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Manila Community Transportation Plan – Phase II

for the

County of Humboldt

Final Report

December 28, 2005

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Background

Transportation Plan

The Manila Community Services District (MCSD) has long had an interest in addressing issues regarding transportation planning in Manila. Due to strong public interest in these concerns, the District formed a Highway 255 (SR 255) Traffic Safety Committee to meet and take action on issues related to highway safety. In September 2003, a Phase I report was completed which focused on public outreach to define the problem and committees were established to foster the endorsement of future solutions. The public outreach clearly defined the following goals:

- reduce the speed of traffic on State Route 255 through Manila
- provide enhanced pedestrian crossing facilities across State Route 255
- increase accessibility from SR 255 to local streets

This Phase II Report documents the technical details for existing and future traffic conditions and well as documenting the justification for modification to the highway and local roads. Utilizing the findings from the community outreach efforts in Phase I, as well as further investigation of potential solutions, transportation projects to address demonstrated problems and enhance mobility for the community of Manila were investigated and developed.

Introduction

The small coastal community of Manila is located in Humboldt County, California, on the Samoa Peninsula, nestled between Humboldt Bay and the beach and dunes of the Pacific Ocean. Manila, as well as the town of Samoa and the larger Samoa Peninsula, are in an unincorporated area of Humboldt County. Approximately 3.5 miles north of Manila is the adjacent incorporated City of Arcata (estimated 1999 population 16,500[1]). To the east, across Humboldt Bay, is the incorporated City of Eureka (estimated 1999 population 27,750[2]).

The District Boundaries extend from the Samoa Bridge to the Sierra Pacific Mill (just north of the Mad River Slough Bridge), stretch approximately four miles long, and range from one-half (½) to three-quarters (¾) of a mile wide; its total area is about 1.5 square miles. The elevations on the peninsula vary from sea level to a maximum of 60 feet. The town was created through two subdivisions – an unrecorded map for the Northern California Oyster Company in 1933, bounded on the east by Peninsula Drive, and the Bayshore Acres Subdivisions in 1947, bounded on the west by Peninsula Drive.

State Route (SR) 255 runs through the center of the community, functions as an alternative route to Highway 101 for people traveling between Arcata and Eureka, and serves the developing communities on

[1] California Department of Finance, Demographic Research Unit.

[2] *ibid.*

the Samoa Peninsula. SR 255 extends from Eureka via a bridge connecting Indian and Woodley islands through Manila to U.S. 101 in Arcata. Several of the primary access points and roads serving community residents within the community are maintained by the County.

What is now New Navy Base Road (south of the bridge) and Highway 255 (north of the bridge) was constructed as multiple Federal Aid Secondary Projects on the County Road known variously as Navy Base Road and Peninsula Drive. The segment through Manila was constructed in 1966. Route 255 was adopted by the State in two segments. Post Mile 0.0/2.0 was adopted May 18, 1966. Following completion of bridge construction over this segment in 1971, the remainder of the Route was adopted August 18, 1971.

Manila's 1999 median household money income was $29,405 (compared to a County median income of $31,226 and a State median income of $47,493). Manila's per capita money income that year was $15,940 (lower than the County per capita of $17,203 and State per capita of $22,711). In 1999, 16.8 percent of Manila's population (130 people) was living below the poverty line, which is less than the County's percentage (19.5 percent) but above the State's percentage (14.2 percent).

Community Facilities

Schools and Childcare

Manila currently has three schools, all of which are located at the Manila Community Center. There is the Manila Preschool, which is a State preschool run by the North Coast Children's Services. The North Coast Children's Services also offer the Early Headstart and Family Partnerships Programs. The MCC also houses the Mattole Valley Charter School, which serves grades five to eight, and the Northern Humboldt Adult High School (also called Manila School), which has approximately twelve students.

There is school bus service for students in Manila going to Arcata, Samoa, and the County Special Education schools.

Local childcare service includes the Willows and Dunes Daycare and Wanda Vicker's Childcare.

Churches

There are three churches in Manila, the Christian Jubilee Center, First Baptist, and the Manila Community Church.

Manila Community Park

The Manila Community Park is located adjacent to Peninsula Drive at Lupin Drive, on the bay side of the community. The park is located on approximately 12 acres of predominant backdune area, with about 300 additional acres of tidal mud flats. The park is built on the former A.K. Wilson mill site, which ceased operation around 1956. In 1972, Humboldt County purchased the property from the State of California, which had acquired the property by default on property taxes. A year later the County sold the land to the community of Manila for the purpose of developing a community park. The park was built by Manila residents.

The park features an overnight campground, a playground, a baseball field, a basketball court, tennis courts, and a concession stand with restrooms. The site also has a parking area. From the park there are trails that lead through a freshwater marsh and to the edge of Humboldt Bay. The bay trail offers unobstructed views of the bay.

Manila Dunes Recreation Area

The Manila Dunes Recreation Area encompasses 100 acres of sand dunes, beach, coastal forest, and freshwater swamps. The Manila Dunes are home to many species of birds and native plants, some of which are found only on the Samoa Peninsula. The dunes provide critical habitat for sensitive plants and animals, including the federally-listed threatened Western snowy plover and the federally-listed endangered Humboldt Bay wallflower (Erysimum menziesii ssp. eurekense) and beach layia (Layia carnosa). The area also has pink sand-verbena (Abronia umbellata ssp. breviflora), which is listed on the California Native Plant Society as rare or endangered in California and elsewhere (List 1B species). It boasts a unique maritime beach pine/spruce forest. The Manila Dunes Recreation Area is managed by the Manila Community Services District which is implementing the Manila Dunes Access Plan to provide public access while protecting sensitive dune habitats.

Manila Dunes Recreation Area and Community Center

The Manila Community Center (MCC) is located on the ocean side (west of SR 255), at 1611 Peninsula Avenue. The MCC is on the grounds of a former elementary school, which was purchased from the Arcata Elementary School District.

The old school building has eight classrooms and four bathrooms. There is also a community hall with a kitchen that is certified for use for public events. The MCC also offers a day park and access to the adjoining Manila beach and dunes.

In addition to being a main gathering place for the community, the MCC also provides many community services, with a focus on services for youth and teens. The MCC offers after-school and summer programs for youth, and early evening programs for teens. Many of the programs highlight linking kids with nature. Programs at the MCC include: collaboration with Friends of the Dunes; Dunes of Discovery; Summer Surf Camp; Family Resource Center; Access Project; Manila Recreation Program; Teenship Program; and College of the Redwoods and The Department of Health & Human Services Foster & Kinship Care Education Program.

An existing constraint for the MCC is the lack of safe pedestrian access to the center from other parts of the community, especially from across State Route 255. Some children and youth cannot or do not travel across State Route 255 independently, without a car.

Description of Transportation Study Area

State Highway

SR 255 runs through the center of the community of Manila and functions as an alternative route to Highway 101 for people traveling between Arcata and Eureka. SR 255 extends to Eureka via a bridge connecting Indian and Woodley islands while the connection to Arcata is on Samoa Boulevard. The SR 255 alignment

generally consists of two 12-foot lanes between Pacific/Dean and Young Lane; northbound shoulders are approximately four to six feet in width, and southbound shoulders are six to eight feet in width. The right-of-way for the corridor is generally 140 feet wide.

As shown in Figure 1, the corridor through Manila includes six (6) intersections with County maintained roads. These include:

- Peninsula Drive South at postmile 2.93 (Intersection #1)
- Pacific Boulevard-Dean Street at postmile 3.66 (Intersection #2)
- Lupin Avenue-Victor Boulevard at postmile 3.94 (Intersection #3)
- Carlson Drive East at postmile 4.09 (Intersection #4)
- Stamps Lane West at postmile 4.14
- Young Lane at postmile 4.73 (Intersection #5)

All of these intersections are controlled with stop signs on the approaches to SR 255. There are existing center turn lanes on SR 255 at Peninsula Drive (south), Lupin Drive and Young Lane. Pedestrian warning signs are placed in the southbound direction in advance of Lupin Avenue, and in the northbound direction in advance of Dean Street-Pacific Boulevard. In regards to nighttime illumination, there are only two street light poles located on either side of the highway at Lupin Avenue-Victor Boulevard.

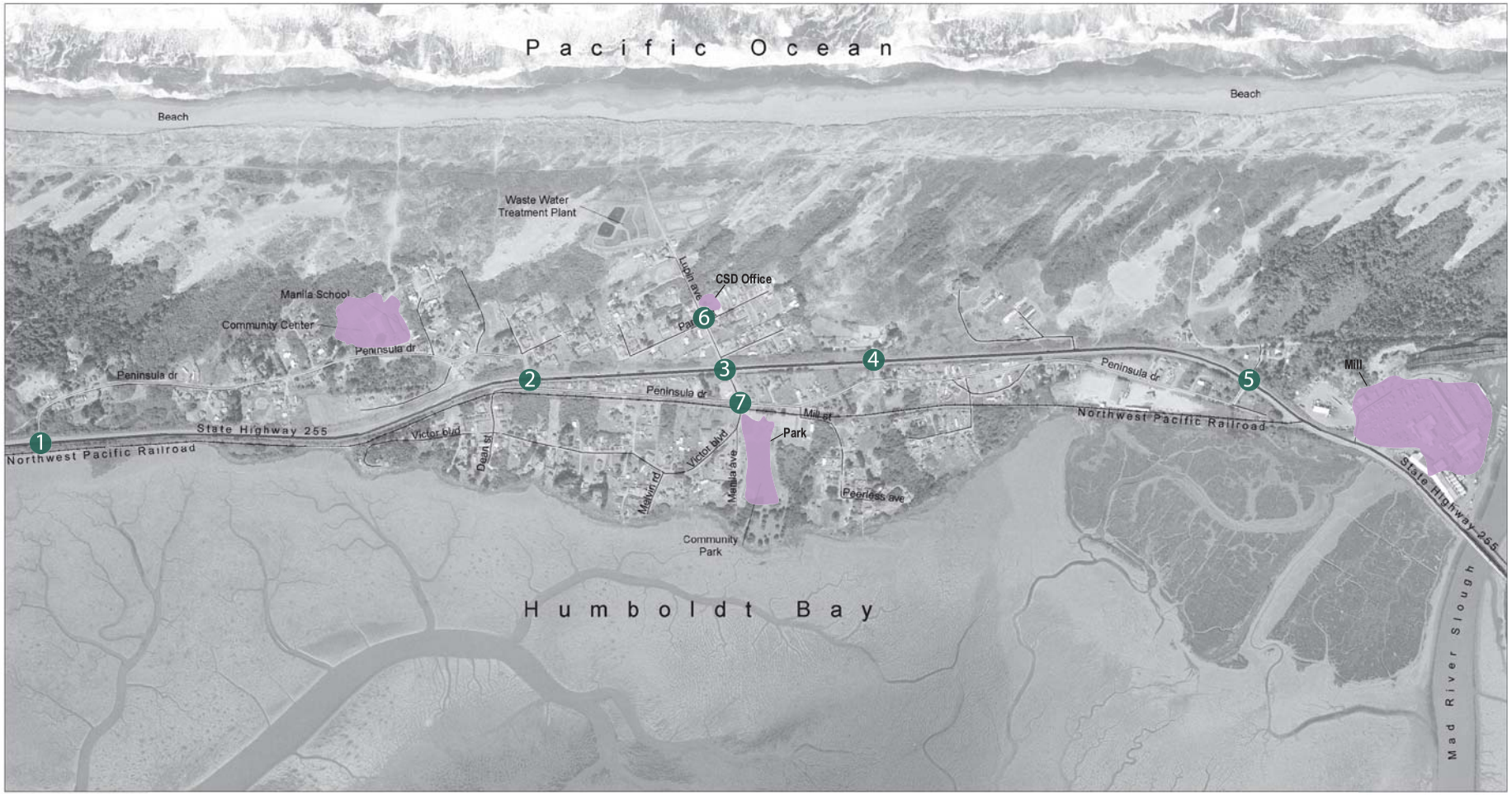
Local Roads

The community of Manila is served by a system of County and private roads. The majority of the existing streets in Manila have a paved width that ranges from 19 to 21 feet within a right-of-way of 40 feet. Most of these roads are un-striped and have very minimal signage and/or pavement markings with the exception of Peninsula Drive which is striped with a dashed yellow centerline, creating two 9- to 10-foot lanes. Peninsula Drive is signed with 25 mph speed limit signs, and has a couple of striped crosswalks and school crossing markings. Roadway shoulder types vary by street, but generally consist of a mix of gravel, ground vegetation and dirt. There are a number of physical obstructions just outside of the paved roadway, but within the right-of-way, consist of fences, vegetation, and intermittent utility boxes. Street parking is permitted throughout the community. While the demand for street parking is generally low, various locations experience regular use. Redwood Transit Service buses operate on Peninsula Drive, with northbound and southbound stops serving both the east and west sides of Manila.

The roadways included in the County's road maintenance program include Peninsula Drive, Victor Boulevard, Dean Avenue, Mill Street, and Peerless Avenue. The County-maintained roads are paved and are generally in fair condition. The remaining roadways contain a mix of pavement and/or gravel surfaces and are generally in fair to poor condition.

Northwestern Pacific Railroad

A spur of the Northwestern Pacific Railroad (NWP) extends from Arcata down the eastern side of the Samoa Peninsula through the community of Manila to Fairhaven. The line historically served the lumber industries located on the peninsula. The track is currently under the authority of the North Coast Rail Authority (NCRA) and has been out of service under a Federal Railroad Administration (FRA) shutdown since 1998. Due to a variety of reasons, budgetary constraints, ownership changes, and administrative changes, limited right-of-way information for the spur line is available through the NCRA.



Existing Transportation Network

- State Highway 255
- Major Roads
- Minor Roads
- Railroad

0 0.125 0.25 0.5 Miles

1 inch equals 350 feet

1:4,200

Map Produced for W-TRANS by Planwest Partners
Date: June 4, 2003
Projection: UTM Zone 10, NAD 1927
Aerial Photography: 9-18-2000 Humboldt Bay Harbor Recreation and Conservation District

Manila Community Transportation Plan

County of Humboldt/HCAOG/Caltrans

Figure 1

Study Area

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Through Manila, the NWP railroad right-of-way is located mostly along, or in proximity to, the eastern side of town. The right-of-way crosses under SR 255 just south of the Sierra Pacific Industries property and emerges in Manila near Vera Linda Lane. From Vera Linda Lane, the line continues south along the Humboldt Bay Shoreline to approximately Sandy Road. From Sandy Road south to the southern end of Victor Boulevard the line runs through central Manila, where it parallels Peninsula Drive until the west side of SR 255. From Victor Boulevard south, the line again continues along Humboldt Bay Shoreline. From the southern end of Manila, the track alignment continues down to the peninsula on the east side of SR 255 through Samoa to its terminus in Fairhaven. The approximate distance of the corridor through Manila from Vera Linda Lane on the north end to the terminus of Peninsula Drive on the south end is two miles.

Public Transit

The Humboldt Transit Authority operates the Redwood Transit System (RTS), which offers intercity bus service from Trinidad to Scotia. From Monday through Friday, the RTS bus runs 18 times a day. Of these 18 runs, five runs stop in Manila. Weekday service in Manila has bus headways (the time between consecutive buses) ranging from 2 to 4.5 hours. On Saturdays the RTS bus runs nine times, with four full routes (Trinidad to Scotia) and five short routes (Valley West in Arcata to the Bayshore Mall in Eureka). Each of the four full route runs stop in Manila; headways range from approximately 2 hours and 40 minutes to 3 hours and15 minutes. There is no bus service on Sundays.

The RTS bus route includes a southbound bus stop at the Manila Community Center on Peninsula Drive, and a northbound bus stop at the intersection of Peninsula Drive and Lupin Drive, in front of the Manila Community Park. Flag stops (where a rider can flag down the bus) are permissible where the bus driver judges that conditions are safe and maneuverable. However, flag stops are never permissible in a 55-mph (or above) speed zone, which eliminates any flag stops along State Route 255.

RTS has a "Bike & Ride" program that allows riders to load and unload bikes onto the bus's bike rack at designated locations. Bike loading is permitted at the designated Manila bus stop, but it is not permitted at flag stops. The bike & ride program requires riders to obtain a permit for $5.00 from the Humboldt Transit Authority. Riders must also supply their own padlock for the bike rack.

Pedestrian and Bike Facilities

Currently, there are no sidewalks within Manila. The only crosswalks are located at the intersection of Lupin Drive/Peninsula Drive and on Peninsula Drive south of Pacific Boulevard. Based on field observations, there is a demand for pedestrian crossing facilities on SR 255. There are no formal bike lanes within Manila, however, SR 255 between Pacific/Dean and Young Lane has northbound shoulders of approximately four to six feet in width and southbound shoulders of six to eight feet in width, allowing for travel by the experienced cyclist.

Existing Operating Conditions

SR 255

Travel Speeds

The existing speed limit on SR 255 through Manila is 55 mph. As part of the *Eureka-Arcata Safety Corridor, Second Annual Report* Caltrans collected speed data on SR 255 in March 2004. The speed data indicated that 85 percent of the motorists travel at or below the speed of 60 mph, while the pace ranges from approximately 50 mph to 60 mph. The fastest 5 percent of motorists travel between 62 and 67 mph.

Additional speed surveys were collected as part of this study in June 2005. This speed data indicated that 85 percent of the motorists travel at or below 58 mph, while the pace ranges from 48 mph to 58 mph. The fastest 5 percent of the motorists observed were traveling between 62 and 68 mph.

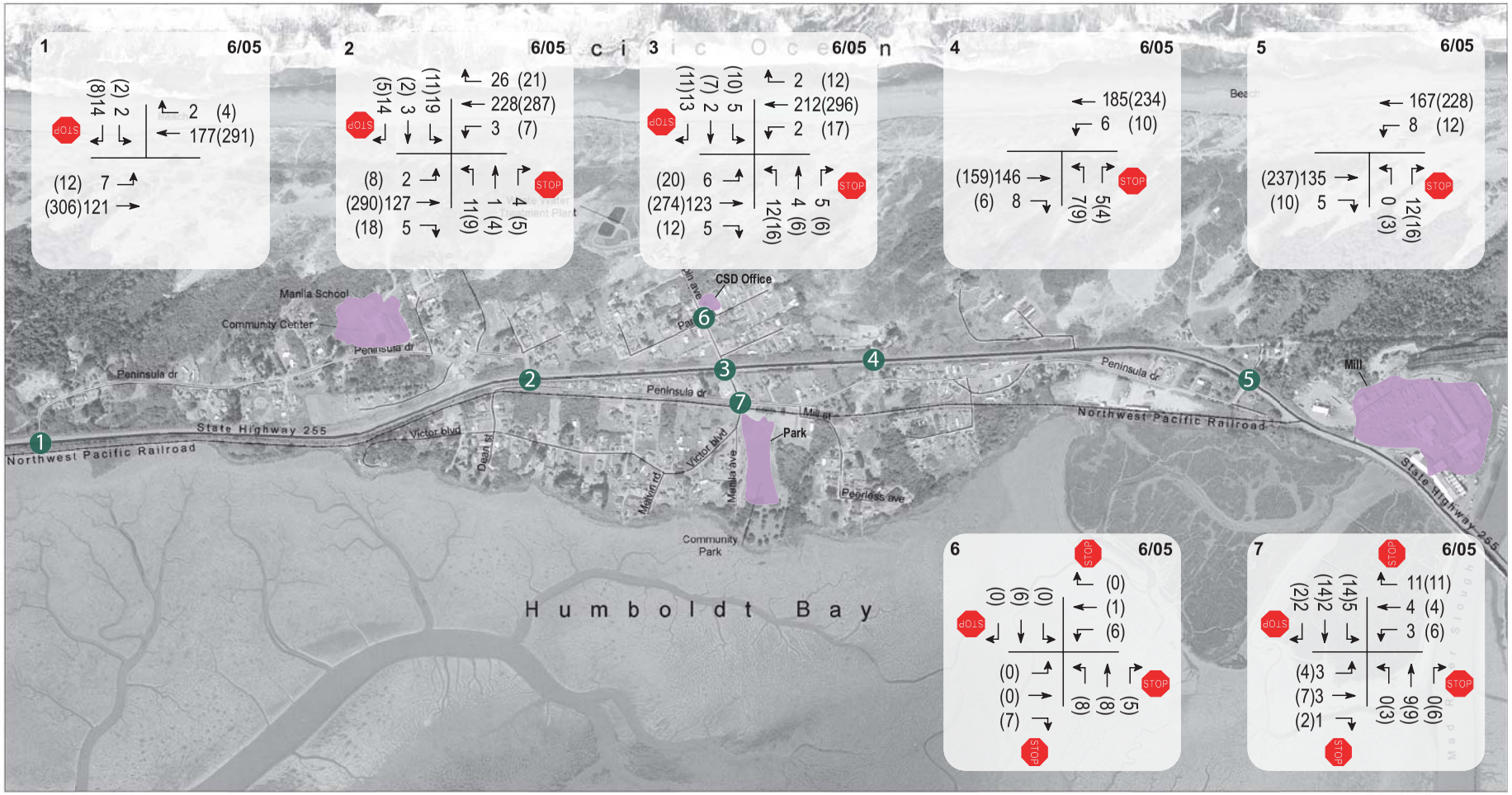
Vehicular Traffic Volumes

Traffic volumes on SR 255 near the community of Manila currently average approximately 5,400 vehicles per day. Based on traffic counts completed in June 2005, trucks of 3 or more axles represent approximately 4 percent of the traffic volume on SR 255. Based on data provided in the *Eureka-Arcata Safety Corridor, Second Annual Report*, these traffic volumes represent a 31 percent increase since the inception of the US 101 Safety Corridor project in 2002.

Hourly turning movement counts were collected at the intersections along the corridor between 8:00 a.m. and 6:00 p.m. on Friday, June 10, 2005. These traffic counts were used in the intersection level of service analysis and traffic signal warrants evaluations included in this report. The resulting peak hour traffic volumes are shown in Figure 2 and are also included in Appendix A.

Pedestrian and Bicycle Traffic Volumes

Counts of pedestrian and bicycle activity in the corridor were collected on June 10, 2005, which was a clear, sunny day. It should be noted that local schools were still in session on this date. Traffic counts consisted of bicycle counts by intersection approach and a recording of pedestrian crossings of the highway. A summary of the counts is shown in Table 1.



LEGEND
- Study Intersection
- xx A.M. Peak Hour Volume
- (xx) P.M. Peak Hour Volume

Existing Transportation Network
- State Highway 255
- Major Roads
- Minor Roads
- Railroad

0 0.125 0.25 0.5 Miles

1 inch equals 350 feet

1:4,200

Manila Community Transportation Plan

County of Humboldt/HCAOG/Caltrans

Figure 2

Existing Traffic Volumes

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Table 1
Summary of Pedestrian and Bicycle Counts
(8:00 a.m. to 6:00 p.m.)

Intersection	Bicycle Volume				Pedestrian Volume	
	NB	SB	EB	WB	West side	East side
1) SR 255/Peninsula Dr South	8	3	2	-	0	0
2) SR 255/Pacific Blvd-Dean St	12	8	15	6	11	3
3) SR 255/Lupin Ave-Victor Blvd	11	5	8	9	17	6
4) SR 255/Carlson Drive (East)	n/a	n/a	-	n/a	4	14
5) SR 255/Young Lane	7	4	-	3	4	3

Collision Rates

In the *Eureka-Arcata Safety Corridor, Second Annual Report*, Caltrans reported on the change in collision experience on SR 255 through Manila from May 2002 to May 2004. According to the baseline data (prior to the US 101 Safety Corridor project), SR 255 experienced an annual average of 4.2 total collisions and 1.4 injury collisions per year between Vance and the Mill (postmile 2.53 to 4.96). For the two years since the US 101 Safety Corridor project was initiated, SR 255 through Manila has experienced an annual average of 6.0 total collisions and 2.5 injury collisions per year, or an increase of 43 percent and 79 percent, respectively. Assuming a daily traffic volume of 6,500, this 2.43 mile segment experiences a collision rate of 1.03 collisions per million vehicle miles (c/mvm).

Traffic collision data was also obtained from the California Highway Patrol's Statewide Integrated Traffic Records System (SWITRS) for the 5-year period from 2000 through 2004 on the section of SR 255 between postmile 2.8 and 4.9. The SWITRS data includes all reported collisions submitted to the California Highway Patrol. There were 21 reported collisions on SR 255 between Peninsula Drive (north) and Peninsula Drive (south) over the 5-year period evaluated. Ten of the 21 collisions involved injuries. There were no fatalities.

In order to determine the significance of the number of collisions in the study area, the collision rate was compared with information published by Caltrans.[3] The collision rate for the entire segment was calculated based on the number of collisions per million vehicle mile (c/mvm), while the collision rate for each intersection was calculated using the number of collisions per year per million vehicles entering (c/mve) the intersection. The collision rate for this 2-mile segment was 1.20 c/mvm compared with an average rate Statewide on similar facilities of 0.62 c/mvm. The collision rate for the three intersections at Lupin Avenue, Pacific Boulevard-Dean Street and Peninsula Drive (south) were all 0.53 c/mve. The average expected collision rate for these intersections would be between 0.22 and 0.33 c/mve. Therefore, the collision experience on SR 255 through Manila and at the intersections of SR 255 with Lupin Avenue, Pacific Boulevard-Dean Street and Peninsula Drive (south) are higher than what has been experienced at similar locations in California. It should be noted that testimony from local residents may indicate that drivers may

[3] *Accident Data on California State Highways*, Caltrans, 2002.

be avoiding use of the Pacific Boulevard-Dean Street intersection, especially at night, due to the lack of a turn lane and lighting and other perceived safety issues.

Intersection Delay and Level of Service

Level of Service (LOS) is used to rank traffic operation on various types of facilities based on traffic volumes and roadway capacity using a series of letter designations ranging from A to F. Generally, Level of Service A represents free flow conditions and Level of Service F represents forced flow or breakdown conditions. The LOS designation is generally accompanied by a unit of measure which indicates a level of delay.

The study intersections were analyzed using methodologies from the *Highway Capacity Manual 2000*, (HCM) Transportation Research Board, 2000. This source 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. The ranges of delay associated with the various levels of service are indicated in Table 2.

Table 2
Intersection Level of Service Criteria

LOS	Unsignalized Intersections	Signalized and Roundabout Intersections
A	Delay of 0 to 10 seconds. Gaps in traffic are readily available for drivers exiting the minor street.	Delay of 0 to 10 seconds. Most vehicles arrive during the green phase, so do not stop at all.
B	Delay of 10 to 15 seconds. Gaps in traffic are somewhat less readily available than with LOS A, but no queuing occurs on the minor street.	Delay of 10 to 20 seconds. More vehicles stop than with LOS A, but many drivers still do not have to stop.
C	Delay of 15 to 25 seconds. Acceptable gaps in traffic are less frequent, and drivers may approach while another vehicle is already waiting to exit the side street.	Delay of 20 to 35 seconds. The number of vehicles stopping is significant, although many still pass through without stopping.
D	Delay of 25 to 35 seconds. There are fewer acceptable gaps in traffic, and drivers may enter a queue of one or two vehicles on the side street.	Delay of 35 to 55 seconds. The influence of congestion is noticeable, and most vehicles have to stop.
E	Delay of 35 to 50 seconds. Few acceptable gaps in traffic are available, and longer queues may form on the side street.	Delay of 55 to 80 seconds. Most, if not all, vehicles must stop and drivers consider the delay excessive.
F	Delay of more than 50 seconds. Drivers may wait for long periods before there is an acceptable gap in traffic for exiting the side streets, creating long queues.	Delay of more than 80 seconds. Vehicles may wait through more than one cycle to clear the intersection.

Reference: *Highway Capacity Manual,* Transportation Research Board, 2000.

The Levels of Service for the side street stop controlled intersections were analyzed using the unsignalized intersection capacity method from the HCM. This method determines a level of service 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 Level of Service. The through movements on the main street are assumed to operate at free flow and a Level of Service A.

The Signalized methodology is based on factors including traffic volumes, green time for each movement, phasing, whether or not the signals are coordinated, truck traffic, and pedestrian activity. Average stopped delay per vehicle in seconds is used as the basis for evaluation in this LOS methodology.

The roundabout methodology is based on factors including traffic volumes, truck traffic, and pedestrian activity as well as number of lanes and diameter of the circulating roadway. Average delay per vehicle in seconds is used as the basis for evaluation in this LOS methodology. Note that in Table 1, Level of Service criteria are the same for intersections controlled by either a signal or a roundabout.

Using traffic counts that were collected in June 2005, existing operation of the study intersections was evaluated. The side street approaches to SR 255 are operating at LOS B or better during the weekday a.m. peak hour and p.m. peak hours. This level of delay would be considered acceptable under both County and Caltrans standards. The level of service calculations are summarized in Table 3 and copies are provided in Appendix B.

Table 3
Summary of Existing Intersection Level of Service Calculations

Intersection Type *Approach*	AM Peak		PM Peak	
	Delay	LOS	Delay	LOS
1) SR 255/Peninsula Dr South				
Eastbound Peninsula	*9.7*	*A*	*10.7*	*B*
2) SR 255/Pacific Blvd-Dean St				
Eastbound Pacific	*11.3*	*B*	*13.8*	*B*
Westbound Dean	*11.3*	*B*	*13.7*	*B*
3) SR 255/Lupin Ave-Victor Blvd				
Eastbound Lupin	*10.4*	*B*	*14*	*B*
Westbound Victor	*11.3*	*B*	*15.3*	*B*
4) SR 255/Carlson Drive (East)				
Westbound Carlson	*10.8*	*B*	*10.7*	*B*
5) SR 255/Young Lane				
Westbound Young	*9.2*	*A*	*10.3*	*B*
6) Park St/Lupin Ave	n/a	n/a	6.9	A
7) Peninsula Dr/Victor Blvd	6.9	A	7.1	A

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

Traffic Signal Warrants

Using the traffic signal warrant from the 2003 *Manual on Uniform Traffic Control Devices* (MUTCD) and the MUTCD 2003 California Supplement, the need for traffic signals was assessed at all of the intersections along the corridor. All of the warrants were reviewed against the available traffic volumes, collision

experience and pedestrian traffic counts. Based on this review, none of the intersections currently meet any of the traffic signal warrants.

Local Roads

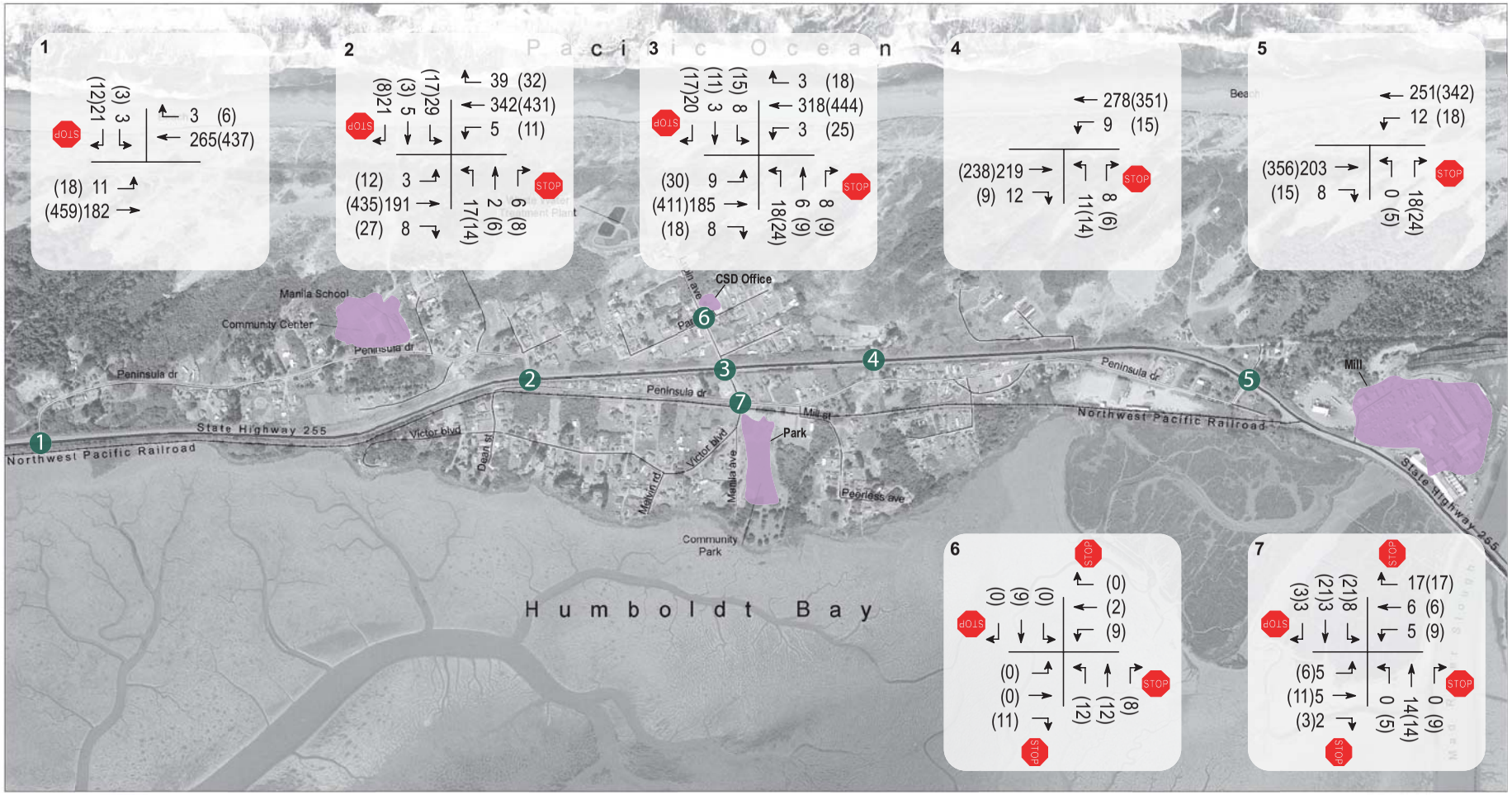
Local roadway conditions and traffic volumes were analyzed through field work, utilizing peak hour segment volumes, and intersection level of service volumes. In general, traffic volumes in the community of Manila are low, with the average daily traffic volumes on all local streets measuring below 1,000 vehicles per day (Peninsula Drive between Dean and Victor, one of the community's busiest roadway segments, has a daily volume of approximately 900 vehicles). Based on current and projected traffic volumes, Manila's existing roadway conditions including widths, posted speeds, street parking, and sight distances are generally acceptable for the current and anticipated traffic volumes. However, the existing roadway network and lane configurations do not adequately accommodate non-motorized transportation modes. Manila's roadway network receives regular use by bicyclists and pedestrians of all ages and abilities. Lane striping, edgeline striping, and shoulder improvements would help to accommodate bicycle and pedestrian travel on Manila's local roadway system and address current deficiencies and future growth.

Projected Future Traffic Conditions

Future traffic volume projections for SR 255 and the local roadway network in the Manila area were based on a review of the County of Humboldt's General Plan traffic model as well as Caltrans District 1's Growth Factor Summary. Using the County's traffic model projections, traffic in the Manila area would be expected to grow approximately 120 percent by the Year 2025, from 5,400 vehicles per day on SR 255 to 11,400 vehicles per day. The Caltrans 20-year growth factor suggests an increase of 10 percent over current levels.

A review of historical traffic growth since 1995 shows that traffic has increased from a peak month ADT of 4,450 vehicles per day in the study area to 5,400 vehicles per day. This increase from 1995 to 2005 represents an increase of approximately 1.95 percent per year. Therefore, for the purposes of this analysis, a 20-year growth factor of 1.50 was used; this translates to an increase of approximately 2 percent per year. The peak hour turning movement volumes at the study intersections in the corridor with this growth fact applied are shown in Figure 3. It should be noted that this level of increase would take into account projected traffic growth from development in Samoa and Fairhaven.

Levels of service were calculated for the intersections along the SR 255 corridor assuming a 50 percent increase in traffic. As shown in Table 4, the side streets approaching SR 255 would be expected to operate at LOS C or better, except that the Victor Boulevard approach would operate at LOS D. Copies of the intersection level of service calculations are included in Appendix B.



LEGEND

- Study Intersection
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0 0.125 0.25 0.5 Miles

1 inch equals 350 feet

1:4,200

Manila Community Transportation Plan

County of Humboldt/HCAOG/Caltrans

Figure 3

Future Traffic Volumes

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Table 4
Summary of Future Intersection Level of Service Calculations

Intersection Type *Approach*	AM Peak		PM Peak	
	Delay	**LOS**	**Delay**	**LOS**
1) SR 255/Peninsula Dr				
Eastbound Peninsula	*10.6*	*B*	*12.8*	*B*
2) SR 255/Pacific Blvd-Dean St				
Eastbound Pacific.	*13.9*	*B*	*20.2*	*C*
Westbound Dean	*13.9*	*B*	*19.9*	*C*
3) SR 255/Lupin Ave-Victor Blvd				
Eastbound Lupin	*12*	*B*	*21.4*	*C*
Westbound Victor	*13.8*	*B*	*25.6*	*D*
4) SR 255/Carlson Drive (East)				
Westbound Carlson	*12.8*	*B*	*12.6*	*B*
5) SR 255/Young Lane				
Westbound Young	*9.7*	*A*	*11.8*	*B*
6) Park St/Lupin Ave	n/a	n/a	7	A
7) Peninsula Dr/Victor Blvd	6.9	A	7.2	A

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

Traffic Signal Warrants

Using the traffic signal warrants from the 2003 MUTCD and the MUTCD 2003 California Supplement, the need for traffic signals was assessed at all of the intersections along the corridor under the future traffic volumes. All of the warrants were reviewed using the projected future traffic volumes, but none of the intersections would meet any of the volume-based traffic signal warrants.

Community Input

Overview

The "Manila Community Transportation Plan Survey" was developed in May 2003 based on preliminary interviews with select key informants and stakeholders, a review of documents related to Manila transportation issues, and transportation surveys used in other communities. The survey asked respondents to anonymously answer ten questions and provide additional comments about transportation concerns. Surveys were distributed through a variety of methods to reach a broad cross-section of transportation users. The goal was to provide easy access to the survey for both residents and non-residents. There were 114 completed surveys returned, and all of them contained at least some useful data that were tabulated and analyzed for this report. Full details of the survey, survey process and results can be found in the *Manila Community Transportation Plan – Phase I*, September 5, 2003, Whitlock & Weinberger Transportation, Inc.

Priority Issues

The central part of the survey asked respondents to identify and rank the "traffic and traffic safety problems facing Manila." The results of this survey question are summarized in Table 5.

Table 5
Priority Issues

1st Priority # of responses	2nd Priority # of responses	Total %	Issue
26	21	21.4%	Hwy 255 Speeding/Passing/Tailgating
13	22	15.9%	Hwy 255 Pedestrian Crossing Safety
9	13	10.0%	Hwy 255 Traffic Volume/Size of vehicles
10	11	9.5%	Hwy 255 Turn On/Off Access
20	1	9.5%	Speeding - Unspecified
7	9	7.2%	Hwy 255 Intersections/Cross Traffic
5	8	5.9%	Hwy 255 Bike/Pedestrian Paths/Safety
9	3	5.5%	Public Transit Shortcomings
4	6	4.5%	Potholes in Residential Streets
4	6	4.5%	Pedestrian Access/Safety on Residential Streets
4	5	4.1%	Residential Street Speeding

The results of this survey question clearly indicate that the problems associated with Highway 255 are the most important to an overwhelming majority of residents. Almost 70 percent of the respondents' combined first and second priority issues pertain to problems with the highway. We can also surmise that most of the unspecified "speeding" responses relate to Highway 255, so the actual total of responses related to the highway is probably closer to 80 percent.

At first glance, it would appear that approximately 30 percent of survey respondents ranked speeding on Highway 255 as the most or second most important issue. However, many of the non-speeding issues are, in fact, problems associated with speeding. For example, those respondents who indicated that the most important problems were pedestrian crossing safety, turning on and off the highway, and the dangerous cross-traffic intersections, probably would agree that these are important issues because drivers are speeding on the highway. Therefore, we could conclude that almost 80 percent of the combined first and second priority issues are related to speeding on Highway 255.

Despite this near consensus of agreement on the main transportation problem in Manila, it is worth mentioning the 20 percent of responses that did not pertain to highway speeding issues. With the exception of problems related to public transportation (5.5 percent), the remaining traffic safety concerns relate to safety issues on residential streets (speeding, potholes, line of sight, lack of sidewalks, etc.).

Other Issues

Survey respondents were asked to rank additional issues and provide written comments. Most of these tertiary issues were listed during the public workshop. Many respondents included comments that clarified their rankings and some individuals attached numerous pages of written material about their frustration with dangerous drivers, Caltrans and the Highway Patrol. Several respondents used the survey to address non-transportation issues such as crime, drug abuse and poverty in the community.

The intensity of many responses was striking. The direct and personal experiences of residents and non-residents related to traffic safety issues conveyed a real sense of anxiety and stress associated with living in and passing through Manila. Drivers and pedestrians alike reported several near collisions and accidents. Many respondents indicated particular concerns about the safety of children and animals traveling along the highway and residential streets of Manila.

Workshop Input

In addition to the list of traffic issues generated from the survey responses, workshop participants dissected the multiple issues used to come up with the aggregate group of issues developed for purposes of tabulating survey results. These included the following.

- Hwy 255 Speeding/Passing/Tailgating (includes center lines)
- Hwy 255 Pedestrian Crossing Safety (includes equestrian and wheelchair access)
- Hwy 255 Traffic Volume/Size of vehicles (includes large vehicles and trucks, and peak hour traffic flow)
- Hwy 255 Turn On/Off Access (includes improper lanes, right turn, and acceleration/deceleration lanes)
- Hwy 255 Intersections/Cross Traffic (includes Dean and Peninsula)
- Pedestrian Access/Safety on Residential Streets (includes Peninsula Drive)

Workshop participants also specified issues that were not listed as first or second priorities by survey respondents. These issues included the following.

- Maintenance of vegetation near the roads and highway
- Desire to maintain the rural character of narrow roads

- Overhead street lighting
- Fog sensitive lighting
- Improper striping
- The traffic safety planning process; inaction until fatalities occur and not anticipating the impact of the Highway 101 Safety Corridor on Manila residents
- Drainage
- Animals on the highway and road as a safety hazard
- Bus drivers as key informants for line of sight issues
- Sound barriers along Highway 255

Community Action

Traffic safety conditions related to State Route 255 have reached a level of such critical importance to residents that they installed their own warning signs within the SR 255 right-of-way (see the photo in Plate 1). Some residents have indicated that they have intentionally been driving at speeds of 45 mph or less. These actions, although illustrative of the commitment of the residents, may begin to introduce conflicts with users of the State Highway system.

Justification for Improvements

Summary of Conditions

Based on the information presented, following is a summary of the findings.

SR 255

- The existing 85th percentile travel speeds are between 58 and 59 mph.

- Traffic volumes have increased approximately 31 percent since the inception of the US 101 Safety Corridor Project in 2002.

- Collision rates for the corridor as a whole are twice as high than what has been experienced at similar locations in California. The collision experience at the intersections of SR 255 with Lupin Avenue, Pacific Boulevard-Dean Street and Peninsula Drive (south) are slightly higher than what would normally be expected.

- Side street approaches to SR 255 in the Manila corridor are currently operating with delays which are rated as LOS B, which is acceptable based on Caltrans LOS C standards. Assuming about a 50-percent increase in traffic over the next 20 years, side street delay on approaches to SR 255 will deteriorate to LOS B or C at most locations, but would drop to LOS D at Victor Boulevard.

- Although minimal, there are occasional pedestrian and bicycle crossings of the SR 255 corridor with most crossings occurring at the Pacific Boulevard-Dean Street and Lupin Avenue-Victor Boulevard intersections. There are approximately 1-2 through bicyclists per hour along the SR 255 corridor.

- Based on a review of traffic signal warrants using traffic volume, pedestrian volume and collision data, none of the intersections along the corridor warrant the installation of traffic signals either now or with a 50 percent increase in traffic volumes.

- SR 255 bisects the community of Manila creating a barrier between the Community Services District and Community Center on one side of the highway, and the park and only retail store on the other side of the highway. The existing travel speeds, volume of traffic and width of the highway create undesirable pedestrian crossing conditions along the SR 255 corridor.

- Based on input received at community workshops, speeding on SR 255 and pedestrian safety were the two most significant transportation issues which this community must contend with on a daily basis.

Local Roads

- The existing roadway network has daily traffic volumes which are less than 1000 vehicles per day.

- There is a low but consistent demand for on street parking along all segments of the local roadway network.

- Bicyclists and pedestrians are frequent roadway users, though no dedicated facilities such as bicycle lanes, sidewalks, or paths exist.

- Crosswalk striping is limited to the Peninsula Drive/Victor Boulevard intersection.

Context Sensitive Solutions

Although the SR 255 corridor may not warrant traffic control and circulation measures based on traditional published standards and thresholds, there are other social factors which should be considered in determining the appropriate corridor improvements for SR 255. Highway modifications which are sensitive to the context of the setting should be considered, especially those measures which allow this transportation arterial in the Community of Manila to function in a safe and convenient manner.

> *Context sensitive solutions (CSS) is a collaborative, interdisciplinary approach that involves all stakeholders to develop a transportation facility that fits its physical setting and preserves scenic, aesthetic, historic and environmental resources, while maintaining safety and mobility. CSS is an approach that considers the total context within which a transportation improvement project will exist.*
>
> - Federal Highway Administration

Caltrans developed the following policy on the use of context sensitive solutions in the Director's Policy on Context Sensitive Solutions, November 29, 2001.

> *The Department uses "Context Sensitive Solutions" as an approach to plan, design, construct, maintain, and operate its transportation system. These solutions use innovative and inclusive approaches that integrate and balance community, aesthetic, historic, and environmental values with transportation safety, maintenance, and performance goals. Context sensitive solutions are reached through a collaborative, interdisciplinary approach involving all stakeholders.*
>
> *The context of all projects and activities is a key factor in reaching decisions. It is considered for all State transportation and support facilities when defining, developing, and evaluating options. When considering the context, issues such as funding feasibility, maintenance feasibility, traffic demand, impact on alternate routes, impact on safety, and relevant laws, rules, and regulations must be addressed.*

Caltrans also developed guidelines for measures on State Highways which function as main streets in the document, *Main Streets: Flexibility in Design and Operation*, Caltrans, January 2005.

> *The California Department of Transportation (Caltrans) has a number of policies that encourage designers to respond to community values where state highways serve as main streets. This booklet identifies design opportunities that a local community may desire in the context of their downtown while assuring safe and efficient operations for pedestrians, bicyclists, vehicles and highway workers.*
>
> *Caltrans remains committed to the notion that people live, work and play in the communities through which our facilities pass. It is our duty, by recognizing the needs of both non-motorized and motorized modes of transportation, to assure that living space is a good space in which to live. We are committed to full*

cooperation with the citizens and elected officials of those communities to find transportation solutions that meet both our duty to protect the safety and mobility of travelers, as well as making main streets an integral part of the community.

The Federal Highway Administration also provides some guidance in *Flexibility in Highway Design* (FHWA Pub. No. FHWA-PD-97-062).

An important concept in highway design is that every project is unique. The setting and character of the area, the values of the community, the needs of the highway users, and the challenges and opportunities are unique factors that designers must consider with each highway project. Whether the design to be developed is for a modest safety improvement or 10 miles of new rural freeway, there are no patented solutions. For each potential project, designers are faced with the task of balancing the need for the highway improvement with the need to safely integrate the design into the surrounding natural and human environments.

In order to do this, designers need flexibility. There are a number of options available to State and local highway agency officials to aid in achieving a balanced road design and to resolve design issues. These include the following:

- *Use the flexibility within the standards adopted for each State.*
- *Recognize that design exceptions may be optional where environmental consequences are great. Be prepared to reevaluate decisions made in the planning phase.*
- *Lower the design speed when appropriate.*
- *Maintain the road's existing horizontal and vertical geometry and cross section and undertake only resurfacing, restoration, and rehabilitation (3R) improvements.*
- *Consider developing alternative standards for each State, especially for scenic roads.*
- *Recognize the safety and operational impact of various design features and modifications.*

When faced with extreme social, economic, or environmental consequences, it is sometimes necessary for designers to look beyond the "givens" of a highway project and consider other options. The design exception process is one such alternative. In other cases, it may be possible to reevaluate planning decisions or rethink the appropriate design.

Traffic Calming

Given the current conditions of high speed traffic on SR 255 which create safety issues for both local vehicles, pedestrians and bicyclists, any context sensitive solution of Manila would involve traffic calming measures. The definition of traffic calming varies considerably from source to source, however each interpretation includes the goals of:

- improving safety by reducing vehicle speeds
- increasing access and mobility for all users including pedestrians and bicyclists
- enhancing quality of life by increasing the 'livability' of the street

According to the Institute of Transportation Engineers (ITE), "Traffic calming is the combination of mainly physical measures that reduce the negative effects of motor vehicle use, alter driver behavior and improve conditions for non-motorized street users."

There are a variety of measures that can be implemented to achieve this including, education campaigns, enforcement efforts, and engineering measures such as changes in street alignment, installation of barriers, or other physical changes to reduce traffic speeds and/or cut-through volumes. There is, however, a distinct difference between local traffic calming measures, which may aim to reduce residential traffic speeds, cut through traffic, and traffic volumes, and arterial traffic calming, which aims to control traffic speeds on arterial thoroughfares and highways.

Recommended Action

It is suggested that the SR 255 corridor through Manila does not fit within the typical traffic analysis and recommendation process. The community is not of a size and content which produces traffic volumes and pedestrian travel sufficient to meet thresholds for traditional improvements. Although the collision rates at the study intersections are above average, the total number of collisions does not meet thresholds for improvements. With SR 255 forming a significant barrier to residents in accessing services within the community, traffic calming modifications to the highway to create slower speeds and safer pedestrian crossing opportunities appear to be warranted based on social and economic grounds. Similarly, modifications to the local roadway network including striping, signing, and shoulder improvements will help accommodate existing bicycle and pedestrian travel and facilitate additional use.

Potential Improvement Measures

A number of potential mitigation measures were presented at the June 2003 public workshop. Generally, these measures can be combined within a plan to address the traffic issues identified by the residents of Manila:

- Speeding on SR 255
- Pedestrian Safety Crossing SR 255
- Better Accessibility from SR 255

Illustrative examples of these measures are included in Appendix B and they are briefly described below.

Bike Lanes are generally striped on the shoulder of an existing roadway where there is adequate space in addition to the travel lanes.

Crosswalks can include a variety of striping which make the crosswalk more visible to the approaching motorist.

Edgeline Striping In areas of low traffic volumes and narrow roadways, edgeline striping can define a pedestrian/bicycle user area.

Enhanced Pedestrian Crossings include a variety of measures intended to slow traffic, make the crossing location more visible and create a shorter crossing distance for the pedestrian.

Entry Treatments generally consist of raised medians and some landscaping which slows traffic and informs the driver that they have entered an area of slow traffic activity.

In-Roadway Warning Lights are a series of high intensity lights placed in the roadway on either side of the crosswalk in order to warn drivers of pedestrians in the crosswalk.

Left-Turn Lanes provide refuge for motorist intending to make left-turns off of a main highway.

Meandering Alignment By shifting parking from one side of the street to another, through traffic will have to meander, which may reduce its speed.

On-Street Parking can decrease speeds through use of striping and the general parking activity.

Overhead Flashing Beacons are amber warning lights placed over the roadway to warn the driver of a condition that warrants greater attention, such as a pedestrian crossing.

Overhead Street Lighting can enhance safety of both vehicular and pedestrian traffic during hours of darkness.

Pavement Treatments Colored and/or stamped concrete can provide a more visible crosswalk to oncoming motorists.

Pedestrian Corral is a fencing pattern placed on a median so that a pedestrian crossing the street would be forced to face the oncoming traffic that they are about to cross.

Pedestrian Median Raised medians can improve pedestrian safety by giving pedestrians refuge when crossing multi-lane or higher speed roads.

Pedestrian Overpass An overhead structure can provide a grade separated pedestrian walkway. This solution is generally very costly and will have no impact on high speed traffic.

Pedestrian Underpass An underground tunnel can provide a grade separated pedestrian walkway. This solution is generally very costly and will have no impact on high speed traffic.

Radar Trailer is placed in a roadway to both record drivers' speeds and act as a deterrent to speeding.

Rail Trail is a pedestrian/bicycle all-weather surface placed within the right-of-way of an existing railroad corridor.

Reduced Posted Speed Limit Similar to the "Safety Corridor" on U.S. 101, this program usually includes a permanent speed radar indicator and double fines for speeding.

Residential Traffic Calming includes a variety of physical measures intended to slow traffic or reduce volumes on residential streets.

Roundabouts can control conflicting traffic movements at an intersection.

Rural Edge Treatments provide both pedestrians and vehicles with adequate space while also maintaining the rural look of a corridor.

Signage such as "Share the Road" signs can be used to provide information to approaching motorists that there are other users of the road system. Since the first workshop, Caltrans has initiated the use of "Vehicle Speed Feedback Signs" which are changeable message signs displaying "Speed Limit" and "Your Speed."

Speed Bumps are vertical deflections in the pavement on residential streets intended to slow traffic.

Traffic Signals control conflicting traffic movements at an intersection.

Manila Multi-Use Trail that utilizes or shares the Northwestern Pacific Railroad (NWP) right-of-way.

Workshop Input

Attending residents were asked to rate the potential solutions based on their experience with critical conditions and how the mitigations would address their concerns. Following is summary of the most preferred measures and rejected measures by residents at the workshop. These ratings were completed separately for SR 255 and then for local roads.

Preferred Mitigations for SR 255
#1 – Pedestrian Median (11 votes)
#2 – Left-Turn Lanes (10 votes)
#3 – Roundabouts (7 votes)
#3 – Traffic Signals (7 votes)
#4 – Entry Treatments (6 votes)
#5 – Overhead Street Lighting (5 votes)
#6 – Pedestrian Corral (3 votes)
#7 – Pedestrian Overpass (2 votes)
#7 – Enhanced Pedestrian Crossings (2 votes)
#8 – Bike Lanes (1 vote)
#8 – Meandering Alignment (1 vote)
#8 – Overhead Flashing Beacons (1 vote)

Rejected Mitigations for SR 255
#1 – Pedestrian Overpass (14 votes)
#2 – Pedestrian Underpass (4 votes)
#3 – Residential Traffic Calming (3 votes)
#4 – Enhanced Pedestrian Crossing (2 votes)
#4 – Overhead Flashing Beacons (2 votes)
#5 – Roundabouts (1 vote)
#5 – Signage (1 vote)
#5 – Traffic Signals (1 vote)

Preferred Mitigations for Local Streets
#1 – Rail Trail (18 votes)
#2 – Edgeline Striping (9 votes)
#3 – Rural Edge Treatments (6 votes)
#4 – Overhead Street Lighting (4 votes)
#4 – Speed Bumps (4 votes)
#5 – Residential Traffic Calming (2 votes)
#6 – Enhanced Pedestrian Crossing (1 Vote)
#6 – Entry Treatments (1 vote)
#6 – Meandering Alignment (1 vote)
#6 – On-Street Parking (1 vote)
#6 – Pedestrian Median (1 vote)
#6 – Radar Trailer (1 vote)
#6 – Signage (1 vote)

Rejected Mitigations for Local Streets
#1 – Speed Bumps (6 votes)
#2 – Residential Traffic Calming (5 votes)
#3 – On-Street Parking (4 votes)
#4 – Pedestrian Overpass (2 votes)
#4 – Signage (2 votes)
#5 – Edgeline Striping (1 vote)
#5 – Meandering Alignment (1 vote)
#5 – Roundabouts (1 vote)
#5 – Traffic Signals (1 vote)

Prime Objectives

At the conclusion of the workshop, attendees were given a gold star to place on the item which represented the single improvement which should be accomplished above all others. Following are the most desirable mitigation measures indicated by attendees of the workshop.

#1 – Reduced Posted Speed Limits (10 votes)
#2 – Roundabouts (4 votes)
#3 – Pedestrian Median (2 votes)
#4 – Bike Lanes (1 vote)

Recommended Treatments

Based on input from the citizens of Manila and an initial review of community traffic conditions, the following list of measures that would enhance all transportation modes in Manila were considered. These measures have the support of community members who participated in Multimodal Transportation Plan Phase I meetings and responded to the Manila Transportation Survey.

In order to achieve the goal of slowing traffic and transforming the corridor to a more livable street for the residents of Manila, it will be necessary to make incremental changes throughout the community corridor over time. The incremental approach will allow for more immediate changes given the potential funding, design and approval process requirements for one overall plan. Also, a progression of incremental changes which could be implemented throughout the study corridor may be effective enough in reducing speeds to allow for a reduction in the speed limit, thus facilitating approval of later phases.

State Route 255

Intersection Control/Local Street Access Alternatives

All-Way Stop Controls – If any of the intersections along the SR 255 corridor were converted to all-way stop controls, the intersection would technically operate at LOS C or better considering future traffic volume increases. However, stop controls on the highway are not in keeping with the function of the highway and may not meet with driver expectation given the absence of fronting land use along the highway. The lower traffic volumes on the side streets may actually lead to through vehicles running stop signs. Therefore, these types of traffic controls along the corridor are not recommended.

Traffic Signals – Traffic signal installations would create protection for pedestrian crossings, but may not decrease speeds along the corridor since through traffic would typically be faced with green indications due to the low side street traffic volumes. The "unwarranted" signals may do little to decrease the impacts of the highway barrier on the community. For these reasons, traffic signals are not recommended for the corridor.

Roundabouts – Many communities are beginning to recognize the traffic calming effect of roundabouts. Although their use has been promoted primarily to improve safety and increase capacity, the modern roundabout can provide numerous advantages over conventional intersection traffic control treatments. These advantages include:

- reduce vehicle speeds
- improve access to side streets
- provide more space for pedestrians and bicycle facilities
- improve pedestrian mobility
- provide opportunities for landscaping and other aesthetic treatments
- have the unique ability to serve as a physical and operational interface or gateway between rural and urban areas where speed limits change.

If implemented along the SR 255 corridor, intersections controlled by roundabouts would operate at LOS A under both existing and future volumes. For these reasons, roundabouts are recommended as a treatment to enhance local street access and lower travel speeds through the corridor.

Given that the cost to design and construct roundabouts would be approximately $500,000 per location, it is recommended that the intersections to be modified include those that have the most significant side street traffic and pedestrian activity. The intersections SR 255 at Pacific Boulevard-Dean Street and Lupin Avenue-Victor Boulevard would meet this suggested criteria. As shown in the attached figure, a roundabout at the intersection at Lupin Avenue-Victor Boulevard could mostly fit within the existing paved area of SR 255. However, the intersection with Pacific Boulevard-Dean Street would have to shift slightly to the west of the highway in order to provide appropriate intersection approach angles and separation from Peninsula Drive.

Turn Lanes – Left-turn lanes on SR 255 should be installed at Pacific Avenue, Carlson Lane, and Stamps Lane where there are resident concerns about the current lack of turn lanes and associated safety issues. Right-turn lanes are not recommended because they would increase pedestrian crossing distances and encourage higher speeds for through traffic.

Speed Reduction Measures

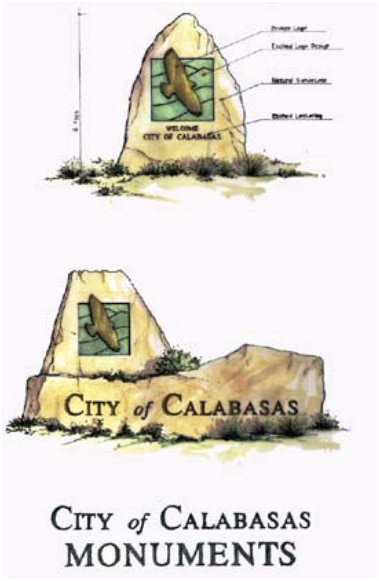
Lower Speed Limit – Changing the posted speed limit on a state highway requires an Engineering and Traffic Survey (E&TS). Lacking an E&TS that supports a lower speed limit, the speed reduction can more appropriately be achieved by creating a transition area using design elements and/or traffic control devices that will naturally reduce the speed of motorists. Therefore, the inclusion of lower speed limits would be applicable if a combination of traffic calming measures described above reduce prevailing travel speeds.

Raised Median Islands – Raised medians can both reduce vehicular travel speeds and provide pedestrian refuge, reduce the scale of the roadway and, with added landscaping, make the public space more attractive. Raised medians can channelize left turns and create a unique visual identity to the corridor. They can also reduce conflicts between pedestrians and vehicles by allowing pedestrians to cross one direction of traffic at a time. An alternative or interim option could involve the use of painted medians or medians with surface landscaping in lieu of the raised curbs. This type of measure combined with other design elements is recommended to achieve the desired results.

Street Landscaping – Quality landscaping along the roadway, close to the highway or in medians, can increase driver awareness of the immediate environment and may alter driver behavior, resulting in slower speeds. This type of measure combined with other design elements is recommended to achieve the desired effects.

Gateway Monuments – A gateway monument is a freestanding structure or sign that communicates the name of the community. Gateway monuments could be placed in a median island at gateways to the area. This type of measure combined with other design elements is recommended to achieve the desired effects. Examples of gateway monuments are shown in Figure 4.

Narrower Travel Lanes – Edgeline striping can be used to delineate narrower travel lanes of 10 to 11 feet through the SR 255 corridor to signal to the driver of the change in this section of highway.



Manila Community Transportation Plan

County of Humboldt/HCAOG/Caltrans

Figure 4
Gateway Treatment Examples

HUX021.ai 11/05

Vehicle Speed Feedback Signs - These changeable message signs which toggle between "Speed Limit" and "Your Speed" are being used increasingly on corridors where speeding may be an issue. Generally, when the drivers speed exceeds the speed limit by a selected level, the "Your Speed" indication begins to flash.

Pedestrian Crossing Measures

Pedestrian Overcrossing/Undercrossing – This option was rejected during the public input process.

Raised Median Islands – This measure is discussed above.

Pedestrian Crossing Treatments – Treatments such as a "fenced corral" (see Potential Solutions section) could be appropriate on SR 255 south of the intersection with Lupin Avenue and north of the intersection with Pacific Avenue. The medians will create a slight meander in the SR 255 alignment which should lower speeds at the intersections. Additional crossing safety features, such as overhead lighting, overhead or in-pavement flashing beacons, and high visibility pedestrian crossing signs, could be provided.

Signage – "Share the Road" and Manila community signage should be provided near the north and south Peninsula Drive intersections with SR 255. Larger, high visibility "Share the Road" and "Pedestrian Crossing" signs should also be provided on SR 255 between Lupin and Pacific Avenues.

Recommended Improvements

A series of improvements and mitigations have been organized below as 'building blocks' to work toward the goal of achieving speed reduction on SR 255, providing enhanced pedestrian crossing facilities and increasing accessability to local streets. These improvements are shown graphically in Figures 5, 6, and 7 on the following pages. As funding becomes available, each group (or portion) of projects can be completed and the cumulative completed projects could stand alone as a coherent set of improvements even if the remaining mitigation measures are not completed. It should be noted that the order of projects does not necessarily represent an absolute priority order. The community may choose not to pursue certain projects, such as the gateway monuments, and/or implement other projects sooner, such as turn lanes and roadway lighting at Pacific Boulevard-Dean Street.

1. Create narrow through travel lanes on SR 255 through the use of pavement striping.

2. Install reflector delineators on centerline and edgeline striping in the corridor.

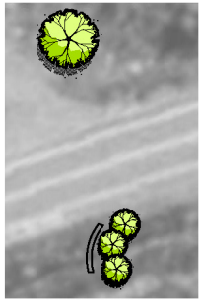
3. Stripe painted medians, or medians with surface landscaping, on SR 255 at Pacific Boulevard-Dean Street and Lupin Avenue-Victor Boulevard

4. Install "Share the Road" and "Pedestrian Crossing" signs along the corridor.

5. Install roadway lighting at all intersections along corridor.

6. Install "Vehicle Speed Feedback Signs" at the entrance and within the core area of the community.

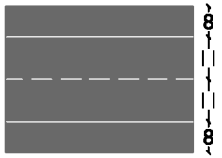
7. Request additional enforcement by the CHP.



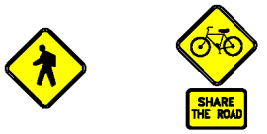
Gateway

Painted Medians at Pacific Blvd-Dean Street & Lupin Ave-Victor Blvd Intersections

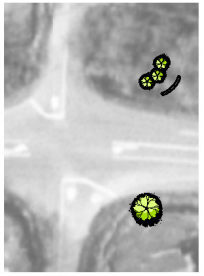
Install Vehicle Speed Feedback Signs



Narrowed Lane Striping



Install "Share the Road" and Pedestrian Crossing signs near entries to community



Gateway (at Young Lane)

North
Oct 25, 2005

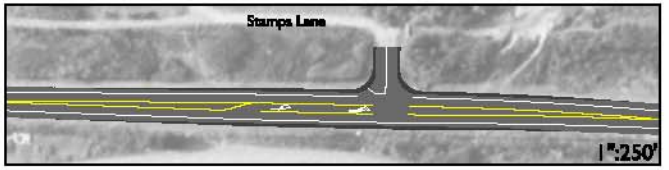
Manila Community Transportation Plan
County of Humboldt/HCOAG/Caltrans

Figure 5
Improvement Phases 1-5

Overhead Flashing Pedestrian Signs at Crossings

New Left Turn Lanes at Pacific Blvd-Dean Street

Plant Roadside Landscaping (in areas not affected by future phases)

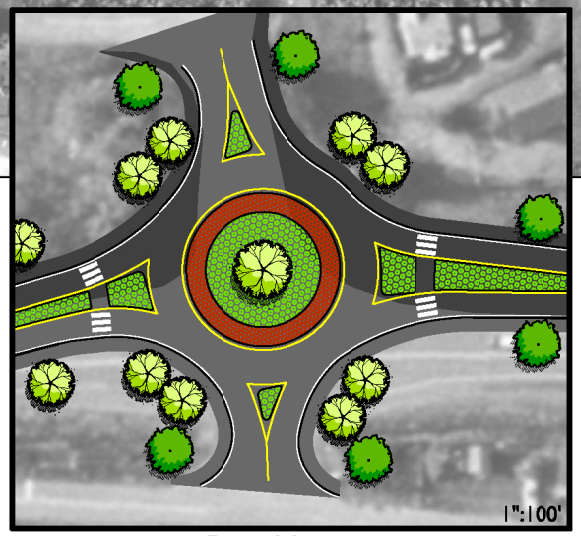


New Left Turn Lane at Stamps Lane

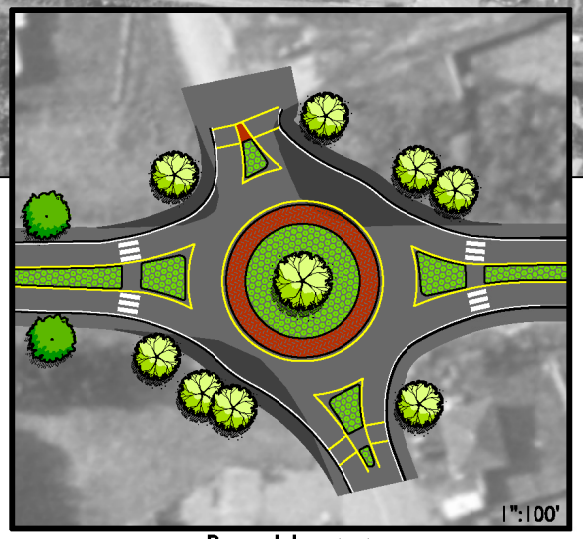
North
Oct 25, 2005

Manila Community Transportation Plan
County of Humboldt/HCOAG/Caltrans

Figure 6
Improvement Phases 6-10



Roundabout at
Pacific Boulevard-Dean Street



Roundabout at
Lupin Avenue-Victor Boulevard

North
Oct 25, 2005

Manila Community Transportation Plan
County of Humboldt/HCOAG/Caltrans

Figure 7
Improvement Phases 11-12

8. Conduct a Eureka areawide campaign regarding traffic conditions in Manila.

9. Install left-turn lanes on SR 255 at Pacific Avenue, Carlson Lane, and Stamps.

10. Provide flashing warning signs at crossing locations. Although the community desires painted crosswalks along the warning signs, crosswalks may not be acceptable to Caltrans until lower speed conditions are achieved through the use of roundabouts.

11. Develop and install roadside landscaping through the primary community corridor section.

12. Install a roundabout intersection on SR 255 at Lupin Avenue-Victor Boulevard including raised medians and high visibility crosswalk markings for pedestrian crossings of SR 255.

13. Install a roundabout on SR 255 at Pacific Boulevard-Dean Street including raised medians and pedestrian crossings of SR 255.

14. Periodically, as improvement measures are completed on SR 255, new speed surveys should be conducted to determine the change in vehicle speeds along the corridor and to determine if reduction in speed limits are warranted.

15. Pedestrian path/trail between Lupin Avenue and Pacific Avenue (see 'New Pedestrian Paths" recommendations under *Pedestrian/Bike Connections* section)

16. Install Gateway community identity monuments on SR 255 just south of Pacific Boulevard-Dean Street and north of Young Lane.

17. Provide shoulder widening between Jackson Ranch Road and the Mad River Slough Bridge, located north of the Manila community.

The cost of these measures are summarized in Table 6.

Caltrans Approval

Although Caltrans has participated in the development of the recommendations from a conceptual level, Caltrans has indicated the following comments on plan components related to SR 255.

- The Plan's recommended treatments will need to be evaluated on a case-by-case basis by Caltrans at the project initiation stage to determine the appropriateness of each improvement.

- Chapter 31, Article 3 of the Caltrans Project Development Procedures Manual provides guidelines for projects proposing non-motorized facilities within the State right-of-way. By placing the proposed trail within the Caltrans right-of-way (see Pedestrian/Bike Connections recommendations ahead), a change in the access control limits would be required. Changing the access control limits can be done only if there are no other feasible locations outside the State right-of-way and will require Federal Highway Administration (FHWA) approval.

- The changes proposed for SR 255 represent a significant change to the facility and would require support from the County of Humboldt, as well as public support from the wider Humboldt Bay region.

Table 6
Cost Estimates

Mitigation Measure	Individual Cost
1. Stripe narrow travel lanes	$ 50,000
2. Install reflector delineators	$ 55,000
3. Stripe painted medians @ Pacific-Dean and Lupin-Victor	$ 20,000
4. Install "Share the Road" and "Pedestrian Crossing" signs	$ 5,000
5. Install roadway lighting at all intersections	$ 75,000
6. Install "Vehicle Speed Feedback Signs" (4)	$ 80,000
7. Request additional enforcement from CHP	$ 0
8. Conduct areawide awareness campaign of traffic conditions	$ 5,000
9. Install left-turn lanes @ Pacific Avenue and Carlson Drive	$ 150,000
10. Provide flashing warning signs at crossing locations	$ 50,000
11. Install roadside landscaping	$ 300,000
12. Install a roundabout @ Lupin Avenue-Victor Boulevard	$ 400,000
13. Install a roundabout @ Pacific Boulevard-Dean Street	$ 600,000
14. Speed survey and adjust speed limit as necessary (assume 3)	$ 30,000
15. Pedestrian path/trail between Lupin Avenue and Pacific Avenue	$ 350,000
16. Install gateway community monuments	$ 100,000
17. Shoulder widening (Jackson Ranch Rd to Mad River Slough Bridge)	$ 900,000
Total	$ 3,170,000

* all costs assume design, environmental review and construction

Local Streets

Local Street Conditions

In addition to SR 255, the community of Manila is served by a system of County and private roads. The roadways which are under the County's road maintenance program include Peninsula Drive, Victor Boulevard, Dean Avenue, Mill Street, and Peerless Avenue. Lupin Drive on the west side of SR 255, as well as Manila Avenue on the east side of SR 255, are shown as dedicated public rights of way on the County assessor's map, however, these roads are not listed on the County's road maintenance program. Peninsula Drive is the main north-south through Manila. The northern segment of Peninsula Drive is on the east side

of State Route 255; it then crosses the highway at Pacific Boulevard and continues on the west side of State Route 255. Victor Boulevard begins at Manila Avenue on the east side of SR 255. It runs south past Dean Street and then curves east toward Humboldt Bay. Dean Street runs perpendicular eastward from Victor Boulevard to Humboldt Bay. Mill Street runs perpendicular from SR 255 eastward and ends at Peerless Avenue. From its origin at Mill Street, Peerless Avenue runs northward.

As previously discussed, the majority of the existing streets in the community have a paved width of 19 to 21 feet within a right-of-way of 40 feet. Most of these roads are unstriped and have very minimal signage with the exception of Peninsula Drive, which is striped with a dashed yellow centerline, creating two 9- to 10-foot lanes, and is signed with 25 mph speed limit signs. Shoulders along the local roadways consist of a mix of gravel, ground vegetation and dirt. There are a number of physical obstructions just outside of the paved roadway, but within the right-of-way, consist mainly of fences and intermittent utility boxes.

Local Street Alternatives

In order to enhance facilities for pedestrians and bicycles, the following alternative measures are presented.

Alternative #1A – Within the Existing Pavement

As a shorter term, lowest cost alternative, the existing pavement can be re-striped with white edgeline striping on both sides of the street to create a center 15-foot two-way travelway flanked by two 2- to 2.5-foot paved shoulders. An example is shown in Figure 8. This treatment, consistent with recommendations identified in the *2004 Regional Bicycle Transportation Plan*, would provide delineated shoulder space for bicycles and pedestrians. Given that existing roadway volumes are low (less than 1,000 vehicles per day), this treatment would provide the greatest benefit to bicyclists and pedestrians in the short-term. The shoulder space created by the edgeline striping could be supplemented with 'bike route' and/or 'share the road' signs and pavement markings. This option is not likely to be impacted by roadside parking as vehicles would continue to park off the pavement. A 1- to 2-foot gravel shoulder could be added at the time of implementation to provide additional space for pedestrian travel. It should be noted that this alternative would not meet AASHTO standards which suggest a minimum of 18 feet of travelway for 2-way traffic on rural collector streets with volumes less than 1,500 vehicles per day. The County Department of Public Works also has concerns that this alternative may result in head-on collisions. Therefore, Alternative 1B was developed.

Alternative #1B – Within the Existing Pavement

Alternative 1B is a variation of Alternative 1A. Under this Alternative, white edgeline striping would be used with centerline striping to create two 8.5- to 9-foot travel lanes flanked by 1- to 2-foot paved shoulders for bicycle and pedestrian travel. It should be noted that 1 to 2 feet is not enough for pedestrian/ bicycle travel, but the addition of the edgeline striping would send a message regarding the need to make room for pedestrians and bicyclists. This treatment, which is consistent with recommendations identified in the *2004 Regional Bicycle Transportation Plan*, would provide shoulder space for bicycles and pedestrians. However, it would also maintain delineated travel lanes for motor vehicles. A 1- to 2-foot gravel shoulder should be added at the time of implementation to provide additional space for pedestrian travel, and the route could be further supplemented by providing 'bike route' and/or 'share the road' signs and pavement markings. The County Department of Public Works indicated that the additional gravel shoulders and future paving

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Figure 8
Edgeline Striping

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of those shoulders could occur over time as part of maintenance programs. This option is not likely to be impacted by roadside parking as vehicles would continue to park off of the pavement.

Alternative #2 – Enhance Existing Shoulders

Pave existing shoulders with gravel or other all-weather surface to create a continuous pedestrian walkway area. This treatment would provide a consistent shoulder along the roadway available for non-motorized use. This option is a low-cost alternative to roadway widening and paving that is consistent with the context of the community. A range of all-weather paving mediums exist that would be an improvement over the existing soft shoulders. However, not all of these surfaces are suitable for all bicycles (especially those with narrow tires) and signing and/or enforcement activities may be necessary to ensure that the shoulder is available for non-motorized use rather than becoming a dedicated parking lane.

Alternative #3 – Widening

Within the 40-foot right-of-way, the roads could be widened from the existing 20 feet of pavement to a 30-foot section. This widened section could be striped either 1) with a center 20-foot 2-way travelway and white edgeline striping on both sides of the street to create two 5-foot bicycle/pedestrian travel areas or 2) with centerline striping to create two 10-foot travel lanes and two 5-foot shoulder areas with pedestrian/bike pavement legends indicating shared travel areas. This alternative, while more expensive, would provide the greatest long-term benefit to pedestrians and bicyclists.

The following local street recommendations are summarized in Figure 9.

1. Provide edgeline striping and minor widening improvements (as described in Alternative 1B) on Peninsula Drive, Lupin Avenue, Victor Boulevard, Dean Street, Mill Street and Peerless.

2. Provide overhead street lighting at the intersection of Peninsula Drive/Victor Boulevard and Park Street/Lupin Avenue.

3. Reconstruct pavement on Lupin Avenue between SR 255 and the Community Services Building.

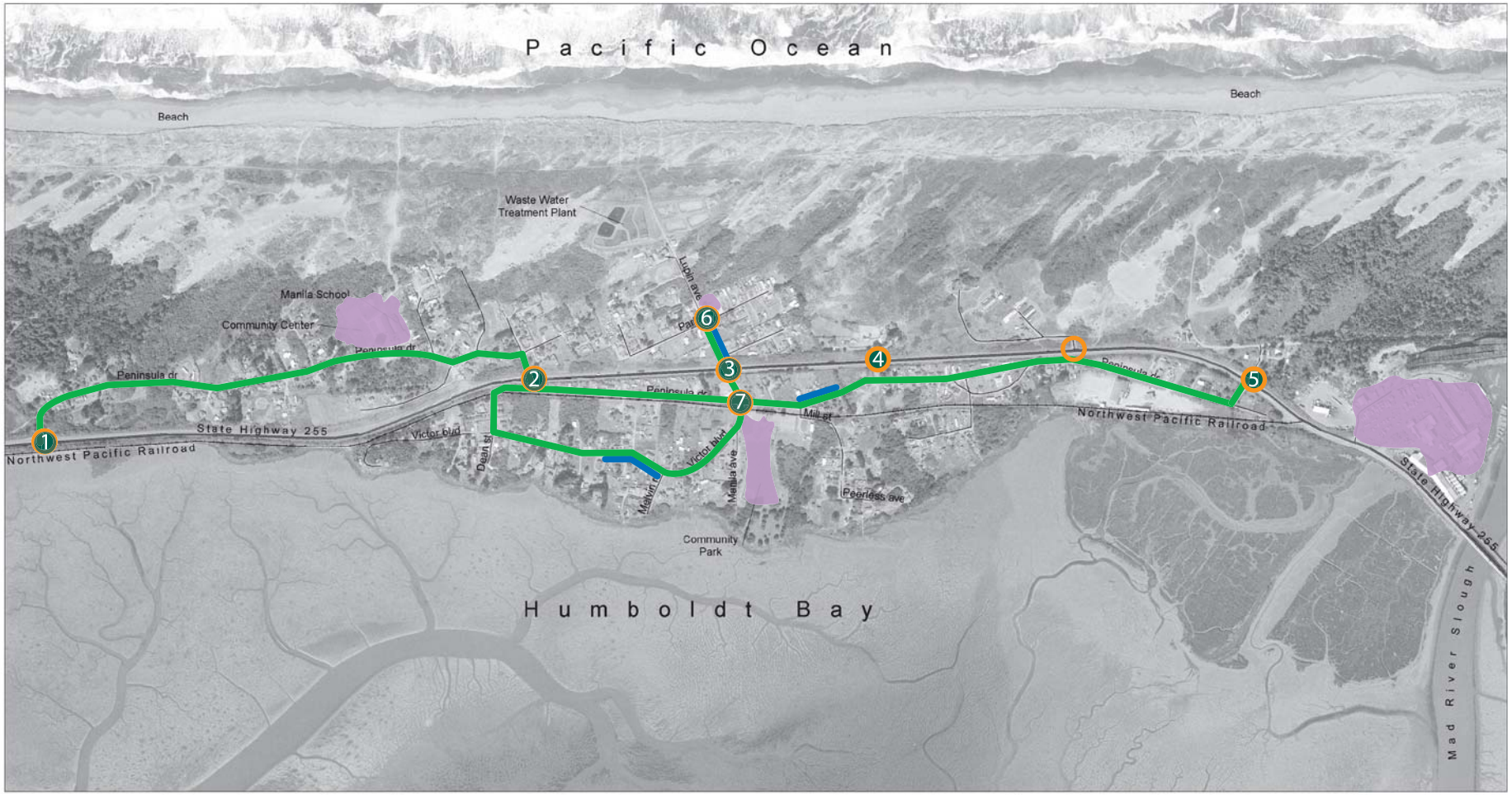
4. Repair Peninsula Drive near Mill Street.

5. Repair Victor Boulevard south of Melvin Road.

Pedestrian/Bike Connections

The following pedestrian and bicycle recommendations are summarized in Figure 10.

Rail Trail – Create a rail trail for pedestrian and bicycle traffic on the NCRA rail right-of-way between the Pacific Avenue-Dean Street-Peninsula Drive intersection to just north of Ward Street behind the Manila Market. This 0.75-mile section would have the least wetlands issues to address for short-term implementation.



LEGEND
- Street Lighting
- Striping/Widening
- Reconstruct Pavement

0 0.125 0.25 0.5 Miles

1 inch equals 350 feet

1:4,200

Map Produced for W-TRANS by Planwest Partners
Date: June 4, 2003
Projection: UTM Zone 10, NAD 1927
Aerial Photography: 9-18-2000 Humboldt Bay Harbor Recreation and Conservation District

Manila Community Transportation Plan

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Figure 9

Local Street Recommendations

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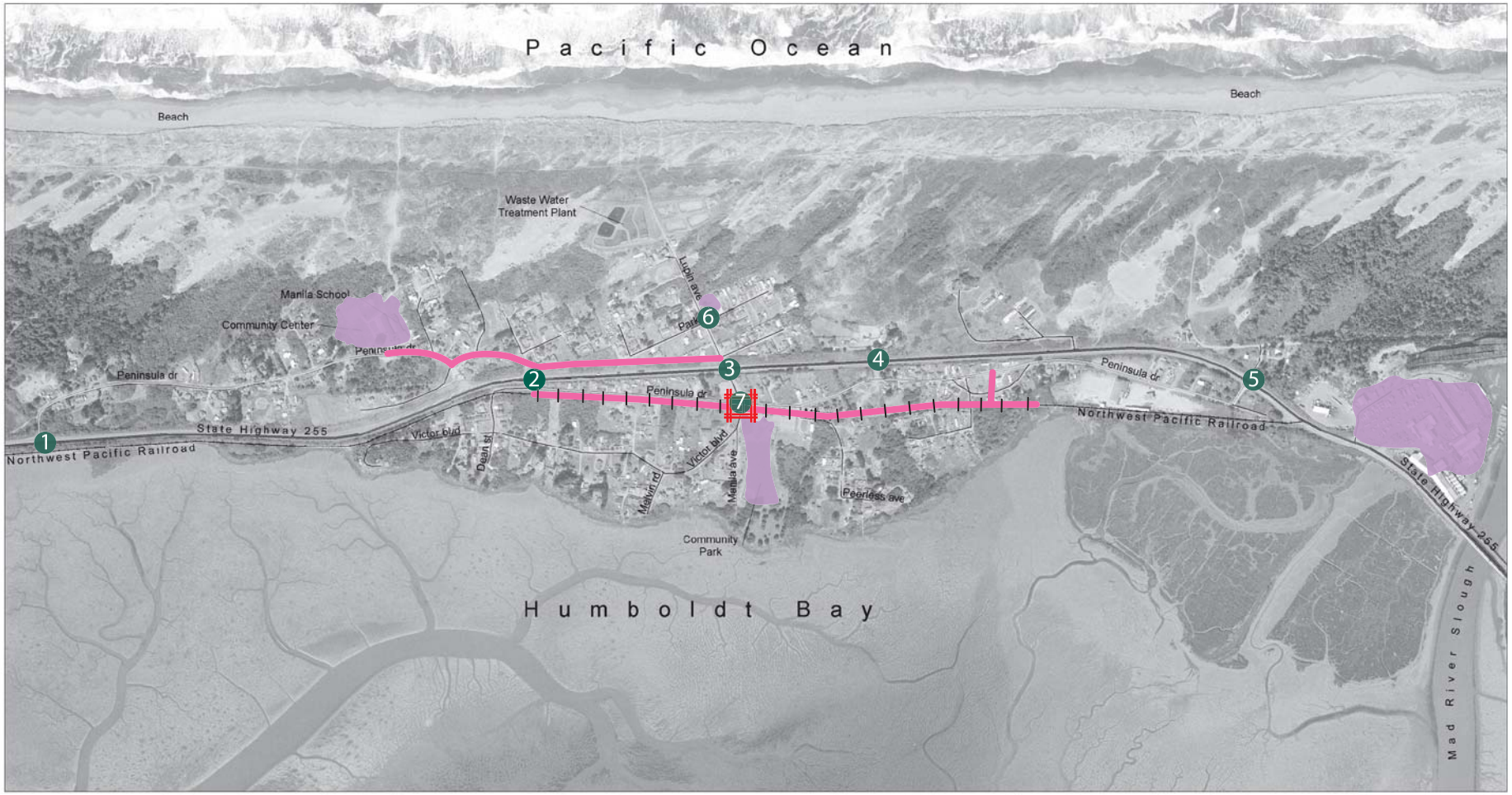

LEGEND

- Rail Trails
- New Paths
- Crosswalk Striping

0 0.125 0.25 0.5 Miles

1 inch equals 350 feet

1:4,200

Map Produced for W-TRANS by Planwest Partners
Date: June 4, 2003
Projection: UTM Zone 10, NAD 1927
Aerial Photography: 9-18-2000 Humboldt Bay Harbor Recreation and Conservation District

Manila Community Transportation Plan

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Figure 10

Pedestrian/Bicycle Recommendations

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New Pedestrian Paths – Create a new pedestrian path on a) the west side of SR 255 between Pacific Avenue and Lupin Avenue within the right of way but separated from SR 255 with fencing and b) on the east side of Peninsula Drive between the Community Center and Pacific Avenue.

Connection to Manila Market – Create a new pedestrian path to link Peninsula Drive with the recommended rail trail near the Manila Market.

Crosswalk Striping – Provide high visibility crosswalk striping at the Peninsula Drive/Lupin Avenue-Victor Boulevard intersection.

Transit

Provide additional transit stops and improve existing stops for waiting riders.

Northwestern Pacific Railroad – Manila Multi-Use Trail

A multi-use trail that utilizes or shares the Northwestern Pacific Railroad (NWP) right-of-way was identified as one of the most desirable mitigation measures for local street improvements in Manila during the public outreach effort for the Manila Community Transportation Plan. A pathway within the corridor is consistent with the goals and policies of the *Humboldt County Trails Plan (1979)*, and has been identified in several planning studies including the *2001 Humboldt Bay Trails Feasibility Study*, *2003 Humboldt County Pedestrian Needs Assessment Study*, and the *2004 Regional Bicycle Transportation Plan*. The NWP's north-south alignment through the center of Manila makes it a viable alternative to Peninsula Drive and SR 255 for bicyclists and pedestrians. The corridor is desirable as both a transportation and recreation corridor due to its level grade, its central location which provides access through the community, and its proximity to many of Manila's trip generators.

Background

In 1992, the State of California formed the North Coast Railroad Authority (NCRA) to purchase and manage the Northwest Pacific Railroad. This railroad corridor is most commonly referred to by its historical name, 'the NWP'. The Northwestern Pacific Railroad has a rich history. Formerly known as the "Redwood Empire Route," the railroad played a major role in the development of Northern California. Created in 1907 and completed in 1914 through the consolidation of six separate railroad companies, the line spans approximately 300 miles between Arcata in Humboldt County and Larkspur in Marin County. Hauling commodities and passengers between the North Coast and the Bay Area, the railroad has suffered landslides and fiscal problems since its inception. During the winters of 1993, 1995, 1997, and 1998, the track suffered extensive damage and was subsequently closed by the Federal Railroad Authority (FRA) in 1998. Under public ownership, the "new" NWP has a whole new set of goals, which include handling more freight by rail along the Highway 101 corridor, establishing passenger excursion trains, and eventually providing regular passenger commute service.

At this time, NCRA is evaluating repair options for reopening the rail line. However, in recent years, the NCRA has suffered a series of financial setbacks in its pursuit of State and Federal transportation funds which are needed to repair the right-of-way and address years of deferred maintenance and weather-related disasters. Several bills have been reintroduced at the State and Federal level in 2005 which would provide

the funding necessary to allow the railroad operation to be viable for the long-term future, however, the status of these bills is uncertain.

Accommodating a Trail on the NWP

The NWP railroad right-of-way has been identified as a potential corridor for a multi-use trail in jurisdictions along the entire NWP route from Humboldt County to Marin County. Several jurisdictions along northern Sonoma County reaches of the right-of-way are currently in the design stages of "rail-with-trail" facilities. In 1999 the NCRA, in conjunction with Sonoma and Marin Counties, commissioned the Sonoma Marin Area Rail Transit (SMART) Study to develop an implementation plan for commuter rail service along the southern reach of the NWP between Sonoma and Marin Counties. As jurisdictions in these counties are planning for and developing train platforms and transit centers for existing transit, and in the anticipation of future rail service on the NWP corridor, they are also including bicycle and pedestrian components to ensure transit integration.

At this time, the NCRA has yet to formally evaluate the development of multi-use trails within their portion of the NWP railroad right-of-way. The mission of the NCRA is "to provide a unified and revitalized rail infrastructure meeting the freight and passenger needs of the region; a first class service working in partnership with others to build and sustain the economy of the region." This means that the NCRA will foremost seek to restore rail use to all feasible segments of their corridor. The NCRA has yet to determine if trail activities would be compatible with future railroad operations.

Given that the future of rail service down the Samoa Peninsula is uncertain, two distinct types of trail planning are relevant to the corridor: a "rail-with-trail" if train service is restored, or a "rail-to-trail" in the event that rail operations are abandoned.

> *Rail-to-trail* – describes any shared use path located on or directly adjacent to an abandoned or otherwise inactive railroad corridor.
>
> *Rail-with-trail (RWT)* – describes any shared use path located on or directly adjacent to an active railroad corridor. Shared use paths are bikeways that are physically separated from motorized vehicular traffic by an open space or barrier. They may be used by multiple non-motorized transportation modes (*Guide for the Development of Bicycle Facilities, 3rd Edition*, AASHTO, 1999).

No national standards or guidelines dictate rail-with-trail facility design. Guidance must be pieced together from standards related to shared use paths, pedestrian facilities, railroad facilities, and/or roadway crossings of railroad rights-of-way. Trail designers should work closely with railroad operations and maintenance staff to achieve a suitable RWT design. Whenever possible, trail development should reflect standards set by adjacent railroads for crossings and other design elements. Ultimately, RWTs must be designed to meet both the operational needs of railroads and the safety of trail users. The challenge is to find ways of accommodating both types of uses without compromising safety or function. Design standards for multi-use trails and rail-with-trails are included in Appendix C. Additional design standards can be found in the *2004 Humboldt County Regional Bicycle Transportation Plan*.

In certain circumstances, such as on dead end branch lines or other segments where restoration of rail use is determined to be infeasible in the short- or medium-term, the NCRA may elect to make use of the

federal railbanking[4] statute. Railbanking allows railroad owners to preserve the integrity of the existing corridor without providing rail service, enables interim trail use of specific segments or the entire right-of-way with purchase by the trail management agency, and restoration of rail use is easily accomplished under the statute. The Surface Transportation Board (STB), a federal agency, administers railbanking. Details on the railbanking process are available from the STB and from numerous private organizations.

Trail Planning

Regardless of the type of trail that may be implemented, it is critical that NCRA be included early in the planning and design process. The following recommendations regarding rail-with-trail development processes are drawn from *Rails-with-Trails: Lessons Learned: Literature Review, Current Practices, Conclusions* published by the Federal Highway Administration and the Federal Railroad Administration.

Each proposed RWT project should undergo a comprehensive feasibility study. If required, the proposed project also should undergo an independent, comprehensive environmental review.

- Trail agencies must involve the railroad throughout the process and work to address their safety and liability concerns.
- Trail agencies should coordinate with other stakeholders, such as utility companies, law enforcement officials, and residents.
- The feasibility study and environmental analysis should incorporate extensive public review.
- Railroad officials should be invited to all public workshops, and encouraged to voice their concerns or suggestions.

Due to budgetary constraints, the NCRA is unable to assign staff to work directly with advocates of proposed rail-with-trail and rail-to-trail projects in all situations. For this reason, trail planners and advocates must be aware of key NCRA staff who they will need to work with and keep informed regarding their proposed trail project. Generally, the recommended railroad staff includes, at a minimum, representatives familiar with the real estate, legal, and operations requirement of the NCRA, to ensure that all needs and concerns related these topics are addressed.

Existing Conditions

Limited right-of-way information is available for the NWP Spur line on the Peninsula through the NCRA. Field analysis indicated that the RR ROW through Manila is approximately 60 - 80 feet, with the track situated in the center of the ROW. The track is generally at grade, or elevated on 1-2 feet of ballast. The rail line and right-of-way suffer from over a decade of deferred maintenance. The corridor is heavily overgrown with weeds, scrub brush, and exotics; especially sections of the right-of-way that are located away from other public rights-of-way. The track ballast and levees are eroded and in some cases unstable where they meet the bay shoreline, and in many locations adjacent landowners encroach upon the right-of-way.

[4] Railbanking is a method by which lines proposed for abandonment can be preserved through interim conversion to trail use. The legal process of railbanking is not detailed in this document. In order to establish interim trail use under section 8(d) of the National Trails System Act, 16 U.S.C. §1247(d), and 49 C.F.R. §1152.29, a local trail management agency must be willing to assume full responsibility for management and legal liability for the right-of-way.

Preliminary analysis of the corridor indicates that there is a potential to locate a trail on the western side of the track through the center of Manila. The most feasible first phase of a rail trail, to serve the transportation needs of the community of Manila, would be a western alignment between Dean Street at the south end to Sandy Lane at the north end. This is an approximately 0.73-mile section which would cross through the community park property (north of Lupin) and within approximately 200 feet of the Manila Store, which is located between Lupin and Sandy.

Sandy to Mill – From Sandy Road south to Mill Street (approximately 1500 feet), the railroad corridor is flanked by residential properties set on larger parcels. The corridor is overgrown and the rail line is set on 1-2 feet of ballast through the reach.

Mill to Victor – From Mill Street south to Victor Boulevard (approximately 900 feet), the rail line is situated between Peninsula Drive on the west and the Manila Community Park on the east. The corridor is mowed and the rail line is generally at grade through this reach.

Victor to Dean – From Victor Boulevard south to Dean Avenue (approximately 2000 feet) the rail line is situated between Peninsula Drive on the west and large residential properties located on Victor Boulevard to the east that back up to the rail corridor. The corridor is heavily overgrown through portions of this reach and the rail line is generally at grade or elevated on 1-2 feet of ballast.

South of Dean Street, the rail corridor seems surrounded by wetlands on both sides. North of Sandy Lane, the rail is quite close to Humboldt Bay. Wetlands issues and the bay shoreline may present significant environmental obstacles to trail development through these reaches.

Funding

Project Funding Mechanisms

There are a variety of potential funding opportunities from Federal, State, regional, and local sources that can be used to complete the projects identified in this Plan. Project funding is generally derived from one of two sources: programmed transportation funds, or competitive source funds. While improvements to SR 255 and Peninsula Drive are likely to be financed through programmed funds, projects that have a recreational component, such as the Peninsula Rail Trail, are likely to be funded through competitive source grants or some combination of the two sources.

It is important to note that while to some, Manila may be perceived as a 'little' community, or as an 'out of the way' place, there are options available to finance transportation improvements in the community. Precedent has been set in Humboldt County on Willow Creek's Context Sensitive Design Project, as well as on 'Main Street' projects throughout the State. Various local agencies across California have developed Community Transportation Plans, worked with Caltrans, and used Context Sensitive Solutions to preserve community, enhance traffic operations, and increase mobility options.

Programmed Transportation Funds

Programmed funds, which are typically derived from federal dollars, can be used for a broad range of transportation projects. Federal Transportation funds, which are made available through the passage of Federal Transportation Legislation, are programmed through a variety of Federal, State, and regional programs. Federal funding programs have become increasingly flexible with each successive transportation bill re-authorization. Funds can be used for engineering, enforcement, and education, including the development of highways, ridesharing programs, HOV lanes, transit facilities, clean air programs, ADA improvements, transit-oriented development, bike lanes and paths, pedestrian facilities, neighborhood traffic calming, and various transit station improvements. Projects typically require a minimum 11.5 percent local funding match, they must be sponsored by a public agency, be on a plan of some kind or have been formally studied, and are subject to all federal regulations and environmental reviews.

The California Department of Transportation (Caltrans) acts as the clearinghouse for federal transportation dollars in California. Funds are either distributed directly from Caltrans, or they move from the State to the Regional Transportation Planning Agencies or Congestion Management Agencies.

Competitive Source Funding Programs

There are a variety of competitive source funding programs that are available on a regional or statewide basis, which can be used to fund the improvements proposed in this Plan. Competitive source funding programs typically require the development of extensive applications with clear documentation of the project need, costs, and benefits, along with maps, cost estimates, schedules, letters of support, and proposed work scopes. A local match ranging between 10-50 percent is typically required. While the development of applications combined with securing local matching funds can be challenging, competitive source funding programs represent an outstanding opportunity to secure funds, especially for non-motorized projects and recreation improvements.

A summary of potential funding opportunities along with an update on the recently passed Federal Transportation Bill, the Safe, Accountable, Flexible and Efficient Transportation Equity Act (SAFETEA) are included in Appendix D.

It should be noted that the Manila Board of Directors, by resolution, and the community, by ballot (Measure R, 2005), have opposed Manila's participation in the Humboldt County Redevelopment Agency.

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HUX021

Appendix A

Traffic Count Data

Whitlock & Weinberger
Transportation, Inc.

Manila 8 HR
SR255/Peninsula Drive South
HUX021
County of Humboldt

File Name : SR 255 - Peninsula Drive South 8 HR
Site Code : 11111111
Start Date : 6/10/2005
Page No : 1

Groups Printed- Unshifted

	SR 255 Southbound					Westbound					SR 255 Northbound					Peninsula Drive South Eastbound					
Start Time	Right	Thru	Left	3+ Axles	App. Total	Right	Thru	Left	3+ Axles	App. Total	Right	Thru	Left	3+ Axles	App. Total	Right	Thru	Left	3+ Axles	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
08:30 AM	1	52	0	3	56	0	0	0	0	0	0	36	2	2	40	9	0	1	2	12	108
08:45 AM	0	52	0	2	54	0	0	0	0	0	0	21	0	2	23	1	0	1	0	2	79
Total	1	104	0	5	110	0	0	0	0	0	0	57	2	4	63	10	0	2	2	14	187
09:00 AM	0	35	0	3	38	0	0	0	0	0	0	32	1	5	38	3	0	0	0	3	79
09:15 AM	1	38	0	4	43	0	0	0	0	0	0	32	4	1	37	1	0	0	0	1	81
09:30 AM	0	47	0	1	48	0	0	0	0	0	0	25	2	1	28	2	8	0	0	10	86
09:45 AM	0	55	0	2	57	0	0	0	0	0	0	26	1	2	29	4	0	1	0	5	91
Total	1	175	0	10	186	0	0	0	0	0	0	115	8	9	132	10	8	1	0	19	337
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10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	56	0	5	61	0	0	0	0	0	0	24	1	0	25	2	0	1	0	3	89
10:45 AM	1	46	0	3	50	0	0	0	0	0	0	37	4	2	43	1	0	0	0	1	94
Total	1	102	0	8	111	0	0	0	0	0	0	61	5	2	68	3	0	1	0	4	183
11:00 AM	0	54	0	2	56	0	0	0	0	0	0	41	0	2	43	3	0	0	0	3	102
11:15 AM	0	38	0	5	43	0	0	0	0	0	0	45	0	5	50	3	0	0	0	3	96
11:30 AM	0	46	0	3	49	0	0	0	0	0	0	37	1	2	40	2	0	0	0	2	91
11:45 AM	0	56	0	5	61	0	0	0	0	0	0	48	3	3	54	4	0	0	2	6	121
Total	0	194	0	15	209	0	0	0	0	0	0	171	4	12	187	12	0	0	2	14	410
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12:15 PM	0	57	0	2	59	0	0	0	0	0	0	43	3	3	49	1	0	0	3	4	112
12:30 PM	0	63	0	1	64	0	0	0	0	0	0	47	2	3	52	1	0	0	0	1	117
12:45 PM	0	48	0	5	53	0	0	0	0	0	0	47	2	2	51	1	0	0	0	1	105
Total	0	234	0	10	244	0	0	0	0	0	0	182	9	10	201	6	0	0	3	9	454
01:00 PM	0	44	0	3	47	0	0	0	0	0	0	43	4	2	49	0	0	0	0	0	96
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	44	0	3	47	0	0	0	0	0	0	43	4	2	49	0	0	0	0	0	96
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM	0	55	0	3	58	0	0	0	0	0	0	62	6	3	71	2	0	0	0	2	131
02:45 PM	0	70	0	3	73	0	0	0	0	0	0	59	2	2	63	2	0	0	0	2	138
Total	0	125	0	6	131	0	0	0	0	0	0	121	8	5	134	4	0	0	0	4	269

Whitlock & Weinberger
Transportation, Inc.

File Name : SR 255 - Peninsula Drive South 8 HR
Site Code : 11111111
Start Date : 6/10/2005
Page No : 2

Groups Printed- Unshifted

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Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
03:00 PM	1	45	0	2	48	0	0	0	0	0	0	66	3	5	74	4	0	0	0	4	126
03:15 PM	0	70	0	2	72	0	0	0	0	0	0	53	4	2	59	3	0	1	0	4	135
03:30 PM	0	76	0	0	76	0	0	0	0	0	0	84	2	2	88	0	0	0	0	0	164
03:45 PM	0	76	0	1	77	0	0	0	0	0	0	66	6	7	79	1	0	0	0	1	157
Total	1	267	0	5	273	0	0	0	0	0	0	269	15	16	300	8	0	1	0	9	582
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	2	78	0	2	82	0	0	0	0	0	0	77	2	1	80	1	0	1	0	2	164
04:45 PM	1	68	0	2	71	0	0	0	0	0	0	67	3	3	73	5	0	0	1	6	150
Total	3	146	0	4	153	0	0	0	0	0	0	144	5	4	153	6	0	1	1	8	314
05:00 PM	0	70	0	0	70	0	0	0	0	0	0	93	6	1	100	1	0	0	0	1	171
05:15 PM	1	75	0	1	77	0	0	0	0	0	0	69	1	2	72	1	0	1	0	2	151
05:30 PM	1	51	0	2	54	0	0	0	0	0	0	62	6	2	70	6	0	0	1	7	131
05:45 PM	1	61	0	3	65	0	0	0	0	0	0	64	2	4	70	3	0	0	0	3	138
Total	3	257	0	6	266	0	0	0	0	0	0	288	15	9	312	11	0	1	1	13	591
Grand Total	10	1648	0	72	1730	0	0	0	0	0	0	1451	75	73	1599	70	8	7	9	94	3423
Apprch %	0.6	95.3	0.0	4.2		0.0	0.0	0.0	0.0		0.0	90.7	4.7	4.6		74.5	8.5	7.4	9.6		
Total %	0.3	48.1	0.0	2.1	50.5	0.0	0.0	0.0	0.0	0.0	0.0	42.4	2.2	2.1	46.7	2.0	0.2	0.2	0.3	2.7	

	SR 255 Southbound					Westbound					SR 255 Northbound					Peninsula Drive South Eastbound					
Start Time	Right	Thru	Left	3+ Axles	App. Total	Right	Thru	Left	3+ Axles	App. Total	Right	Thru	Left	3+ Axles	App. Total	Right	Thru	Left	3+ Axles	App. Total	Int. Total
Peak Hour From 08:30 AM to 05:45 PM - Peak 1 of 1																					
Intersection	04:30 PM																				
Volume	4	291	0	5	300	0	0	0	0	0	0	306	12	7	325	8	0	2	1	11	636
Percent	1.3	97.0	0.0	1.7		0.0	0.0	0.0	0.0		0.0	94.2	3.7	2.2		72.7	0.0	18.2	9.1		
05:00 Volume	0	70	0	0	70	0	0	0	0	0	0	93	6	1	100	1	0	0	0	1	171
Peak Factor																					0.930
High Int.	04:30 PM					8:15:00 AM					05:00 PM					04:45 PM					
Volume	2	78	0	2	82	0	0	0	0	0	0	93	6	1	100	5	0	0	1	6	
Peak Factor					0.915										0.813					0.458	

Whitlock & Weinberger
Transportation, Inc.

Manila 8 HR
SR 255/Pacific-Dean
HUX021
County of Humboldt

File Name : SR 255 - Pacific-Dean 8 HR
Site Code : 22222222
Start Date : 6/10/2005
Page No : 1

Groups Printed- Unshifted

	SR 255 Southbound					Dean Westbound					SR 255 Northbound					Pacific Eastbound					
Start Time	Right	Thru	Left	3+ Axles	App. Total	Right	Thru	Left	3+ Axles	App. Total	Right	Thru	Left	3+ Axles	App. Total	Right	Thru	Left	3+ Axles	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
08:00 AM	6	59	0	2	67	1	0	1	0	2	3	37	0	0	40	4	0	5	0	9	118
08:15 AM	8	65	1	0	74	1	0	6	0	7	1	28	1	4	34	6	1	1	0	8	123
08:30 AM	9	57	2	1	69	1	1	1	0	3	0	41	1	2	44	2	0	7	0	9	125
08:45 AM	3	47	0	3	53	1	0	3	0	4	1	21	0	0	22	2	2	6	0	10	89
Total	26	228	3	6	263	4	1	11	0	16	5	127	2	6	140	14	3	19	0	36	455
09:00 AM	2	32	0	1	35	3	2	3	0	8	3	26	0	2	31	0	0	1	0	1	75
09:15 AM	2	36	0	3	41	2	2	3	0	7	1	31	0	0	32	2	2	3	0	7	87
09:30 AM	5	54	0	1	60	0	1	2	0	3	0	28	0	0	28	2	0	3	0	5	96
09:45 AM	4	46	0	2	52	0	0	4	0	4	1	27	2	3	33	2	1	1	0	4	93
Total	13	168	0	7	188	5	5	12	0	22	5	112	2	5	124	6	3	8	0	17	351
10:00 AM	1	47	0	2	50	0	1	4	0	5	1	30	0	1	32	1	0	3	0	4	91
10:15 AM	3	52	1	3	59	0	0	5	0	5	3	28	2	2	35	0	0	1	0	1	100
10:30 AM	4	55	3	3	65	2	0	1	0	3	1	29	1	1	32	2	0	1	0	3	103
10:45 AM	3	37	3	1	44	3	2	3	0	8	1	34	0	1	36	1	2	6	0	9	97
Total	11	191	7	9	218	5	3	13	0	21	6	121	3	5	135	4	2	11	0	17	391
11:00 AM	3	53	0	2	58	1	0	2	0	3	3	40	2	2	47	0	1	6	0	7	115
11:15 AM	4	33	1	4	42	0	1	5	0	6	4	41	1	4	50	1	1	2	0	4	102
11:30 AM	2	47	0	2	51	1	0	4	0	5	4	32	1	3	40	0	1	1	0	2	98
11:45 AM	8	55	2	2	67	0	1	3	0	4	4	43	2	3	52	2	0	4	0	6	129
Total	17	188	3	10	218	2	2	14	0	18	15	156	6	12	189	3	3	13	0	19	444
12:00 PM	2	59	3	2	66	0	0	4	0	4	5	37	4	2	48	2	1	8	0	11	129
12:15 PM	4	63	1	2	70	2	1	3	0	6	2	38	1	3	44	2	1	2	0	5	125
12:30 PM	2	48	0	1	51	2	2	9	0	13	7	39	1	2	49	1	2	4	0	7	120
12:45 PM	4	49	0	3	56	1	1	3	1	6	5	48	3	2	58	1	1	2	0	4	124
Total	12	219	4	8	243	5	4	19	1	29	19	162	9	9	199	6	5	16	0	27	498
01:00 PM	2	52	1	3	58	3	0	2	0	5	1	46	3	1	51	1	1	4	0	6	120
01:15 PM	2	51	0	2	55	0	0	4	0	4	3	39	0	1	43	4	1	8	0	13	115
01:30 PM	4	48	1	2	55	1	1	2	0	4	3	60	5	2	70	0	0	3	0	3	132
01:45 PM	1	57	1	2	61	0	2	0	0	2	5	49	0	2	56	1	1	1	0	3	122
Total	9	208	3	9	229	4	3	8	0	15	12	194	8	6	220	6	3	16	0	25	489
02:00 PM	3	41	4	1	49	1	0	6	0	7	6	48	0	2	56	2	2	1	0	5	117
02:15 PM	12	57	0	1	70	1	1	4	0	6	1	58	1	2	62	2	1	5	0	8	146
02:30 PM	3	53	0	3	59	1	1	0	0	2	3	54	4	2	63	1	0	4	0	5	129
02:45 PM	3	56	0	1	60	0	1	3	0	4	0	59	3	1	63	5	1	6	0	12	139
Total	21	207	4	6	238	3	3	13	0	19	10	219	8	7	244	10	4	16	0	30	531

Whitlock & Weinberger
Transportation, Inc.

File Name : SR 255 - Pacific-Dean 8 HR
Site Code : 22222222
Start Date : 6/10/2005
Page No : 2

Groups Printed- Unshifted

	SR 255 Southbound					Dean Westbound					SR 255 Northbound					Pacific Eastbound					
Start Time	Right	Thru	Left	3+ Axles	App. Total	Right	Thru	Left	3+ Axles	App. Total	Right	Thru	Left	3+ Axles	App. Total	Right	Thru	Left	3+ Axles	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
03:00 PM	2	43	1	0	46	1	0	1	0	2	1	61	1	4	67	5	0	8	0	13	128
03:15 PM	3	63	2	1	69	0	1	1	0	2	0	52	1	3	56	3	0	2	0	5	132
03:30 PM	5	71	0	0	76	1	0	2	0	3	4	78	0	1	83	1	2	4	0	7	169
03:45 PM	6	71	1	0	78	0	3	0	0	3	7	58	1	4	70	2	0	4	0	6	157
Total	16	248	4	1	269	2	4	4	0	10	12	249	3	12	276	11	2	18	0	31	586
04:00 PM	5	73	1	2	81	3	2	3	0	8	4	66	1	2	73	2	2	7	0	11	173
04:15 PM	7	73	1	2	83	0	0	1	0	1	3	63	2	3	71	0	2	4	0	6	161
04:30 PM	2	80	1	1	84	0	1	1	0	2	5	74	5	1	85	3	1	2	0	6	177
04:45 PM	10	64	1	1	76	1	2	3	0	6	2	67	2	2	73	0	1	1	0	2	157
Total	24	290	4	6	324	4	5	8	0	17	14	270	10	8	302	5	6	14	0	25	668
05:00 PM	6	68	3	0	77	0	0	2	0	2	5	89	0	1	95	1	0	2	0	3	177
05:15 PM	3	75	2	1	81	4	1	3	0	8	6	60	1	0	67	1	0	6	0	7	163
05:30 PM	3	48	4	2	57	2	0	2	0	4	0	65	2	3	70	2	0	7	0	9	140
05:45 PM	8	58	3	2	71	0	2	5	0	7	8	54	0	1	63	2	1	2	0	5	146
Total	20	249	12	5	286	6	3	12	0	21	19	268	3	5	295	6	1	17	0	24	626
Grand Total	169	2196	44	67	2476	40	33	114	1	188	117	1878	54	75	2124	71	32	148	0	251	5039
Apprch %	6.8	88.7	1.8	2.7		21.3	17.6	60.6	0.5		5.5	88.4	2.5	3.5		28.3	12.7	59.0	0.0		
Total %	3.4	43.6	0.9	1.3	49.1	0.8	0.7	2.3	0.0	3.7	2.3	37.3	1.1	1.5	42.2	1.4	0.6	2.9	0.0	5.0	

	SR 255 Southbound					Dean Westbound					SR 255 Northbound					Pacific Eastbound					
Start Time	Right	Thru	Left	3+ Axles	App. Total	Right	Thru	Left	3+ Axles	App. Total	Right	Thru	Left	3+ Axles	App. Total	Right	Thru	Left	3+ Axles	App. Total	Int. Total
Peak Hour From 08:00 AM to 05:45 PM - Peak 1 of 1																					
Intersection	04:30 PM																				
Volume	21	287	7	3	318	5	4	9	0	18	18	290	8	4	320	5	2	11	0	18	674
Percent	6.6	90.3	2.2	0.9		27.8	22.2	50.0	0.0		5.6	90.6	2.5	1.3		27.8	11.1	61.1	0.0		
05:00 Volume	6	68	3	0	77	0	0	2	0	2	5	89	0	1	95	1	0	2	0	3	177
Peak Factor																					0.952
High Int.	04:30 PM					05:15 PM					05:00 PM					05:15 PM					
Volume	2	80	1	1	84	4	1	3	0	8	5	89	0	1	95	1	0	6	0	7	
Peak Factor					0.946					0.563					0.842					0.643	

Whitlock & Weinberger
Transportation, Inc.

Manila 8 HR
SR 255/Lupin-Victor
HUX021
County of Humboldt

File Name : SR 255 - Victor-Lupin 8 HR
Site Code : 33333333
Start Date : 6/10/2005
Page No : 1

Groups Printed- Unshifted

	SR 255 Southbound					Victor Westbound					SR 255 Northbound					Lupin Eastbound					
Start Time	Right	Thru	Left	3+ Axles	App. Total	Right	Thru	Left	3+ Axles	App. Total	Right	Thru	Left	3+ Axles	App. Total	Right	Thru	Left	3+ Axles	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
08:15 AM	0	69	1	1	71	0	1	1	1	3	1	25	1	5	32	3	0	2	1	6	112
08:30 AM	0	66	0	2	68	1	1	3	0	5	2	34	1	3	40	3	1	1	0	5	118
08:45 AM	1	48	0	2	51	4	1	6	1	12	1	35	4	3	43	2	0	2	0	4	110
Total	1	183	1	5	190	5	3	10	2	20	4	94	6	11	115	8	1	5	1	15	340
09:00 AM	1	29	1	2	33	0	1	2	0	3	1	29	0	2	32	5	1	0	0	6	74
09:15 AM	1	37	2	2	42	0	0	2	0	2	0	37	1	2	40	0	0	2	0	2	86
09:30 AM	2	44	1	2	49	2	1	3	0	6	2	29	3	1	35	3	2	2	1	8	98
09:45 AM	1	44	1	3	49	1	0	2	0	3	1	27	0	3	31	3	1	0	0	4	87
Total	5	154	5	9	173	3	2	9	0	14	4	122	4	8	138	11	4	4	1	20	345
10:00 AM	3	50	2	4	59	1	0	1	0	2	4	25	0	1	30	3	0	4	0	7	98
10:15 AM	2	57	2	2	63	4	0	2	0	6	0	29	0	3	32	2	2	1	0	5	106
10:30 AM	0	46	2	2	50	1	1	6	0	8	4	29	1	1	35	0	1	1	0	2	95
10:45 AM	0	44	0	2	46	1	3	3	0	7	2	34	3	0	39	2	1	1	0	4	96
Total	5	197	6	10	218	7	4	12	0	23	10	117	4	5	136	7	4	7	0	18	395
11:00 AM	1	49	3	2	55	3	2	4	0	9	2	43	2	3	50	0	1	1	0	2	116
11:15 AM	3	39	1	1	44	4	2	1	0	7	3	38	4	3	48	3	1	4	0	8	107
11:30 AM	2	48	2	7	59	4	0	1	0	5	7	30	0	2	39	2	1	1	0	4	107
11:45 AM	4	57	1	4	66	1	2	2	0	5	0	35	2	3	40	4	0	0	0	4	115
Total	10	193	7	14	224	12	6	8	0	26	12	146	8	11	177	9	3	6	0	18	445
12:00 PM	0	62	1	2	65	1	1	2	0	4	5	37	2	5	49	1	0	3	0	4	122
12:15 PM	1	57	6	2	66	1	1	1	0	3	0	45	2	3	50	2	1	2	0	5	124
12:30 PM	0	54	0	5	59	2	0	4	2	8	3	43	1	2	49	0	0	0	0	0	116
12:45 PM	1	53	0	5	59	2	2	5	0	9	2	51	1	3	57	2	2	5	0	9	134
Total	2	226	7	14	249	6	4	12	2	24	10	176	6	13	205	5	3	10	0	18	496
01:00 PM	1	40	0	0	41	2	0	2	0	4	8	42	1	3	54	2	0	2	0	4	103
01:15 PM	0	61	2	3	66	1	0	2	0	3	5	43	1	1	50	3	1	2	0	6	125
01:30 PM	1	54	2	2	59	2	0	9	0	11	3	48	2	2	55	0	0	0	0	0	125
01:45 PM	1	49	1	1	52	2	1	2	0	5	3	50	1	1	55	3	0	1	0	4	116
Total	3	204	5	6	218	7	1	15	0	23	19	183	5	7	214	8	1	5	0	14	469
02:00 PM	2	51	0	1	54	1	0	2	0	3	9	37	0	1	47	3	0	3	0	6	110
02:15 PM	3	56	1	1	61	1	0	6	0	7	5	49	5	1	60	4	1	3	0	8	136
02:30 PM	1	61	2	0	64	0	1	4	1	6	8	53	2	5	68	1	1	0	0	2	140
02:45 PM	2	52	2	4	60	1	0	1	0	2	5	54	2	2	63	4	0	0	0	4	129
Total	8	220	5	6	239	3	1	13	1	18	27	193	9	9	238	12	2	6	0	20	515

Whitlock & Weinberger
Transportation, Inc.

File Name : SR 255 - Victor-Lupin 8 HR
Site Code : 33333333
Start Date : 6/10/2005
Page No : 2

Groups Printed- Unshifted

	SR 255 Southbound					Victor Westbound					SR 255 Northbound					Lupin Eastbound					
Start Time	Right	Thru	Left	3+ Axles	App. Total	Right	Thru	Left	3+ Axles	App. Total	Right	Thru	Left	3+ Axles	App. Total	Right	Thru	Left	3+ Axles	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
03:00 PM	3	47	2	1	53	2	0	3	0	5	2	72	2	4	80	1	1	1	0	3	141
03:15 PM	1	58	1	2	62	1	3	1	0	5	4	55	2	2	63	1	1	5	0	7	137
03:30 PM	3	76	4	3	86	0	0	2	0	2	3	68	3	2	76	1	2	0	0	3	167
03:45 PM	3	70	3	1	77	2	2	3	0	7	2	60	1	2	65	4	0	0	0	4	153
Total	10	251	10	7	278	5	5	9	0	19	11	255	8	10	284	7	4	6	0	17	598
04:00 PM	2	77	1	1	81	2	2	1	0	5	3	69	3	5	80	1	1	2	0	4	170
04:15 PM	4	83	1	2	90	2	2	0	0	4	7	63	0	1	71	3	1	3	0	7	172
04:30 PM	1	83	4	1	89	0	0	5	0	5	3	69	3	2	77	4	1	6	0	11	182
04:45 PM	3	64	2	2	71	2	3	6	0	11	2	69	4	1	76	2	3	1	0	6	164
Total	10	307	8	6	331	6	7	12	0	25	15	270	10	9	304	10	6	12	0	28	688
05:00 PM	8	68	4	0	80	3	1	2	0	6	2	65	3	2	72	3	2	1	0	6	164
05:15 PM	0	81	7	1	89	1	2	3	0	6	5	71	10	1	87	2	1	2	0	5	187
05:30 PM	0	61	3	1	65	3	1	3	0	7	0	65	3	2	70	1	1	2	0	4	146
05:45 PM	1	66	1	2	70	3	1	4	0	8	1	65	3	1	70	0	1	0	0	1	149
Total	9	276	15	4	304	10	5	12	0	27	8	266	19	6	299	6	5	5	0	16	646
Grand Total	63	2211	69	81	2424	64	38	112	5	219	120	1822	79	89	2110	83	33	66	2	184	4937
Apprch %	2.6	91.2	2.8	3.3		29.2	17.4	51.1	2.3		5.7	86.4	3.7	4.2		45.1	17.9	35.9	1.1		
Total %	1.3	44.8	1.4	1.6	49.1	1.3	0.8	2.3	0.1	4.4	2.4	36.9	1.6	1.8	42.7	1.7	0.7	1.3	0.0	3.7	

	SR 255 Southbound					Victor Westbound					SR 255 Northbound					Lupin Eastbound					
Start Time	Right	Thru	Left	3+ Axles	App. Total	Right	Thru	Left	3+ Axles	App. Total	Right	Thru	Left	3+ Axles	App. Total	Right	Thru	Left	3+ Axles	App. Total	Int. Total
Peak Hour From 08:15 AM to 05:45 PM - Peak 1 of 1																					
Intersection	04:30 PM																				
Volume	12	296	17	4	329	6	6	16	0	28	12	274	20	6	312	11	7	10	0	28	697
Percent	3.6	90.0	5.2	1.2		21.4	21.4	57.1	0.0		3.8	87.8	6.4	1.9		39.3	25.0	35.7	0.0		
05:15 Volume	0	81	7	1	89	1	2	3	0	6	5	71	10	1	87	2	1	2	0	5	187
Peak Factor																					0.932
High Int.	04:30 PM					04:45 PM					05:15 PM					04:30 PM					
Volume	1	83	4	1	89	2	3	6	0	11	5	71	10	1	87	4	1	6	0	11	
Peak Factor					0.924					0.636					0.897					0.636	

Whitlock & Weinberger
Transportation, Inc.

Manila 8 HR
SR 255/Carlson
HUX021
County of Humboldt

File Name : SR 255 - Carlson 8 HR
Site Code : 44444444
Start Date : 6/10/2005
Page No : 1

Groups Printed- Unshifted

	SR 255 Southbound					Carlson Westbound					SR 255 Northbound					Carlson Eastbound					
Start Time	Right	Thru	Left	3+ Axles	App. Total	Right	Thru	Left	3+ Axles	App. Total	Right	Thru	Left	3+ Axles	App. Total	Right	Thru	Left	3+ Axles	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
08:30 AM	0	67	4	3	74	3	0	3	0	6	4	44	0	2	50	0	0	0	0	0	130
08:45 AM	0	45	1	2	48	0	0	1	0	1	1	35	0	1	37	0	1	1	0	2	88
Total	0	112	5	5	122	3	0	4	0	7	5	79	0	3	87	0	1	1	0	2	218
09:00 AM	0	34	1	1	36	1	0	1	0	2	1	30	0	2	33	0	0	0	0	0	71
09:15 AM	0	39	0	4	43	1	0	2	0	3	2	37	0	0	39	0	0	0	0	0	85
09:30 AM	1	56	1	1	59	2	0	1	0	3	1	27	0	0	28	0	1	0	0	1	91
09:45 AM	0	48	4	2	54	1	0	0	0	1	2	33	0	3	38	0	0	0	0	0	93
Total	1	177	6	8	192	5	0	4	0	9	6	127	0	5	138	0	1	0	0	1	340
10:00 AM	0	48	0	3	51	1	0	4	0	5	1	36	0	2	39	0	0	0	0	0	95
10:15 AM	0	52	0	2	54	1	0	1	0	2	2	26	0	3	31	0	0	0	0	0	87
10:30 AM	0	58	1	3	62	1	0	2	0	3	0	29	0	0	29	0	0	0	0	0	94
10:45 AM	0	37	1	1	39	1	0	2	0	3	4	38	1	1	44	0	0	0	0	0	86
Total	0	195	2	9	206	4	0	9	0	13	7	129	1	6	143	0	0	0	0	0	362
11:00 AM	0	49	0	3	52	3	0	4	0	7	1	42	0	2	45	0	0	1	0	1	105
11:15 AM	1	37	3	4	45	1	0	1	0	2	1	47	0	3	51	1	0	0	0	1	99
11:30 AM	0	50	2	4	56	2	0	2	0	4	0	35	0	4	39	0	0	0	0	0	99
11:45 AM	0	62	0	4	66	0	0	2	0	2	1	43	0	2	46	0	0	0	0	0	114
Total	1	198	5	15	219	6	0	9	0	15	3	167	0	11	181	1	0	1	0	2	417
12:00 PM	0	64	3	2	69	1	0	3	0	4	1	42	0	3	46	0	0	0	0	0	119
12:15 PM	0	58	5	2	65	1	0	2	1	4	4	39	0	3	46	0	0	0	0	0	115
12:30 PM	0	41	1	2	44	2	0	2	0	4	4	41	0	4	49	0	0	0	0	0	97
12:45 PM	0	45	2	4	51	2	0	6	0	8	3	51	0	2	56	0	0	0	0	0	115
Total	0	208	11	10	229	6	0	13	1	20	12	173	0	12	197	0	0	0	0	0	446
Grand Total	2	890	29	47	968	24	0	39	1	64	33	675	1	37	746	1	2	2	0	5	1783
Apprch %	0.2	91.9	3.0	4.9		37.5	0.0	60.9	1.6		4.4	90.5	0.1	5.0		20.0	40.0	40.0	0.0		
Total %	0.1	49.9	1.6	2.6	54.3	1.3	0.0	2.2	0.1	3.6	1.9	37.9	0.1	2.1	41.8	0.1	0.1	0.1	0.0	0.3	

Whitlock & Weinberger
Transportation, Inc.

File Name : SR 255 - Carlson 8 HR
Site Code : 44444444
Start Date : 6/10/2005
Page No : 2

	SR 255 Southbound					Carlson Westbound					SR 255 Northbound					Carlson Eastbound					
Start Time	Right	Thru	Left	3+ Axles	App. Total	Right	Thru	Left	3+ Axles	App. Total	Right	Thru	Left	3+ Axles	App. Total	Right	Thru	Left	3+ Axles	App. Total	Int. Total
Peak Hour From 08:30 AM to 12:45 PM - Peak 1 of 1																					
Intersection	11:30 AM																				
Volume	0	234	10	12	256	4	0	9	1	14	6	159	0	12	177	0	0	0	0	0	447
Percent	0.0	91.4	3.9	4.7		28.6	0.0	64.3	7.1		3.4	89.8	0.0	6.8		0.0	0.0	0.0	0.0		
12:00 Volume	0	64	3	2	69	1	0	3	0	4	1	42	0	3	46	0	0	0	0	0	119
Peak Factor																					0.939
High Int.	12:00 PM					11:30 AM					11:45 AM					8:15:00 AM					
Volume	0	64	3	2	69	2	0	2	0	4	1	43	0	2	46						
Peak Factor					0.928					0.875					0.962						

Whitlock & Weinberger Transportation

Manila 8 HR
SR 255/Carlson
HUX021
County of Humboldt

File Name : SR 255 - Carlson am
Site Code : 44444444
Start Date : 6/10/2005
Page No : 1

Groups Printed- Unshifted

	SR 255 Southbound					Carlson Westbound					SR 255 Northbound					Carlson Eastbound					
Start Time	Right	Thru	Left	3+ Axles	App. Total	Right	Thru	Left	3+ Axles	App. Total	Right	Thru	Left	3+ Axles	App. Total	Right	Thru	Left	3+ Axles	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
08:30 AM	0	67	4	3	74	3	0	3	0	6	4	44	0	2	50	0	0	0	0	0	130
08:45 AM	0	45	1	2	48	0	0	1	0	1	1	35	0	1	37	0	1	1	0	2	88
Total	0	112	5	5	122	3	0	4	0	7	5	79	0	3	87	0	1	1	0	2	218
09:00 AM	0	34	1	1	36	1	0	1	0	2	1	30	0	2	33	0	0	0	0	0	71
09:15 AM	0	39	0	4	43	1	0	2	0	3	2	37	0	0	39	0	0	0	0	0	85
Grand Total	0	185	6	10	201	5	0	7	0	12	8	146	0	5	159	0	1	1	0	2	374
Apprch %	0.0	92.0	3.0	5.0		41.7	0.0	58.3	0.0		5.0	91.8	0.0	3.1		0.0	50.0	50.0	0.0		
Total %	0.0	49.5	1.6	2.7	53.7	1.3	0.0	1.9	0.0	3.2	2.1	39.0	0.0	1.3	42.5	0.0	0.3	0.3	0.0	0.5	

	SR 255 Southbound					Carlson Westbound					SR 255 Northbound					Carlson Eastbound					
Start Time	Right	Thru	Left	3+ Axles	App. Total	Right	Thru	Left	3+ Axles	App. Total	Right	Thru	Left	3+ Axles	App. Total	Right	Thru	Left	3+ Axles	App. Total	Int. Total
Peak Hour From 08:30 AM to 09:15 AM - Peak 1 of 1																					
Intersection	08:30 AM																				
Volume	0	185	6	10	201	5	0	7	0	12	8	146	0	5	159	0	1	1	0	2	374
Percent	0.0	92.0	3.0	5.0		41.7	0.0	58.3	0.0		5.0	91.8	0.0	3.1		0.0	50.0	50.0	0.0		
08:30 Volume	0	67	4	3	74	3	0	3	0	6	4	44	0	2	50	0	0	0	0	0	130
Peak Factor																					0.719
High Int.	08:30 AM					08:30 AM					08:30 AM					08:45 AM					
Volume	0	67	4	3	74	3	0	3	0	6	4	44	0	2	50	0	1	1	0	2	
Peak Factor					0.679					0.500					0.795					0.250	

Whitlock & Weinberger Transportation

Manila 8 HR
SR 255/Carlson
HUX021
County of Humboldt

File Name : SR 255 - Carlson pm
Site Code : 44444444
Start Date : 6/10/2005
Page No : 1

Groups Printed- Unshifted

	SR 255 Southbound					Carlson Westbound					SR 255 Northbound					Carlson Eastbound					
Start Time	Right	Thru	Left	3+ Axles	App. Total	Right	Thru	Left	3+ Axles	App. Total	Right	Thru	Left	3+ Axles	App. Total	Right	Thru	Left	3+ Axles	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
11:30 AM	0	50	2	4	56	2	0	2	0	4	0	35	0	4	39	0	0	0	0	0	99
11:45 AM	0	62	0	4	66	0	0	2	0	2	1	43	0	2	46	0	0	0	0	0	114
Total	0	112	2	8	122	2	0	4	0	6	1	78	0	6	85	0	0	0	0	0	213
12:00 PM	0	64	3	2	69	1	0	3	0	4	1	42	0	3	46	0	0	0	0	0	119
12:15 PM	0	58	5	2	65	1	0	2	1	4	4	39	0	3	46	0	0	0	0	0	115
Grand Total	0	234	10	12	256	4	0	9	1	14	6	159	0	12	177	0	0	0	0	0	447
Apprch %	0.0	91.4	3.9	4.7		28.6	0.0	64.3	7.1		3.4	89.8	0.0	6.8		0.0	0.0	0.0	0.0		
Total %	0.0	52.3	2.2	2.7	57.3	0.9	0.0	2.0	0.2	3.1	1.3	35.6	0.0	2.7	39.6	0.0	0.0	0.0	0.0	0.0	

	SR 255 Southbound					Carlson Westbound					SR 255 Northbound					Carlson Eastbound					
Start Time	Right	Thru	Left	3+ Axles	App. Total	Right	Thru	Left	3+ Axles	App. Total	Right	Thru	Left	3+ Axles	App. Total	Right	Thru	Left	3+ Axles	App. Total	Int. Total
Peak Hour From 11:30 AM to 12:15 PM - Peak 1 of 1																					
Intersection	11:30 AM																				
Volume	0	234	10	12	256	4	0	9	1	14	6	159	0	12	177	0	0	0	0	0	447
Percent	0.0	91.4	3.9	4.7		28.6	0.0	64.3	7.1		3.4	89.8	0.0	6.8		0.0	0.0	0.0	0.0		
12:00 Volume	0	64	3	2	69	1	0	3	0	4	1	42	0	3	46	0	0	0	0	0	119
Peak Factor																					0.939
High Int.	12:00 PM					11:30 AM					11:45 AM					11:15:00 AM					
Volume	0	64	3	2	69	2	0	2	0	4	1	43	0	2	46						
Peak Factor					0.928					0.875					0.962						

Whitlock & Weinberger
Transportation, Inc.

Manila 8 HR
SR 255/Peninsula Drive North
HUX021
County of Humboldt

File Name : SR 255 - Peninsula Drive North 8 HR
Site Code : 55555555
Start Date : 6/10/2005
Page No : 1

Groups Printed- Unshifted

	SR 255 Southbound					Peninsula Drive North Westbound					SR 255 Northbound					Peninsula Drive North Eastbound					
Start Time	Right	Thru	Left	3+ Axles	App. Total	Right	Thru	Left	3+ Axles	App. Total	Right	Thru	Left	3+ Axles	App. Total	Right	Thru	Left	3+ Axles	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
08:30 AM	0	51	1	3	55	4	0	0	0	4	2	44	0	2	48	0	0	0	0	0	107
08:45 AM	0	38	4	2	44	3	0	0	0	3	1	26	0	1	28	0	0	0	0	0	75
Total	0	89	5	5	99	7	0	0	0	7	3	70	0	3	76	0	0	0	0	0	182
09:00 AM	0	33	1	1	35	3	0	0	0	3	2	31	0	2	35	0	0	0	0	0	73
09:15 AM	0	45	2	2	49	2	0	0	0	2	0	34	0	0	34	1	0	0	0	1	86
09:30 AM	0	48	1	0	49	2	0	3	0	5	1	29	0	0	30	0	0	1	0	1	85
09:45 AM	2	56	2	1	61	4	0	0	0	4	1	26	0	3	30	0	0	0	0	0	95
Total	2	182	6	4	194	11	0	3	0	14	4	120	0	5	129	1	0	1	0	2	339
10:00 AM	3	40	2	0	45	2	2	0	2	6	0	38	0	1	39	2	0	0	0	2	92
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	40	1	2	43	2	0	1	0	3	3	30	0	2	35	1	0	0	0	1	82
Total	3	80	3	2	88	4	2	1	2	9	3	68	0	3	74	3	0	0	0	3	174
11:00 AM	0	43	4	2	49	2	0	1	0	3	0	41	1	1	43	0	0	0	0	0	95
11:15 AM	0	38	1	6	45	4	0	0	0	4	2	38	2	5	47	2	0	1	0	3	99
11:30 AM	0	54	0	3	57	3	0	0	0	3	0	34	1	2	37	0	1	0	0	1	98
11:45 AM	2	61	6	3	72	3	0	0	0	3	1	40	0	4	45	1	2	1	0	4	124
Total	2	196	11	14	223	12	0	1	0	13	3	153	4	12	172	3	3	2	0	8	416
12:00 PM	1	58	2	3	64	3	0	2	0	5	0	41	0	1	42	2	1	1	0	4	115
12:15 PM	1	48	5	3	57	0	3	1	0	4	2	26	0	2	30	0	0	2	0	2	93
12:30 PM	0	54	2	3	59	1	1	1	0	3	1	46	1	2	50	1	2	6	0	9	121
12:45 PM	0	31	5	3	39	0	2	0	0	2	1	37	0	1	39	0	0	0	0	0	80
Total	2	191	14	12	219	4	6	4	0	14	4	150	1	6	161	3	3	9	0	15	409
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM	1	56	5	3	65	4	0	0	0	4	1	50	1	4	56	2	0	1	0	3	128
02:45 PM	1	52	5	1	59	2	0	0	0	2	1	64	0	1	66	2	0	0	0	2	129
Total	2	108	10	4	124	6	0	0	0	6	2	114	1	5	122	4	0	1	0	5	257

Whitlock & Weinberger
Transportation, Inc.

File Name : SR 255 - Peninsula Drive North 8 HR
Site Code : 55555555
Start Date : 6/10/2005
Page No : 2

Groups Printed- Unshifted

	SR 255 Southbound					Peninsula Drive North Westbound					SR 255 Northbound					Peninsula Drive North Eastbound					
Start Time	Right	Thru	Left	3+ Axles	App. Total	Right	Thru	Left	3+ Axles	App. Total	Right	Thru	Left	3+ Axles	App. Total	Right	Thru	Left	3+ Axles	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
03:00 PM	0	41	2	0	43	3	1	1	0	5	3	55	1	5	64	0	1	1	0	2	114
03:15 PM	2	65	5	2	74	2	0	1	0	3	1	53	0	1	55	3	0	1	1	5	137
03:30 PM	1	63	6	2	72	4	0	0	0	4	1	57	2	2	62	0	1	0	0	1	139
03:45 PM	1	41	1	0	43	3	1	1	1	6	3	37	0	3	43	0	0	1	0	1	93
Total	4	210	14	4	232	12	2	3	1	18	8	202	3	11	224	3	2	3	1	9	483
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	1	69	6	0	76	5	1	0	0	6	2	54	0	2	58	1	0	0	0	1	141
04:45 PM	0	41	0	2	43	2	0	0	0	2	0	41	0	1	42	0	0	0	0	0	87
Total	1	110	6	2	119	7	1	0	0	8	2	95	0	3	100	1	0	0	0	1	228
05:00 PM	1	63	6	0	70	8	0	1	0	9	2	58	0	0	60	0	0	1	0	1	140
05:15 PM	3	59	1	2	65	2	0	1	0	3	4	67	1	2	74	3	2	0	0	5	147
05:30 PM	2	62	2	1	67	2	2	0	0	4	2	73	1	2	78	1	1	0	0	2	151
05:45 PM	0	44	3	3	50	4	0	1	0	5	2	39	0	0	41	1	0	0	0	1	97
Total	6	228	12	6	252	16	2	3	0	21	10	237	2	4	253	5	3	1	0	9	535
Grand Total	22	1394	81	53	1550	79	13	15	3	110	39	1209	11	52	1311	23	11	17	1	52	3023
Apprch %	1.4	89.9	5.2	3.4		71.8	11.8	13.6	2.7		3.0	92.2	0.8	4.0		44.2	21.2	32.7	1.9		
Total %	0.7	46.1	2.7	1.8	51.3	2.6	0.4	0.5	0.1	3.6	1.3	40.0	0.4	1.7	43.4	0.8	0.4	0.6	0.0	1.7	

	SR 255 Southbound					Peninsula Drive North Westbound					SR 255 Northbound					Peninsula Drive North Eastbound					
Start Time	Right	Thru	Left	3+ Axles	App. Total	Right	Thru	Left	3+ Axles	App. Total	Right	Thru	Left	3+ Axles	App. Total	Right	Thru	Left	3+ Axles	App. Total	Int. Total
Peak Hour From 08:30 AM to 05:45 PM - Peak 1 of 1																					
Intersection	05:00 PM																				
Volume	6	228	12	6	252	16	2	3	0	21	10	237	2	4	253	5	3	1	0	9	535
Percent	2.4	90.5	4.8	2.4		76.2	9.5	14.3	0.0		4.0	93.7	0.8	1.6		55.6	33.3	11.1	0.0		
05:30 Volume	2	62	2	1	67	2	2	0	0	4	2	73	1	2	78	1	1	0	0	2	151
Peak Factor																					0.886
High Int.	05:00 PM					05:00 PM					05:30 PM					05:15 PM					
Volume	1	63	6	0	70	8	0	1	0	9	2	73	1	2	78	3	2	0	0	5	
Peak Factor					0.900					0.583					0.811					0.450	

Whitlock & Weinberger
Transportation, Inc.

Manila 8 HR
Park/Lupin
HUX021
County of Humboldt

File Name : Park - Lupin 8 HR
Site Code : 66666666
Start Date : 6/10/2005
Page No : 1

Groups Printed- Unshifted

	Park Southbound					Lupin Westbound					Park Northbound					Lupin Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
02:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
02:45 PM	0	0	0	0	0	2	0	2	0	4	3	0	0	0	3	0	1	0	0	1	8
Total	0	0	0	0	0	2	1	2	0	5	3	0	0	0	3	0	1	0	0	1	9
03:00 PM	0	0	2	0	2	3	1	3	0	7	1	0	0	0	1	0	0	0	0	0	10
03:15 PM	0	0	2	0	2	2	1	0	0	3	2	1	0	0	3	0	1	0	0	1	9
03:30 PM	0	0	0	0	0	1	3	3	0	7	2	0	0	0	2	0	2	0	0	2	11
03:45 PM	0	0	0	0	0	1	0	4	0	5	1	0	0	0	1	0	1	0	0	1	7
Total	0	0	4	0	4	7	5	10	0	22	6	1	0	0	7	0	4	0	0	4	37
04:00 PM	0	1	4	0	5	0	3	1	0	4	2	0	0	0	2	0	2	0	0	2	13
04:15 PM	0	0	2	0	2	3	2	0	0	5	2	0	0	0	2	0	1	0	0	1	10
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	6	0	7	3	5	1	0	9	4	0	0	0	4	0	4	0	0	4	24
05:00 PM	1	0	0	0	1	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	3
05:15 PM	0	0	4	0	4	2	3	2	0	7	1	0	0	0	1	0	1	2	0	3	15
05:30 PM	0	0	0	0	0	2	0	1	0	3	1	0	0	0	1	0	0	0	0	0	4
05:45 PM	0	0	1	0	1	0	0	2	0	2	1	0	0	0	1	0	2	0	0	2	6
Total	1	0	5	0	6	4	4	6	0	14	3	0	0	0	3	0	3	2	0	5	28
Grand Total	1	1	15	0	17	16	15	19	0	50	16	1	0	0	17	0	12	2	0	14	98
Apprch %	5.9	5.9	88.2	0.0		32.0	30.0	38.0	0.0		94.1	5.9	0.0	0.0		0.0	85.7	14.3	0.0		
Total %	1.0	1.0	15.3	0.0	17.3	16.3	15.3	19.4	0.0	51.0	16.3	1.0	0.0	0.0	17.3	0.0	12.2	2.0	0.0	14.3	

	Park Southbound					Lupin Westbound					Park Northbound					Lupin Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 02:30 PM to 05:45 PM - Peak 1 of 1																					
Intersection	03:30 PM																				
Volume	0	1	6	0	7	5	8	8	0	21	7	0	0	0	7	0	6	0	0	6	41
Percent	0.0	14.3	85.7	0.0		23.8	38.1	38.1	0.0		100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
04:00 Volume	0	1	4	0	5	0	3	1	0	4	2	0	0	0	2	0	2	0	0	2	13
Peak Factor																					0.788
High Int.	04:00 PM					03:30 PM					03:30 PM					03:30 PM					
Volume	0	1	4	0	5	1	3	3	0	7	2	0	0	0	2	0	2	0	0	2	
Peak Factor					0.350					0.750					0.875					0.750	

Whitlock & Weinberger
Transportation, Inc.

Manila 8 HR
Peninsula/Victor
HUX021
County of Humboldt

File Name : Peninsula - Victor 8 HR
Site Code : 77777777
Start Date : 6/10/2005

Groups Printed- Unshifted

	Peninsula Southbound					Victor Westbound					Peninsula Northbound					Victor Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
08:00 AM	0	2	0	0	2	0	4	0	0	4	1	1	2	0	4	1	0	1	0	2	12
08:15 AM	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	1	2	0	3	5
08:30 AM	9	1	1	0	11	0	3	0	0	3	0	0	1	0	1	0	0	2	0	2	17
08:45 AM	1	1	1	0	3	0	2	0	0	2	0	2	0	0	2	1	1	0	0	2	9
Total	11	4	3	0	18	0	9	0	0	9	1	3	3	0	7	2	2	5	0	9	43
09:00 AM	2	1	0	0	3	0	1	0	0	1	0	1	0	0	1	0	1	1	0	2	7
09:15 AM	3	1	0	0	4	0	0	0	0	0	0	1	1	0	2	3	0	3	0	6	12
09:30 AM	1	1	2	0	4	1	1	0	0	2	0	4	0	0	4	2	0	2	0	4	14
09:45 AM	1	1	0	0	2	0	0	0	0	0	1	2	0	0	3	0	1	0	0	1	6
Total	7	4	2	0	13	1	2	0	0	3	1	8	1	0	10	5	2	6	0	13	39
10:00 AM	1	0	0	0	1	0	2	0	0	2	0	0	1	0	1	0	2	2	0	4	8
10:15 AM	5	0	0	0	5	1	1	0	0	2	0	0	0	0	0	1	1	2	0	4	11
10:30 AM	1	0	2	0	3	0	2	0	0	2	0	0	1	0	1	0	0	0	0	0	6
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	7	0	2	0	9	1	5	0	0	6	0	0	2	0	2	1	3	4	0	8	25
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
11:15 AM	1	0	0	0	1	1	6	0	0	7	1	3	3	0	7	0	3	4	0	7	22
11:30 AM	2	1	0	0	3	2	1	0	0	3	1	2	1	0	4	0	6	2	0	8	18
11:45 AM	1	1	1	0	3	0	2	0	0	2	0	0	0	0	0	0	1	5	0	6	11
Total	4	2	1	0	7	3	9	0	0	12	2	5	4	0	11	0	11	11	0	22	52
12:00 PM	4	3	0	0	7	2	1	0	0	3	0	0	0	0	0	1	0	2	0	3	13
12:15 PM	5	2	3	0	10	0	0	0	0	0	0	2	1	0	3	1	3	4	0	8	21
12:30 PM	4	4	1	0	9	1	0	0	0	1	0	2	3	0	5	0	1	0	0	1	16
12:45 PM	4	2	2	0	8	2	1	0	0	3	0	2	1	0	3	1	0	6	0	7	21
Total	17	11	6	0	34	5	2	0	0	7	0	6	5	0	11	3	4	12	0	19	71
01:00 PM	2	1	1	0	4	2	0	1	0	3	0	1	1	0	2	1	1	5	0	7	16
01:15 PM	3	1	0	0	4	0	3	0	0	3	0	3	1	0	4	0	1	2	0	3	14
01:30 PM	2	0	0	0	2	1	2	1	0	4	0	2	0	0	2	0	2	4	0	6	14
01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	7	2	1	0	10	3	5	2	0	10	0	6	2	0	8	1	4	11	0	16	44
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Whitlock & Weinberger
Transportation, Inc.

File Name : Peninsula - Victor 8 HR
Site Code : 77777777
Start Date : 6/10/2005
Page No : 2

Groups Printed- Unshifted

	Peninsula Southbound					Victor Westbound					Peninsula Northbound					Victor Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 PM	0	1	0	0	1	0	0	0	0	0	1	0	0	0	1	2	2	2	0	6	8
03:30 PM	3	1	1	0	5	2	2	1	0	5	1	2	1	0	4	0	6	4	0	10	24
03:45 PM	3	1	0	0	4	2	1	0	0	3	0	1	0	0	1	0	0	3	0	3	11
Total	6	3	1	0	10	4	3	1	0	8	2	3	1	0	6	2	8	9	0	19	43
04:00 PM	1	3	0	0	4	0	4	0	0	4	1	2	1	0	4	0	3	5	0	8	20
04:15 PM	0	1	0	0	1	1	1	0	0	2	0	1	1	0	2	2	2	4	0	8	13
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	4	0	0	5	1	5	0	0	6	1	3	2	0	6	2	5	9	0	16	33
05:00 PM	4	0	1	0	5	3	1	0	0	4	0	2	2	0	4	1	7	6	0	14	27
05:15 PM	3	1	2	0	6	1	2	0	0	3	0	2	1	0	3	0	3	2	0	5	17
05:30 PM	2	3	1	0	6	0	3	1	0	4	2	0	0	0	2	1	1	3	0	5	17
05:45 PM	2	0	2	0	4	2	3	2	0	7	0	3	1	0	4	0	3	3	0	6	21
Total	11	4	6	0	21	6	9	3	0	18	2	7	4	0	13	2	14	14	0	30	82
Grand Total	71	34	22	0	127	24	49	6	0	79	9	41	24	0	74	18	53	81	0	152	432
Apprch %	55.9	26.8	17.3	0.0		30.4	62.0	7.6	0.0		12.2	55.4	32.4	0.0		11.8	34.9	53.3	0.0		
Total %	16.4	7.9	5.1	0.0	29.4	5.6	11.3	1.4	0.0	18.3	2.1	9.5	5.6	0.0	17.1	4.2	12.3	18.8	0.0	35.2	

	Peninsula Southbound					Victor Westbound					Peninsula Northbound					Victor Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 08:00 AM to 05:45 PM - Peak 1 of 1																					
Intersection	05:00 PM																				
Volume	11	4	6	0	21	6	9	3	0	18	2	7	4	0	13	2	14	14	0	30	82
Percent	52.4	19.0	28.6	0.0		33.3	50.0	16.7	0.0		15.4	53.8	30.8	0.0		6.7	46.7	46.7	0.0		
05:00 Volume	4	0	1	0	5	3	1	0	0	4	0	2	2	0	4	1	7	6	0	14	27
Peak Factor																					0.759
High Int.	05:15 PM					05:45 PM					05:00 PM					05:00 PM					
Volume	3	1	2	0	6	2	3	2	0	7	0	2	2	0	4	1	7	6	0	14	
Peak Factor					0.875					0.643					0.813					0.536	

Appendix B

Level of Service Calculations

AM Peak Hour - Existing Conditions
Samoa Town Master Plan Environmental Impact Report
County of Humboldt

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 SR 255/Peninsula Dr S

Average Delay (sec/veh): 0.6 Worst Case Level Of Service: A[9.7]

Street Name:	SR 255						Peninsula Dr S					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 1	0	0 0	0	0 0 1	0	0	0 1!	0 0	0	0 1!	0 0
Volume Module: >> Count Date: 10 Jun 2005 << 8:30 - 9:30 am												
Base Vol:	7	121	0	0	177	2	2	0	14	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	7	121	0	0	177	2	2	0	14	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
PHF Volume:	9	151	0	0	220	2	2	0	17	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	9	151	0	0	220	2	2	0	17	0	0	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	223	xxxx	xxxxx	xxxx	xxxx	xxxxx	390	xxxx	222	xxxx	xxxx	xxxxx
Potent Cap.:	1358	xxxx	xxxxx	xxxx	xxxx	xxxxx	618	xxxx	823	xxxx	xxxx	xxxxx
Move Cap.:	1358	xxxx	xxxxx	xxxx	xxxx	xxxxx	615	xxxx	823	xxxx	xxxx	xxxxx
Volume/Cap:	0.01	xxxx	xxxx	xxxx	xxxx	xxxx	0.00	xxxx	0.02	xxxx	xxxx	xxxx
Level Of Service Module:												
Queue:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	7.7	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	790	xxxxx	xxxx	0	xxxxx
SharedQueue:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.1	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	7.7	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	9.7	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	A	*	*	*	*	*	*	A	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			9.7			xxxxxx		
ApproachLOS:	*			*			A			*		

PM Peak Hour - Existing Conditions
Samoa Town Master Plan Environmental Impact Report
County of Humboldt

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 SR 255/Peninsula Dr S

Average Delay (sec/veh): 0.3 Worst Case Level Of Service: B[10.7]

Street Name:	SR 255						Peninsula Dr S					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 1	0	0 0	0	0 0 1	0	0	0 1!	0 0	0	0 1!	0 0
Volume Module: >> Count Date: 10 Jun 2005 << 4:30 - 5:30 pm												
Base Vol:	12	306	0	0	291	4	2	0	8	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	12	306	0	0	291	4	2	0	8	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	13	329	0	0	313	4	2	0	9	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	13	329	0	0	313	4	2	0	9	0	0	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	317	xxxx	xxxxx	xxxx	xxxx	xxxxx	670	xxxx	315	xxxx	xxxx	xxxxx
Potent Cap.:	1254	xxxx	xxxxx	xxxx	xxxx	xxxxx	425	xxxx	730	xxxx	xxxx	xxxxx
Move Cap.:	1254	xxxx	xxxxx	xxxx	xxxx	xxxxx	422	xxxx	730	xxxx	xxxx	xxxxx
Volume/Cap:	0.01	xxxx	xxxx	xxxx	xxxx	xxxx	0.01	xxxx	0.01	xxxx	xxxx	xxxx
Level Of Service Module:												
Queue:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	7.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	637	xxxxx	xxxx	0	xxxxx
SharedQueue:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.1	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	7.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	10.7	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	A	*	*	*	*	*	*	B	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			10.7			xxxxxx		
ApproachLOS:	*			*			B			*		

AM Peak Hour - Existing Conditions
Samoa Town Master Plan Environmental Impact Report
County of Humboldt

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #2 Hwy 255/Pacific-Dean

Average Delay (sec/veh): 1.4 Worst Case Level Of Service: B[11.3]

Street Name:	Hwy 255						Pacific-Dean					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1 0	0 1	0	1 0	0 1	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module: >> Count Date: 10 Jun 2005 << 8:00 - 9:00 am												
Base Vol:	2	127	5	3	228	26	19	3	14	11	1	4
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	2	127	5	3	228	26	19	3	14	11	1	4
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	2	140	5	3	251	29	21	3	15	12	1	4
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	2	140	5	3	251	29	21	3	15	12	1	4
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	279	xxxx	xxxxx	145	xxxx	xxxxx	421	421	265	427	432	142
Potent Cap.:	1295	xxxx	xxxxx	1450	xxxx	xxxxx	546	527	779	541	519	911
Move Cap.:	1295	xxxx	xxxxx	1450	xxxx	xxxxx	541	525	779	526	517	911
Volume/Cap:	0.00	xxxx	xxxx	0.00	xxxx	xxxx	0.04	0.01	0.02	0.02	0.00	0.00
Level Of Service Module:												
Queue:	0.0	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	7.8	xxxx	xxxxx	7.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	612	xxxxx	xxxx	588	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.2	xxxxx	xxxxx	0.1	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	11.3	xxxxx	xxxxx	11.3	xxxxx
Shared LOS:	*	*	*	*	*	*	*	B	*	*	B	*
ApproachDel:	xxxxxx			xxxxxx			11.3			11.3		
ApproachLOS:	*			*			B			B		

PM Peak Hour - Existing Conditions
Samoa Town Master Plan Environmental Impact Report
County of Humboldt

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #2 Hwy 255/Pacific-Dean

Average Delay (sec/veh): 0.9 Worst Case Level Of Service: B[13.8]

Street Name:	Hwy 255						Pacific-Dean					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1 0	0 1	0	1 0	0 1	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module: >> Count Date: 10 Jun 2005 << 4:30 - 5:30 pm												
Base Vol:	8	290	18	7	287	21	11	2	5	9	4	5
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	8	290	18	7	287	21	11	2	5	9	4	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	8	305	19	7	301	22	12	2	5	9	4	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	8	305	19	7	301	22	12	2	5	9	4	5
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	324	xxxx	xxxxx	324	xxxx	xxxxx	663	668	313	662	669	314
Potent Cap.:	1248	xxxx	xxxxx	1248	xxxx	xxxxx	378	382	732	378	381	731
Move Cap.:	1248	xxxx	xxxxx	1248	xxxx	xxxxx	368	377	732	370	376	731
Volume/Cap:	0.01	xxxx	xxxx	0.01	xxxx	xxxx	0.03	0.01	0.01	0.03	0.01	0.01
Level Of Service Module:												
Queue:	0.0	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	7.9	xxxx	xxxxx	7.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	428	xxxxx	xxxx	431	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.1	xxxxx	xxxxx	0.1	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	13.8	xxxxx	xxxxx	13.7	xxxxx
Shared LOS:	*	*	*	*	*	*	*	B	*	*	B	*
ApproachDel:	xxxxxx			xxxxxx			13.8			13.7		
ApproachLOS:	*			*			B			B		

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2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #3 Hwy 255/Lupin-Victor

Average Delay (sec/veh): 1.3 Worst Case Level Of Service: B[11.3]

Approach:	North Bound			South Bound			East Bound				West Bound			
Movement:	L	- T	- R	L	- T	- R	L	- T	- R		L	- T	- R	
Control:	Uncontrolled			Uncontrolled			Stop Sign				Stop Sign			
Rights:	Include			Include			Include				Include			
Lanes:	1	0 0	1 0	1	0 0	1 0	0	0 1!	0 0		0	0 1!	0 0	
Volume Module: >> Count Date: 10 Jun 2005 << 8:15 - 9:15 am														
Base Vol:	6	123	5	2	212	2	5	2	13		12	4	5	
Growth Adj:	1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00			1.00	1.00 1.00		
Initial Bse:	6	123	5	2	212	2	5	2	13		12	4	5	
User Adj:	1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00			1.00	1.00 1.00		
PHF Adj:	0.88	0.88 0.88		0.88	0.88 0.88		0.88	0.88 0.88			0.88	0.88 0.88		
PHF Volume:	7	140	6	2	242	2	6	2	15		14	5	6	
Reduct Vol:	0	0	0	0	0	0	0	0	0		0	0	0	
Final Vol.:	7	140	6	2	242	2	6	2	15		14	5	6	
Critical Gap Module:														
Critical Gp:	4.1	xxxx xxxxx		4.1	xxxx xxxxx		7.1	6.5	6.2		7.1	6.5	6.2	
FollowUpTim:	2.2	xxxx xxxxx		2.2	xxxx xxxxx		3.5	4.0	3.3		3.5	4.0	3.3	
Capacity Module:														
Cnflict Vol:	244	xxxx xxxxx		146	xxxx xxxxx		409	407	243		413	405	143	
Potent Cap.:	1334	xxxx xxxxx		1448	xxxx xxxxx		556	536	801		553	538	910	
Move Cap.:	1334	xxxx xxxxx		1448	xxxx xxxxx		546	533	801		538	534	910	
Volume/Cap:	0.01	xxxx xxxx		0.00	xxxx xxxx		0.01	0.00	0.02		0.03	0.01	0.01	
Level Of Service Module:														
Queue:	0.0	xxxx xxxxx		0.0	xxxx xxxxx	xxxxx	xxxx	xxxxx	xxxxx		xxxx	xxxxx		
Stopped Del:	7.7	xxxx xxxxx		7.5	xxxx xxxxx	xxxxx	xxxx	xxxxx	xxxxx		xxxx	xxxxx		
LOS by Move:	A	*	*	A	*	*	*	*	*		*	*	*	
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT		LT -	LTR -	RT	
Shared Cap.:	xxxx	xxxx xxxxx		xxxx	xxxx xxxxx		xxxx	686	xxxxx		xxxx	595	xxxxx	
SharedQueue:	xxxxx	xxxx xxxxx		xxxxx	xxxx xxxxx		xxxxx	0.1	xxxxx		xxxxx	0.1	xxxxx	
Shrd StpDel:	xxxxx	xxxx xxxxx		xxxxx	xxxx xxxxx		xxxxx	10.4	xxxxx		xxxxx	11.3	xxxxx	
Shared LOS:	*	*	*	*	*	*	*	B	*		*	B	*	
ApproachDel:	xxxxxx			xxxxxx			10.4				11.3			
ApproachLOS:	*			*			B				B			

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2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #3 Hwy 255/Lupin-Victor

Average Delay (sec/veh): 1.6 Worst Case Level Of Service: C[15.3]

Approach:	North Bound			South Bound			East Bound				West Bound			
Movement:	L	- T	- R	L	- T	- R	L	- T	- R		L	- T	- R	
Control:	Uncontrolled			Uncontrolled			Stop Sign				Stop Sign			
Rights:	Include			Include			Include				Include			
Lanes:	1	0 0	1 0	1	0 0	1 0	0	0 1!	0 0		0	0 1!	0 0	
Volume Module: >> Count Date: 10 Jun 2005 << 4:30 - 5:30 pm														
Base Vol:	20	274	12	17	296	12	10	7	11		16	6	6	
Growth Adj:	1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00			1.00	1.00 1.00		
Initial Bse:	20	274	12	17	296	12	10	7	11		16	6	6	
User Adj:	1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00			1.00	1.00 1.00		
PHF Adj:	0.93	0.93 0.93		0.93	0.93 0.93		0.93	0.93 0.93			0.93	0.93 0.93		
PHF Volume:	21	294	13	18	318	13	11	8	12		17	6	6	
Reduct Vol:	0	0	0	0	0	0	0	0	0		0	0	0	
Final Vol.:	21	294	13	18	318	13	11	8	12		17	6	6	
Critical Gap Module:														
Critical Gp:	4.1	xxxx xxxxx		4.1	xxxx xxxxx		7.1	6.5	6.2		7.1	6.5	6.2	
FollowUpTim:	2.2	xxxx xxxxx		2.2	xxxx xxxxx		3.5	4.0	3.3		3.5	4.0	3.3	
Capacity Module:														
Cnflict Vol:	330	xxxx xxxxx		307	xxxx xxxxx		710	710	324		714	710	300	
Potent Cap.:	1240	xxxx xxxxx		1265	xxxx xxxxx		351	361	722		349	361	744	
Move Cap.:	1240	xxxx xxxxx		1265	xxxx xxxxx		335	350	722		330	350	744	
Volume/Cap:	0.02	xxxx xxxx		0.01	xxxx xxxx		0.03	0.02	0.02		0.05	0.02	0.01	
Level Of Service Module:														
Queue:	0.1	xxxx xxxxx		0.0	xxxx xxxxx	xxxxx	xxxx	xxxxx	xxxxx		xxxx	xxxxx		
Stopped Del:	8.0	xxxx xxxxx		7.9	xxxx xxxxx	xxxxx	xxxx	xxxxx	xxxxx		xxxx	xxxxx		
LOS by Move:	A	*	*	A	*	*	*	*	*		*	*	*	
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT		LT -	LTR -	RT	
Shared Cap.:	xxxx	xxxx xxxxx		xxxx	xxxx xxxxx		xxxx	430	xxxxx		xxxx	380	xxxxx	
SharedQueue:	xxxxx	xxxx xxxxx		xxxxx	xxxx xxxxx		xxxxx	0.2	xxxxx		xxxxx	0.3	xxxxx	
Shrd StpDel:	xxxxx	xxxx xxxxx		xxxxx	xxxx xxxxx		xxxxx	14.0	xxxxx		xxxxx	15.3	xxxxx	
Shared LOS:	*	*	*	*	*	*	*	B	*		*	C	*	
ApproachDel:	xxxxxx			xxxxxx			14.0				15.3			
ApproachLOS:	*			*			B				C			

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2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #4 SR 255/Carlson

Average Delay (sec/veh): 0.5 Worst Case Level Of Service: B[10.8]

Street Name:	SR 255						Carlson					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0 1 0			0 1 0 0 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module: >> Count Date: 10 Jun 2005 << 8:30 - 9:30 am												
Base Vol:	0	146	8	6	185	0	0	0	0	7	0	5
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	146	8	6	185	0	0	0	0	7	0	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72
PHF Volume:	0	203	11	8	257	0	0	0	0	10	0	7
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	203	11	8	257	0	0	0	0	10	0	7
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	214	xxxx	xxxxx	xxxx	xxxx	xxxxx	483	xxxx	209
Potent Cap.:	xxxx	xxxx	xxxxx	1368	xxxx	xxxxx	xxxx	xxxx	xxxxx	546	xxxx	837
Move Cap.:	xxxx	xxxx	xxxxx	1368	xxxx	xxxxx	xxxx	xxxx	xxxxx	544	xxxx	837
Volume/Cap:	xxxx	xxxx	xxxx	0.01	xxxx	xxxx	xxxx	xxxx	xxxx	0.02	xxxx	0.01
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	7.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	0	xxxxx	xxxx	637	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.1	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	7.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	10.8	xxxxx
Shared LOS:	*	*	*	A	*	*	*	*	*	*	B	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			10.8		
ApproachLOS:	*			*			*			B		

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Intersection #4 SR 255/Carlson

Average Delay (sec/veh): 0.5 Worst Case Level Of Service: B[10.7]

Street Name:	SR 255						Carlson					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0 1 0			0 1 0 0 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module: >> Count Date: 10 Jun 2005 << 11:30 - 12:30 pm												
Base Vol:	0	159	6	10	234	0	0	0	0	9	0	4
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	159	6	10	234	0	0	0	0	9	0	4
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	0	169	6	11	249	0	0	0	0	10	0	4
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	169	6	11	249	0	0	0	0	10	0	4
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	176	xxxx	xxxxx	xxxx	xxxx	xxxxx	443	xxxx	173
Potent Cap.:	xxxx	xxxx	xxxxx	1413	xxxx	xxxxx	xxxx	xxxx	xxxxx	576	xxxx	876
Move Cap.:	xxxx	xxxx	xxxxx	1413	xxxx	xxxxx	xxxx	xxxx	xxxxx	573	xxxx	876
Volume/Cap:	xxxx	xxxx	xxxx	0.01	xxxx	xxxx	xxxx	xxxx	xxxx	0.02	xxxx	0.00
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	7.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	0	xxxxx	xxxx	641	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.1	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	7.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	10.7	xxxxx
Shared LOS:	*	*	*	A	*	*	*	*	*	*	B	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			10.7		
ApproachLOS:	*			*			*			B		

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2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #5 Hwy 255/Peninsula Dr N

Average Delay (sec/veh): 0.5 Worst Case Level Of Service: A[9.2]

Street Name:	Hwy 255						Peninsula Dr N					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0 1 0			0 1 0 0 0			0 0 1! 0 0			0 0 0 0 1		
Volume Module: >> Count Date: 10 Jun 2005 << 8:30 - 9:30 am												
Base Vol:	0	135	5	8	167	0	0	0	0	0	0	12
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	135	5	8	167	0	0	0	0	0	0	12
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
PHF Volume:	0	169	6	10	210	0	0	0	0	0	0	15
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	169	6	10	210	0	0	0	0	0	0	15
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	176	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	173
Potent Cap.:	xxxx	xxxx	xxxxx	1413	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	876
Move Cap.:	xxxx	xxxx	xxxxx	1413	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	876
Volume/Cap:	xxxx	xxxx	xxxx	0.01	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.02
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	0.1
Stopped Del:	xxxxx	xxxx	xxxxx	7.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	9.2
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	A
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	0	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	7.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	A	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			9.2		
ApproachLOS:	*			*			*			A		

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2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #5 Hwy 255/Peninsula Dr N

Average Delay (sec/veh): 0.6 Worst Case Level Of Service: B[10.3]

Street Name:	Hwy 255						Peninsula Dr N					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0 1 0			0 1 0 0 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module: >> Count Date: 10 Jun 2005 << 5:00 - 6:00 pm												
Base Vol:	0	237	10	12	228	0	0	0	0	3	0	16
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	237	10	12	228	0	0	0	0	3	0	16
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
PHF Volume:	0	267	11	14	257	0	0	0	0	3	0	18
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	267	11	14	257	0	0	0	0	3	0	18
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	279	xxxx	xxxxx	xxxx	xxxx	xxxxx	558	xxxx	273
Potent Cap.:	xxxx	xxxx	xxxxx	1296	xxxx	xxxxx	xxxx	xxxx	xxxxx	494	xxxx	770
Move Cap.:	xxxx	xxxx	xxxxx	1296	xxxx	xxxxx	xxxx	xxxx	xxxxx	491	xxxx	770
Volume/Cap:	xxxx	xxxx	xxxx	0.01	xxxx	xxxx	xxxx	xxxx	xxxx	0.01	xxxx	0.02
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	7.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	0	xxxxx	xxxx	707	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.1	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	7.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	10.3	xxxxx
Shared LOS:	*	*	*	A	*	*	*	*	*	*	B	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			10.3		
ApproachLOS:	*			*			*			B		

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Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #6 Park St/Lupin Ave

Cycle (sec): 100 Critical Vol./Cap. (X): 0.000
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 0.0
Optimal Cycle: 0 Level Of Service:

Street Name:	Park St						Lupin Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	1! 0	0	0	1! 0	0	0	1! 0	0	0	1! 0
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Growth Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Bse:	0	0	0	0	0	0	0	0	0	0	0	0
User Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PHF Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PHF Volume:	0	0	0	0	0	0	0	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PCE Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MLF Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Final Vol.:	0	0	0	0	0	0	0	0	0	0	0	0
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Final Sat.:	0	0	0	0	0	0	0	0	0	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Crit Moves:												
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LOS by Move:												
ApproachDel:	0.0			0.0			0.0			0.0		
Delay Adj:	0.00			0.00			0.00			0.00		
ApprAdjDel:	0.0			0.0			0.0			0.0		
LOS by Appr:												

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Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #6 Park St/Lupin Ave

Cycle (sec): 100 Critical Vol./Cap. (X): 0.029
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 6.9
Optimal Cycle: 0 Level Of Service: A

Street Name:	Park St						Lupin Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	0	0	1	0	1	0	0	0	0	1! 0
Volume Module: >> Count Date: 10 Jun 2005 << 3:30 - 4:30 pm												
Base Vol:	0	0	7	6	1	0	0	6	0	8	8	5
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	7	6	1	0	0	6	0	8	8	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
PHF Volume:	0	0	9	8	1	0	0	8	0	10	10	6
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	9	8	1	0	0	8	0	10	10	6
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	0	9	8	1	0	0	8	0	10	10	6
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	1.00	0.86	0.14	0.00	0.00	1.00	0.00	0.38	0.38	0.24
Final Sat.:	0	0	1056	738	123	0	0	904	0	353	353	220
Capacity Analysis Module:												
Vol/Sat:	xxxx	xxxx	0.01	0.01	0.01	xxxx	xxxx	0.01	xxxx	0.03	0.03	0.03
Crit Moves:			****	****				****			****	
Delay/Veh:	0.0	0.0	6.4	7.2	7.2	0.0	0.0	7.0	0.0	7.0	7.0	7.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	6.4	7.2	7.2	0.0	0.0	7.0	0.0	7.0	7.0	7.0
LOS by Move:	*	*	A	A	A	*	*	A	*	A	A	A
ApproachDel:	6.4			7.2			7.0			7.0		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	6.4			7.2			7.0			7.0		
LOS by Appr:	A			A			A			A		

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Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #7 Peninsula Dr/Victor

Cycle (sec): 100 Critical Vol./Cap. (X): 0.029
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 6.9
Optimal Cycle: 0 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	1! 0	0	0	1! 0	0	0	1! 0	0	0	1 0
Volume Module: >> Count Date: 10 Jun 2005 << 8:00 - 9:00 am												
Base Vol:	3	3	1	3	4	11	5	2	2	0	9	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	3	3	1	3	4	11	5	2	2	0	9	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63
PHF Volume:	5	5	2	5	6	17	8	3	3	0	14	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	5	5	2	5	6	17	8	3	3	0	14	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	5	5	2	5	6	17	8	3	3	0	14	0
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.43	0.43	0.14	0.17	0.22	0.61	0.56	0.22	0.22	0.00	1.00	0.00
Final Sat.:	385	385	128	164	218	601	499	200	200	0	894	0
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.01	0.03	0.03	0.03	0.02	0.02	0.02	xxxx	0.02	xxxx
Crit Moves:		****			****			****			****	
Delay/Veh:	7.0	7.0	7.0	6.7	6.7	6.7	7.0	7.0	7.0	0.0	7.1	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	7.0	7.0	7.0	6.7	6.7	6.7	7.0	7.0	7.0	0.0	7.1	0.0
LOS by Move:	A	A	A	A	A	A	A	A	A	*	A	*
ApproachDel:		7.0			6.7			7.0			7.1	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		7.0			6.7			7.0			7.1	
LOS by Appr:		A			A			A			A	

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Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #7 Peninsula Dr/Victor

Cycle (sec): 100 Critical Vol./Cap. (X): 0.045
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 7.1
Optimal Cycle: 0 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	1! 0	0	0	1! 0	0	0	1! 0	0	0	1! 0
Volume Module: >> Count Date: 10 Jun 2005 << 5:00 - 6:00 pm												
Base Vol:	4	7	2	6	4	11	14	14	2	3	9	6
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	4	7	2	6	4	11	14	14	2	3	9	6
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
PHF Volume:	5	9	3	8	5	14	18	18	3	4	12	8
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	5	9	3	8	5	14	18	18	3	4	12	8
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	5	9	3	8	5	14	18	18	3	4	12	8
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.31	0.54	0.15	0.29	0.19	0.52	0.46	0.47	0.07	0.17	0.50	0.33
Final Sat.:	271	475	136	267	178	490	409	409	58	153	460	307
Capacity Analysis Module:												
Vol/Sat:	0.02	0.02	0.02	0.03	0.03	0.03	0.05	0.05	0.05	0.03	0.03	0.03
Crit Moves:		****			****			****			****	
Delay/Veh:	7.1	7.1	7.1	6.9	6.9	6.9	7.3	7.3	7.3	7.0	7.0	7.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	7.1	7.1	7.1	6.9	6.9	6.9	7.3	7.3	7.3	7.0	7.0	7.0
LOS by Move:	A	A	A	A	A	A	A	A	A	A	A	A
ApproachDel:		7.1			6.9			7.3			7.0	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		7.1			6.9			7.3			7.0	
LOS by Appr:		A			A			A			A	

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Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 SR 255/Peninsula Dr S

Average Delay (sec/veh): 0.7 Worst Case Level Of Service: B[10.6]

Street Name:	SR 255						Peninsula Dr S					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 1	0	0 0	0 0	0 1	0	0 0	1!	0 0	0 0	1!	0 0
Volume Module: >> Count Date: 10 Jun 2005 << 8:30 - 9:30 am												
Base Vol:	7	121	0	0	177	2	2	0	14	0	0	0
Growth Adj:	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Initial Bse:	11	182	0	0	265	3	3	0	21	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
PHF Volume:	13	226	0	0	331	4	4	0	26	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	13	226	0	0	331	4	4	0	26	0	0	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	334	xxxx	xxxxx	xxxx	xxxx	xxxxx	585	xxxx	333	xxxx	xxxx	xxxxx
Potent Cap.:	1236	xxxx	xxxxx	xxxx	xxxx	xxxxx	477	xxxx	714	xxxx	xxxx	xxxxx
Move Cap.:	1236	xxxx	xxxxx	xxxx	xxxx	xxxxx	473	xxxx	714	xxxx	xxxx	xxxxx
Volume/Cap:	0.01	xxxx	xxxx	xxxx	xxxx	xxxx	0.01	xxxx	0.04	xxxx	xxxx	xxxx
Level Of Service Module:												
Queue:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	7.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	671	xxxxx	xxxx	0	xxxxx
SharedQueue:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.1	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	7.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	10.6	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	A	*	*	*	*	*	*	B	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			10.6			xxxxxx		
ApproachLOS:	*			*			B			*		

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Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 SR 255/Peninsula Dr S

Average Delay (sec/veh): 0.4 Worst Case Level Of Service: B[12.8]

Street Name:	SR 255						Peninsula Dr S					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 1	0	0 0	0 0	0 1	0	0 0	1!	0 0	0 0	1!	0 0
Volume Module: >> Count Date: 10 Jun 2005 << 4:30 - 5:30 pm												
Base Vol:	12	306	0	0	291	4	2	0	8	0	0	0
Growth Adj:	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Initial Bse:	18	459	0	0	437	6	3	0	12	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	19	494	0	0	469	6	3	0	13	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	19	494	0	0	469	6	3	0	13	0	0	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	476	xxxx	xxxxx	xxxx	xxxx	xxxxx	1005	xxxx	473	xxxx	xxxx	xxxxx
Potent Cap.:	1097	xxxx	xxxxx	xxxx	xxxx	xxxxx	270	xxxx	596	xxxx	xxxx	xxxxx
Move Cap.:	1097	xxxx	xxxxx	xxxx	xxxx	xxxxx	266	xxxx	596	xxxx	xxxx	xxxxx
Volume/Cap:	0.02	xxxx	xxxx	xxxx	xxxx	xxxx	0.01	xxxx	0.02	xxxx	xxxx	xxxx
Level Of Service Module:												
Queue:	0.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	8.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	478	xxxxx	xxxx	0	xxxxx
SharedQueue:	0.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.1	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	8.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	12.8	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	A	*	*	*	*	*	*	B	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			12.8			xxxxxx		
ApproachLOS:	*			*			B			*		

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Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #2 Hwy 255/Pacific-Dean

Average Delay (sec/veh): 1.7 Worst Case Level Of Service: B[13.9]

Street Name:	Hwy 255						Pacific-Dean					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1 0 0	1	0	1 0 0	1	0	0 0	1!	0 0	0 0	1!	0 0
Volume Module: >> Count Date: 10 Jun 2005 << 8:00 - 9:00 am												
Base Vol:	2	127	5	3	228	26	19	3	14	11	1	4
Growth Adj:	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Initial Bse:	3	191	8	5	342	39	29	5	21	17	2	6
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	3	209	8	5	376	43	31	5	23	18	2	7
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	3	209	8	5	376	43	31	5	23	18	2	7
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	419	xxxx	xxxxx	218	xxxx	xxxxx	631	631	397	641	649	213
Potent Cap.:	1151	xxxx	xxxxx	1364	xxxx	xxxxx	396	401	657	390	392	832
Move Cap.:	1151	xxxx	xxxxx	1364	xxxx	xxxxx	390	398	657	371	389	832
Volume/Cap:	0.00	xxxx	xxxx	0.00	xxxx	xxxx	0.08	0.01	0.04	0.05	0.00	0.01
Level Of Service Module:												
Queue:	0.0	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	8.1	xxxx	xxxxx	7.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	464	xxxxx	xxxx	432	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.4	xxxxx	xxxxx	0.2	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	13.9	xxxxx	xxxxx	13.9	xxxxx
Shared LOS:	*	*	*	*	*	*	*	B	*	*	B	*
ApproachDel:	xxxxxx			xxxxxx			13.9			13.9		
ApproachLOS:	*			*			B			B		

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2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #2 Hwy 255/Pacific-Dean

Average Delay (sec/veh): 1.3 Worst Case Level Of Service: C[20.2]

Street Name:	Hwy 255						Pacific-Dean					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1 0 0	1	0	1 0 0	1	0	0 0	1!	0 0	0 0	1!	0 0
Volume Module: >> Count Date: 10 Jun 2005 << 4:30 - 5:30 pm												
Base Vol:	8	290	18	7	287	21	11	2	5	9	4	5
Growth Adj:	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Initial Bse:	12	435	27	11	431	32	17	3	8	14	6	8
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	13	457	28	11	452	33	17	3	8	14	6	8
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	13	457	28	11	452	33	17	3	8	14	6	8
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	485	xxxx	xxxxx	485	xxxx	xxxxx	994	1001	469	993	1004	471
Potent Cap.:	1088	xxxx	xxxxx	1088	xxxx	xxxxx	226	245	599	226	244	597
Move Cap.:	1088	xxxx	xxxxx	1088	xxxx	xxxxx	215	239	599	218	239	597
Volume/Cap:	0.01	xxxx	xxxx	0.01	xxxx	xxxx	0.08	0.01	0.01	0.07	0.03	0.01
Level Of Service Module:												
Queue:	0.0	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	8.3	xxxx	xxxxx	8.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	265	xxxxx	xxxx	271	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.4	xxxxx	xxxxx	0.3	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	20.2	xxxxx	xxxxx	19.9	xxxxx
Shared LOS:	*	*	*	*	*	*	*	C	*	*	C	*
ApproachDel:	xxxxxx			xxxxxx			20.2			19.9		
ApproachLOS:	*			*			C			C		

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2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #3 Hwy 255/Lupin-Victor

Average Delay (sec/veh): 1.5 Worst Case Level Of Service: B[13.8]

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Uncontrolled						Uncontrolled						Stop Sign						Stop Sign					
Rights:	Include						Include						Include						Include					
Lanes:	1	0	0	1	0		1	0	0	1	0		0	0	1!	0	0		0	0	1!	0	0	
Volume Module: >> Count Date: 10 Jun 2005 << 8:15 - 9:15 am																								
Base Vol:	6	123		5			2	212		2			5		2		13		12		4		5	
Growth Adj:	1.50	1.50		1.50			1.50	1.50		1.50			1.50		1.50		1.50		1.50		1.50		1.50	
Initial Bse:	9	185		8			3	318		3			8		3		20		18		6		8	
User Adj:	1.00	1.00		1.00			1.00	1.00		1.00			1.00		1.00		1.00		1.00		1.00		1.00	
PHF Adj:	0.88	0.88		0.88			0.88	0.88		0.88			0.88		0.88		0.88		0.88		0.88		0.88	
PHF Volume:	10	210		9			3	363		3			9		3		22		21		7		9	
Reduct Vol:	0	0		0			0	0		0			0		0		0		0		0		0	
Final Vol.:	10	210		9			3	363		3			9		3		22		21		7		9	
Critical Gap Module:																								
Critical Gp:	4.1	xxxx	xxxxx				4.1	xxxx	xxxxx				7.1		6.5		6.2		7.1		6.5		6.2	
FollowUpTim:	2.2	xxxx	xxxxx				2.2	xxxx	xxxxx				3.5		4.0		3.3		3.5		4.0		3.3	
Capacity Module:																								
Cnflict Vol:	366	xxxx	xxxxx				219	xxxx	xxxxx				614		611		364		619		608		215	
Potent Cap.:	1204	xxxx	xxxxx				1362	xxxx	xxxxx				407		412		685		404		413		830	
Move Cap.:	1204	xxxx	xxxxx				1362	xxxx	xxxxx				394		407		685		385		408		830	
Volume/Cap:	0.01	xxxx	xxxx				0.00	xxxx	xxxx				0.02		0.01		0.03		0.05		0.02		0.01	
Level Of Service Module:																								
Queue:	0.0	xxxx	xxxxx				0.0	xxxx	xxxxx				xxxx		xxxxx		xxxx		xxxxx		xxxx		xxxxx	
Stopped Del:	8.0	xxxx	xxxxx				7.6	xxxx	xxxxx				xxxx		xxxxx		xxxx		xxxxx		xxxx		xxxxx	
LOS by Move:	A		*		*		A		*		*		*		*		*		*		*		*	
Movement:	LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT	
Shared Cap.:	xxxx	xxxx	xxxxx				xxxx	xxxx	xxxxx				xxxx		547		xxxxx		xxxx		447		xxxxx	
SharedQueue:	xxxxx	xxxx	xxxxx				xxxxx	xxxx	xxxxx				xxxxx		0.2		xxxxx		xxxxx		0.3		xxxxx	
Shrd StpDel:	xxxxx	xxxx	xxxxx				xxxxx	xxxx	xxxxx				xxxxx		12.0		xxxxx		xxxxx		13.8		xxxxx	
Shared LOS:	*		*		*		*		*		*		*		B		*		*		B		*	
ApproachDel:	xxxxxx						xxxxxx						12.0						13.8					
ApproachLOS:	*						*						B						B					

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Intersection #3 Hwy 255/Lupin-Victor

Average Delay (sec/veh): 2.4 Worst Case Level Of Service: D[25.6]

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Uncontrolled						Uncontrolled						Stop Sign						Stop Sign					
Rights:	Include						Include						Include						Include					
Lanes:	1	0	0	1	0		1	0	0	1	0		0	0	1!	0	0		0	0	1!	0	0	
Volume Module: >> Count Date: 10 Jun 2005 << 4:30 - 5:30 pm																								
Base Vol:	20	274		12			17	296		12			10		7		11		16		6		6	
Growth Adj:	1.50	1.50		1.50			1.50	1.50		1.50			1.50		1.50		1.50		1.50		1.50		1.50	
Initial Bse:	30	411		18			25	444		18			15		11		17		24		9		9	
User Adj:	1.00	1.00		1.00			1.00	1.00		1.00			1.00		1.00		1.00		1.00		1.00		1.00	
PHF Adj:	0.93	0.93		0.93			0.93	0.93		0.93			0.93		0.93		0.93		0.93		0.93		0.93	
PHF Volume:	32	441		19			27	476		19			16		11		18		26		10		10	
Reduct Vol:	0	0		0			0	0		0			0		0		0		0		0		0	
Final Vol.:	32	441		19			27	476		19			16		11		18		26		10		10	
Critical Gap Module:																								
Critical Gp:	4.1	xxxx	xxxxx				4.1	xxxx	xxxxx				7.1		6.5		6.2		7.1		6.5		6.2	
FollowUpTim:	2.2	xxxx	xxxxx				2.2	xxxx	xxxxx				3.5		4.0		3.3		3.5		4.0		3.3	
Capacity Module:																								
Cnflict Vol:	496	xxxx	xxxxx				460	xxxx	xxxxx				1065		1065		486		1070		1065		451	
Potent Cap.:	1078	xxxx	xxxxx				1111	xxxx	xxxxx				202		224		585		200		224		613	
Move Cap.:	1078	xxxx	xxxxx				1111	xxxx	xxxxx				184		212		585		179		212		613	
Volume/Cap:	0.03	xxxx	xxxx				0.02	xxxx	xxxx				0.09		0.05		0.03		0.14		0.05		0.02	
Level Of Service Module:																								
Queue:	0.1	xxxx	xxxxx				0.1	xxxx	xxxxx				xxxx		xxxxx		xxxx		xxxxx		xxxx		xxxxx	
Stopped Del:	8.4	xxxx	xxxxx				8.3	xxxx	xxxxx				xxxx		xxxxx		xxxx		xxxxx		xxxx		xxxxx	
LOS by Move:	A		*		*		A		*		*		*		*		*		*		*		*	
Movement:	LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT	
Shared Cap.:	xxxx	xxxx	xxxxx				xxxx	xxxx	xxxxx				xxxx		264		xxxxx		xxxx		220		xxxxx	
SharedQueue:	xxxxx	xxxx	xxxxx				xxxxx	xxxx	xxxxx				xxxxx		0.6		xxxxx		xxxxx		0.7		xxxxx	
Shrd StpDel:	xxxxx	xxxx	xxxxx				xxxxx	xxxx	xxxxx				xxxxx		21.4		xxxxx		xxxxx		25.6		xxxxx	
Shared LOS:	*		*		*		*		*		*		*		C		*		*		D		*	
ApproachDel:	xxxxxx						xxxxxx						21.4						25.6					
ApproachLOS:	*						*						C						D					

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Intersection #4 SR 255/Carlson

Average Delay (sec/veh): 0.6 Worst Case Level Of Service: B[12.8]

Street Name:	SR 255						Carlson					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0 1 0			0 1 0 0 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module: >> Count Date: 10 Jun 2005 << 8:30 - 9:30 am												
Base Vol:	0	146	8	6	185	0	0	0	0	7	0	5
Growth Adj:	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Initial Bse:	0	219	12	9	278	0	0	0	0	11	0	8
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72
PHF Volume:	0	305	17	13	386	0	0	0	0	15	0	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	305	17	13	386	0	0	0	0	15	0	10
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	321	xxxx	xxxxx	xxxx	xxxx	xxxxx	724	xxxx	313
Potent Cap.:	xxxx	xxxx	xxxxx	1250	xxxx	xxxxx	xxxx	xxxx	xxxxx	396	xxxx	732
Move Cap.:	xxxx	xxxx	xxxxx	1250	xxxx	xxxxx	xxxx	xxxx	xxxxx	393	xxxx	732
Volume/Cap:	xxxx	xxxx	xxxx	0.01	xxxx	xxxx	xxxx	xxxx	xxxx	0.04	xxxx	0.01
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	7.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	0	xxxxx	xxxx	487	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.2	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	7.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	12.8	xxxxx
Shared LOS:	*	*	*	A	*	*	*	*	*	*	B	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			12.8		
ApproachLOS:	*			*			*			B		

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Intersection #4 SR 255/Carlson

Average Delay (sec/veh): 0.6 Worst Case Level Of Service: B[12.6]

Street Name:	SR 255						Carlson					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0 1 0			0 1 0 0 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module: >> Count Date: 10 Jun 2005 << 11:30 - 12:30 pm												
Base Vol:	0	159	6	10	234	0	0	0	0	9	0	4
Growth Adj:	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Initial Bse:	0	238	9	15	351	0	0	0	0	14	0	6
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	0	254	10	16	374	0	0	0	0	14	0	6
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	254	10	16	374	0	0	0	0	14	0	6
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	264	xxxx	xxxxx	xxxx	xxxx	xxxxx	665	xxxx	259
Potent Cap.:	xxxx	xxxx	xxxxx	1312	xxxx	xxxxx	xxxx	xxxx	xxxxx	428	xxxx	785
Move Cap.:	xxxx	xxxx	xxxxx	1312	xxxx	xxxxx	xxxx	xxxx	xxxxx	424	xxxx	785
Volume/Cap:	xxxx	xxxx	xxxx	0.01	xxxx	xxxx	xxxx	xxxx	xxxx	0.03	xxxx	0.01
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	7.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	0	xxxxx	xxxx	494	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.1	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	7.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	12.6	xxxxx
Shared LOS:	*	*	*	A	*	*	*	*	*	*	B	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			12.6		
ApproachLOS:	*			*			*			B		

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Intersection #5 Hwy 255/Peninsula Dr N

Average Delay (sec/veh): 0.5 Worst Case Level Of Service: A[9.7]

Street Name:	Hwy 255						Peninsula Dr N					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0 1 0			0 1 0 0 0			0 0 1! 0 0			0 0 0 0 1		
Volume Module: >> Count Date: 10 Jun 2005 << 8:30 - 9:30 am												
Base Vol:	0	135	5	8	167	0	0	0	0	0	0	12
Growth Adj:	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Initial Bse:	0	203	8	12	251	0	0	0	0	0	0	18
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
PHF Volume:	0	254	9	15	314	0	0	0	0	0	0	23
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	254	9	15	314	0	0	0	0	0	0	23
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	263	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	259
Potent Cap.:	xxxx	xxxx	xxxxx	1312	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	785
Move Cap.:	xxxx	xxxx	xxxxx	1312	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	785
Volume/Cap:	xxxx	xxxx	xxxx	0.01	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.03
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	0.1
Stopped Del:	xxxxx	xxxx	xxxxx	7.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	9.7
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	A
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	0	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	7.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	A	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			9.7		
ApproachLOS:	*			*			*			A		

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Intersection #5 Hwy 255/Peninsula Dr N

Average Delay (sec/veh): 0.6 Worst Case Level Of Service: B[11.8]

Street Name:	Hwy 255						Peninsula Dr N					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0 1 0			0 1 0 0 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module: >> Count Date: 10 Jun 2005 << 5:00 - 6:00 pm												
Base Vol:	0	237	10	12	228	0	0	0	0	3	0	16
Growth Adj:	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Initial Bse:	0	356	15	18	342	0	0	0	0	5	0	24
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
PHF Volume:	0	401	17	20	386	0	0	0	0	5	0	27
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	401	17	20	386	0	0	0	0	5	0	27
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	418	xxxx	xxxxx	xxxx	xxxx	xxxxx	836	xxxx	410
Potent Cap.:	xxxx	xxxx	xxxxx	1152	xxxx	xxxxx	xxxx	xxxx	xxxxx	340	xxxx	646
Move Cap.:	xxxx	xxxx	xxxxx	1152	xxxx	xxxxx	xxxx	xxxx	xxxxx	335	xxxx	646
Volume/Cap:	xxxx	xxxx	xxxx	0.02	xxxx	xxxx	xxxx	xxxx	xxxx	0.02	xxxx	0.04
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	8.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	0	xxxxx	xxxx	564	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.2	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	8.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	11.8	xxxxx
Shared LOS:	*	*	*	A	*	*	*	*	*	*	B	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			11.8		
ApproachLOS:	*			*			*			B		

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Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #6 Park St/Lupin Ave

Cycle (sec): 100 Critical Vol./Cap. (X): 0.000
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 0.0
Optimal Cycle: 0 Level Of Service:

Street Name:	Park St						Lupin Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	1! 0	0	0	1! 0	0	0	1! 0	0	0	1! 0 0
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Growth Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Bse:	0	0	0	0	0	0	0	0	0	0	0	0
User Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PHF Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PHF Volume:	0	0	0	0	0	0	0	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PCE Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MLF Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Final Vol.:	0	0	0	0	0	0	0	0	0	0	0	0
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Final Sat.:	0	0	0	0	0	0	0	0	0	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Crit Moves:												
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LOS by Move:												
ApproachDel:	0.0			0.0			0.0			0.0		
Delay Adj:	0.00			0.00			0.00			0.00		
ApprAdjDel:	0.0			0.0			0.0			0.0		
LOS by Appr:												

PM Peak Hour - Future Conditions
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Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #6 Park St/Lupin Ave

Cycle (sec): 100 Critical Vol./Cap. (X): 0.044
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 7.0
Optimal Cycle: 0 Level Of Service: A

Street Name:	Park St						Lupin Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	0	0	1	0	1	0	0	0	0	1 0 0
Volume Module: >> Count Date: 10 Jun 2005 << 3:30 - 4:30 pm												
Base Vol:	0	0	7	6	1	0	0	6	0	8	8	5
Growth Adj:	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Initial Bse:	0	0	11	9	2	0	0	9	0	12	12	8
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
PHF Volume:	0	0	13	11	2	0	0	11	0	15	15	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	13	11	2	0	0	11	0	15	15	10
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	0	13	11	2	0	0	11	0	15	15	10
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	1.00	0.86	0.14	0.00	0.00	1.00	0.00	0.38	0.38	0.24
Final Sat.:	0	0	1038	729	121	0	0	896	0	349	349	218
Capacity Analysis Module:												
Vol/Sat:	xxxx	xxxx	0.01	0.02	0.02	xxxx	xxxx	0.01	xxxx	0.04	0.04	0.04
Crit Moves:			****	****				****			****	
Delay/Veh:	0.0	0.0	6.5	7.3	7.3	0.0	0.0	7.0	0.0	7.1	7.1	7.1
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	6.5	7.3	7.3	0.0	0.0	7.0	0.0	7.1	7.1	7.1
LOS by Move:	*	*	A	A	A	*	*	A	*	A	A	A
ApproachDel:	6.5			7.3			7.0			7.1		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	6.5			7.3			7.0			7.1		
LOS by Appr:	A			A			A			A		

AM Peak Hour - Future Conditions
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Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #7 Peninsula Dr/Victor

Cycle (sec): 100 Critical Vol./Cap. (X): 0.044
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 7.0
Optimal Cycle: 0 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	1! 0	0	0	1! 0	0	0	1! 0	0	0	1 0 0
Volume Module: >> Count Date: 10 Jun 2005 << 8:00 - 9:00 am												
Base Vol:	3	3	1	3	4	11	5	2	2	0	9	0
Growth Adj:	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Initial Bse:	5	5	2	5	6	17	8	3	3	0	14	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63
PHF Volume:	7	7	2	7	9	26	12	5	5	0	21	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	7	7	2	7	9	26	12	5	5	0	21	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	7	7	2	7	9	26	12	5	5	0	21	0
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.43	0.43	0.14	0.17	0.22	0.61	0.56	0.22	0.22	0.00	1.00	0.00
Final Sat.:	379	379	126	162	216	593	491	196	196	0	879	0
Capacity Analysis Module:												
Vol/Sat:	0.02	0.02	0.02	0.04	0.04	0.04	0.02	0.02	0.02	xxxx	0.02	xxxx
Crit Moves:		****			****			****			****	
Delay/Veh:	7.1	7.1	7.1	6.8	6.8	6.8	7.1	7.1	7.1	0.0	7.1	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	7.1	7.1	7.1	6.8	6.8	6.8	7.1	7.1	7.1	0.0	7.1	0.0
LOS by Move:	A	A	A	A	A	A	A	A	A	*	A	*
ApproachDel:		7.1			6.8			7.1			7.1	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		7.1			6.8			7.1			7.1	
LOS by Appr:		A			A			A			A	

PM Peak Hour - Future Conditions
Samoa Town Master Plan Environmental Impact Report
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Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #7 Peninsula Dr/Victor

Cycle (sec): 100 Critical Vol./Cap. (X): 0.069
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 7.2
Optimal Cycle: 0 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	1! 0	0	0	1! 0	0	0	1! 0	0	0	1! 0 0
Volume Module: >> Count Date: 10 Jun 2005 << 5:00 - 6:00 pm												
Base Vol:	4	7	2	6	4	11	14	14	2	3	9	6
Growth Adj:	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Initial Bse:	6	11	3	9	6	17	21	21	3	5	14	9
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
PHF Volume:	8	14	4	12	8	22	28	28	4	6	18	12
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	8	14	4	12	8	22	28	28	4	6	18	12
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	8	14	4	12	8	22	28	28	4	6	18	12
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.31	0.54	0.15	0.29	0.19	0.52	0.47	0.47	0.06	0.17	0.50	0.33
Final Sat.:	264	462	132	260	174	477	401	401	57	150	450	300
Capacity Analysis Module:												
Vol/Sat:	0.03	0.03	0.03	0.05	0.05	0.05	0.07	0.07	0.07	0.04	0.04	0.04
Crit Moves:		****			****			****			****	
Delay/Veh:	7.2	7.2	7.2	7.0	7.0	7.0	7.4	7.4	7.4	7.1	7.1	7.1
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	7.2	7.2	7.2	7.0	7.0	7.0	7.4	7.4	7.4	7.1	7.1	7.1
LOS by Move:	A	A	A	A	A	A	A	A	A	A	A	A
ApproachDel:		7.2			7.0			7.4			7.1	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		7.2			7.0			7.4			7.1	
LOS by Appr:		A			A			A			A	

Appendix C

Trail Design Standards

Width

The minimum width for paved Class I multi-use trails in California is 8 feet, with 2 feet of lateral clearance on each side and 8 feet of vertical clearance. If the trail is projected to have higher volumes of bicyclists and other users, or if maintenance vehicles will be using the pathway on a regular basis, a minimum width of 10 feet is recommended with the same lateral and vertical clearances. Typically, 3-foot wide unpaved shoulders with a compacted surface (often decomposed granite) are located on each side of the paved surface to accommodate joggers and others who prefer a softer surface. See Figure C-1.

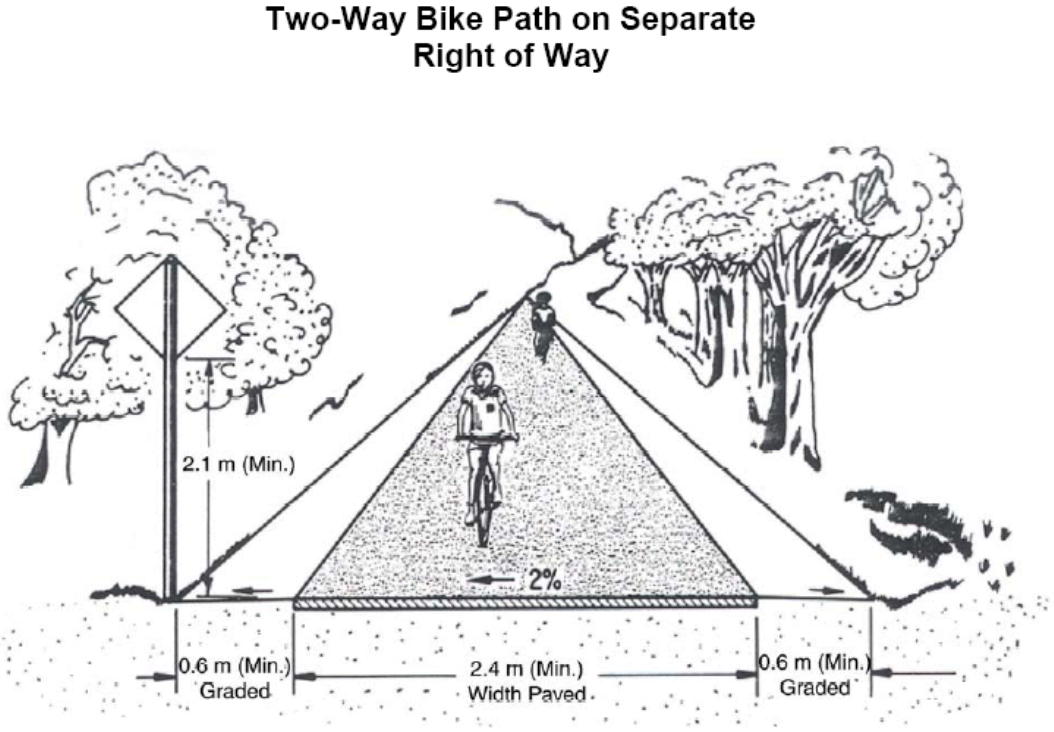

Figure C-1
Reference: *Caltrans Highway Design Manual*, Chapter 1000, February 2001

The recommended paved width of the Manila Multi-Use Trail will be 10 feet with 2-foot shoulders on each side and 10 feet of vertical clearance. In locations where right-of-way constraints prevent the development of the 10-foot standard, an 8-foot paved cross section with 2-foot shoulders may be implemented.

Structural Section

Path construction should be conducted in a similar manner as roadway construction, with sub-base thickness to be determined by soils condition and expansive soil types requiring special structural sections. Minimum asphalt thickness should be three inches (3") of Type A or Type B as described by Caltrans Standard Specifications, with one-half inch (0.5") maximum aggregate and medium grading. Another option, and often

a preferred pathway material for rail trails due to the desire to minimize maintenance costs is a four-inch (4") reinforced concrete material with sub-base or six inches (6") of reinforced concrete on compacted native material (if suitable).

The recommended structural cross section for the Manila Multi-Use Trail will be three inches (3") of Type A or Type B as described by Caltrans Standard Specifications, with one-half inch (0.5") maximum aggregate and medium grading. This structural cross section is meant to withstand maximum pathway loads, which may include County and railroad maintenance vehicles, emergency vehicles, and occasional construction equipment.

Signing and Marking

The Manila Multi-Use Trail should be designed to include all of the required and recommended signing and marking standards developed by Caltrans in Chapter 1000 of the Highway Design Manual. In addition, all signs and markings should conform to the standards developed in the *Manual of Uniform Traffic Control Devices* (MUTCD). The final striping, marking, and signing plan for the Manila Multi-Use Trail should be reviewed and approved by a licensed traffic engineer or civil engineer.

In general, all signs should be located 3 to 4 feet from the edge of the paved surface, have a minimum vertical clearance of 8.5 feet when located above the trail surface and be a minimum of 4 feet above the trail surface when located on the side of the trail. All signs should be oriented so as not to confuse motorists. The designs (though not the size) of signs and markings should be the same as used for motor vehicles.

An optional 4-inch (4") yellow centerline stripe may be used to separate users on a Class I bike path. The stripes may be desirable on sections of the pathway that have heavy usage, at approaches to intersections, and/or where nighttime riding is expected.

Table C-1
Class I Bicycle Path Specifications

Structural Section	Pavement Type:	Recycled Asphalt	3" (75 mm)
		Asphalt [1]	3" (75 mm)
		Concrete[2]	3" (75 mm)
	Sub-Base:	Granite	4-6" (100-150 mm)
		Gravel	4-6" (100-150 mm)
	Shoulders:	Decomposed Granite	2-4" (50-100 mm)
Pathway Widths	Width:	Minimum 1-way Path	5' (1.5 m)
		Minimum 2-way Path	8' (2.4 m)
		Preferred 2-way Path	12' (3.6 m)
	Shoulders:		2-3' (0.6-1.0 m)
	Lateral Clearance:		2-3' (0.6-1.0 m)
	Vertical Clearance:		8-10' (2.5-3.0 m)
	with Equestrians:		12' (3.6 m)
Striping	Striping:		
	Centerline (none, dashed yellow, solid yellow)		4" (100 mm)
	Edgeline (none or solid white)		4" (100 mm)
Signing	Signing:	*See Caltrans Traffic Manual and MUTCD*	
Drainage	Minimum Cross Slope:		2%
Separation	Minimum Separation from Roadway:		5' (1.5 m)
Design Speeds	Design Speed:		20-30 mph (40-50 kph)
Super-elevation	Maximum Superelevation:		5%
Grades	Maximum Grades (over 100'):		5%
Ancillary Facilities	Barrier Posts (minimum spacing):		5' (1.5 m)
	Lighting (if night use expected):		5-22 LUX

Source: Caltrans *Highway Design Manual* Chapter 1000

Notes: [1] Asphalt may be unsuitable for bike paths in stream channels due to asphalt oils.

[2] A 6" concrete thickness may be used directly on compacted native materials.

[3] Unless physical barrier provided.

Setbacks

Roadway Setback

Bikeways or trails parallel to roadways should be located no closer than 5 feet from the edge of the roadway, unless a physical barrier is provided. Minimal barriers will provide suitable separation. Generally, bikeways are not recommended directly parallel to roadways, as most experienced bicyclists will find it less usable than the street itself, assuming there is adequate width on the street. While the Manila Multi-Use Trail will parallel Peninsula Drive at various locations, initial field work indicated there is sufficient right-of-way to locate the pathway outside of the 5-foot roadway setback. If construction engineering determines the 5-foot roadway setback cannot be met, a 4-foot high fence, materials to be determined, should be installed where the pathway lies less than 5 feet from Peninsula Drive, or any other road, to ensure adequate separation from the road for pathway users.

Railroad Setback

The California Public Utilities Commission has specific minimum railroad track setbacks for any structures or improvements (including any sidewalk or trail) that parallels active railroad tracks. These standards are typically applied to the minimum distance that crossing guard equipment is located from the tracks. Minimum distances from the centerline of an active railroad to the outside edge of a trail or bikeway is 8'-6" on tangent and 9'-6" on curved tracks (General Order No. 26-D). Wherever possible, it is recommended that the trail be set back at least 25 feet from the centerline of the tracks to deter trespassing and provide adequate protection to pathway users. However, for most of the pathway, this setback distance is not possible due to the narrow right-of-way (ROW) width and physical constraints.

Along the southern portion of the NWP rail line, an Absolute Minimum Setback has been established by SMART, for use along with a solid barrier in order to locate the pathway within the RR ROW. At all locations, an absolute minimum setback of 15 feet is specified to allow for normal railroad maintenance practices and equipment dimensions, and a 6-foot solid fence or a vertical separation of more than 10 feet is recommended to block the flow of wind, dust, and debris that is blown up by a passing train as well as to deter trespassing. See Figure C-2.

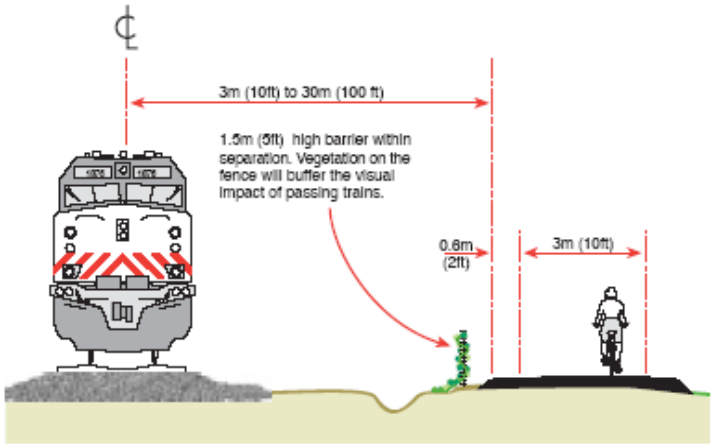

Figure C-2
Source: *FHWA Rails-with-Trails: Lessons Learned*, August 2002

Design Speed

The minimum design speed for bike paths is 20 miles per hour except on sections where there are long downgrades (steeper than 4 percent, and longer than 500 feet). Speed bumps or other surface irregularities should never be used to slow bicycles.

Drainage

The 2-percent cross slope will resolve most drainage issues on a bike path, except along cut sections where runoff water must be collected in a ditch and directed to a catch basin, where the water can be directed under the Manila Multi-Use Path in a drainage pipe of suitable dimensions.

Utilities and Lighting

While surface and sub-surface utilities are typically located within railroad right-of-ways, there are no known utilities present within the Peninsula spur line that would impact the location and construction of the Manila Multi-Use Trail. In the event that sub-surface utilities are determined to be present, the trail would be designed to avoid having to move active utilities, although utility infrastructure no longer in use may be removed. The trail may be located directly over existing sub-surface utilities assuming (a) adequate depth exists between the trail surface and utility to prevent damage, and (b) agreements can be reached with the utility owner regarding access for repairs and impact to the trail.

The community may choose to install trail lighting, especially where there is considerable evening pedestrian and bicycle commuter traffic. There will be some lighting benefit from existing lighting along adjacent roadways, land uses, and at crossings.

Entrance Features

Major entrances to the Manila Multi-Use Trail may contain a variety of support facilities and other items, depending on available resources and local support. Recommended entrance feature locations include Sandy Road, Victor Boulevard, and Dean Street. Typical entrance features include:

Trailheads – The trail may draw substantial numbers of users during peak times. Trail users could be directed to specific trailheads where parking and other amenities are provided, helping to relieve some of the pressure on local residences. Trailheads may also contain drinking fountains, telephones, restrooms, bike lockers, and other features. Trailheads should be accessible by transit service.

Bollards – A single 48-inch wood or metal bollard (post) should be placed on the centerline of the trail at all entrances to prevent motor vehicles from entering the trail. Bollards should be designed to be visible to bicyclists and others, especially at nighttime, with reflective materials and appropriate striping. Bollards should be designed to be easily removed for access by emergency vehicles.

Entrance Features – The trail alignment should have a sharp (20-foot or less radius) curve at all major roadway intersections wherever physically possible, to help slow bicycles. Entrance circles may be constructed with a 20-foot inside radius to help slow bicycles. Public art and/or entrance signs may be placed in the circle. Entrance signs should include regulations, hours of operation (if any), and trail speed limit. Entrance signs may also include sponsorships by local agencies, organizations, and/or

businesses. Signs may be placed at the entrances or at appropriate locations along the trail that provide brief descriptions of historic events or natural features.

Landscaping – Landscape plant materials should be located along the Manila Multi-Use Path to enhance gateway and entry features and provide the trail with a strong identity. Choices of plants should respect the local beach ecology and the potential of sharing of the right-of-way with the rail. Irrigation should be predominately drip, and plant materials will be capable of self-sustainability within two to three years. Solar controllers and other stand alone equipment should be used to eliminate costly trenching for electricity. Irrigation will be minimal after establishment of plant material.

Crossings – When considering a proposed separated pedestrian/bike path and required roadway crossings, it is important to remember two items: (1) trail users will be enjoying an auto-free experience and may enter into an intersection unexpectedly, and (2) motorists will not expect to see bicyclists shooting out from an unmarked intersection into the roadway. In most cases, pathway crossings at-grade can be properly designed to a reasonable degree of safety and to meet existing traffic and safety standards. Ideally, trail crossings should occur at established pedestrian crossings wherever possible, or at locations completely out of the influence of intersections. Ramps should be placed on sidewalk curbs for users.

Evaluation of bikeway crossings involves analysis of traffic patterns of vehicles as well as trail users. This includes traffic speeds (85th percentile), street width, traffic volumes (average daily traffic, and peak hour), line of sight, and trail user profile (age distribution, destinations). A traffic safety study will need to be completed as part of the actual civil engineering design of the proposed crossings to determine the most appropriate design features. This study identifies the most appropriate crossing options given available information, which must be verified and/or refined through the actual engineering and construction document stage.

Roadway Crossings

In general, Class I pathway alignments should take into consideration the frequency and condition of at-grade roadway crossings. Grade separations, such as bridges or undercrossings, are recommended if traffic volumes and speeds, along with pathway usage volumes and site conditions, combine to create public safety concerns. In such situations, engineering evaluations along with a cost benefit analysis is typically performed to identify improvement solutions to ensure adequate separation of pathway users from vehicle traffic. If grade separation is not feasible, a number of design considerations must be addressed to provide safer crossings for pathway users, as detailed below. While all Manila Multi-Use Trail roadway crossings will occur at-grade and are recommended as unprotected (the recommended crossing types by intersection are identified in Table C-2), a brief discussion of the various types of crossings follows to provide context.

Table C-2
Basic Crossing Types

Crossing Type	Description
1. Unprotected	Unprotected crossings include mid-block crossings of residential, collector, and sometimes major arterial streets.
2. Routed to Existing Intersection	Bikeways, which emerge near existing intersections, may be routed to these locations.
3. Signalized/Controlled	Bikeway crossings, which require signals or other, control measures due to traffic volumes, speeds, and trail usage.

Type 1 or uncontrolled crossings (unsignalized, but with other traffic control devices) are recommended for streets with 85th percentile travel speeds below 45 mph and ADTs below 10,000 vehicles. See Figure C-3.

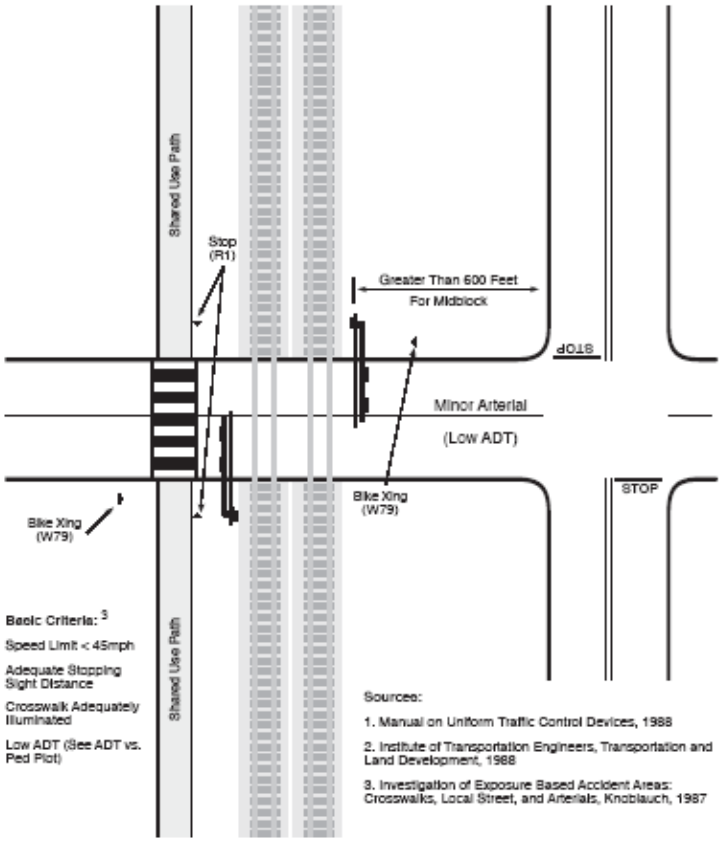

Figure C-3
Source: *FHWA Rails-with-Trails: Lessons Learned*, August 2002

Type 2 crossings within 250 feet of an existing signalized intersection with pedestrian crosswalks are typically diverted to the signalized intersection for safety purposes. In order for this option to be effective, barriers and signing would be needed to direct trail users to the signalized crossings. In many cases, the intersections are directly adjacent to the crossings and are not a significant problem for trail users.

Type 3 (new signalized crossings) are identified for crossings more than 250 feet from an existing signalized intersection and where 85th percentile travel speeds are 45 mph and above and/or ADTs are above 10,000 vehicles. Each crossing, regardless of traffic speed or volume, requires additional review by a registered engineer to identify sight line and other factors.

Standard Roadway Crossing Features

Signage

Crossing features for all roadways include warning signs both for vehicles and pathway users. The type, location and other criteria that are used to select the appropriate crossing warning sign are identified in the *Manual for Uniform Traffic Control Devices* (MUTCD) and the Caltrans *Highway Design Manual*. Consideration must be given for adequate warning distance based on vehicle speeds and line of sight, with visibility of any signing absolutely critical. Catching the attention of motorists jaded to roadway signs may require additional alerting devices such as a flashing light, roadway striping, or changes in pavement texture. Signing for trail users must include a standard STOP sign and pavement markings, sometimes combined with other features such as bollards or a kink in the pathway to slow bicyclists. Care must be taken not to place too many signs at crossings lest they begin to lose their impact.

Directional signing may be useful for pathway users and motorists alike. For motorists, a sign reading "Manila Trail Xing" along with a trail emblem or logo helps both warn of a potential conflict and promote the use of the trail itself. For trail users, directional signs and street names at crossings help direct people to their destinations.

Striping

A number of striping patterns have emerged over the years to delineate trail crossings. A median stripe on the trail approach will help to organize and warn trail users. The actual crosswalk striping is a matter of local and state preference, and may be accompanied by pavement treatments to help warn and slow motorists. The effectiveness of crosswalk striping is highly related to local customs and regulations. In communities where motorists do not typically yield to pedestrians in crosswalks, additional measures may be required such as warning signs, flashing beacons, pavement applications, or other treatments.

Unprotected At-Grade Roadway Crossings

An unprotected crossing consists of a crosswalk and signing, but no other devices to slow or stop traffic. See Figure C-2. The approach to designing crossings at mid-block locations depends on an evaluation of vehicular traffic, line of sight, trail traffic, use patterns, road type and width, and other safety issues such as nearby schools. Table C-3 identifies the general thresholds below which unprotected crossings may be acceptable.

Table C-3
Unprotected Crossings

Criteria	Threshold
Maximum Traffic Volumes	10,000-15,000 (ADT), 1,000-1,500 peak hour
Maximum 85th Percentile Speeds	35-45 mph
Maximum Trail User Volumes	50-75 per hour, 300-400 per day
Maximum Street Width	60 feet (no median)
Minimum Line of Sight	25mph zone: 100 feet 35 mph zone: 200 feet 45 mph zone: 300 feet

On residential and collector streets below 10,000 ADT, crosswalks and warning signs ("Bike Xing") should be provided for motorists, and STOP signs and slowing techniques (bollards/geometry) used on the trail approach. Care should be taken to keep vegetation and other obstacles out of the view line for motorists and trail users.

Collector streets up to 15,000 ADT require a higher level of treatment for crossings than residential streets. In addition to the features described for residential streets, signing locations may need to be moved further upstream and made more visible for motorists. A flashing yellow beacon costing between $15,000 and $30,000 may be used, preferably one that is activated by the trail user rather than a beacon that operates continuously. Various agencies around the State are successfully using flashing beacons that are activated by motion detectors on the trail, triggering the beacon as trail users approach the intersection. This equipment, though slightly more expensive, reduces the potential for driver complacency associated with seeing a constant beacon (see Figure 3).

Higher volume arterials over 15,000 ADT may be unprotected in some circumstances, for example if they are located near a signalized intersection and there are substantial "gaps" in the traffic, and/or there is a median island. This type of crossing would not be appropriate if there are a significant number of school children using the trail.

Signalized Crossings

When a trail must cross a roadway that exceeds the maximum thresholds identified for unprotected crossings, generally 10,000 ADT, some type of signalized control must be installed to protect the trail users. Signals require the input of local traffic engineers, who review potential impacts on traffic progression, capacity and safety. On corridors with timed signals, a new pathway crossing may need to be coordinated with adjacent signals to maximize efficiency. Trail signals are normally activated by push buttons, but may be triggered by motion detectors as well. The maximum vehicle delay for activation of the signal and the minimum crossing times should be determined by the local agency considering the width of the street and trail volumes. The signals may rest on flashing yellow or green for motorists when not activated, and should be supplemented by standard advance warning signs. Typical costs for a signalized crossing range from $75,000 to $150,000. Table C-4 presents a summary of crossings and crossing types for the Manila Multi-Use Trail.

Table C-4
Manila Multi-Use Trail Crossings and Recommended Crossing Types

Crossing	Crossing Type
Sandy Road	Unprotected Type I
Mill Street	Unprotected Type I
Victor Boulevard	Unprotected Type I
Dean Street	Unprotected Type I

Appendix D

Summary of Funding Opportunities

Federal Funding Programs

Federal funding through the recently adopted Safe, Accountable, Flexible, and Efficient Transportation Equity Act – A Legacy for Users (SAFETEA-LU) will provide much of the funding available for transportation projects in Manila.

Federally funded projects are required to be included in the Federal Transportation Improvement Program (FTIP). The FTIP is a document that includes key information on all federally funded and regionally significant projects. This document is used as a common reference point for review and approval processes (such as funding, air quality conformity, etc.) by various state and federal agencies. The FTIP is comprised of selected projects from local, regional, and state sources. Each "level" is also its own transportation improvement program (TIP). Therefore, in order for a project to be included in the FTIP, it first must be included in a local TIP, then in the regional TIP (RTIP), and then in the state TIP. Each TIP will require a review and approval process by the agency responsible for administering the TIP, i.e., HCAOG, Caltrans, and the Federal Highway Administration/Federal Transit Agency, respectively.

Federal Transportation Bill Update

In July 2005, Congress adopted the new federal Transportation Bill, The Safe, Accountable, Flexible, Efficient Transportation Equity Act for the 21st Century (SAFETEA). SAFETEA, which will run through September 30, 2009, replaces TEA-21, the Transportation Equity Act for the 21st Century. The new bill, which was signed by the president in August 2005, will provide $286.5 billion nationwide for surface transportation projects, including highways, mass transit, road safety programs, and bicycle and pedestrian improvements.

SAFETEA builds on the initiatives established in TEA-21 and its predecessor, ISTEA. This new Act combines the continuation and improvement of current programs with new initiatives to meet the challenges of improving safety, increasing multi-modal transportation options, reducing traffic congestion, and protecting and enhancing communities and the natural environment through efficient and flexible transportation.

The following information highlights changes included in SAFETEA that address community transportation improvements including bicycle and pedestrian facilities.

1. SAFETEA will ensure that states receive a minimum of 92 cents for every dollar that they contribute to the Highway Trust Fund by 2008. The rate of return will start t 90.5 cents per dollar in 2005 and grow to 92 cents over the next four years. The Highway Trust Fund is made up on the 18.4 cents per gallon in federal gasoline taxes paid at the pump.

2. Highway Safety Improvement Program (HSIP) is a new program that replaces previous Safety Set-aside components of programs under TEA-21. The new program significantly increases funding to $5 billion over four years (2006-2009).

   States are required to develop and implement a strategic highway safety plan that:

   - Is developed after consultation with "representatives of major modes of transportation"
   - Produces a "program of projects" to reduce safety problems
   - Is evaluated regularly
   - Includes an annual report to the Secretary of Transportation

Highway safety improvement projects may include:

- Installation of rumble strips "if the rumble strips or other warning devices do not adversely affect the safety and mobility of bicyclists, pedestrians and the disabled
- An improvement for pedestrian or bicyclist safety
- Construction of traffic calming feature
- Installation and maintenance of fluorescent yellow-green pedestrian/bicycle crossing warning signs

3. Safe Routes to School Program (SR2S) is a new program established by SAFETEA-LU with $612 million in funding over five years. Funds are apportioned by a formula based on student enrollment in primary and middle schools in each state. Highlights include:

    - No state shall receive less than $1 million per fiscal year
    - States shall use some of their funds to fund a full-time SR2S coordinator
    - Between 10% and 30% of the funds must be used for non-infrastructure-related activities
    - $3 million per year is set aside for administration of the program by USDOT including establishing a Safe Routes to School Clearinghouse and a Safe Routes to School Task Force

4. Transportation, Community, and System Preservation Program (TCSP), created as a pilot by TEA-21, has been made permanent with $270 million over five years. Funding is available specifically for Context Sensitive Solutions including bicycle and pedestrian projects.

5. Non-motorized Transportation Pilot Program (Section 1807) establishes a pilot program to determine the impact of significant investment in non-motorized infrastructure in a community. $100 million has been allocated to pilot communities over the life of the legislation: $25 million each to Columbia, MO; Marin County, CA; Minneapolis-St. Paul, MN; and Sheboygan County, WI.

6. Alternative Transportation in Parks and Public Lands provides funding of $96 million over four-years to promote alternative transportation in national parks and on other public lands, specifically including non-motorized modes.

Miscellaneous provisions

HOV Facilities. Section 1121 says State agencies shall allow motorcycles and bicycles to use High Occupancy Vehicle lanes unless the agency certifies that such use would create a safety hazard.

Traffic Circles. Section 1949 makes eligible for funding as a safety improvement "traffic circles (also known as roundabouts)".

Intelligent Transportation Systems. Section 5303 confirms the goals of the ITS program includes "accommodation of the needs of all users of surface transportation systems…including...bicycles and pedestrians".

<u>SAFETEA</u>

Federal funding through the Safe, Accountable, Flexible, and Efficient Transportation Equity Act (SAFETEA) will provide much of the funding available for transportation projects in Manila. SAFETEA contains several major programs, which are highlighted below, that may be used to fund transportation and/or recreation improvements in Manila.

SAFETEA funding is administered through the state (Caltrans or Resources Agency) and regional governments (HCAOG). A precise breakdown of funding levels by program for California is still being calculated. Most, but not all, of the funding programs are transportation versus recreation oriented, with an emphasis on (a) reducing auto trips and (b) providing an intermodal connection. Funding criteria often includes project listing in a Regional Transportation Improvement Plan, completion and adoption of a bicycle and/or pedestrian master plan, quantification of the costs and benefits of the system (such as saved vehicle trips and reduced air pollution), proof of public involvement and support, CEQA compliance, and commitment of some local resources. In most cases, SAFETEA provides matching grants of 80 to 90 percent, but prefers to leverage other moneys at a lower rate.

Highway Safety Improvement Program

This new stand-alone program reflects increased importance and emphasis on highway safety initiatives in SAFETEA. It replaces the current statutory requirement that States set aside 10 percent of their Surface Transportation Program funds for carrying out the rail-highway crossings and hazard elimination programs. The new program is designed to provide States with funds to institute Highway Safety Improvement (HSIP) programs that: reduce the fatalities and injuries that occur annually on the highway system; reinforce the Federal Highway Administration's (FHWA's) safety partnerships; and complement National Highway Traffic Safety Administration (NHTSA) and the Federal Motor Carrier Safety Administration (FMCSA) safety programs.

Funds can be used for safety improvement projects on any public road or publicly owned bicycle or pedestrian pathway or trail. A safety improvement project corrects or improves a hazardous roadway condition, or proactively addresses highway safety problems that may include: intersection improvements; installation of rumble strips and other warning devices; elimination of roadside obstacles; railway-highway grade crossing safety; pedestrian or bicycle safety; traffic calming; improving highway signage and pavement marking; installing traffic control devices at high crash locations or priority control systems for emergency vehicles at signalized intersections, safety conscious planning and improving crash data collection and analysis, etc. The States that adopt and implement a strategic highway safety plan are provided additional flexibility to use HSIP funds for public awareness, education, and enforcement activities otherwise not eligible if they are consistent with a strategic State highway safety plan and comprehensive safety planning process.

Congestion Mitigation and Air Quality Improvement Program

Congestion Mitigation and Air Quality Improvement funds are programmed by SAFETEA for projects that are likely to contribute to the attainment of a national ambient air quality standard, and congestion mitigation. These funds can be used for a broad variety of bicycle and pedestrian projects, particularly those that are developed primarily for transportation purposes. The funds can be used either for construction of bicycle transportation facilities and pedestrian walkways or for non-construction projects related to safe bicycle and pedestrian use (maps, brochures, etc.). The projects must be tied to a plan adopted by the State and RTPA.

Surface Transportation Program

The Surface Transportation Program (STP) provides a flexible source of funds to be used on surface transportation infrastructure projects (except local streets and roads currently not eligible).

Transportation Enhancements

Transportation enhancements (TE) are transportation-related activities that strengthen the cultural, aesthetic, and environmental aspects of the Nation's transportation system.

The following activities are eligible: provision of facilities for pedestrians and bicycles, provision of safety and educational activities for pedestrians and bicyclists, acquisition of scenic easements and scenic or historic sites, scenic or historic highway programs (including the provision of tourist and welcome center facilities), landscaping and other scenic beautification, historic preservation, rehabilitation and

operation of historic transportation buildings, structures, or facilities (including historic railroad facilities and canals), preservation of abandoned railway corridors (including the conversion and use thereof for pedestrian or bicycle trails), control and removal of outdoor advertising, archaeological planning and research, environmental mitigation to address water pollution due to highway runoff or reduce vehicle-caused wildlife mortality while maintaining habitat connectivity, and the establishment of transportation museums.

National Highway System

National Highway System funds are for improvements to the National Highway System (NHS), which consists of an interconnected system of principal arterial routes (rural and urban roads) that serve major population centers, international border crossings, airports, public transportation facilities, and other inter-modal transportation facilities as well as other major travel destinations. These funds can be used to provide pedestrian and bicycle facilities constructed on NHS routes.

Highway Bridge Program

Formerly the Highway Bridge Replacement and Rehabilitation Program, this program provides funds to assist States in improving the condition of their bridges through replacement, rehabilitation, and systematic preventative maintenance.

Federal Lands Highway Funds

Federal Lands Highway funds may be used to build bicycle and pedestrian facilities in conjunction with roads and parkways at the discretion of the department charged with administration of the funds. The projects must be transportation-related and tied to a plan adopted by the State and MPO.

State Funding Programs

State Highway Operations Protection Program (SHOPP)

SHOPP is a multi-year program of capital projects whose purpose is to preserve and protect the State Highway System. Funding is comprised of state and federal gas taxes. SHOPP funds capital improvements relative to maintenance, safety, and rehabilitation of state highways and bridges that do not add a new traffic lane to the system. Just over $1 billion is allocated to SHOPP annually. Funding is based on need, so there are no set distributions by county or Caltrans district. There are no matching requirements for this program. Projects include rehabilitation, landscaping, traffic management systems, rest areas, auxiliary lanes, and safety. Caltrans Projects are "applied" for by each Caltrans District. Each project must have a completed Project Study Report (PSR) to be considered for funding. Projects are developed in fall every odd numbered year.

State Transportation Improvement Program (STIP)

The State Transportation Improvement Program (STIP) is funded through the State Highway Account and other sources for projects to increase the capacity of the transportation system. STIP projects may include projects on state highways, local roads, intercity rail, or public transit systems. Similar to the federal government, the amount of funds available for the STIP is dependent on the state budget. Therefore, funding levels may fluctuate from year to year.

Regional Transportation Planning Agencies (RTPAs), such as HCAOG, are allocated 75 percent of STIP funding for regional transportation projects in their Regional Improvement Program (RIP). Caltrans is allocated 25 percent of STIP funding for interregional transportation projects in the Interregional Improvement Program (IIP).

Bicycle Transportation Account

The state Bicycle Transportation Account (BTA) is an annual statewide discretionary program that is available through the Caltrans Bicycle Facilities Unit for funding bicycle projects. Available as grants to local jurisdictions, the emphasis is on projects that benefit bicycling for commuting purposes. Funding that is available on a statewide basis amounts to $7.2 million annually.

Safe Routes to School (SB 10)

The Safe Routes to School program is a State program using federal transportation funds. This program is meant to improve school commute routes through construction of bicycle and pedestrian safety and traffic calming projects. A local match of 11.5% is required for this competitive program, which will allocate $18 million annually. Since it is a *construction* program, planning grants are not available through this program. Programs or activities related to education, enforcement, or encouragement may be eligible for reimbursement if they are related to the construction improvement. Arcata received $329,450 during the 2nd Cycle of this program for new sidewalks and pedestrian refuges near five public schools.

Office of Traffic Safety

The California Office of Traffic Safety has the mission to obtain and effectively administer traffic safety grant funds to reduce deaths, injuries and economic losses resulting from traffic related collisions in California. OTS distributes federal funding apportioned to California under the National Highway Safety Act and SAFETEA. Grants are used to mitigate traffic safety program deficiencies, expand ongoing activity, or develop a new program. Grant funding cannot replace existing program expenditures, nor can traffic safety funds be used for program maintenance, research, rehabilitation, or construction.

OTS grants address several traffic safety priority areas including Pedestrian and Bicycle Safety. Eligible activities include programs to increase safety awareness and skills among pedestrians and bicyclists. Concepts may encompass activities such as safety programs, education, enforcement, traffic safety and bicycle rodeos, safety helmet distribution, and court diversion programs for safety helmet violators.

National Recreational Trails Fund

The Recreational Trails Program provides funds to states to develop and maintain recreational trails and trail-related facilities for both non-motorized and motorized recreational trail uses. Examples of trail uses include hiking, bicycling, in-line skating, equestrian use, and other non-motorized as well as motorized uses.

Recreational Trails Program funds may be used for:

- Maintenance and restoration of existing trails;
- Development and rehabilitation of trailside and trailhead facilities and trail linkages;
- Purchase and lease of trail construction and maintenance equipment;
- Construction of new trails (with restrictions for new trails on federal lands);
- Acquisition of easements or property for trails;
- State administrative costs related to this program (limited to seven percent of a State's funds); and
- Operation of educational programs to promote safety and environmental protection related to trails (limited to five percent of a State's funds).

Environmental Enhancement and Mitigation Program

Environmental Enhancement and Mitigation Program Funds are allocated to projects that offset environmental impacts of modified or new public transportation facilities including streets, mass transit guideways, park-n-ride facilities, transit stations, tree planting to equalize the effects of vehicular emissions, and the acquisition or development of roadside recreational facilities, such as trails. State gasoline tax monies fund the EEMP. While it appears as though the program has been de-funded for FY 2005/06, future funding cycles are anticipated. Should program funding ultimately be restored, the EEMP program represents an outstanding opportunity to fund improvements in the SR 255 corridor as mitigation to the ongoing work on US 101 in the Eureka-Arcata Corridor.

State Coastal Conservancy

The SCC manages several programs that provide grant funds for coastal trails, access, and habitat restoration projects. The funding cycle for these programs is open. Funds are available to local units of government as well as non-profits.

The Conservancy has provided significant funds for study and implementation of coastal public access development and resource conservation in the Humboldt Bay region. The SCC may be a funding source for bicycle facilities that improve access to the Bay.

Habitat Conservation Fund Program (HCF)

The Habitat Conservation fund provides $2 million dollars annually in grants for the conservation of habitat including wildlife corridors and urban trails statewide. Eligible activities include property acquisition, design, and construction. The HCF is 50% dollar for dollar matching program. CEQA compliance is required. Urban projects should demonstrate how the project would increase the public's awareness and use of park, recreation, or wildlife areas. The EEMP Program has been used to fund habitat conservation in the Manila Dunes Recreation Area. A strong connection could be made for the development of the Peninsula Rail Trail and the opportunity to connect to the Manila Dunes Recreation Area.

Regional Funding Programs

Regional Transportation Improvement Program (RTIP)

These funds are a portion of the State Transportation Improvement Program. The Humboldt County Association of Governments, acting as the Regional Transportation Planning Agency in the area, is responsible for allocating Humboldt County's share of the funding.

TDA Article III (SB 821)

Transportation Development Act (TDA) Article III funds are awarded annually to local jurisdictions for bicycle and pedestrian projects in California. These funds originate from the state gasoline tax and are distributed according to population by the Humboldt County Association of Governments on a yearly basis to local jurisdictions.

Air Quality Management District (AB 2766)

The North Coast Unified Air Quality Management District (NCUAQMD) has two vehicular pollution prevention programs that could be applied to development of bicycle facilities or programs. The Air Quality Partnership (AQP) program is intended to protect public health in Humboldt, Del Norte and Trinity Counties. The program seeks to improve air quality in partnership with local public, private and non-profit entities by supporting small-scale projects aimed at reducing emissions from motor vehicles. With two funding cycles per year, project funding is limited to $3,000 and each proposing entity is limited to one funded project per six-month period.

Larger grants from the NCUAQMD are available annually through the AB 2766 program. About $90,000 was been allocated in the 2002-2003 fiscal year for technical studies, monitoring, planning, and implementation of the District's 'Particulate Matter Attainment Plan'. Funding preference is given to projects that result in reduction of particulate matter from heavy duty diesel motor vehicles, rideshare and/or transit programs implemented by or under direct contract to local government entities, and the installation of physical devices or facilities that directly or indirectly reduce motor vehicle emissions.

Local Funding Programs

Direct Local Jurisdiction Funding

Local jurisdictions can fund bicycle and pedestrian projects using a variety of sources. A city's general funds are often earmarked for non-motorized transportation projects, especially sidewalk and ADA improvements.

Future road widening and construction projects are one means of providing bike lanes and sidewalks. To ensure that roadway construction projects provide these facilities where needed, appropriate, and feasible, it is important that an effective review process is in place so that new roads meet the standards and guidelines presented in this Plan.

Impact fees

Another potential local source of funding is developer impact fees, typically tied to trip generation rates and traffic impacts produced by a proposed project. A developer may reduce the number of trips (and hence impacts and cost) by paying for on- and off-site pedestrian and bikeway improvements, which will encourage residents to walk and bicycle rather than drive. In-lieu parking fees may be used to help construct new or improved bicycle parking. Establishing a clear nexus or connection between the impact fee and the project's impacts is critical in avoiding a potential lawsuit.

Special Taxing Districts

Special taxing districts, such as redevelopment districts, can be good instruments to finance new infrastructure – including shared use trails and sidewalks – within specified areas. New facilities are funded by assessments placed on those that are directly benefited by the improvements rather than the general public. In a "tax increment financing (TIF) district, taxes are collected on property value increases above the base year assessed property value. This money can then be utilized for capital improvements within the district. TIFs are especially beneficial in downtown redevelopment districts. These districts are established by a petition from landowners to a local government. The districts can operate independently from the local government and some are established for single purposes, such as roadway construction.

It should be noted that the Manila Board of Directors, by resolution, and the community, by ballot (Measure R, 2005), have opposed Manila's participation in the Humboldt County Redevelopment Agency.

Other

Local sales taxes, fees, and permits may be implemented, requiring a local election. Parking meter revenues may be used according to local ordinance. Volunteer programs may substantially reduce the cost of implementing some of the proposed pathways. Use of groups such as the California Conservation Corp (who offer low-cost assistance) will be effective at reducing project costs. Local schools or community groups may use the bikeway or pedestrian project as a project for the year, possibly working with a local designer or engineer. Work parties may be formed to help clear the right of way where needed. A local construction company may donate or discount services. A challenge grant program with local businesses may be a good source of local funding, where corporations "adopt" a bikeway and help construct and maintain the facility.

Table D-1
Summary of California Non-Motorized Transportation Funding Programs

Funding Programs	Modes (Bicycle, pedestrian-walkways, trails)	Trip Types (Commute/ Transportation, Recreational)	Project Types (Construction, Non-construction, both)	Required Matching Funds	Deadlines	Available Annual Funding (Based on TEA-21)	Contact & Website Information
FEDERAL FUNDING							
Transportation Enhancement Activities (TEA)	Both	Transportation	Construction	11.5%	Varies by MPO/RTPA	$60 million over the 6-year legislative period	www.dot.ca.gov/hq/TransEnhAct
Regional Surface Transportation Program (RSTP)	Both	Transportation	Both	20% for bike and ped. Projects	Varies by MPO/RTPA	Approximately $320 million statewide	www.dot.ca.gov/hq/transprog/cmaqrstp.htm
Congestion Mitigation & Air Quality Improvement Program (CMAQ)	Both	Transportation	Both	11.5%	Varies by MPO/RTPA	Approximately $400 million statewide to achieve national ambient air quality standards	www.dot.ca.gov/hq/transprog/reports/Official_CMAQ_Web_Page.htm
National Highway System (NHS)	Both	Transportation	Both	20%	Varies by MPO/RTPA	Approximately $500 million annually	http://www.fhwa.dot.gov/tea21/factsheets/nhs.htm
Federal Lands Highway Funds	Both	Transportation	Construction	None	July	Approximately $165 million annually	
Bridge Repair and Replacement	Bicycle	Transportation	Construction	20%	On going	Approximately $160 million annually	www.dot.ca.gov/hq/LocalPrograms/hbrr99/hbrr99a.htm
Railroad/Highway At-Grade Crossing Program	Both	Both	Construction	Up to 10%	March 1 annually	Approximately $10 million annually	www.dot.ca.gov/hq/LocalPrograms/sect130/sect130.htm

Table D-1
Summary of California Non-Motorized Transportation Funding Programs

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FEDERAL FUNDING (continued)							
National Recreation Trails Fund	Both	Both	Both	20%	October	Approximately $3million statewide, competitive	www.parks.ca.gov/grants/index.htm
Highway Safety Program	Both	Transportation	Non-construction	11.5	On going	Approximately $165 million	www.ots.ca.gov
Transportation and Community and System Preservation Pilot Program	Both	Transportation	Both	N/A		Approximately $25 million annually	http://www.fhwa.dot.gov/tcsp/index.html
STATE FUNDING							
State Transportation Improvement Program (STIP)	Both	Transportation	Construction	None	December 15, odd number years	Varies	www.dot.ca.gov/hq/transprog/stip/stipguid/2000guid.pdf
Bicycle Transportation Account	Bicycle	Transportation	Construction	10%	Dec. 1 annually	$7.2 million	www.dot.ca.gov/hq/LocalPrograms/
Safe Routes to Schools	Both	Transportation	Construction	10%	Cycle varies, Feb-04 cycle 5	$20 million, each project not to exceed $500,000	www.dot.ca.gov/hq/LocalPrograms/
Environmental Enhancement and Mitigation program	Both	Transportation	Construction	20%	November	$10 million, each project not to exceed $250,000	www.dot.ca.gov/hq/LandArch/eem/eemframe.htm

Table D-1
Summary of California Non-Motorized Transportation Funding Programs

Funding Programs	Modes (Bicycle, pedestrian-walkways, trails)	Trip Types (Commute/ Transportation, Recreational)	Project Types (Construction, Non-construction, both)	Required Matching Funds	Deadlines	Available Annual Funding (Based on TEA-21)	Contact & Website Information
STATE FUNDING (continued)							
Habitat conservation Fund Grant Program	Both	Both	Construction	50%	October	$500,000 available through statewide competition	http://parks.ca.gov/?page_id=21361
Land and Water conservation Fund	Both	Both	Construction (Including land acquisition)	50%	May	Each project not to exceed $200,000	www.parks.ca.gov/grants/lwcf/lwcf.htm
Mello-Roos Community Facilities Districts	Both	Both	Both		N/A		
California Conservation Corps	Both	Both	Construction	None	On going		www.ccc.ca.gov
Community Based Transportation Planning Grant Program	Both	Both	Non-construction	20%	October	Approximately $3 million, each project not to exceed $300,000	http://www.dot.ca.gov/hq/tpp/grants.htm
Highway-Railroad Grade Separation Program	Both	Both	Construction	20%	April 1 annually	$15 million, each project not to exceed $5 million	Caltrans Railroad Agreements Branch (916) 227-5203
Safe Neighborhood Parks, Clean Water, Clean Air, and Coastal Protection Bond Act of 2000 (Prop. 12)	Both	Both	Both	N/A	October	$1.7 million available through statewide competition	www.parks.ca.gov
Office of Traffic Safety Grants	Both	Transportation	Both	N/A	October	N/A	www.ots.ca.gov

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INNOVATIVE FINANCING							
Grant Anticipation Revenue Vehicle Bonds (GARVEE)	Both	Transportation	Both	11.5%	On going	Total debt not to exceed 30% of federal funds received annually	http://www.dot.ca.gov/hq/innovfinance/garveebond.htm
State Highway Account Loan Program (Short Term Loans)	Both	Transportation	Both	11.5%	On going	Total outstanding loans can not exceed $500 million statewide	http://www.dot.ca.gov/hq/innovfinance/sha.htm
Transportation Finance Bank (TBF)	Both	Transportation	Both	11.5%	On going	$3 million statewide	http://www.dot.ca.gov/hq/innovfinance/T_F.htm
REGIONAL FUNDING							
Local Air District Projects Funded by Vehicle Registration Fees	Both	Both	Both	Varies by jurisdiction	Varies by jurisdiction	Varies by jurisdiction	Contact your local air district
Transportation Development Act (TDA) Article 3	Both	Both	Both	None	Varies by jurisdiction	2% of the Local Transportation Fund	Local MPO/RTPA
Local Sales Tax for Transportation	Both	Both	Both	None	Varies by jurisdiction	Varies by jurisdiction	Local MPO/RTPA

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PRIVATE FUNDING							
Developer Impact Fees	Both	Both	Both	N/A	N/A	N/A	Local Jurisdiction
Bikes Belong Coalition	Bicycle	Both	Both	N/A	On going	Each project not to exceed $10,000	www.bikesbelong.org
American Greenways Kodak Awards	Both	Both	Both	N/A	Early June	Each project not to exceed $2,500	http://www.conservationfund.org/
Powerbar's Direct Impact on Rivers and Trails (DIRT)	Both	Both	Both	N/A	Early June	Project awards between $1,000 - $5,000	http://www.powerbar.com
Recreational Equipment, Inc. (REI)	Both	Both	Both	N/A	On going	Each project not to exceed $2,500	www.rei.com