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TRAFFIC AND CIRCULATION ANALYSIS

TYDD STREET CONSOLIDATED FACILITY

Prepared for the

Open Door Community Health Centers

LACO ASSOCIATES
ENGINEERS • GEOLOGISTS • ENVIRONMENTAL CONSULTANTS

21 W. 4th Street, Eureka, California 95501 (707) 443-5054
101C N. State Street, Ukiah, California 95482 - (707) 462-0222

TRAFFIC AND CIRCULATION ANALYSIS

Open Door Community Health Center
Vacant Property at Tydd Street
Eureka, California

Assessor's Parcel Number's 002-191-027, 002-191-028, and 002-191-031

Prepared for:
Open Door Community Health Center
670 Ninth Street, Suite 203
Arcata, California 95521

Prepared by:
LACO Associates
21 W. 4th Street
Eureka, California 95501

Becky Dale, E.I.T. OT5796

Netra Khatri, RCE 75428, Exp. 12/31/11

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INTRODUCTION AND STUDY PARAMETERS

Introduction

The following report is an analysis of the potential traffic impacts that will be associated with the proposed Open Door Community Health Center (ODCHC) to be developed on the vacant property at Tydd Street, Eureka, California, Assessor's Parcel Numbers (APNs) 002-191-027, 002-191-028, 002-191-031. This Traffic Study was completed in accordance with the guidelines presented in the California Department of Transportation (Caltrans) *Guide for the Preparation of Traffic Impact Studies*, December 2002. The analysis provides an evaluation of operating traffic levels under the existing, existing-plus-project, and future-plus-project conditions. The purpose of this Traffic Study is to provide City staff and policy makers with the data necessary to make informed decisions regarding the potential traffic impacts caused by the use of the property as proposed, and any associated improvements that would be required in order to mitigate these impacts to a level of insignificance as defined by the City's *General Plan*, or other policies. In addition, a traffic impact analysis was requested by the Caltrans in an email from Alyson Hunter, Associate Transportation Planner with District 1, dated December 13, 2010. Ms. Hunter specifically requested including the intersections of 5th Street and V Street and 4th Street and V Street in the project scope.

Traffic impacts are evaluated by determining the number of trips the new use of the property would be expected to generate. New trips are then distributed to the surrounding road system based on existing travel patterns already in place or the anticipated travel patterns specific to the proposed use. These new trips are then analyzed to determine the impact that the newly-generated traffic would be expected to have on the critical intersections within the study area.

Scope of Work

Presented below is the Scope of Work for the transportation and circulation analysis for the ODCHC:

1. Collect available traffic count data and traffic study reports for the project area between Tydd Street and West Avenue and 4th Street and West Avenue, from the City of Eureka and Caltrans.
2. Consult on this Scope of Work with the City of Eureka and Caltrans at one meeting. Make edits to this Scope of Work, as recommended by the City, based on this single meeting.
3. Collect traffic counts between Tuesday and Thursday, during the morning (AM) and evening (PM) peak traffic periods at the following intersections. The counts will include motor vehicles, bicycles, and pedestrians.
    a. 4th and V Street
    b. 5th and V Street
    c. 6th and West Avenue
    d. Tydd Street and West Avenue
    e. Searles Street and West Avenue
    f. Myrtle Avenue and West Avenue

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4. Prepare a scale drawing of each key intersection listed above. Identify sight distance and other physical issues and limitations at these locations.
5. Collect and review traffic accident data from the City of Eureka for the study intersections, as defined above in Task 3.
6. Estimate project traffic volumes during the peak weekday AM and PM periods from the proposed project using the latest edition of the Trip Generation Handbook (ITE 2007). Future traffic splits will be estimated based on the existing traffic patterns.
7. Calculate the existing Level of Service (LOS) at the study intersections listed above.
8. Determine the likely future traffic volumes within the vicinity of the project area for the next 20 years using an annual growth rate of 1.4 percent per year.
9. Calculate the expected existing plus-project and future-plus-project traffic LOS at the study intersections listed above. Alternative lane configurations may be considered for the key intersections, which may result in several possible results for the LOS determination.
10. Document the geometry (width, sight distance, speed limits, shoulders and bike lanes) at the six study intersections and analyze the roadways for adequate capacity under the existing-plus-project and future-plus-project conditions.
11. Assess the existing pedestrian and bicycle facilities, accommodations, and safety features at the study intersections and determine needed roadway improvements to increase pedestrian safety under the existing-plus-project and future-plus-project conditions.
12. Assess potential future transportation impacts both quantitatively (LOS) and qualitatively (safety, pedestrian and bicycle considerations, compliance with City, state, and federal standards, etc.) at the study intersections.
13. Recommend improvements, if any, based on the findings of the analysis.
14. Prepare and submit three copies of the draft to the City of Eureka and Caltrans for review and comment.
15. Meet with City of Eureka and Caltrans representatives to review the findings and preliminary recommendations.
16. Complete and submit three bound copies and one PDF file of the final report.

Project Study Area and Assumptions

The proposed project consists of the construction of a new 26,000 square foot ODCHC facility. The project vicinity and site location is depicted in Figure 1. The project will include the construction of the health clinic, roads, sidewalks, parking area, and utilities for the project. The only existing ingress/egress point to the proposed ODCHC is via Tydd Street. (Figure 1). Pedestrian and bicycle access will be provided to the public via paved road and sidewalk.

It was determined after consultation with Shelia Parrott, Project Manager with the City of Eureka, and Alyson Hunter, Transportation Planner with Caltrans, that the transportation study area for the proposed project would consist of the following intersections:

- 4th and V Street (Intersection #1)

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- 5th and V Street (Intersection #2)
- 6th and West Avenue (Intersection #3)
- Tydd Street and West Avenue (Intersection #4)
- Searles Street and West Avenue (Intersection #5)
- Myrtle Avenue and West Avenue (Intersection #6)

Before the field work was conducted for this study, several assumptions about the site characteristics were made. Based on the typical peak hour traffic in Eureka, it was assumed that the AM peak hour traffic at the study intersections would occur between 7:00 AM and 9:00 AM while the PM peak hour would likely be between 4:00 PM and 6:00 PM. In order to capture traffic counts during the peak hour, counting at all the intersections took place within the timeframes mentioned above on the weekdays (Monday-Thursday).

Since Intersection #4 is an unsignalized intersection with stop control only on Tydd Street, it is assumed that a gap study would need to be carried out to determine the number of available gaps between traffic platoons on West Avenue for the proposed project. Based on Exhibit 17-5 *Base Critical Gaps and Follow-Up Times for Two Way Stop Control Intersections* within the Highway Capacity Manual (HCM), the minimum acceptable gap length, in seconds between vehicles assumed for this intersection is 7.1 seconds.

Methodologies

Average daily peak hour traffic data for all of the study intersections listed above was collected by LACO between November 30th, 2010, and December 14th, 2010. The peak hour traffic data collection consisted of manual traffic counts taken on Tuesdays, Wednesdays, and Thursdays during the peak AM and PM traffic periods. In order to catch the entire likely peak hour traffic volume, counts were taken at all the intersections between 7:00 AM to 9:00 AM and again from 4:00 pm to 6:00 pm. Information on the number of pedestrians, bicyclists, and buses/heavy trucks was also collected during these timeframes for each intersection. The raw traffic counts were taken for each turning movement in 15 minute increments for the entire duration of the data collection timeframe. The AM and PM peak hour traffic volume for each turning movement was determined by analyzing the count data and selecting the four continuous 15 minute increments whose sum would produce the highest traffic count.

In addition to collecting traffic counts, a gap study was conducted during the AM and PM peak hour range at Intersection #4. The purpose of the gap study was to determine if a sufficient number of breaks within the traffic flow occur such that a vehicle on Tydd Street wishing to turn onto West Avenue would have adequate time to safely make the turning movement. For the purposes of this study, a gap was considered to be the elapsed time between the rear bumper of one vehicle and the front bumper of the following vehicle passing a specified reference point.

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LOS is used to categorize and rank traffic operation on various types of roadway facilities. The LOS is determined by considering traffic volumes and roadway capacity when analyzing freeways, while delay time is used to analyze traffic operation at intersections. A series of letter designations ranging from A to F are used to describe the functionality of the roadway facility. Generally speaking, LOS A represents free flow conditions, while LOS F represents highly congested conditions.

The study intersections were analyzed using the McTrans Highway Capacity Software HCS + (McTrans). McTrans is developed by University of Florida, Department of Civil and Coastal Engineering (http://mctrans.ce.ufl.edu/hcs/hcsplus/), and follows the procedure of the HCM, Transportation Research Board, 2000. The software contains methodologies for various types of intersection control, all of which are related to a measurement of delay in average number of seconds per vehicle. As stated within Section V *Traffic Impact Analysis Methodologies of the Caltrans Guide for the Preparation of Traffic Impact Studies*, the methodologies presented in the HCM shall be accepted without prior consultation from Caltrans.

Capacity of the unsignalized study intersections was analyzed using the unsignalized intersection capacity methods of the McTrans Highway Capacity Software. This method determines a LOS for each minor turning movement by estimating the level of average delay in seconds per vehicle. The movement with the highest level of delay is presented as the Worst Case LOS. The through movements on an un-controlled major street are assumed to operate at free flow conditions with a LOS A, since these through movements are not controlled by traffic signage and have the right-of-way over other possible turning movements. Table 1 below summarizes the LOS criteria for unsignalized intersections.

Table 1: Level of Service Criteria for Unsignalized Intersections

Level of Service	Delay Range (seconds/vehicle)
A	< 10
B	10 – 15
C	15 – 25
D	25 – 35
E	35 – 50
F	> 50

Source: *Highway Capacity Manual*, Transportation Research Board, 2000

McTrans was also used for single period operational signal analyses. Most of the traffic characteristics (queuing space, vehicle adjustment factors, etc) needed to perform single period operational signal analysis, were default values from the HCS software. These values should be adjusted as part of a more detailed signal design analysis at each intersection, and should be adjusted to optimize operation. Operational signal analysis results in the determination of

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capacity and LOS for each lane group as well as the LOS for the intersection as a whole. LOS criteria for signalized intersections are shown in Table 2.

Table 2: Level of Service Criteria for Signalized Intersections

Level of Service	Delay Range (seconds/vehicle)
A	< 10
B	10 - 20
C	20 - 35
D	35 - 55
E	55 - 80
F	> 80

Source: *Highway Capacity Manual*, Transportation Research Board, 2000

The City of Eureka General Plan has adopted a LOS standard for traffic conditions within the City. Policy3.A.2 of the General Plan states: *"The City shall endeavor to manage its street and highway system so as to maintain Level of Service C operation on all roadway segments, except for any portion of U.S. 101, where Level of Service D shall be acceptable"*.

Both 4th Street and 5th Street are Caltrans-maintained roadways, requiring that the Caltrans typical LOS standard also be determined. As stated in Section II of the Caltrans *Guide for the Preparation of Traffic Impact Studies*: *Caltrans endeavors to maintain a target LOS at the transition between LOS "C" and LOS "D" on State highway facilities, however, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. If an existing State highway facility is operating at less than the appropriate target LOS, the existing measures of effectiveness (MOE) should be maintained.*

For the purposes of this traffic evaluation, operation at LOS C was determined to be the minimum acceptable level for the study area intersections.

EXISTING CONDITIONS

Description of Study Area

The study area consists of six intersections. The location of the study intersections are shown in Figure 1. Figures 2 and 3 illustrate the lane configurations and turning movements for all six of the study intersections. Intersection # 4 will be used as the main ingress/egress point for patrons of the Health Center.

Intersection #1 is a three-way intersection with signalized control. The major street, 4th Street, is a one-way street with westbound traffic only. The traffic at this intersection is controlled by actuated signals, which optimizes the signal cycles based on the amount of traffic present at any

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given leg of the intersection. 4th Street provides three west-bound travel lanes at this intersection. Northbound West Street has one through lane and a left turn lane, while two lanes are provided for southbound traffic. The posted maximum speed limit on 4th Street is 30 miles per hour (mph) and V Street is 25 mph. Pedestrian crosswalks are present across both directions of both streets. The intersection has concrete sidewalks on both sides of both streets.

Intersection #2 is also a three-way signalized intersection. 5th Street allows for eastbound traffic only, providing three westbound through traffic lanes. The traffic at this intersection is controlled by actuated signals, which optimizes the signal cycles based on the amount of traffic present at any given leg of the intersection. A channelized right-turn lane for northbound V Street/West Avenue traffic turning east at 5th Street allows much of the traffic at this intersection to free flow past the traffic signal. The posted maximum speed limit on 5th street is 45 mph and on V Street is 25 mph. Pedestrian crosswalks are present across both directions of both streets.

Intersection #3 is a four-way intersection with unsignalized stop control on both legs of 6th Street. The width of 6th Street varies from 39 feet to 44 feet, with no bike lane or shoulder on either side of either leg. The width of West Avenue remains fairly constant through the intersection, decreasing from 49 feet to 47 feet to the north of its intersection with 6th Street. There are left turn pockets on West Avenue for both the northbound and southbound traffic. West Street is a designed bike route, yet does not have a dedicated, stripped bike lane. West Street has a paved width that is wide enough to allow for the future stripping of a bike lane and/or shoulder. The posted maximum speed limit on both the major and minor streets is 25 mph. Pedestrian crosswalks are present across both directions of both streets. West Avenue has been improved with concrete sidewalks in both the northbound and southbound directions.

Intersection #4 is a skewed three-way intersection with unsignalized stop control on Tydd Street. On-street parking is currently permitted on both sides of Tydd Street. Tydd Street becomes flared at the intersection, increasing in width from 39 feet to 82 feet within 40 feet from the intersection. Left turn lanes are available for westbound and eastbound traffic on West Avenue. The posted speed limit is 25 mph on both Tydd Street and West Avenue. Tydd Street is not a designated bike route and does not have a dedicated bike lane. A crosswalk is stripped across Tydd Street, and a pedestrian crosswalk and signal are positioned across West Avenue to the west of the intersection. Both Tydd Street and West Avenue are improved with concrete sidewalks on both sides of the roads.

Intersection #5 is also a skewed three-way intersection with unsignalized stop control on the Searles Street. Searles Street does not have a flared intersection, as the street width remains fairly constant at 31 feet. Left turn lanes are available for westbound and eastbound traffic on West Avenue at this intersection. A 25 mph speed limit is posted on both streets. Neither roadway has a designated bike lane or shoulders. A crosswalk is stripped across Searles Street. Both Searles Street and West Avenue are improved with concrete sidewalks on both sides of the roads.

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Intersection #6 is a four-way intersection with signalized traffic control. Left turn lanes are available for both directions of traffic on Myrtle Avenue and West Avenue. The traffic at this intersection is controlled by actuated signals, which optimizes the signal cycles based on the amount of traffic present at any given leg of the intersection. Both streets have a posted speed limit of 25 mph. Pedestrian crosswalks are present across both directions of both streets.

Sight distances at the study intersections were assessed based on the minimum required distances as determined by *American Association of State Highway and Transportation Officials (AASHTO) Geometric Design of Highways and Streets Exhibit 9-55*, which are outlined in Table 3. This table also depicts the existing street widths, speed limits, and shoulder widths for the roadways within the study area intersections.

Table 3: Existing Street Widths, Speed Limits and Minimum Required Sight Distances

Intersection Name	Speed Limit (miles/hour)	Minimum Recommended Corner Sight Distance * (feet)	Actual Sight Distance (feet)	Average Roadway Width major st. /minor st. (feet)	Shoulder Width (feet)
4th St. and V St.	30	330	> 330	43 / 46	N/A
5th St. and V St.	45	495	> 495	48 / 56	N/A
6th St. and West Ave.	25	275	> 275	42 / 48	N/A
Tydd St. and West Ave.	25	275	> 275	40 / 50	N/A
Searles St. and West Ave.	25	275	> 275	31 / 50	N/A
Myrtle Ave. and West Ave.	25	275	> 275	75 / 57	N/A

* Reference: Highway Design Manual, 2008

Parking Facility

Based of City of Eureka Municipal Code section 155.117, Schedule of Off-Street Parking Space Requirements, (B)(4) Medical and dental offices, one space for 200 square feet of floor area requires 130 parking spaces for the project. The project is proposing 91 parking spaces for the project site. Based on the travel patterns at the existing ODCHC on Buhne Street in Eureka, it is reported that 30 percent of the customers/staff use public transport to get to the clinic (reference: Appendix G). It is anticipated that most of the customers at the new facility will use public transport as well to get to the Health Clinic. This will reduce the parking requirement at the project site from 130 spaces to 91 spaces.

Public Transit Services

The Eureka Transit Service (ETS) provides transportation service in the City of Eureka. The Purple Route and Green Route provide services in the vicinity of the project area. City bus stop for both the routes is located on West Avenue south of Tydd Street; both the routes use Tydd Street for turnaround. It is anticipated that minimum 30 percent of the patrons and staff will use

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public transit service to get to the Health Clinic. Below are goal and policy stated in the Eureka General Plan regarding public transit:

Goal 3 B: to provide coordinated transit services within Eureka and surrounding areas an alternative to automobiles.

Policy: 3.B.1: The City will continue to fund and operate the Eureka Transit Service in a manner that responds to the needs of its primary market—senior citizen, the economically disadvantaged, school-aged children, college student, and others determined to be transit-dependent-within the limitations of funding available to the City.

Existing Traffic Volumes and Levels of Service

Existing AM and PM peak hour traffic volumes for the study intersections are shown in Figure 4. Traffic counts and trip distributions are presented in Appendix A of this report. LOS calculation summaries for the existing AM and PM traffic patterns for the study area intersection are shown in Table 4 and Table 5, with copies of the calculations generated by McTrans provided in Appendix B.

Table 4: LOS Summary for Existing AM Traffic Conditions

Study Intersection	Northbound		Southbound		Eastbound		Westbound		Intersection	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
4th St. and V St.	23.3	C	15.5	B	-	-	9.5	A	14.2	B
5th St. and V St.	18.4	B	14.7	B	23	C	-	-	19.7	B
6th St. and West Ave.	8.5	A	8.7	A	28.4	D	28.9	D	-	-
Tydd St. and West Ave.	-	-	14.7	B	9.3	A	-	-	-	-
Searles St. and West Ave.	-	-	14.7	B	9.4	A	-	-	-	-
Myrtle Ave. and West Ave.	42.9	D	22.2	C	17.1	B	23.7	C	28.5	C

Notes: Delay is in average number of seconds per vehicle
LOS = Level of Service

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Table 5: LOS Summary for Existing PM Traffic Conditions

Study Intersection	Northbound		Southbound		Eastbound		Westbound		Intersection	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
4th St. and V St.	25.1	C	18	B	-	-	8.7	A	14.8	B
5th St. and V St.	15.9	B	15.7	B	103.3	F	-	-	71.4	E
6th St. and West Ave.	8.4	A	8.9	A	107.8	F	29.5	D	-	-
Tydd St. and West Ave.	-	-	16.9	C	8.7	A	-	-	-	-
Searles St. and West Ave.	-	-	16.9	C	8.9	A	-	-	-	-
Myrtle Ave. and West Ave.	36.7	D	95.4	F	17.6	B	34.5	C	46.9	D

Notes: Delay is in average number of seconds per vehicle
LOS = Level of Service

In addition to determining the existing LOS, the available gaps between traffic platoons at Intersection #4 were analyzed by direct field observations during the peak AM and PM traffic timeframes. Traffic gaps, which measure the elapsed time between vehicles in reference to a specific point, were observed and recorded for both the eastbound and westbound traffic on West Avenue. The observed gaps for each of the travel directions were then compared to each other to determine where complete gaps in the traffic flow occurred, such that no vehicle, either eastbound or westbound, was interrupting the open space during which a vehicle on Tydd Street would be able to make a turning movement onto West Avenue. Based on traffic count data, the AM peak hour traffic conditions at Intersection #4 occur between 7:30 AM and 8:30 AM while the PM peak hour traffic occurs from 4:00 PM and 5:00 PM.

During the AM peak hour, a total of 136 westbound gaps and 97 eastbound gaps on West Avenue were observed. Of these counted gaps, 14 observed traffic gaps had duration of 42 seconds or longer between vehicle platoons, allowing the opportunity for more than one vehicle on Tydd Street to carry out a turning movement onto West Avenue. Since the PM peak hour traffic flows are considerably higher than the AM traffic flows, the presence of gaps between traffic platoons was considered to be more critical for PM traffic. Both gap duration and correlation of the eastbound and westbound gaps was considered. A total of 142 complete traffic gaps (a corresponding gap in both the eastbound and westbound traffic) were observed during the PM peak hour. The number of available AM and PM traffic gaps observed would be adequate to serve the patrons of the ODCHC as 94 AM peak hour trips and 94 PM peak hour trips to and from the site are expected to be generated with the development of the proposed project. The gap study count data is presented in Appendix C of this report, with the AM gap study being presented by gap size and the PM data displayed visually to show both gap duration and timing.

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Existing Pedestrian/Bicycle Conditions

Sidewalks are continuous throughout the entire project study area, and often occur on both sides of the roadways. In addition to the sidewalks, crosswalks are available at every study intersection. Intersection #4 has been enhanced by a pedestrian crosswalk signal, which illuminates overhead and pavement-mounted flashing lights when a pedestrian uses the push button located on the signal pole before crossing West Avenue. West Avenue and Myrtle in the vicinity of the project area is designated a Class III bike route (Eureka General Plan). Below are the goals stated in Eureka General Plan regarding bicycle and pedestrian transportation:

Goal 3.C: To encourage the use of the bicycle as an alternate, energy efficient mode of transportation within the City and to develop a system of bikeway and bicycle parking facilities which will safely and effectively serve those wishing to utilize bicycle for commute or recreational trips

Goal 3.D: To encourage and facilitate walking throughout the City.

Pedestrian and bicycle traffic appeared to be fairly heavy during the field observations/traffic counts in November and December 2010. The combined pedestrian and bicycle flow rates range from five to 20 persons per hour for each intersection, accounting for approximately five percent of the total project area traffic. Intersection #4 had the highest number of observed pedestrians, likely due to the high density multi-family and adult assisted living facilities present in this area. Based on the high number of observed bicyclists along West Avenue, the roadway width appears to be adequate enough to safely handle bicyclists.

Accidents/Collision Log

Accident/collision information within the vicinity of the study area was obtained from the City of Eureka Police Department. Collision data along V Street/West Street between the intersections of 4th Street and Myrtle Avenue from January 1, 2008 through December 1, 2010, has been compiled. The accident logs show that there were 19 traffic collisions near the project area within this time frame. Four of the incidents were caused by unsafe speed, two are contributed to an unsafe lane change, improper turning/hazardous movements caused four of the accidents, while the remaining collisions were caused by a variety of factors including unsafe starting or backing, improper driving, pedestrian violation, and traffic signal/signage violations. None of the incidents were attributed to poor sight distance or other factors beyond the driver's control. Of the 19 collisions within the specified timeframe in the project vicinity, nine resulted in injuries. Three accidents, all involving injuries, took place at Intersection #4. There were no fatalities involved in any of the collisions. Detailed Accident Log information is presented in Appendix D of this report.

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ANTICIPATED EXISTING-PLUS-PROJECT CONDITIONS

Project Trip Generation and Distribution

Vehicle trips generated by the proposed project were calculated using *Trip Generation*, 7th Edition, issued by the Institute of Transportation Engineers (ITE), 2003 (Trip Generaton). A vehicle trip is defined as a single, one-directional vehicle movement where either the origin or the destination is inside of the project area. A standard reference used by jurisdictions throughout the state, the *Trip Generation* manual is based on actual trip generation studies performed at numerous locations in areas of varied population. It was assumed that the ODCHC project was best represented by the Clinic ITE land use category (ITE LU # 630).

Table 6: Trip Generation Summary for the Open Door Community Health Center

Land Use	Floor Area (sq. ft.)	Project Peak Hour Trips	Weekday			Weekday		
			AM Peak Hour			PM Peak Hour		
			Trips	In	Out	Trips	In	Out
Clinic	26,000	135	94*	47	47	94*	47	47

* Assuming 30% of the patrons/staff will use public transport

The trip distribution characteristics for the study intersection were calculated based on existing travel patterns, as shown in Appendix A. It is assumed that the majority of the traffic generated from the proposed use of the projects will follow the existing traffic patterns in place. Based on the travel patterns at the existing ODCHC on Buhne Street in Eureka, it is reported that 30 percent of the patrons/staff use public transport to get to the clinic (reference: Appendix G). It is anticipated that most of the customers at the new facility as well, will use public transport to get to the clinic. Therefore, the total number of trips expected to be produced by the proposed project is 30 percent less than that presented in the *Trip Generation* manual. Traffic volumes and distributions for the project AM and PM peak hour are shown in Figure 5.

Existing-Plus-Project Traffic Conditions

The LOS ratings for the study intersections were calculated using existing-plus-proposed project traffic volumes on the existing lane configurations. The results are presented in Table 7 and Table 8. The calculations are presented in Appendix B of this report. Traffic volumes and distributions under the existing-plus-proposed project scenario are shown in Figure 6.

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Table 7: LOS Summary for Existing-Plus-Project Conditions with Existing Lane Configurations for the AM Period

Study Intersection	Northbound		Southbound		Eastbound		Westbound		Intersection	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
4th St. and V St.	25.7	C	17.2	B	-	-	12.9	B	14.3	B
5th St. and V St.	18.6	B	14.8	B	23.1	C	-	-	19.8	B
6th St. and West Ave.	8.3	A	8.8	A	26.3	D	25.8	D	-	-
Tydd St. and West Ave.	-	-	17	C	9.7	A	-	-	-	-
Searles St. and West Ave.	-	-	15.2	C	9.6	A	-	-	-	-
Myrtle Ave. and West Ave.	47	D	21.6	C	17.5	B	24	C	29.6	C

Notes: Delay is in average number of seconds per vehicle
LOS = Level of Service

Table 8: LOS Summary for Existing-Plus-Project Conditions with Existing Lane Configurations for the PM Period

Study Intersection	Northbound		Southbound		Eastbound		Westbound		Intersection	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
4th St. and V St.	27.9	C	20.4	C	-	-	11.5	B	14.9	B
5th St. and V St.	16	B	15.8	B	103.8	F	-	-	71.2	E
6th St. and West Ave.	8.4	A	8.9	A	118.3	F	31.4	D	-	-
Tydd St. and West Ave.	-	-	22.6	C	9.1	A	-	-	-	-
Searles St. and West Ave.	-	-	17.6	C	9	A	-	-	-	-
Myrtle Ave. and West Ave.	39.7	D	97.4	F	17.7	B	34.4	C	48.3	D

Notes: Delay is in average number of seconds per vehicle
LOS = Level of Service

Results show that, for the AM period, LOS for all the intersections remains unchanged for Existing-plus-Project conditions except LOS for westbound movement for Intersection # 1 drops from A to B. For the PM period LOS for all the intersections remains unchanged for Existing-Plus-Project conditions except LOS for southbound movement for Intersection # 1 drops from B to C. The LOS for all movements for both AM and PM period are well above the acceptable lower limit of C for the study Intersection #4.

However, to reduce congestion at Intersection #4 for Existing-Plus-Project condition, a re-configuration of the lanes at the intersection is proposed (Appendix E). Table 9 and Table 10 depict the AM and PM peak hour LOS and delay at Intersection #4. Despite the 0.5 second

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increase in overall approach delay expected for the intersection, the new configuration decreases the delay for those vehicles making a right turn movement by about 3.6 seconds, improving this lane's LOS B. Furthermore, the capacity of the intersection will be increased by allowing right turn movements that would not be hindered by vehicles making a left turn onto West Avenue. The new road configuration at the study intersection is presented in Appendix E.

Table 9: LOS Summary for Existing-Plus-Project Conditions with New Lane Configuration at Tydd Street for the AM Period

	Southbound		Eastbound	
Intersection Delay and LOS	**Delay**	**LOS**	**Delay**	**LOS**
	17.0	C	-	-

Notes: Delay is in average number of seconds per vehicle
LOS = Level of Service

Table 10: LOS Summary for Existing-Plus-Project Conditions with New Lane Configuration at Tydd Street for the PM Period

	Southbound		Eastbound	
Intersection Delay and LOS	**Delay**	**LOS**	**Delay**	**LOS**
	22.3	C	-	-

Notes: Delay is in average number of seconds per vehicle
LOS = Level of Service

Existing-Plus-Project Pedestrian/Bicycle Conditions

The proposed project will result in an unquantified increase in pedestrian and bicycle traffic on Intersection #4. The proposed project will include pedestrian sidewalks from the project to Intersection #4. Within the vicinity of the project area sidewalks, crosswalks, and bike routes are already in place and can be utilized by any project-related pedestrians or bicyclists.

ANTICIPATED FUTURE-PLUS-PROJECT CONDITIONS

Future Trip Generation and Distribution

As requested by Shelia Parrott, City of Eureka Project Manager, in a November 18, 2010 memorandum regarding the Scope of Work for this Traffic Impact Study, the anticipated future traffic needs for the area were to be assessed based on a 1.4 percent annual increase in traffic for the next 20 years. The trip distribution characteristics for the study intersections were determined based on existing travel patterns, as shown in Appendix A. It is assumed that the majority of the traffic generated during future growth will follow the existing traffic patterns in place.

Future Traffic Conditions

The LOS ratings for the study intersections were calculated using future traffic volumes on the existing lane configurations for the study intersections. The results are presented in Table 11 and Table 12 below. The calculations are presented in Appendix B of this report. Traffic volumes and distribution for the future conditions are shown in Figure 7.

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Table 11: LOS Summary for Future Conditions with Existing Lane Configurations for the AM Period

Study Intersection	Northbound		Southbound		Eastbound		Westbound		Intersection	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
4th St. and V St.	26.5	C	15.9	B			23.4	C	23.2	C
5th St. and V St.	21.5	C	15.7	B	27.2	C	16.3	B	22.8	C
6th St. and West Ave.	8.6	A	9.7	A	127.8	F	92.9	F	-	-
Tydd St. and West Ave.	-	-	19.6	C	10.7	B	-	-	-	-
Searles St. and West Ave.	-	-	20	C	11	B	-	-	-	-
Myrtle Ave. and West Ave.	149.4	F	20.9	C	32.3	C	43.5	D	69.2	E

Notes: Delay is in average number of seconds per vehicle
LOS = Level of Service

Table 12: LOS Summary for Future Conditions with Existing Lane Configurations for the PM Period

Study Intersection	Northbound		Southbound		Eastbound		Westbound		Intersection	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
4th St. and V St.	39.8	D	22.7	C	-	-	16.3	B	20.3	C
5th St. and V St.	17.1	B	17.7	B	266.5	F	-	-	174.4	F
6th St. and West Ave.	9.1	A	9.9	A	127.2	F	256.5	F	-	-
Tydd St. and West Ave.	-	-	24.7	C	9.6	A	-	-	-	-
Searles St. and West Ave.	-	-	25.2	D	9.8	A	-	-	-	-
Myrtle Ave. and West Ave.	224.8	F	51.2	D	36.6	D	126.6	F	106.6	F

Notes: Delay is in average number of seconds per vehicle
LOS = Level of Service

Results show that, for the AM period, LOS for all the intersections degrades for future condition compared to existing LOS. Only Intersection #1, #2, #4 and #5 operate above the acceptable lower limit of C. For the PM period LOS for all the intersections degrades as well, only Intersection #1, #4 and #5 operate above the acceptable lower limit of C.

Future-Plus-Project Traffic Conditions

The LOS for the study intersections were calculated using Future-Plus-Project traffic volumes on the existing lane configurations. The results are presented in Table 13 and Table 14 below. The calculations are presented in Appendix B of this report. Traffic volumes and distribution for the anticipated Future-Plus-Project conditions are shown in Figure 8.

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Table 13: LOS Summary for Future-Plus-Project Conditions with Existing Lane Configurations for the AM Period

Study Intersection	Northbound		Southbound		Eastbound		Westbound		Intersection	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
4th St. and V St.	26.6	C	16.1	B	-	-	23.6	C	23.4	C
5th St. and V St.	22	C	15.8	B	27.3	C	-	-	22.8	C
6th St. and West Ave.	8.7	A	9.8	A	180	F	107.6	F	-	-
Tydd St. and West Ave.	-	-	24.8	C	11.2	B	-	-	-	-
Searles St. and West Ave.	-	-	21	C	11.2	B	-	-	-	-
Myrtle Ave. and West Ave.	158.2	F	21.1	C	34.4	C	46	D	72.8	E

Notes: Delay is in average number of seconds per vehicle
LOS = Level of Service

Table 14: LOS Summary for Future-Plus-Project Conditions with Existing Lane Configurations for the PM Period

Study Intersection	Northbound		Southbound		Eastbound		Westbound		Intersection	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
4th St. and V St.	42.8	D	23.1	C	-	-	16.4	B	20.8	C
5th St. and V St.	17.2	B	17.8	B	267.6	F	-	-	174.1	F
6th St. and West Ave.	9.2	A	10	A	146.1	F	328.1	F	-	-
Tydd St. and West Ave.	-	-	55.2	F	10.1	B	-	-	-	-
Searles St. and West Ave.	-	-	27.6	D	10.1	B	-	-	-	-
Myrtle Ave. and West Ave.	226.3	F	50.2	D	40.6	D	126	F	107.1	F

Notes: Delay is in average number of seconds per vehicle
LOS = Level of Service

Results show that, for the AM period, LOS for all the intersections remains unchanged for Future-plus-Project conditions compared to future conditions. For the PM period LOS for all the intersections remains unchanged for Future-Plus Project Conditions compared to future conditions except LOS for southbound movement for Intersection #4 drops from C to D, and eastbound movement for Intersection #4 drops from A to B.

To reduce congestion at Intersection #4 for Future-Plus-Project Conditions, a re-configuration of the lanes at the intersection is proposed (Appendix E).

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Warrant Analysis

In order to determine if the installation of a traffic signal at Intersection #4 would improve the intersection LOS, the *California Manual on Uniform Traffic Control Devices, 2010* (MUTCD) was consulted. The MUTCD presents eight warrants which investigate the need for a traffic control signal based on vehicular volume, pedestrian volume, school crossings, crash experience, and other various transportation-related parameters. The satisfaction of a traffic signal warrant or warrants shall not, in itself, require the installation of a traffic control signal, as the warrants are merely intended to provide guidance on the issue. Intersection #4 does not meet the signal warrant for peak hour vehicular volume, pedestrian volume, and School crossings. Other warrants should be reviewed for further analysis. The Signal Warrant Analyses Summary is presented in Appendix F of this report.

Future-Plus-Project Pedestrian/Bicycle Conditions

The proposed development, coupled with the future anticipated area growth, will likely not result in a large increase in pedestrian and bicycle traffic. Project area sidewalks, crosswalks, and bike routes are already in place and can be utilized by any project-related pedestrians or bicyclists.

CONCLUSIONS AND RECOMMENDATIONS

Tydd Street is currently the only ingress/egress point to the proposed ODCHC site. Based on the existing traffic flow patterns in place at the six study intersections, it is anticipated that most of the traffic entering the Health Center would be traveling on westbound West Avenue and would make a right turn from West Avenue onto Tydd Street. Traffic leaving the Health Clinic would most likely turn left onto West Avenue from Tydd Street and proceed to Intersection #6, Myrtle Avenue and West Avenue.

The LOS analysis for the project indicates that most of the traffic movements at study Intersection #4 will remain at the same LOS with the Existing-Plus-Project Traffic Volumes. The increase in delay due to the project is mitigated by new lane configuration on Tydd Street at Intersection #4.

The gap study at Intersection #4 depicts that there are 142 gaps/hour available during the PM peak hour which are more than the project trips (94).

Comparing Tables 11 and 12, and Tables 13 and 14, we conclude that LOS and delay will significantly degrade with Future and Future-Plus-Project traffic at all the study intersections. We further conclude that by simply reconfiguring the lanes as depicted in Appendix E, it is not possible to maintain the existing LOS for future conditions. Below are the few recommendations to reduce the delays at the study intersections:

- Optimize the signal timing at all signal intersections.

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- Seek possible secondary access for the project from Humboldt Plaza north of the project site.

The proposed project will include pedestrian and bicycle facilities within the project area and along Tydd Street and on West Avenue. These improvements will significantly facilitate the movement of pedestrians and cyclists in the project area and to the project area. In addition, we recommend the following improvements be completed as part of the proposed project:

- Construct a bus shelter at the end of Tydd Street and provide adequate turnaround space for ETS bus;
- Construct new sidewalks on the north side of Tydd Street connecting to project site;
- Complete the sidewalk gaps with ADA compliance on West Avenue between Myrtle Avenue and highway 101;
- Install speed reducing (traffic calming) measures on West Avenue between 6th Street and Tydd Street; and
- Stripe new travel lanes on Tydd Street and improve Intersection #4 as depicted on Appendix E.

REFERENCES

- State of California, Department of Transportation, December, 2002 Guide for The Preparation of Traffic Impact Studies
- *Trip Generation*, 7th Edition, Institute of Transportation Engineers (ITE), 2003
- McTrans Highway Capacity Software (HCS +), University of Florida, Department of Civil and Coastal Engineering http://mctrans.ce.ufl.edu/hcs/hcsplus/
- Highway Capacity Manual, 2000
- American Association of State Highway and Transportation Officials 2001, A Policy on Geometric Design of Highways and Streets
- California Manual on Uniform Traffic Control Devices for Streets and Highways, January 21, 2010

P:\7100\7119 ODCHC - Community Health Center\7119.06 Env Compl. - Transportation\10 Civil\Traffic\7119.06 Traffic Study.doc

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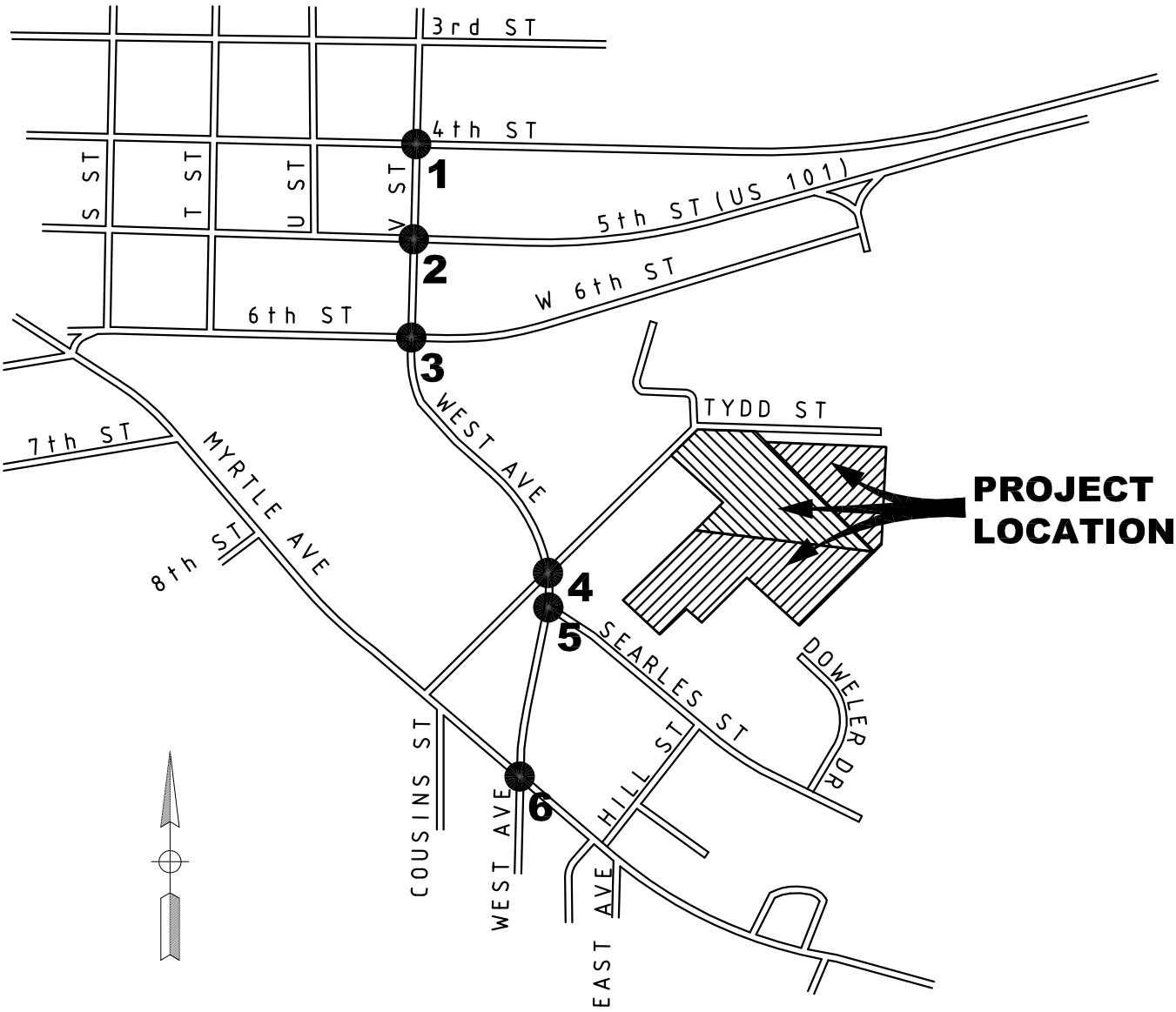
LACO ASSOCIATES CONSULTING ENGINEERS 21 W 4TH ST. EUREKA, CA 95501 (707)443-5054	PROJECT	OPEN DOOR COMMUNITY HEALTH CENTER	BY	JDB	FIGURE
	CLIENT	OPEN DOOR COMMUNITY HEALTH CENTER	DATE	12/23/10	1
	LOCATION	TYDD STREET, EUREKA, CA	CHECK	RLD	JOB NO.
		PROJECT STUDY AREA	SCALE	AS SHOWN	7119.06



PROJECT STUDY AREA

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SCALE: 1"=500'

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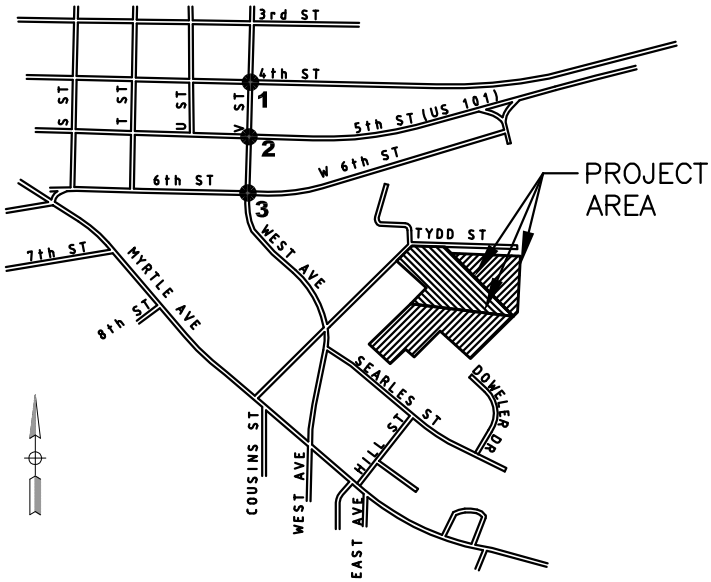
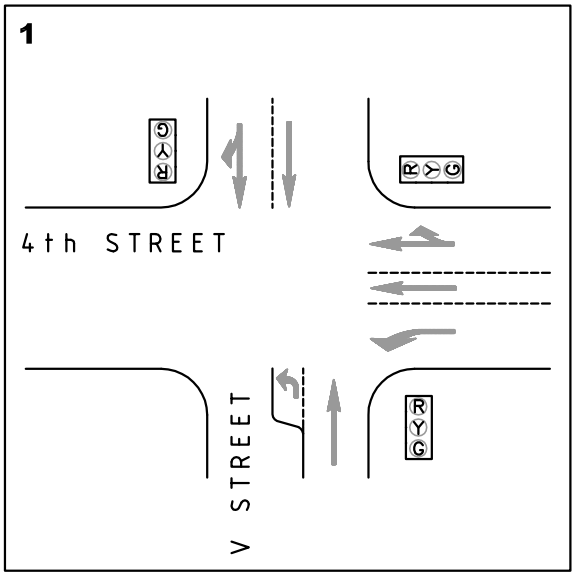
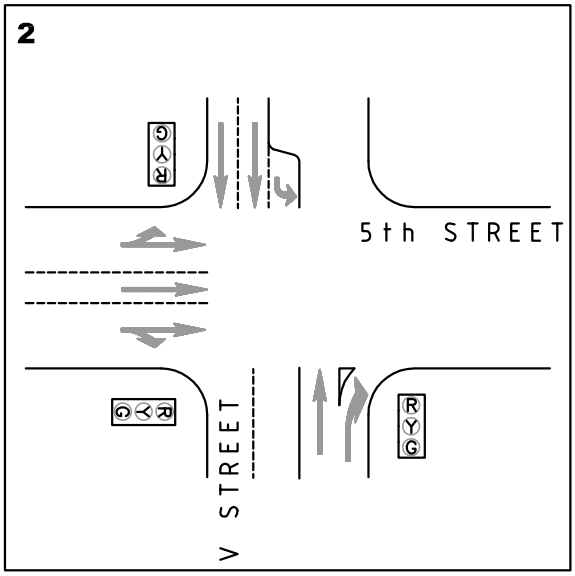
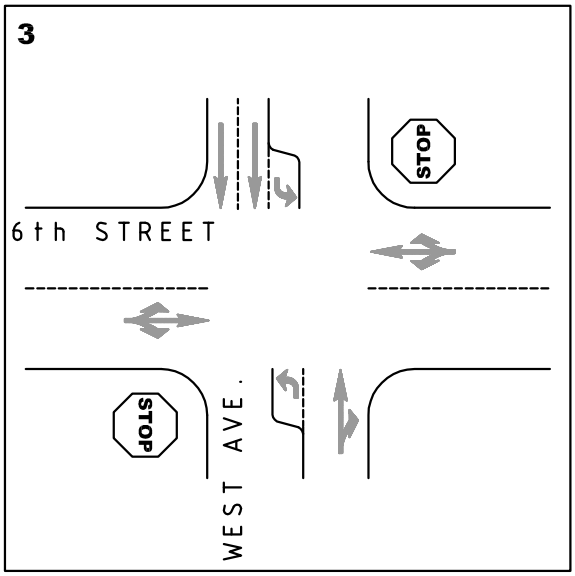
LACO ASSOCIATES CONSULTING ENGINEERS 21 W 4TH ST. EUREKA, CA 95501 (707)443-5054	PROJECT	OPEN DOOR COMMUNITY HEALTH CENTER	BY	JDB	FIGURE
	CLIENT	OPEN DOOR COMMUNITY HEALTH CENTER	DATE	12/23/10	2
	LOCATION	TYDD STREET, EUREKA, CA	CHECK	RLD	JOB NO.
	LANE CONFIGURATIONS FOR INTERSECTIONS 1, 2 AND 3		SCALE	AS SHOWN	7119.06









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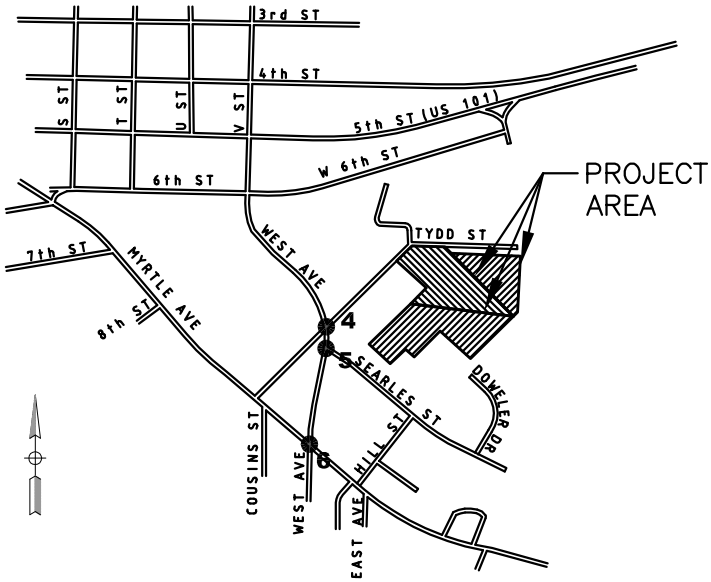
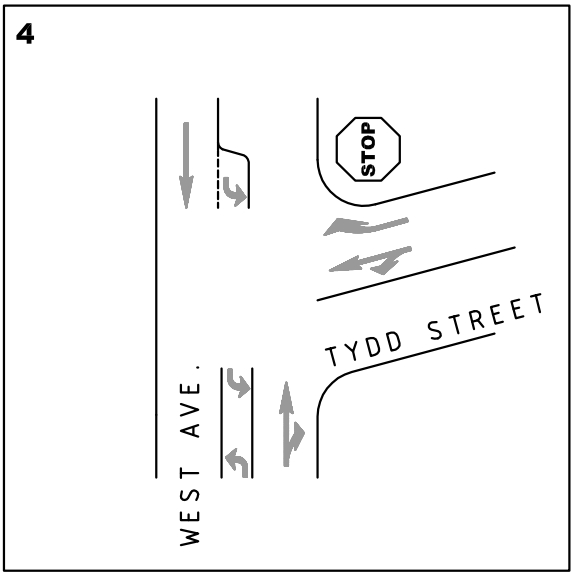
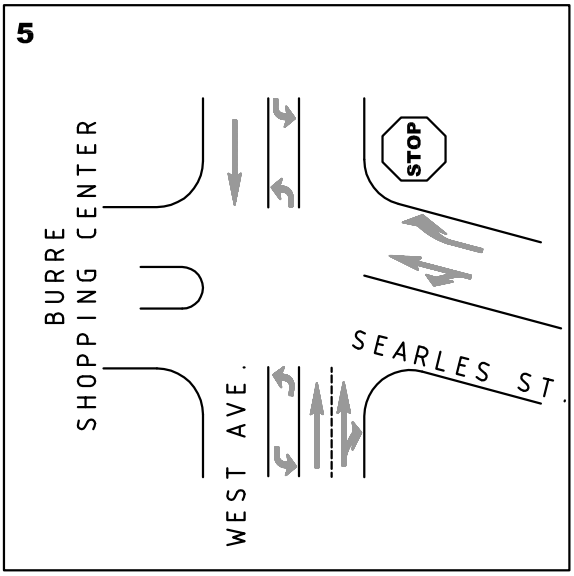
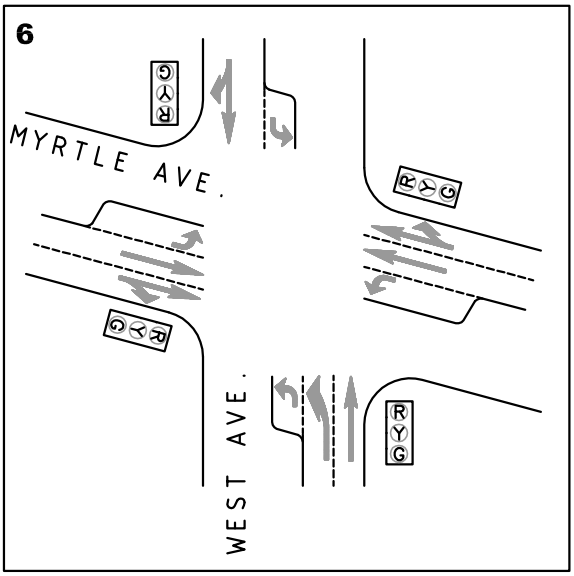
LACO ASSOCIATES CONSULTING ENGINEERS 21 W 4TH ST. EUREKA, CA 95501 (707)443-5054	PROJECT	OPEN DOOR COMMUNITY HEALTH CENTER	BY	JDB	FIGURE
	CLIENT	OPEN DOOR COMMUNITY HEALTH CENTER	DATE	12/23/10	3
	LOCATION	TYDD STREET, EUREKA, CA	CHECK	RLD	JOB NO.
	LANE CONFIGURATIONS FOR INTERSECTIONS 4, 5 AND 6		SCALE	AS SHOWN	7119.06









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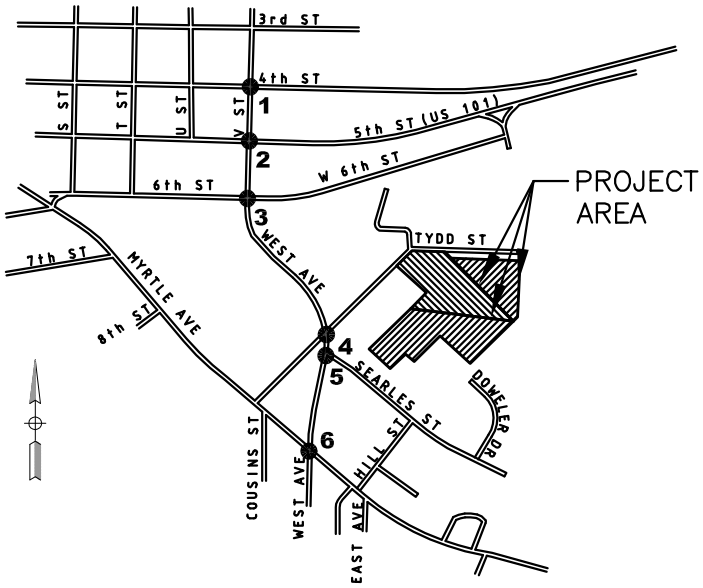
T:\Cadfiles\7100\7119\DWG\ 7119 TRAFFIC FIGURE 3.dwg

LACO ASSOCIATES CONSULTING ENGINEERS 21 W 4TH ST. EUREKA, CA 95501 (707)443-5054	PROJECT	OPEN DOOR COMMUNITY HEALTH CENTER	BY	JDB	FIGURE
	CLIENT	OPEN DOOR COMMUNITY HEALTH CENTER	DATE	12/23/10	4
	LOCATION	TYDD STREET, EUREKA, CA	CHECK	RLD	JOB NO.
		EXISTING PEAK TRAFFIC VOLUMES	SCALE	AS SHOWN	7119.06



LEGEND

- ● STUDY INTERSECTION
- XX AM PEAK HOUR VOLUME
- (XX) PM PEAK HOUR VOLUME

EXISTING TRAFFIC VOLUME

1

		15 (19) ↑
58 (125) ↲	60 (205) ↓	1270 (1065) ←
		454 (420) ↳
		56 (93) ↰
		109 (178) ↑

EXISTING TRAFFIC VOLUME

2

474 (590) ↓	33 (161) ↳	
49 (147) ↱		
855 (1554) →		98 (163) ↑
32 (63) ↴		377 (226) ↱

EXISTING TRAFFIC VOLUME

3

		35 (31) ↑
27 (11) ↲	483 (581) ↓	31 (10) ↳
		9 (6) ←
		26 (48) ↳
	11 (39) ↱	
	6 (12) →	
	14 (20) ↴	
		38 (30) ↰
		475 (540) ↑
		40 (20) ↱

EXISTING TRAFFIC VOLUME

4

		7 (10) ↑
463 (668) ↓	8 (11) ↳	25 (27) ↳
		624 (504) ↑
		18 (16) ↱

EXISTING TRAFFIC VOLUME

5

512 (683) ↓	10 (19) ↳	14 (43) ↑
		17 (24) ↳
		636 (528) ↑
		14 (15) ↱

EXISTING TRAFFIC VOLUME

6

		364 (345) ↑
32 (42) ↲	166 (412) ↓	287 (405) ↳
		545 (540) ←
		173 (230) ↳
	27 (76) ↱	
	184 (428) →	
	13 (70) ↴	
		128 (126) ↰
		392 (333) ↑
		162 (150) ↱

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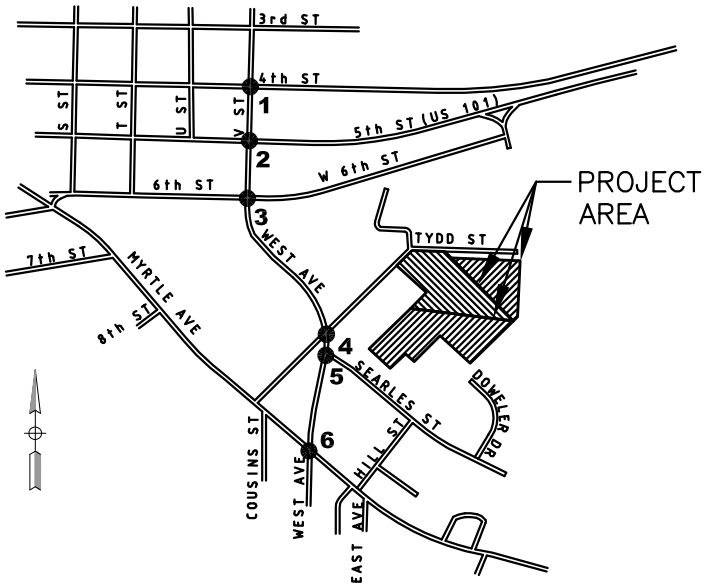
LACO ASSOCIATES CONSULTING ENGINEERS 21 W 4TH ST. EUREKA, CA 95501 (707)443-5054	PROJECT	OPEN DOOR COMMUNITY HEALTH CENTER	BY	JDB	FIGURE
	CLIENT	OPEN DOOR COMMUNITY HEALTH CENTER	DATE	12/23/10	5
	LOCATION	TYDD STREET, EUREKA, CA	CHECK	RLD	JOB NO.
		PROJECT PEAK TRAFFIC VOLUMES	SCALE	AS SHOWN	7119.06



LEGEND

- ● STUDY INTERSECTION
- XX AM PEAK HOUR VOLUME
- (XX) PM PEAK HOUR VOLUME

PROJECT TRAFFIC VOLUME

1

		0 (0)
0 (0)	2 (5)	0 (0)
		16 (10)
		1 (2)
		2 (3)

PROJECT TRAFFIC VOLUME

2

18 (15)	0 (0)	
0 (0)		3 (5)
0 (0)		12 (6)
1 (2)		

PROJECT TRAFFIC VOLUME

3

		0 (0)
0 (10)	19 (17)	0 (0)
		0 (0)
		1 (4)
0 (0)		1 (1)
0 (0)		9 (11)
1 (1)		1 (1)

PROJECT TRAFFIC VOLUME

4

		36 (34)
0 (0)	21 (19)	11 (13)
		0 (0)
		26 (28)

PROJECT TRAFFIC VOLUME

5

35 (33)	1 (1)	1 (1)
		0 (0)
		25 (27)
		0 (0)

PROJECT TRAFFIC VOLUME

6

		12 (12)
2 (1)	29 (16)	4 (16)
		0 (0)
		0 (0)
1 (3)		0 (0)
0 (0)		12 (12)
0 (0)		0 (0)

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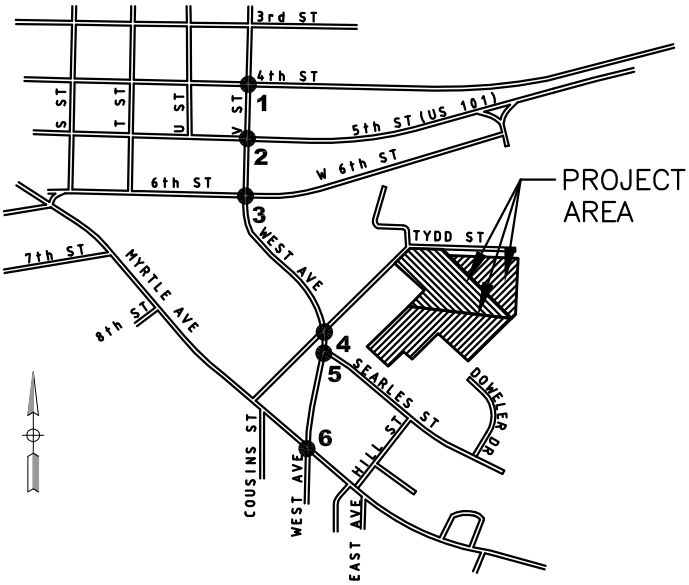
LACO ASSOCIATES CONSULTING ENGINEERS 21 W 4TH ST. EUREKA, CA 95501 (707)443-5054	PROJECT	OPEN DOOR COMMUNITY HEALTH CENTER	BY	JDB	FIGURE
	CLIENT	OPEN DOOR COMMUNITY HEALTH CENTER	DATE	12/23/10	6
	LOCATION	TYDD STREET, EUREKA, CA	CHECK	RLD	JOB NO.
		EXISTING PLUS PROJECT PEAK TRAFFIC VOLUMES	SCALE	AS SHOWN	7119.06



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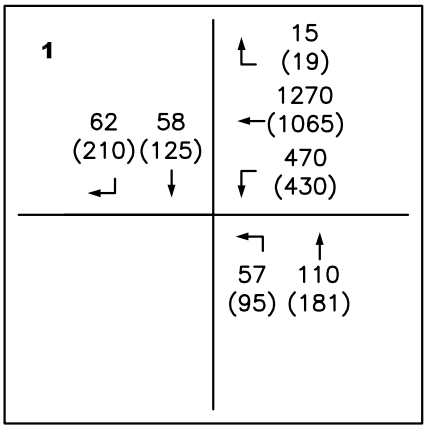
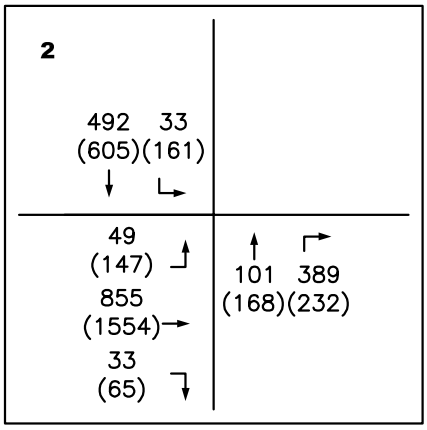
- ● STUDY INTERSECTION
- XX AM PEAK HOUR VOLUME
- (XX) PM PEAK HOUR VOLUME

EXISTING PLUS PROJECT TRAFFIC VOLUME



EXISTING PLUS PROJECT TRAFFIC VOLUME



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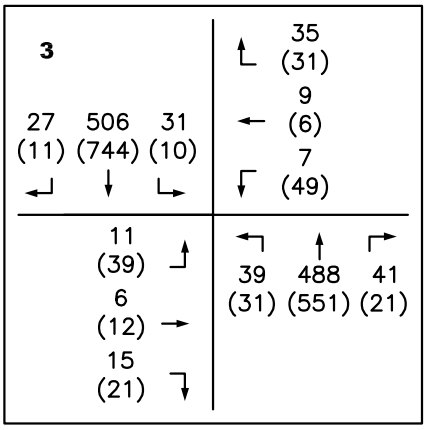

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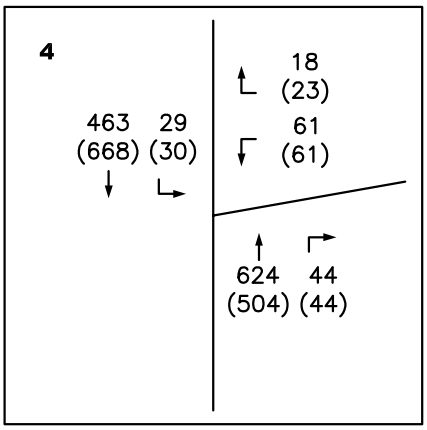

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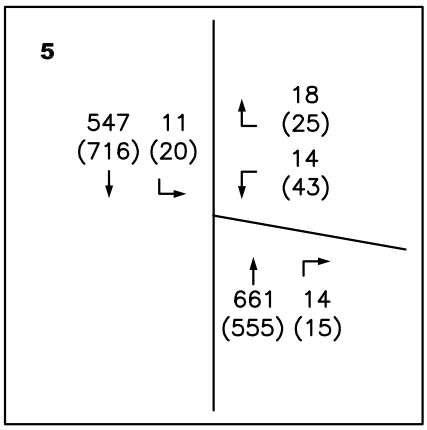

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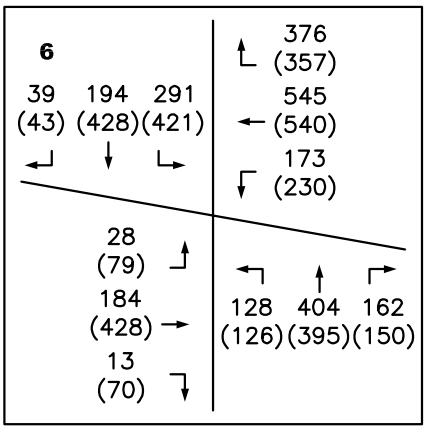

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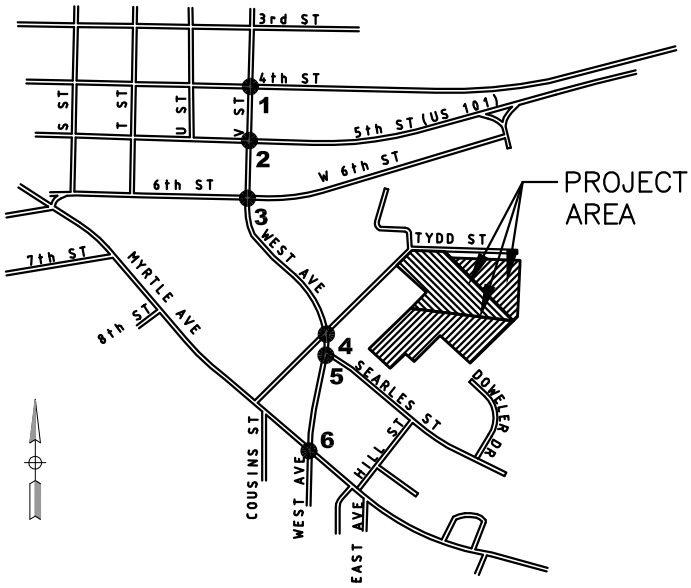
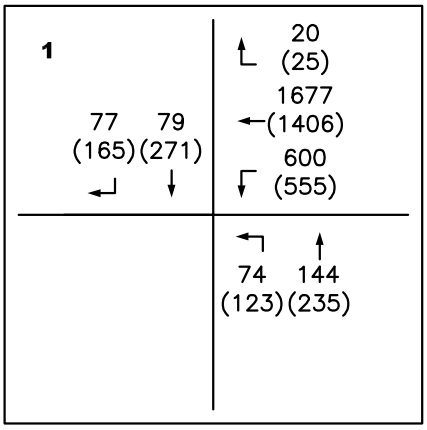
LACO ASSOCIATES CONSULTING ENGINEERS 21 W 4TH ST. EUREKA, CA 95501 (707)443-5054	PROJECT	OPEN DOOR COMMUNITY HEALTH CENTER	BY	JDB	FIGURE 7
	CLIENT	OPEN DOOR COMMUNITY HEALTH CENTER	DATE	12/23/10	
	LOCATION	TYDD STREET, EUREKA, CA	CHECK	RLD	JOB NO. 7119.06
		FUTURE PEAK TRAFFIC VOLUMES	SCALE	AS SHOWN	



LEGEND

- ● STUDY INTERSECTION
- XX AM PEAK HOUR VOLUME
- (XX) PM PEAK HOUR VOLUME

FUTURE TRAFFIC VOLUME



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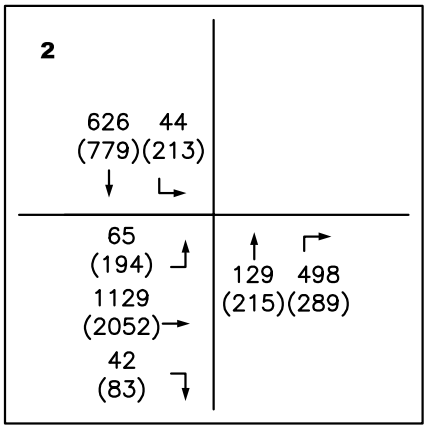

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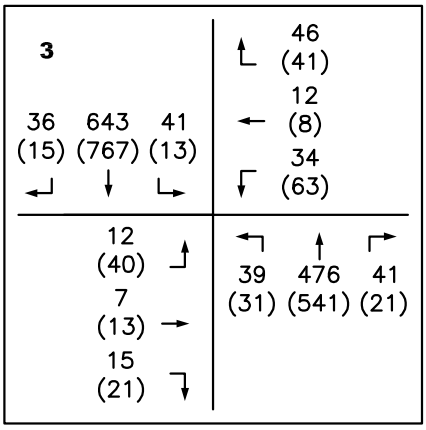

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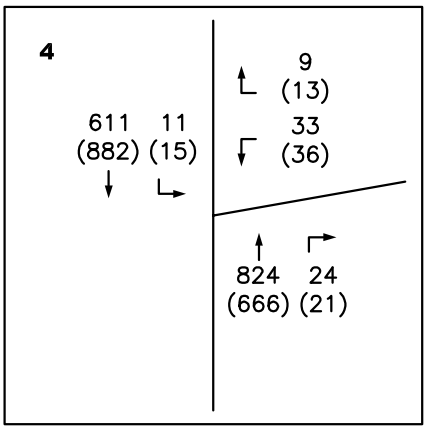

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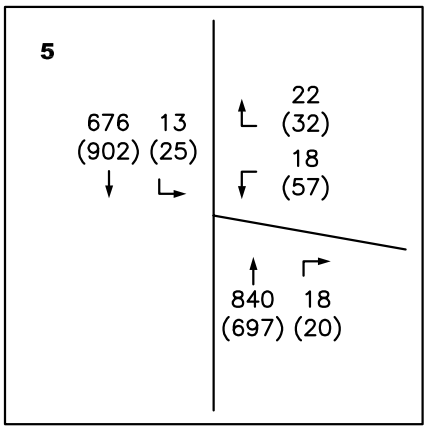

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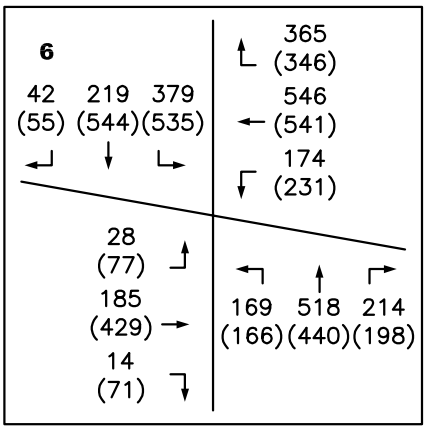
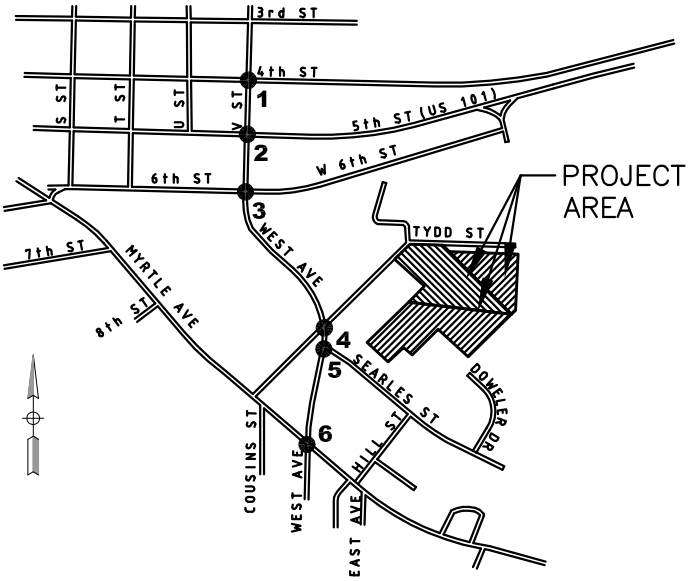


Dec 23,2010-9:10am
T:\Cadfiles\7100\7119\DWG\ 7119 TRAFFIC FIGURE 6.dwg

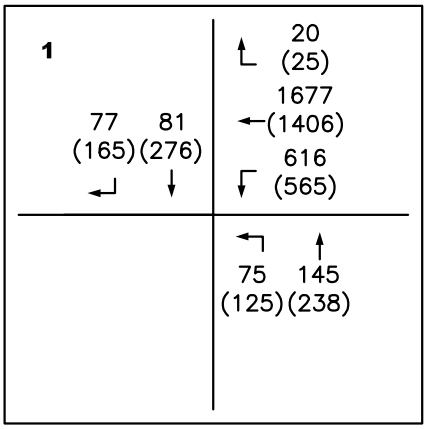
LACO ASSOCIATES CONSULTING ENGINEERS 21 W 4TH ST. EUREKA, CA 95501 (707)443-5054	PROJECT	OPEN DOOR COMMUNITY HEALTH CENTER	BY	JDB	FIGURE
	CLIENT	OPEN DOOR COMMUNITY HEALTH CENTER	DATE	12/23/10	8
	LOCATION	TYDD STREET, EUREKA, CA	CHECK	RLD	JOB NO.
		FUTURE PLUS PROJECT PEAK TRAFFIC VOLUMES	SCALE	AS SHOWN	7119.06



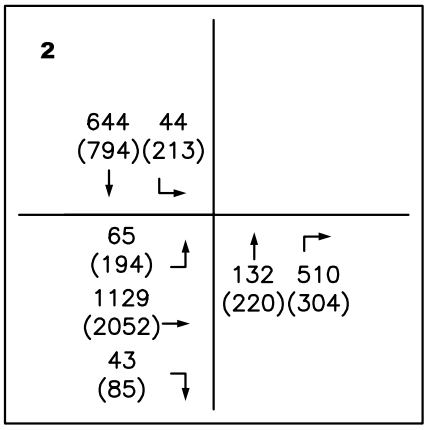
LEGEND

- ● STUDY INTERSECTION
- XX AM PEAK HOUR VOLUME
- (XX) PM PEAK HOUR VOLUME

FUTURE PLUS PROJECT TRAFFIC VOLUME



FUTURE PLUS PROJECT TRAFFIC VOLUME



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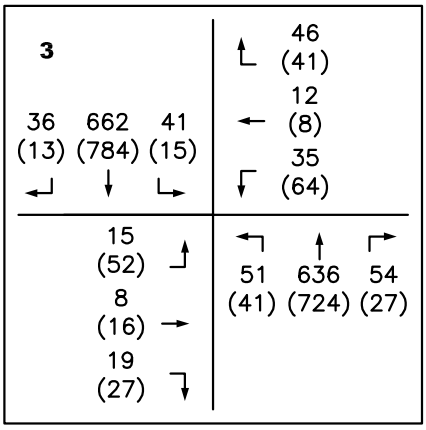

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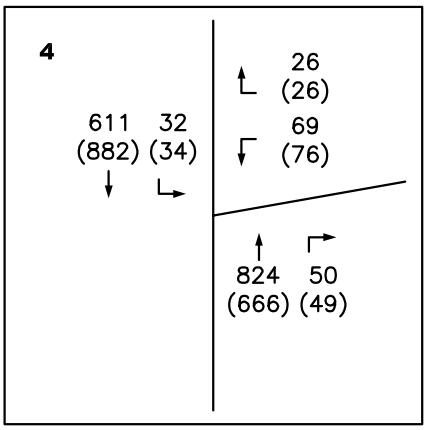

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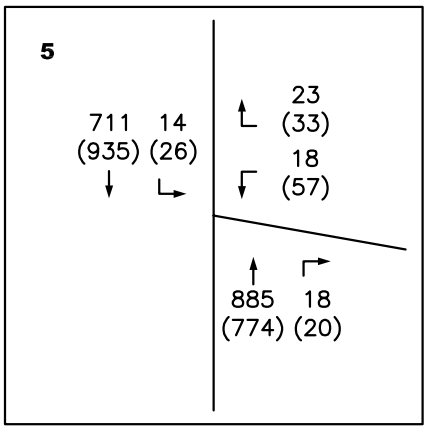
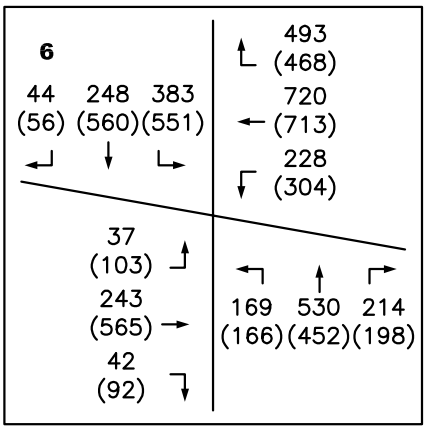


FUTURE PLUS PROJECT TRAFFIC VOLUME



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T:\Cadfiles\7100\7119\DWG\ 7119 TRAFFIC FIGURE 8.dwg

Appendix A: Traffic Counts, Project Trips and Future Traffic Volumes

TRAFFIC COUNTS, PROJECT TRIPS AND FUTURE TRAFFIC VOLUMES

Intersection: 4th and V

Morning Period	V St South Bound				Forth St West Bound				V St North Bound				Forth St East Bound			
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
Existing Peak Hour Traffic	-	60	58	3	454	1270	15	0	56	109	-	3	-	-	-	0
% of Approach Total	-	50.8%	49.2%	N/A	26.1%	73.0%	0.9%	N/A	33.9%	66.1%	-	N/A	-	-	-	N/A
Project Peak Hour Trips	-	2	0	N/A	16	0	0	N/A	1	1	-	N/A	-	-	-	N/A
Future Peak Hour Traffic	-	79	77	N/A	600	1677	20	N/A	74	144	-	N/A	-	-	-	N/A
Existing plus Project Traffic	-	62	58	N/A	470	1270	15	N/A	57	110	-	N/A	-	-	-	N/A
Future plus Project Traffic	-	81	77	N/A	616	1677	20	N/A	75	145	-	N/A	-	-	-	N/A

Evening Period	V St South Bound				Forth St West Bound				V St North Bound				Forth St East Bound			
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
Existing Peak Hour Traffic	-	205	125	5	420	1065	19	0	93	178	-	6	-	-	-	0
% of Approach Total	-	62.1%	37.9%	N/A	27.9%	70.8%	1.3%	N/A	34.3%	65.7%	-	N/A	-	-	-	N/A
Project Peak Hour Trips	-	5	0	N/A	10	0	0	N/A	2	3	-	N/A	-	-	-	N/A
Future Peak Hour Traffic	-	271	165	N/A	555	1406	25	N/A	123	235	-	N/A	-	-	-	N/A
Existing plus Project Traffic	-	210	125	N/A	430	1065	19	N/A	95	181	-	N/A	-	-	-	N/A
Future plus Project Traffic	-	276	165	N/A	565	1406	25	N/A	125	238	-	N/A	-	-	-	N/A

TRAFFIC COUNTS, PROJECT TRIPS AND FUTURE TRAFFIC VOLUMES

Intersection: 5th and V

Morning Period	V St South Bound				Fifth St West Bound				V St North Bound				Fifth St East Bound			
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
Existing Peak Hour Traffic	33	474	-	2	-	-	-	0	-	98	377	2	49	855	32	0
% of Approach Total	6.5%	93.5%	-	N/A	-	-	-	N/A	-	20.6%	79.4%	N/A	5.2%	91.3%	3.4%	N/A
Project Peak Hour Trips	0	18	-	N/A	-	-	-	N/A	-	3	12	N/A	0	0	1	N/A
Future Peak Hour Traffic	44	626	-	N/A	-	-	-	N/A	-	129	498	N/A	65	1129	42	N/A
Existing plus Project Traffic	33	492	-	N/A	-	-	-	N/A	-	101	389	N/A	49	855	33	N/A
Future plus Project Traffic	44	644	-	N/A	-	-	-	N/A	-	132	510	N/A	65	1129	43	N/A

TRAFFIC COUNTS, PROJECT TRIPS AND FUTURE TRAFFIC VOLUMES

Intersection: 5th and V

Evening Period	V St South Bound				Fifth St West Bound				V St North Bound				Fifth St East Bound			
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
Existing Peak Hour Traffic	161	590	-	7	-	-	-	0	-	163	226	8	147	1554	63	
% of Approach Total	21.4%	78.6%	-	N/A	-	-	-	N/A	-	41.9%	58.1%	N/A	8.3%	88.1%	3.6%	N/A
Project Peak Hour Trips	0	15	-	N/A	-	-	-	N/A	-	5	6	N/A	0	0	2	N/A
Future Peak Hour Traffic	213	779	-	N/A	-	-	-	N/A	-	215	298	N/A	194	2052	83	N/A
Existing plus Project Traffic	161	605	-	N/A	-	-	-	N/A	-	168	232	N/A	147	1554	65	N/A
Future plus Project Traffic	213	794	-	N/A	-	-	-	N/A	-	220	304	N/A	194	2052	85	N/A

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28

TRAFFIC COUNTS, PROJECT TRIPS AND FUTURE TRAFFIC VOLUMES

Intersection: 6th and West

Morning Period	West Ave South Bound				Sixth St West Bound				West Ave North Bound				Sixth St East Bound			
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
Existing Peak Hour Traffic	31	487	27	3	26	9	35	0	38	475	40	5	11	6	14	0
% of Approach Total	5.7%	89.4%	5.0%	N/A	37.1%	12.9%	50.0%	N/A	6.9%	85.9%	7.2%	N/A	35.5%	19.4%	45.2%	N/A
Project Peak Hour Trips	0	19	0	N/A	1	0	0	N/A	1	9	1	N/A	0	0	1	N/A
Future Peak Hour Traffic	41	643	36	N/A	34	12	46	N/A	50	627	53	N/A	15	8	18	N/A
Existing plus Project Traffic	31	506	27	N/A	27	9	35	N/A	39	484	41	N/A	11	6	15	N/A
Future plus Project Traffic	41	662	36	N/A	35	12	46	N/A	51	636	54	N/A	15	8	19	N/A

TRAFFIC COUNTS, PROJECT TRIPS AND FUTURE TRAFFIC VOLUMES

Intersection: 6th and West

Evening Period	West Ave South Bound				Sixth St West Bound				West Ave North Bound				Sixth St East Bound			
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
Existing Peak Hour Traffic	10	581	11	6	48	6	31	0	30	540	20	7	39	12	20	0
% of Approach Total	1.7%	96.5%	1.8%	N/A	56.5%	7.1%	36.5%	N/A	5.1%	91.5%	3.4%	N/A	54.9%	16.9%	28.2%	N/A
Project Peak Hour Trips	0	17	0	N/A	1	0	0	N/A	1	11	1	N/A	0	0	1	N/A
Future Peak Hour Traffic	13	767	15	N/A	63	8	41	N/A	40	713	26	N/A	52	16	26	N/A
Existing plus Project Traffic	10	598	11	N/A	49	6	31	N/A	31	551	21	N/A	39	12	21	N/A
Future plus Project Traffic	13	784	15	N/A	64	8	41	N/A	41	724	27	N/A	52	16	27	N/A

TRAFFIC COUNTS, PROJECT TRIPS AND FUTURE TRAFFIC VOLUMES **Intersection: Tydd and West**

Morning Period	West Ave East Bound				Tydd St South Bound				West Ave West Bound			
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
Existing Peak Hour Traffic	8	463	-	8	25	-	7	4	-	624	18	17
% of Approach Total	1.7%	98.3%	-	N/A	78.1%	-	21.9%	N/A	-	97.2%	2.8%	N/A
Project Peak Hour Trips	21	0	-	N/A	36	-	11	N/A	-	0	26	N/A
Future Peak Hour Traffic	11	611	-	N/A	33	-	9	N/A	-	824	24	N/A
Existing plus Project Traffic	29	463	-	N/A	61	-	18	N/A	-	624	44	N/A
Future plus Project Traffic	32	611	-	N/A	69	-	20	N/A	-	824	50	N/A

TRAFFIC COUNTS, PROJECT TRIPS AND FUTURE TRAFFIC VOLUMES

Intersection: Tydd and West

Evening Period	West Ave East Bound				Tydd St South Bound				West Ave West Bound			
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
Existing Peak Hour Traffic	11	668	-	14	27	-	10	0	-	504	16	15
% of Approach Total	1.6%	98.4%	-	N/A	73.0%	-	27.0%	N/A	-	96.9%	3.1%	N/A
Project Peak Hour Trips	19	0	-	N/A	34	-	13	N/A	-	0	28	N/A
Future Peak Hour Traffic	15	882	-	N/A	36	-	13	N/A	-	666	21	N/A
Existing plus Project Traffic	30	668	-	N/A	61	-	23	N/A	-	504	44	N/A
Future plus Project Traffic	34	882	-	N/A	70	-	26	N/A	-	666	49	N/A

TRAFFIC COUNTS, PROJECT TRIPS AND FUTURE TRAFFIC VOLUMES

Intersection: Searles and West

Morning Period	West Ave East Bound				Searles St South Bound				West Ave West Bound			
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
Existing Peak Hour Traffic	10	512	-	10	14	-	17	0	-	636	14	7
% of Approach Total	1.9%	98.1%	-	N/A	45.2%	-	54.8%	N/A	-	97.8%	2.2%	N/A
Project Peak Hour Trips	1	35	-	N/A	0	-	1	N/A	-	25	0	N/A
Future Peak Hour Traffic	13	676	'	N/A	18	-	22	N/A	-	840	18	N/A
Existing plus Project Traffic	11	547	-	N/A	14	-	18	N/A	-	661	14	N/A
Future plus Project Traffic	14	711	-	N/A	18	-	23	N/A	-	865	18	N/A

TRAFFIC COUNTS, PROJECT TRIPS AND FUTURE TRAFFIC VOLUMES

Intersection: Searles and West

Evening Period	West Ave East Bound				Searles St South Bound				West Ave West Bound			
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
Existing Peak Hour Traffic	19	683	-	12	43	-	24	0	-	528	15	12
% of Approach Total	2.7%	97.3%	-	N/A	64.2%	-	35.8%	N/A	-	97.2%	2.8%	N/A
Project Peak Hour Trips	1	33	-	N/A	0	-	1	N/A	-	27	0	N/A
Future Peak Hour Traffic	25	902	-	N/A	57	-	32	N/A	-	697	20	N/A
Existing plus Project Traffic	20	716	-	N/A	43	-	25	N/A	-	555	15	N/A
Future plus Project Traffic	26	935	-	N/A	57	-	33	N/A	-	724	20	N/A

TRAFFIC COUNTS, PROJECT TRIPS AND FUTURE TRAFFIC VOLUMES **Intersection: Myrtle and West**

Morning Period	Myrtle Ave West Bound				Myrtle Ave East Bound				West Ave South Bound				West Ave North Bound			
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
Existing Peak Hour Traffic	173	545	364		27	184	13	7	287	166	32		128	392	162	24
% of Approach Total	16.0%	50.4%	33.6%	N/A	59.2%	34.2%	6.6%	N/A	12.1%	82.1%	5.8%	N/A	18.8%	57.5%	23.8%	N/A
Project Peak Hour Trips	0	0	12	N/A	1	0	0	N/A	4	29	2	N/A	0	12	0	N/A
Future Peak Hour Traffic	228	720	481	N/A	36	243	42	N/A	379	219	42	N/A	169	518	214	N/A
Existing plus Project Traffic	173	545	376	N/A	28	184	13	N/A	291	195	34	N/A	128	404	162	N/A
Future plus Project Traffic	228	720	493	N/A	37	243	42	N/A	383	248	44	N/A	169	530	214	N/A

TRAFFIC COUNTS, PROJECT TRIPS AND FUTURE TRAFFIC VOLUMES **Intersection: Myrtle and West**

Evening Period	Myrtle Ave West Bound				Myrtle Ave East Bound				West Ave South Bound				West Ave North Bound			
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
Existing Peak Hour Traffic	230	540	345		76	428	70		405	412	42	27	126	333	150	44
% of Approach Total	20.6%	48.4%	30.9%	N/A	13.2%	74.6%	12.2%	N/A	47.1%	48.0%	4.9%	N/A	20.7%	54.7%	24.6%	N/A
Project Peak Hour Trips	0	0	12	N/A	3	0	0	N/A	16	16	1	N/A	0	12	0	N/A
Future Peak Hour Traffic	304	713	456	N/A	100	565	92	N/A	535	544	55	N/A	166	440	198	N/A
Existing plus Project Traffic	230	540	357	N/A	79	428	70	N/A	421	428	43	N/A	126	345	150	N/A
Future plus Project Traffic	304	713	468	N/A	103	565	92	N/A	551	560	56	N/A	166	452	198	N/A

Appendix B: Level of Service Calculations

LOS Calculation
For
4th and V Street (Intersection #1)

SHORT REPORT

General Information		Site Information	
Analyst	*NBK/RLD*	Intersection	*4TH AND V STREET*
Agency or Co.	*LACO ASSOCIATES*	Area Type	*All other areas*
Date Performed	*12/18/2010*	Jurisdiction	*CALTRANS*
Time Period	*MORNING PEAK*	Analysis Year	*2010*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes				1	2	0	1	1			1	1
Lane Group				L	TR		L	T			T	R
Volume (vph)				454	1270	15	56	109			60	58
% Heavy Vehicles				0	2	0	0	0			0	0
PHF				0.81	0.91	0.63	0.70	0.88			0.68	0.66
Pretimed/Actuated (P/A)				A	A	A	A	A			A	A
Startup Lost Time				2.0	2.0		2.0	2.0			2.0	2.0
Extension of Effective Green				2.0	2.0		2.0	2.0			2.0	2.0
Arrival Type				3	3		3	3			3	3
Unit Extension				3.0	3.0		3.0	3.0			3.0	3.0
Ped/Bike/RTOR Volume				6	1	0	0	0		0	0	30
Lane Width				12.0	12.0		12.0	12.0			12.0	12.0
Parking/Grade/Parking				N	0	N	N	0	N	N	0	N
Parking/Hour												
Bus Stops/Hour				0	0		0	0			0	0
Minimum Pedestrian Time					14.7			3.2			14.6	

Phasing	WB Only	02	03	04	NS Perm	06	07	08
Timing	G = *55.0*	G = *0.0*	G = *0.0*	G = *0.0*	G = *25.0*	G = *0.0*	G = *0.0*	G = *0.0*
	Y = *5.2*	Y = *0*	Y = *0*	Y = *0*	Y = *5.2*	Y = *0*	Y = *0*	Y = *0*

Duration of Analysis (hrs) = *0.25* Cycle Length C = *90.4*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate				560	1420		80	124			88	42
Lane Group Capacity				1011	1982		339	484			484	1488
v/c Ratio				0.55	0.72		0.24	0.26			0.18	0.03
Green Ratio				0.61	0.61		0.28	0.28			0.28	1.00
Uniform Delay d_1				10.5	12.3		25.3	25.5			24.9	0.0
Delay Factor k				0.15	0.28		0.11	0.11			0.11	0.11
Incremental Delay d_2				0.7	1.3		0.4	0.3			0.2	0.0
PF Factor				1.000	1.000		1.000	1.000			1.000	0.950
Control Delay				11.1	13.6		25.7	25.7			25.1	0.0
Lane Group LOS				B	B		C	C			C	A
Approach Delay				12.9			25.7			17.0		
Approach LOS				B			C			B		
Intersection Delay	14.2			Intersection LOS						B		

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SHORT REPORT

General Information		Site Information	
Analyst	*NBK/RLD*	Intersection	*4TH AND V STREET*
Agency or Co.	*LACO ASSOCIATES*	Area Type	*All other areas*
Date Performed	*12/18/2010*	Jurisdiction	*CALTRANS*
Time Period	*EVENING PEAK*	Analysis Year	*2010*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes				1	2	0	1	1			1	1
Lane Group				L	TR		L	T			T	R
Volume (vph)				420	1065	19	93	178			205	125
% Heavy Vehicles				0	2	0	0	0			0	0
PHF				0.88	0.86	0.68	0.86	0.89			0.83	0.92
Pretimed/Actuated (P/A)				A	A	A	A	A			A	A
Startup Lost Time				2.0	2.0		2.0	2.0			2.0	2.0
Extension of Effective Green				2.0	2.0		2.0	2.0			2.0	2.0
Arrival Type				3	3		3	3			3	3
Unit Extension				3.0	3.0		3.0	3.0			3.0	3.0
Ped/Bike/RTOR Volume				11	1	0	0	0		0	0	30
Lane Width				12.0	12.0		12.0	12.0			12.0	12.0
Parking/Grade/Parking				N	0	N	N	0	N	N	0	N
Parking/Hour												
Bus Stops/Hour				0	0		0	0			0	0
Minimum Pedestrian Time					3.3			3.2			3.2	

Phasing	WB Only	02	03	04	NS Perm	06	07	08
Timing	G = 55.0	G = 0.0	G = 0.0	G = 0.0	G = 25.0	G = 0.0	G = 0.0	G = 0.0
	Y = 5.2	Y = 0	Y = 0	Y = 0	Y = 5.2	Y = 0	Y = 0	Y = 0

Duration of Analysis (hrs) = *0.25* Cycle Length C = *90.4*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate				477	1266		108	200			247	103
Lane Group Capacity				1011	1980		232	484			484	1488
v/c Ratio				0.47	0.64		0.47	0.41			0.51	0.07
Green Ratio				0.61	0.61		0.28	0.28			0.28	1.00
Uniform Delay d_1				9.7	11.3		27.2	26.7			27.5	0.0
Delay Factor k				0.11	0.22		0.11	0.11			0.12	0.11
Incremental Delay d_2				0.3	0.7		1.5	0.6			0.9	0.0
PF Factor				1.000	1.000		1.000	1.000			1.000	0.950
Control Delay				10.1	12.0		28.6	27.3			28.5	0.0
Lane Group LOS				B	B		C	C			C	A
Approach Delay				11.5			27.8			20.1		
Approach LOS				B			C			C		
Intersection Delay	14.8			Intersection LOS						B		

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SHORT REPORT

General Information		Site Information	
Analyst	*NBK/RLD*	Intersection	*4TH AND V STREET*
Agency or Co.	*LACO ASSOCIATES*	Area Type	*All other areas*
Date Performed	*12/18/2010*	Jurisdiction	*CALTRANS*
Time Period	*MORNING PEAK*	Analysis Year	*2010*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes				1	2	0	1	1			1	1
Lane Group				L	TR		L	T			T	R
Volume (vph)				470	1270	15	57	110			62	58
% Heavy Vehicles				0	2	0	0	0			0	0
PHF				0.81	0.91	0.63	0.70	0.88			0.68	0.66
Pretimed/Actuated (P/A)				A	A	A	A	A			A	A
Startup Lost Time				2.0	2.0		2.0	2.0			2.0	2.0
Extension of Effective Green				2.0	2.0		2.0	2.0			2.0	2.0
Arrival Type				3	3		3	3			3	3
Unit Extension				3.0	3.0		3.0	3.0			3.0	3.0
Ped/Bike/RTOR Volume				6	1	0	0	0		0	0	30
Lane Width				12.0	12.0		12.0	12.0			12.0	12.0
Parking/Grade/Parking				N	0	N	N	0	N	N	0	N
Parking/Hour												
Bus Stops/Hour				0	0		0	0			0	0
Minimum Pedestrian Time					14.7			3.2			14.6	

Phasing	WB Only	02	03	04	NS Perm	06	07	08
Timing	G = 55.0	G = 0.0	G = 0.0	G = 0.0	G = 25.0	G = 0.0	G = 0.0	G = 0.0
	Y = 5.2	Y = 0	Y = 0	Y = 0	Y = 5.2	Y = 0	Y = 0	Y = 0

Duration of Analysis (hrs) = *0.25* Cycle Length C = *90.4*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate				580	1420		81	125			91	42
Lane Group Capacity				1011	1982		338	484			484	1488
v/c Ratio				0.57	0.72		0.24	0.26			0.19	0.03
Green Ratio				0.61	0.61		0.28	0.28			0.28	1.00
Uniform Delay d_1				10.6	12.3		25.3	25.5			25.0	0.0
Delay Factor k				0.17	0.28		0.11	0.11			0.11	0.11
Incremental Delay d_2				0.8	1.3		0.4	0.3			0.2	0.0
PF Factor				1.000	1.000		1.000	1.000			1.000	0.950
Control Delay				11.4	13.6		25.7	25.8			25.1	0.0
Lane Group LOS				B	B		C	C			C	A
Approach Delay				12.9			25.7			17.2		
Approach LOS				B			C			B		
Intersection Delay	14.3			Intersection LOS						B		

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SHORT REPORT

General Information		Site Information	
Analyst	*NBK/RLD*	Intersection	*4TH AND V STREET*
Agency or Co.	*LACO ASSOCIATES*	Area Type	*All other areas*
Date Performed	*12/18/2010*	Jurisdiction	*CALTRANS*
Time Period	*EVENING PEAK*	Analysis Year	*2010*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes				1	2	0	1	1			1	1
Lane Group				L	TR		L	T			T	R
Volume (vph)				430	1065	19	95	181			210	125
% Heavy Vehicles				0	2	0	0	0			0	0
PHF				0.88	0.86	0.68	0.86	0.89			0.83	0.92
Pretimed/Actuated (P/A)				A	A	A	A	A			A	A
Startup Lost Time				2.0	2.0		2.0	2.0			2.0	2.0
Extension of Effective Green				2.0	2.0		2.0	2.0			2.0	2.0
Arrival Type				3	3		3	3			3	3
Unit Extension				3.0	3.0		3.0	3.0			3.0	3.0
Ped/Bike/RTOR Volume				11	1	0	0	0		0	0	30
Lane Width				12.0	12.0		12.0	12.0			12.0	12.0
Parking/Grade/Parking				N	0	N	N	0	N	N	0	N
Parking/Hour												
Bus Stops/Hour				0	0		0	0			0	0
Minimum Pedestrian Time					3.3			3.2			3.2	

Phasing	WB Only	02	03	04	NS Perm	06	07	08
Timing	G = 55.0	G = 0.0	G = 0.0	G = 0.0	G = 25.0	G = 0.0	G = 0.0	G = 0.0
	Y = 5.2	Y = 0	Y = 0	Y = 0	Y = 5.2	Y = 0	Y = 0	Y = 0

Duration of Analysis (hrs) = *0.25* Cycle Length C = *90.4*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate				489	1266		110	203			253	103
Lane Group Capacity				1011	1980		227	484			484	1488
v/c Ratio				0.48	0.64		0.48	0.42			0.52	0.07
Green Ratio				0.61	0.61		0.28	0.28			0.28	1.00
Uniform Delay d_1				9.8	11.3		27.3	26.8			27.7	0.0
Delay Factor k				0.11	0.22		0.11	0.11			0.13	0.11
Incremental Delay d_2				0.4	0.7		1.6	0.6			1.0	0.0
PF Factor				1.000	1.000		1.000	1.000			1.000	0.950
Control Delay				10.2	12.0		28.9	27.4			28.7	0.0
Lane Group LOS				B	B		C	C			C	A
Approach Delay				11.5			27.9			20.4		
Approach LOS				B			C			C		
Intersection Delay	14.9			Intersection LOS						B		

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SHORT REPORT

General Information		Site Information	
Analyst	*NBK/RLD*	Intersection	*4TH AND V STREET*
Agency or Co.	*LACO ASSOCIATES*	Area Type	*All other areas*
Date Performed	*12/18/2010*	Jurisdiction	*CALTRANS*
Time Period	*MORNING PEAK*	Analysis Year	*2010*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes				1	2	0	1	1			1	1
Lane Group				L	TR		L	T			T	R
Volume (vph)				600	1677	20	74	144			79	77
% Heavy Vehicles				0	2	0	0	0			0	0
PHF				0.81	0.91	0.63	0.70	0.88			0.68	0.66
Pretimed/Actuated (P/A)				A	A	A	A	A			A	A
Startup Lost Time				2.0	2.0		2.0	2.0			2.0	2.0
Extension of Effective Green				2.0	2.0		2.0	2.0			2.0	2.0
Arrival Type				3	3		3	3			3	3
Unit Extension				3.0	3.0		3.0	3.0			3.0	3.0
Ped/Bike/RTOR Volume				6	1	0	0	0		0	0	30
Lane Width				12.0	12.0		12.0	12.0			12.0	12.0
Parking/Grade/Parking				N	0	N	N	0	N	N	0	N
Parking/Hour												
Bus Stops/Hour				0	0		0	0			0	0
Minimum Pedestrian Time					14.7			3.2			14.6	

Phasing	WB Only	02	03	04	NS Perm	06	07	08
Timing	G = *55.0*	G = *0.0*	G = *0.0*	G = *0.0*	G = *25.0*	G = *0.0*	G = *0.0*	G = *0.0*
	Y = *5.2*	Y = *0*	Y = *0*	Y = *0*	Y = *5.2*	Y = *0*	Y = *0*	Y = *0*

Duration of Analysis (hrs) = *0.25* Cycle Length C = *90.4*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate				741	1875		106	164			116	71
Lane Group Capacity				1011	1982		330	484			484	1488
v/c Ratio				0.73	0.95		0.32	0.34			0.24	0.05
Green Ratio				0.61	0.61		0.28	0.28			0.28	1.00
Uniform Delay d_1				12.5	16.3		26.0	26.1			25.3	0.0
Delay Factor k				0.29	0.46		0.11	0.11			0.11	0.11
Incremental Delay d_2				2.8	10.2		0.6	0.4			0.3	0.0
PF Factor				1.000	1.000		1.000	1.000			1.000	0.950
Control Delay				15.3	26.6		26.5	26.5			25.6	0.0
Lane Group LOS				B	C		C	C			C	A
Approach Delay				23.4			26.5			15.9		
Approach LOS				C			C			B		
Intersection Delay	23.2			Intersection LOS						C		

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SHORT REPORT

General Information		Site Information	
Analyst	*NBK/RLD*	Intersection	*4TH AND V STREET*
Agency or Co.	*LACO ASSOCIATES*	Area Type	*All other areas*
Date Performed	*12/18/2010*	Jurisdiction	*CALTRANS*
Time Period	*EVENING PEAK*	Analysis Year	*2010*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes				1	2	0	1	1			1	1
Lane Group				L	TR		L	T			T	R
Volume (vph)				555	1406	25	123	235			271	165
% Heavy Vehicles				0	2	0	0	0			0	0
PHF				0.88	0.86	0.68	0.86	0.89			0.83	0.92
Pretimed/Actuated (P/A)				A	A	A	A	A			A	A
Startup Lost Time				2.0	2.0		2.0	2.0			2.0	2.0
Extension of Effective Green				2.0	2.0		2.0	2.0			2.0	2.0
Arrival Type				3	3		3	3			3	3
Unit Extension				3.0	3.0		3.0	3.0			3.0	3.0
Ped/Bike/RTOR Volume				11	1	0	0	0		0	0	30
Lane Width				12.0	12.0		12.0	12.0			12.0	12.0
Parking/Grade/Parking				N	0	N	N	0	N	N	0	N
Parking/Hour												
Bus Stops/Hour				0	0		0	0			0	0
Minimum Pedestrian Time					14.7			3.2			14.6	

Phasing	WB Only	02	03	04	NS Perm	06	07	08
Timing	G = *55.0*	G = *0.0*	G = *0.0*	G = *0.0*	G = *25.0*	G = *0.0*	G = *0.0*	G = *0.0*
	Y = *5.2*	Y = *0*	Y = *0*	Y = *0*	Y = *5.2*	Y = *0*	Y = *0*	Y = *0*

Duration of Analysis (hrs) = *0.25* Cycle Length C = *90.4*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate				631	1672		143	264			327	147
Lane Group Capacity				1011	1980		171	484			484	1488
v/c Ratio				0.62	0.84		0.84	0.55			0.68	0.10
Green Ratio				0.61	0.61		0.28	0.28			0.28	1.00
Uniform Delay d_1				11.2	14.3		30.8	27.9			29.1	0.0
Delay Factor k				0.21	0.38		0.37	0.15			0.25	0.11
Incremental Delay d_2				1.2	3.6		28.8	1.3			3.7	0.0
PF Factor				1.000	1.000		1.000	1.000			1.000	0.950
Control Delay				12.4	17.8		59.6	29.1			32.8	0.0
Lane Group LOS				B	B		E	C			C	A
Approach Delay				16.3			39.8			22.7		
Approach LOS				B			D			C		
Intersection Delay	20.3			Intersection LOS						C		

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SHORT REPORT

General Information		Site Information	
Analyst	*NBK/RLD*	Intersection	*4TH AND V STREET*
Agency or Co.	*LACO ASSOCIATES*	Area Type	*All other areas*
Date Performed	*12/18/2010*	Jurisdiction	*CALTRANS*
Time Period	*EVENING PEAK*	Analysis Year	*2010*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes				1	2	0	1	1			1	1
Lane Group				L	TR		L	T			T	R
Volume (vph)				565	1406	25	125	238			276	165
% Heavy Vehicles				0	2	0	0	0			0	0
PHF				0.88	0.86	0.68	0.86	0.89			0.83	0.92
Pretimed/Actuated (P/A)				A	A	A	A	A			A	A
Startup Lost Time				2.0	2.0		2.0	2.0			2.0	2.0
Extension of Effective Green				2.0	2.0		2.0	2.0			2.0	2.0
Arrival Type				3	3		3	3			3	3
Unit Extension				3.0	3.0		3.0	3.0			3.0	3.0
Ped/Bike/RTOR Volume				11	1	0	0	0		0	0	30
Lane Width				12.0	12.0		12.0	12.0			12.0	12.0
Parking/Grade/Parking				N	0	N	N	0	N	N	0	N
Parking/Hour												
Bus Stops/Hour				0	0		0	0			0	0
Minimum Pedestrian Time					14.7			3.2			14.6	

Phasing	WB Only	02	03	04	NS Perm	06	07	08
Timing	G = 55.0	G = 0.0	G = 0.0	G = 0.0	G = 25.0	G = 0.0	G = 0.0	G = 0.0
	Y = 5.2	Y = 0	Y = 0	Y = 0	Y = 5.2	Y = 0	Y = 0	Y = 0

Duration of Analysis (hrs) = *0.25* Cycle Length C = *90.4*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate				642	1672		145	267			333	147
Lane Group Capacity				1011	1980		166	484			484	1488
v/c Ratio				0.64	0.84		0.87	0.55			0.69	0.10
Green Ratio				0.61	0.61		0.28	0.28			0.28	1.00
Uniform Delay d_1				11.3	14.3		31.2	27.9			29.2	0.0
Delay Factor k				0.22	0.38		0.40	0.15			0.26	0.11
Incremental Delay d_2				1.3	3.6		36.6	1.4			4.1	0.0
PF Factor				1.000	1.000		1.000	1.000			1.000	0.950
Control Delay				12.6	17.8		67.8	29.3			33.3	0.0
Lane Group LOS				B	B		E	C			C	A
Approach Delay				16.4			42.8			23.1		
Approach LOS				B			D			C		
Intersection Delay	20.8			Intersection LOS						C		

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SHORT REPORT

General Information		Site Information	
Analyst	*NBK/RLD*	Intersection	*4TH AND V STREET*
Agency or Co.	*LACO ASSOCIATES*	Area Type	*All other areas*
Date Performed	*12/18/2010*	Jurisdiction	*CALTRANS*
Time Period	*MORNING PEAK*	Analysis Year	*2010*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes				1	2	0	1	1			1	1
Lane Group				L	TR		L	T			T	R
Volume (vph)				626	1677	20	75	145			81	77
% Heavy Vehicles				0	2	0	0	0			0	0
PHF				0.81	0.91	0.63	0.70	0.88			0.68	0.66
Pretimed/Actuated (P/A)				A	A	A	A	A			A	A
Startup Lost Time				2.0	2.0		2.0	2.0			2.0	2.0
Extension of Effective Green				2.0	2.0		2.0	2.0			2.0	2.0
Arrival Type				3	3		3	3			3	3
Unit Extension				3.0	3.0		3.0	3.0			3.0	3.0
Ped/Bike/RTOR Volume				6	1	0	0	0		0	0	30
Lane Width				12.0	12.0		12.0	12.0			12.0	12.0
Parking/Grade/Parking				N	0	N	N	0	N	N	0	N
Parking/Hour												
Bus Stops/Hour				0	0		0	0			0	0
Minimum Pedestrian Time					14.7			3.2			14.6	

Phasing	WB Only	02	03	04	NS Perm	06	07	08
Timing	G = *55.0*	G = *0.0*	G = *0.0*	G = *0.0*	G = *25.0*	G = *0.0*	G = *0.0*	G = *0.0*
	Y = *5.2*	Y = *0*	Y = *0*	Y = *0*	Y = *5.2*	Y = *0*	Y = *0*	Y = *0*

Duration of Analysis (hrs) = *0.25* Cycle Length C = *90.4*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate				773	1875		107	165			119	71
Lane Group Capacity				1011	1982		329	484			484	1488
v/c Ratio				0.76	0.95		0.33	0.34			0.25	0.05
Green Ratio				0.61	0.61		0.28	0.28			0.28	1.00
Uniform Delay d_1				13.0	16.3		26.0	26.1			25.4	0.0
Delay Factor k				0.32	0.46		0.11	0.11			0.11	0.11
Incremental Delay d_2				3.5	10.2		0.6	0.4			0.3	0.0
PF Factor				1.000	1.000		1.000	1.000			1.000	0.950
Control Delay				16.5	26.6		26.6	26.5			25.6	0.0
Lane Group LOS				B	C		C	C			C	A
Approach Delay				23.6			26.6			16.1		
Approach LOS				C			C			B		
Intersection Delay	23.4			Intersection LOS						C		

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LOS Calculation
For
5th and V Street (Intersection #2)

SHORT REPORT

General Information		Site Information	
Analyst	*NBK/RLD*	Intersection	*5TH AND V STREET*
Agency or Co.	*LACO ASSOCIATES*	Area Type	*All other areas*
Date Performed	*12/15/2010*	Jurisdiction	*CITY OF EUREKA*
Time Period	*MORNING PEAK HOUR*	Analysis Year	*2010*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	0	3	0					1	1	1	2	
Lane Group		LTR						T	R	L	T	
Volume (vph)	49	855	32					98	377	33	474	
% Heavy Vehicles	0	5	0					0	0	0	0	
PHF	0.88	0.88	0.80					0.88	0.92	0.69	0.86	
Pretimed/Actuated (P/A)	A	A	A					A		A	A	
Startup Lost Time		2.0						2.0	2.0	2.0	2.0	
Extension of Effective Green		2.0						2.0	2.0	2.0	2.0	
Arrival Type		3						3	3	3	3	
Unit Extension		3.0						3.0	3.0	3.0	3.0	
Ped/Bike/RTOR Volume	0	0	7				4	2	164	0	0	
Lane Width		12.0						12.0	12.0	12.0	12.0	
Parking/Grade/Parking	N	0	N				N	0	N	N	0	N
Parking/Hour												
Bus Stops/Hour		0						0	0	0	0	
Minimum Pedestrian Time		13.2						13.2			3.2	

Phasing	EB Only	02	03	04	NS Perm	06	07	08
Timing	G = 38.0	G = 0.0	G = 0.0	G = 0.0	G = 47.0	G = 0.0	G = 0.0	G = 0.0
	Y = 5.2	Y = 0	Y = 0	Y = 0	Y = 5.2	Y = 0	Y = 0	Y = 0

Duration of Analysis (hrs) = *0.25* Cycle Length C = *95.4*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		1059						111	232	48	551	
Lane Group Capacity		1803						862	593	590	1642	
v/c Ratio		0.59						0.13	0.39	0.08	0.34	
Green Ratio		0.40						0.49	0.40	0.49	0.49	
Uniform Delay d_1		22.5						13.1	20.5	12.8	14.7	
Delay Factor k		0.18						0.11	0.11	0.11	0.11	
Incremental Delay d_2		0.5						0.1	0.4	0.1	0.1	
PF Factor		1.000						1.000	1.000	1.000	1.000	
Control Delay		23.0						13.2	20.9	12.8	14.8	
Lane Group LOS		C						B	C	B	B	
Approach Delay	23.0						18.4			14.7		
Approach LOS	C						B			B		
Intersection Delay	19.7			Intersection LOS						B		

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SHORT REPORT

General Information		Site Information	
Analyst	*NBK/RLD*	Intersection	*5TH AND V STREET*
Agency or Co.	*LACO ASSOCIATES*	Area Type	*All other areas*
Date Performed	*12/15/2010*	Jurisdiction	*CITY OF EUREKA*
Time Period	*EVENING PEAK HOUR*	Analysis Year	*2010*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	0	3	0					1	1	1	2	
Lane Group		LTR						T	R	L	T	
Volume (vph)	147	1554	63					163	226	161	590	
% Heavy Vehicles	0	2	0					0	0	0	0	
PHF	0.84	0.82	0.83					0.83	0.93	0.77	0.85	
Pretimed/Actuated (P/A)	A	A	A					A		A	A	
Startup Lost Time		2.0						2.0	2.0	2.0	2.0	
Extension of Effective Green		2.0						2.0	2.0	2.0	2.0	
Arrival Type		3						3	3	3	3	
Unit Extension		3.0						3.0	3.0	3.0	3.0	
Ped/Bike/RTOR Volume	0	0	14				4	2	111	0	0	
Lane Width		12.0						12.0	12.0	12.0	12.0	
Parking/Grade/Parking	N	0	N				N	0	N	N	0	N
Parking/Hour												
Bus Stops/Hour		0						0	0	0	0	
Minimum Pedestrian Time		14.6						14.7			3.2	

Phasing	EB Only	02	03	04	NS Perm	06	07	08
Timing	G = 38.0	G = 0.0	G = 0.0	G = 0.0	G = 47.0	G = 0.0	G = 0.0	G = 0.0
	Y = 5.2	Y = 0	Y = 0	Y = 0	Y = 5.2	Y = 0	Y = 0	Y = 0

Duration of Analysis (hrs) = *0.25* Cycle Length C = *95.4*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		2129						196	124	209	694	
Lane Group Capacity		1850						862	593	538	1642	
v/c Ratio		1.15						0.23	0.21	0.39	0.42	
Green Ratio		0.40						0.49	0.40	0.49	0.49	
Uniform Delay d_1		28.7						13.8	18.8	15.2	15.5	
Delay Factor k		0.50						0.11	0.11	0.11	0.11	
Incremental Delay d_2		74.6						0.1	0.2	0.5	0.2	
PF Factor		1.000						1.000	1.000	1.000	1.000	
Control Delay		103.3						14.0	19.0	15.7	15.7	
Lane Group LOS		F						B	B	B	B	
Approach Delay	103.3						15.9			15.7		
Approach LOS	F						B			B		
Intersection Delay	71.4			Intersection LOS						E		

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SHORT REPORT

General Information		Site Information	
Analyst	*NBK/RLD*	Intersection	*5TH AND V STREET*
Agency or Co.	*LACO ASSOCIATES*	Area Type	*All other areas*
Date Performed	*12/15/2010*	Jurisdiction	*CITY OF EUREKA*
Time Period	*MORNING PEAK HOUR*	Analysis Year	*2010*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	0	3	0					1	1	1	2	
Lane Group		LTR						T	R	L	T	
Volume (vph)	49	855	33					101	389	33	492	
% Heavy Vehicles	0	5	0					0	0	0	0	
PHF	0.88	0.88	0.80					0.88	0.92	0.69	0.86	
Pretimed/Actuated (P/A)	A	A	A					A		A	A	
Startup Lost Time		2.0						2.0	2.0	2.0	2.0	
Extension of Effective Green		2.0						2.0	2.0	2.0	2.0	
Arrival Type		3						3	3	3	3	
Unit Extension		3.0						3.0	3.0	3.0	3.0	
Ped/Bike/RTOR Volume	0	0	7				4	2	164	0	0	
Lane Width		12.0						12.0	12.0	12.0	12.0	
Parking/Grade/Parking	N	0	N				N	0	N	N	0	N
Parking/Hour												
Bus Stops/Hour		0						0	0	0	0	
Minimum Pedestrian Time		13.2						13.2			3.2	

Phasing	EB Only	02	03	04	NS Perm	06	07	08
Timing	G = 38.0	G = 0.0	G = 0.0	G = 0.0	G = 47.0	G = 0.0	G = 0.0	G = 0.0
	Y = 5.2	Y = 0	Y = 0	Y = 0	Y = 5.2	Y = 0	Y = 0	Y = 0

Duration of Analysis (hrs) = *0.25* Cycle Length C = *95.4*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		1060						115	245	48	572	
Lane Group Capacity		1802						862	593	588	1642	
v/c Ratio		0.59						0.13	0.41	0.08	0.35	
Green Ratio		0.40						0.49	0.40	0.49	0.49	
Uniform Delay d_1		22.6						13.1	20.7	12.8	14.8	
Delay Factor k		0.18						0.11	0.11	0.11	0.11	
Incremental Delay d_2		0.5						0.1	0.5	0.1	0.1	
PF Factor		1.000						1.000	1.000	1.000	1.000	
Control Delay		23.1						13.2	21.1	12.9	15.0	
Lane Group LOS		C						B	C	B	B	
Approach Delay	23.1						18.6			14.8		
Approach LOS	C						B			B		
Intersection Delay	19.8			Intersection LOS						B		

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SHORT REPORT

General Information		Site Information	
Analyst	*NBK/RLD*	Intersection	*5TH AND V STREET*
Agency or Co.	*LACO ASSOCIATES*	Area Type	*All other areas*
Date Performed	*12/15/2010*	Jurisdiction	*CITY OF EUREKA*
Time Period	*EVENING PEAK HOUR*	Analysis Year	*2010*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	0	3	0					1	1	1	2	
Lane Group		LTR						T	R	L	T	
Volume (vph)	147	1554	65					168	232	161	605	
% Heavy Vehicles	0	2	0					0	0	0	0	
PHF	0.84	0.82	0.83					0.83	0.93	0.77	0.85	
Pretimed/Actuated (P/A)	A	A	A					A		A	A	
Startup Lost Time		2.0						2.0	2.0	2.0	2.0	
Extension of Effective Green		2.0						2.0	2.0	2.0	2.0	
Arrival Type		3						3	3	3	3	
Unit Extension		3.0						3.0	3.0	3.0	3.0	
Ped/Bike/RTOR Volume	0	0	14				4	2	111	0	0	
Lane Width		12.0						12.0	12.0	12.0	12.0	
Parking/Grade/Parking	N	0	N				N	0	N	N	0	N
Parking/Hour												
Bus Stops/Hour		0						0	0	0	0	
Minimum Pedestrian Time		14.6						14.7			3.2	

Phasing	EB Only	02	03	04	NS Perm	06	07	08
Timing	G = 38.0	G = 0.0	G = 0.0	G = 0.0	G = 47.0	G = 0.0	G = 0.0	G = 0.0
	Y = 5.2	Y = 0	Y = 0	Y = 0	Y = 5.2	Y = 0	Y = 0	Y = 0

Duration of Analysis (hrs) = *0.25* Cycle Length C = *95.4*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		2131						202	130	209	712	
Lane Group Capacity		1850						862	593	533	1642	
v/c Ratio		1.15						0.23	0.22	0.39	0.43	
Green Ratio		0.40						0.49	0.40	0.49	0.49	
Uniform Delay d_1		28.7						13.9	18.9	15.2	15.6	
Delay Factor k		0.50						0.11	0.11	0.11	0.11	
Incremental Delay d_2		75.1						0.1	0.2	0.5	0.2	
PF Factor		1.000						1.000	1.000	1.000	1.000	
Control Delay		103.8						14.0	19.1	15.7	15.8	
Lane Group LOS		F						B	B	B	B	
Approach Delay	103.8						16.0			15.8		
Approach LOS	F						B			B		
Intersection Delay	71.2			Intersection LOS						E		

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SHORT REPORT

General Information		Site Information	
Analyst	*NBK/RLD*	Intersection	*5TH AND V STREET*
Agency or Co.	*LACO ASSOCIATES*	Area Type	*All other areas*
Date Performed	*12/15/2010*	Jurisdiction	*CITY OF EUREKA*
Time Period	*MORNING PEAK HOUR*	Analysis Year	*2010*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	0	3	0					1	1	1	2	
Lane Group		LTR						T	R	L	T	
Volume (vph)	65	1129	42					129	498	44	626	
% Heavy Vehicles	0	5	0					0	0	0	0	
PHF	0.88	0.88	0.80					0.88	0.92	0.69	0.86	
Pretimed/Actuated (P/A)	A	A	A					A		A	A	
Startup Lost Time		2.0						2.0	2.0	2.0	2.0	
Extension of Effective Green		2.0						2.0	2.0	2.0	2.0	
Arrival Type		3						3	3	3	3	
Unit Extension		3.0						3.0	3.0	3.0	3.0	
Ped/Bike/RTOR Volume	0	0	7				4	2	164	0	0	
Lane Width		12.0						12.0	12.0	12.0	12.0	
Parking/Grade/Parking	N	0	N				N	0	N	N	0	N
Parking/Hour												
Bus Stops/Hour		0						0	0	0	0	
Minimum Pedestrian Time		14.6						14.7			3.2	

Phasing	EB Only	02	03	04	NS Perm	06	07	08
Timing	G = 38.0	G = 0.0	G = 0.0	G = 0.0	G = 47.0	G = 0.0	G = 0.0	G = 0.0
	Y = 5.2	Y = 0	Y = 0	Y = 0	Y = 5.2	Y = 0	Y = 0	Y = 0

Duration of Analysis (hrs) = *0.25* Cycle Length C = *95.4*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		1401						147	363	64	728	
Lane Group Capacity		1802						862	593	572	1642	
v/c Ratio		0.78						0.17	0.61	0.11	0.44	
Green Ratio		0.40						0.49	0.40	0.49	0.49	
Uniform Delay d_1		25.0						13.4	22.8	13.0	15.7	
Delay Factor k		0.33						0.11	0.20	0.11	0.11	
Incremental Delay d_2		2.2						0.1	1.9	0.1	0.2	
PF Factor		1.000						1.000	1.000	1.000	1.000	
Control Delay		27.2						13.5	24.7	13.1	15.9	
Lane Group LOS		C						B	C	B	B	
Approach Delay	27.2						21.5			15.7		
Approach LOS	C						C			B		
Intersection Delay	22.8			Intersection LOS						C		

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SHORT REPORT

General Information		Site Information	
Analyst	*NBK/RLD*	Intersection	*5TH AND V STREET*
Agency or Co.	*LACO ASSOCIATES*	Area Type	*All other areas*
Date Performed	*12/15/2010*	Jurisdiction	*CITY OF EUREKA*
Time Period	*EVENING PEAK HOUR*	Analysis Year	*2010*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	0	3	0					1	1	1	2	
Lane Group		LTR						T	R	L	T	
Volume (vph)	194	2052	83					215	298	213	779	
% Heavy Vehicles	0	2	0					0	0	0	0	
PHF	0.84	0.82	0.83					0.83	0.93	0.77	0.85	
Pretimed/Actuated (P/A)	A	A	A					A		A	A	
Startup Lost Time		2.0						2.0	2.0	2.0	2.0	
Extension of Effective Green		2.0						2.0	2.0	2.0	2.0	
Arrival Type		3						3	3	3	3	
Unit Extension		3.0						3.0	3.0	3.0	3.0	
Ped/Bike/RTOR Volume	0	0	14				4	2	111	0	0	
Lane Width		12.0						12.0	12.0	12.0	12.0	
Parking/Grade/Parking	N	0	N				N	0	N	N	0	N
Parking/Hour												
Bus Stops/Hour		0						0	0	0	0	
Minimum Pedestrian Time		14.6						14.7			3.2	

Phasing	EB Only	02	03	04	NS Perm	06	07	08
Timing	G = 38.0	G = 0.0	G = 0.0	G = 0.0	G = 47.0	G = 0.0	G = 0.0	G = 0.0
	Y = 5.2	Y = 0	Y = 0	Y = 0	Y = 5.2	Y = 0	Y = 0	Y = 0

Duration of Analysis (hrs) = *0.25* Cycle Length C = *95.4*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		2816						259	201	277	916	
Lane Group Capacity		1850						862	593	484	1642	
v/c Ratio		1.52						0.30	0.34	0.57	0.56	
Green Ratio		0.40						0.49	0.40	0.49	0.49	
Uniform Delay d_1		28.7						14.4	20.0	17.1	16.9	
Delay Factor k		0.50						0.11	0.11	0.17	0.16	
Incremental Delay d_2		237.8						0.2	0.3	1.6	0.4	
PF Factor		1.000						1.000	1.000	1.000	1.000	
Control Delay		266.5						14.6	20.3	18.7	17.4	
Lane Group LOS		F						B	C	B	B	
Approach Delay	266.5						17.1			17.7		
Approach LOS	F						B			B		
Intersection Delay	174.4			Intersection LOS						F		

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SHORT REPORT

General Information		Site Information	
Analyst	NBK/RLD	Intersection	5TH AND V STREET
Agency or Co.	LACO ASSOCIATES	Area Type	All other areas
Date Performed	12/15/2010	Jurisdiction	CITY OF EUREKA
Time Period	MORNING PEAK HOUR	Analysis Year	2010

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	0	3	0					1	1	1	2	
Lane Group		LTR						T	R	L	T	
Volume (vph)	65	1129	43					132	510	44	644	
% Heavy Vehicles	0	5	0					0	0	0	0	
PHF	0.88	0.88	0.80					0.88	0.92	0.69	0.86	
Pretimed/Actuated (P/A)	A	A	A					A		A	A	
Startup Lost Time		2.0						2.0	2.0	2.0	2.0	
Extension of Effective Green		2.0						2.0	2.0	2.0	2.0	
Arrival Type		3						3	3	3	3	
Unit Extension		3.0						3.0	3.0	3.0	3.0	
Ped/Bike/RTOR Volume	0	0	7				4	2	164	0	0	
Lane Width		12.0						12.0	12.0	12.0	12.0	
Parking/Grade/Parking	N	0	N				N	0	N	N	0	N
Parking/Hour												
Bus Stops/Hour		0						0	0	0	0	
Minimum Pedestrian Time		14.6						14.7			3.2	

Phasing	EB Only	02	03	04	NS Perm	06	07	08
Timing	G = 38.0	G = 0.0	G = 0.0	G = 0.0	G = 47.0	G = 0.0	G = 0.0	G = 0.0
	Y = 5.2	Y = 0	Y = 0	Y = 0	Y = 5.2	Y = 0	Y = 0	Y = 0

Duration of Analysis (hrs) = 0.25 Cycle Length C = 95.4

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		1402						150	376	64	749	
Lane Group Capacity		1802						862	593	571	1642	
v/c Ratio		0.78						0.17	0.63	0.11	0.46	
Green Ratio		0.40						0.49	0.40	0.49	0.49	
Uniform Delay d_1		25.0						13.4	23.1	13.0	15.8	
Delay Factor k		0.33						0.11	0.21	0.11	0.11	
Incremental Delay d_2		2.2						0.1	2.2	0.1	0.2	
PF Factor		1.000						1.000	1.000	1.000	1.000	
Control Delay		27.3						13.5	25.3	13.1	16.0	
Lane Group LOS		C						B	C	B	B	
Approach Delay	27.3						22.0			15.8		
Approach LOS	C						C			B		
Intersection Delay	22.8			Intersection LOS						C		

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SHORT REPORT

General Information		Site Information	
Analyst	*NBK/RLD*	Intersection	*5TH AND V STREET*
Agency or Co.	*LACO ASSOCIATES*	Area Type	*All other areas*
Date Performed	*12/15/2010*	Jurisdiction	*CITY OF EUREKA*
Time Period	*EVENING PEAK HOUR*	Analysis Year	*2010*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	0	3	0					1	1	1	2	
Lane Group		LTR						T	R	L	T	
Volume (vph)	194	2052	85					220	304	213	794	
% Heavy Vehicles	0	2	0					0	0	0	0	
PHF	0.84	0.82	0.83					0.83	0.93	0.77	0.85	
Pretimed/Actuated (P/A)	A	A	A					A		A	A	
Startup Lost Time		2.0						2.0	2.0	2.0	2.0	
Extension of Effective Green		2.0						2.0	2.0	2.0	2.0	
Arrival Type		3						3	3	3	3	
Unit Extension		3.0						3.0	3.0	3.0	3.0	
Ped/Bike/RTOR Volume	0	0	14				4	2	111	0	0	
Lane Width		12.0						12.0	12.0	12.0	12.0	
Parking/Grade/Parking	N	0	N				N	0	N	N	0	N
Parking/Hour												
Bus Stops/Hour		0						0	0	0	0	
Minimum Pedestrian Time		14.6						14.7			3.2	

Phasing	EB Only	02	03	04	NS Perm	06	07	08
Timing	G = 38.0	G = 0.0	G = 0.0	G = 0.0	G = 47.0	G = 0.0	G = 0.0	G = 0.0
	Y = 5.2	Y = 0	Y = 0	Y = 0	Y = 5.2	Y = 0	Y = 0	Y = 0

Duration of Analysis (hrs) = *0.25* Cycle Length C = *95.4*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		2819						265	208	277	934	
Lane Group Capacity		1849						862	593	479	1642	
v/c Ratio		1.52						0.31	0.35	0.58	0.57	
Green Ratio		0.40						0.49	0.40	0.49	0.49	
Uniform Delay d_1		28.7						14.5	20.1	17.2	17.1	
Delay Factor k		0.50						0.11	0.11	0.17	0.16	
Incremental Delay d_2		238.9						0.2	0.4	1.7	0.5	
PF Factor		1.000						1.000	1.000	1.000	1.000	
Control Delay		267.6						14.7	20.4	18.9	17.5	
Lane Group LOS		F						B	C	B	B	
Approach Delay	267.6						17.2			17.8		
Approach LOS	F						B			B		
Intersection Delay	174.1			Intersection LOS						F		

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LOS Calculation
For
6th and West Avenue (Intersection #3)

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*NBK/RLD*	Intersection	*6TH AND WEST STREET*
Agency/Co.	*LACO ASSOCIATES*	Jurisdiction	*CITY OF EUREKA*
Date Performed	*12/4/2010*	Analysis Year	*2010*
Analysis Time Period	*MORNING PEAK*		

Project Description *EXISTING MORNING PEAK HOUR*

East/West Street: *6TH STREET* North/South Street: *WEST STREET*

Intersection Orientation: *North-South* Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*38*	*475*	*40*	*31*	*487*	*27*
Peak-Hour Factor, PHF	*0.73*	*0.91*	*0.77*	*0.86*	*0.92*	*0.75*
Hourly Flow Rate, HFR (veh/h)	*15*	*8*	*24*	*48*	*23*	*47*
Percent Heavy Vehicles	*1*	--	--	*1*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*1*	*1*	*0*	*1*	*2*	*0*
Configuration	*L*		*TR*	*L*	*T*	*TR*
Upstream Signal		*1*			*1*	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*11*	*6*	*14*	*26*	*9*	*35*
Peak-Hour Factor, PHF	*0.69*	*0.75*	*0.58*	*0.54*	*0.38*	*0.73*
Hourly Flow Rate, HFR (veh/h)	*36*	*529*	*36*	*52*	*521*	*51*
Percent Heavy Vehicles	*1*	*1*	*1*	*1*	*1*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*Y*			*Y*	
Storage		*2*			*2*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*L*		*LTR*			*LTR*	
v (veh/h)	*52*	*36*		*118*			*47*	
C (m) (veh/h)	*1074*	*1004*		*289*			*217*	
v/c	*0.05*	*0.04*		*0.41*			*0.22*	
95% queue length	*0.15*	*0.11*		*1.90*			*0.80*	
Control Delay (s/veh)	*8.5*	*8.7*		*28.9*			*28.4*	
LOS	*A*	*A*		*D*			*D*	
Approach Delay (s/veh)	--	--	*28.9*			*28.4*		
Approach LOS	--	--	*D*			*D*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*NBK/RLD*	Intersection	*6TH AND WEST STREET*
Agency/Co.	*LACO ASSOCIATES*	Jurisdiction	*CITY OF EUREKA*
Date Performed	*12/4/2010*	Analysis Year	*2010*
Analysis Time Period	*EVENING PEAK*		

Project Description *EXISTING EVENING PEAK HOUR*

East/West Street: *6TH STREET* North/South Street: *WEST STREET*

Intersection Orientation: *North-South* Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*30*	*540*	*20*	*10*	*581*	*11*
Peak-Hour Factor, PHF	*0.75*	*0.90*	*0.63*	*0.63*	*0.91*	*0.55*
Hourly Flow Rate, HFR (veh/h)	*63*	*19*	*24*	*55*	*12*	*36*
Percent Heavy Vehicles	*1*	--	--	*1*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*1*	*1*	*0*	*1*	*2*	*0*
Configuration	*L*		*TR*	*L*	*T*	*TR*
Upstream Signal		*1*			*1*	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*39*	*12*	*20*	*48*	*6*	*31*
Peak-Hour Factor, PHF	*0.61*	*0.60*	*0.83*	*0.86*	*0.50*	*0.86*
Hourly Flow Rate, HFR (veh/h)	*15*	*638*	*19*	*40*	*600*	*31*
Percent Heavy Vehicles	*1*	*1*	*1*	*1*	*1*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*Y*			*Y*	
Storage		*2*			*2*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*L*		*LTR*			*LTR*	
v (veh/h)	*40*	*15*		*103*			*106*	
C (m) (veh/h)	*1104*	*945*		*269*			*126*	
v/c	*0.04*	*0.02*		*0.38*			*0.84*	
95% queue length	*0.11*	*0.05*		*1.72*			*5.18*	
Control Delay (s/veh)	*8.4*	*8.9*		*29.5*			*107.8*	
LOS	*A*	*A*		*D*			*F*	
Approach Delay (s/veh)	--	--	*29.5*			*107.8*		
Approach LOS	--	--	*D*			*F*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*NBK/RLD*	Intersection	*6TH AND WEST STREET*
Agency/Co.	*LACO ASSOCIATES*	Jurisdiction	*CITY OF EUREKA*
Date Performed	*12/4/2010*	Analysis Year	*2010*
Analysis Time Period	*MORNING PEAK*		

Project Description *EXISTING MORNING-PLUS-PROJECT PEAK HOUR*

East/West Street: *6TH STREET* North/South Street: *WEST STREET*

Intersection Orientation: *North-South* Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*39*	*484*	*41*	*31*	*506*	*27*
Peak-Hour Factor, PHF	*0.73*	*0.91*	*0.77*	*0.86*	*0.92*	*0.75*
Hourly Flow Rate, HFR (veh/h)	*15*	*8*	*25*	*49*	*23*	*47*
Percent Heavy Vehicles	*1*	--	--	*1*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*1*	*1*	*0*	*1*	*2*	*0*
Configuration	*L*		*TR*	*L*	*T*	*TR*
Upstream Signal		*1*			*1*	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*11*	*6*	*15*	*27*	*9*	*35*
Peak-Hour Factor, PHF	*0.69*	*0.75*	*0.58*	*0.54*	*0.38*	*0.73*
Hourly Flow Rate, HFR (veh/h)	*36*	*549*	*36*	*53*	*531*	*53*
Percent Heavy Vehicles	*1*	*1*	*1*	*1*	*1*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*Y*			*Y*	
Storage		*2*			*2*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*L*		*LTR*			*LTR*	
v (veh/h)	*53*	*36*		*119*			*48*	
C (m) (veh/h)	*1138*	*972*		*319*			*234*	
v/c	*0.05*	*0.04*		*0.37*			*0.21*	
95% queue length	*0.15*	*0.12*		*1.67*			*0.75*	
Control Delay (s/veh)	*8.3*	*8.8*		*25.8*			*26.3*	
LOS	*A*	*A*		*D*			*D*	
Approach Delay (s/veh)	--	--	*25.8*			*26.3*		
Approach LOS	--	--	*D*			*D*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*NBK/RLD*	Intersection	*6TH AND WEST STREET*
Agency/Co.	*LACO ASSOCIATES*	Jurisdiction	*CITY OF EUREKA*
Date Performed	*12/22/2010*	Analysis Year	*2010*
Analysis Time Period	*EVENING PEAK*		

Project Description *EXISTING EVENING-PLUS-PROJECT PEAK HOUR*

East/West Street: *6TH STREET* North/South Street: *WEST STREET*

Intersection Orientation: *North-South* Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*31*	*551*	*21*	*10*	*598*	*11*
Peak-Hour Factor, PHF	*0.75*	*0.90*	*0.63*	*0.63*	*0.91*	*0.55*
Hourly Flow Rate, HFR (veh/h)	*63*	*19*	*25*	*56*	*12*	*36*
Percent Heavy Vehicles	*1*	--	--	*1*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*1*	*1*	*0*	*1*	*2*	*0*
Configuration	*L*		*TR*	*L*	*T*	*TR*
Upstream Signal		*1*			*1*	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*39*	*12*	*21*	*49*	*6*	*31*
Peak-Hour Factor, PHF	*0.61*	*0.60*	*0.83*	*0.86*	*0.50*	*0.86*
Hourly Flow Rate, HFR (veh/h)	*15*	*657*	*19*	*41*	*612*	*33*
Percent Heavy Vehicles	*1*	*1*	*1*	*1*	*1*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*Y*			*Y*	
Storage		*2*			*2*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*L*		*LTR*			*LTR*	
v (veh/h)	*41*	*15*		*104*			*107*	
C (m) (veh/h)	*1093*	*931*		*255*			*122*	
v/c	*0.04*	*0.02*		*0.41*			*0.88*	
95% queue length	*0.12*	*0.05*		*1.88*			*5.47*	
Control Delay (s/veh)	*8.4*	*8.9*		*31.4*			*118.3*	
LOS	*A*	*A*		*D*			*F*	
Approach Delay (s/veh)	--	--	*31.4*			*118.3*		
Approach LOS	--	--	*D*			*F*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	NBK/RLD	Intersection	6TH AND WEST STREET
Agency/Co.	LACO ASSOCIATES	Jurisdiction	CITY OF EUREKA
Date Performed	12/4/2010	Analysis Year	2010
Analysis Time Period	MORNING PEAK		

Project Description	ODCHC EXISTING-PLUS-FUTURE MORNING PEAK HOUR TRAFFIC
East/West Street: 6TH STREET	North/South Street: WEST STREET
Intersection Orientation: North-South	Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	50	627	53	41	643	36
Peak-Hour Factor, PHF	0.73	0.91	0.77	0.86	0.92	0.75
Hourly Flow Rate, HFR (veh/h)	68	689	68	47	698	48
Percent Heavy Vehicles	1	--	--	1	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	1	1	0	1	2	0
Configuration	L		TR	L	T	TR
Upstream Signal		1			1	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	15	8	18	34	12	46
Peak-Hour Factor, PHF	0.69	0.75	0.58	0.54	0.38	0.73
Hourly Flow Rate, HFR (veh/h)	21	10	31	62	31	63
Percent Heavy Vehicles	1	1	1	1	1	0
Percent Grade (%)		0			0	
Flared Approach		Y			Y	
Storage		2			2	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L		LTR			LTR	
v (veh/h)	68	47		156			62	
C (m) (veh/h)	1066	809		169			76	
v/c	0.06	0.06		0.92			0.82	
95% queue length	0.20	0.18		6.88			4.03	
Control Delay (s/veh)	8.6	9.7		92.9			127.8	
LOS	A	A		F			F	
Approach Delay (s/veh)	--	--	92.9			127.8		
Approach LOS	--	--	F			F		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*NBK/RLD*	Intersection	*6TH AND WEST STREET*
Agency/Co.	*LACO ASSOCIATES*	Jurisdiction	*CITY OF EUREKA*
Date Performed	*12/4/2010*	Analysis Year	*2010*
Analysis Time Period	*EVENING PEAK*		

Project Description *ODCHC EXISTING-PLUS-FUTURE EVENING PEAK HOUR TRAFFIC*

East/West Street: *6TH STREET* North/South Street: *WEST STREET*

Intersection Orientation: *North-South* Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*40*	*713*	*26*	*13*	*767*	*15*
Peak-Hour Factor, PHF	*0.75*	*0.90*	*0.63*	*0.63*	*0.91*	*0.55*
Hourly Flow Rate, HFR (veh/h)	*53*	*792*	*41*	*20*	*842*	*27*
Percent Heavy Vehicles	*1*	--	--	*1*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*1*	*1*	*0*	*1*	*2*	*0*
Configuration	*L*		*TR*	*L*	*T*	*TR*
Upstream Signal		*1*			*1*	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*52*	*16*	*26*	*63*	*8*	*41*
Peak-Hour Factor, PHF	*0.61*	*0.60*	*0.83*	*0.86*	*0.50*	*0.86*
Hourly Flow Rate, HFR (veh/h)	*85*	*26*	*31*	*73*	*16*	*47*
Percent Heavy Vehicles	*1*	*1*	*1*	*1*	*1*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*Y*			*Y*	
Storage		*2*			*2*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*L*		*LTR*			*LTR*	
v (veh/h)	*53*	*20*		*136*			*142*	
C (m) (veh/h)	*940*	*749*		*106*			*42*	
v/c	*0.06*	*0.03*		*1.28*			*3.38*	
95% queue length	*0.18*	*0.08*		*9.26*			*15.86*	
Control Delay (s/veh)	*9.1*	*9.9*		*256.5*			*1272*	
LOS	*A*	*A*		*F*			*F*	
Approach Delay (s/veh)	--	--	*256.5*			*1272*		
Approach LOS	--	--	*F*			*F*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*NBK/RLD*	Intersection	*6TH AND WEST STREET*
Agency/Co.	*LACO ASSOCIATES*	Jurisdiction	*CITY OF EUREKA*
Date Performed	*12/22/2010*	Analysis Year	*2010*
Analysis Time Period	*MORNING PEAK*		

Project Description *EXISTING MORNING-PLUS-FUTURE-PLUS-PROJECT PEAK HOUR*

East/West Street: *6TH STREET* North/South Street: *WEST STREET*

Intersection Orientation: *North-South* Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*51*	*636*	*54*	*41*	*662*	*36*
Peak-Hour Factor, PHF	*0.73*	*0.91*	*0.77*	*0.86*	*0.92*	*0.75*
Hourly Flow Rate, HFR (veh/h)	*21*	*10*	*32*	*64*	*31*	*63*
Percent Heavy Vehicles	*1*	--	--	*1*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*1*	*1*	*0*	*1*	*2*	*0*
Configuration	*L*		*TR*	*L*	*T*	*TR*
Upstream Signal		*1*			*1*	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*15*	*8*	*19*	*35*	*12*	*46*
Peak-Hour Factor, PHF	*0.69*	*0.75*	*0.58*	*0.54*	*0.38*	*0.73*
Hourly Flow Rate, HFR (veh/h)	*47*	*719*	*48*	*69*	*698*	*70*
Percent Heavy Vehicles	*1*	*1*	*1*	*1*	*1*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*Y*			*Y*	
Storage		*2*			*2*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*L*		*LTR*			*LTR*	
v (veh/h)	*69*	*47*		*158*			*63*	
C (m) (veh/h)	*1044*	*800*		*160*			*70*	
v/c	*0.07*	*0.06*		*0.99*			*0.90*	
95% queue length	*0.21*	*0.19*		*7.57*			*4.44*	
Control Delay (s/veh)	*8.7*	*9.8*		*107.6*			*180.0*	
LOS	*A*	*A*		*F*			*F*	
Approach Delay (s/veh)	--	--	*107.6*			*180.0*		
Approach LOS	--	--	*F*			*F*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*NBK/RLD*	Intersection	*6TH AND WEST STREET*
Agency/Co.	*LACO ASSOCIATES*	Jurisdiction	*CITY OF EUREKA*
Date Performed	*12/22/2010*	Analysis Year	*2010*
Analysis Time Period	*EVENING PEAK*		

Project Description *EXISTING EVENING-PLUS-FUTURE-PLUS PROJECT PEAK HOUR*

East/West Street: *6TH STREET* North/South Street: *WEST STREET*

Intersection Orientation: *North-South* Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*41*	*724*	*27*	*13*	*784*	*15*
Peak-Hour Factor, PHF	*0.75*	*0.90*	*0.63*	*0.63*	*0.91*	*0.55*
Hourly Flow Rate, HFR (veh/h)	*85*	*26*	*32*	*74*	*16*	*47*
Percent Heavy Vehicles	*1*	--	--	*1*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*1*	*1*	*0*	*1*	*2*	*0*
Configuration	*L*		*TR*	*L*	*T*	*TR*
Upstream Signal		*1*			*1*	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*52*	*16*	*27*	*64*	*8*	*41*
Peak-Hour Factor, PHF	*0.61*	*0.60*	*0.83*	*0.86*	*0.50*	*0.86*
Hourly Flow Rate, HFR (veh/h)	*20*	*861*	*27*	*54*	*804*	*42*
Percent Heavy Vehicles	*1*	*1*	*1*	*1*	*1*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*Y*			*Y*	
Storage		*2*			*2*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*L*		*LTR*			*LTR*	
v (veh/h)	*54*	*20*		*137*			*143*	
C (m) (veh/h)	*903*	*743*		*95*			*38*	
v/c	*0.06*	*0.03*		*1.44*			*3.76*	
95% queue length	*0.19*	*0.08*		*10.26*			*16.40*	
Control Delay (s/veh)	*9.2*	*10.0*		*328.1*			*1461*	
LOS	*A*	*A*		*F*			*F*	
Approach Delay (s/veh)	--	--	*328.1*			*1461*		
Approach LOS	--	--	*F*			*F*		

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LOS Calculation
For
Tydd Street and West Avenue
(Intersection #4)

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*NBK/RLD*	Intersection	*TYDD ST/WEST AVE*
Agency/Co.	*LACO ASSOCIATES*	Jurisdiction	*CITY OF EUREKA*
Date Performed	*12/22/2010*	Analysis Year	*2010*
Analysis Time Period	*MORNING PEAK*		

Project Description *EXISTING MORNING PEAK HOUR*

East/West Street: *WEST AVENUE* North/South Street: *TYDD STREET*

Intersection Orientation: *East-West* Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*8*	*463*			*624*	*18*
Peak-Hour Factor, PHF	*0.67*	*0.89*	*1.00*	*1.00*	*0.93*	*0.64*
Hourly Flow Rate, HFR (veh/h)	*11*	*520*	*0*	*0*	*670*	*28*
Percent Heavy Vehicles	*1*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*1*			*1*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*25*		*7*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*0.78*	*1.00*	*0.58*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*32*	*0*	*12*
Percent Heavy Vehicles	*0*	*0*	*0*	*1*	*0*	*1*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*Y*	
Storage		*0*			*1*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (veh/h)	*11*						*44*	
C (m) (veh/h)	*852*						*524*	
v/c	*0.01*						*0.08*	
95% queue length	*0.04*						*0.27*	
Control Delay (s/veh)	*9.3*						*14.7*	
LOS	*A*						*B*	
Approach Delay (s/veh)	--	--				*14.7*		
Approach LOS	--	--				*B*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*NBK/RLD*	Intersection	*TYDD ST/WEST AVE*
Agency/Co.	*LACO ASSOCIATES*	Jurisdiction	*CITY OF EUREKA*
Date Performed	*12/2/2010*	Analysis Year	*2010*
Analysis Time Period	*EVENING PEAK*		

Project Description *ODCHC EXISTING EVENING PEAK HOUR TRAFFIC*

East/West Street: *WEST AVENUE* North/South Street: *TYDD STREET*

Intersection Orientation: *East-West* Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*11*	*668*			*504*	*16*
Peak-Hour Factor, PHF	*0.69*	*0.81*	*1.00*	*1.00*	*0.93*	*0.50*
Hourly Flow Rate, HFR (veh/h)	*15*	*824*	*0*	*0*	*541*	*32*
Percent Heavy Vehicles	*1*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*1*			*1*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*27*		*10*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*0.56*	*1.00*	*0.63*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*48*	*0*	*15*
Percent Heavy Vehicles	*0*	*0*	*0*	*1*	*0*	*1*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*Y*	
Storage		*0*			*1*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (veh/h)	*15*						*63*	
C (m) (veh/h)	*984*						*415*	
v/c	*0.02*						*0.15*	
95% queue length	*0.05*						*0.53*	
Control Delay (s/veh)	*8.7*						*16.9*	
LOS	*A*						*C*	
Approach Delay (s/veh)	--	--				*16.9*		
Approach LOS	--	--				*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*NBK/RLD*	Intersection	*TYDD ST/WEST AVE*
Agency/Co.	*LACO ASSOCIATES*	Jurisdiction	*CITY OF EUREKA*
Date Performed	*12/22/2010*	Analysis Year	*2010*
Analysis Time Period	*MORNING PEAK*		

Project Description *EXISTING MORNING-PLUS-PROJECT PEAK HOUR*

East/West Street: *WEST AVENUE* North/South Street: *TYDD STREET*

Intersection Orientation: *East-West* Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*29*	*463*			*624*	*44*
Peak-Hour Factor, PHF	*0.67*	*0.89*	*1.00*	*1.00*	*0.93*	*0.64*
Hourly Flow Rate, HFR (veh/h)	*43*	*520*	*0*	*0*	*670*	*68*
Percent Heavy Vehicles	*1*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*1*			*1*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*61*		*18*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*0.78*	*1.00*	*0.58*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*78*	*0*	*31*
Percent Heavy Vehicles	*0*	*0*	*0*	*1*	*0*	*1*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*Y*	
Storage		*0*			*1*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (veh/h)	*43*						*109*	
C (m) (veh/h)	*815*						*485*	
v/c	*0.05*						*0.22*	
95% queue length	*0.17*						*0.85*	
Control Delay (s/veh)	*9.7*						*17.0*	
LOS	*A*						*C*	
Approach Delay (s/veh)	--	--	*17.0*					
Approach LOS	--	--	*C*					

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*NBK/RLD*	Intersection	*TYDD ST/WEST AVE*
Agency/Co.	*LACO ASSOCIATES*	Jurisdiction	*CITY OF EUREKA*
Date Performed	*12/22/2010*	Analysis Year	*2010*
Analysis Time Period	*EVENING PEAK*		

Project Description *EXISTING EVENING-PLUS-PROJECT PEAK HOUR*

East/West Street: *WEST AVENUE* North/South Street: *TYDD STREET*

Intersection Orientation: *East-West* Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*30*	*668*			*504*	*44*
Peak-Hour Factor, PHF	*0.69*	*0.81*	*1.00*	*1.00*	*0.93*	*0.50*
Hourly Flow Rate, HFR (veh/h)	*43*	*824*	*0*	*0*	*541*	*88*
Percent Heavy Vehicles	*1*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*1*			*1*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*61*		*23*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*0.56*	*1.00*	*0.63*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*108*	*0*	*36*
Percent Heavy Vehicles	*0*	*0*	*0*	*1*	*0*	*1*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*Y*	
Storage		*0*			*1*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (veh/h)	*43*						*144*	
C (m) (veh/h)	*931*						*346*	
v/c	*0.05*						*0.42*	
95% queue length	*0.15*						*1.98*	
Control Delay (s/veh)	*9.1*						*22.6*	
LOS	*A*						*C*	
Approach Delay (s/veh)	--	--	*22.6*					
Approach LOS	--	--	*C*					

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*NBK/RLD*	Intersection	*TYDD ST/WEST AVE*
Agency/Co.	*LACO ASSOCIATES*	Jurisdiction	*CITY OF EUREKA*
Date Performed	*12/2/2010*	Analysis Year	*2010*
Analysis Time Period	*MORNING PEAK*		

Project Description *ODCHC EXISTING-PLUS-FUTURE MORNING PEAK HOUR TRAFFIC*

East/West Street: *WEST AVENUE* North/South Street: *TYDD STREET*

Intersection Orientation: *East-West* Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*11*	*611*			*824*	*24*
Peak-Hour Factor, PHF	*0.67*	*0.89*	*1.00*	*1.00*	*0.93*	*0.64*
Hourly Flow Rate, HFR (veh/h)	*16*	*686*	*0*	*0*	*886*	*37*
Percent Heavy Vehicles	*1*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*1*			*1*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*33*		*9*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*0.78*	*1.00*	*0.58*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*42*	*0*	*15*
Percent Heavy Vehicles	*0*	*0*	*0*	*1*	*0*	*1*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*Y*	
Storage		*0*			*1*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (veh/h)	*16*						*57*	
C (m) (veh/h)	*652*						*370*	
v/c	*0.02*						*0.15*	
95% queue length	*0.08*						*0.54*	
Control Delay (s/veh)	*10.7*						*19.6*	
LOS	*B*						*C*	
Approach Delay (s/veh)	--	--				*19.6*		
Approach LOS	--	--				*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*NBK/RLD*	Intersection	*TYDD ST/WEST AVE*
Agency/Co.	*LACO ASSOCIATES*	Jurisdiction	*CITY OF EUREKA*
Date Performed	*12/2/2010*	Analysis Year	*2010*
Analysis Time Period	*EVENING PEAK*		

Project Description *ODCHC EXISTING-PLUS-FUTURE EVENING PEAK HOUR TRAFFIC*

East/West Street: *WEST AVENUE* North/South Street: *TYDD STREET*

Intersection Orientation: *East-West* Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*15*	*882*			*666*	*21*
Peak-Hour Factor, PHF	*0.69*	*0.81*	*1.00*	*1.00*	*0.93*	*0.50*
Hourly Flow Rate, HFR (veh/h)	*21*	*1088*	*0*	*0*	*716*	*42*
Percent Heavy Vehicles	*1*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*1*			*1*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*36*		*13*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*0.56*	*1.00*	*0.63*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*64*	*0*	*20*
Percent Heavy Vehicles	*0*	*0*	*0*	*1*	*0*	*1*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*Y*	
Storage		*0*			*1*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (veh/h)	*21*						*84*	
C (m) (veh/h)	*800*						*266*	
v/c	*0.03*						*0.32*	
95% queue length	*0.08*						*1.31*	
Control Delay (s/veh)	*9.6*						*24.7*	
LOS	*A*						*C*	
Approach Delay (s/veh)	--	--				*24.7*		
Approach LOS	--	--				*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*NBK/RLD*	Intersection	*TYDD ST/WEST AVE*
Agency/Co.	*LACO ASSOCIATES*	Jurisdiction	*CITY OF EUREKA*
Date Performed	*12/22/2010*	Analysis Year	*2010*
Analysis Time Period	*MORNING PEAK*		

Project Description *EXISTING MORNING-PLUS-FUTURE-PLUS-PROJECT PEAK HOUR*

East/West Street: *WEST AVENUE* North/South Street: *TYDD STREET*

Intersection Orientation: *East-West* Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*32*	*611*			*824*	*50*
Peak-Hour Factor, PHF	*0.67*	*0.89*	*1.00*	*1.00*	*0.93*	*0.64*
Hourly Flow Rate, HFR (veh/h)	*47*	*686*	*0*	*0*	*886*	*78*
Percent Heavy Vehicles	*1*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*1*			*1*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*69*		*20*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*0.78*	*1.00*	*0.58*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*88*	*0*	*34*
Percent Heavy Vehicles	*0*	*0*	*0*	*1*	*0*	*1*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*Y*	
Storage		*0*			*1*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (veh/h)	*47*						*122*	
C (m) (veh/h)	*623*						*302*	
v/c	*0.08*						*0.40*	
95% queue length	*0.24*						*1.88*	
Control Delay (s/veh)	*11.2*						*24.8*	
LOS	*B*						*C*	
Approach Delay (s/veh)	--	--	*24.8*					
Approach LOS	--	--	*C*					

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*NBK/RLD*	Intersection	*TYDD ST/WEST AVE*
Agency/Co.	*LACO ASSOCIATES*	Jurisdiction	*CITY OF EUREKA*
Date Performed	*12/22/2010*	Analysis Year	*2010*
Analysis Time Period	*EVENING PEAK*		

Project Description *EXISTING EVENING-PLUS-FUTURE-PLUS-PROJECT PEAK HOUR*

East/West Street: *WEST AVENUE* North/South Street: *TYDD STREET*

Intersection Orientation: *East-West* Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*34*	*882*			*666*	*49*
Peak-Hour Factor, PHF	*0.69*	*0.81*	*1.00*	*1.00*	*0.93*	*0.50*
Hourly Flow Rate, HFR (veh/h)	*49*	*1088*	*0*	*0*	*716*	*98*
Percent Heavy Vehicles	*1*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*1*			*1*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*70*		*26*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*0.56*	*1.00*	*0.63*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*124*	*0*	*41*
Percent Heavy Vehicles	*0*	*0*	*0*	*1*	*0*	*1*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*Y*	
Storage		*0*			*1*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (veh/h)	*49*						*165*	
C (m) (veh/h)	*749*						*225*	
v/c	*0.07*						*0.73*	
95% queue length	*0.21*						*4.96*	
Control Delay (s/veh)	*10.1*						*55.2*	
LOS	*B*						*F*	
Approach Delay (s/veh)	--	--				*55.2*		
Approach LOS	--	--				*F*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*NBK/RLD*	Intersection	*TYDD ST/WEST AVE*
Agency/Co.	*LACO ASSOCIATES*	Jurisdiction	*CITY OF EUREKA*
Date Performed	*12/22/2010*	Analysis Year	*2010*
Analysis Time Period	*MORNING PEAK*		

Project Description *EXISTING MORNIG-PLUS-PROJECT PEAK HOUR ON NEW CONFIG*

East/West Street: *WEST AVENUE* North/South Street: *TYDD STREET*

Intersection Orientation: *East-West* Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*29*	*463*			*624*	*44*
Peak-Hour Factor, PHF	*0.67*	*0.89*	*1.00*	*1.00*	*0.93*	*0.64*
Hourly Flow Rate, HFR (veh/h)	*43*	*520*	*0*	*0*	*670*	*68*
Percent Heavy Vehicles	*1*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*1*			*1*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*61*		*18*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*0.78*	*1.00*	*0.58*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*78*	*0*	*31*
Percent Heavy Vehicles	*0*	*0*	*0*	*1*	*0*	*1*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*Y*	
Storage		*0*			*1*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*1*	*0*	*1*
Configuration				*L*		*R*

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*					*L*		*R*
v (veh/h)	*43*					*78*		*31*
C (m) (veh/h)	*815*					*347*		*443*
v/c	*0.05*					*0.22*		*0.07*
95% queue length	*0.17*					*0.85*		*0.22*
Control Delay (s/veh)	*9.7*					*18.4*		*13.7*
LOS	*A*					*C*		*B*
Approach Delay (s/veh)	--	--				*17.0*		
Approach LOS	--	--				*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*NBK/RLD*	Intersection	*TYDD ST/WEST AVE*
Agency/Co.	*LACO ASSOCIATES*	Jurisdiction	*CITY OF EUREKA*
Date Performed	*12/22/2010*	Analysis Year	*2010*
Analysis Time Period	*EVENING PEAK*		

Project Description *EXISTING EVENING-PLUS-PROJECT PEAK HOUR ON NEW CONF*

East/West Street: *WEST AVENUE* North/South Street: *TYDD STREET*

Intersection Orientation: *East-West* Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*30*	*668*			*504*	*44*
Peak-Hour Factor, PHF	*0.69*	*0.81*	*1.00*	*1.00*	*0.93*	*0.50*
Hourly Flow Rate, HFR (veh/h)	*43*	*824*	*0*	*0*	*541*	*88*
Percent Heavy Vehicles	*1*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*1*			*1*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*61*		*23*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*0.56*	*1.00*	*0.63*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*108*	*0*	*36*
Percent Heavy Vehicles	*0*	*0*	*0*	*1*	*0*	*1*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*Y*	
Storage		*0*			*1*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*1*	*0*	*1*
Configuration				*L*		*R*

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*					*L*		*R*
v (veh/h)	*43*					*108*		*36*
C (m) (veh/h)	*931*					*281*		*517*
v/c	*0.05*					*0.38*		*0.07*
95% queue length	*0.15*					*1.73*		*0.22*
Control Delay (s/veh)	*9.1*					*25.6*		*12.5*
LOS	*A*					*D*		*B*
Approach Delay (s/veh)	--	--				*22.3*		
Approach LOS	--	--				*C*		

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LOS Calculation
For
Searles Street and West Avenue
(Intersection #5)

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*NBK/RLD*	Intersection	*SEARLES/WEST AVE*
Agency/Co.	*LACO ASSOCIATES*	Jurisdiction	*CITY OF EUREKA*
Date Performed	*12/22/2010*	Analysis Year	*2010*
Analysis Time Period	*MORNING PEAK*		

Project Description *EXISTING MORNING PEAK HOUR*

East/West Street: *WEST AVENUE* North/South Street: *SEARLES STREET*

Intersection Orientation: *East-West* Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*10*	*512*			*636*	*14*
Peak-Hour Factor, PHF	*0.63*	*0.91*	*1.00*	*1.00*	*0.89*	*0.70*
Hourly Flow Rate, HFR (veh/h)	*15*	*562*	*0*	*0*	*714*	*20*
Percent Heavy Vehicles	*1*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*1*			*1*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*14*		*17*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*0.70*	*1.00*	*0.53*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*20*	*0*	*32*
Percent Heavy Vehicles	*0*	*0*	*0*	*1*	*0*	*1*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*Y*	
Storage		*0*			*1*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (veh/h)	*15*						*52*	
C (m) (veh/h)	*824*						*697*	
v/c	*0.02*						*0.07*	
95% queue length	*0.06*						*0.24*	
Control Delay (s/veh)	*9.4*						*14.7*	
LOS	*A*						*B*	
Approach Delay (s/veh)	--	--				*14.7*		
Approach LOS	--	--				*B*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*NBK/RLD*	Intersection	*SEARLES/WEST AVE*
Agency/Co.	*LACO ASSOCIATES*	Jurisdiction	*CITY OF EUREKA*
Date Performed	*12/22/2010*	Analysis Year	*2010*
Analysis Time Period	*EVENING PEAK*		

Project Description *EXISTING EVENING PEAK HOUR*

East/West Street: *WEST AVENUE* North/South Street: *SEARLES STREET*

Intersection Orientation: *East-West* Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*19*	*683*			*528*	*15*
Peak-Hour Factor, PHF	*0.79*	*0.92*	*1.00*	*1.00*	*0.90*	*0.75*
Hourly Flow Rate, HFR (veh/h)	*24*	*742*	*0*	*0*	*586*	*20*
Percent Heavy Vehicles	*1*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*1*			*1*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*43*		*24*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*0.67*	*1.00*	*0.86*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*64*	*0*	*27*
Percent Heavy Vehicles	*0*	*0*	*0*	*1*	*0*	*1*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*Y*	
Storage		*0*			*1*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (veh/h)	*24*						*91*	
C (m) (veh/h)	*952*						*464*	
v/c	*0.03*						*0.20*	
95% queue length	*0.08*						*0.72*	
Control Delay (s/veh)	*8.9*						*16.9*	
LOS	*A*						*C*	
Approach Delay (s/veh)	--	--				*16.9*		
Approach LOS	--	--				*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*NBK/RLD*	Intersection	*SEARLES/WEST AVE*
Agency/Co.	*LACO ASSOCIATES*	Jurisdiction	*CITY OF EUREKA*
Date Performed	*12/22/2010*	Analysis Year	*2010*
Analysis Time Period	*MORNING PEAK*		

Project Description *EXISTING MORNING-PLUS-PROJECT PEAK HOUR*

East/West Street: *WEST AVENUE* North/South Street: *SEARLES STREET*

Intersection Orientation: *East-West* Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*11*	*547*			*661*	*14*
Peak-Hour Factor, PHF	*0.63*	*0.91*	*1.00*	*1.00*	*0.89*	*0.70*
Hourly Flow Rate, HFR (veh/h)	*17*	*601*	*0*	*0*	*742*	*20*
Percent Heavy Vehicles	*1*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*1*			*1*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*14*		*18*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*0.70*	*1.00*	*0.53*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*20*	*0*	*33*
Percent Heavy Vehicles	*0*	*0*	*0*	*1*	*0*	*1*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*Y*	
Storage		*0*			*1*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (veh/h)	*17*						*53*	
C (m) (veh/h)	*797*						*660*	
v/c	*0.02*						*0.08*	
95% queue length	*0.07*						*0.26*	
Control Delay (s/veh)	*9.6*						*15.2*	
LOS	*A*						*C*	
Approach Delay (s/veh)	--	--				*15.2*		
Approach LOS	--	--				*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*NBK/RLD*	Intersection	*SEARLES/WEST AVE*
Agency/Co.	*LACO ASSOCIATES*	Jurisdiction	*CITY OF EUREKA*
Date Performed	*12/22/2010*	Analysis Year	*2010*
Analysis Time Period	*EVENINGPEAK*		

Project Description *EXISTING EVENING-PLUS-PROJECT PEAK HOUR*

East/West Street: *WEST AVENUE* North/South Street: *SEARLES STREET*

Intersection Orientation: *East-West* Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*20*	*716*			*555*	*15*
Peak-Hour Factor, PHF	*0.79*	*0.92*	*1.00*	*1.00*	*0.90*	*0.75*
Hourly Flow Rate, HFR (veh/h)	*25*	*778*	*0*	*0*	*616*	*20*
Percent Heavy Vehicles	*1*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*1*			*1*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*43*		*25*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*0.67*	*1.00*	*0.86*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*64*	*0*	*29*
Percent Heavy Vehicles	*0*	*0*	*0*	*1*	*0*	*1*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*Y*	
Storage		*0*			*1*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (veh/h)	*25*						*93*	
C (m) (veh/h)	*923*						*446*	
v/c	*0.03*						*0.21*	
95% queue length	*0.08*						*0.78*	
Control Delay (s/veh)	*9.0*						*17.6*	
LOS	*A*						*C*	
Approach Delay (s/veh)	--	--	*17.6*					
Approach LOS	--	--	*C*					

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*NBK/RLD*	Intersection	*SEARLES/WEST AVE*
Agency/Co.	*LACO ASSOCIATES*	Jurisdiction	*CITY OF EUREKA*
Date Performed	*12/2/2010*	Analysis Year	*2010*
Analysis Time Period	*MORNING PEAK*		

Project Description *ODCHC EXISTING-PLUS-FUTURE MORNING PEAK HOUR TRAFFIC*

East/West Street: *WEST AVENUE* North/South Street: *SEARLES STREET*

Intersection Orientation: *East-West* Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*13*	*676*			*840*	*18*
Peak-Hour Factor, PHF	*0.63*	*0.91*	*1.00*	*1.00*	*0.89*	*0.70*
Hourly Flow Rate, HFR (veh/h)	*20*	*742*	*0*	*0*	*943*	*25*
Percent Heavy Vehicles	*1*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*1*			*1*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*18*		*22*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*0.70*	*1.00*	*0.53*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*25*	*0*	*41*
Percent Heavy Vehicles	*0*	*0*	*0*	*1*	*0*	*1*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*Y*	
Storage		*0*			*1*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (veh/h)	*20*						*66*	
C (m) (veh/h)	*622*						*467*	
v/c	*0.03*						*0.14*	
95% queue length	*0.10*						*0.49*	
Control Delay (s/veh)	*11.0*						*20.0*	
LOS	*B*						*C*	
Approach Delay (s/veh)	--	--				*20.0*		
Approach LOS	--	--				*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*NBK/RLD*	Intersection	*SEARLES/WEST AVE*
Agency/Co.	*LACO ASSOCIATES*	Jurisdiction	*CITY OF EUREKA*
Date Performed	*12/2/2010*	Analysis Year	*2010*
Analysis Time Period	*EVENINGPEAK*		

Project Description *ODCHC EXISTING -PLUS-FUTURE EVENING PEAK HOUR TRAFFIC*

East/West Street: *WEST AVENUE* North/South Street: *SEARLES STREET*

Intersection Orientation: *East-West* Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*25*	*902*			*697*	*20*
Peak-Hour Factor, PHF	*0.79*	*0.92*	*1.00*	*1.00*	*0.90*	*0.75*
Hourly Flow Rate, HFR (veh/h)	*31*	*980*	*0*	*0*	*774*	*26*
Percent Heavy Vehicles	*1*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*1*			*1*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*57*		*32*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*0.67*	*1.00*	*0.86*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*85*	*0*	*37*
Percent Heavy Vehicles	*0*	*0*	*0*	*1*	*0*	*1*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*Y*	
Storage		*0*			*1*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (veh/h)	*31*						*122*	
C (m) (veh/h)	*786*						*298*	
v/c	*0.04*						*0.41*	
95% queue length	*0.12*						*1.91*	
Control Delay (s/veh)	*9.8*						*25.2*	
LOS	*A*						*D*	
Approach Delay (s/veh)	--	--				*25.2*		
Approach LOS	--	--				*D*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*NBK/RLD*	Intersection	*SEARLES/WEST AVE*
Agency/Co.	*LACO ASSOCIATES*	Jurisdiction	*CITY OF EUREKA*
Date Performed	*12/22/2010*	Analysis Year	*2010*
Analysis Time Period	*MORNING PEAK*		

Project Description *EXISTING MORNING-PLUS-FUTURE-PLUS-PROJECT PEAK HOUR*

East/West Street: *WEST AVENUE* North/South Street: *SEARLES STREET*

Intersection Orientation: *East-West* Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*14*	*711*			*865*	*18*
Peak-Hour Factor, PHF	*0.63*	*0.91*	*1.00*	*1.00*	*0.89*	*0.70*
Hourly Flow Rate, HFR (veh/h)	*22*	*781*	*0*	*0*	*971*	*25*
Percent Heavy Vehicles	*1*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*1*			*1*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*18*		*23*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*0.70*	*1.00*	*0.53*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*25*	*0*	*43*
Percent Heavy Vehicles	*0*	*0*	*0*	*1*	*0*	*1*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*Y*	
Storage		*0*			*1*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (veh/h)	*22*						*68*	
C (m) (veh/h)	*603*						*436*	
v/c	*0.04*						*0.16*	
95% queue length	*0.11*						*0.55*	
Control Delay (s/veh)	*11.2*						*21.0*	
LOS	*B*						*C*	
Approach Delay (s/veh)	--	--	*21.0*					
Approach LOS	--	--	*C*					

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*NBK/RLD*	Intersection	*SEARLES/WEST AVE*
Agency/Co.	*LACO ASSOCIATES*	Jurisdiction	*CITY OF EUREKA*
Date Performed	*12/22/2010*	Analysis Year	*2010*
Analysis Time Period	*EVENINGPEAK*		

Project Description *EXISTING EVENING-PLUS-FUTURE-PLUS-PROJECT PEAK HOUR*

East/West Street: *WEST AVENUE* North/South Street: *SEARLES STREET*

Intersection Orientation: *East-West* Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*26*	*935*			*724*	*20*
Peak-Hour Factor, PHF	*0.79*	*0.92*	*1.00*	*1.00*	*0.90*	*0.75*
Hourly Flow Rate, HFR (veh/h)	*32*	*1016*	*0*	*0*	*804*	*26*
Percent Heavy Vehicles	*1*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*1*			*1*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*57*		*33*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*0.67*	*1.00*	*0.86*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*85*	*0*	*38*
Percent Heavy Vehicles	*0*	*0*	*0*	*1*	*0*	*1*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*Y*	
Storage		*0*			*1*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (veh/h)	*32*						*123*	
C (m) (veh/h)	*738*						*280*	
v/c	*0.04*						*0.44*	
95% queue length	*0.14*						*2.12*	
Control Delay (s/veh)	*10.1*						*27.6*	
LOS	*B*						*D*	
Approach Delay (s/veh)	--	--	*27.6*					
Approach LOS	--	--	*D*					

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LOS Calculation
For
Myrtle Avenue and West Avenue
(Intersection #6)

SHORT REPORT

General Information		Site Information	
Analyst	*NBK/RLD*	Intersection	*MYRTLE/WEST AVENUE*
Agency or Co.	*LACO ASSOCIATES*	Area Type	*All other areas*
Date Performed	*12/13/2010*	Jurisdiction	*EUREKA*
Time Period	*MORNING PEAK*	Analysis Year	*2010*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	1	2	0	1	2	0	1	1	0	2	1	0
Lane Group	L	TR		L	TR		L	TR		L	TR	
Volume (vph)	27	184	13	173	545	364	128	392	162	287	166	32
% Heavy Vehicles	1	1	1	1	1	1	1	1	1	1	1	1
PHF	0.52	0.92	0.65	0.85	0.77	0.79	0.78	0.67	0.56	0.78	0.81	0.62
Pretimed/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Extension of Effective Green	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Arrival Type	3	3		3	3		3	3		3	3	
Unit Extension	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Ped/Bike/RTOR Volume	0	0	2	0	0	6	7	3	65	24	2	2
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Parking/Grade/Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking/Hour												
Bus Stops/Hour	0	0		0	0		0	0		0	0	
Minimum Pedestrian Time		20.3			20.3			20.4			20.5	

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 47.0	G = 0.0	G = 0.0	G = 0.0	G = 45.0	G = 0.0	G = 0.0	G = 0.0
	Y = 5	Y = 0	Y = 0	Y = 0	Y = 5	Y = 0	Y = 0	Y = 0

Duration of Analysis (hrs) = *0.25* Cycle Length C = *102.0*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate	52	217		204	1161		164	758		368	253	
Lane Group Capacity	107	1631		534	1554		447	798		574	802	
v/c Ratio	0.49	0.13		0.38	0.75		0.37	0.95		0.64	0.32	
Green Ratio	0.46	0.46		0.46	0.46		0.44	0.44		0.44	0.44	
Uniform Delay d_1	19.1	15.8		18.0	22.6		19.0	27.4		22.2	18.5	
Delay Factor k	0.11	0.11		0.11	0.30		0.11	0.46		0.22	0.11	
Incremental Delay d_2	3.4	0.0		0.5	2.0		0.5	20.6		2.4	0.2	
PF Factor	1.000	1.000		1.000	1.000		1.000	1.000		1.000	1.000	
Control Delay	22.6	15.8		18.5	24.6		19.5	48.0		24.6	18.7	
Lane Group LOS	C	B		B	C		B	D		C	B	
Approach Delay	17.1			23.7			42.9			22.2		
Approach LOS	B			C			D			C		
Intersection Delay	28.5			Intersection LOS						C		

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SHORT REPORT

General Information		Site Information	
Analyst	NBK/RLD	Intersection	MYRTLE/WEST AVENUE
Agency or Co.	LACO ASSOCIATES	Area Type	All other areas
Date Performed	12/13/2010	Jurisdiction	EUREKA
Time Period	EVENING PEAK	Analysis Year	2010

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	1	2	0	1	2	0	1	1	0	2	1	0
Lane Group	L	TR		L	TR		L	TR		L	TR	
Volume (vph)	76	428	70	230	540	345	126	333	150	405	412	42
% Heavy Vehicles	1	1	1	1	1	1	1	1	1	1	1	1
PHF	0.83	0.70	0.83	0.73	0.85	0.85	0.93	0.84	0.94	0.96	0.87	0.81
Pretimed/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Extension of Effective Green	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Arrival Type	3	3		3	3		3	3		3	3	
Unit Extension	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Ped/Bike/RTOR Volume	0	0	4	0	0	68	30	3	8	44	1	4
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Parking/Grade/Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking/Hour												
Bus Stops/Hour	0	0		0	0		0	0		0	0	
Minimum Pedestrian Time		20.3			20.3			20.6			20.7	

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 58.0	G = 0.0	G = 0.0	G =	G = 46.0	G = 0.0	G = 0.0	G = 0.0
	Y = 5	Y = 0	Y = 0	Y =	Y = 5	Y = 0	Y = 0	Y = 0

Duration of Analysis (hrs) = 0.25 | Cycle Length C = 114.0

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate	92	691		315	961		135	547		422	521	
Lane Group Capacity	203	1791		314	1730		179	721		334	746	
v/c Ratio	0.45	0.39		1.00	0.56		0.75	0.76		1.26	0.70	
Green Ratio	0.51	0.51		0.51	0.51		0.40	0.40		0.40	0.40	
Uniform Delay d_1	17.9	17.1		28.0	19.2		29.2	29.2		34.0	28.2	
Delay Factor k	0.15	0.15		0.50	0.19		0.33	0.33		0.50	0.29	
Incremental Delay d_2	2.2	0.2		51.6	0.5		17.5	5.0		140.4	3.2	
PF Factor	1.000	1.000		1.000	1.000		1.000	1.000		1.000	1.000	
Control Delay	20.1	17.3		79.6	19.7		46.6	34.2		174.4	31.4	
Lane Group LOS	C	B		E	B		D	C		F	C	
Approach Delay	17.6			34.5			36.7			95.4		
Approach LOS	B			C			D			F		
Intersection Delay	46.9			Intersection LOS						D		

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SHORT REPORT

General Information		Site Information	
Analyst	*NBK/RLD*	Intersection	*MYRTLE/WEST AVENUE*
Agency or Co.	*LACO ASSOCIATES*	Area Type	*All other areas*
Date Performed	*12/13/2010*	Jurisdiction	*EUREKA*
Time Period	*MORNING PEAK*	Analysis Year	*2010*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	1	2	0	1	2	0	1	1	0	2	1	0
Lane Group	L	TR		L	TR		L	TR		L	TR	
Volume (vph)	28	184	13	173	545	376	128	404	162	291	195	34
% Heavy Vehicles	1	1	1	1	1	1	1	1	1	1	1	1
PHF	0.52	0.92	0.65	0.85	0.77	0.79	0.78	0.67	0.56	0.78	0.81	0.62
Pretimed/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Extension of Effective Green	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Arrival Type	3	3		3	3		3	3		3	3	
Unit Extension	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Ped/Bike/RTOR Volume	0	0	2	0	0	6	7	3	65	24	2	2
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Parking/Grade/Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking/Hour												
Bus Stops/Hour	0	0		0	0		0	0		0	0	
Minimum Pedestrian Time		20.3			20.3			20.4			20.5	

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 47.0	G = 0.0	G = 0.0	G = 0.0	G = 45.0	G = 0.0	G = 0.0	G = 0.0
	Y = 5	Y = 0	Y = 0	Y = 0	Y = 5	Y = 0	Y = 0	Y = 0

Duration of Analysis (hrs) = *0.25* Cycle Length C = *102.0*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate	54	217		204	1176		164	776		373	293	
Lane Group Capacity	103	1631		534	1552		413	799		619	804	
v/c Ratio	0.52	0.13		0.38	0.76		0.40	0.97		0.60	0.36	
Green Ratio	0.46	0.46		0.46	0.46		0.44	0.44		0.44	0.44	
Uniform Delay d_1	19.6	15.8		18.0	22.8		19.3	27.9		21.7	19.0	
Delay Factor k	0.13	0.11		0.11	0.31		0.11	0.48		0.19	0.11	
Incremental Delay d_2	4.9	0.0		0.5	2.2		0.6	24.9		1.7	0.3	
PF Factor	1.000	1.000		1.000	1.000		1.000	1.000		1.000	1.000	
Control Delay	24.4	15.8		18.5	25.0		19.9	52.7		23.4	19.3	
Lane Group LOS	C	B		B	C		B	D		C	B	
Approach Delay	17.5			24.0			47.0			21.6		
Approach LOS	B			C			D			C		
Intersection Delay	29.6			Intersection LOS						C		

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SHORT REPORT

General Information		Site Information	
Analyst	NBK/RLD	Intersection	MYRTLE/WEST AVENUE
Agency or Co.	LACO ASSOCIATES	Area Type	All other areas
Date Performed	12/13/2010	Jurisdiction	EUREKA
Time Period	EVENING PEAK	Analysis Year	2010

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	1	2	0	1	2	0	1	1	0	2	1	0
Lane Group	L	TR		L	TR		L	TR		L	TR	
Volume (vph)	79	428	70	230	540	357	126	345	150	421	428	43
% Heavy Vehicles	1	1	1	1	1	1	1	1	1	1	1	1
PHF	0.83	0.70	0.83	0.73	0.85	0.85	0.93	0.84	0.94	0.96	0.87	0.81
Pretimed/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Extension of Effective Green	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Arrival Type	3	3		3	3		3	3		3	3	
Unit Extension	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Ped/Bike/RTOR Volume	0	0	4	0	0	68	30	3	8	44	1	4
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Parking/Grade/Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking/Hour												
Bus Stops/Hour	0	0		0	0		0	0		0	0	
Minimum Pedestrian Time		20.3			20.3			20.6			20.7	

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 58.0	G = 0.0	G = 0.0	G =	G = 46.0	G = 0.0	G = 0.0	G = 0.0
	Y = 5	Y = 0	Y = 0	Y =	Y = 5	Y = 0	Y = 0	Y = 0

Duration of Analysis (hrs) = 0.25 | Cycle Length C = 114.0

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate	95	691		315	975		135	562		439	540	
Lane Group Capacity	198	1791		314	1727		165	721		345	746	
v/c Ratio	0.48	0.39		1.00	0.56		0.82	0.78		1.27	0.72	
Green Ratio	0.51	0.51		0.51	0.51		0.40	0.40		0.40	0.40	
Uniform Delay d_1	18.2	17.1		28.0	19.3		30.3	29.6		34.0	28.6	
Delay Factor k	0.15	0.15		0.50	0.20		0.37	0.35		0.50	0.31	
Incremental Delay d_2	2.5	0.2		51.6	0.5		27.4	5.8		143.4	3.8	
PF Factor	1.000	1.000		1.000	1.000		1.000	1.000		1.000	1.000	
Control Delay	20.7	17.3		79.6	19.8		57.7	35.4		177.4	32.4	
Lane Group LOS	C	B		E	B		E	D		F	C	
Approach Delay	17.7			34.4			39.7			97.4		
Approach LOS	B			C			D			F		
Intersection Delay	48.3			Intersection LOS						D		

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SHORT REPORT

General Information		Site Information	
Analyst	*NBK/RLD*	Intersection	*MYRTLE/WEST AVENUE*
Agency or Co.	*LACO ASSOCIATES*	Area Type	*All other areas*
Date Performed	*12/13/2010*	Jurisdiction	*EUREKA*
Time Period	*MORNING PEAK*	Analysis Year	*2010*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	1	2	0	1	2	0	1	1	0	2	1	0
Lane Group	L	TR		L	TR		L	TR		L	TR	
Volume (vph)	36	243	42	228	720	481	169	518	214	379	219	42
% Heavy Vehicles	1	1	1	1	1	1	1	1	1	1	1	1
PHF	0.52	0.92	0.65	0.85	0.77	0.79	0.78	0.67	0.56	0.78	0.81	0.62
Pretimed/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Extension of Effective Green	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Arrival Type	3	3		3	3		3	3		3	3	
Unit Extension	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Ped/Bike/RTOR Volume	0	0	2	0	0	6	7	3	65	24	2	2
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Parking/Grade/Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking/Hour												
Bus Stops/Hour	0	0		0	0		0	0		0	0	
Minimum Pedestrian Time		26.1			26.1			26.1			26.2	

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 47.0	G = 0.0	G = 0.0	G = 0.0	G = 45.0	G = 0.0	G = 0.0	G = 0.0
	Y = 5	Y = 0	Y = 0	Y = 0	Y = 5	Y = 0	Y = 0	Y = 0

Duration of Analysis (hrs) = *0.25* Cycle Length C = *102.0*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate	69	326		268	1536		217	1039		486	335	
Lane Group Capacity	74	1604		473	1554		378	795		903	801	
v/c Ratio	0.93	0.20		0.57	0.99		0.57	1.31		0.54	0.42	
Green Ratio	0.46	0.46		0.46	0.46		0.44	0.44		0.44	0.44	
Uniform Delay d_1	26.0	16.4		20.1	27.2		21.3	28.5		20.9	19.5	
Delay Factor k	0.45	0.11		0.16	0.49		0.17	0.50		0.14	0.11	
Incremental Delay d_2	81.6	0.1		1.6	20.0		2.1	147.2		0.6	0.4	
PF Factor	1.000	1.000		1.000	1.000		1.000	1.000		1.000	1.000	
Control Delay	107.6	16.4		21.7	47.3		23.5	175.7		21.5	19.9	
Lane Group LOS	F	B		C	D		C	F		C	B	
Approach Delay	32.3			43.5			149.4			20.9		
Approach LOS	C			D			F			C		
Intersection Delay	69.2			Intersection LOS						E		

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SHORT REPORT

General Information		Site Information	
Analyst	*NBK/RLD*	Intersection	*MYRTLE/WEST AVENUE*
Agency or Co.	*LACO ASSOCIATES*	Area Type	*All other areas*
Date Performed	*12/13/2010*	Jurisdiction	*EUREKA*
Time Period	*EVENING PEAK*	Analysis Year	*2010*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	1	2	0	1	2	0	1	1	0	2	1	0
Lane Group	L	TR		L	TR		L	TR		L	TR	
Volume (vph)	100	565	92	304	713	456	166	440	198	535	544	55
% Heavy Vehicles	1	1	1	1	1	1	1	1	1	1	1	1
PHF	0.83	0.70	0.83	0.73	0.85	0.85	0.93	0.84	0.94	0.96	0.87	0.81
Pretimed/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Extension of Effective Green	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Arrival Type	3	3		3	3		3	3		3	3	
Unit Extension	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Ped/Bike/RTOR Volume	0	0	4	0	0	68	30	3	8	44	1	4
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Parking/Grade/Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking/Hour												
Bus Stops/Hour	0	0		0	0		0	0		0	0	
Minimum Pedestrian Time		26.1			4.2			26.3			26.4	

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 58.0	G = 0.0	G = 0.0	G = 0.0	G = 46.0	G = 0.0	G = 0.0	G = 0.0
	Y = 5	Y = 0	Y = 0	Y = 0	Y = 5	Y = 0	Y = 0	Y = 0

Duration of Analysis (hrs) = *0.25* Cycle Length C = *114.0*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate	120	913		416	1295		178	726		557	688	
Lane Group Capacity	102	1790		220	1726		65	720		599	746	
v/c Ratio	1.18	0.51		1.89	0.75		2.74	1.01		0.93	0.92	
Green Ratio	0.51	0.51		0.51	0.51		0.40	0.40		0.40	0.40	
Uniform Delay d_1	28.0	18.6		28.0	22.2		34.0	34.0		32.5	32.3	
Delay Factor k	0.50	0.12		0.50	0.31		0.50	0.50		0.45	0.44	
Incremental Delay d_2	144.2	0.2		417.6	1.9		823.7	35.6		21.2	16.9	
PF Factor	1.000	1.000		1.000	1.000		1.000	1.000		1.000	1.000	
Control Delay	172.2	18.8		445.6	24.1		857.7	69.6		53.7	49.2	
Lane Group LOS	F	B		F	C		F	E		D	D	
Approach Delay	36.6			126.6			224.8			51.2		
Approach LOS	D			F			F			D		
Intersection Delay	106.6			Intersection LOS						F		

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SHORT REPORT

General Information		Site Information	
Analyst	*NBK/RLD*	Intersection	*MYRTLE/WEST AVENUE*
Agency or Co.	*LACO ASSOCIATES*	Area Type	*All other areas*
Date Performed	*12/13/2010*	Jurisdiction	*EUREKA*
Time Period	*MORNING PEAK*	Analysis Year	*2010*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	1	2	0	1	2	0	1	1	0	2	1	0
Lane Group	L	TR		L	TR		L	TR		L	TR	
Volume (vph)	37	243	42	228	720	493	169	530	214	383	248	44
% Heavy Vehicles	1	1	1	1	1	1	1	1	1	1	1	1
PHF	0.52	0.92	0.65	0.85	0.77	0.79	0.78	0.67	0.56	0.78	0.81	0.62
Pretimed/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Extension of Effective Green	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Arrival Type	3	3		3	3		3	3		3	3	
Unit Extension	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Ped/Bike/RTOR Volume	0	0	2	0	0	6	7	3	65	24	2	2
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Parking/Grade/Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking/Hour												
Bus Stops/Hour	0	0		0	0		0	0		0	0	
Minimum Pedestrian Time		26.1			26.1			26.1			26.2	

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 47.0	G = 0.0	G = 0.0	G = 0.0	G = 45.0	G = 0.0	G = 0.0	G = 0.0
	Y = 5	Y = 0	Y = 0	Y = 0	Y = 5	Y = 0	Y = 0	Y = 0

Duration of Analysis (hrs) = *0.25* Cycle Length C = *102.0*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate	71	326		268	1551		217	1057		491	374	
Lane Group Capacity	74	1604		473	1552		345	795		903	803	
v/c Ratio	0.96	0.20		0.57	1.00		0.63	1.33		0.54	0.47	
Green Ratio	0.46	0.46		0.46	0.46		0.44	0.44		0.44	0.44	
Uniform Delay d_1	26.6	16.4		20.1	27.5		22.0	28.5		21.0	20.0	
Delay Factor k	0.47	0.11		0.16	0.50		0.21	0.50		0.14	0.11	
Incremental Delay d_2	90.5	0.1		1.6	22.7		3.6	156.9		0.7	0.4	
PF Factor	1.000	1.000		1.000	1.000		1.000	1.000		1.000	1.000	
Control Delay	117.1	16.4		21.7	50.2		25.7	185.4		21.6	20.5	
Lane Group LOS	F	B		C	D		C	F		C	C	
Approach Delay	34.4			46.0			158.2			21.1		
Approach LOS	C			D			F			C		
Intersection Delay	72.8			Intersection LOS						E		

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SHORT REPORT

General Information		Site Information	
Analyst	*NBK/RLD*	Intersection	*MYRTLE/WEST AVENUE*
Agency or Co.	*LACO ASSOCIATES*	Area Type	*All other areas*
Date Performed	*12/13/2010*	Jurisdiction	*EUREKA*
Time Period	*EVENING PEAK*	Analysis Year	*2010*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	1	2	0	1	2	0	1	1	0	2	1	0
Lane Group	L	TR		L	TR		L	TR		L	TR	
Volume (vph)	103	565	92	304	713	468	166	452	198	551	560	56
% Heavy Vehicles	1	1	1	1	1	1	1	1	1	1	1	1
PHF	0.83	0.70	0.83	0.73	0.85	0.85	0.93	0.84	0.94	0.96	0.87	0.81
Pretimed/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Extension of Effective Green	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Arrival Type	3	3		3	3		3	3		3	3	
Unit Extension	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Ped/Bike/RTOR Volume	0	0	4	0	0	68	30	3	8	44	1	4
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Parking/Grade/Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking/Hour												
Bus Stops/Hour	0	0		0	0		0	0		0	0	
Minimum Pedestrian Time		26.1			4.2			26.3			26.4	

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 58.0	G = 0.0	G = 0.0	G = 0.0	G = 46.0	G = 0.0	G = 0.0	G = 0.0
	Y = 5	Y = 0	Y = 0	Y = 0	Y = 5	Y = 0	Y = 0	Y = 0

Duration of Analysis (hrs) = *0.25* Cycle Length C = *114.0*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate	124	913		416	1310		178	740		574	708	
Lane Group Capacity	99	1790		220	1724		65	721		650	746	
v/c Ratio	1.25	0.51		1.89	0.76		2.74	1.03		0.88	0.95	
Green Ratio	0.51	0.51		0.51	0.51		0.40	0.40		0.40	0.40	
Uniform Delay d_1	28.0	18.6		28.0	22.4		34.0	34.0		31.5	32.9	
Delay Factor k	0.50	0.12		0.50	0.31		0.50	0.50		0.41	0.46	
Incremental Delay d_2	172.9	0.2		417.6	2.0		823.7	40.4		13.6	21.4	
PF Factor	1.000	1.000		1.000	1.000		1.000	1.000		1.000	1.000	
Control Delay	200.9	18.8		445.6	24.5		857.7	74.4		45.1	54.3	
Lane Group LOS	F	B		F	C		F	E		D	D	
Approach Delay	40.6			126.0			226.3			50.2		
Approach LOS	D			F			F			D		
Intersection Delay	107.1			Intersection LOS						F		

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Appendix C: Gap Study

Vehicular Gap Size Study

Major Street: West Avenue (Westbound)							**Minor Street: Tydd Street**	
City	Eureka						County	Humboldt
By	NBK/RLD						Date	Dec. 15, 2010
Adequate Gap size (sec)	Time Period 7:00 am - 7:15 am Total	Time Period 7:15 am - 7:30 am Total	Time Period 7:30 am - 7:45 am Total	Time Period 7:45 am - 8:00 am Total	Time Period 8:00 am - 8:15 am Total	Time Period 8:15 am - 8:30 am Total	Time Period 8:30 am - 8:45 am Total	Time Period 8:45 am - 9:00 am Total
< 6	9	2	5	10	6	3	2	3
7	2	2	4	7	3	3	3	2
8	2	2	0	4	3	4	0	3
9	0	2	1	1	4	1	4	3
10	4	3	5	4	3	2	2	0
11	0	4	1	1	1	0	1	0
12	3	1	1	1	1	2	3	1
13	1	1	2	0	4	1	1	2
14	1	2	1	2	3	1	0	1
15	0	4	0	4	0	0	1	1
16	1	0	1	1	0	0	1	1
17	0	1	0	0	2	2	1	1
18	1	2	0	1	1	1	0	1
19	2	2	1	0	1	0	0	0
20	2	0	1	0	0	2	0	5
21	1	3	0	0	1	0	2	1
22	2	1	1	0	0	1	1	2
23	0	0	0	1	1	0	1	2
24	1	0	0	0	0	1	0	1
25	1	0	0	1	2	1	0	0
26	3	1	1	0	0	0	0	0
27	1	1	0	0	0	2	2	0
28	1	0	2	1	0	0	0	2
29	0	0	0	0	0	0	0	0
30	1	1	0	0	0	1	0	0
31	0	0	0	0	0	0	0	0
32	0	0	1	0	0	0	1	0
33	0	0	0	1	0	0	0	0
34	0	0	0	0	0	0	0	0
35	1	0	0	0	1	1	0	0
36	1	0	0	0	0	0	0	0
37	0	1	0	0	0	0	0	0
38	0	1	0	0	0	0	0	0
39	0	0	1	0	0	0	0	0
40	0	1	0	0	0	0	0	0
41	0	0	1	0	0	0	0	0
>42	0	0	0	0	0	0	1	2

Vehicular Gap Size Study

Major Street: West Avenue (Eastbound)							**Minor Street: Tydd Street**	
City	Eureka						County	Humboldt
By	NBK/RLD						Date	Dec. 15, 2010
Adequate Gap size (sec)	Time Period 7:00 am - 7:15 am Total	Time Period 7:15 am - 7:30 am Total	Time Period 7:30 am - 7:45 am Total	Time Period 7:45 am - 8:00 am Total	Time Period 8:00 am - 8:15 am Total	Time Period 8:15 am - 8:30 am Total	Time Period 8:30 am - 8:45 am Total	Time Period 8:45 am - 9:00 am Total
< 6	3	2	1	0	3	4	3	5
7	1	1	0	2	1	0	1	3
8	0	0	0	1	0	1	1	2
9	1	1	0	0	1	1	2	1
10	1	0	4	1	1	0	2	3
11	0	1	0	0	1	1	2	1
12	1	1	3	1	0	0	1	0
13	0	3	0	0	0	1	3	0
14	2	0	0	0	1	0	1	0
15	0	1	0	0	0	0	0	0
16	0	1	0	2	1	0	0	2
17	0	0	1	0	0	0	0	0
18	0	2	0	1	0	0	0	0
19	1	0	0	1	1	1	0	0
20	0	0	0	0	1	0	0	0
21	0	0	0	0	0	1	1	1
22	0	1	1	1	0	0	0	0
23	0	1	0	0	1	0	0	0
24	2	0	0	1	1	0	0	0
25	0	0	0	0	0	0	1	0
26	0	1	1	1	0	0	2	0
27	0	0	0	1	0	0	1	0
28	1	1	0	0	0	1	2	0
29	0	0	0	0	2	0	0	2
30	0	0	0	4	1	1	2	0
31	1	0	0	0	2	1	0	0
32	1	1	0	0	1	0	0	1
33	0	1	2	0	0	0	1	0
34	1	2	0	0	1	1	0	0
35	1	1	0	1	0	0	0	2
36	0	1	0	0	1	0	1	1
37	1	0	1	1	1	2	0	0
38	0	0	1	0	1	1	2	2
39	0	1	0	2	2	1	0	1
40	1	1	0	0	1	0	1	2
41	0	0	0	3	0	0	0	1
>42	5	4	6	0	5	3	2	1

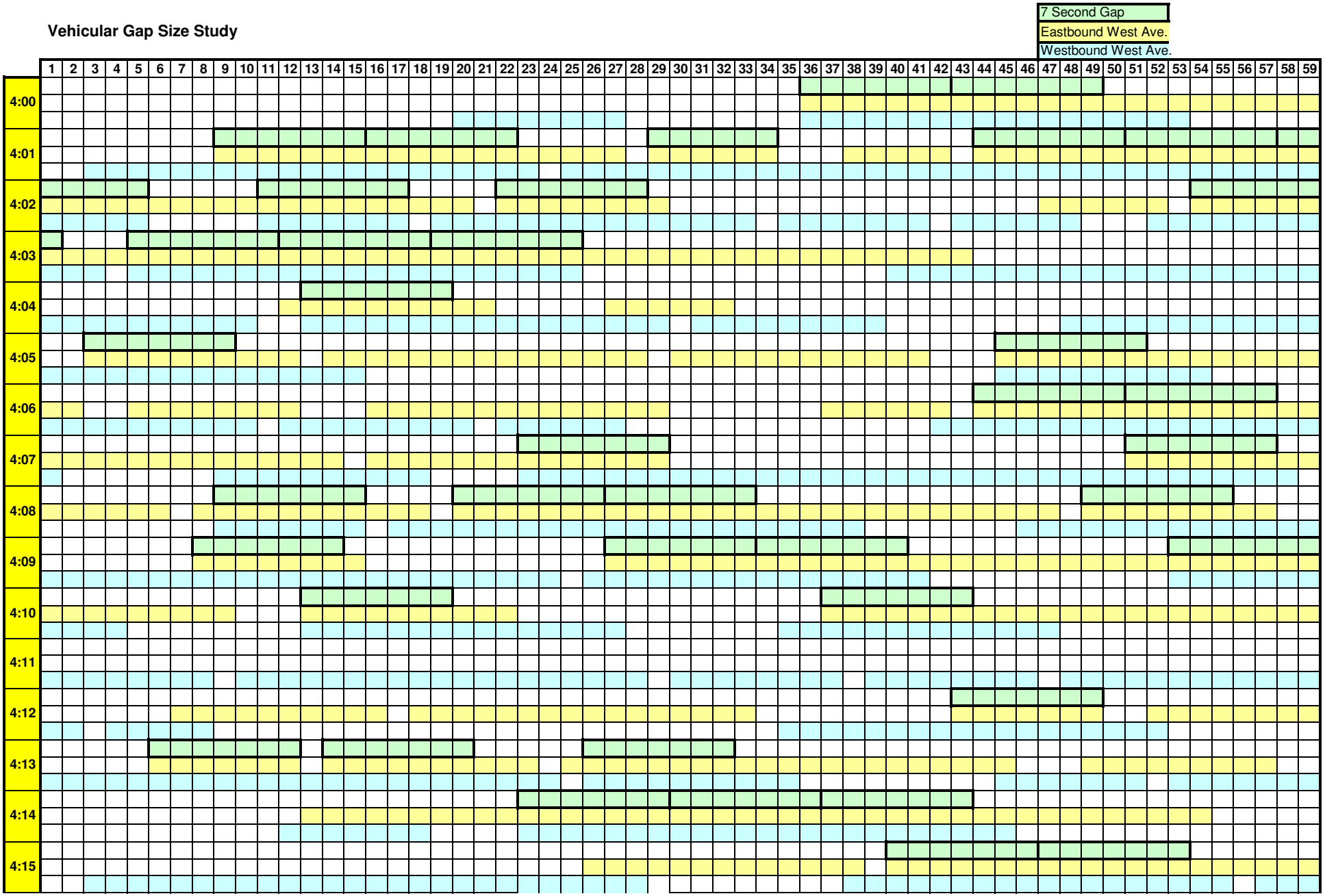
Vehicular Gap Size Study

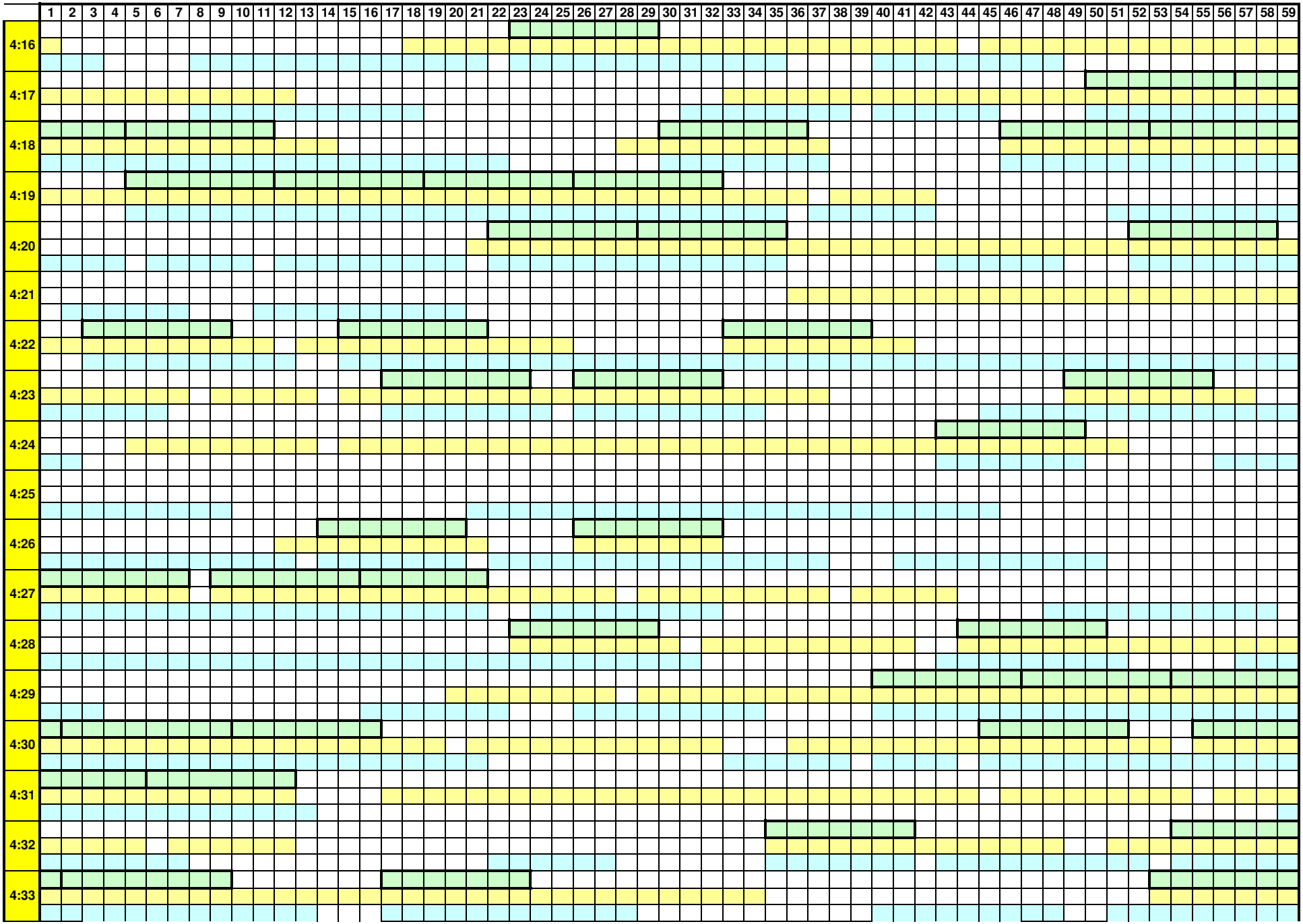
Major Street: West Avenue (Westbound)							Minor Street: Tydd Street	
City	Eureka						County	Humboldt
By	NBK/RLD						Date	Dec. 15, 2010
Adequate Gap size (sec)	Time Period 4:00 pm - 4:15 pm Total	Time Period 4:15 pm - 4:30 pm Total	Time Period 4:30 pm - 4:45 pm Total	Time Period 4:45 pm - 5:00 pm Total	Time Period 5:00 pm - 5:15 pm Total	Time Period 5:15 pm - 5:30 pm Total	Time Period 5:30 pm - 5:45 pm Total	Time Period 5:45 pm - 6:00 pm Total
< 6	3	8	9	4	2	2	2	2
7	6	3	4	5	2	4	1	2
8	4	4	4	5	4	5	1	3
9	2	6	3	2	6	3	1	3
10	4	3	4	5	4	4	1	2
11	2	2	3	2	1	1	0	3
12	0	1	2	2	2	0	3	4
13	1	3	4	1	1	1	3	1
14	1	3	3	3	1	0	1	1
15	2	1	0	0	0	0	0	2
16	1	1	0	1	1	1	2	1
17	1	1	2	2	3	1	0	1
18	3	0	0	2	1	2	2	4
19	2	0	2	0	0	0	1	1
20	0	0	1	0	0	0	0	0
21	2	1	0	1	0	3	0	1
22	1	0	0	1	0	0	0	0
23	1	0	0	0	0	0	0	0
24	1	0	0	1	0	0	0	0
25	0	1	1	0	1	1	1	1
26	1	0	0	0	0	0	0	0
27	1	0	1	0	0	0	0	0
28	0	0	0	0	0	0	0	1
29	0	0	0	0	0	0	0	0
30	1	0	0	0	0	1	0	0
31	0	2	0	0	0	0	0	1
32	0	1	0	0	0	0	0	0
33	0	0	0	0	0	1	0	0
34	0	0	1	1	0	0	0	0
35	0	0	0	0	0	0	1	0
36	1	0	1	0	0	1	0	1
37	0	0	0	0	0	0	0	1
38	1	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0
40	1	0	0	0	0	0	0	1
41	0	1	0	0	0	0	0	0
>42	0	1	0	1	1	0	2	0

Vehicular Gap Size Study

Major Street: West Avenue (Eastbound)							Minor Street: Tydd Street	
City	Eureka						County	Humboldt
By	NBK/RLD						Date	Dec. 15, 2010
Adequate Gap size (sec)	Time Period 4:00 pm - 4:15 pm Total	Time Period 4:15 pm - 4:30 pm Total	Time Period 4:30 pm - 4:45 pm Total	Time Period 4:45 pm - 5:00 pm Total	Time Period 5:00 pm - 5:15 pm Total	Time Period 5:15 pm - 5:30 pm Total	Time Period 5:30 pm - 5:45 pm Total	Time Period 5:45 pm - 6:00 pm Total
< 6	5	3	2	6	3	3	1	0
7	2	3	2	0	7	1	0	2
8	4	2	4	3	4	2	0	1
9	2	4	4	2	4	0	1	2
10	5	3	1	3	1	1	0	2
11	1	0	1	2	2	1	0	4
12	1	2	1	0	0	1	1	0
13	1	1	0	4	0	0	1	0
14	2	0	1	2	3	1	0	0
15	2	1	2	1	2	1	0	0
16	1	1	0	0	1	1	0	0
17	1	0	1	1	0	0	1	0
18	0	1	0	0	1	0	0	1
19	1	1	1	0	0	0	0	0
20	1	0	1	0	0	1	1	0
21	1	0	1	0	0	0	0	0
22	0	0	0	1	0	0	0	0
23	1	1	0	1	0	0	0	0
24	1	0	0	2	0	0	0	1
25	0	0	1	1	0	0	0	0
26	0	1	0	0	1	0	0	0
27	0	0	0	1	1	0	0	0
28	1	0	1	0	0	0	0	0
29	0	0	1	0	0	0	1	0
30	1	0	0	0	0	1	0	0
31	0	0	0	0	1	0	1	1
32	0	0	0	0	1	0	0	0
33	0	0	1	0	0	0	0	1
34	0	0	0	2	2	0	0	0
35	0	1	0	0	0	0	0	3
36	1	0	1	0	0	1	0	1
37	0	1	1	0	0	1	0	0
38	0	0	0	0	0	0	0	0
39	0	1	0	0	0	1	0	0
40	0	0	0	0	0	0	0	0
41	0	1	0	0	0	0	0	0
>42	3	2	4	2	2	1	0	4

Vehicular Gap Size Study

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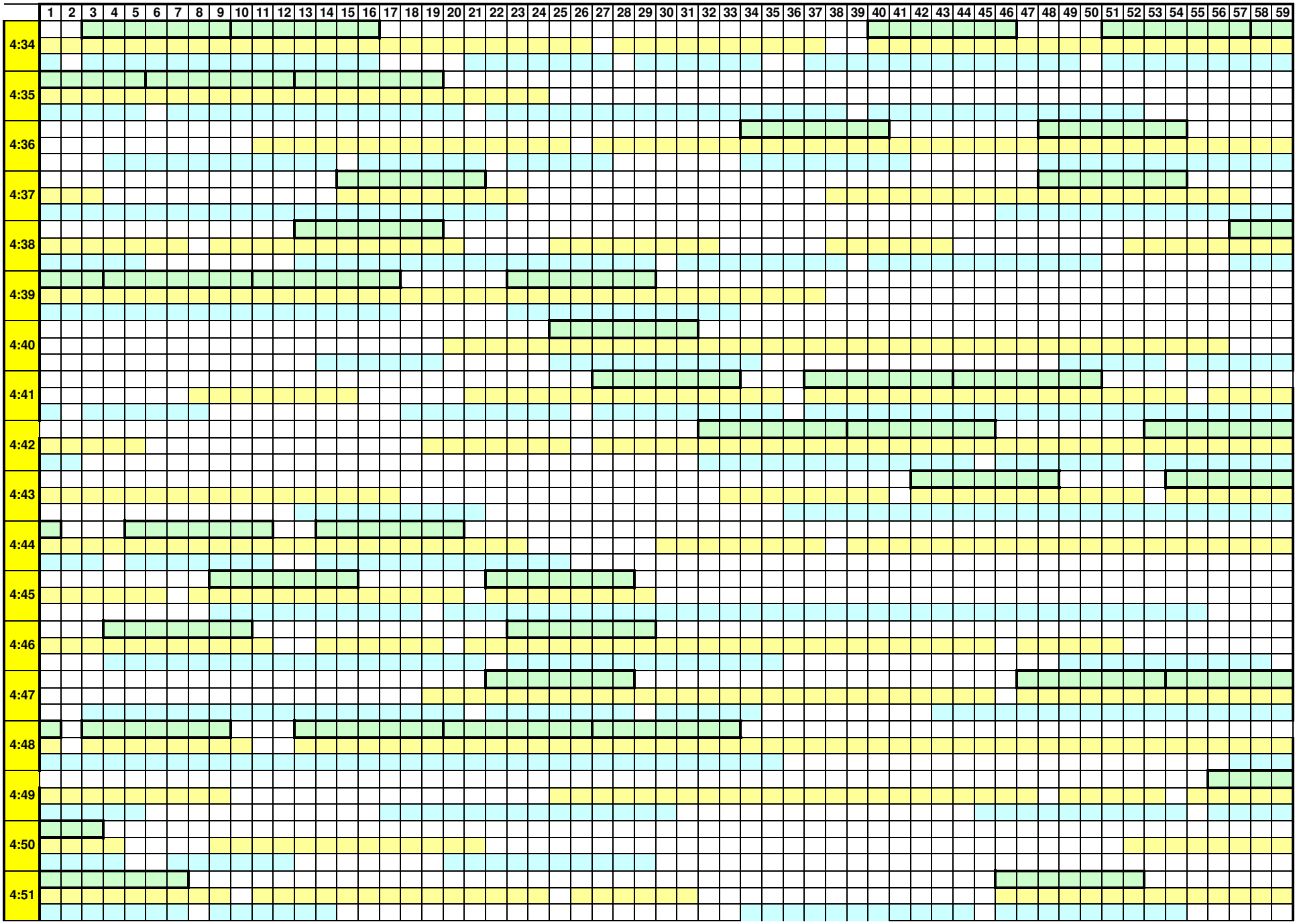
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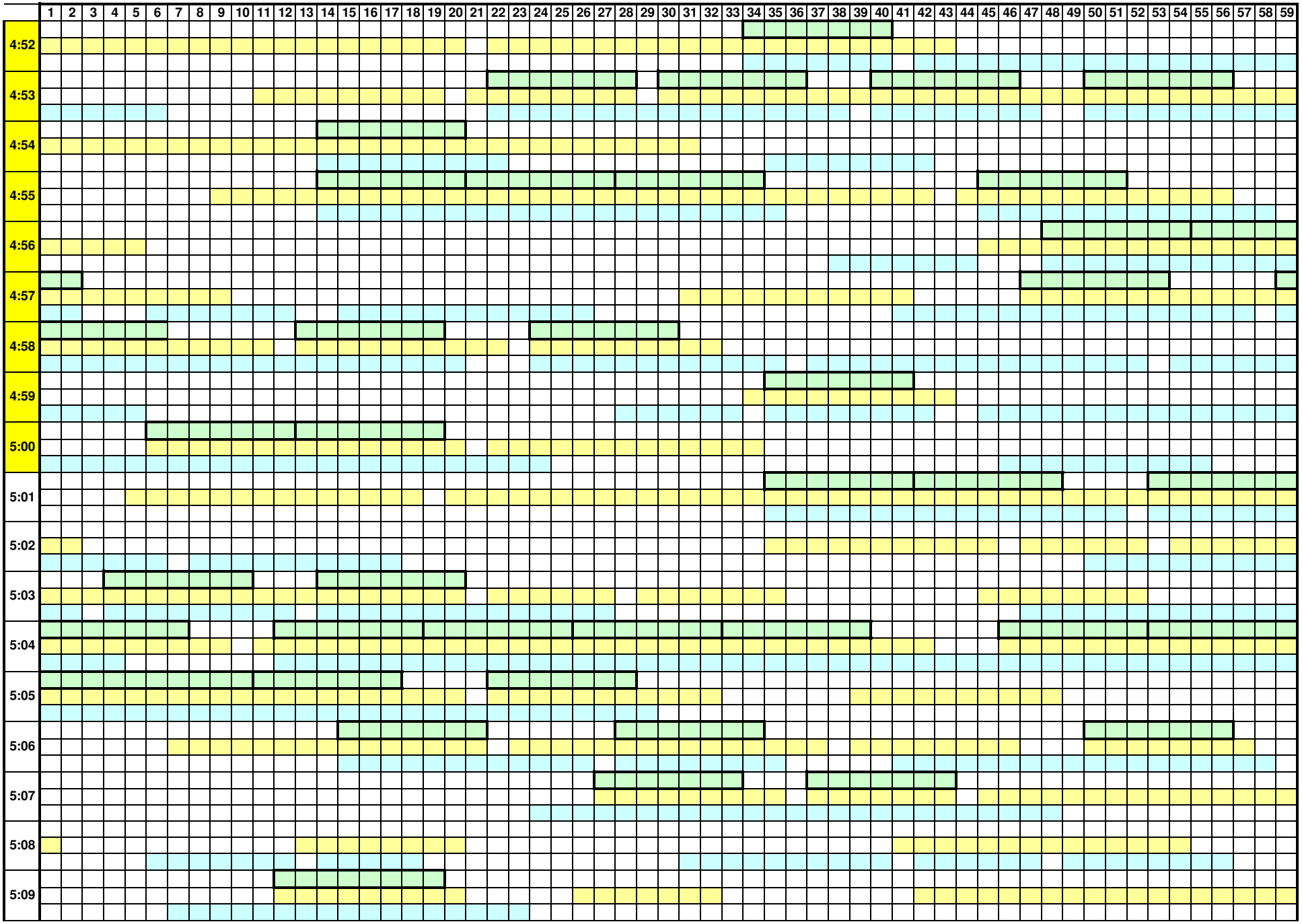
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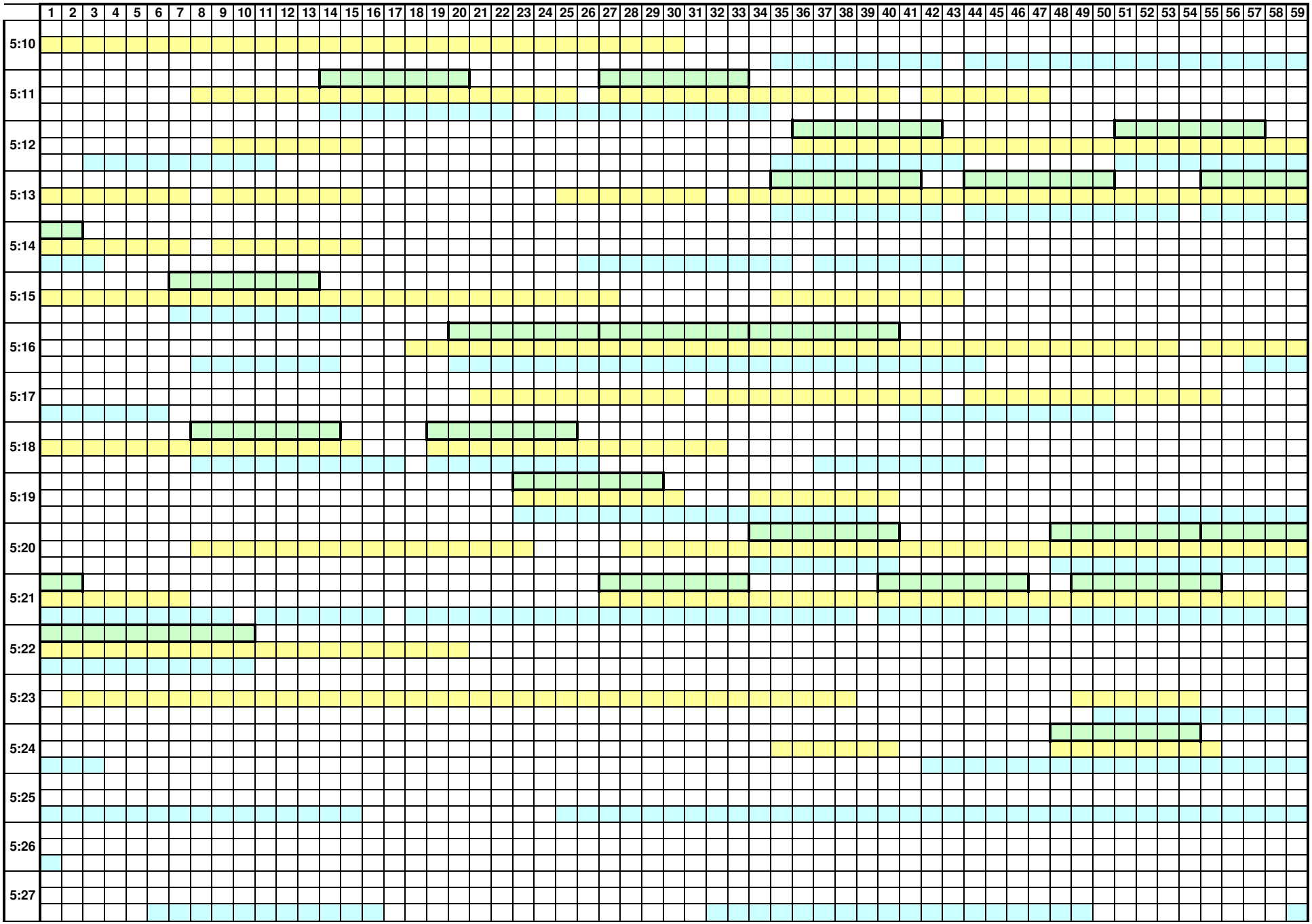
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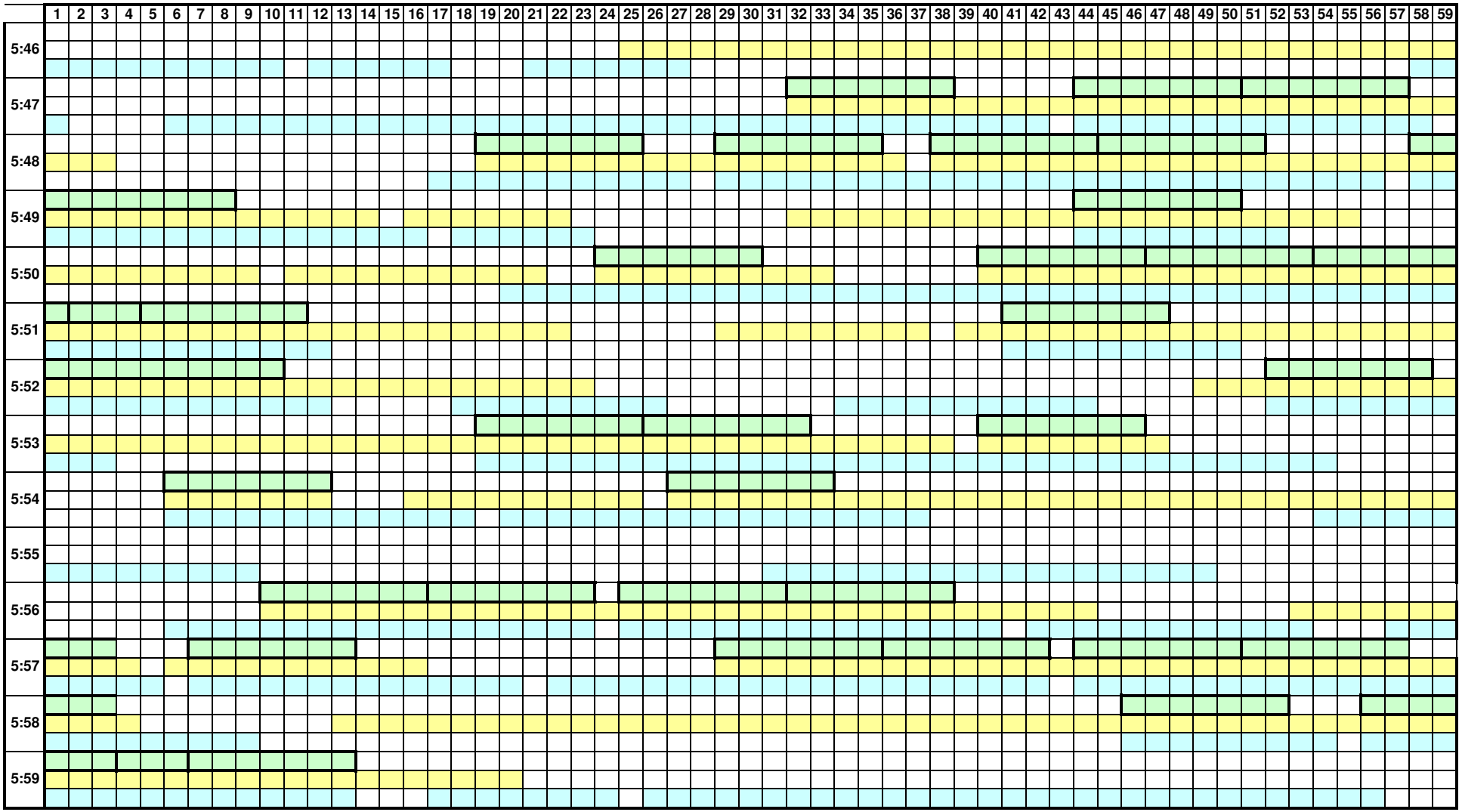
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Appendix D: Accident Log

City of Eureka
Police Department

Traffic Collision History Report

Location: Tydd Street / West Avenue
Date Range Reported: 12/1/2000 - 12/1/2010

Report No.	Date	Time	Dist.	Dir.	Type of Collision	Motor Veh. Involved With	Direct. of Travel 1	Movement Prec. Coll. 1	Direct. of Travel 2	Movement Prec. Coll. 2	PCF	Inj.	Kil
3T02-821	10/24/02	00:04	20	South	Broadside	Other Motor Vehicle	East	Entering Traffic	South	Proceeding Straight	Driving Under Influence	0	0
3T03-1039	11/21/03	09:19	206	North	Broadside	Other Motor Vehicle	South	Making Right Turn	South	Proceeding Straight	Improper Turning	0	0
3T04-437	5/28/04	13:34	1	South	Broadside	Other Motor Vehicle	South	Making Right Turn	South	Proceeding Straight	Improper Turning	0	0
3T04-455	6/3/04	16:59	0	In Int.	Broadside	Other Motor Vehicle	East	Entering Traffic	East	Proceeding Straight	Unsafe Starting or Backing	0	0
3T05-370	6/21/05	18:33	66	North	Rear-End	Parked Motor Vehicle	North	Making Right Turn	North	Stopped In Road	Driving Under Influence	0	0
3T06-358	5/27/06	23:48	0	In Int.	Sideswipe	Parked Motor Vehicle	South		North		Driving Under Influence	0	0
3T08-142	2/23/08	19:39	6	North	Sideswipe	Parked Motor Vehicle	North	Proceeding Straight	North	Parked	Driving Under Influence	0	0
3T09-688	10/12/09	08:00	5	East	Broadside	Pedestrian	West		South	Proceeding Straight	Unknown	1	0
3T10-335	5/16/10	15:30	0	In Int.	Hit Object	Fixed Object	East	Proceeding Straight			Driving Under Influence	1	0
3T10-712	10/22/10	13:11	12	South	Broadside	Other Motor Vehicle	East	Proceeding Straight	South	Proceeding Straight	Auto R/W Violation	1	0

City of Eureka
Police Department

Traffic Collision History Report

Location: Tydd Street / West Avenue
Date Range Reported: 12/1/2000 - 12/1/2010

Report No.	Date	Time	Dist.	Dir.	Type of Collision	Motor Veh. Involved With	Direct. of Travel 1	Movement Prec. Coll. 1	Direct. of Travel 2	Movement Prec. Coll. 2	PCF	Inj.	Kil

Total Number of Collisions: 10

Settings Used For Query

Parameter	Setting
Street Name	Tydd Street
Cross Street	West Avenue
Starting Date	12/1/2000
Ending Date	12/1/2010
Distance from Intersection	<= 250' for non rear-end collisions
	<= 250' for rear-end collisions

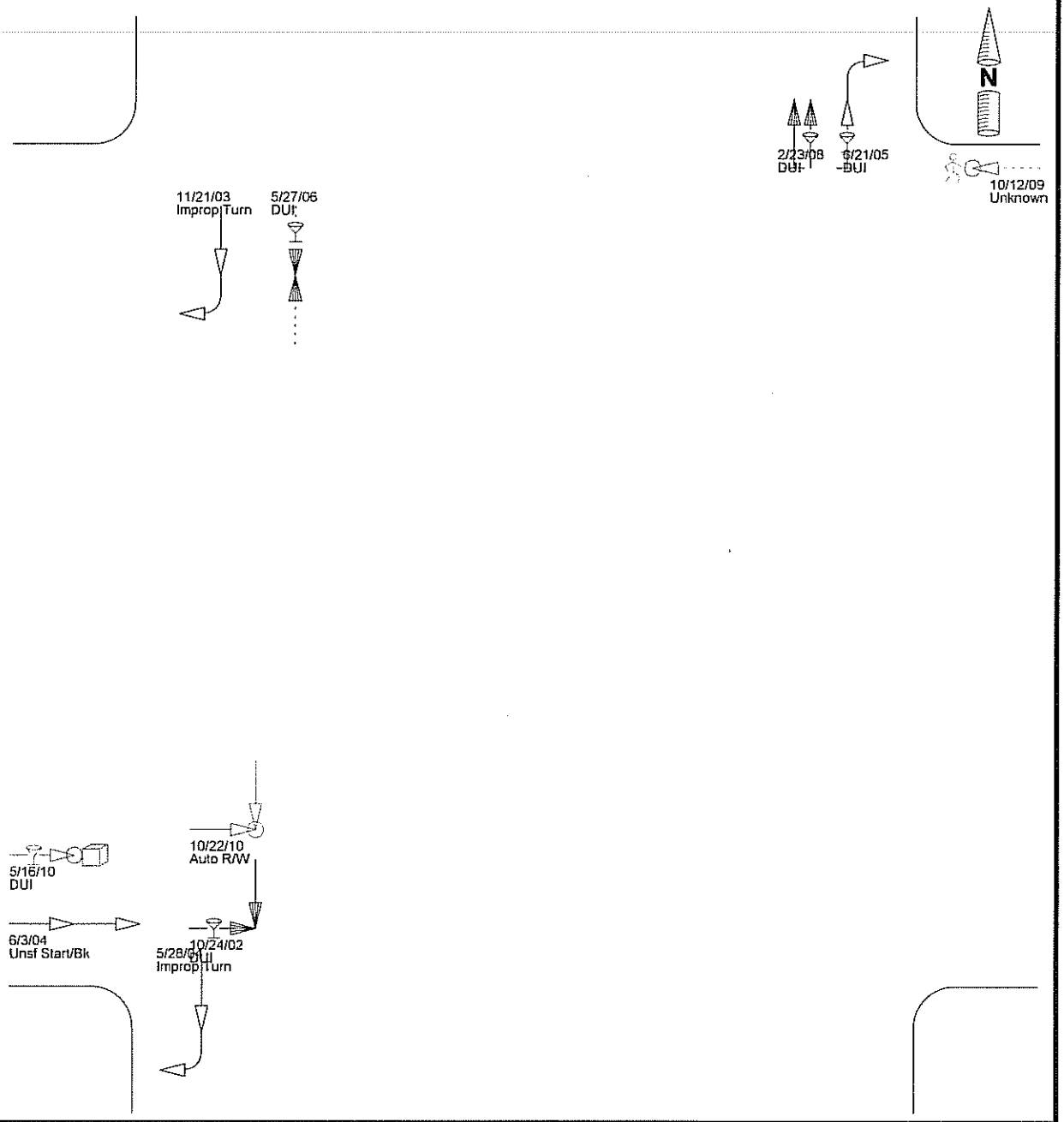
Collision Diagram

Horizontal Street: TYDD STREET

Vertical Street: WEST AVENUE

From: 12/1/2000 To: 12/1/2010

Date Prepared: 12/13/2010



Number of Collisions

7	Property Damage Only
3	Injury Collisions
0	Fatal Collisions
10	Total Collisions

Legend

- Moving Vehicle
- Stopped Vehicle
- Backing Vehicle
- Ran Off Road
- Movement Unknown
- Right Turn
- Left Turn
- Sideswipe
- Day
- Night
- Pedestrian
- Fixed Object
- Bicycle
- DUI
- Injury
- Fatal

City of Eureka
Police Department

Traffic Collision History Report

Location: Searles Street / West Avenue
Date Range Reported: 12/1/2000 - 12/1/2010

Report No.	Date	Time	Dist.	Dir.	Type of Collision	Motor Veh. Involved With	Direct. of Travel 1	Movement Prec. Coll. 1	Direct. of Travel 2	Movement Prec. Coll. 2	PCF	Inj.	Kil
3T00-866	12/13/00	18:18	216	South	Broadside	Other Motor Vehicle	North	Proceeding Straight	West	Making Right Turn	Unsafe Speed	2	0
3T02-088	2/8/02	15:50	50	North	Broadside	Other Motor Vehicle	South	Passing Other Vehicle	South	Making Right Turn	Improper Passing	0	0
3T02-230	3/28/02	19:25	95	South	Vehicle - Pedestrian	Pedestrian	East	Other	East	Other	Pedestrian Violation	2	0
3T03-461	6/3/03	12:40	198	North	Broadside	Other Motor Vehicle	West	Entering Traffic	North	Proceeding Straight	Auto R/W Violation	1	0
3T03-1096	12/8/03	15:15	246	West	Broadside	Other Motor Vehicle	North	Making Right Turn	East	Proceeding Straight	Auto R/W Violation	1	0
3T04-804	10/8/04	20:13	38	South	Broadside	Other Motor Vehicle	East	Entering Traffic	South	Proceeding Straight	Auto R/W Violation	0	0
3T07-406	5/30/07	10:35	229	East	Hit Object	Fixed Object	West				Unsafe Starting or Backing	0	0
3T08-584	9/8/08	15:36	165	South	Broadside	Bicycle	East	Proceeding Straight	North	Proceeding Straight	Other Hazardous Movement	2	0
3T10-787	11/23/10	12:15	0	In Int.	Sideswipe	Parked Motor Vehicle	North	Parking Maneuver	North	Parked	Other Improper Driving	0	0

City of Eureka
Police Department

Traffic Collision History Report

Location: Searles Street / West Avenue
Date Range Reported: 12/1/2000 - 12/1/2010

Report No.	Date	Time	Dist.	Dir.	Type of Collision	Motor Veh. Involved With	Direct. of Travel 1	Movement Prec. Coll. 1	Direct. of Travel 2	Movement Prec. Coll. 2	PCF	Inj.	Kil

Total Number of Collisions: 9

Settings Used For Query

Parameter	Setting
Street Name	Searles Street
Cross Street	West Avenue
Starting Date	12/1/2000
Ending Date	12/1/2010
Distance from Intersection	<= 250' for non rear-end collisions
	<= 250' for rear-end collisions

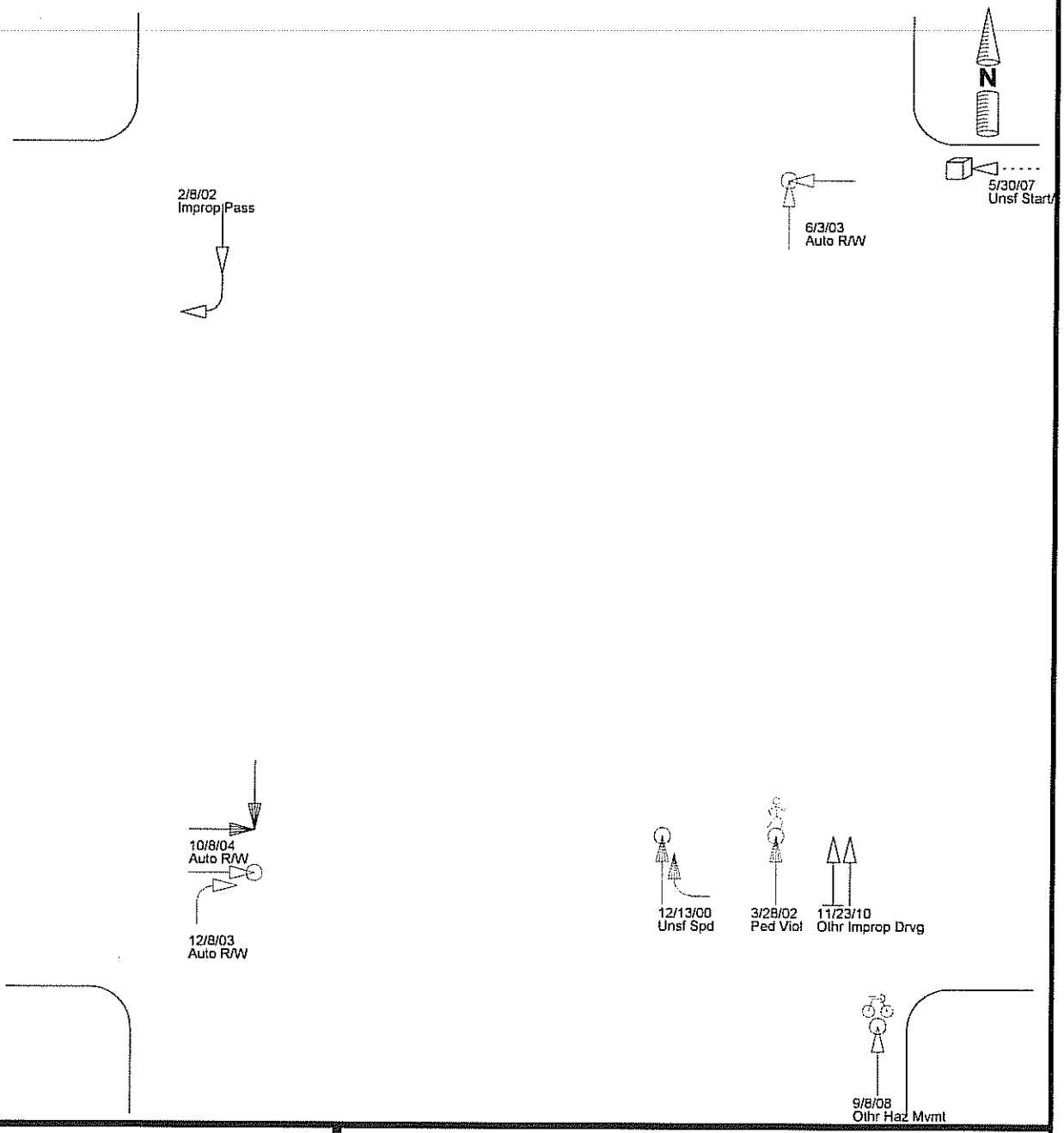
Collision Diagram

Horizontal Street: SEARLES STREET

Vertical Street: WEST AVENUE

From: 12/1/2000 To: 12/1/2010

Date Prepared: 12/13/2010



Number of Collisions

- 4 Property Damage Only
- 5 Injury Collisions
- 0 Fatal Collisions
- 9 Total Collisions

Legend

- Moving Vehicle
- Stopped Vehicle
- Backing Vehicle
- Ran Off Road
- Movement Unknown
- Right Turn
- Left Turn
- Sideswipe
- Day
- Night
- Pedestrian
- Fixed Object
- Bicycle
- DUI
- Injury
- Fatal

Color Legend - Highest Degree of Injury

Medium Blue = Fatal

Purple = Severe Injury

Green = Other Visible Injury

Teal = Complaint of Pain

Dark Blue = Property Damage Only

Settings Used For Query

Parameter	Setting
Street Name	Searles Street
Cross Street	West Avenue
Starting Date	12/1/2000
Ending Date	12/1/2010
Distance from Intersection	<= 250' for non rear-end collisions <= 250' for rear-end collisions

City of Eureka
Police Department

Traffic Collision History Report

Location: 6th Street / West Avenue
Date Range Reported: 12/1/2000 - 12/1/2010

Report No.	Date	Time	Dist.	Dir.	Type of Collision	Motor Veh. Involved With	Direct. of Travel 1	Movement Prec. Coll. 1	Direct. of Travel 2	Movement Prec. Coll. 2	PCF	Inj.	Kil
3T00-832	12/1/00	12:28	0	In Int.	Broadside	Other Motor Vehicle	East	Proceeding Straight	North	Proceeding Straight	Auto R/W Violation	0	0
3T03-741	8/27/03	09:48	0	In Int.	Broadside	Other Motor Vehicle	West	Proceeding Straight	North	Proceeding Straight	Auto R/W Violation	0	0
3T05-793	12/16/05	12:04	0	In Int.	Broadside	Other Motor Vehicle	West	Proceeding Straight	South	Proceeding Straight	Auto R/W Violation	1	0
3T06-17	1/6/06	13:13	0	In Int.	Broadside	Bicycle	West	Proceeding Straight	North	Proceeding Straight	Auto R/W Violation	0	0
3T06-131	2/23/06	01:40	0	In Int.	Sideswipe	Fixed Object	West	Proceeding Straight			Other Improper Driving	0	0
3T06-681	10/5/06	23:48	60	South	Hit Object	Fixed Object	South				Unsafe Starting or Backing	0	0
3T09-557	8/24/09	14:55	120	South	Rear-End	Other Motor Vehicle	South	Proceeding Straight	South	Proceeding Straight	Unsafe Speed	1	0
3T09-609	9/10/09	12:20	0	In Int.	Broadside	Bicycle	North	Making Left Turn	North	Proceeding Straight	Improper Turning	1	0

City of Eureka
Police Department

Traffic Collision History Report

Location: 6th Street / West Avenue
Date Range Reported: 12/1/2000 - 12/1/2010

Report No.	Date	Time	Dist.	Dir.	Type of Collision	Motor Veh. Involved With	Direct. of Travel 1	Movement Prec. Coll. 1	Direct. of Travel 2	Movement Prec. Coll. 2	PCF	Inj.	Kil

Total Number of Collisions: 8

Settings Used For Query

Parameter	Setting
Street Name	6th Street
Cross Street	West Avenue
Starting Date	12/1/2000
Ending Date	12/1/2010
Distance from Intersection	<= 250' for non rear-end collisions
	<= 250' for rear-end collisions

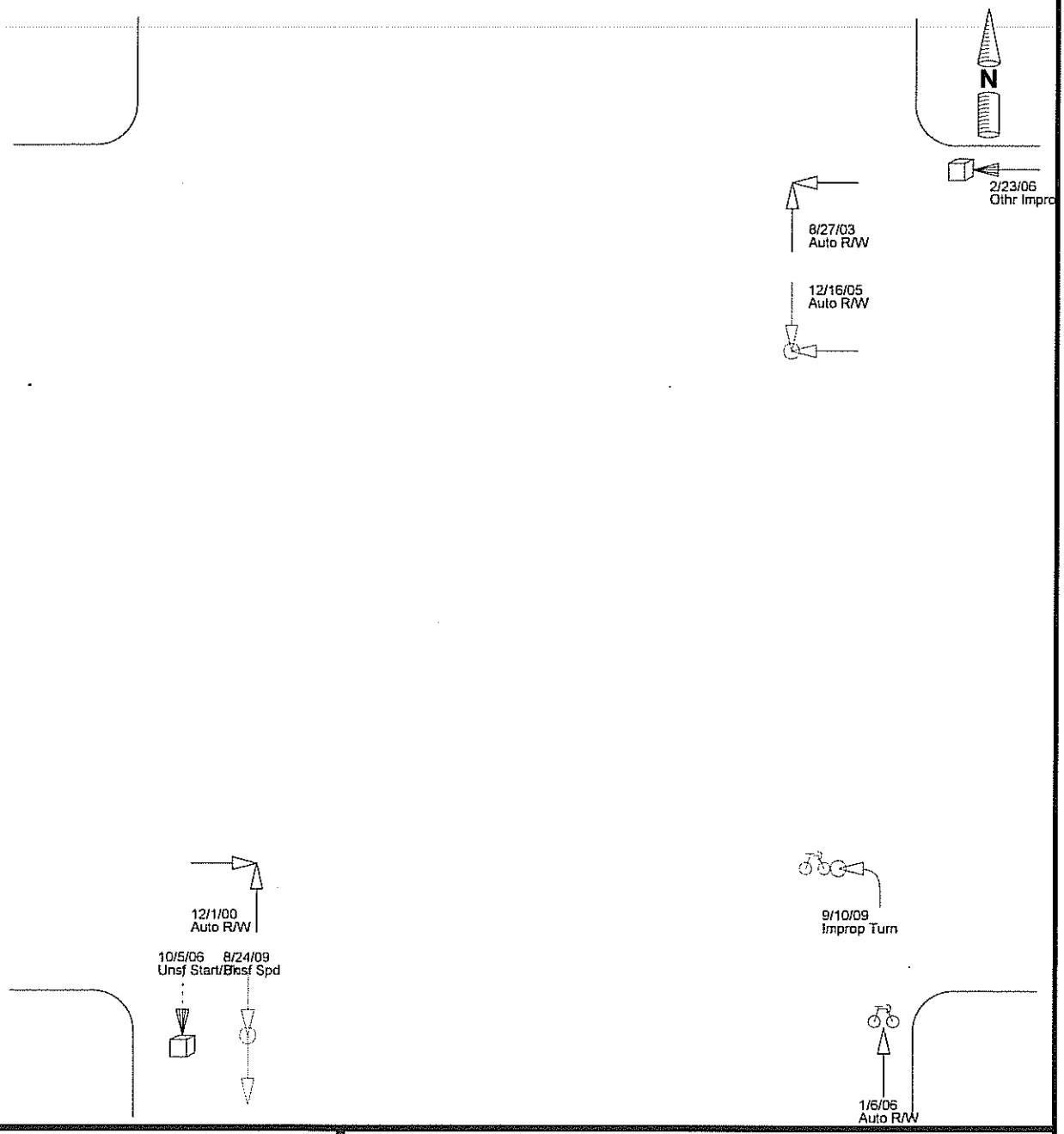
Collision Diagram

Horizontal Street: 6TH STREET

Vertical Street: WEST AVENUE

From: 12/1/2000 To: 12/1/2010

Date Prepared: 12/13/2010



Number of Collisions

- 5 Property Damage Only
- 3 Injury Collisions
- 0 Fatal Collisions
- 8 Total Collisions

Legend

- Moving Vehicle
- Stopped Vehicle
- Backing Vehicle
- Ran Off Road
- Movement Unknown
- Right Turn
- Left Turn
- Sideswipe
- Day
- Night
- Pedestrian
- Fixed Object
- Bicycle
- DUI
- Injury
- Fatal

Color Legend - Highest Degree of Injury

Medium Blue = Fatal

Purple = Severe Injury

Green = Other Visible Injury

Teal = Complaint of Pain

Dark Blue = Property Damage Only

Settings Used For Query

Parameter	Setting
Street Name	6th Street
Cross Street	West Avenue
Starting Date	12/1/2000
Ending Date	12/1/2010
Distance from Intersection	<= 250' for non rear-end collisions <= 250' for rear-end collisions

City of Eureka
Police Department

Traffic Collision History Report

Location: Myrtle Avenue / West Avenue
Date Range Reported: 12/1/2000 - 12/1/2010

Report No.	Date	Time	Dist.	Dir.	Type of Collision	Motor Veh. Involved With	Direct. of Travel 1	Movement Prec. Coll. 1	Direct. of Travel 2	Movement Prec. Coll. 2	PCF	Inj.	Kil
3T00-875	12/18/00	20:11	0	In Int.	Broadside	Other Motor Vehicle	East	Proceeding Straight	North	Proceeding Straight	Traffic Signals and Signs	0	0
3T01-081	1/31/01	14:00	145	South	Sideswipe	Other Motor Vehicle	North	Passing Other Vehicle	North	Making Right Turn	Improper Passing	1	0
3T01-136	2/22/01	12:43	150	West	Rear-End	Other Motor Vehicle	West	Proceeding Straight	West	Proceeding Straight	Following Too Closely	1	0
3T01-489	7/2/01	14:15	50	East	Rear-End	Other Motor Vehicle	West	Proceeding Straight	West	Stopped In Road	Unsafe Speed	1	0
3T01-541	7/27/01	16:01	50	East	Rear-End	Other Motor Vehicle	West	Proceeding Straight	West	Stopped In Road	Unsafe Speed	1	0
3T01-756	10/26/01	17:55	0	In Int.	Broadside	Other Motor Vehicle	East	Making Left Turn	North	Proceeding Straight	Auto R/W Violation	0	0
3T01-878	12/4/01	07:30	0	In Int.	Head-On	Other Motor Vehicle	South	Making Left Turn	North	Proceeding Straight	Traffic Signals and Signs	1	0
3T01-961	12/22/01	11:38	115	North	Broadside	Other Motor Vehicle	West	Making Left Turn	North	Proceeding Straight	Auto R/W Violation	0	0
3T02-004	1/3/02	09:05	125	North	Hit Object	Fixed Object	North	Making Right Turn			Improper Turning	0	0
3T02-051	1/23/02	15:52	125	East	Rear-End	Other Motor Vehicle	East	Proceeding Straight	East	Slowing/Stopping	Following Too Closely	1	0
3T02-206	3/20/02	15:45	20	East	Rear-End	Other Motor Vehicle	East	Proceeding Straight	East	Stopped In Road	Unsafe Speed	1	0
3T02-313	4/28/02	06:56	194	North	Broadside	Other Motor Vehicle	North	Making U Turn	North	Proceeding Straight	Improper Turning	0	0
3T02-316	4/29/02	05:49	70	North	Head-On	Other Motor Vehicle	North	Making Right Turn	South	Proceeding Straight	Unsafe Lane Change	0	0
3T02-397	6/3/02	16:45	136	East	Rear-End	Other Motor Vehicle	South	Proceeding Straight	South	Slowing/Stopping	Following Too Closely	0	0

City of Eureka
Police Department

Traffic Collision History Report

Location: Myrtle Avenue / West Avenue
Date Range Reported: 12/1/2000 - 12/1/2010

Report No.	Date	Time	Dist.	Dir.	Type of Collision	Motor Veh. Involved With	Direct. of Travel 1	Movement Prec. Coll. 1	Direct. of Travel 2	Movement Prec. Coll. 2	PCF	Inj.	Kil
3T02-405	6/5/02	15:08	0	In Int.	Rear-End	Other Motor Vehicle	East	Proceeding Straight	East	Proceeding Straight	Unsafe Speed	0	0
3T02-802	10/18/02	16:20	122	North	Broadside	Other Motor Vehicle	South	Entering Traffic	South	Proceeding Straight	Auto R/W Violation	0	0
3T02-806	10/18/02	23:31	228	West	Sideswipe	Parked Motor Vehicle	East	Proceeding Straight	East	Parked	Driving Under Influence	0	0
3T02-867	11/5/02	14:16	0	In Int.	Rear-End	Other Motor Vehicle	West	Proceeding Straight	North	Stopped In Road	Unsafe Speed	0	0
3T02-954	12/5/02	18:13	15	East	Rear-End	Other Motor Vehicle	West	Proceeding Straight	West	Making Right Turn	Unsafe Starting or Backing	0	0
3T02-960	12/6/02	18:23	0	In Int.	Sideswipe	Other Motor Vehicle	South	Making Left Turn	North	Proceeding Straight	Auto R/W Violation	1	0
3T03-015	1/7/03	16:36	100	East	Broadside	Other Motor Vehicle	North	Making Left Turn	South	Making Left Turn	Auto R/W Violation	0	0
3T03-149	2/25/03	11:45	2	South	Hit Object	Fixed Object	South	Other Unsafe Turning			Improper Turning	0	0
3T03-159	2/26/03	14:27	132	West	Sideswipe	Other Motor Vehicle	West	Merging	West	Proceeding Straight	Improper Turning	0	0
3T03-199	3/10/03	15:35	0	In Int.	Rear-End	Other Motor Vehicle	East	Making Right Turn	South	Stopped In Road	Improper Turning	0	0
3T03-218	3/14/03	18:25	160	North	Sideswipe	Other Motor Vehicle	North	Proceeding Straight	South	Making Left Turn	Auto R/W Violation	0	0
3T03-638	7/25/03	15:38	98	East	Rear-End	Other Motor Vehicle	East	Proceeding Straight	East	Proceeding Straight	Unsafe Speed	0	0
3T03-825	9/19/03	14:40	6	East	Sideswipe	Other Motor Vehicle	East	Backing	West	Stopped In Road	Unsafe Starting or Backing	0	0
3T03-933	10/21/03	12:05	75	West	Rear-End	Motor Vehicle on Other	West	Entering Traffic	West	Proceeding Straight	Auto R/W Violation	1	0

City of Eureka
Police Department

Traffic Collision History Report

Location: Myrtle Avenue / West Avenue
Date Range Reported: 12/1/2000 - 12/1/2010

Report No.	Date	Time	Dist.	Dir.	Type of Collision	Motor Veh. Involved With	Direct. of Travel 1	Movement Prec. Coll. 1	Direct. of Travel 2	Movement Prec. Coll. 2	PCF	Inj.	Kil
3T03-989	11/6/03	00:28	43	South	Hit Object	Fixed Object	South	Other Unsafe Turning			Unsafe Speed	0	0
3T03-1050	11/23/03	12:23	0	In Int.	Rear-End	Other Motor Vehicle	East	Making Right Turn	South	Making Left Turn	Unsafe Starting or Backing	0	0
3T03-1154	12/26/03	08:12	166	South	Broadside	Other Motor Vehicle	West	Making Left Turn	South	Stopped In Road	Auto R/W Violation	1	0
3T04-189	3/6/04	13:14	188	South	Rear-End	Other Motor Vehicle	West	Proceeding Straight	North	Stopped In Road	Following Too Closely	1	0
3T04-206	3/7/04	19:08	0	In Int.	Head-On	Other Motor Vehicle	East	Proceeding Straight	North	Making Left Turn	Traffic Signals and Signs	0	0
3T04-221	3/18/04	07:39	0	In Int.	Rear-End	Other Motor Vehicle	West	Proceeding Straight	West	Proceeding Straight	Following Too Closely	0	0
3T04-278	4/5/04	15:30	50	South	Rear-End	Parked Motor Vehicle	South	Proceeding Straight	South	Parked	Improper Turning	0	0
3T04-280	4/7/04	01:11	0	In Int.	Hit Object	Fixed Object	East	Ran Off Road			Driving Under Influence	1	0
3T04-294	4/13/04	12:54	100	East	Broadside	Other Motor Vehicle	West	Entering Traffic	West	Proceeding Straight	Auto R/W Violation	0	0
3T04-466	6/7/04	11:47	25	East	Rear-End	Other Motor Vehicle	West	Proceeding Straight	West	Stopped In Road	Following Too Closely	1	0
3T04-563	7/15/04	16:05	25	East	Rear-End	Other Motor Vehicle	West	Proceeding Straight	West	Proceeding Straight	Unsafe Speed	0	0
3T04-566	7/16/04	12:15	144	East	Broadside	Other Motor Vehicle	West	Proceeding Straight	South	Proceeding Straight	Other Hazardous Movement	1	0
3T04-788	10/5/04	14:19	42	South	Rear-End	Other Motor Vehicle	North	Proceeding Straight	North	Stopped In Road	Unsafe Speed	1	0
3T04-916	11/25/04	19:24	168	West	Sideswipe	Other Motor Vehicle	West	Proceeding Straight	West	Parked	Improper Turning	0	0

City of Eureka
Police Department

Traffic Collision History Report

Location: Myrtle Avenue / West Avenue
Date Range Reported: 12/1/2000 - 12/1/2010

Report No.	Date	Time	Dist.	Dir.	Type of Collision	Motor Veh. Involved With	Direct. of Travel 1	Movement Prec. Coll. 1	Direct. of Travel 2	Movement Prec. Coll. 2	PCF	Inj.	Kil
3T05-163	4/1/05	13:41	60	West	Hit Object	Fixed Object	North	Making Right Turn			Unsafe Speed	1	0
3T05-220	4/28/05	10:42	58	North	Hit Object	Fixed Object	North	Making Left Turn			Improper Turning	0	0
3T05-274	5/16/05	17:25	50	West	Rear-End	Other Motor Vehicle	East	Making Left Turn	East	Making Left Turn	Auto R/W Violation	0	0
3T05-400	7/7/05	11:50	120	East	Rear-End	Other Motor Vehicle	West	Proceeding Straight	West	Proceeding Straight	Unsafe Speed	0	0
3T05-452	8/1/05	18:26	0	In Int.	Rear-End	Other Motor Vehicle	West	Proceeding Straight	West	Stopped In Road	Unsafe Speed	0	0
3T05-564	9/27/05	19:42	0	In Int.	Hit Object	Other Motor Vehicle	North	Backing	West	Parked	Unsafe Starting or Backing	0	0
3T05-714	11/24/05	17:52	0	In Int.	Vehicle - Pedestrian	Pedestrian	South	Other	West	Proceeding Straight	Pedestrian Violation	1	0
3T06-50	1/22/06	19:20	134	South	Hit Object	Parked Motor Vehicle	South	Proceeding Straight	South	Parked	Driving Under Influence	0	0
3T06-538	8/9/06	17:51	0	In Int.	Hit Object	Non-Collision	East	Other Unsafe Turning	West	Parked	Other Improper Driving	0	0
3T06-574	8/28/06	16:15	154	West	Broadside	Other Motor Vehicle	South	Making Right Turn	West	Proceeding Straight	Auto R/W Violation	0	0
3T06-617	9/11/06	16:23	0	In Int.	Rear-End	Other Motor Vehicle	North	Proceeding Straight	North	Stopped In Road	Unsafe Speed	1	0
3T06-637	9/19/06	13:00	0	In Int.	Sideswipe	Parked Motor Vehicle	South	Backing	South	Parked	Other Improper Driving	0	0
3T07-20	1/9/07	10:50	45	East	Rear-End	Other Motor Vehicle	West		West		Following Too Closely	1	0
3T07-87	2/6/07	20:00	118	North	Rear-End	Other Motor Vehicle	South		South		Unsafe Speed	2	0

City of Eureka
Police Department

Traffic Collision History Report

Location: Myrtle Avenue / West Avenue
Date Range Reported: 12/1/2000 - 12/1/2010

Report No.	Date	Time	Dist.	Dir.	Type of Collision	Motor Veh. Involved With	Direct. of Travel 1	Movement Prec. Coll. 1	Direct. of Travel 2	Movement Prec. Coll. 2	PCF	Inj.	Kil
3T07-261	4/7/07	19:37	15	North	Rear-End	Other Motor Vehicle	South		South		Unsafe Starting or Backing	0	0
3T07-551	7/19/07	10:26	72	East	Rear-End	Other Motor Vehicle	West		West		Following Too Closely	1	0
3T07-789	10/4/07	19:21	0	In Int.	Rear-End	Other Motor Vehicle	North		North		Following Too Closely	1	0
3T07-904	11/15/07	16:14	91	North	Rear-End	Fixed Object	North		North		Unsafe Speed	0	0
3T08-193	3/14/08	11:50	201	South	Rear-End	Non-Collision	East	Proceeding Straight	East	Proceeding Straight	Unsafe Speed	0	0
3T08-518	8/7/08	09:20	10	East	Rear-End	Other Motor Vehicle	West	Proceeding Straight	West	Stopped In Road	Unsafe Speed	1	0
3T08-657	10/20/08	18:40	0	In Int.	Head-On	Other Motor Vehicle	North	Proceeding Straight	South	Making Left Turn	Traffic Signals and Signs	2	0
3T09-42	1/20/09	13:10	50	South	Sideswipe	Other Motor Vehicle	North	Passing Other Vehicle	North	Stopped In Road	Improper Turning	0	0
3T09-75	1/30/09	16:42	97	North	Rear-End	Other Motor Vehicle	South	Slowing/Stopping	South	Stopped In Road	Unsafe Speed	1	0
3T09-117	2/17/09	16:42	100	West	Broadside	Other Motor Vehicle	North	Proceeding Straight	East	Proceeding Straight	Auto R/W Violation	0	0
3T09-336	5/11/09	10:00	50	West	Broadside	Other Motor Vehicle	East	Changing Lanes	East	Proceeding Straight	Unsafe Lane Change	1	0
3T09-412	6/18/09	15:42	20	East	Broadside	Other Motor Vehicle	West	Changing Lanes	West	Proceeding Straight	Unsafe Lane Change	0	0
3T09-427	6/26/09	07:18	15	West	Broadside	Other Motor Vehicle	West	Proceeding Straight	South	Making Left Turn	Traffic Signals and Signs	0	0
3T09-445	7/2/09	15:57	95	North	Rear-End	Other Motor Vehicle	South	Stopped In Road	South	Stopped In Road	Unsafe Starting or Backing	0	0

City of Eureka
Police Department

Traffic Collision History Report

Location: Myrtle Avenue / West Avenue
Date Range Reported: 12/1/2000 - 12/1/2010

Report No.	Date	Time	Dist.	Dir.	Type of Collision	Motor Veh. Involved With	Direct. of Travel 1	Movement Prec. Coll. 1	Direct. of Travel 2	Movement Prec. Coll. 2	PCF	Inj.	Kil
3T09-642	9/22/09	15:41	0	In Int.	Broadside	Bicycle	East	Making Left Turn	North	Proceeding Straight	Traffic Signals and Signs	1	0
3T09-796	10/26/09	17:00	0	In Int.	Not Stated	Other Motor Vehicle	North	Backing	North	Parked	Unsafe Starting or Backing	0	0
3T10-90	2/1/10	20:37	0	In Int.	Sideswipe	Parked Motor Vehicle	North	Proceeding Straight	North	Parked	Improper Turning	0	0
3T10-330	5/13/10	18:24	0	In Int.	Vehicle - Pedestrian	Pedestrian	South	Proceeding Straight	West	Making Left Turn	Pedestrian Violation	1	0
3T10-401	6/14/10	10:50	0	In Int.	Broadside	Other Motor Vehicle	East	Stopped In Road	South	Proceeding Straight	Unsafe Starting or Backing	0	0

City of Eureka
Police Department

Traffic Collision History Report

Location: Myrtle Avenue / West Avenue
Date Range Reported: 12/1/2000 - 12/1/2010

Report No.	Date	Time	Dist.	Dir.	Type of Collision	Motor Veh. Involved With	Direct. of Travel 1	Movement Prec. Coll. 1	Direct. of Travel 2	Movement Prec. Coll. 2	PCF	Inj.	Kil

Total Number of Collisions: 75

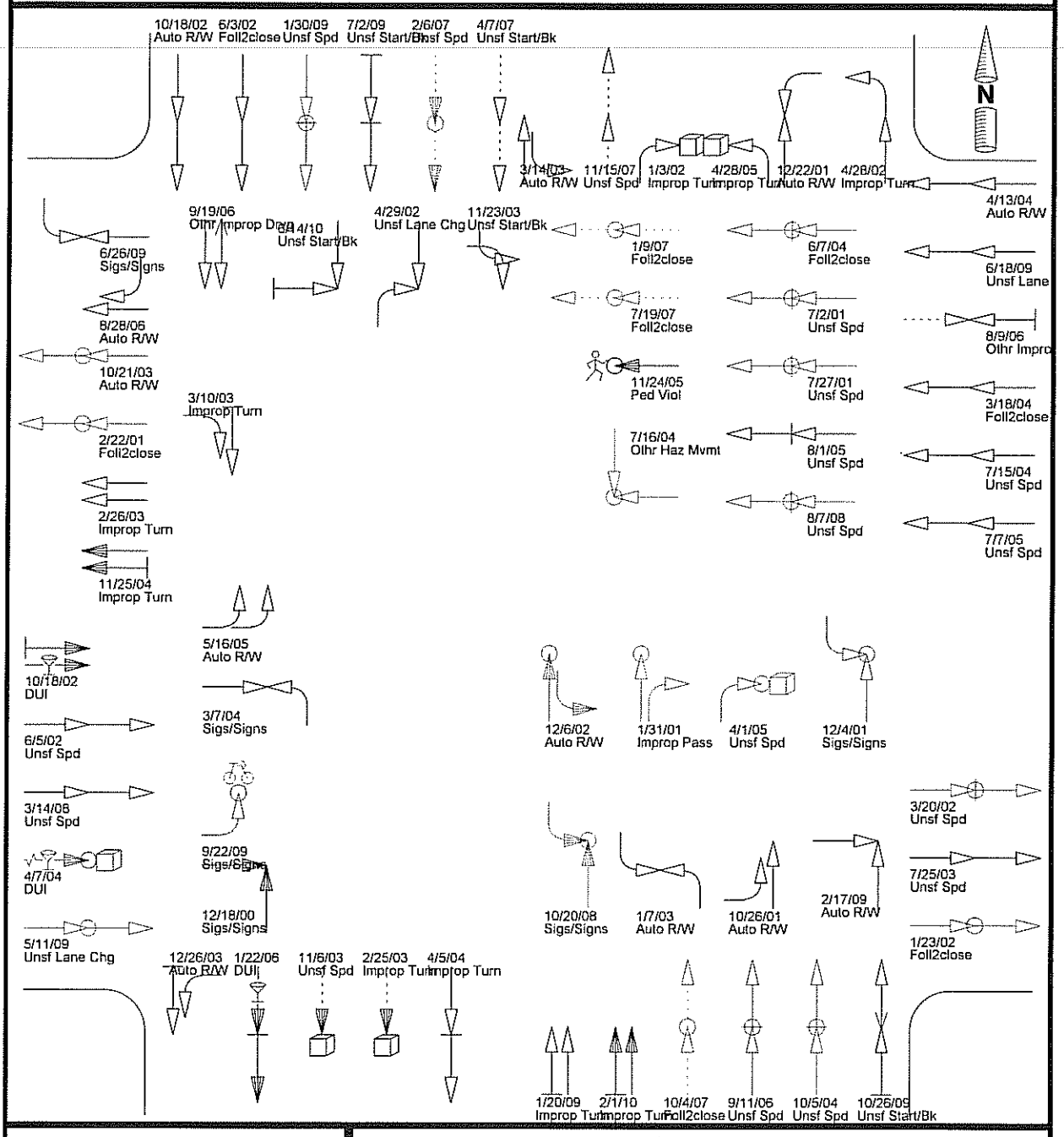
Settings Used For Query

Parameter	Setting
Street Name	Myrtle Avenue
Cross Street	West Avenue
Starting Date	12/1/2000
Ending Date	12/1/2010
Distance from Intersection	<= 250' for non rear-end collisions
	<= 250' for rear-end collisions

Collision Diagram

Horizontal Street: MYRTLE AVENUE **From: 12/1/2000 To: 12/1/2010**

Vertical Street: WEST AVENUE **Date Prepared: 12/13/2010**



Number of Collisions

48	Property Damage Only
27	Injury Collisions
0	Fatal Collisions
75	Total Collisions

Collisions Not Plotted: 6

Legend

- Moving Vehicle
- Stopped Vehicle
- Backing Vehicle
- Ran Off Road
- Movement Unknown
- Right Turn
- Left Turn
- Sideswipe
- Day
- Night
- Pedestrian
- Fixed Object
- Bicycle
- DUI
- Injury
- Fatal

Color Legend - Highest Degree of Injury

Medium Blue = Fatal

Purple = Severe Injury

Green = Other Visible Injury

Teal = Complaint of Pain

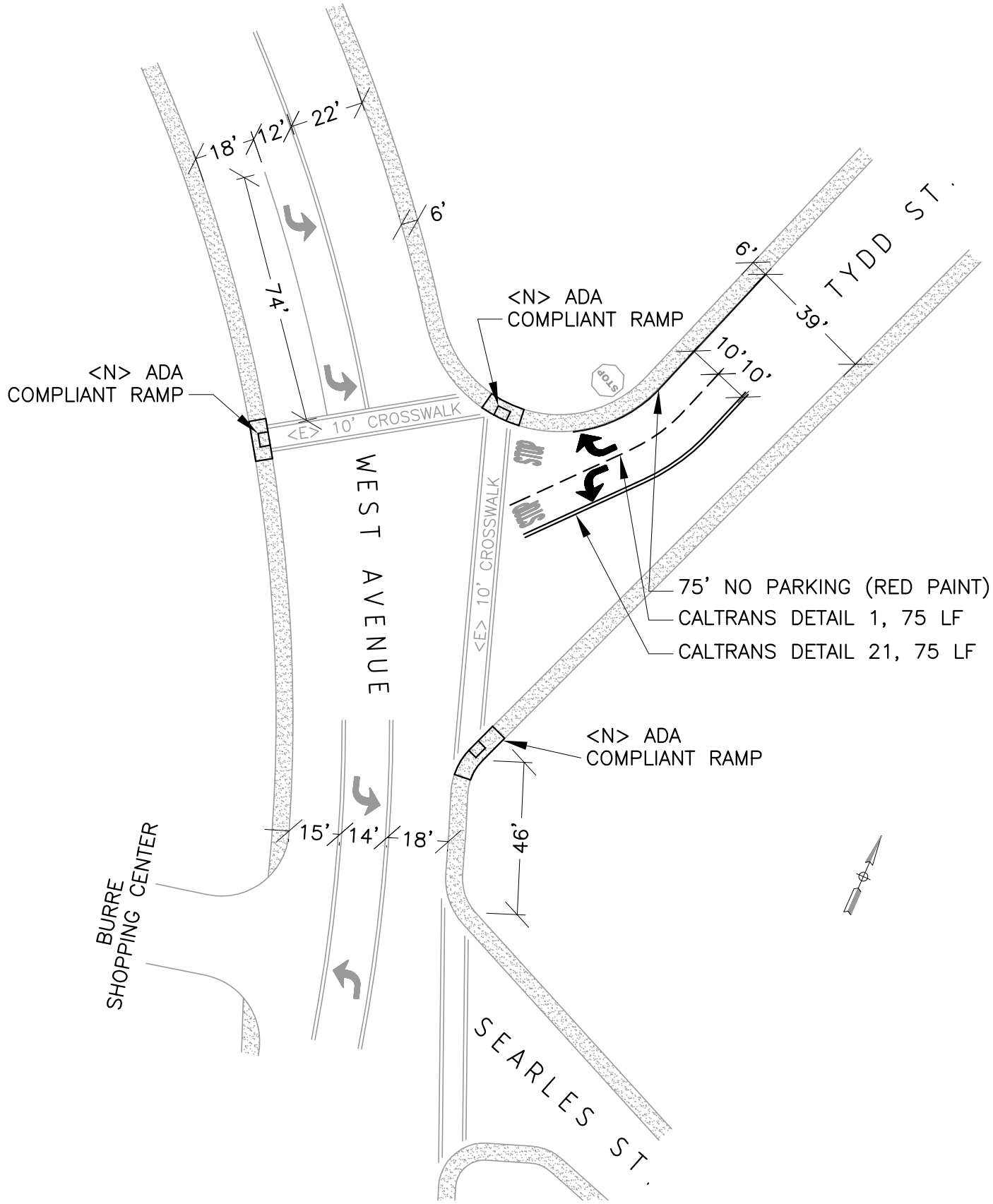
Dark Blue = Property Damage Only

Settings Used For Query

Parameter	Setting
Street Name	Myrtle Avenue
Cross Street	West Avenue
Starting Date	12/1/2000
Ending Date	12/1/2010
Distance from Intersection	<= 250' for non rear-end collisions <= 250' for rear-end collisions

Appendix E: Proposed Lane Configuration at Tydd Street

LACO ASSOCIATES CONSULTING ENGINEERS 21 W 4TH ST. EUREKA, CA 95501 (707)443-5054	PROJECT	OPEN DOOR COMMUNITY HEALTH CENTER	BY	JDB	APPENDIX
	CLIENT	OPEN DOOR COMMUNITY HEALTH CENTER	DATE	12/23/10	E
	LOCATION	TYDD STREET, EUREKA, CA	CHECK	RLD	JOB NO.
		PROPOSED CONCEPTUAL INTERSECTION IMPROVEMENTS	SCALE	AS SHOWN	7119.06



Dec 23,2010-9:05am
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Appendix F: Signal Warrant Summary

WARRANT ANALYSIS FOR SIGNAL

Intersection: Tydd St. and West Ave.

	Existing Peak Hour Traffic	Existing plus Project Traffic	Future Peak Hour Traffic	Future plus Project Traffic
Warrant 1, Eight-Hour Vehicular Volume	X	X	X	X
Warrant 2, Four-Hour Vehicular Volume	X	X	X	X
Warrant 3, Peak Hour	not met	not met	not met	not met
Warrant 4, Pedestrian Volume	not met	not met	not met	not met
Warrant 5, School Crossing	not met	not met	not met	not met
Warrant 6, Coordinated Signal System	X	X	X	X
Warrant 7, Crash Experience	not met	not met	not met	not met
Warrant 8, Roadway Network	X	X	X	X

X: Not enough data to analyze the signal warrant

Appendix G: Letter from Open Door Community Health Center Regarding Existing Traffic Distribution at their Existing Facilities

OPEN DOOR
Community
Health Centers

- **Administration**
  670 Ninth St., Suite 203
  Arcata, CA 95521
  Tel: 707-826-8633
  Fax: 707-826-8638
- **Finance**
  670 Ninth St., Suite 203
  Arcata, CA 95521
  Tel: 707-826-8627
  Fax: 707-822-2894
- **Billing**
  670 Ninth St., Suite 203
  Arcata, CA 95521
  Tel: 707-826-8642
  Fax: 707-826-8611
- **Corporate Services**
  760 Fifteenth Street
  Arcata, CA 95521
  Tel: 707-826-9926
  Fax: 707-826-9928

- **Humboldt Open Door Clinic**
  770 Tenth Street
  Arcata, CA 95521
- **Eureka Community Health Center**
  2412 Buhne Street
  Eureka, CA 95501
- **Burre Dental Center**
  959 Myrtle Avenue
  Eureka, CA 95501
- **Del Norte Community Health Center**
  550 E. Washington Blvd.
  Crescent City, CA 95531
- **McKinleyville Community Health Center**
  1644 Central Ave
  McKinleyville, CA 95519
- **NorthCountry Clinic**
  785 Eighteenth Street
  Arcata, CA 95521
- **Willow Creek Community Health Center**
  38883 Highway 299
  Willow Creek, CA 95573
- **Mobile Health Services**
  959 Myrtle Avenue
  Eureka, CA 95501
- **Telehealth and Visiting Specialist Center**
  2426 Buhne Street
  Eureka, CA 95501
- **Old Town Dental Center**
  310 3rd Street
  Eureka, CA 95501

January 6, 2011

Michael Nelson
Planning Director
LACO Associates
21 West 4th Street
Eureka, CA 95501

Dear Mike:

In response to your request regarding patient and staff use of public transportation, I offer the following information regarding the current activities at the Eureka Community Health Center, 2412 Buhne Street, Eureka, CA. As you know, this is one of the two sites designated to be consolidated into the new facility on Tydd Street. We expect the patients who currently use the Buhne Street facility to remain patients of the clinic when it moves to Tydd Street. We also expect the majority of staff currently employed at the Buhne Street facility to continue their employment with us when the clinic relocates.

Based on patient self-report, calls to reschedule when bus service is not running, and observations, I concur with the Site Administrator of the Eureka Community Health Center on the following estimates:

Means of Transportation Among Patients:

Bus	> 15% and <20%
Carpool (Multiple Patient Occupancy)	>5% and <10%
Dial-a-Ride/Paratransit	>5% and <10%
Walk	>0% and <5%
Bicycle	>0% and <5%
Private Vehicle (Single Patient Occupancy)	<70%

Means of Transportation Among Employees:

Bus	>0% and <5%
Carpool (Multiple Employee Occupancy)	>5% and <10%
Walk	>0% and <5%
Bicycle	>0% and <5%
Private Vehicle (Single Employee Occupancy)	<80%

We believe that the new site – given the proximity of the bus turnaround, the number of bus routes serving the site, the quality of the bicycle lanes in the vicinity, the planned safe and covered bicycle storage facilities, and the availability of sidewalks and more level ground in the surrounding area – will generate additional use of bicycles, walking and public transit and that the above estimates are conservative for what will actually be realized at the Tydd Street site.

Please don't hesitate to contact me should you need any additional information.

Sincerely,

Christopher Peters
Chief Advancement Officer/Legal Affairs Director