore Road/I-680 SB On-Ramp

Uncontrolled

Direction	Movement	Volume (vph)		Percent Served	GEH	Total Delay (sec/veh)		
		Demand	Served			Average	Std. Dev.	LOS
NB	Left Turn	100	99	98.5%	0.2	9.9	7.3	A
	Through	270	261	96.5%	0.6	63.0	12.1	F
	Right Turn							
	Subtotal	370	359	97.0%	0.6	48.8	8.5	E
SB	Left Turn							
	Through	30	31	103.7%	0.2	1.9	0.6	A
	Right Turn	360	358	99.3%	0.1	2.2	0.3	A
	Subtotal	390	389	99.7%	0.1	2.2	0.3	A
EB	Left Turn							
	Through							
	Right Turn							
	Subtotal							
WB	Left Turn							
	Through							
	Right Turn							
	Subtotal							
Total		760	748	98.4%	0.4	26.9	4.4	D

Intersection 3

Bayshore Road/I-680 NB Off-Ramp

Side-street Stop

Direction	Movement	Volume (vph)		Percent Served	GEH	Total Delay (sec/veh)		
		Demand	Served			Average	Std. Dev.	LOS
NB	Left Turn							
	Through	160	157	97.9%	0.3	51.3	16.1	F
	Right Turn							
	Subtotal	160	157	97.9%	0.3	51.3	16.1	F
SB	Left Turn							
	Through	30	31	103.7%	0.2	0.1	0.1	A
	Right Turn							
	Subtotal	30	31	103.7%	0.2	0.1	0.1	A
EB	Left Turn	210	203	96.6%	0.5	165.8	45.5	F
	Through							
	Right Turn	60	63	104.8%	0.4	126.4	46.0	F
	Subtotal	270	266	98.4%	0.3	157.5	43.1	F
WB	Left Turn							
	Through							
	Right Turn							
	Subtotal							
Total		460	454	98.6%	0.3	109.2	24.7	F

Intersection 4

Bay Vista Court/Park Road

Side-street Stop

Direction	Movement	Volume (vph)		Percent Served	GEH	Total Delay (sec/veh)		
		Demand	Served			Average	Std. Dev.	LOS
NB	Left Turn	10	9	93.0%	0.2	5.3	0.8	A
	Through							
	Right Turn	20	20	99.0%	0.0	21.6	15.9	C
	Subtotal	30	29	97.0%	0.2	17.6	11.5	C
SB	Left Turn							
	Through							
	Right Turn							
	Subtotal							
EB	Left Turn							
	Through	80	79	98.5%	0.1	22.5	19.5	C
	Right Turn	10	11	111.0%	0.3	14.3	31.9	B
	Subtotal	90	90	99.9%	0.0	21.5	17.4	C
WB	Left Turn	20	20	98.0%	0.1	0.6	0.8	A
	Through	70	67	95.1%	0.4	0.2	0.1	A
	Right Turn							
	Subtotal	90	86	95.8%	0.4	0.3	0.2	A
Total		210	205	97.7%	0.3	13.0	8.9	B

Intersection 5

Valero Refinery Entrance/Park Road

Side-street Stop

Direction	Movement	Volume (vph)		Percent Served	GEH	Total Delay (sec/veh)		
		Demand	Served			Average	Std. Dev.	LOS
NB	Left Turn							
	Through							
	Right Turn							
	Subtotal							
SB	Left Turn	50	48	95.6%	0.3	67.1	36.6	F
	Through							
	Right Turn	50	51	102.8%	0.2	110.3	63.1	F
	Subtotal	100	99	99.2%	0.1	88.5	48.6	F
EB	Left Turn	20	20	98.5%	0.1	10.8	24.6	B
	Through	280	269	96.2%	0.6	6.9	2.4	A
	Right Turn							
	Subtotal	300	289	96.3%	0.6	7.3	0.4	A
WB	Left Turn							
	Through	340	338	99.4%	0.1	224.7	30.8	F
	Right Turn	20	19	97.0%	0.1	202.2	88.2	F
	Subtotal	360	357	99.3%	0.1	223.0	32.3	F
Total		760	746	98.1%	0.5	114.3	19.6	F

Intersection 0

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Direction	Movement	Volume (vph)		Percent Served	GEH	Total Delay (sec/veh)		
		Demand	Served			Average	Std. Dev.	LOS
NB	Left Turn					#N/A	#N/A	#N/A
	Through					#N/A	#N/A	#N/A
	Right Turn					#N/A	#N/A	#N/A
	Subtotal					#N/A	#N/A	#N/A
SB	Left Turn					#N/A	#N/A	#N/A
	Through					#N/A	#N/A	#N/A
	Right Turn					#N/A	#N/A	#N/A
	Subtotal					#N/A	#N/A	#N/A
EB	Left Turn					#N/A	#N/A	#N/A
	Through					#N/A	#N/A	#N/A
	Right Turn					#N/A	#N/A	#N/A
	Subtotal					#N/A	#N/A	#N/A
WB	Left Turn					#N/A	#N/A	#N/A
	Through					#N/A	#N/A	#N/A
	Right Turn					#N/A	#N/A	#N/A
	Subtotal					#N/A	#N/A	#N/A
Total						0.0	#N/A	A

VISSIM Post-Processor
Average Values from 10 Runs
Queue Counter

Valero Refinery TIA
CPP PM
PM Peak Hour

Queue Counter	Int	Mov	Description	Average Queue (feet)			
				Average	Std. Dev.	Maximum	Std. Dev.
12			Bayshore/Park SB	48	32	197	80
15			Bayshore/Park WB TR	2	1	70	11
16			Bayshore/Park WB L	11	1	129	12
17			Bayshore/Park NB R	293	22	614	11
18			Bayshore/Park NB TL	1	0	63	6
29			Bayshore/I-680 On L	1	2	24	45
38			Bayshore/I-680 Off NB	32	15	217	50
48			Bay Vista/Park NB	0	0	27	6
52			Valero/Park SB	49	34	172	65
55			Valero/Park WB	51	41	356	177
111			Bayshore/Park EB	99	33	352	88
311			Bayshore/I-680 Off EB	327	96	984	136
511			Bayshore/Park EB	0	0	4	11
901			RR Track T	94	262	195	480
902			RR Track L	961	72	1572	18

Intersection 1

Bayshore Road/Park Road

All-way Stop

Direction	Movement	Volume (vph)		Percent Served	GEH	Total Delay (sec/veh)		
		Demand	Served			Average	Std. Dev.	LOS
NB	Left Turn	4	3	82.5%	0.4	2.2	1.8	A
	Through	3	3	86.7%	0.2	2.1	2.6	A
	Right Turn	45	39	87.6%	0.9	111.6	38.7	F
	Subtotal	52	45	87.1%	1.0	88.4	33.8	F
SB	Left Turn	3	2	70.0%	0.6	42.3	73.5	E
	Through	2	1	35.0%	1.1	1.0	2.2	A
	Right Turn	1	1	130.0%	0.3	1.3	2.3	A
	Subtotal	6	4	68.3%	0.8	25.3	41.3	D
EB	Left Turn	1	1	50.0%	0.6			
	Through	2	1	50.0%	0.8	21.4	43.8	C
	Right Turn	2	2	85.0%	0.2	1.1	1.4	A
	Subtotal	5	3	64.0%	0.9	12.8	24.7	B
WB	Left Turn	23	23	101.3%	0.1	141.1	52.5	F
	Through	5	5	98.0%	0.0	125.9	146.3	F
	Right Turn	7	7	102.9%	0.1	116.1	138.9	F
	Subtotal	35	35	101.1%	0.1	138.0	38.2	F
Total		98	88	89.8%	1.0	102.1	17.2	F

Intersection 2

Bayshore Road/I-680 SB On-Ramp

Uncontrolled

Direction	Movement	Volume (vph)		Percent Served	GEH	Total Delay (sec/veh)		
		Demand	Served			Average	Std. Dev.	LOS
NB	Left Turn	3	3	113.3%	0.2	0.1	0.2	A
	Through	52	45	86.5%	1.0	0.3	0.1	A
	Right Turn							
	Subtotal	55	48	88.0%	0.9	0.3	0.1	A
SB	Left Turn							
	Through	4	3	70.0%	0.7	0.0	0.0	A
	Right Turn	23	23	100.0%	0.0	0.8	0.4	A
	Subtotal	27	26	95.6%	0.2	0.7	0.3	A
EB	Left Turn							
	Through							
	Right Turn							
	Subtotal							
WB	Left Turn							
	Through							
	Right Turn							
	Subtotal							
Total		82	74	90.5%	0.9	0.4	0.1	A

Intersection 3

Bayshore Road/I-680 NB Off-Ramp

Side-street Stop

Direction	Movement	Volume (vph)		Percent Served	GEH	Total Delay (sec/veh)		
		Demand	Served			Average	Std. Dev.	LOS
NB	Left Turn							
	Through	5	4	80.0%	0.5	0.0	0.0	A
	Right Turn							
	Subtotal	5	4	80.0%	0.5	0.0	0.0	A
SB	Left Turn							
	Through	4	3	70.0%	0.7	0.0	0.0	A
	Right Turn							
	Subtotal	4	3	70.0%	0.7	0.0	0.0	A
EB	Left Turn	50	44	88.4%	0.8	5.9	0.7	A
	Through							
	Right Turn	5	5	108.0%	0.2	5.4	0.8	A
	Subtotal	55	50	90.2%	0.7	5.8	0.6	A
WB	Left Turn							
	Through							
	Right Turn							
	Subtotal							
Total		64	56	88.1%	1.0	5.0	0.6	A

Intersection 4

Bay Vista Court/Park Road

Side-street Stop

Direction	Movement	Volume (vph)		Percent Served	GEH	Total Delay (sec/veh)		
		Demand	Served			Average	Std. Dev.	LOS
NB	Left Turn	1	0	0.0%	1.4			
	Through							
	Right Turn	1	0	0.0%	1.4			
	Subtotal	2	0	0.0%	2.0	0.0	0.0	A
SB	Left Turn							
	Through							
	Right Turn							
	Subtotal							
EB	Left Turn							
	Through	4	3	80.0%	0.4	0.1	0.0	A
	Right Turn	1	1	80.0%	0.2	0.2	0.3	A
	Subtotal	5	4	80.0%	0.5	0.1	0.1	A
WB	Left Turn	3	3	103.3%	0.1	0.1	0.2	A
	Through	7	7	92.9%	0.2	0.0	0.1	A
	Right Turn							
	Subtotal	10	10	96.0%	0.1	0.1	0.1	A
Total		17	14	80.0%	0.9	0.1	0.0	A

Intersection 5

Valero Refinery Entrance/Park Road

Side-street Stop

Direction	Movement	Volume (vph)		Percent Served	GEH	Total Delay (sec/veh)		
		Demand	Served			Average	Std. Dev.	LOS
NB	Left Turn							
	Through							
	Right Turn							
	Subtotal							
SB	Left Turn	1	1	80.0%	0.2	0.5	1.5	A
	Through							
	Right Turn	3	3	110.0%	0.2	4.2	2.0	A
	Subtotal	4	4	102.5%	0.0	3.7	1.1	A
EB	Left Turn	4	3	65.0%	0.8	1.2	2.1	A
	Through	46	40	86.3%	1.0	0.0	0.0	A
	Right Turn							
	Subtotal	50	42	84.6%	1.1	0.1	0.2	A
WB	Left Turn							
	Through	32	32	100.3%	0.0	0.0	0.0	A
	Right Turn	5	5	98.0%	0.0	0.2	0.2	A
	Subtotal	37	37	100.0%	0.0	0.0	0.1	A
Total		91	83	91.6%	0.8	0.3	0.1	A