APPENDIX D.
TRANSPORTATION AND CIRCULATION BACKGROUND INFORMATION

TRAFFIC IMPACT ANALYSIS

Dana Adobe Master Plan

- Nipomo, California -

Job Number 16614-O

March 2, 2012

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TRAFFIC IMPACT ANALYSIS

- Dana Adobe Master Plan -

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EXECUTIVE SUMMARY

The following report presents an evaluation of the potential traffic impacts associated with the Dana Adobe Master Plan project in the Nipomo community of unincorporated San Luis Obispo County. Dana Adobe is a State Historical Landmark. The master plan encompasses approximately 130 acres and proposes minimal development in close proximity to the existing adobe. The project will showcase the cultural and natural resources of the Nipomo Creek watershed and Nipomo Mesa through a variety of education programs. The project will also provide public education of the site's geological, paleontological, prehistoric, historical and botanical resources through various programs. Dana Adobe currently has an estimated 3,000 visitors a year. The majority of events are held on weekends. The project includes a visitor's center, a Chumash Village, an amphitheater, indoor & outdoor education exhibits, and trails linking the visitor center to the Chumash Village. The project buildout will occur over a roughly five (5) to greater than a twenty (20) year period as funding becomes available.

The new visitor's center will be open from 9:00 AM to 5:00 PM Tuesday through Saturday, and 12:00 Noon to 5:00 PM on Sundays. The trails will be open from sunrise to sunset, 7 days a week. It is also anticipated that portions of the site will be used for private group rentals (i.e., weddings, special events, etc). The master plan would potentially double the number of annual visitors to 6,000. Primary access will be provided via 2 new driveways on S. Oakglen Avenue (near visitor's center). The existing driveway will used for access to the adobe and overflow parking. Parking on-site will be provided for approximately 200 vehicles, including 48 stalls in the paved lot adjacent to the visitor's center and 152 overflow spaces. Limited parking will also be provided off of S. Thompson Avenue for horse trailers and pedestrian / bicycle trail uses. Emergency fire access will be provided via a trail/road connection between S. Oakglen Avenue and S. Thompson Avenue.

Trip generation estimates for the project site were derived using data for the existing and proposed operations. Regular weekly activities at Dana Adobe include school bus tours, daily visitors and employee/volunteer activities. The annual and special events include a variety of meetings, celebrations, lectures and concerts. Most of the existing annual and special events only occur once a year and none of the events occur on the same day. The trip generation estimates for the existing and proposed site uses are based on the average number of participants. To evaluate the potential impacts associated with the proposed master plan the "net" change in project site trips were determined. The proposed project will generate approximately 104 additional daily trips during an average weekday, with 38 additional daily trips during an average weekend day. The project is also estimated to generate 8 additional trips during an average weekday AM and PM peak hour. During an average weekend day the project may result in a slight increase in the number of trips during the mid-day peak hour (i.e., between 2:00 to 3:00PM).

The traffic analysis scope was developed in consultation with staff at San Luis Obispo County Public Works. The evaluation of potential impacts includes an analysis of daily operations along W. Tefft Street and at the following study intersections:

1. W. Tefft Street and Mary Avenue
2. W. Tefft Street and US 101 Southbound Ramps-Frontage Road
3. W. Tefft Street and US 101 Northbound Ramps
4. W. Tefft Street and Oakglen Avenue
5. W. Tefft Street and Thompson Avenue

An evaluation of existing conditions was conducted using new roadway segment and intersection turning movement traffic count data. The evaluation of existing roadway segments indicates that daily traffic volumes are currently within acceptable limits (LOS C or better). The analysis also demonstrated that average vehicle delays at the study intersections are also within acceptable limits during a typical weekday PM peak hour. Observations conducted during the afternoon peak period did confirm that overall operations during the PM peak hour are within acceptable limits (majority of vehicle queues cleared every signal cycle). A review of traffic accident records obtained from the California Highway Patrol (5-year period) did not identify any significant accident problems along S. Oakglen Avenue.

An evaluation of "background" traffic conditions was conducted using a list of future approved projects provided by County staff. The background projects will generate an additional 15,406 daily trips (two-way trip ends); with 630 trips during the AM peak hour and 1,353 trips during the PM peak hour. The US 101/Willow Road interchange is currently under construction and planned for completion in late 2012/early 2013. Therefore, the trips associated with the background projects were assigned to the local street without and with the new Willow Road interchange. The roadway segment analysis indicates that background daily traffic volumes on the majority of study street segments will be within acceptable limits (LOS C or better), without or with the US 101/Willow Road interchange. However, the segment of Mary Avenue north of W. Tefft Street is projected to experience daily traffic demands at unacceptable levels (LOS E or F). A review of the background projects material indicates that the majority of new traffic on this segment of Mary Avenue will be attributable to the development of the Landev LLC parcel. Information provided by the County indicates that the Landev LLC project has been conditioned to widen the deficient segment of Mary Avenue, north of W. Tefft Street. Widening the deficient segment of Mary Avenue to a 2 lane collector section with left turn lanes will provide acceptable LOS. The evaluation of intersections operations indicates that average vehicle delays will remain within acceptable limits at the study intersections (with the Willow Road interchange completed), except at the W. Tefft Street/US 101 SB ramps-Frontage Road intersection. Delays at this intersection are projected to be in the LOS D range with the additional trips attributable to the background projects.

The evaluation of potential project impacts was conducted using "level of significance" criteria defined by San Luis Obispo County and the California Environmental Quality Act (CEQA). The roadway segment analysis indicates that background plus project daily traffic volumes on the majority of study street segments will be within acceptable limits (LOS C or better), without or with the US 101/Willow Road interchange. However, as discussed under the background conditions the segment of Mary Avenue north of W. Tefft Street is projected to experience daily traffic demands within the LOS E or F range. County staff has indicated that the Landev LLC project has been conditioned to widen this segment of Mary Avenue (2 lane collector with left turn lanes), which will provide acceptable LOS. Therefore, it is concluded that the proposed project will not have a potentially significant impact on background daily traffic operations. An evaluation of background plus project intersection operations indicates that with the US 101/ Willow Road interchange average vehicle delays will be within acceptable limits at the study intersections, except at the US 101 southbound ramps intersection. Therefore, the project will have a potentially significant impact on traffic operations during the PM peak hour at the US 101/West Tefft Street southbound ramps intersection.

An evaluation of project access reviewed existing roadway conditions and stopping sight distance along S. Oakglen Avenue. The evaluation concluded that there is sufficient stopping sight distance for southbound vehicles at the existing driveway and proposed driveways. Peak traffic demands

traveling to the project driveways will be below the criteria warranting a southbound left turn lane on S. Oakglen Road. The evaluation of project access demonstrates that the project traffic will not significantly impact safety along S. Oakglen Road. The paved parking lot adjacent to the visitor's center will accommodate 48 vehicles. A sidewalk/pedestrian path is provided on the east side of the parking lot, which will minimize the potential conflict between vehicular and pedestrian traffic. A bus parking area is also provided on-site for unloading and loading activities. All bus unloading and loading activities shall be monitored by an adult(s) to minimize the potential conflict between students and entering vehicles. A separate pedestrian path should be provided between the overflow parking areas and paved parking lot to help reduce the potential for pedestrians to wander through the parking areas. A review of on-site circulation indicates that it may be difficult for a bus/large truck to enter the overflow parking area(s). The scheduling of school/student field trips should be planned to avoid having more than 1 bus on-site at a time.

An evaluation of "cumulative" traffic conditions was conducted using a list of future pending projects provided by County staff. The cumulative projects could generate an additional 1,732 daily trips (two-way trip ends); with 136 trips during the AM peak hour and 183 trips during the PM peak hour. The analysis cumulative conditions assumed the completion of the US 101/Willow Road interchange. The roadway segment analysis indicates that cumulative project daily traffic volumes on the majority of study street segments will be within acceptable limits (LOS C or better), without or with the project. However, as discussed under the background conditions the segment of Mary Avenue north of W. Tefft Street is projected to experience daily traffic demands within the LOS E or F range. County staff has indicated that the Landev LLC project has been conditioned to widen this segment of Mary Avenue, which will provide acceptable LOS. Therefore, it is concluded that the project will not have a potentially significant impact on cumulative daily traffic operations. An evaluation of cumulative plus project intersection operations indicates that average vehicle delays will be within acceptable limits at the study intersections, except at the US 101 southbound ramps intersection. Therefore, the project will have a potentially significant impact on operations during the PM peak hour at the US 101/West Tefft Street southbound ramps intersection.

The County Public Works Department is currently evaluating various operational improvement alternatives for the southbound on ramp intersection. It is estimated that operational improvements could result in LOS C-D operations during the PM peak hour at the US 101/West Tefft Street southbound ramps intersection. However, these improvement alternatives are not designed or funded at this time. Therefore, these improvements can't be used as project mitigation measures to possibly reduce the potentially significant project impact to a level of "less than significant."

A review of the project trip generation estimates indicates that the majority of trips during the PM peak hour are associated with the visitor's center guests and employees/volunteers. To reduce the potentially significant impact to a level of "less than significant" would require eliminating the majority of trips during the PM peak hour under the background and cumulative scenarios. The implementation of a "Transportation Demand Management" (TDM) Program could potentially reduce and/or eliminate the PM peak hour trips. TDM measures should include, but not be limited to, opening the visitor's center at 9:30 AM in lieu of opening at 9:00 AM closing the center at 3:30-4:00 PM in lieu of closing at 5:00 PM. In addition, the TDM Program measures could require the employees /volunteers to leave before 4:00-4:30 PM or after 6:00-6:30 PM, and the scheduling of annual or special events to not occur at the same time and on the same day.

It should also be noted that to reduce the potentially significant project impacts to a level of "less than significant" development of the master plan could be limited until the County has completed a

design, secured funding and established a formal schedule for future operational improvements at the W. Tefft Street/US 101 southbound ramps intersection. Once this project becomes part of the long range infrastructure improvement plans in the South County Traffic Model they can be assumed to mitigate the potentially significant project impact at this intersection. It should also be mentioned that the County's "roadway improvement fee" (RIF) defined in the South County Traffic Model Final Report provides a funding mechanism for long range improvements in this portion of the County. Therefore, payment of the County's RIF or elimination of additional PM peak hour trips could serves as the project mitigation.

Information received from County staff indicated that the following "conditions of approval" would be required to help mitigate the identified potentially significant impacts.

1. Pay the appropriate County Roadway Improvement Fee (RIF).
2. Improve the project frontage along S. Oakglen Avenue to Rural County Standards, with a shoulder.
3. Improve the existing driveway and construct new driveways to County Standards.
4. Restrict on-street parking on west side of S. Oakglen Avenue due to existing eucalyptus trees near shoulder.
5. Prepare a "Transportation Demand Management" (TDM) Program which restricts hours of operations and having multiple events at the same time.

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APPENDIX MATERIAL

- New 24-Hour Traffic Counts on W. Tefft Street and S. Oakglen Avenue (November 2011)
- New PM Peak Period Turning Movement Traffic Count Data (November 2011)
- Level of Service (LOS) Descriptions
- South County ADT Level of Service Threshold Criteria for Roadway Segments
- Level of Service (LOS) Value - Vehicle Delay Relationship Data
- Level of Service (LOS) Worksheets
- CHP Traffic Accident Records (Jan. 2005 thru Dec. 2010)
- Dana Adobe Existing and Proposed Operational Data

I. INTRODUCTION

The following report presents an evaluation of the potential traffic impacts associated with the "Dana Adobe Master Plan" project in the Nipomo community of unincorporated San Luis Obispo County. Dana Adobe is a State Historical Landmark (No. 1033). The proposed Master Plan project encompasses approximately 130 acres between S. Oakglen Avenue and S. Thompson Avenue, south of W. Tefft Street (671 S. Oakglen Avenue). The project site is located east and west of the Nipomo Creek, with the existing adobe located west of the creek on approximately 30 acres. The Dana Adobe has developed a Preliminary Master Plan, which includes minimal new development in close proximity to the existing adobe. The project will showcase the cultural and natural resources of the Nipomo Creek watershed and Nipomo Mesa through a variety of education programs. The project will also provide public education of the site's geological, paleontological, prehistoric, historical and botanical resources through various programs. Access will be provided via two (2) new driveways on S. Oakglen Avenue (near visitor's center) and the existing driveway. Primary access will be provided via the 2 new driveways, and the existing driveway will used for access to the adobe and overflow parking. Parking on-site will be provided for approximately 200 vehicles. The general location of the project site is illustrated on Figure 1.

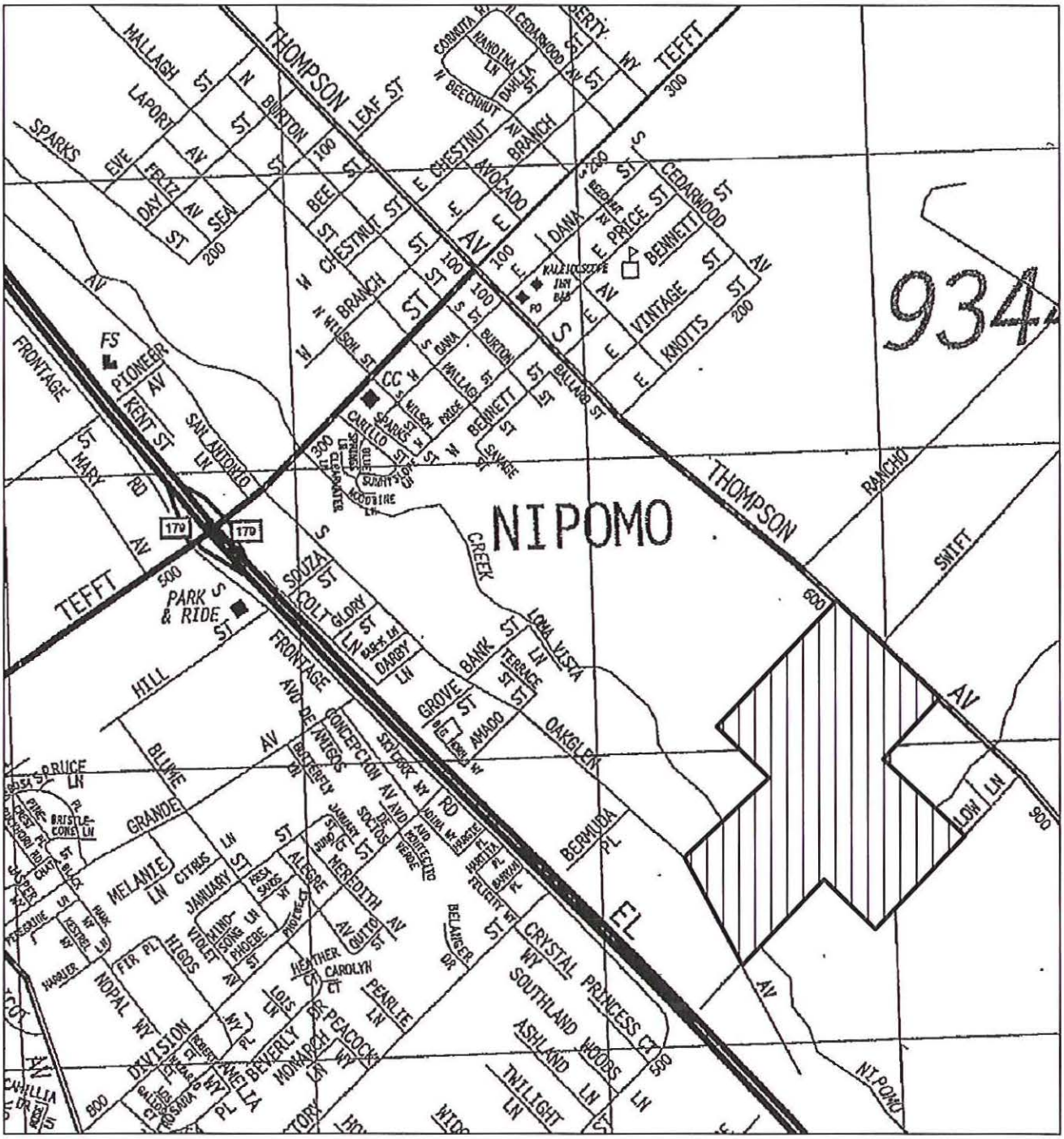
The traffic analysis scope was developed in consultation with staff at San Luis Obispo County Public Works. The evaluation of potential impacts includes an analysis of traffic operations along W. Tefft Street between Mary Avenue and Thompson Avenue. The evaluation of potential project impacts focuses on the analysis of traffic operations during an average weekday afternoon (PM) commuter peak hour at the following study intersection:

1. W. Tefft Street and Mary Avenue
2. W. Tefft Street and US 101 Southbound Ramps-Frontage Road
3. W. Tefft Street and US 101 Northbound Ramps
4. W. Tefft Street and Oakglen Avenue
5. W. Tefft Street and Thompson Avenue

New roadway segment and intersection turning movement traffic count data was collected for the analysis. Information contained in the following public documents was reviewed during the course of conducting the analysis:

- South County Traffic Model Update - 2006 Annual Report (Final Report)
- South County Circulation Study - 2009 Annual Update
- San Luis Obispo County General Plan Transportation Plan
- US101/Willow Road Interchange Project - Final Traffic Operations Report
- Willow Road Extension Final Supplemental EIR
- Community Health Center Traffic Impact Analysis (May 2011)

The traffic impact analysis was conducted according to the guidelines published by the County (Traffic Impact Study Polices, March 2007) and Caltrans (Guide for the Preparation of Traffic Impact Studies, December 2002).



LEGEND

▨ = General Project Area

NORTH

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FIGURE 1
PROJECT
LOCATION MAP

II. EXISTING CONDITIONS

The local street system serving the project site includes US 101, W. Tefft Street, Oakglen Avenue, Mary Avenue and Thompson Avenue. The following is a brief description of the street system and an evaluation of existing traffic operations.

Network Description

US 101 is a four lane north-south divided freeway through the Nipomo area of unincorporated San Luis Obispo County. US 101 provides regional access between northern and southern California. In the vicinity of Nipomo, there are "grade separated" interchanges at State Route (SR) 166 (Cuyama Highway), W. Tefft Street and Los Berros Road-North Thompson Avenue. The new Willow Road "grade separated" interchange is currently under construction and will connect to the Willow Road extension (planned for completion in late 2012/early 2013). The north and southbound ramps at the US 101/W. Tefft Street interchange are signalized.

W. Tefft Street is an east-west arterial that extends west from Thompson Avenue to Las Flores Drive. W. Tefft Street in the vicinity of the project site is posted with a 35 miles per hour (mph) speed limit. West of Mary Avenue this arterial has 2 lanes in each direction and a two-way left turn lane. Between Mary Avenue and US 101, W. Tefft Street has a raised median and provides access for various commercial uses. East of Oakglen Avenue, W. Tefft Street transitions to a single lane in each direction with a two-way left turn lane. The bridge over the Nipomo Creek is confined to 1 lane in each direction with no center turn lane (approximately 500' east of Oakglen Avenue). East of the Nipomo Creek, W. Tefft Street has on-street parking on selected sections and provides access to local commercial and residential uses. W. Tefft Street is signalized at Mary Avenue, US 101 north and southbound ramps, Oakglen Avenue and Thompson Avenue.

Oakglen Avenue is a two-lane north-south local street through the community of Nipomo. Oakglen Avenue runs parallel to US 101 and ends approximately 1.5 miles south of and 1 mile north of W. Tefft Street. South of W. Tefft Street, this collected street is posted with a 40 mph speed limit. Between W. Tefft Street and Amado Street the width various from 21'-23'. South of Amado Street, the road narrows to a width of approximately 19'. There is a more detailed description of existing conditions along this roadway presented in the Project Access discussion.

Mary Avenue is a two-lane north-south collector street between Juniper Street and Hill Road. Between W. Tefft Street and Hill Road this collector has left turn lanes. North and South of W. Tefft Street, Mary Avenue provides access to various local commercial and residential uses.

Thompson Avenue is a two-lane arterial through the community of "Olde Towne" Nipomo. This arterial provides access to US 101 at Los Berros Road/N. Thompson Avenue and SR 166. Thompson Avenue provides access to local residential and agricultural uses, and the Nipomo Elementary and High Schools.

Local Bicycle and Transit Facilities

W. Tefft Street has Class II bike lanes between Las Flores Drive and Carillo Street. East of Carillo Street to Thompson Avenue W. Tefft Street has Class III bike routes. With an estimated population increase in the next 25 years, bicycling in San Luis Obispo County will continue to

grow. The provision of Class II bike lanes on N. Thompson Avenue is on the County's priorities list. South County Area Transit (Regional Transit Authority, RTA) currently provides limited service to the Nipomo community (Route 10). Local transit stops are provided at N. Thompson Avenue near US 101, Nipomo High School, Branch Street and on West Tefft Street near Carillo Street. The RTA also provides a "dial a ride" service for Nipomo.

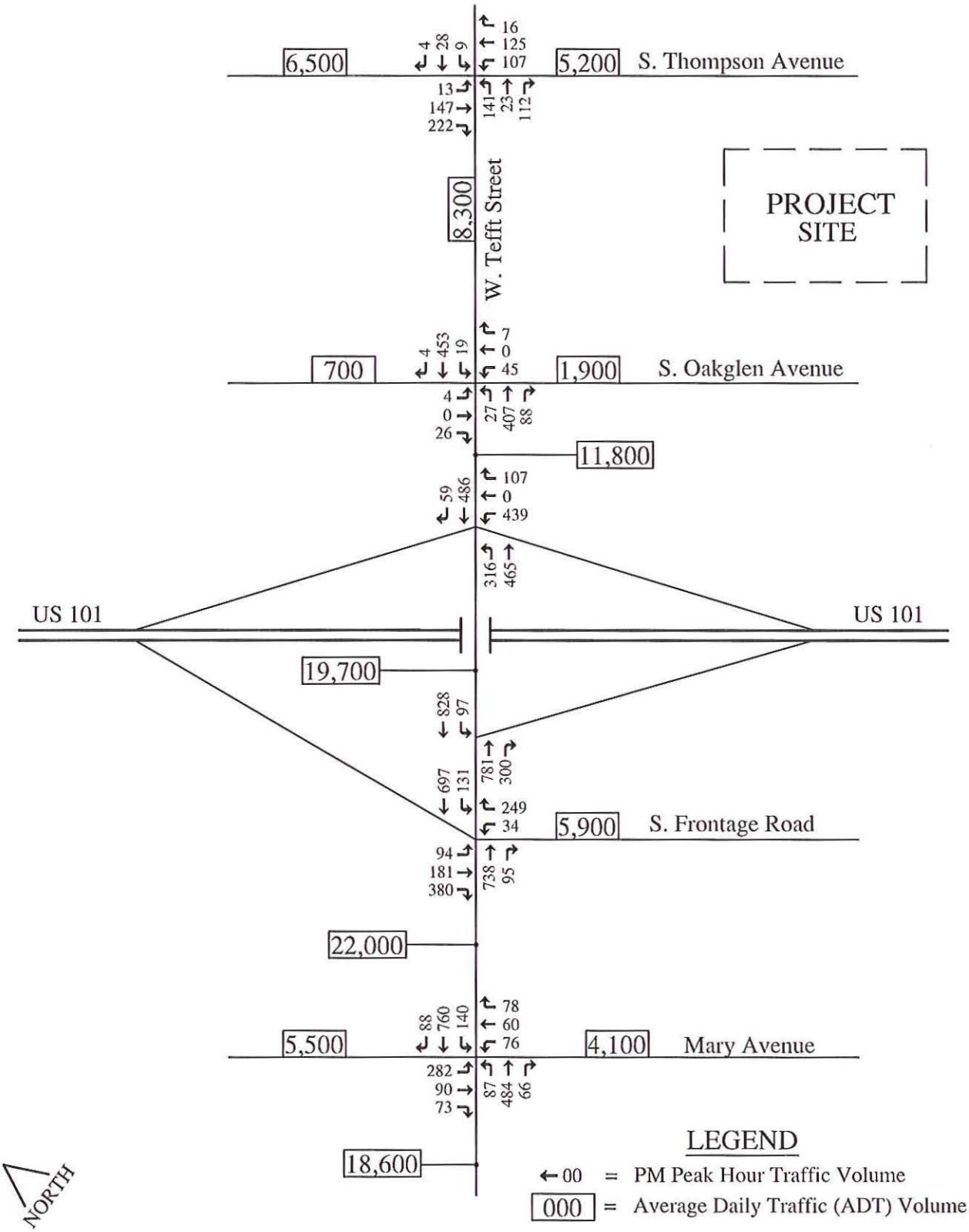
Traffic Volumes

To document existing conditions new 24-hour traffic count data was collected for a 2-day period on W. Tefft Street east and west of US 101, and on Oakglen Avenue south of W. Tefft Street. New turning movement traffic count data was also collected at the study intersections during a weekday afternoon commuter period (4:00-6:00 PM). Existing traffic volume data contained in the South County Traffic Model Final Report and published on the County's website was also referenced. The existing traffic volumes are illustrated on Figure 2. Copies of the new traffic count data are included with the Appendix Material. A review of the new turning movement data indicates that the total intersection volumes during the PM peak hour are slightly higher at the southbound ramps intersection and lower at the northbound ramps intersection as compared to the existing volumes documented in the South County Traffic Model Final Report.

Level of Service Threshold Criteria and Analysis

Various "level of service" (LOS) analyses methodologies are used to evaluate traffic operations. Operating conditions range from LOS "A" (free-flowing conditions) to LOS "F" (forced-flow conditions). LOS values for street segments can be estimated by comparing average daily traffic (ADT) volume data with the twenty-four (24) hour ADT threshold criteria developed from data in the Highway Capacity Manual (HCM2000), Transportation Research Board (TRB). ADT threshold criterion is also published in the South County Traffic Model Final Report. During peak commuter travel periods operations can be constrained at local intersections. Therefore, an analysis of peak period intersection operations can be a good method for measuring the potential impacts associated with a specific project. LOS values for intersection operations are based on estimated vehicle delays (seconds per vehicle). Vehicle delays are reported for the overall intersection operations as an "average" delay and for each "critical" movement (ie: stop sign controlled approaches on minor street, main line left turn, etc).

San Luis Obispo County has established the LOS C threshold as the lower limit for acceptable operations on rural facilities and LOS D threshold as the lower limit for acceptable operations on urban facilities. The Caltrans traffic impact study guidelines state that, "Caltrans endeavors to maintain a target level of service at the transition between LOS C and D on State highway facilities." The LOS C threshold is used in the South County Traffic Model Final Report as the lower limit for acceptable operations on the local street system. A brief description of the LOS values, the 24 Hour (2 day period) ADT Volume Threshold Criteria and the LOS-to-vehicle delay relationship data are included with the Appendix Material. The analysis of existing roadway segments is presented in Table 1.



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Dana Adobe Master Plan
- Traffic Impact Report -

FIGURE 2
EXISTING
TRAFFIC VOLUMES

Table 1 - Existing Roadway Segment LOS Analysis

Roadway Segment	No. of Lanes	LOS E Capacity	- ADT - Nov. '11	LOS
W. Tefft Street, w/o Mary Avenue	4 (a)	36,000	18,600	A
W. Tefft Street, Mary Ave. - US 101 SB Ramp	4 (a)	36,000	22,000	A
W. Tefft Street, US 101 SB Ramp - US 101 NB Ramp	4 (a)	36,000	19,700	A
W. Tefft Street, US 101 NB Ramp - S. Oakglen Ave.	4 (a)	36,000	11,800	A
W. Tefft Street, S. Oakglen Ave. to Thompson Ave.	2 (b)	18,000	8,300	A
Mary Ave., n/o W. Tefft Street	2 (c)	8,500	5,500	C
Mary Ave., s/o W. Tefft Street	2 (d)	12,000	4,100	A
N. Oakglen Ave., n/o W. Tefft Street	2 (f)	8,500	700	A
S. Oakglen Ave., s/o W. Tefft Street	2 (f)	8,500	1,900	A
N. Thompson Ave., n/o W. Tefft Street	2 (e)	15,000	6,500	A
S. Thompson Ave., s/o W. Tefft Street	2 (b)	18,000	5,200	A

(a) 4 lane arterial with left turn lanes
(b) 2 lane arterial with left turn lanes
(c) 2 lane collector with no left turn lanes
(d) 2 lane collector with left turn lanes
(e) 2 lane arterial with no left turn lanes
(f) 2 lane local with no left turn lanes

The roadway segment analysis indicates that existing daily traffic volumes are within acceptable limits as defined by San Luis Obispo County (LOS C or better). It should be noted that data contained in the South County Traffic Model Final Report demonstrates that existing PM peak hour traffic volumes along the street segments on W. Tefft Street are within the LOS B-C range (Las Flores Drive to Thompson Avenue). Data published on the Caltrans website indicates that daily traffic volumes on US 101 adjacent to the W. Tefft Street interchange are within the LOS B-C range.

The Synchro traffic signal simulation software was used to analyze the existing PM peak hour traffic operations at the study intersections. Observations of existing conditions were conducted to document signal phasing and timing parameters. Synchro software files for the PM peak hour were also provided by County Public Works staff. To accurately model existing operations the appropriate peak hour factor (PHF) adjustments were applied. Discounts for "right turns on red" were also applied to the approaches with exclusive right turn lanes, as follows:

- W. Tefft Street / Mary Avenue (NB, SB and EB)
- W. Tefft Street / US 101 Southbound Ramps-Frontage Road (EB and SB)
- W. Tefft Street / Oakglen Avenue (EB)
- W. Tefft Street / Thompson Avenue (EB and WB)

The results of the existing PM peak hour LOS analysis are presented in Table 2, with a copy of the LOS worksheet included with the Appendix Material.

Table 2 - Existing PM Peak Hour LOS Analysis

Study Intersection	Delay - LOS
W. Tefft Street / Mary Avenue	29.3 - C
W. Tefft Street / US 101 SB Ramps	33.9 - C
W. Tefft Street / US 101 NB Ramps	29.4 - C
W. Tefft Street / Oakglen Avenue	10.6 - B
W. Tefft Street / Thompson Avenue	15.6 - B

The data in Table 2 indicates that average delays at the study intersections are within acceptable limits during a typical weekday PM peak hour (LOS C or better). It should be mentioned that congestion and vehicle delays are approaching the LOS D range (> 35.0 seconds per vehicle) at the US 101 southbound ramps. Observations of actual peak hour operations confirmed the LOS analysis of existing traffic conditions. It was noticed that during several signal cycles westbound vehicles would queue between the southbound ramps and Mary Avenue intersection. The existing 2 stage left turn signal phase (westbound) and configuration of the southbound ramps intersection do not promote the most efficient movement of traffic during peak demands periods. However, observations during the afternoon peak period did confirm that overall operations during the PM peak hour where within acceptable limits (majority of vehicle queues cleared every signal cycle). Data in the South County Traffic Model Final Report indicates that vehicle delays at the US 101/W. Tefft Street southbound ramps intersection are within the LOS D range during the AM peak hour and LOS E range during the PM peak hour.

Traffic Accident Data

Traffic accident records for S. Oakglen Avenue were obtained from the California Highway Patrol (CHP) for a 5-year period (Jan. 2005 thru Dec. 2010). A summary of the traffic accident data is presented in Table 3. The records indicate that there were 4 reported accidents, including 1 accident at the W. Tefft Street/Oakglen Road intersection and 3 on S. Oakglen Avenue south of W. Tefft Street. Copies of the traffic accident records are included with the Appendix Material.

Table 3 - Summary of Traffic Accident Data (Jan. 1, 2005 - Dec. 31, 2010)

Date	Location (a)	Time-DOW	Primary Factor	Type
3/04/07	S. Oakglen Ave. 1500' s/o W. Tefft St.	6:55 PM-Sun.	Imp. Turn	Rear End (b)
4/18/07	S. Oakglen Ave., 528' s/o W. Tefft St.	10:25 PM-Wed.	DUI	Rear End (b)
12/11/08	W. Tefft St. at S. Oakglen Ave.(I)	9:38 AM-Thu.	FROW (c)	Head-On (b)
5/07/10	S. Oakglen Ave., 300' s/o W. Tefft St.	9:10 PM-Fri.	Imp. Turn	Hit Object (b)

(a) "I" indicates accident at intersection. (b) Property damage only (PDO).
(c) Failure to yield right of way (FROW).

The data in Table 3 does not demonstrate that there is a significant accident problem along S. Oakglen Avenue (less than 1 accident per year). One of the accidents was DUI related and one involved a single car (PDO), which are not necessarily related to existing roadway conditions.

III. BACKGROUND CONDITIONS

An evaluation of "background" conditions is an analysis of traffic operations resulting from the development of future approved projects in this portion of the County. These projects have already received entitlements from the County's Planning Commission or Board of Supervisors, and therefore, could be built and occupied prior to the construction of the proposed project. County staff provided a list of current background projects. Information on the County's website was also researched. The general locations of the background projects are illustrated on Figure 3.

Trip Generation Estimates

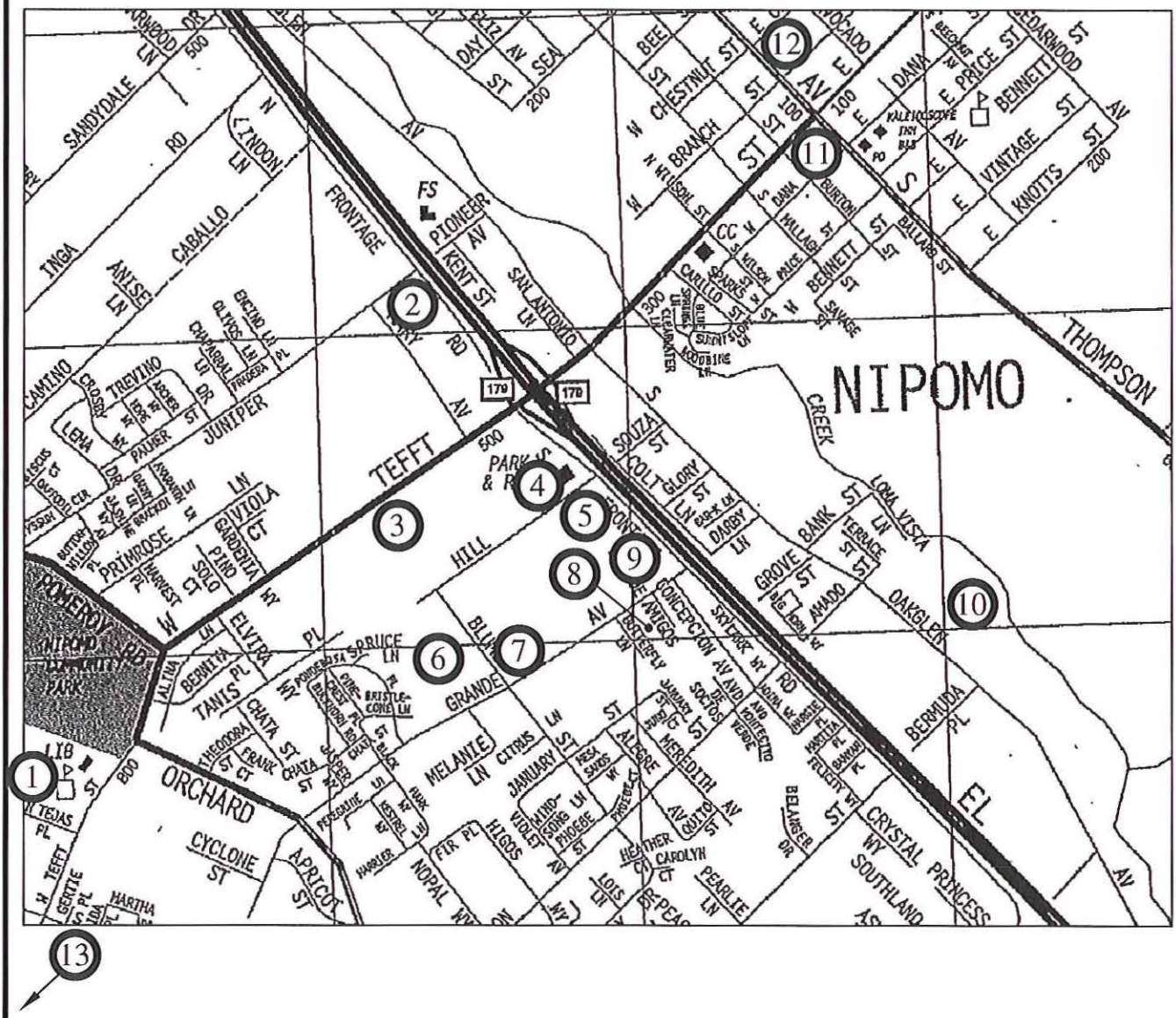
The trip generation estimates associated with the background projects were derived using data contained in the Institute of Transportation Engineers (ITE) Trip Generation manual (8th Edition). The various land use category descriptions were reviewed to determine the most appropriate trips rates for each background project. Data from other project traffic reports is also referenced when applicable. The applicable ITE trip generation rates for the background projects are displayed in Table 4. Trip rate data for the cumulative projects is also presented in Table 4. The analysis of cumulative (approved and pending projects) traffic conditions is presented in a separate section.

Table 4 - ITE Trip Generation Rates

ITE Code - Land Use	Number of Vehicle Trips				
	AM Peak Hour		PM Peak Hour		Daily
	In	Out	In	Out	
#210 - Single Family Detached (a)	0.19	0.56	0.64	0.37	9.57
#220 - Apartment (a)	0.10	0.41	0.40	0.22	6.65
#230 - Condos (a)	0.07	0.37	0.35	0.17	5.81
#254 - Assisted Living (b)	0.09	0.05	0.10	0.12	2.66
#320 - Motel (c)	0.23	0.41	0.31	0.27	9.11
#412 - County Park (d)	0.01	0.00	0.02	0.04	2.28
#710 - General Office (e)	1.36	0.19	0.25	1.24	11.01
#814 - Specialty Retail Center (e)	N/A	N/A	1.19	1.52	44.32
#820 - Shopping Center (e)	0.61	0.39	1.83	1.90	42.94
#931 - Quality Restaurant (e)	0.42	0.39	5.02	2.47	89.95

(a) Number of vehicle trips per residential dwelling unit.
(b) Number of vehicle trips per bed.
(c) Number of vehicle trips per room.
(d) Number of vehicle trips per acres.
(e) Number of vehicle trips per 1,000 square feet.

The background projects trip generation estimates were derived using the ITE trip rate data presented in Table 4. The background projects trip generation estimates are displayed in Table 5.



LEGEND

(0) = Background Project No.
(See Table 5)

NORTH

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FIGURE 3
BACKGROUND
PROJECTS
LOCATION MAP

Table 5 - Background Projects Trip Generation Estimates

Project No.	Land Use Description	Number of Vehicle Trips				
		AM Pk. Hr.		PM Pk. Hr.		Daily
		In	Out	In	Out	
1	Community Health Center (a)	99	17	32	99	828
2	Landev LLC:					
	Assisted Living - 112 Beds	10	6	11	13	298
	Rest. & Conf. Ct. - 8,000 SF (b)	3	3	40	20	720
	Retail - 65,000 SF (c)	40	25	119	124	2,792
	Office - 65,000 SF (c)	88	12	16	81	716
3	691 W. Tefft LLC - 20 Condos	1	7	7	3	116
4	Shapiro:					
	Office -12,000 SF	16	2	3	15	132
	Retail - 44,000 SF	0	0	52	67	1,950
	Quality Restaurant - 4,500 SF	2	2	23	11	404
	Apartment - 51 DU	5	21	20	11	340
5	Marinai - Motel - 71 Beds	16	29	22	19	646
6	Luis CUP - 52 Condos (d)	2	10	9	4	152
7	Gary Trust - 38 SFDU	7	21	24	14	364
8	Allshouse - Condos - 15 DU	1	6	5	3	88
9	Nipomo Center:					
	59 Parcels - 158 DU (e)	16	65	63	35	1,050
	Retail - 75, 868 SF	46	30	139	144	3,258
10	Hollway - 18 SFDU	3	10	12	7	172
11	Vista Roble, LLC -					
	Residential - 3 SFDU	1	2	2	1	28
	Retail - 15,000 SF	0	0	18	23	664
12	Chestnut Villas (f) -					
	Retail - 12,000 SF	0	0	14	18	532
	Apartments - 12 DU	1	5	5	3	80
13	Jack Ready Park- 33 Acres	0	0	1	1	76
	Totals:	357	273	637	716	15,406
	External Demands (g):	339	261	555	634	13,344

(a) Trip generation from Traffic Report prepared by ATE (May 11, 2011).
(b) Total 16,000 SF; Assumed 50% quality restaurant and 50% conference center. Conference center will generate negligible traffic during "average" weekday conditions.
(c) Assumed 50% for specialty retail and 50% office/professional building.
(d) Built and assume 50% occupied.
(e) Mixture of duplexes, triplexes and fourplexes.
(f) Assumed 12,000 SF specialty retail and 12 apartments.
(g) Based on a 20% reduction for pass-by, diverted link and captured trips.

The data in Table 5 demonstrates that the background projects will generate an additional 15,406 daily trips (two-way trip ends); with 630 trips during the AM peak hour (357 inbound and 273 outbound) and 1,353 trips during the PM peak hour (637 inbound and 716 outbound). External

demands associated with the background projects will be approximately 87% of the total daily (13,344 ADT) and PM peak hour (1,189) trips.

Trip Assignment and Background Traffic Volumes

The trips associated with each background project were assigned to the local street system based on a review of local peak hour traffic patterns and knowledge of local demographics. As previously discussed, the US 101/Willow Road interchange is currently under construction and planned for completion in late 2012/early 2013. Therefore, the background project trips were also assigned to the local street assuming the completion of the Willow Road interchange. The existing traffic volumes illustrated on Figure 2 were also adjusted to account for the new Willow Road interchanged based on data presented in the Willow Road Extension EIR. The trips associated with the background projects were then combined with the existing traffic volumes. The background traffic volumes are illustrated on Figure 4A (without Willow Road Interchange) and Figure 4B (with the Willow Road interchange).

Levels of Service Analysis

Similar to the analysis conducted for the existing conditions, the roadway segment and intersection peak hour LOS values were calculated for the background traffic conditions. The results of the background roadway segment analysis are presented in Table 6.

Table 6 - Background Roadway Segment LOS Analysis

Roadway Segment	No. of Lanes	LOS E Capacity	ADT - LOS	
			Without Willow Rd. Interchange	With Willow Rd. Interchange
W. Tefft St., w/o Mary Ave.	4 (a)	36,000	21,500 - A	18,300 - A
W. Tefft St., Mary Ave. - US 101 SB Ramp	4 (a)	36,000	25,600 - C	19,700 - A
W. Tefft St., US 101 SB Ramp to NB Ramp	4 (a)	36,000	23,900 - B	18,500 - A
W. Tefft St., US 101 NB Ramp - S. Oakglen Ave.	4 (a)	36,000	14,200 - A	12,400 - A
W. Tefft St., S. Oakglen Ave. to Thompson Ave.	2 (b)	18,000	10,300 - A	9,200 - A
Mary Ave., n/o W. Tefft St.	2 (c)	8,500	8,900 - F	7,600 - E
Mary Ave., s/o W. Tefft St.	2 (d)	12,000	7,100 - B	7,100 - B
N. Oakglen Ave., n/o W. Tefft St.	2 (f)	8,500	800 - A	800 - A
S. Oakglen Ave., s/o W. Tefft St.	2 (f)	8,500	2,400 - A	2,400 - A
N. Thompson Ave., n/o W. Tefft St.	2 (e)	15,000	7,100 - A	5,300 - A
S. Thompson Ave., s/o W. Tefft St.	2 (b)	18,000	5,700 - A	5,700 - A

(a) 4 lane arterial with left turn lanes
(b) 2 lane arterial with left turn lanes
(c) 2 lane collector with no left turn lanes
(d) 2 lane collector with left turn lanes
(e) 2 lane arterial with no left turn lanes
(f) 2 lane local with no left turn lanes

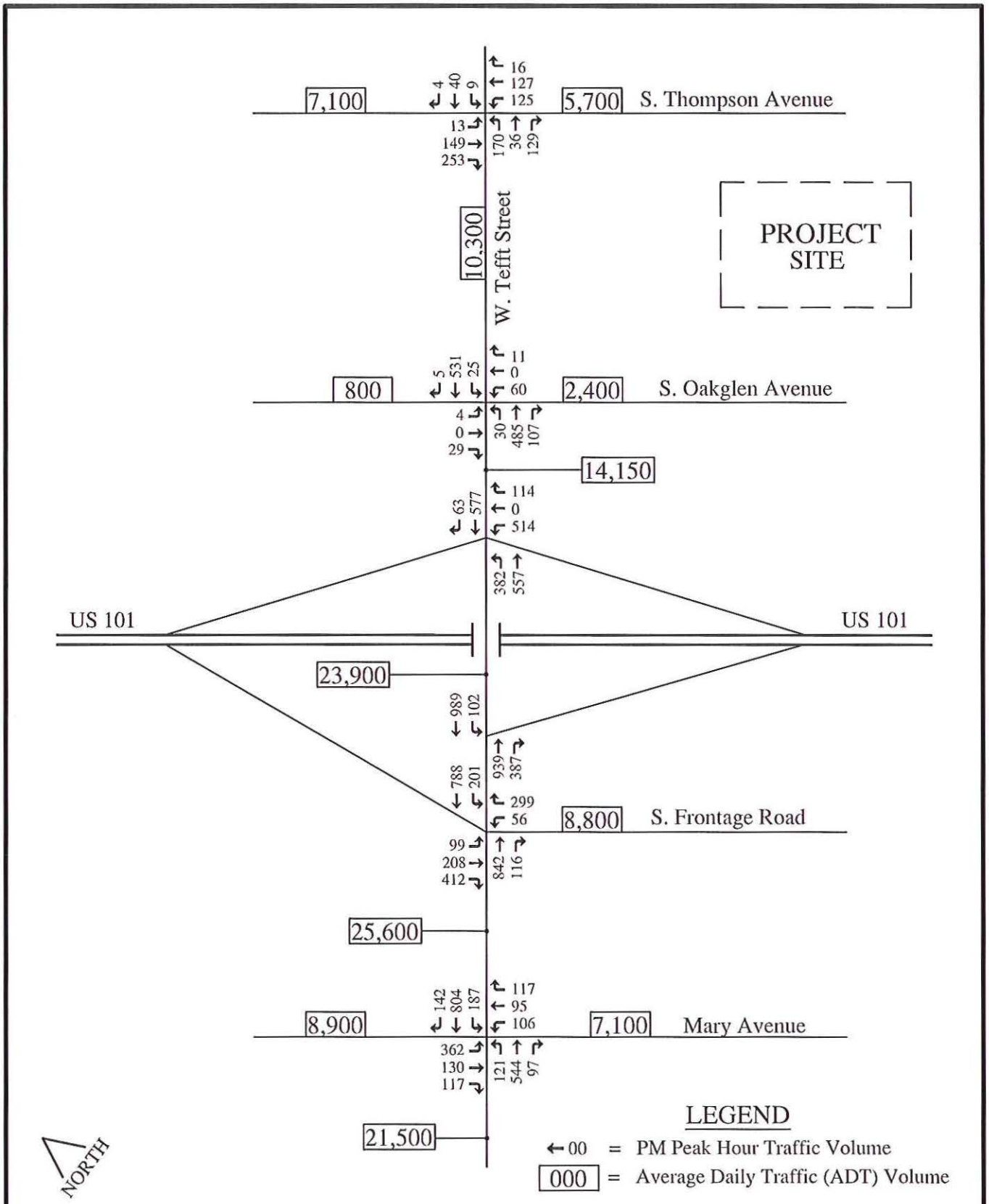

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FIGURE 4A
BACKGROUND
TRAFFIC VOLUMES
(W/O WILLOW RD. I/C)

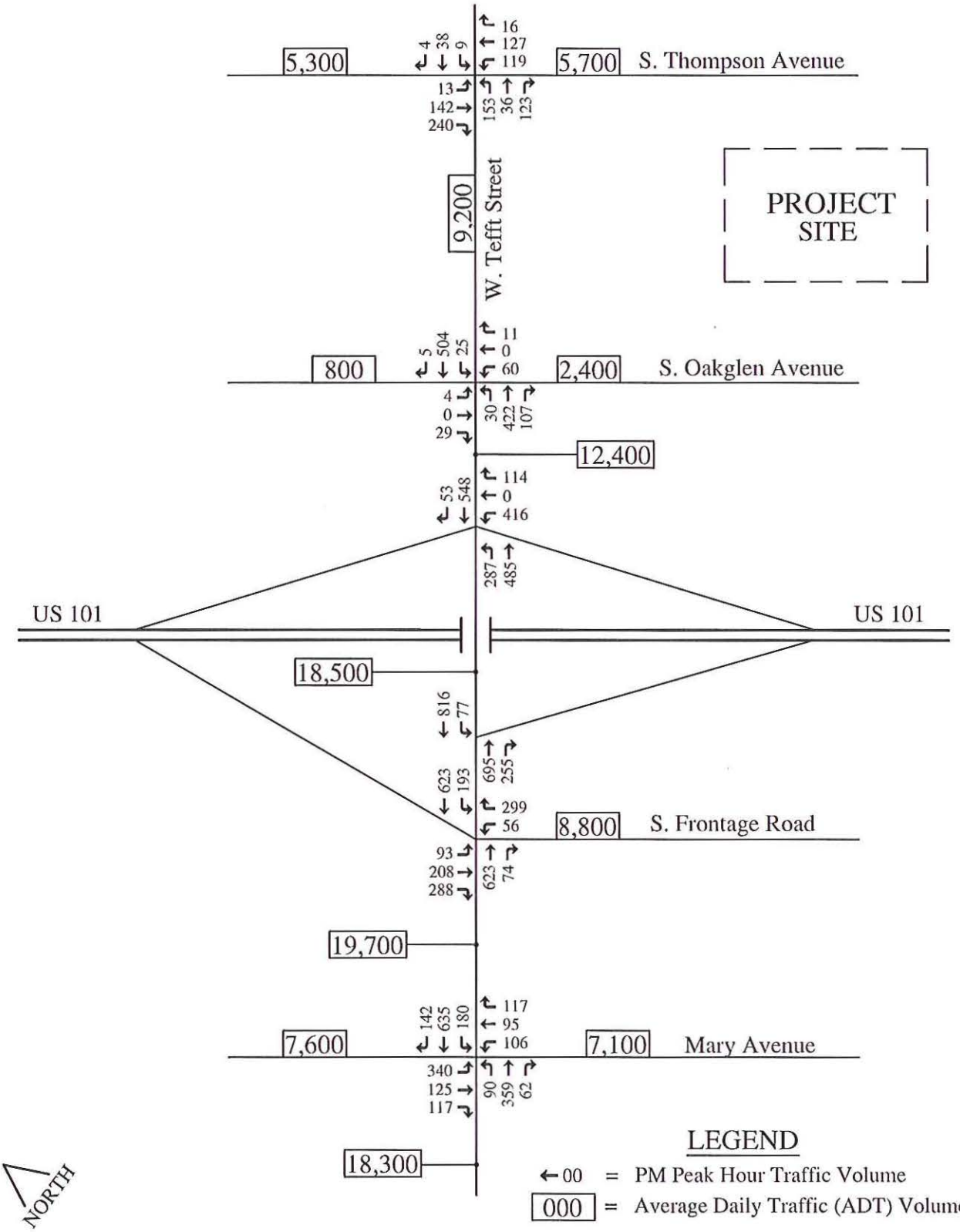

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FIGURE 4B
BACKGROUND
TRAFFIC VOLUMES
(W/ WILLOW RD. I/C)

The roadway segment analysis indicates that background daily traffic volumes on the majority of study street segments will be within acceptable limits (LOS C or better), without or with the new US 101/Willow Road interchange. However, the segment of Mary Avenue north of W. Tefft Street is projected to experience daily traffic demands at unacceptable levels (LOS E or F). A review of the background projects material indicates that the majority of new traffic on this segment of Mary Avenue will be attributable to the development of the Landev LLC parcel (Background Project No. 2 - see Table 5). Information provided by the County indicates that the Landev LLC project has been conditioned to widen the deficient segment of Mary Avenue, north of W. Tefft Street. Widening the deficient segment of Mary Avenue to a 2 lane collector section with left turn lanes will provide acceptable LOS.

The Synchro traffic signal simulation software was again utilized to analyze the background PM peak hour traffic operations at the study intersections. The analysis of background PM peak hour traffic operations is presented in Table 7 (without and with the Willow Road interchange). Copies of the LOS worksheets are included with the Appendix Material.

Table 7 - Background PM Peak Hour LOS Analysis

Study Intersection	Vehicle Delay - LOS Value	
	Without Willow Rd. Interchange	With Willow Rd. Interchange
W. Tefft St. / Mary Ave.	35.6 - D	34.0 - C
W. Tefft St. / US 101 SB Ramps	40.6 - D	36.7 - D
W. Tefft St. / US 101 NB Ramps	30.7 - C	27.1 - C
W. Tefft St. / Oakglen Ave.	11.1 - B	12.0 - B
W. Tefft St. / Thompson Ave.	18.2 - B	16.7 - B

The data in Table 7 indicates that average delays will remain within acceptable limits at the study intersections (with the Willow Road interchange completed), except at the W. Tefft Street/US 101 SB ramps-Frontage Road intersection. Delays at this intersection are projected to be in the LOS D range with the additional traffic attributable to the background projects. As discussed under existing conditions, the existing 2 stage left turn signal phase and configuration of this intersection do not promote the most efficient movement of traffic during peak demand periods.

IV. PROJECT CONDITIONS

The following is a description of the proposed project, an estimate of the project trip generation quantities, an assignment of the project trips to the local street system and an evaluation of the potential impacts on background traffic conditions.

Description

As previously stated, Dana Adobe has developed a Preliminary Master Plan that will minimize the amount of new development in close proximity to the existing historical adobe. The Dana Adobe currently has an estimated 3,000 visitors a year (about 40% are student fieldtrips). The majority of events are held on weekends. The project includes the construction of a visitor's center (6,266 SF), a Chumash Village, an amphitheater, indoor & outdoor education exhibits, and trails linking the visitor center to the Chumash Village. The project buildout will occur over a roughly five (5) to greater than a twenty (20) year period as funding becomes available.

The visitor's center will be open from 9:00 AM to 5:00 PM Tuesday through Saturday, and 12:00 Noon to 5:00 PM on Sundays. The trails will be open from sunrise to sunset, 7 days a week. It is also anticipated that portions of the site will be used for private group rentals (i.e., weddings, special events, etc). Dana's Master Plan would potentially double the number of annual visitors to 6,000. The Master Plan also includes various infrastructure improvements (i.e., restrooms, paved parking lot, bus drop-off/pickup area, wastewater facility, walkways, solar lighting, etc). Primary access will be provided via 2 new driveways on S. Oakglen Avenue (near visitor's center). The existing driveway will used for access to the adobe and overflow parking. Frontage improvements along S. Oakglen Avenue will be constructed per the County Public Work's standards. Parking on-site will be provided for approximately 200 vehicles, which includes 48 parking stalls in the paved lot adjacent to the visitor's center and 152 overflow spaces. On-street parking along S. Oakglen Avenue will be prohibited. Ultimately portions of the trail system will also be accessible from S. Thompson Avenue. Limited parking will be provided for horse trailers and pedestrian / bicycle trail uses. Emergency fire access will be provided via a trail/road connection between S. Oakglen Avenue and S. Thompson Avenue. This access will be gated at Swallow Lane and near S. Oakglen Avenue to prohibit motor vehicle use except in an emergency. A copy of the Preliminary Master Plan is provided on Figure 5.

Trip Generation and Trip Assignment

The trip generation estimates for the project site were derived using data for the existing and proposed operations at Dana Adobe. Regular weekly activities include school bus tours, daily visitors and employee/volunteer activities. The annual and special events include a variety of meetings, celebrations, lectures and concerts. Most of the existing annual and special events only occur once a year. Therefore, none of the events occur on the same day. The project trip generation estimates associated with the existing site uses are presented in Table 8. Also displayed in Table 8 are the average number of participants, and activity time of year and day of the week. It should be noted that the average attendance numbers for the large events include guests and staff.

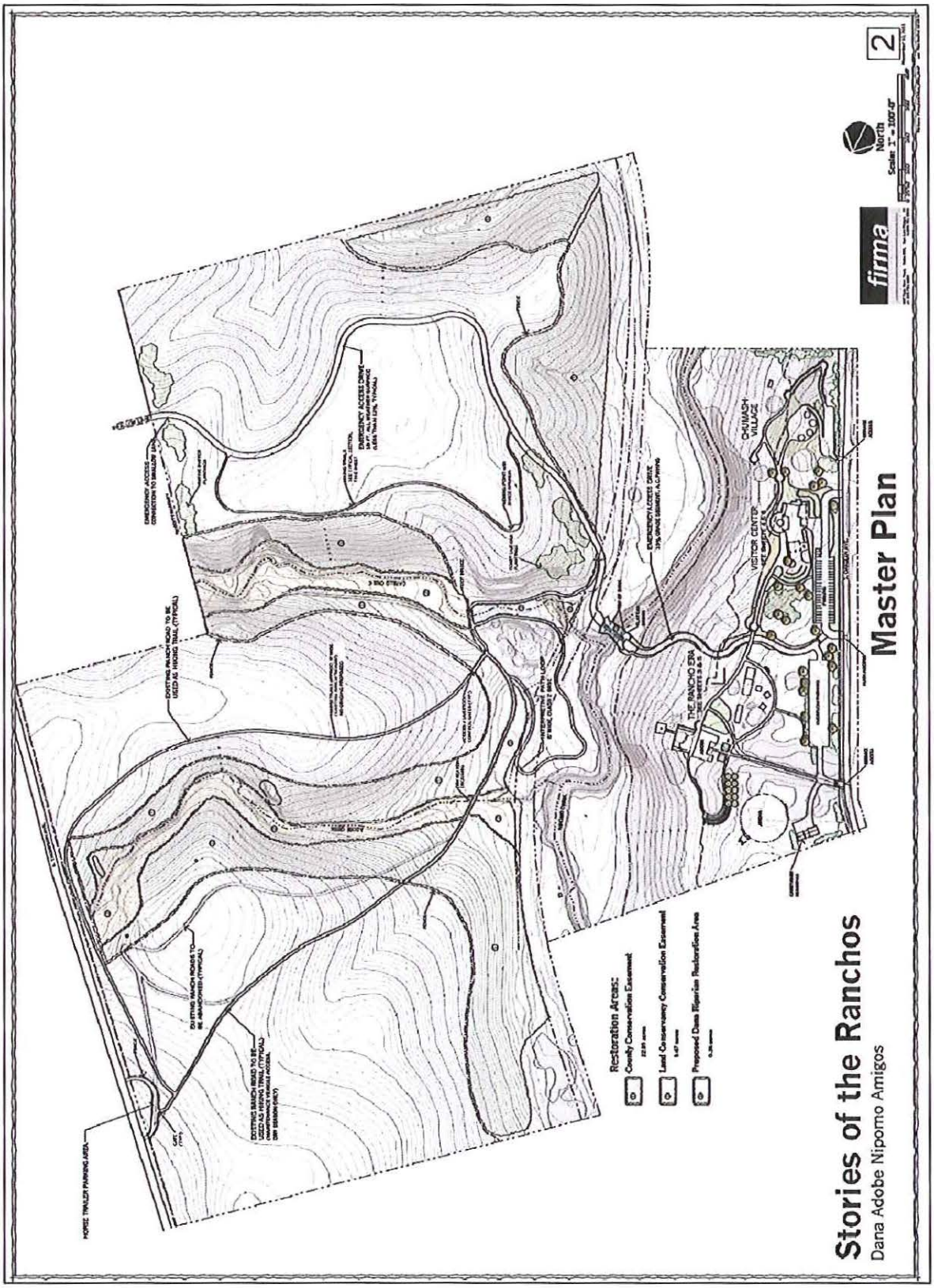

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FIGURE 5
PRELIMINARY MASTER PLAN

Table 8 - Existing Project Site Uses Trip Generation Estimates

Project Component	Number of Vehicle Trips				
	Average Weekday			Avg. Weekend Day	
	AM Pk.	PM Pk.	ADT	MD Pk.	ADT
Weekly Activities:					
School Bus Tours (20/yr), Friday Only	0	0	4	0	0
Daily Visitors - 5 Max. (a)	0	2-out	6	0	6
Employees / Volunteers (8)	1-in	1-out	16	0	2
Weekday Totals:	1-in	3-out	26	0	8
Annual & Special Events:					
Membership Meeting, Jan. - 50 (a & b)	0	0	0	33-out	66
Heritage Day, Spring/Fall - 300 (b & d)	0	0	0	0	240
Lect. Series, May/Sept. (5/yr) - 20 (a & b)	0	0	0	13-out	26
Art @ the Adobe, June - 200 (c & d)	0	0	0	0	160
Concert, July - 350 (b, c & d)	0	0	0	140-in	280
Concert, September - 350 (b, c & d)	0	0	0	140-in	280
Dia De Los Muertos, Oct. - 50 (b, c & d)	0	0	0	0	40
Open House, Dec. - 50 (b & d)	0	0	0	0	40
Weekend Day Totals (e):	0	0	0	140/0	280

(a) Vehicle occupancy estimated at 1.5 people per car.
(b) Events held on Saturday.
(c) Events held on Sunday.
(d) Vehicle occupancy estimated at 2.5 people per car.
(e) Maximum when a concert occurs on a Saturday or Sunday (inbound/outbound).

The data in Table 8 indicates that regular weekly activities at the project site currently generate about 26 daily trips (on a Friday), with few trips during the typical weekday commuter peak periods (7:00-9:00 AM and 4:00-6:00 PM). The data demonstrates that the highest number of weekend day trips occur between the Spring (May) to Fall (September) months (280 ADT). Multiple events currently do not occur at the same time and do not occur on the same day, as all of the annual and special events are scheduled during different months (membership meeting, Dia De Los Mertos, open house, etc). In addition, the scheduling of annual events are planned to not coincide with other larger special events at the project site (i.e., Heritage Day celebration & Art @ the Adobe event, Heritage Day celebration & a concert, or Art @ the Adobe event and a concert).

To determine the "net" change in trips associated with the proposed project, the project trip generation estimates for the proposed uses were also derived using operational data provided by Dana Adobe staff. A copy of the proposed uses and operational data are included with the Appendix Material. Dana staff will not schedule events, education groups, or tours on weekdays (excluding holidays) between 7:30 & 9:30 AM or 4:30 & 6:30 PM. Except for small gatherings, events will not be scheduled concurrently (at the same time). Although the operational data includes maximum attendance numbers for individual events, it is unlikely all events would be scheduled in any one year and/or that events would attract the maximum attendance numbers on a regular basis. Therefore, the analysis of potential project impacts was conducted using the "average" attendance numbers similar to the analysis of existing and background conditions

(operations during an average weekday). The project trip generation estimates for the proposed uses are presented in Table 9.

Table 9 - Proposed Project Site Uses Trip Generation Estimates

Project Component	Number of Vehicle Trips				
	Average Weekday			Avg. Weekend Day	
	AM Pk.	PM Pk.	ADT	MD Pk.	ADT
Weekly Activities:					
School Bus Tours (40/yr) - (a)	0	0	4	0	0
Daily Visitors - 20 Max. (e)	3-in	10-out	26	0	26
Employees / Volunteers (17)	6-in	1-out	34	0	2
Weekday Totals:	9-in	11-out	64	0	28
Annual & Special Events:					
Medium Size (12/yr) - 100 (a, b, c & d)	0	0	80	0	80
Large Size Event (6/yr) - 290 (b, c & d)	0	0	0	116-in	232
Com. Mtg. & Lect. (20/yr) - 50 (a, b, c & e)	0	0	66	33-out	66
Heritage Day, Spring/Fall - 300 (b, c &d)	0	0	0	0	240
Employees / Volunteers / Mics. 10-15	0	0	0	0	30
Weekend Day Totals (f):	0	0	66	116/33	298

(a) Events on weekdays.
(b) Events on Saturdays.
(c) Events on Sundays.
(d) Vehicle occupancy estimated at 2.5 people per car.
(e) Vehicle occupancy estimated at 1.5 people per car.
(f) Maximum when a lecture and concert occur on same day (inbound/outbound).

The data in Table 9 indicates that weekly activities at the project site are estimated to generate about 130 daily trips (130=64+66), with 9 trips during the AM peak hour (inbound) and 11 trips during the PM peak hour (outbound). As discussed for the existing uses at the project site, the highest number of weekend day trips would occur between the Spring (May) to Fall (September) months when more than one event may occur on the same day (worst case). On a Saturday with average attendance and when there may be an educational lecture and large event the project site is estimated to generate up to 298 ADT (298=66+232). Again, multiple events will not occur at the same time and typically not occur on the same day. It should be noted that the maximum daily attendance for a large event would be approximately 750 quests and staff (750=1,500/2); which could generate up to 600 ADT (600=2x(750/2.5)). This represents a worst case scenario and only occurs 1 day a year.

The "net" change in trips associated with the Dana Adobe Master Plan is presented in Table 10. The data in Table 10 demonstrates that the proposed project will generate approximately 104 (104=38+66) additional daily trips during an average weekday, with 38 (38=20+18) additional daily trips during an average weekend day. The project is also estimated to generate 8 additional trips during an average weekday AM and PM peak hour. During an average weekend day the project may result in a slight increase in the number of trips during the mid-day peak hour (i.e., between 2:00 to 3:00PM).

Table 10 - Net Change in Project Site Trips Associated with Proposed Uses

Project Component	Number of Vehicle Trips				
	Average Weekday			Avg. Weekend Day	
	AM Pk.	PM Pk.	ADT	MD Pk.	ADT
Weekly Activities:					
Existing Uses (see Table 8) -	1-in	3-out	26	0	8
Proposed Uses (see Table 9) -	9-in	11-out	64	0	28
Net Change in Weekday Trips:	+8-in	+8-out	+38	0	+20
Annual & Special Events:					
Existing Uses (see Table 8) -	0	0	0	140/0	280
Proposed Uses (see Table 9) -	0	0	66	116/33	298
Net Change in Weekend Day Totals:	0	0	+66	-24/+33	+18

The project trips were assigned to the study street system based on a review of local traffic patterns and knowledge of local demographics. It is anticipated that approximately 65% of the project trips will be oriented to and from US 101 (30% north of W. Tefft Street and 35% south of W. Tefft Street), 10% to and from Thompson Avenue (7% north of W. Tefft Street and 3% south of W. Tefft Street), 3% to and from South Frontage Road, 2% to and from Mary Avenue (south of W. Tefft Street), and the remaining 20% on W. Tefft Street west of Mary Avenue. It should be noted that some of the daily visitors may come to use the trail system and utilize the parking off of S. Thompson Avenue. However, to present a "worst case" scenario for the analysis it was assumed that all project traffic will use S. Oakglen Avenue for access to the project site. The total and "net" increase project traffic volumes are illustrated on Figure 6.

Level of Significance Criterion

Project specific impacts are identified using "level of significance" criteria defined by San Luis Obispo County and the California Environmental Quality Act (CEQA). The following criterion is used to identify potentially significant impacts associated with the proposed project:

- Substantially increased traffic relative to existing load and capacity
- Exceeded an established LOS standard (LOS C)
- Resulted in a change to air traffic patterns
- Substantially increased hazards due to design or incompatible uses;
- Results in inadequate emergency access;
- Results in inadequate parking capacity; or
- Conflicts with adopted alternative transportation policies, plans, or programs.

Any identified project specific impacts will require the appropriate mitigation measure to offset the potent impact to a "less than significant" level.

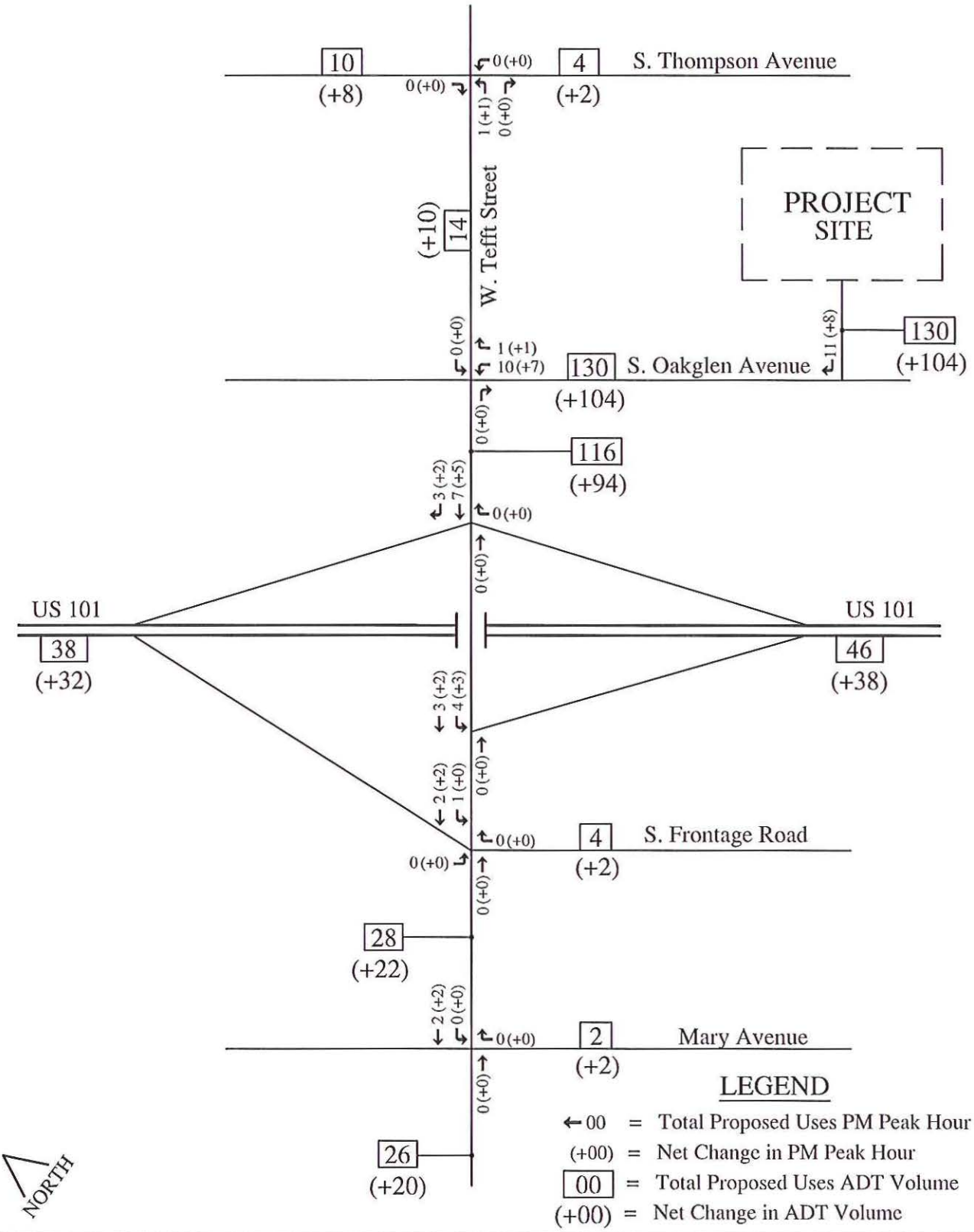

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FIGURE 6
PROJECT
TRAFFIC VOLUMES
(Average Weekday)

Background Plus Project Levels of Service Analysis

The evaluation of potential project impacts on background conditions is an analysis of the "background plus project" traffic operations. The results of the background plus project roadway segment analysis are presented in Table 11. The ADT and LOS values associated with the completion of the US 101/Willow Road interchange are also presented in Table 11.

Table 11 - Background Plus Project Roadway Segment LOS Analysis

Roadway Segment	No. of Lanes	LOS E Capacity	ADT - LOS	
			Without Willow Rd. Interchange	With Willow Rd. Interchange
W. Tefft St., w/o Mary Ave.	4 (a)	36,000	21,520 - A	18,320 - A
W. Tefft St., Mary Ave. - US 101 SB Ramp	4 (a)	36,000	25,622 - C	19,722 - A
W. Tefft St., US 101 SB Ramp to NB Ramp	4 (a)	36,000	23,956 - B	18,556 - A
W. Tefft St., US 101 NB Ramp - S. Oakglen Ave.	4 (a)	36,000	14,294 - A	12,494 - A
W. Tefft St., S. Oakglen Ave. to Thompson Ave.	2 (b)	18,000	10,310 - A	9,210 - A
Mary Ave., n/o W. Tefft St.	2 (c)	8,500	8,900 - F	7,600 - E
Mary Ave., s/o W. Tefft St.	2 (d)	12,000	7,102 - B	7,102 - B
N. Oakglen Ave., n/o W. Tefft St.	2 (f)	8,500	800 - A	800 - A
S. Oakglen Ave., s/o W. Tefft St.	2 (f)	8,500	2,504 - A	2,504 - A
N. Thompson Ave., n/o W. Tefft St.	2 (e)	15,000	7,108 - A	5,308 - A
S. Thompson Ave., s/o W. Tefft St.	2 (b)	18,000	5,702 - A	5,702 - A

(a) 4 lane arterial with left turn lanes
(b) 2 lane arterial with left turn lanes
(c) 2 lane collector with no left turn lanes
(d) 2 lane collector with left turn lanes
(e) 2 lane arterial with no left turn lanes
(f) 2 lane local with no left turn lanes

The roadway segment analysis indicates that background plus project daily traffic volumes on the majority of study street segments will be within acceptable limits (LOS C or better), without or with the new US 101/Willow Road interchange. However, as discussed under the background conditions the segment of Mary Avenue north of W. Tefft Street is projected to experience daily traffic demands in the LOS E or F range. As previously discussed, the majority of new traffic on this segment of Mary Avenue will be attributable to the development of the Landev LLC parcel. County staff has indicated that the Landev LLC project has been conditioned to widen the deficient segment of Mary Avenue, north of W. Tefft Street. Widening the deficient segment of Mary Avenue to a 2 lane collector section with left turn lanes will provide acceptable LOS. Therefore, it is concluded that the proposed project will not have a potentially significant impact on background daily traffic operations.

The Synchro traffic signal simulation software was again used to analyze the PM peak hour operations at the study intersections. The intersection peak hour LOS values were calculated assuming the addition of trips associated with the proposed project. The results of the PM peak hour LOS analysis are presented in Table 12. The LOS values associated with the completion of the US 101/Willow Road interchange are also presented in Table 12. Copies of the LOS worksheets are included with the Appendix Material.

Table 12 - Background Plus Project PM Peak Hour LOS Analysis

Study Intersection	Vehicle Delay - LOS Value	
	Without Willow Rd. Interchange	With Willow Rd. Interchange
W. Tefft St. / Mary Ave.	35.6 - D	34.0 - C
W. Tefft St. / US 101 SB Ramps	40.7 - D	36.7 - D
W. Tefft St. / US 101 NB Ramps	30.7 - C	27.1 - C
W. Tefft St. / Oakglen Ave.	11.5 - B	12.6 - B
W. Tefft St. / Thompson Ave.	18.7 - B	16.7 - B

The data in Table 12 indicates that without the US 101/Willow Road interchange average delays will remain within acceptable limits at the study intersections, except at the Mary Avenue and US 101 southbound ramps intersection. Completion of the US 101/Willow Road interchange is anticipated to reduce traffic demands and delays at the West Tefft Street interchange by about 40% during the PM peak hour. The US 101/Willow Road interchange will improve operations during the PM peak hour at the Mary Avenue intersection. However, the analysis in the Willow Road Extension EIR indicates that the benefits associated with the interchange improvements will not eliminate the adverse LOS at the southbound ramps intersection. Therefore, the project will have a potentially significant impact on traffic operations during the PM peak hour at the US 101/West Tefft Street southbound ramps intersection.

Project Access and Evaluation of Potential Impacts

The evaluation of potential project impacts includes a review of access on S. Oakglen Road. S. Oakglen Road adjacent to the project site has a single travel lane in each direction with a speed limit of 40 mph. There is a vertical curve "crest" on S. Oakglen Road approximately 500' north of the existing Dana Adobe driveway. Looking south from the existing driveway the line of sight is unrestricted (along a tangent section). S. Oakglen Avenue continues south of the existing driveway on a slight uphill alignment to Southland Street. The new project driveways will be located between the existing driveway and Southland Street. As previously stated, the CHP traffic accident data did not identify any significant accident problems along S. Oakglen Road.

A review of stopping sight distance was conducted using criteria in the Caltrans Highway Design Manual (HDM, Chapter 200). Stopping sight distance is the minimum distance required by a driver to bring a vehicle to a complete stop after an object on the roadway has become visible. Stopping sight distance for southbound traffic on S. Oakglen Road was measured by placing a

portable delineator at the east edge of the travel way (adjacent to existing driveway). Stopping sight distance was recorded at approximately 475' for southbound vehicles traveling towards the existing driveway. The southbound stopping sight distance for the existing driveway is adequate for a vehicle traveling at 50 mph. As previously stated, there is a relatively unobstructed line of sight looking south from the existing driveway to Southland Street. Therefore, stopping sight distance for southbound vehicles approaching the new project driveway will also be sufficient. It should be noted that there are 3 residences along S. Oakglen Avenue south of Southland Street. Southbound traffic approaching Dana Adobe would be required to yield to all northbound traffic. Peak traffic demands traveling to the project site will be below the criteria warranting a southbound left turn lane on S. Oakglen Road, since there will be little to no traffic opposing the movement during average weekday and weekday peak hours. The evaluation of project access does not demonstrate that the project traffic will significantly impact safety along S. Oakglen Road.

As previously discussed, the paved parking lot adjacent to the visitor's center will accommodate 48 vehicles. A sidewalk/pedestrian path is provided on the east side of the parking lot, which will minimize the potential conflict between vehicular and pedestrian traffic. A bus parking area is also provided on-site for unloading and loading activities (south of paved parking lot). All bus unloading and loading activities shall be monitored by an adult(s) to minimize the potential conflict between students and entering vehicles. In addition, a separate pedestrian path should be provided between the overflow parking areas and paved parking lot. This will help reduce the potential for pedestrians to wander through the parking areas. A review of on-site circulation indicates that it may be difficult for a bus/large truck to enter the overflow parking area(s). The scheduling of school/student field trips should be planned to avoid having more than 1 bus on-site at a time.

V. CUMULATIVE CONDITIONS

An evaluation of "cumulative" conditions is an analysis of traffic operations resulting from the development of future approved and pending projects in this portion of the County. A discussion regarding current approved projects and related trip generation are presented in the Background Conditions section. Pending cumulative projects are those projects that have not been heard or approval by the County's Planning Commission or Board of Supervisors. County staff provided a list of current pending cumulative projects. Information on the County's website was also researched. The general locations of the cumulative projects are illustrated on Figure 7.

Trip Generation Estimates

The trip generation estimates associated with the cumulative projects were derived using the ITE trip generation rates contained in Table 4. The cumulative projects trip generation estimates are displayed in Table 13.

Table 13 - Cumulative Projects Trip Generation Estimates

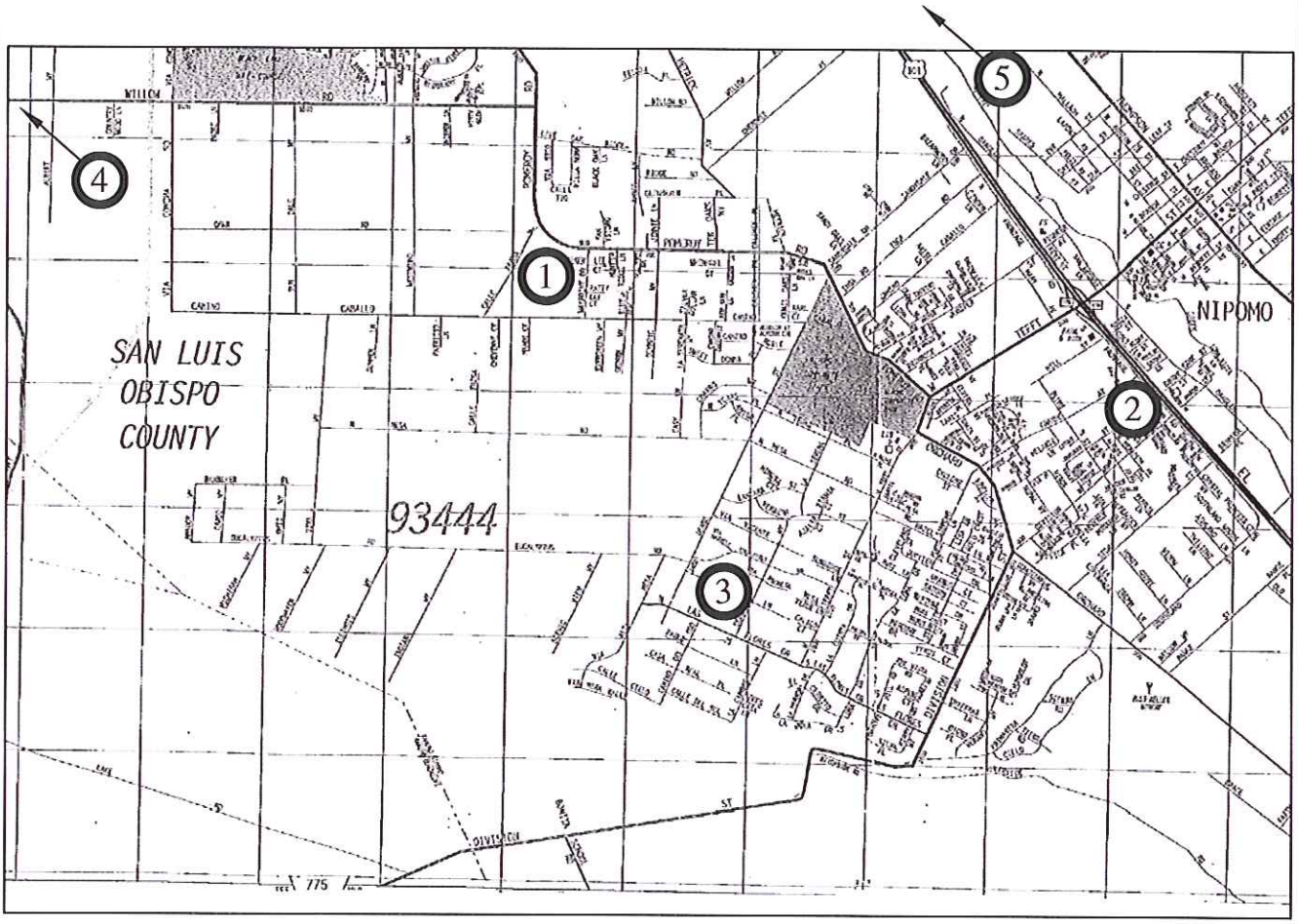
Project No.	ITE Code - Land Use	Number of Vehicle Trips				
		AM Peak Hour		PM Peak Hour		Daily
		In	Out	In	Out	
1	Kaminaka - 30 SFDU	6	17	19	11	288
2	Vista Grande - 18 SFDU	3	10	12	7	172
3	Promesa- 10 SFDU	2	6	6	4	96
4	Cypress Ridge - 21 SFDU (a)	4	12	13	8	200
5	Laetitia Subdivision - 102 SFDU	19	57	65	38	976
	Totals:	34	102	115	68	1,732

(a) Generate new peak hour traffic at US 101/W. Tefft Street intersection.

The data in Table 13 indicates that the pending cumulative projects could generate an additional 1,732 daily trips (two-way trip ends); with 136 trips during the AM peak hour (34 inbound and 102 outbound) and 183 trips during the PM peak hour (115 inbound and 68 outbound).

Trip Assignment and Cumulative Traffic Volumes

The trips associated with each cumulative project were assigned to the local street system based on a review of local traffic patterns and knowledge of local demographics. The trips associated with the pending cumulative projects were combined with the total background traffic volumes illustrated on Figure 4B (with US 101/Willow Road interchange). It should be mentioned that the analysis of cumulative conditions was conducted assuming the completion of the Willow Road interchange since it is currently under construction. The total cumulative traffic volumes are illustrated on Figure 8.



LEGEND

(0) = Cumulative Project No.
(See Table 13)

NORTH

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FIGURE 7
CUMULATIVE
PROJECTS
LOCATION MAP

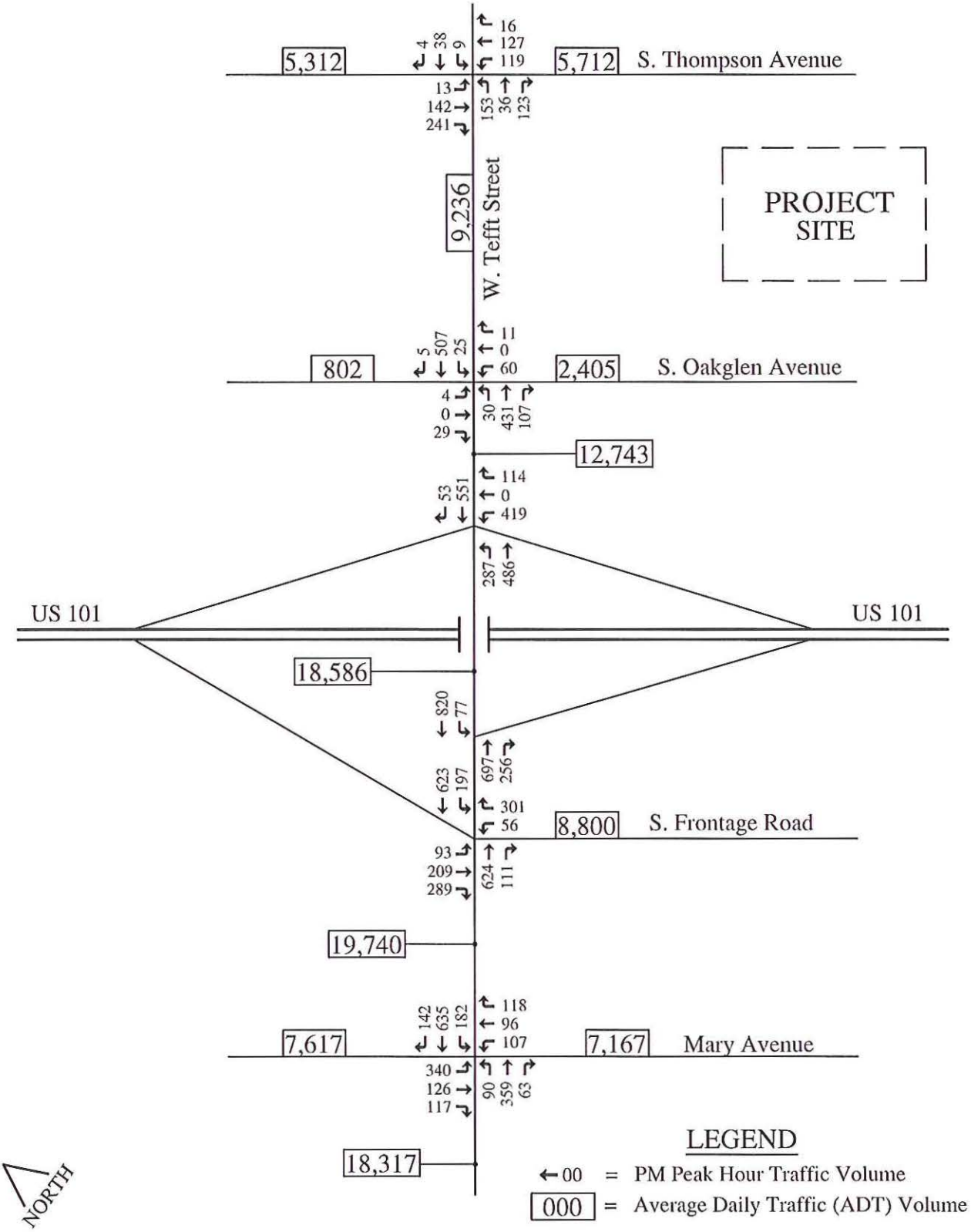

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FIGURE 8
CUMULATIVE TRAFFIC VOLUMES
(W/ WILLOW RD. I/C)

Cumulative and Cumulative Plus Project Levels of Service Analysis

Similar to the analysis conducted for the existing and background conditions, the roadway segment and intersection LOS values were calculated for the cumulative and cumulative plus project traffic conditions. The results of the cumulative roadway segment analysis are presented in Table 14.

Table 14 - Cumulative and Cumulative Plus Project Roadway Segment LOS Analysis

Roadway Segment	No. of Lanes	LOS E Capacity	ADT - LOS	
			Cumulative	Plus Project
W. Tefft St., w/o Mary Ave.	4 (a)	36,000	18,400 - A	18,420 - A
W. Tefft St., Mary Ave. - US 101 SB Ramp	4 (a)	36,000	19,800 - A	19,822 - A
W. Tefft St., US 101 SB Ramp to NB Ramp	4 (a)	36,000	18,600 - A	18,656 - A
W. Tefft St., US 101 NB Ramp - S. Oakglen Ave.	4 (a)	36,000	12,700 - A	12,794 - A
W. Tefft St., S. Oakglen Ave. to Thompson Ave.	2 (b)	18,000	9,300 - A	9,310 - A
Mary Ave., n/o W. Tefft St.	2 (c)	8,500	7,700 - E	7,700 - E
Mary Ave., s/o W. Tefft St.	2 (d)	12,000	7,200 - B	7,202 - B
N. Oakglen Ave., n/o W. Tefft St.	2 (f)	8,500	800 - A	800 - A
S. Oakglen Ave., s/o W. Tefft St.	2 (f)	8,500	2,400 - A	2,504 - A
N. Thompson Ave., n/o W. Tefft St.	2 (e)	15,000	5,400 - A	5,408 - A
S. Thompson Ave., s/o W. Tefft St.	2 (b)	18,000	5,800 - A	5,802 - A

(a) 4 lane arterial with left turn lanes
(b) 2 lane arterial with left turn lanes
(c) 2 lane collector with no left turn lanes
(d) 2 lane collector with left turn lanes
(e) 2 lane arterial with no left turn lanes
(f) 2 lane local with no left turn lanes

The roadway segment analysis indicates that cumulative daily volumes on the majority of study street segments will be within acceptable limits (LOS C or better), without or with the project. However, the segment of Mary Avenue north of W. Tefft Street is projected to experience daily traffic demands in the LOS E range. As previously discussed, the majority of new traffic on this segment of Mary Avenue will be attributable to the development of the Landev LLC parcel. County staff has indicated that the Landev LLC project has been conditioned to widen the deficient segment of Mary Avenue, north of W. Tefft Street. Widening the deficient segment of Mary Avenue to a 2 lane collector section with left turn lanes will provide acceptable LOS. Therefore, it is concluded that the proposed project will not have a potentially significant impact on cumulative daily traffic operations.

The Synchro traffic signal simulation software was again used to analyze the PM peak hour operations at the study intersections. The intersection peak hour LOS values were calculated assuming the addition of trips associated with the proposed project. Again, the analysis of cumulative conditions was conducted assuming the completion of the Willow Road interchange

since it is currently under construction. The results of the PM peak hour LOS analysis are presented in Table 15. Copies of the LOS worksheets are included with the Appendix Material.

Table 15 - Cumulative and Cum. Plus Project
PM Peak Hour LOS Analysis

Study Intersection	Vehicle Delay - LOS Value	
	Without Project	With Project
W. Tefft St. / Mary Ave.	34.0 - C	34.1 - C
W. Tefft St. / US 101 SB Ramps	37.0 - D	37.1 - D
W. Tefft St. / US 101 NB Ramps	27.2 - C	27.2 - C
W. Tefft St. / Oakglen Ave.	12.0 - B	12.6 - B
W. Tefft St. / Thompson Ave.	16.7 - B	16.7 - B

The data in Table 15 demonstrates that average delays will be within acceptable limits at 4 of the 5 study intersections (LOS C or better), without or with the proposed project. However, delays at the US 101 southbound ramps intersection will be within the LOS D range. The analysis in the Willow Road Extension EIR indicates that the benefits associated with the US 101/Willow Road interchange improvements will not eliminate the adverse LOS at this intersection during the PM peak hour. Therefore, the project will have a potentially significant impact on traffic operations at the US 101/West Tefft Street southbound ramps intersection during the PM peak hour.

It should be noted that the County Public Works Department is evaluating various operational improvement alternatives for the southbound on ramp. The following is a brief description of the three (3) alternatives under consideration:

Alternative 1 - This alternative would include closing the existing southbound on ramp and constructing a new southbound "hook" on ramp on the frontage road opposite Hill Street. The northbound left turn on the frontage road would be prohibited at West Tefft Street. Southbound traffic exiting US 101 with a destination to West Tefft Street (west of US 101) would utilize Hill Road and Mary Avenue. This alternative would eliminate the existing 2 stage left turn signal phase for westbound traffic on West Tefft Street at the southbound ramp intersection. It is estimated that this alternative would result in LOS C-D operations during the PM peak hour.

Alternative 2 - This alternative would include moving the existing US 101 southbound off ramp to the previous location opposite the southbound on ramp. This alternative would also eliminate the existing 2 stage left turn signal phase for westbound traffic on West Tefft Street at the southbound ramp intersection.

Alternative 3 - This alternative would include restriping the eastbound approach on West Tefft Street at the US 101 northbound ramps intersection. The eastbound approach would be striped for dual left turn lanes and one through lane. This alternative would not include any traffic signal modifications at the US 101/West Tefft Street interchange.

However, these improvement alternatives are not designed or funded at this time, and therefore, can't be assumed to be completed under the background or cumulative scenario.

VI. MITIGATION MEASURES

The following mitigation measures are presented for potentially significant impacts identified under development of the NCP Master Plan and NCP Master Plan Alternative.

Background Plus Project (Dana Adobe Master Plan)

The analysis of background plus project traffic conditions identified a potentially significant impact at the W. Tefft Street/US 101 southbound ramps intersection during the PM peak hour. The analysis in the Willow Road Extension EIR indicates that the benefits associated with the new interchange will not eliminate the adverse LOS at the southbound ramps intersection. A review of the future operational improvements (Alternative 1) under consideration by the County would result in LOS C-D operations and possibly reduce the potentially significant project impact to a level of "less than significant." However, since these improvements are not designed or funded at this time they should not be considered mitigation for the project specific impact. A review of the project trip generation estimates indicates that the majority of trips during the PM peak hour are associated with the visitor's center guests and employees/volunteers (see Tables 9 and 10). To reduce the potentially significant impact to a level of "less than significant" would require eliminating the majority of trips during the PM peak hour. The implementation of a "Transportation Demand Management" (TDM) Program could potentially reduce and/or eliminate the PM peak hour trips. TDM measures should include, but not be limited to, opening the visitor's center at 9:30 AM in lieu of opening at 9:00 AM closing the center at 3:30-4:00 PM in lieu of closing at 5:00 PM. In addition, the TDM Program measures could require the employees/volunteers to leave before 4:00-4:30 PM or after 6:00-6:30 PM, and the scheduling of annual or special events to not occur at the same time and on the same day.

Cumulative Plus Project (Dana Adobe Master Plan)

The analysis of cumulative plus project traffic conditions identified a potentially significant impact at the US 101 southbound ramps intersection during the PM peak hour. The analysis in the Willow Road Extension EIR indicates that the benefits associated with the new interchange will not eliminate the adverse LOS at the southbound ramps intersection. A review of the future operational improvements (Alternative 1) under consideration by the County would result in LOS C-D operations and possibly reduce the potentially significant project impact to a level of "less than significant." However, since these improvements are not designed or funded at this time they should not be considered mitigation for the project specific impact. A review of the project trip generation estimates indicates that the majority of trips during the PM peak hour are associated with the visitor's center guests and employees/volunteers (see Tables 9 and 10). To reduce the potentially significant impact to a level of "less than significant" would require eliminating the majority of PM peak hour trips. The implementation of a TDM Program could reduce and/or potentially eliminate the PM peak hour trips. TDM measures should include, but not be limited to, opening the visitor's center at 9:30 AM in lieu of opening at 9:00 AM closing the center at 3:30-4:00 PM in lieu of closing at 5:00 PM. In addition, the TDM measures could require the employees/volunteers to leave before 4:00-4:30 PM or after 6:00-6:30 PM.

It should also be noted that to reduce the potentially significant impacts to a level of "less than significant" development of the project could be limited until the County has completed a design, secured funding and established a formal schedule for future operational improvements at the W.

Tefft Street/US 101 southbound ramps intersection. Once this project becomes part of the long range infrastructure improvement plans in the South County Traffic Model they can be assumed to mitigate the potentially significant project impact at this intersection. It should also be mentioned that the County's "roadway improvement fee" (RIF) defined in the South County Traffic Model Final Report provides a funding mechanism for long range improvements in this portion of the County. Therefore, payment of the County's RIF or elimination of additional PM peak hour trips could serves as the project mitigation.

Information received from County staff indicated that the following "conditions of approval" would be required to help mitigate the identified potentially significant impacts.

1. Pay the appropriate County Roadway Improvement Fee (RIF).
2. Improve the project frontage along S. Oakglen Avenue to Rural County Standards, with a shoulder.
3. Improve the existing driveway and construct new driveways to County Standards.
4. Restrict on-street parking on west side of S. Oakglen Avenue due to existing eucalyptus trees near shoulder.
5. Prepare a "Transportation Demand Management" (TDM) Program which restricts hours of operations and having multiple events at the same time.

END