

TRAFFIC IMPACT ANALYSIS
FOR
THE RESIDENCES AT WEST OAKS
Rocklin, California

Prepared For:

Brentwood Developments
5800 Stanford Ranch Road
Rocklin, CA 95765

Prepared By:

KD Anderson & Associates, Inc.
3853 Taylor Road, Suite G
Loomis, CA 95650
(916) 660-1555

June 12, 2018

Job No. 1136-01

Residences at West Oaks.rpt

KD Anderson & Associates, Inc.

Transportation Engineers

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INTRODUCTION

This report documents **KD Anderson & Associates'** analysis of the traffic impacts associated with **The Residences at West Oaks** in the City of Rocklin, California. This assessment of traffic impacts has been required by the City of Rocklin, and per City staff direction addresses project impacts within the context of all transportation modes. The analysis addresses both current and future background conditions at key intersections providing access to the site and assesses traffic impacts based on adopted General Plan standards for significance. The analysis also describes the project's impact to pedestrian, bicycle and transit facilities.

Project Description

The Residences at West Oaks is a twenty unit townhome development that will be located on West Oaks Blvd adjoining Kathy Lund Park, as noted in Figure 1. The site will have access to West Oaks Blvd opposite 5700 West Oaks Blvd, as noted in Figure 2.



VICINITY MAP





BRENTWOOD
developments

West Oaks Townhomes

Rocklin, California

SITE PLAN


 SCALE: 1" = 20'-0"
 DATE: 6/11/2018


A1.1

EXISTING SETTING

This report section describes the facilities that are available today serving vehicular, pedestrian and bicycle traffic and transit users in Rocklin, as well as General Plan policies that guide consideration of traffic impacts.

Study Area Circulation System - Roads

Regionally, The Residences at West Oaks will be served by major City streets that link the site with important state highways. Interstate 80 (I-80) and State Route 65 (SR 65) connect Rocklin with the balance of Placer County and the Sacramento Metropolitan area. In the area of the proposed project, access to state highways occurs at a grade separated interchange on Sunset Blvd roughly 1¼ miles west of the site and on Blue Oaks Blvd roughly 2 miles to the south. Community-wide circulation is provided via Sunset Blvd, West Oaks Blvd and Lone Tree Blvd which link the site with Rocklin's arterial / collector streets.

The limits of the area addressed by this study were identified in consultation with City staff based on consideration of the probable market area for this use and current travel patterns. The text which follows provides additional detail regarding the streets included in the study area.

State Route 65 (SR 65) is a four-lane controlled access freeway that runs east from an interchange on Interstate 80 through western Placer County to State Route 70 near Marysville. The speed limit on SR 65 is 65 mph.

Traffic volume information collected by the California Department of Transportation (Caltrans) indicates that in 2016 SR 65 carried an Annual Average Daily Traffic (AADT) volume of 64,200 in the area north of Sunset Blvd, 76,800 between Blue Oaks Blvd and Sunset Blvd and 98,000 south of Blue Oaks Blvd. Trucks comprise 15% of the daily volume on SR 65.

Sunset Blvd is a four-lane / six-lane street which links the established area of Rocklin near Pacific Street with SR 65 at the western limits of the City. Sunset Blvd is designated an Arterial in the General Plan. On-street parking is prohibited along Sunset Blvd, and the posted speed limit is 45 mph from Park Drive to Stanford Ranch Road and 40 mph from Stanford Ranch Road to Whitney Blvd.

Lone Tree Blvd is a four-lane arterial street that extends from an intersection on Sunset Blvd south to Blue Oaks Blvd. The posted speed limit on Lone Tree Blvd is 40 mph.

West Oaks Blvd is a two-lane / four-lane arterial that extends from Lone Tree Blvd across Sunset Blvd to its current northern terminus. The roadway will be extended to Whitney Ranch Parkway in the future. Parking is prohibited. The posted speed limit on West Oaks Blvd in the vicinity of the project is 45 mph. Right-of-way exists to construct West Oaks Blvd across SR 65 into Placer County. However, the General Plan does not indicate that this structure will be constructed and no adopted fee program exists for this work.

Study Area Circulation System - Intersections

The quality of traffic flow in urban areas is often governed by the operation of key intersections. The following four intersections have been identified for evaluation in this study in consultation with City of Rocklin staff.

The **West Oaks Blvd / Lone Tree Blvd intersection** is controlled by an 8-phase traffic signal. Lone Tree Blvd approaches feature two through lanes and separate left turn and right turn lanes. Westbound West Oaks Blvd is a single through lane with separate right turn and left turn lanes. Eastbound West Oaks Blvd has two through travel lanes and separate left turn and right turn lanes. Crosswalks are striped, and street lights are present.

The **West Oaks Blvd / East Access intersection** is controlled by side street stop signs. The West Oaks Blvd approaches have single through travel lanes, and a short eastbound left turn lane has been striped. The existing southbound approach is the access to an office building parking lot and is a single lane. There are no crosswalks at this intersection.

Secondary access will occur at the **West Oaks Blvd / West Access intersection**. In this area West Oaks Blvd has a single through travel lane in each direction, and a Two-Way Left-Turn (TWLT) lane exists in this area. Today this gated driveway provides occasional access to City property along the south side of Kathy Lund Park.

The **West Oaks Blvd / Sunset Blvd** intersection is controlled by an 8-phase traffic signal. Both Sunset Blvd approaches have three through lanes and the West Oaks Blvd approaches have two. Each approach has separate left turn lanes and a separate right turn lane. Crosswalks are striped across each leg of the intersection and street lights are provided at the intersection.

Standards of Significance: Levels of Service - Methodology

Levels of Service were calculated at study area intersections in order to assess the quality of existing traffic conditions and to provide a basis for analyzing project impacts. "Level of Service" is a qualitative measure of traffic operating conditions whereby a letter grade "A" through "F", corresponding to progressively worsening operating conditions, is assigned to an intersection or roadway segment.

Analysis Methodology for Intersections. The City of Rocklin utilizes a modified version of the *Interim Materials on Highway Capacity – Circular 212* (Transportation Research Board, 1980) critical movement method to determine Levels of Service at signalized intersections. Modified capacities which are approximately 5 percent higher than the published Circular 212 capacities are employed. The City of Rocklin utilizes the same modified Saturation Flow rates as the City of Roseville (i.e., 1600 for 2 phases, 1500 for 3 phases and 1450 for 4 or more phases). This methodology determines the Level of Service by comparing the volume-to-capacity (v/c) ratio of critical intersection movements to the thresholds shown in Table 1. Unsignalized intersections

are analyzed using the methodology described *2000 Highway Capacity Manual* (HCM). HCM techniques base Level of Service on the length of delays experienced by motorists waiting at stop signs. Delay values can be reported as an average value for the overall operation of the intersection in the case of all-way stop controls or for each movement where motorists are required to yield the right of way to other traffic, in the case of side street stops. The City of Rocklin bases evaluation of un-signalized LOS on the overall average delay.

Table 1 presents general characteristics associated with each Level of Service grade.

At intersections, Level of Service calculations can reflect average conditions occurring over the breadth of the hour or can be indicative of conditions occurring during the highest volume 15 minute period within that hour. The choice of perspective is made by local agencies as part of their development of standards of significance. Based on the assumptions made for the General Plan EIR, this analysis addresses average conditions occurring over the breadth of the peak hour.

**TABLE 1
LEVEL OF SERVICE DEFINITIONS**

Level of Service	Signalized Intersection	Unsignalized Intersection	Roadway (Daily)
"A"	Uncongested operations, all queues clear in a single-signal cycle. $V/C < 0.60$	Little or no delay. Ave Delay ≤ 10 sec/veh	Completely free flow.
"B"	Uncongested operations, all queues clear in a single cycle. $V/C \geq 0.61$ and < 0.70	Short traffic delays. Delay > 10 sec/veh and ≤ 15 sec/veh	Free flow, presence of other vehicles noticeable.
"C"	Light congestion, occasional backups on critical approaches. $V/C \geq 0.71$ and < 0.80	Average traffic delays. Delay > 15 sec/veh and ≤ 25 sec/veh	Ability to maneuver and select operating speed affected.
"D"	Significant congestions of critical approaches but intersection functional. Cars required to wait through more than one cycle during short peaks. No long queues formed. $V/C \geq 0.81$ and < 0.90	Long traffic delays. Delay > 25 sec/veh and ≤ 35 sec/veh	Unstable flow, speeds and ability to maneuver restricted.
"E"	Severe congestion with some long standing queues on critical approaches. Blockage of intersection may occur if traffic signal does not provide for protected turning movements. Traffic queue may block nearby intersection(s) upstream of critical approach(es). $V/C \geq 0.91$ and < 1.00	Very long traffic delays, failure, extreme congestion. Delay > 35 sec/veh and ≤ 50 sec/veh	At or near capacity, flow quite unstable.
"F"	Total breakdown, stop-and-go operation. $V/C \geq 1.01$	Intersection often blocked by external causes. Delay > 50 sec/veh	Forced flow, breakdown.

Sources: 2000 Highway Capacity Manual, and Transportation Research Board (TRB) Special Report 209.

Traffic Signal Warrants. The extent to which a traffic signal may be justified is determined based on many factors. From the standpoint of traffic impact analysis, signal warrant criteria contained in the *California Manual of Uniform Traffic Control Devices (CMUTCD)* are employed in order to assess the relative impact of the additional traffic accompanying a development proposal. For this analysis, Warrant 3 (Peak Hour Traffic) has been employed. Variation in warrant requirements occurs based on the design speed of the road (i.e., > 40 mph) and on the location of the intersection (i.e., rural versus urban locations). In this case, urban criteria have been employed. It is important to note that other warrants addressing factors such as pedestrian activity and collision history should be considered before a decision is made to install a traffic signal.

Roadway Segments. While the most recent General Plan Update, the City of Rocklin no longer employs daily traffic volumes / LOS on roadway segments for impact evaluation, new daily segment volumes were collected to help understand project effects. Table 2 presents Level of Service thresholds based on daily volumes that were previously employed.

**TABLE 2
DAILY VOLUME LEVEL OF SERVICE THRESHOLDS**

Roadway Capacity Class	Maximum Daily Traffic Volume per Lane Level of Service				
	LOS A	LOS B	LOS C	LOS D	LOS E
Two-Lane Collector Street	9,000	10,700	12,000	13,500	15,000
Four-Lane Divided Arterial	20,250	23,625	27,000	30,375	33,750
Six-Lane Divided Arterial	30,315	36,000	40,500	45,560	50,525

Source: *Northwest Rocklin Annexation Environmental Impact Report (2003)*

Standards of Significance. Local jurisdictions adopt Standards of Significance for determining environmental impacts relating to traffic, and in this study area the standards of the City of Rocklin apply. As indicated in the REGULATORY Setting section, per policy the General Plan notes that Level of Service C is the minimum standard but that a reduced Level of Service may be accepted during the p.m. peak hour under identified circumstances.

Based on the City’s significance threshold, if an intersection is already operating at an unsatisfactory Level of Service, then an increase of 0.05 to the v/c ratio at a signalized intersection would be considered a measureable worsening of intersection operations and therefore would constitute a significant project impact. If an un-signalized intersection is already operating at an unsatisfactory Level of Service (i.e., LOS D or worse), then the addition of more than 5% of the total traffic at an intersection would be a significant project impact.

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Existing Traffic Volumes / Levels of Service

Traffic Volume Counts. P.m. peak period intersection traffic counts were made at the West Oaks Blvd / Sunset Blvd intersection by the City of Rocklin in April 2016 as part of the pending Circulation Element Update, and these counts have been employed for this analysis. New traffic counts were conducted at two intersections in January 2017 to supplement City data. The counts were conducted on days when Rocklin schools were in typical session. Intersection turning movement counts were made at study intersections during the periods of 4:00 p.m. to 6:00 p.m. The highest hourly traffic volume period within the two hour window was identified as the peak hour.

Figure 3 illustrates the intersection turning movement count data used for this analysis. This figure also notes the existing geometric layout of each intersection and the location of traffic controls. This data has been used to determine the operating Level of Service at each intersection.

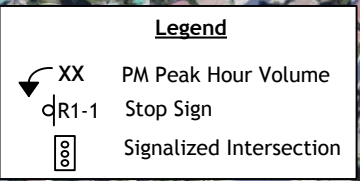
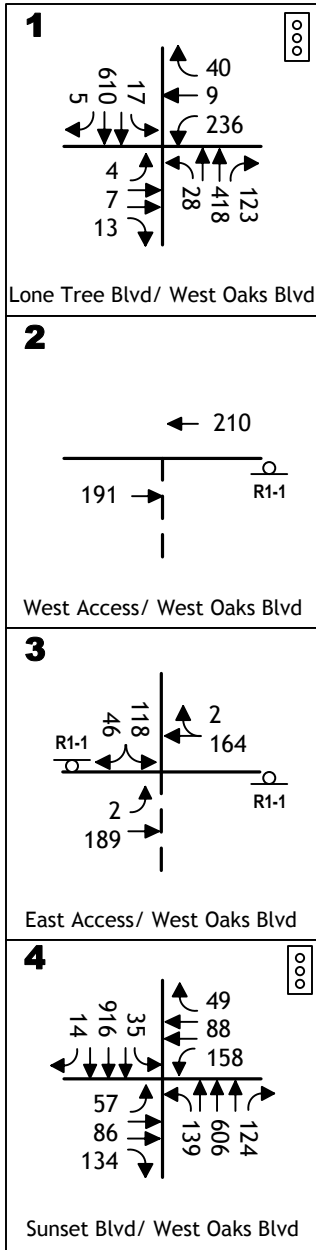
Intersection Level of Service. Table 3 identifies current intersection Levels of Service at the three study locations. As shown, the overall Level of Service at each location meets the City’s LOS C goal for the p.m. peak hour.

**TABLE 3
EXISTING INTERSECTION LEVEL OF SERVICE**

Intersection	Control	Existing PM Peak Hour		
		LOS	Volume / Capacity	Average Delay (sec/veh)
West Oaks Blvd /Lone Tree Blvd	Signal	A	0.401	-
West Oaks Blvd / East Access (overall)	NB/SB Stop	(A)	(-)	(3.7)
Northbound approach		-		-
Southbound approach		B		11.7
Sunset Blvd / West Oaks Blvd	Signal	A	0.508	-
Bold indicates conditions in excess of adopted minimum LOS C p.m. peak hour standard				

Traffic Signal Warrants. Current p.m. peak hour traffic volumes at the un-signalized East Access intersection were compared to warrants for signalization. Traffic signal warrants are not met.

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EXISTING TRAFFIC VOLUMES AND LANE CONFIGURATIONS

Transit Facilities

Bus Service. Rocklin is generally served by four Placer County Transit (PCT) bus routes:

- Auburn Light Rail Express route
- Lincoln to Galleria to Sierra College route
- Taylor Road shuttle
- Placer Commuter Express.

PCT is a fixed-route scheduled transit system operated by Placer County. PCT principally serves the I-80 corridor area between Alta and Roseville, the State Route 65 corridor area into Lincoln, and the Highway 49 corridor. Some of the routes are “deviated.” A deviated route means that the buses generally travel on a main route (e.g., I-80) but can deviate from that route up to a certain distance (three-quarters of a mile in the case of PCT) to serve the specific needs of transit patrons.

The Lincoln / Sierra College route comes nearest to the proposed project, as this route follows Sunset Blvd from SR 65 to Stanford Ranch Road. This route has 14 runs a day in each direction and services the Sunset Blvd corridor, Downtown Rocklin, and Sierra College. The closest designated stop is at Sunset Blvd / West Oaks Blvd.

Rail Service. The Capitol Corridor Intercity Train Service provides passenger rail service between Auburn and San Jose. There are three stations in Placer County: Auburn, Rocklin, and Roseville. There are currently nine runs per day in each direction, but only one run in each direction from Auburn to Oakland that serves Rocklin. There are four runs in each direction from Sacramento to Oakland and four runs in each direction from Sacramento to San Jose. Amtrak provides bus connections from Rocklin to the Sacramento Amtrak Station to connect to these additional Capitol Corridor runs. The Rocklin Multimodal Train Station is a permanent building for rail users located along the Union Pacific Railroad track at the Rocklin Road crossing.

Pedestrian Facilities

Sidewalks are available along streets throughout Rocklin, including those in the immediate vicinity of the proposed project. Sidewalks exist on both sides of West Oaks Blvd, Sunset Blvd and Lone Tree Blvd.

Bicycle Facilities

Bikeways are defined by the State of California Street and Highways Code as follows:

- Class I bikeways provide a completely separated right-of-way designated for the exclusive use of bicycles and pedestrians with cross-flows by motorists minimized (also called a bike path or trail).

- Class II bikeways provide a restricted right-of-way designated for exclusive or semi-exclusive use of bicycles with through travel by motor vehicles or pedestrians prohibited, but with vehicle parking and cross-flows by pedestrians and motorists permitted (also called a bike lane).
- Class III bikeways provide a right-of-way designated by signs or permanent markings and shared with pedestrians or motorists (also called a bike route).

The City of Rocklin's General Plan includes a Bikeway Diagram (Figure 4-7), which specifies a number of existing and proposed bike lanes and bike routes. Class II on-street bike lanes already exist on West Oaks Blvd, Lone Tree Blvd and Sunset Blvd and on West Stanford Ranch Road in the area of the proposed project.

REGULATORY SETTING

City of Rocklin General Plan Circulation Element

The Circulation Element of the City of Rocklin’s General Plan has, as its key goal, “To create a balanced and coordinated transportation system which utilizes all transportation modes efficiently and promotes sound land use. A complete list of the General Plan goals and policies can be found in the Circulation Element of the General Plan.

Policies for Transportation System

- C-1 Provide for a circulation pattern for regional, community, and neighborhood traffic needs.
- C-2 Coordinate land use and transportation planning to support transit services, NEV facilities and non-motorized transportation.
- C-3 Promote the use of Neighborhood Electric Vehicles (NEV) by providing accommodations (i.e., lane striping and signage) to facilitate the use of these vehicles where feasible within existing and planned rights-of-way.
- C-4 Promote the use of non-motorized transportation by providing a system of bicycle routes and pedestrian ways.
- C-5 Coordinate with public transit providers to meet residents’ needs.
- C-6 Encourage non-residential development proposals to incorporate features that promote ridesharing or use of alternative transportation modes.

Policies for City and Regional Street System

- C-7 Monitor traffic on City streets to determine improvements needed to maintain an acceptable Level of Service.
- C-8 Update the Capital Improvement Program (CIP) and traffic impact fees at least every five years, or as determined necessary with the approval of major new developments or major general plan amendments not considered in the adopted Capital Improvement Program.
- C-9 Provide for an annual inflationary adjustment to the City’s traffic impact fee to ensure that the fee is adequate for the future construction of roads.
- C-10 A. Maintain a minimum traffic Level of Service “C” for all signalized intersections during the p.m. peak hour on an average weekday, except in the circumstances described in C-10.B and C. below.

B. Recognizing that some signalized intersections within the City serve and are impacted by development located in adjacent jurisdictions, and that these impacts are outside the control of the City, a development project which is determined to result in a Level of Service worse than “C” may be approved, if the approving body finds (1) the diminished level of service is an interim situation which will be alleviated by the implementation of planned improvements or (2) based on the specific circumstances described in Section C. below, there are no feasible street improvements that will improve the Level of Service to “C” or better as set forward in the Action Plan for the Circulation Element.

C. All development in another jurisdiction outside of Rocklin’s control which creates traffic impacts in Rocklin should be required to construct all mitigation necessary in order to maintain a LOS C in Rocklin unless the mitigation is determined to be infeasible by the Rocklin City Council. The standard for determining the feasibility of the mitigation would be whether or not the improvements create unusual economic, legal, social, technological, physical or other similar burdens and considerations.

C-11 Continue to participate with adjacent jurisdictions toward the completion and improvement of streets that extend into other communities through individual cooperation and/or use of the Placer County Transportation Planning Agency (PCTPA), joint powers authorities, and similar entities.

C-12 Encourage improvements to the existing Federal Interstate and State highway system, and the addition of new routes that would benefit the City of Rocklin.

C-13 Consider a variety of funding mechanisms, either independently or with other government agencies, to fund needed regional improvements.

C-14 Prohibit residential driveways along collector or arterial streets within newly developing residential areas. This policy does not apply to multi-family residential uses, or where past decisions have created existing lots with residential frontages on collector or arterial streets.

C-15 Reduce the potential for the use of local residential streets as shortcuts for through traffic on streets that are not improved to full City standards.

C-16 Provide each new elementary school site with a minimum of two full street frontages.

C-17 Keep truck traffic away from residential areas and streets not structurally designed for truck traffic by designating truck routes.

C-18 Designate truck routes that can be used for the hauling of hazardous materials.

C-19 Maintain existing streets in a safe condition and require that new streets be built to City standards.

C-20 Maintain street design standards for arterials, collectors and local streets.

C-21 Apply appropriate street design standards for private streets.

C-22 Interconnect traffic signals and/or consider the use of roundabouts where financially feasible and warranted to provide flexibility in controlling traffic movements at intersections.

C-23 Require street designs where appropriate to connect neighborhoods. These connections allow for vehicular and pedestrian use and for the efficient movement of service and emergency vehicles.

C-24 Require landscaping and tree planting along major new streets, properties abutting highways/freeways and along existing streets as appropriate.

C-25 Minimize the impact of road construction on the natural terrain and the character of existing neighborhoods.

C-26 Minimize the impact of road construction on creek corridors and related floodplain and riparian areas.

C-27 Design and phase construction of road improvements to minimize disruption to local residents and traffic, to the extent feasible.

C-28 Design new street alignments to minimize the number of creek crossings and adverse impacts to existing wildlife habitats.

C-29 Conduct a comprehensive inventory of the vegetative structure of riparian corridors prior to specific siting of new road alignments and creek crossings. This inventory will be used as a factor in the selection of an alignment which minimizes impacts to mature riparian vegetation, while still meeting the alignment or access and engineering requirements of siting the alignment or crossing.

C-30 Restore streambed and bank contours as near as possible to pre-project conditions following construction of creek crossings.

C-31 Design road improvements and new road alignments to avoid or minimize disturbance to identified cultural resources, where feasible.

Special Street Improvement Policies

C-32 Restrict vehicular access to emergency vehicles only from the Clover Valley Community Area onto the existing portions of Clover Valley Road and Rawhide Road within the Mission Hills-Clover Valley Community Area to minimize traffic volume increases on Midas Avenue.

C-33 Seek improvement to existing railroad crossings and construction of new grade separated crossings or undercrossings where appropriate and feasible.

C-34 Provide for the extension of Dominguez Road over I-80 as a future improvement to relieve the Sierra College Blvd/I-80 and Rocklin Road/I-80 interchanges and create access to the southeast quadrant of the Sierra College Blvd/I-80 interchange.

- C-35 Increase traffic capacity at Rocklin Road and I-80, as traffic conditions require, by widening, overcrossings, or other design features, to allow for more efficient traffic movement and pedestrian and bike facilities.
- C-36 Develop a new east/west road connection between State Route 65 and Sierra College Blvd. The road shall traverse the Northwest Rocklin area, connect to Park Drive in the northern portion of Whitney Oaks, and extend from Park Drive through Clover Valley to intersect with Sierra College Blvd.
- C-37 Develop a new north/south road connection between Sunset Blvd and the new east/west road connection described in Policy C-36.
- C-38 Provide primary vehicular access to future development within the Parcel K planning area of the North West Rocklin General Development Plan by at least two points of access. The access points shall consist of one street that intersects with Wyckford Blvd and another that connects to the extension of Kali Place. These facilities shall be open non-gated public streets.
- C-39 Prohibit extension of Wyckford Blvd north of Parcel K into the Whitney Ranch / Sunset Ranchos Planning Area.
- C-40 Provide for the connection of Woodside Drive and Ruhkala Road in the Civic Center area.
- C-41 Create a Civic Center street/drive network south of Rocklin Road that provides access to Pacific Street and South Grove Street.
- C-42 Improve and extend Railroad Avenue between Farron Street and Midas Avenue to provide an alternative north/south route to Pacific Street.
- C-43 Minimize the need to sever existing developed parcels for new roads designed to serve the Southeast Rocklin area.
- C-44 Prohibit an easterly extension of Greenbrae Road that would connect with Southside Ranch Road.
- C-45 Extend Monument Springs Drive southerly across Secret Ravine Creek to developing areas south of Greenbrae Road.
- C-46 Sever Aguilar Road at a time specified by the City of Rocklin. The severing shall occur at or near the Aguilar tributary crossing to preclude through traffic.
- C-47 Design road improvements and new alignments to avoid or minimize encroachments into existing yards on Aguilar Road, Greenbrae Road and Foothills Road by minimizing the use of standard curb, gutter and sidewalks, where appropriate.
- C-48 Acknowledge that new taxes, fees, or assessments to finance the severing of Aguilar Road and the Monument Springs Bridge/extension identified in the policies above shall not be levied upon fully developed parcels that cannot be further subdivided.
- C-49 Encourage use of a free span bridge design over Secret Ravine Creek as the environmentally preferred option whenever feasible, to minimize the fragmenting effects of any bridge crossing on riparian habitat. Pre-cast concrete bridge joists should be used,

whenever possible, to avoid prolonged construction and reduce construction disturbances in riparian corridors.

City of Rocklin Capital Improvement Program

The City's Capital Improvement Program (CIP) identifies roadway and intersection improvements for City-based monitoring of traffic conditions in Rocklin and maintenance of the City's existing LOS standard. The current CIP was updated in 2007 and has a horizon year of 2025.

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PROJECT CHARACTERISTICS

The proposed project is a twenty-unit Townhouse development to be constructed on West Oaks Blvd east of Kathy Lund Park. The site is currently zoned for public facility use and was a surplus site for a fire station that the proponents are purchasing from the City of Rocklin. The project will have two driveways on West Oaks Blvd. The western access exists today as a service road along the south side of Kathy Lund Park and is off of the project site. The road will be improved as part of the project. The eastern full-access driveway on West Oaks Blvd is opposite an access to offices at 6020 West Oaks Blvd.

Project Traffic Characteristics

The characteristics of the project are described in terms of its *Trip Generation*, *Trip Distribution* and *Parking Demands*.

Trip Generation. The amount of new traffic associated with development projects is typically forecast using information developed from recognized national sources. The Institute of Transportation Engineers (ITE) publication *Trip Generation, 10th Edition* is a source recognized by the City of Rocklin and Caltrans, and applicable average trip generation rates for the proposed use are presented in Table 4.

Table 4 also presents the project's trip generation forecast based on ITE rates. The project is projected to generate 109 daily trips, with 9 trips in the p.m. peak hour.

**TABLE 4
TRIP GENERATION RATES**

Source	Land Use	Unit / Quantity	Trip Generation			
			Daily	PM Peak Hour		
				In	Out	Total
ITE	Multifamily Residential – Mid-Rise	dwelling	5.44	61%	39%	0.44
	The Residences at West Oaks	20 du's	109	6	3	9
ITE	Fire / Emergency Response Station	employee	-	29%	71%	0.44
	Fire Station on site	4	-	1	2	2

Source: *Trip Generation Manual, 10th Edition*, Institute of Transportation Engineers (ITE) and GP traffic model

The number of vehicle trips that might have resulted from operation of a fire station on the site would depend on staffing levels and the number of responses to calls on a particular day. ITE data suggests that a station manned by four persons would generate 2 p.m. peak hour trips.

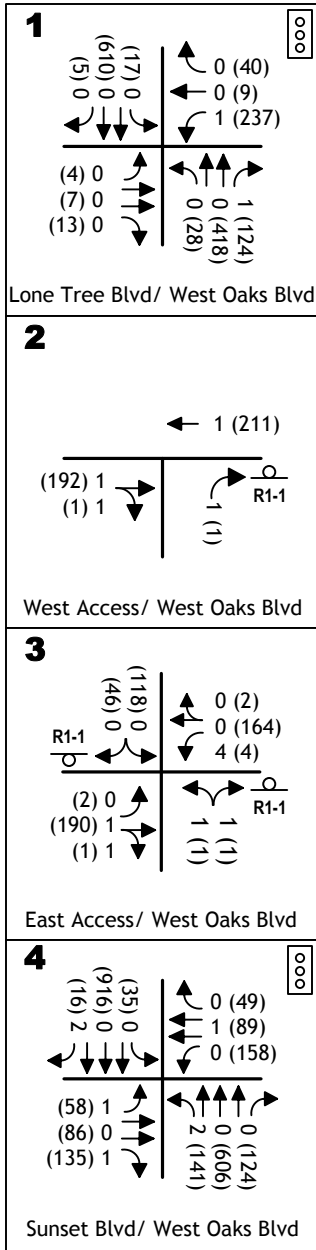
Vehicle Trip Distribution. Having determined the number of vehicle trips that is expected to be generated by the project, it is necessary to identify the directional distribution of project-generated traffic. For residences, the general location of regional employment centers, shopping and school can provide an indication. Table 5 and Figure 4 identify the local area distribution assumptions made for this study based on the review of current turning movements at study intersections.

**TABLE 5
REGIONAL TRIP DISTRIBUTION ASSUMPTIONS FOR NEW TRIPS**

Direction	Route	Percent of Total Trips
North	Sunset Blvd to SR 65	40%
East	West Oaks Blvd beyond Sunset Blvd	10%
South	Sunset Blvd south of West Oaks Blvd	30%
	Lone Tree Blvd south of West Oaks Blvd	20%
Total		100%

Trip Assignment. Project trips were assigned to the local street system based on the regional distribution assumptions identified above and the routes available through each driveway. Figure 4 identifies the assignment of project trips through the study intersections during the evening peak hours. Note: because the volumes are so small some inconsistencies may result between intersections due to rounding errors.

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PROJECT ONLY AND EXISTING PLUS PROJECT
TRAFFIC VOLUMES AND LANE CONFIGURATIONS

PROJECT TRAFFIC IMPACTS

Existing Plus Project Traffic Conditions and Levels of Service

Figure 4 also superimposes project trips onto the current background traffic volumes to create the “Existing Plus Project” condition. Subsequent tables compare the “Existing” and “Existing Plus Project” Levels of Service.

Project Traffic Impacts to Level of Service at Intersections. As shown in Table 6, the addition of project traffic does not result in any change to the peak hour Level of Service at any location. Levels of Service at all intersections will remain within adopted minimum standard (i.e., LOS C or better). The project’s impact isn’t significant measured in terms of intersection Level of Service.

Traffic Signal Warrants. Existing plus Project p.m. peak hour traffic volumes at un-signalized intersections were compared to warrants for signalization. Neither project driveway could carry traffic volumes which reach the level that satisfy warrants.

**TABLE 6
EXISTING PLUS PROJECT PEAK HOUR
INTERSECTION LEVELS OF SERVICE**

Intersection	Control	PM Peak Hour					
		Existing			Existing Plus The Residences at West Oaks		
		LOS	Volume / Capacity	Average Delay (sec/veh)	LOS	Volume / Capacity	Average Delay (sec/veh)
West Oaks Blvd /Lone Tree Blvd	Signal	A	0.401	-	A	0.402	-
West Oaks Blvd / West Access (overall) Northbound right turn	NB Stop	(-)	(-)	(-)	(A) A	(-)	(0.0) 9.2
West Oaks Blvd / East Access (overall) Northbound approach Southbound approach	NB/SB Stop	(A) - B	(-)	(3.7) - 11.7	(A) B B	(-)	(4.0) 10.5 12.4
Sunset Blvd / West Oaks Blvd	Signal	A	0.508	-	A	0.510	-
Bold indicates conditions in excess of adopted minimum LOS C p.m. peak hour standard							

Project Impacts to Alternative Transportation Modes

Development of the project may incrementally contribute to the demand for facilities to serve pedestrians, cyclists and transit riders in this area of Rocklin.

Pedestrian Impacts. Project residents will be able to walk to retail opportunities on Lone Tree Blvd or Sunset Blvd as sidewalks are already available in each direction. It is reasonable to expect that some residents may wish to cross West Oaks Blvd to reach the office uses across the street. While crosswalks are not available, the traffic volumes in this area are low and marked mid-block crosswalks are not recommended.

Bicycle Impacts. The project may have residents elect to use that transportation mode to reach convenient destinations. Because class II lanes already exist, the limited number of cyclists associated with this project is not likely to create an appreciable safety impact on the streets that provide access to the project. The project's impact is not significant.

Transit Impacts. Some project employees might take advantage of the regular Placer Transit bus service and Amtrak Capital Corridor trains that are already available in Rocklin. Because the number of additional riders is not appreciable and facilities exist in this area already, the project's impact is not significant and no additional transit improvements are needed.

Access and Circulation Design

The site plan was reviewed to confirm its adequacy for access and circulation by regular automobiles and delivery trucks.

Driveway Throat Depth. The driveway throats provided with the project have been reviewed to determine whether an adequate area is available for exiting vehicles to wait without interfering with the path of arriving vehicles. The adequacy of driveway throats is determined by comparing the available distance to anticipated peak period queue lengths under Cumulative plus Project conditions. The west access has roughly 65 feet of storage space outside of the sidewalk on West Oaks Blvd, and this area can accommodate three waiting vehicles before an arriving vehicle was delayed by a queue. The throat at the east driveway is shorter due to the location of visitor parking and a garage adjoining the driveway. One exiting vehicle could wait behind the sidewalk without blocking the route to the garage associated with Lot 1, and there is room for one arriving motorist to wait for a driver to leave the most northerly visitor parking space.

The adequacy of this layout has been determined in comparison to the forecast queues at each driveway. Because the number of exiting vehicles is very small and the background traffic volume on West Oaks Blvd is low, driveway Level of Service calculations indicate that there is a 95% probability that the peak hour queue will be one vehicle less. In this case the proposed site plan is adequate. In addition, the level of activity associated with the two parallel parking spaces near the driveway would be relatively low, and it is unlikely the likelihood of another vehicle would be arriving at the same time a vehicle was leaving a space.

Design of West Oaks Blvd Access. The adequacy of the layout of West Oaks Blvd in the area of the project as it relates to access maneuvers has been considered.

Proposed Layout. The project plan proposed restriping the existing median area on West Oaks Blvd to create a short left turn lane at the project's east access. No changes to the median area are proposed at the western access, and full access would remain legal at that location. Today the 150 foot long median area on West Oaks Blvd is striped with an eastbound left turn lane for the northern office use and that lane runs parallel to and alongside a striped median that is 10 to 12 feet wide. This median striping exists because West Oaks Blvd is transitioning from a two lane to a four lane facility. The western driveway has a short TWLT lane area (i.e., 30 feet) between the end of that striped median and the existing driveway.

Evaluation Criteria / Standards. The issue to be evaluated at each location is the extent to which westbound left turns into the project site interfere with other traffic on West Oaks Blvd primarily due to the difference in speed between turning and through traffic.

Desirable left turn pocket lengths can be determined from the standards presented in the Caltrans Highway Design Manual (HDM). Caltrans suggest that the combination of left turn lane and bay taper be long enough to hold waiting cars and provide for deceleration outside of through travel lanes. If full deceleration from the 40 mph speed limit on West Oaks Blvd is to be accommodated outside of the through travel lane, then the combination of bay taper and left turn lane would need to be 315 feet long. The HDM acknowledges that some deceleration prior to the bay taper is permissible, and the manual allows up to 20 mph of deceleration prior to the beginning of the bay taper. Assuming that 10 mph deceleration in advance of the turn pocket is acceptable, the HDM suggests that on a street with a 40 mph design these facilities would be 235 feet long to accommodate deceleration to a stop from 30 mph.

At a minimum short term pockets should be long enough to accommodate waiting vehicles outside of the flow of through traffic. At un-signalized locations the Caltrans HDM suggests that storage be provided to accommodate a two minute accumulation of peak hour vehicles.

Western Driveway. Because the existing TWLT lane is very short, motorists turning left at the western access would need to slow to about 10 mph at the end of the striped median to enter the TWLT lane. This was probably acceptable when the driveway was only used occasionally for park access. While the number of vehicles turning left at this location with the project would remain low, the 30 mph speed differential would occasionally result in following vehicles slowing when a left turn occurs.

Precluding westbound left turns into the driveway by lengthening the median area thru restriping, while still allowing outbound left turns onto West Oaks Blvd could be considered. However, as this driveway provides access to City property, the City will need to consider the desirability of this action at what would be a low volume location.

Eastern Driveway. Restriping the median as proposed would yield a short left turn lane (i.e., about 50 feet long) that is preceded by bay taper of about 60 feet. The turn lane would accommodate two waiting vehicles, which is the minimum standard, but the area available for deceleration outside of the through lane would be relatively short. Thus the speed differential is likely to exceed the 20 mph standard under the HDM. An alternative striping layout should be considered that provides additional space for deceleration.

Because the median area between the eastern driveway and the next driveway on the north side of West Oaks Blvd is very wide it would be possible to reconfigure the area to provide westbound and eastbound left turn lanes that are generally side by side. The area is roughly 215 feet long. Today the eastbound lane is 95 feet long and is preceded by a 100 foot long bay taper. These dimensions could be maintained if the lane was moved to the south as noted in the sketch included in the appendix to this report. This relocation would allow the new westbound lane to be of similar length (i.e., 90 ± feet) and to be preceded by a 100 foot long bay taper. The new lane should be directionally oriented towards the project access to minimize conflicts between concurrent eastbound and westbound left turns.

BASELINE (EPAP) IMPACTS

The “Baseline” traffic impacts of the proposed project have been considered within the context of traffic conditions in this area of Rocklin assuming occupancy of other approved but as yet unconstructed projects under an “Existing Plus Approved Projects” (EPAP) condition.

Existing Plus Approved Projects (EPAP) Conditions

Land Use Assumptions. The City of Rocklin maintains a list of development proposals and tracks their completion status. City of Rocklin staff reviewed recent development history to identify approved development in the Stanford Ranch, south of Sunset and Sunset West areas that should be assumed to be completed under this assessment. Table 7 presents the list of approved but not constructed projects, as well as their estimated peak hour trip generation. As noted, these projects may add 1,051 p.m. peak hour trips to the Rocklin street system.

**TABLE 7
APPROVED BUT UNBUILT PROJECTS AND THEIR TRIP GENERATION**

Description	Land Use	Size		PM Peak Hour Trips		
		Quantity	Unit	In	Out	Total
<i>Stanford Ranch</i>						
Stanford Ranch Parcel 56 Building B	Office	69.55	ksf	17	86	103
Stanford Ranch Parcel 79B	Office / Retail	66.60	ksf	47	84	131
Stanford Terrace	Condominium	119	du	41	21	62
UNFI Expansion	Cold Storage	59.93	ksf	5	13	18
Sunset at Stanford Ranch	Single Family Residential	47	du	30	17	47
Sunset West Parcel 2 Apartments	Multiple Family Residential	186	du	75	40	115
Nobel Learning Center	Day Care Center	196	students	75	84	156
	subtotal			290	345	632
<i>South of Sunset</i>						
Sunset Hills Townhomes	Multiple Family Residential	148	du	56	27	83
South Whitney Mixed Use	Multiple Family	20	du	11	5	16
	Office	7.89	ksf	8	20	28
Triton Towers	Office	9.9	ksf	14	29	43
	Townhomes	12	du			
Gracepoint Adventist Church	Church Expansion	23.91	ksf	6	7	13
Quarry Place	Mixed use	229	du	141	92	233
		9.7	ksf			
	subtotal			236	180	416
Total				526	525	1,051
Note: some projects have been occupied since the traffic counts were conducted in April 2016						

Technical Approach. The approach taken to estimate EPAP baseline volumes was similar to that employed for the proposed project. Trip distribution patterns were identified from other project traffic studies or based on select zone analysis for residential and non-residential uses. These trips were then aggregated and superimposed onto the existing background condition to create the EPAP baseline volumes presented in Figure 5.

Circulation System Improvements. No improvements are anticipated at study area intersections as a result of other Approved projects.

EPAP Plus Proposed Project Traffic Volume Forecasts. The trips generated by the proposed project were superimposed into the EPAP background condition, and the results are also presented in Figure 5.

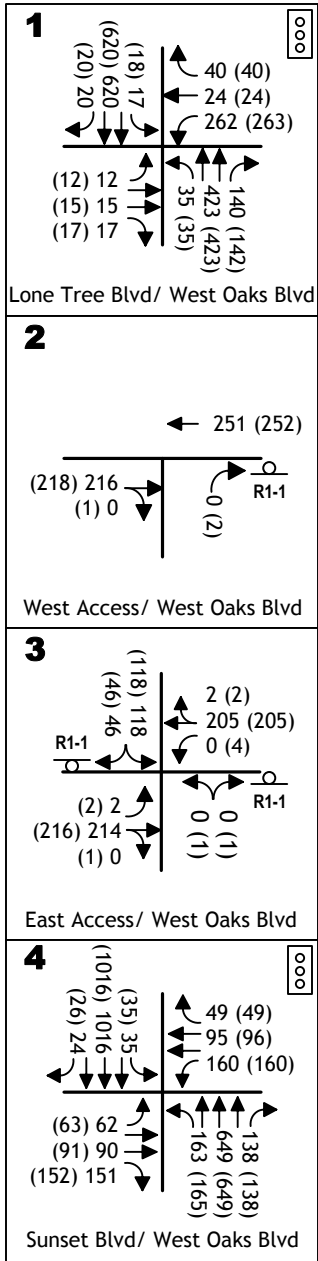
EPAP No Project Levels of Service. Table 8 compares Existing Plus Approved Projects Levels of Service with and without The Residences at West Oaks project. As shown, if the project does not proceed, all locations will operate with Level of Service that satisfies the City of Rocklin's minimum LOS C standard.

EPAP No Project Traffic Signal Warrants. The peak hour traffic volumes at un-signalized intersections were compared to warrants for signalization. The east access on West Oaks Blvd will not carry volumes that satisfy peak hour warrants for signalization.

EPAP Plus Project Conditions

EPAP Plus Project Levels of Service. Development of the proposed project will increase the volume of traffic on study area roads. However, the Level of Service at all study intersections will not change. All intersections will continue to operate with Levels of Service that meet the City of Rocklin LOS C standard, and the project's impact is not significant.

EPAP Plus Project Traffic Signal Warrants. The East access intersection will not satisfy peak hour warrants.



EXISTING PLUS APPROVED PROJECTS AND EPAP PLUS PROJECT
TRAFFIC VOLUMES AND LANE CONFIGURATIONS

**TABLE 8
EXISTING PLUS APPROVED PROJECTS (EPAP) PLUS PROJECT
PEAK HOUR INTERSECTION LEVELS OF SERVICE**

Intersection	Control	PM Peak Hour					
		Existing Plus Approved Projects			EPAP Plus The Residences at West Oaks		
		LOS	Volume / Capacity	Average Delay (sec/veh)	LOS	Volume / Capacity	Average Delay (sec/veh)
West Oaks Blvd /Lone Tree Blvd	Signal	A	0.430	-	A	0.431	-
West Oaks Blvd / West Access (overall)	NB Stop	(-)	(-)	(-)	(A)	(-)	(0.0)
Northbound right turn					A		9.4
West Oaks Blvd / East Access (overall)	NB/SB Stop	(A)	(-)	(3.5)	(A)	(-)	(3.8)
Northbound approach		-		-	B		10.4
Southbound approach		B		12.5	B		13.4
Sunset Blvd / West Oaks Blvd	Signal	A	0.560	-	A	0.562	-
Bold indicates conditions in excess of adopted minimum LOS C p.m. peak hour standard							

CUMULATIVE IMPACTS

Long Term Cumulative Conditions

Basis for Long Term Projections. The Year 2030 travel demand forecasting model used for the City of Rocklin General Plan Update EIR is the basis for the long term cumulative traffic volume forecasts used for this analysis. The long term p.m. peak hour traffic volume forecasts presented in the GPU DEIR contain site development under the current public designation. Thus, this cumulative analysis is intended to determine the relative impact of the project by comparing long term conditions if the project is developed and if public development occurs on the site.

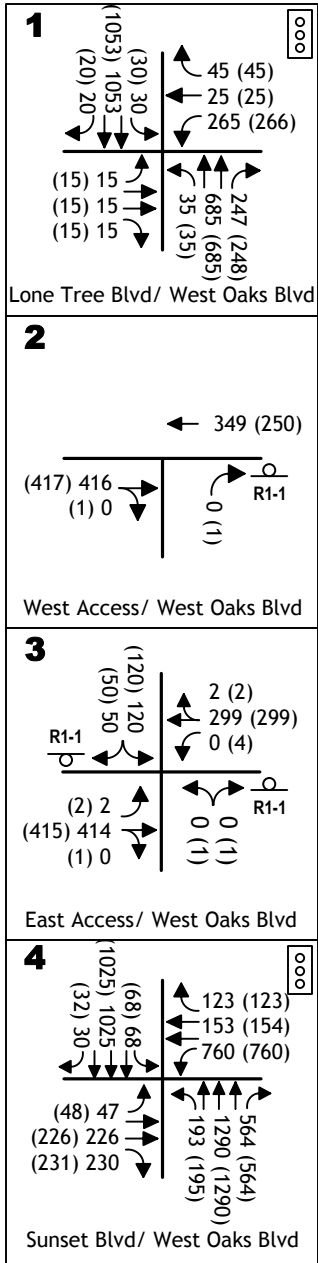
Moderate growth is anticipated in the area of the propped project. The GPU EIR indicates that West Oaks Blvd will carry 5,000 vehicles per day between Lone Tree Blvd and Sunset Blvd. As noted in the discussion of daily volume thresholds this volume would only represent 40% of the volume that a two-lane road (i.e., 12,000 ADT) can handle at LOS C.

PM peak hour intersection turning movement forecasts from the GPU EIR are the basis for this analysis. These volumes were reviewed and where existing volumes are larger the higher volume was assumed. Figure 6 presents the cumulative traffic volumes used for this analysis, as well as the sum of project and cumulative volumes.

Circulation System Assumptions. The traffic volume forecasts made for this analysis include those city-wide circulation system improvements incorporated into the General Plan traffic model and assumed in the GPU EIR traffic study. The GPU EIR identifies this mitigation:

- Sunset Boulevard and West Oaks Boulevard – Modify the intersection to include two left turn lanes from West Oaks Boulevard to Sunset Boulevard to improve intersection operations to LOS C ($v/c = 0.709$).

For the purpose of this analysis this improvement has not been assumed in order to quantify relative project impacts.



CUMULATIVE WITHOUT PROJECT AND CUMULATIVE WITH PROJECT
TRAFFIC VOLUMES AND LANE CONFIGURATIONS

Cumulative No Project Conditions

Cumulative Level of Service – No Project. Table 9 compares cumulative peak hour Levels of Service at study intersections with and without the proposed project. As indicated, with one exception all intersections will operate satisfactorily.

The **Sunset Blvd / West Oaks Blvd intersection** will operate at LOS F in the p.m. peak hour without the project. LOS F exceeds the City's general LOS C standard for the p.m. peak hour, and the GPU EIR identifies mitigation (i.e., dual left turn lanes on westbound West Oaks Blvd).

Cumulative Traffic Signal Warrants – No Project. The un-signalized East Access intersection on West Oaks Blvd does not satisfy traffic signal warrants under the Cumulative No Project condition.

Cumulative Plus Project Conditions

Cumulative Levels of Service – With Project. Development of the project will incrementally change the volume of traffic through study area intersections under Cumulative conditions in comparison to the volumes that are forecast if the project site is developed with public uses. The intersection that was identified with Level of Service exceeding the LOS C minimum without the project (Sunset Blvd/West Oaks Blvd) would remain at LOS F in the p.m. peak hour if the proposed project proceeds. Because the intersection would have a deficient Level of Service with and without the project, the significance of this impact is determined based on the relative change in v/c ratio. Because the incremental change of 0.003 is less than the 0.050 threshold used by the City of Rocklin, the project's impact is not significant. The project will contribute its fair share to the cost of regional and city-wide improvements by paying adopted fees, and no additional mitigations are needed.

Cumulative Traffic Signal Warrants – With Project. Cumulative p.m. peak hour traffic volumes at the two access intersections were compared to warrants for signalization. These intersections carry traffic volumes which fail to reach the level that would satisfy warrants.

**TABLE 9
CUMULATIVE PLUS PROJECT
PEAK HOUR INTERSECTION LEVELS OF SERVICE**

Intersection	Control	PM Peak Hour					
		General Plan Build Out			GP Plus The Residences at West Oaks		
		LOS	Volume / Capacity	Average Delay (sec/veh)	LOS	Volume / Capacity	Average Delay (sec/veh)
West Oaks Blvd /Lone Tree Blvd	Signal	A	0.580	-	A	0.581	-
West Oaks Blvd / West Access (overall)	NB Stop	(-)	(-)	(-)	(A)	(-)	(0.0)
Northbound right turn					B		10.6
West Oaks Blvd / East Access (overall)	NB/SB Stop	(A)	(-)	(3.3)	(A)	(-)	(4.0)
Northbound approach		-		-	B		13.8
Southbound approach		C		17.3	C		20.3
Sunset Blvd / West Oaks Blvd	Signal	F	1.051	-	F	1.054	-
Dual left turn lanes on Westbound West Oaks Blvd		C	0.709	-	C	0.710	-
Bold indicates conditions in excess of adopted minimum LOS C p.m. peak hour standard							

IMPACT / MITIGATION SUMMARY

The section which follows identifies those impacts that have been deemed significant or insignificant under City of Rocklin standards and prescribes mitigation measure to reduce those impacts to a less than significant level.

Existing Plus Project Conditions

Level of Service. As noted in Table 6, intersection Levels of Service under Existing Plus Project conditions remain within the City of Rocklin's LOS C goal for the p.m. peak hour at all locations. Thus, the project's impacts relating to traffic circulation are not significant. No mitigation is required.

Alternative Transportation Modes. Because the project site abuts streets that already have sidewalks and bicycle lanes, and the project does not interfere with the implementation of any planned pedestrian or bicycle facilities, the project's impact to these alternative transportation modes is not significant. No mitigation is required.

Because the demand for transit services associated with this project is not appreciable and can be served by existing Placer Transit services, the project's impact on transit is not significant. No mitigation is required.

Access. The access design is adequate. While the throat in the project's eastern driveway is short, because background traffic on West Oaks Blvd will remain low and the amount of project traffic is slight, the design is adequate.

The project shall modify the current striping layout along West Oaks Blvd to provide a separate westbound left turn lane at the east access to the satisfaction of the City Engineer.

Baseline Existing Plus Approved Projects (EPAP) Plus Project Conditions

As noted in Table 8, development of the project under Existing Plus Approved Projects conditions will add traffic to study area intersections, but all locations will continue to operate with Level of Service that satisfy the City of Rocklin's minimum LOS C goal. The project's impact is not significant.

Cumulative Plus Project Conditions

As noted in Table 9 one intersection is projected to operate at LOS F in the future (Year 2030) regardless of whether the proposed project proceeds or not, while all other locations will satisfy the City's minimum LOS C standard.

The **Sunset Blvd / West Oaks Blvd intersection** will operate at LOS F with and without the project. The General Plan EIR identifies an applicable mitigation for this intersection (i.e., dual left turn lanes on westbound West Oaks Blvd) and that improvement yields LOS C.

In this case the incremental change in delay accompanying the project is 0.003, which is less than the 0.050 threshold used by the City to determine the significance of impacts when background conditions exceed the minimum standard. Because the threshold is not exceeded, the project's impact is not significant, and no mitigation is required.

APPENDIX

Traffic Counts

Level of Service Worksheets

KDA

ALL TRAFFIC DATA

(916) 771-8700

orders@atdtraffic.com

1136-01

File Name : 18-07026-001

Date : 02/01/2018

Unshifted Count = All Vehicles & Uturns

START TIME	Lonetree Blvd Southbound					West Oaks Blvd Westbound					Lonetree Blvd Northbound					West Oaks Blvd Eastbound					Total	UtURNS Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
16:00	2	114	2	1	119	66	0	7	0	73	4	99	26	5	134	1	1	3	0	5	331	6
16:15	3	98	3	0	104	46	2	5	0	53	3	90	20	1	114	2	2	5	0	9	280	1
16:30	0	125	0	0	125	61	0	5	0	66	2	87	24	0	113	1	1	2	0	4	308	0
16:45	1	142	1	1	145	54	3	6	0	63	5	105	29	2	141	0	0	4	0	4	353	3
Total	6	479	6	2	493	227	5	23	0	255	14	381	99	8	502	4	4	14	0	22	1272	10
17:00	5	163	1	0	169	84	1	22	0	107	7	111	29	1	148	0	2	1	0	3	427	1
17:15	6	156	1	0	163	59	3	4	0	66	6	93	33	0	132	3	1	6	0	10	371	0
17:30	4	149	2	0	155	39	2	8	0	49	4	109	32	3	148	1	4	2	0	7	359	3
17:45	1	106	1	0	108	50	2	1	0	53	3	92	27	2	124	1	0	1	0	2	287	2
Total	16	574	5	0	595	232	8	35	0	275	20	405	121	6	552	5	7	10	0	22	1444	6
Grand Total	22	1053	11	2	1088	459	13	58	0	530	34	786	220	14	1054	9	11	24	0	44	2716	16
Apprch %	2.0%	96.8%	1.0%	0.2%		86.6%	2.5%	10.9%	0.0%		3.2%	74.6%	20.9%	1.3%		20.5%	25.0%	54.5%	0.0%			
Total %	0.8%	38.8%	0.4%	0.1%	40.1%	16.9%	0.5%	2.1%	0.0%	19.5%	1.3%	28.9%	8.1%	0.5%	38.8%	0.3%	0.4%	0.9%	0.0%	1.6%	100.0%	

PM PEAK HOUR	Lonetree Blvd Southbound					West Oaks Blvd Westbound					Lonetree Blvd Northbound					West Oaks Blvd Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:45 to 17:45																					
Peak Hour For Entire Intersection Begins at 16:45																					
16:45	1	142	1	1	145	54	3	6	0	63	5	105	29	2	141	0	0	4	0	4	353
17:00	5	163	1	0	169	84	1	22	0	107	7	111	29	1	148	0	2	1	0	3	427
17:15	6	156	1	0	163	59	3	4	0	66	6	93	33	0	132	3	1	6	0	10	371
17:30	4	149	2	0	155	39	2	8	0	49	4	109	32	3	148	1	4	2	0	7	359
Total Volume	16	610	5	1	632	236	9	40	0	285	22	418	123	6	569	4	7	13	0	24	1510
% App Total	2.5%	96.5%	0.8%	0.2%		82.8%	3.2%	14.0%	0.0%		3.9%	73.5%	21.6%	1.1%		16.7%	29.2%	54.2%	0.0%		
PHF	.667	.936	.625	.250	.935	.702	.750	.455	.000	.666	.786	.941	.932	.500	.961	.333	.438	.542	.000	.600	.884

ALL TRAFFIC DATA

(916) 771-8700

orders@atdtraffic.com

File Name : 18-07026-001

Date : 02/01/2018

Bank 1 Count = Bikes & Peds

START TIME	Lonetree Blvd Southbound					West Oaks Blvd Westbound					Lonetree Blvd Northbound					West Oaks Blvd Eastbound					Total	Peds Total
	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL		
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	1	0	0	0	0	3	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0
Total	0	0	0	0	0	0	0	0	2	0	0	0	0	6	0	0	0	0	1	0	0	9
17:00	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	2
17:15	1	0	0	0	1	0	0	0	1	0	0	2	0	1	2	0	0	0	0	0	3	2
17:30	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2	0
17:45	0	1	0	0	1	2	0	0	1	2	0	0	0	0	0	0	0	0	1	0	3	2
Total	1	2	0	0	3	2	0	0	3	2	0	3	0	2	3	0	0	0	1	0	8	6
Grand Total	1	2	0	0	3	2	0	0	5	2	0	3	0	8	3	0	0	0	2	0	8	15
Apprch %	33.3%	66.7%	0.0%			100.0%	0.0%	0.0%			0.0%	100.0%	0.0%			0.0%	0.0%	0.0%				
Total %	12.5%	25.0%	0.0%		37.5%	25.0%	0.0%	0.0%		25.0%	0.0%	37.5%	0.0%		37.5%	0.0%	0.0%	0.0%		0.0%	100.0%	

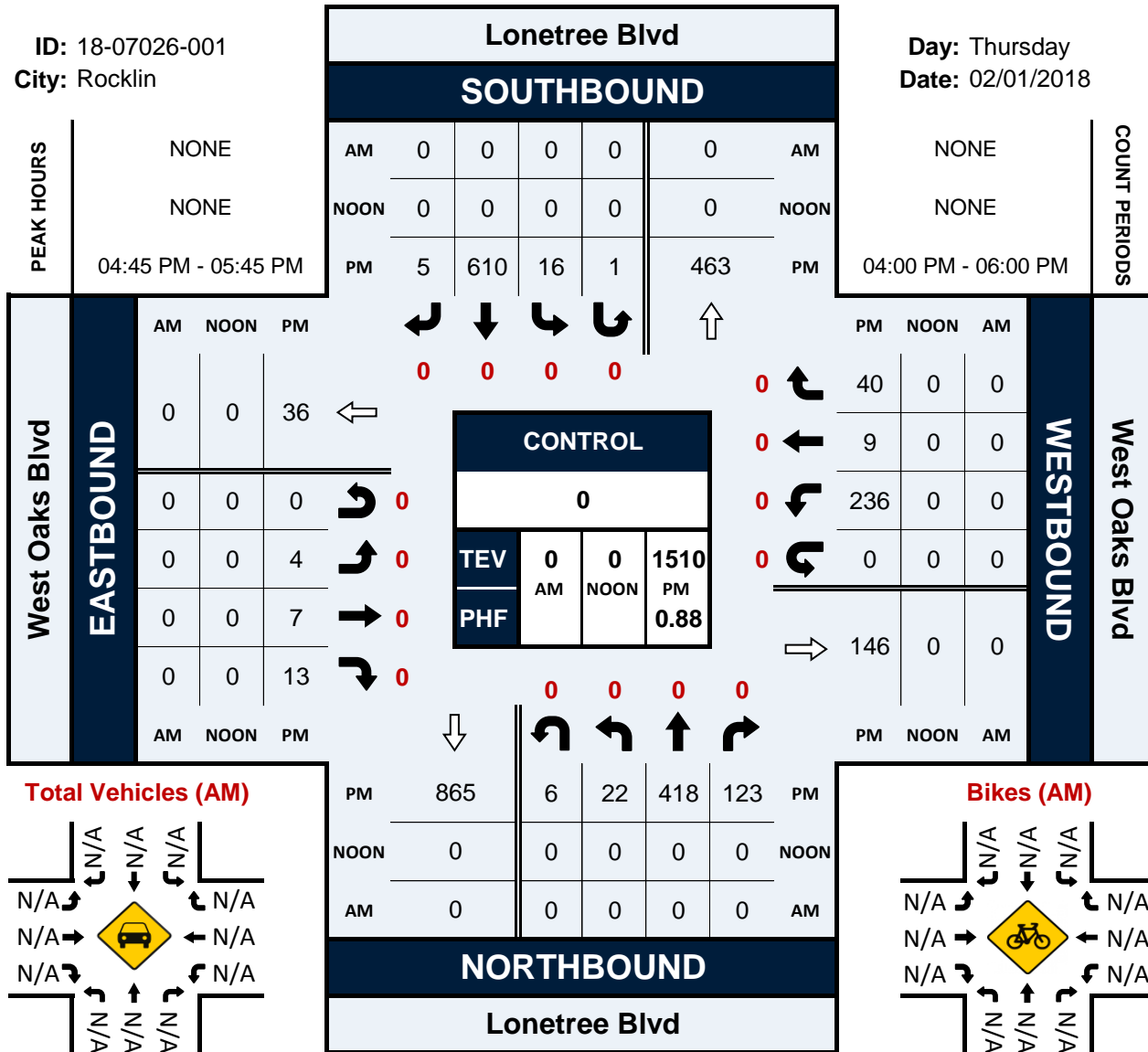
PM PEAK HOUR	Lonetree Blvd Southbound					West Oaks Blvd Westbound					Lonetree Blvd Northbound					West Oaks Blvd Eastbound					Total	
	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL		
Peak Hour Analysis From 16:45 to 17:45																						
Peak Hour For Entire Intersection Begins at 16:45																						
16:45	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0
17:00	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0
17:15	1	0	0	0	1	0	0	0	1	0	0	2	0	1	2	0	0	0	0	0	0	3
17:30	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2
Total Volume	1	1	0	0	2	0	0	0	3	0	0	3	0	2	3	0	0	0	1	0	0	5
% App Total	50.0%	50.0%	0.0%			0.0%	0.0%	0.0%			0.0%	100.0%	0.0%			0.0%	0.0%	0.0%				
PHF	.250	.250	.000		.500	.000	.000	.000		.000	.000	.375	.000		.375	.000	.000	.000		.000		.417

Lonetree Blvd & West Oaks Blvd

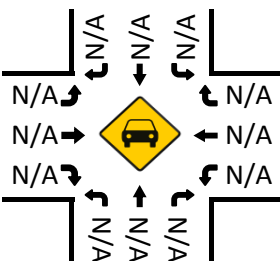
Peak Hour Turning Movement Count

ID: 18-07026-001
City: Rocklin

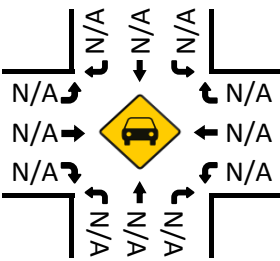
Day: Thursday
Date: 02/01/2018



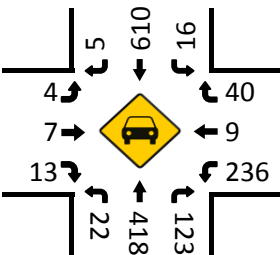
Total Vehicles (AM)



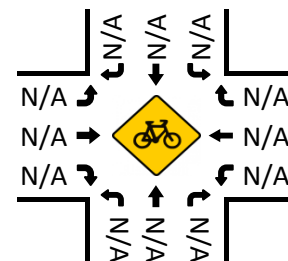
Total Vehicles (Noon)



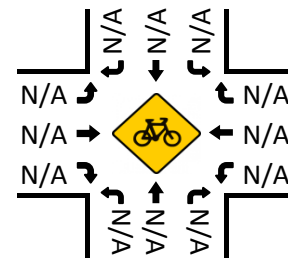
Total Vehicles (PM)



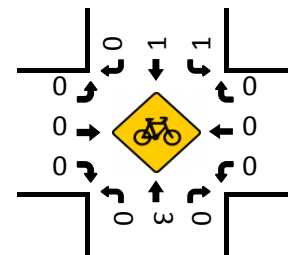
Bikes (AM)



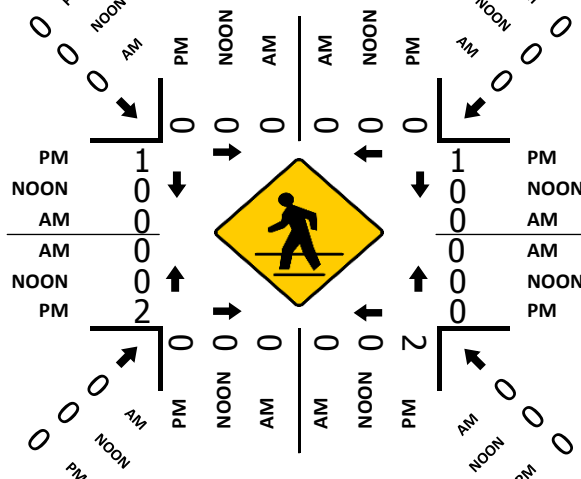
Bikes (Noon)



Bikes (PM)



Pedestrians (Crosswalks)



KD ANDERSON & ASSOCIATES, INC.

1136-01

Rocklin
All Vehicles & Uturns On Unshifted
Bikes & Peds On Bank 1
Nothing On Bank 2

(916) 660-1555

File Name : W Oaks Blvd & Access
Date : 1/17/2018

Unshifted Count = All Vehicles & Uturns

START TIME	Access Southbound					W Oaks Blvd Westbound					Access Northbound					W Oaks Blvd Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	0	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	0
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45	0	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	0
12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45	0	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	0
16:00	20	0	7	0	27	0	42	1	0	43	0	0	0	0	0	0	41	0	0	41	111	0
16:15	8	0	8	0	16	0	35	2	0	37	0	0	0	0	0	0	43	0	0	43	96	0
16:30	27	0	11	0	38	0	19	0	0	19	0	0	0	0	0	0	29	0	0	29	86	0
16:45	20	0	10	0	30	0	53	1	0	54	0	0	0	0	0	0	40	0	0	40	124	0
Total	75	0	36	0	111	0	149	4	0	153	0	0	0	0	0	0	153	0	0	153	417	0
17:00	62	0	23	0	85	0	34	1	0	35	0	0	0	0	0	1	48	0	0	49	169	0
17:15	25	0	10	0	35	0	34	0	0	34	0	0	0	0	0	0	50	0	0	50	119	0
17:30	11	0	3	0	14	0	43	0	0	43	0	0	0	0	0	1	51	0	0	52	109	0
17:45	9	0	6	0	15	0	45	0	0	45	0	0	0	0	0	0	33	0	0	33	93	0
Total	107	0	42	0	149	0	156	1	0	157	0	0	0	0	0	2	182	0	0	184	490	0
Grand Total	182	0	78	0	260	0	305	5	0	310	0	0	0	0	0	2	335	0	0	337	907	0
Apprch %	70.0%	0.0%	30.0%	0.0%		0.0%	98.4%	1.6%	0.0%		0.0%	0.0%	0.0%	0.0%		0.6%	99.4%	0.0%	0.0%			
Total %	20.1%	0.0%	8.6%	0.0%	28.7%	0.0%	33.6%	0.6%	0.0%	34.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	36.9%	0.0%	0.0%	37.2%	100.0%	

AM PEAK HOUR	Access Southbound					W Oaks Blvd Westbound					Access Northbound					W Oaks Blvd Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 08:45 to 09:45																					
Peak Hour For Entire Intersection Begins at 08:45																					
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App Total	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

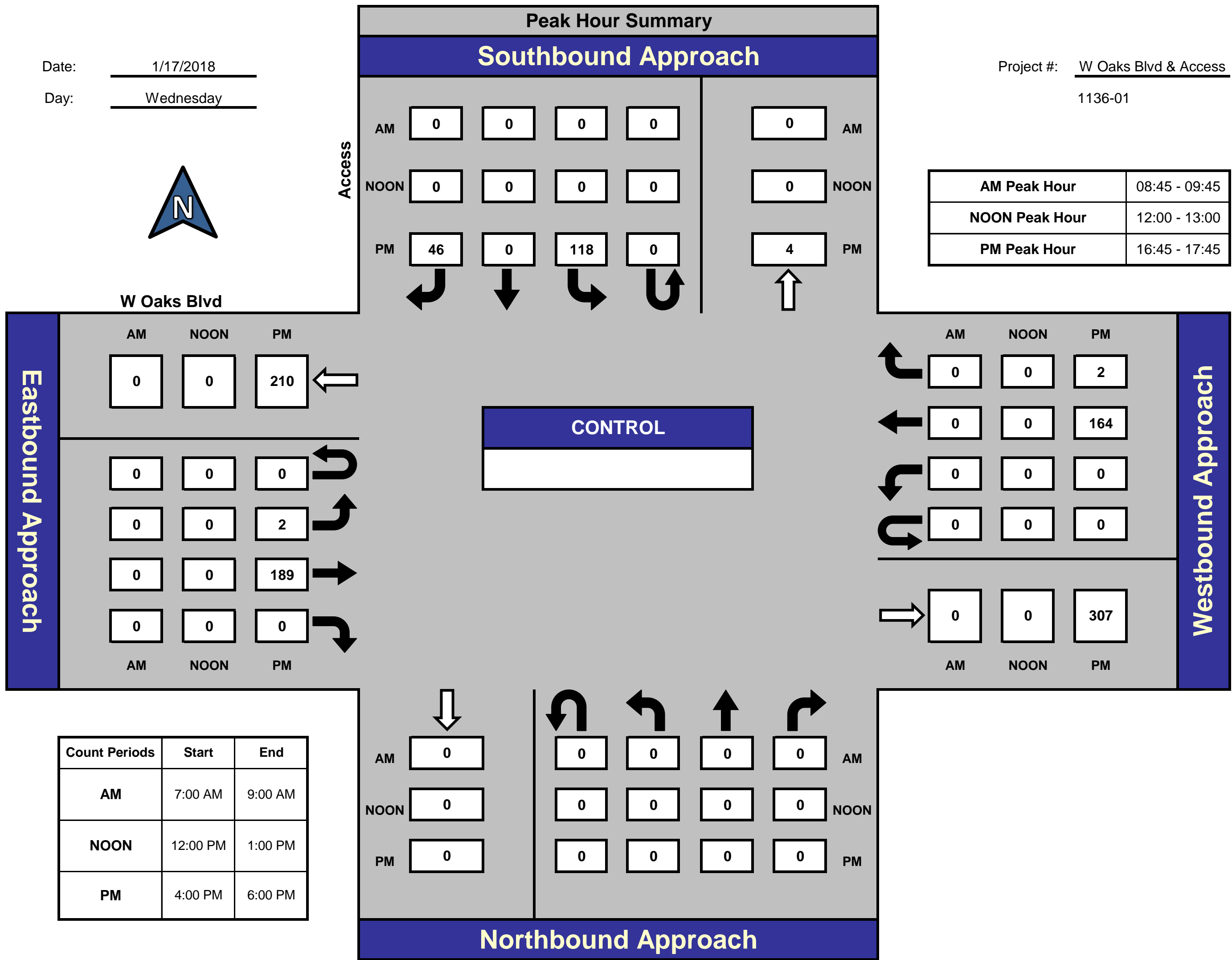
NOON PEAK	Access Southbound					W Oaks Blvd Westbound					Access Northbound					W Oaks Blvd Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 12:00 to 13:00																					
Peak Hour For Entire Intersection Begins at 12:00																					
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App Total	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

PM PEAK HOUR	Access Southbound					W Oaks Blvd Westbound					Access Northbound					W Oaks Blvd Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:45 to 17:45																					
Peak Hour For Entire Intersection Begins at 16:45																					
16:45	20	0	10	0	30	0	53	1	0	54	0	0	0	0	0	0	40	0	0	40	124
17:00	62	0	23	0	85	0	34	1	0	35	0	0	0	0	0	1	48	0	0	49	169
17:15	25	0	10	0	35	0	34	0	0	34	0	0	0	0	0	0	50	0	0	50	119
17:30	11	0	3	0	14	0	43	0	0	43	0	0	0	0	0	1	51	0	0	52	109
Total Volume	118	0	46	0	164	0	164	2	0	166	0	0	0	0	0	2	189	0	0	191	521
% App Total	72.0%	0.0%	28.0%	0.0%		0.0%	98.8%	1.2%	0.0%		0.0%	0.0%	0.0%	0.0%		1.0%	99.0%	0.0%	0.0%		
PHF	.476	.000	.500	.000	.482	.000	.774	.500	.000	.769	.000	.000	.000	.000	.000	.500	.926	.000	.000	.918	.771

W Oaks Blvd & Access

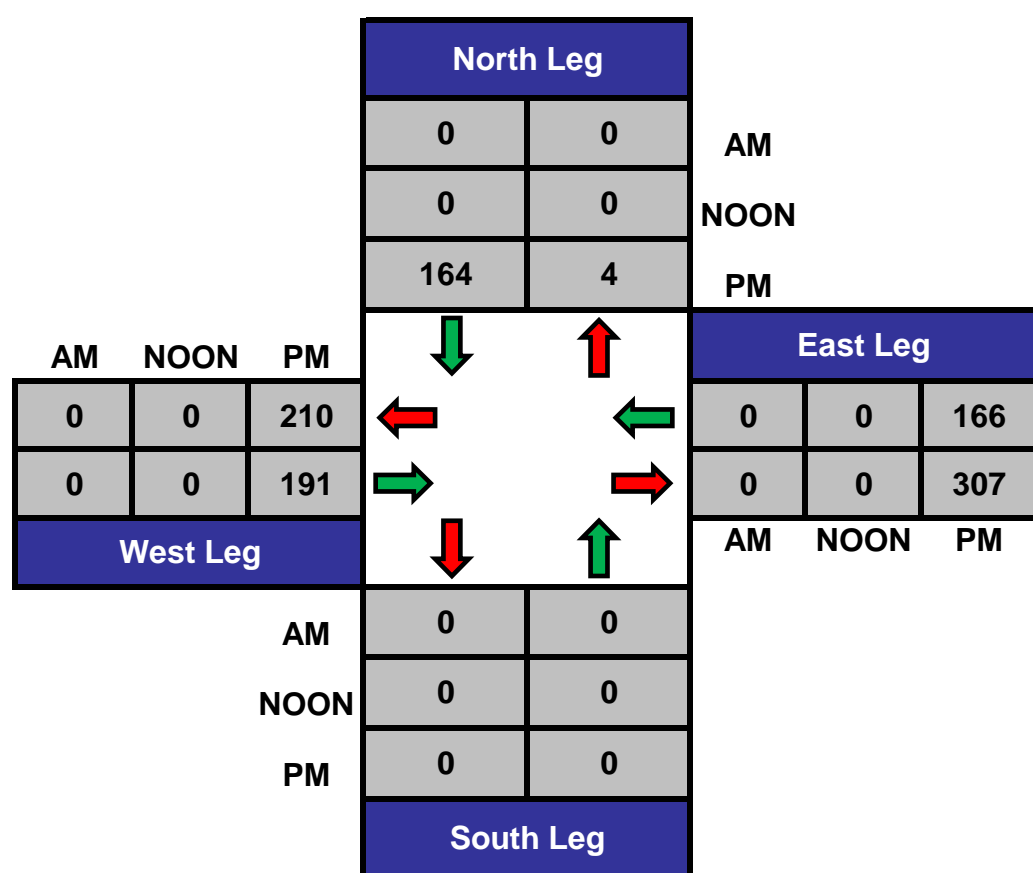
Date: 1/17/2018
Day: Wednesday

Project #: W Oaks Blvd & Access
1136-01

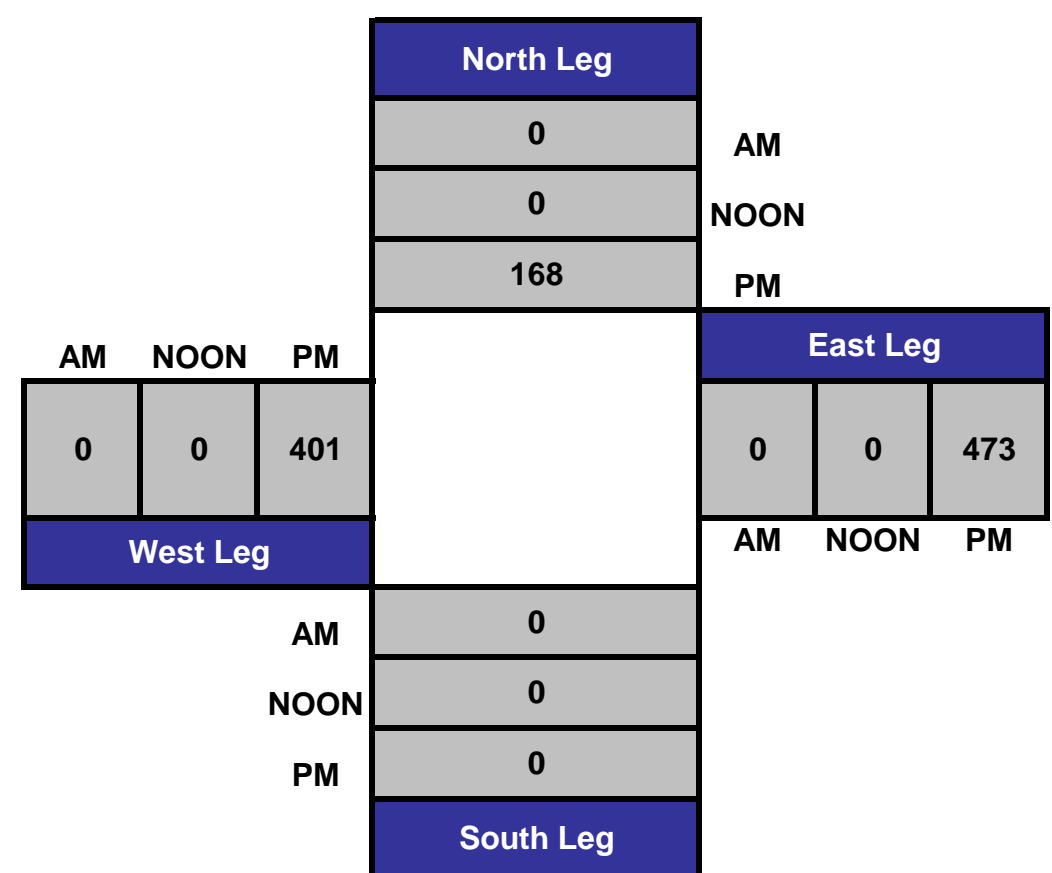


Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON	12:00 PM	1:00 PM
PM	4:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



EXISTING AND EXISTING PLUS PROJECT
1136-01 BRENTWOOD DEVELOPMENT: THE RESIDENCES AT WEST OAKS

Scenario Report

Scenario: EX PM

Command: Default Command
Volume: PM APRIL 2016
Geometry: EXISTING
Impact Fee: Default Impact Fee
Trip Generation: project only pm
Trip Distribution: CURRENT
Paths: Default Path
Routes: Default Route
Configuration: Default Configuration

 EXISTING AND EXISTING PLUS PROJECT
 1136-01 BRENTWOOD DEVELOPMENT: THE RESIDENCES AT WEST OAKS

Trip Generation Report

Forecast for project only pm

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
1	NOBLE LEARNI	196.00	DAY CARE	0.00	0.00	0	0	0	0.0
19	noble outbou	196.00	day care	0.00	0.00	0	0	0	0.0
22	residences a	20.00	townhomes	0.30	0.15	6	3	9	100.0
	Zone 22 Subtotal					6	3	9	100.0
TOTAL						6	3	9	100.0

EXISTING AND EXISTING PLUS PROJECT
1136-01 BRENTWOOD DEVELOPMENT: THE RESIDENCES AT WEST OAKS

Trip Distribution Report

Percent Of Trips CURRENT

Zone	To Gates										
	1	2	3	4	5	6	7	8	9	10	11
1	0.0	10.0	2.0	0.0	0.0	0.0	2.0	2.0	0.0	5.0	35.0
4	28.0	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	0.0	15.0
5	18.0	4.0	2.0	0.0	2.0	1.0	5.0	0.0	0.0	0.0	19.0
7	15.0	0.0	0.0	0.0	0.0	0.0	25.0	0.0	0.0	0.0	50.0
8	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0
9	5.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0
10	5.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0
18	15.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0
19	0.0	10.0	5.0	2.5	2.5	5.0	15.0	15.0	5.0	0.0	5.0
21	0.0	5.0	5.0	0.0	10.0	0.0	5.0	5.0	0.0	5.0	35.0
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	0.0	0.0	0.0
23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	0.0	0.0	0.0

Zone	To Gates										
	12	14	15	16	17	18	19	20	21	22	23
1	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	17.0	0.0	0.0
4	2.0	0.0	0.0	2.0	2.0	2.0	2.0	35.0	0.0	0.0	0.0
5	4.0	0.0	0.0	1.0	1.0	1.0	0.0	7.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	5.0	0.0
8	0.0	0.0	0.0	20.0	20.0	2.0	5.0	10.0	15.0	15.0	1.0
9	0.0	0.0	0.0	20.0	20.0	2.0	5.0	10.0	15.0	15.0	1.0
10	0.0	0.0	0.0	35.0	10.0	0.0	0.0	5.0	5.0	5.0	0.0
18	0.0	0.0	0.0	0.0	0.0	5.0	8.0	10.0	15.0	15.0	0.0
19	5.0	2.0	5.0	3.0	5.0	2.0	3.0	0.0	0.0	0.0	0.0
21	0.0	0.0	0.0	0.0	0.0	0.0	5.0	10.0	0.0	5.0	0.0
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Zone	To Gates						
	24	25	26	27	30	31	32
1	10.0	0.0	0.0	0.0	0.0	10.0	5.0
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	0.0	0.0	0.0	0.0	0.0	30.0	5.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	2.0	0.0	5.0	0.0
9	0.0	0.0	0.0	2.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0	25.0	5.0
18	1.0	2.0	2.0	2.0	0.0	15.0	5.0
19	5.0	0.0	0.0	0.0	0.0	5.0	0.0
21	0.0	0.0	0.0	0.0	0.0	10.0	0.0
22	30.0	0.0	0.0	0.0	0.0	40.0	20.0

EXISTING AND EXISTING PLUS PROJECT
1136-01 BRENTWOOD DEVELOPMENT: THE RESIDENCES AT WEST OAKS

Zone	To Gates						
	24	25	26	27	30	31	32
23	30.0	0.0	0.0	0.0	0.0	40.0	20.0

EXISTING AND EXISTING PLUS PROJECT
 1136-01 BRENTWOOD DEVELOPMENT: THE RESIDENCES AT WEST OAKS

Turning Movement Report
 project only pm

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#1 EST OAKS BLVD / LONE TREE BLVD													
Base	28	418	123	17	610	5	4	7	13	236	9	40	1510
Added	0	0	1	0	0	0	0	0	0	1	0	0	2
Total	28	418	124	17	610	5	4	7	13	237	9	40	1512
#2 West oaks / West Access													
Base	0	0	0	0	0	0	0	191	0	0	210	0	401
Added	0	0	1	0	0	0	0	1	1	0	1	0	4
Total	0	0	1	0	0	0	0	192	1	0	211	0	405
#3 west Oaks / East Access													
Base	0	0	0	118	0	46	2	189	0	0	164	2	521
Added	1	0	1	0	0	0	0	1	1	5	0	0	9
Total	1	0	1	118	0	46	2	190	1	5	164	2	530
#4 WEST OAKS BLVD . SUNSET BLVD													
Base	139	606	124	35	916	14	57	86	134	158	88	49	2406
Added	2	0	0	0	0	2	1	0	1	0	1	0	7
Total	141	606	124	35	916	16	58	86	135	158	89	49	2413

 EXISTING AND EXISTING PLUS PROJECT
 1136-01 BRENTWOOD DEVELOPMENT: THE RESIDENCES AT WEST OAKS

Impact Analysis Report
 Level Of Service

Intersection	Base		Future		Change in
	Del/ LOS	V/ Veh C	Del/ LOS	V/ Veh C	
# 1 EST OAKS BLVD / LONE TREE BLVD	A	xxxxxx 0.401	A	xxxxxx 0.402	+ 0.001 V/C
# 2 West oaks / West Access	A	0.0 0.000	A	9.2 0.001	+ 9.219 D/V
# 3 west Oaks / East Access	B	11.7 0.183	B	12.4 0.201	+ 0.673 D/V
# 4 WEST OAKS BLVD . SUNSET BLVD	A	xxxxxx 0.508	A	xxxxxx 0.510	+ 0.002 V/C

EXISTING AND EXISTING PLUS PROJECT
1136-01 BRENTWOOD DEVELOPMENT: THE RESIDENCES AT WEST OAKS

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #1 EST OAKS BLVD / LONE TREE BLVD

Cycle (sec): 100 Critical Vol./Cap.(X): 0.401
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 38 Level Of Service: A

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control (Protected), Rights (Include), Min. Green, Y+R, and Lanes.

Volume Module: >> Count Date: 1 Feb 2018 <<
Table with 12 columns for volume counts and adjustment factors (Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, Final Volume).

Saturation Flow Module:
Table with 12 columns for saturation flow values and adjustment factors (Sat/Lane, Adjustment, Lanes, Final Sat.).

Capacity Analysis Module:
Table with 12 columns for capacity analysis values (Vol/Sat, Crit Volume, Crit Moves).

EXISTING AND EXISTING PLUS PROJECT
1136-01 BRENTWOOD DEVELOPMENT: THE RESIDENCES AT WEST OAKS

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #1 EST OAKS BLVD / LONE TREE BLVD

Cycle (sec): 100 Critical Vol./Cap.(X): 0.402
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 38 Level Of Service: A

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, Min. Green, Y+R, and Lanes.

Volume Module: >> Count Date: 1 Feb 2018 <<. Table with 13 columns for volume counts and various adjustment factors like Growth Adj, PHF Adj, etc.

Saturation Flow Module. Table with 13 columns for Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module. Table with 13 columns for Vol/Sat, Crit Volume, and Crit Moves.

EXISTING AND EXISTING PLUS PROJECT
1136-01 BRENTWOOD DEVELOPMENT: THE RESIDENCES AT WEST OAKS

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

Intersection #2 West oaks / West Access

Average Delay (sec/veh): 0.0 Worst Case Level Of Service: A[0.0]

Table with columns: Approach, Movement, Control, Rights, Lanes. Rows for North Bound, South Bound, East Bound, West Bound.

Volume Module:
Base Vol: 0 0 0 0 0 0 0 0 191 0 0 210 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: 0 0 0 0 0 0 0 0 191 0 0 210 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: 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 Volume: 0 0 0 0 0 0 0 0 191 0 0 210 0
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0
FinalVolume: 0 0 0 0 0 0 0 0 191 0 0 210 0

Critical Gap Module:
Critical Gp: 6.4 6.5 6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim: 3.5 4.0 3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx

Capacity Module:
Cnflct Vol: 401 401 191 xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx
Potent Cap.: 609 541 856 xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx
Move Cap.: 609 541 856 xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx
Volume/Cap: 0.00 0.00 0.00 xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx

Level Of Service Module:
2Way95thQ: xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move: *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxx 0 xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS: *
ApproachDel: xxxxxx xxxxxx xxxxxx
ApproachLOS: * * *

Note: Queue reported is the number of cars per lane.

EXISTING AND EXISTING PLUS PROJECT
1136-01 BRENTWOOD DEVELOPMENT: THE RESIDENCES AT WEST OAKS

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

Intersection #2 West oaks / West Access

Average Delay (sec/veh): 0.0 Worst Case Level Of Service: A[9.2]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module: Table with 13 columns for volume and adjustment factors. Rows include Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, and FinalVolume.

Critical Gap Module: Table with 13 columns for gap and timing. Rows include Critical Gp and FollowUpTim.

Capacity Module: Table with 13 columns for capacity and volume. Rows include Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap.

Level Of Service Module: Table with 13 columns for LOS and delay. Rows include 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the number of cars per lane.

EXISTING AND EXISTING PLUS PROJECT
1136-01 BRENTWOOD DEVELOPMENT: THE RESIDENCES AT WEST OAKS

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

Intersection #3 west Oaks / East Access

Average Delay (sec/veh): 3.7 Worst Case Level Of Service: B[11.7]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Approach, Movement, Control, Rights, and Lanes.

Volume Module:

Table with 12 columns representing different traffic movements and 6 rows of volume-related metrics like Base Vol, Growth Adj, etc.

Critical Gap Module:

Table with 12 columns and 2 rows showing critical gap and follow-up time for various movements.

Capacity Module:

Table with 12 columns and 4 rows showing capacity metrics like Cnflct Vol, Potent Cap., etc.

Level Of Service Module:

Table with 12 columns and 8 rows showing level of service metrics like 2Way95thQ, Control Del, etc.

Note: Queue reported is the number of cars per lane.

EXISTING AND EXISTING PLUS PROJECT
1136-01 BRENTWOOD DEVELOPMENT: THE RESIDENCES AT WEST OAKS

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

Intersection #3 west Oaks / East Access

Average Delay (sec/veh): 4.0 Worst Case Level Of Service: B[12.4]

Table with 4 columns: Approach (North Bound, South Bound, East Bound, West Bound) and 3 sub-columns for Movement (L, T, R). Rows include Control, Rights, and Lanes.

Volume Module: Table with 12 columns for volume components (Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Final Volume) and 4 rows of data.

Critical Gap Module: Table with 12 columns for gap and timing metrics and 2 rows of data.

Capacity Module: Table with 12 columns for capacity and volume metrics and 4 rows of data.

Level Of Service Module: Table with 12 columns for LOS metrics and 8 rows of data.

Note: Queue reported is the number of cars per lane.

EXISTING AND EXISTING PLUS PROJECT
1136-01 BRENTWOOD DEVELOPMENT: THE RESIDENCES AT WEST OAKS

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #4 WEST OAKS BLVD . SUNSET BLVD

Cycle (sec): 100 Critical Vol./Cap.(X): 0.508
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 46 Level Of Service: A

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Approach, Movement, Control, Rights, Min. Green, Y+R, and Lanes.

Volume Module: Table with 13 columns showing Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, Final Volume.

Saturation Flow Module: Table with 13 columns showing Sat/Lane, Adjustment, Lanes, Final Sat.

Capacity Analysis Module: Table with 13 columns showing Vol/Sat, Crit Volume, Crit Moves.

EXISTING AND EXISTING PLUS PROJECT
1136-01 BRENTWOOD DEVELOPMENT: THE RESIDENCES AT WEST OAKS

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #4 WEST OAKS BLVD . SUNSET BLVD

Cycle (sec): 100 Critical Vol./Cap. (X): 0.510
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 47 Level Of Service: A

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, Min. Green, Y+R, and Lanes.

Volume Module: Table with 13 columns representing different traffic scenarios and 13 rows of volume-related metrics like Base Vol, Growth Adj, etc.

Saturation Flow Module: Table with 13 columns and 4 rows showing Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module: Table with 13 columns and 3 rows showing Vol/Sat, Crit Volume, and Crit Moves.

EX PLUS APPROVED PROJECTS
1136-01 BRENTWOOD DEVELOPMENT: THE RESIDENCES AT WEST OAKS

Scenario Report

Scenario: EPAP PM
Command: Default Command
Volume: PM APRIL 2016
Geometry: EXISTING
Impact Fee: Default Impact Fee
Trip Generation: PM PEAK HOUR
Trip Distribution: CURRENT
Paths: Default Path
Routes: Default Route
Configuration: Default Configuration

EX PLUS APPROVED PROJECTS
 1136-01 BRENTWOOD DEVELOPMENT: THE RESIDENCES AT WEST OAKS

Trip Generation Report

Forecast for PM PEAK HOUR

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
1	NOBLE LEARNI	0.00	PHARMACY	2.53	2.53	0	0	0	0.0
1	NOBLE LEARNI	0.00	BUSINESS PARK	0.00	0.00	0	0	0	0.0
1	NOBLE LEARNI	196.00	DAY CARE	0.38	0.00	74	0	74	7.1
Zone 1 Subtotal						74	0	74	7.1
4	approved mix	12.00	TRITON TOWERS	0.35	0.17	4	2	6	0.6
4	approved mix	9.90	TRITON TOWES O	1.00	2.72	10	27	37	3.5
Zone 4 Subtotal						14	29	43	4.1
5	APPROVED NON	69.50	STANFORD RACNH	0.25	1.24	17	86	103	9.8
5	APPROVED NON	55.93	UNFI EXPANSION	0.08	0.24	4	13	17	1.6
Zone 5 Subtotal						21	99	120	11.5
7	Stanford ran	119.00	stanford terra	0.34	0.18	40	21	61	5.8
7	Stanford ran	1.00	retail	47.00	84.00	47	84	131	12.5
Zone 7 Subtotal						87	105	192	18.3
8	SUNSET HILLS	148.00	TOWNHOMES	0.38	0.18	56	27	83	7.9
Zone 8 Subtotal						56	27	83	7.9
9	so whitney -	20.00	RESIDENCES	0.54	0.26	11	5	16	1.5
Zone 9 Subtotal						11	5	16	1.5
10	so whitney m	7.90	OFFICE KSF	1.00	2.57	8	20	28	2.7
Zone 10 Subtotal						8	20	28	2.7
11	st anton apa	185.00	APARTMENTS	0.40	0.22	74	41	115	11.0
11	st anton apa	45.00	SFR	0.63	0.37	28	17	45	4.3
11	st anton apa	1.00	retail / fast	37.00	36.00	37	36	73	7.0
Zone 11 Subtotal						139	94	233	22.2
18	E church	23.90	gracepointe ch	0.26	0.29	6	7	13	1.2
Zone 18 Subtotal						6	7	13	1.2
19	noble outbou	196.00	day care	0.00	0.43	0	84	84	8.0
Zone 19 Subtotal						0	84	84	8.0
21	Sunset at St	47.00	SFR	0.64	0.36	30	17	47	4.5
Zone 21 Subtotal						30	17	47	4.5
23	parcel 2 apa	186.00	MFR	0.40	0.22	74	41	115	11.0
Zone 23 Subtotal						74	41	115	11.0

 EX PLUS APPROVED PROJECTS
 1136-01 BRENTWOOD DEVELOPMENT: THE RESIDENCES AT WEST OAKS

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
TOTAL						520	528	1048	100.0

EX PLUS APPROVED PROJECTS
 1136-01 BRENTWOOD DEVELOPMENT: THE RESIDENCES AT WEST OAKS

Trip Distribution Report

Percent Of Trips CURRENT

Zone	To Gates										
	1	2	3	4	5	6	7	8	9	10	11
1	0.0	10.0	2.0	0.0	0.0	0.0	2.0	2.0	0.0	5.0	35.0
4	28.0	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	0.0	15.0
5	18.0	4.0	2.0	0.0	2.0	1.0	5.0	0.0	0.0	0.0	19.0
7	15.0	0.0	0.0	0.0	0.0	0.0	25.0	0.0	0.0	0.0	50.0
8	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0
9	5.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0
10	5.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0
11	13.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	15.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0
19	0.0	10.0	5.0	2.5	2.5	5.0	15.0	15.0	5.0	0.0	5.0
21	0.0	5.0	5.0	0.0	10.0	0.0	5.0	5.0	0.0	5.0	35.0
23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	0.0	0.0	0.0

Zone	To Gates										
	12	14	15	16	17	18	19	20	21	22	23
1	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	17.0	0.0	0.0
4	2.0	0.0	0.0	2.0	2.0	2.0	2.0	35.0	0.0	0.0	0.0
5	4.0	0.0	0.0	1.0	1.0	1.0	0.0	7.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	5.0	0.0
8	0.0	0.0	0.0	20.0	20.0	2.0	5.0	10.0	15.0	15.0	1.0
9	0.0	0.0	0.0	20.0	20.0	2.0	5.0	10.0	15.0	15.0	1.0
10	0.0	0.0	0.0	35.0	10.0	0.0	0.0	5.0	5.0	5.0	0.0
11	0.0	0.0	0.0	0.0	0.0	1.0	1.0	9.0	33.0	15.0	1.0
18	0.0	0.0	0.0	0.0	0.0	5.0	8.0	10.0	15.0	15.0	0.0
19	5.0	2.0	5.0	3.0	5.0	2.0	3.0	0.0	0.0	0.0	0.0
21	0.0	0.0	0.0	0.0	0.0	0.0	5.0	10.0	0.0	5.0	0.0
23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Zone	To Gates						
	24	25	26	27	30	31	32
1	10.0	0.0	0.0	0.0	0.0	10.0	5.0
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	0.0	0.0	0.0	0.0	0.0	30.0	5.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	2.0	0.0	5.0	0.0
9	0.0	0.0	0.0	2.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0	25.0	5.0
11	1.0	3.0	0.0	3.0	0.0	20.0	0.0
18	1.0	2.0	2.0	2.0	0.0	15.0	5.0
19	5.0	0.0	0.0	0.0	0.0	5.0	0.0
21	0.0	0.0	0.0	0.0	0.0	10.0	0.0

EX PLUS APPROVED PROJECTS
1136-01 BRENTWOOD DEVELOPMENT: THE RESIDENCES AT WEST OAKS

Zone	To Gates						
	24	25	26	27	30	31	32
23	30.0	0.0	0.0	0.0	0.0	40.0	20.0

 EX PLUS APPROVED PROJECTS
 1136-01 BRENTWOOD DEVELOPMENT: THE RESIDENCES AT WEST OAKS

Turning Movement Report
 PM PEAK HOUR

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#1 EST OAKS BLVD / LONE TREE BLVD													
Base	28	418	123	17	610	5	4	7	13	236	9	40	1510
Added	7	5	17	0	10	15	8	8	4	26	15	0	115
Total	35	423	140	17	620	20	12	15	17	262	24	40	1625
#2 West oaks / West Access													
Base	0	0	0	0	0	0	0	191	0	0	210	0	401
Added	0	0	0	0	0	0	0	25	0	0	41	0	66
Total	0	0	0	0	0	0	0	216	0	0	251	0	467
#3 west Oaks / East Access													
Base	0	0	0	118	0	46	2	189	0	0	164	2	521
Added	0	0	0	0	0	0	0	25	0	0	41	0	66
Total	0	0	0	118	0	46	2	214	0	0	205	2	587
#4 WEST OAKS BLVD . SUNSET BLVD													
Base	139	606	124	35	916	14	57	86	134	158	88	49	2406
Added	24	43	14	0	100	10	5	4	17	2	7	0	226
Total	163	649	138	35	1016	24	62	90	151	160	95	49	2632

 EX PLUS APPROVED PROJECTS
 1136-01 BRENTWOOD DEVELOPMENT: THE RESIDENCES AT WEST OAKS

Impact Analysis Report
 Level Of Service

Intersection	Base		Future		Change in
	Del/ LOS	V/ Veh C	Del/ LOS	V/ Veh C	
# 1 EST OAKS BLVD / LONE TREE BLVD	A	xxxxx 0.401	A	xxxxx 0.430	+ 0.029 V/C
# 2 West oaks / West Access	A	0.0 0.000	A	0.0 0.000	+ 0.000 D/V
# 3 west Oaks / East Access	B	11.7 0.183	B	12.5 0.200	+ 0.748 D/V
# 4 WEST OAKS BLVD . SUNSET BLVD	A	xxxxx 0.508	A	xxxxx 0.560	+ 0.053 V/C

EX PLUS APPROVED PROJECTS
1136-01 BRENTWOOD DEVELOPMENT: THE RESIDENCES AT WEST OAKS

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #1 EST OAKS BLVD / LONE TREE BLVD

Cycle (sec): 100 Critical Vol./Cap. (X): 0.401
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 38 Level Of Service: A

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Approach, Movement, Control, Rights, Min. Green, Y+R, and Lanes.

Volume Module: >> Count Date: 1 Feb 2018 <<
Table with 13 columns for volume counts and 13 rows for various adjustment factors like Base Vol, Growth Adj, etc.

Saturation Flow Module:
Table with 13 columns for saturation flow and 4 rows for Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module:
Table with 13 columns for capacity analysis and 4 rows for Vol/Sat, Crit Volume, and Crit Moves.

EX PLUS APPROVED PROJECTS
1136-01 BRENTWOOD DEVELOPMENT: THE RESIDENCES AT WEST OAKS

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #1 EST OAKS BLVD / LONE TREE BLVD

Cycle (sec): 100 Critical Vol./Cap.(X): 0.430
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 40 Level Of Service: A

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control (Protected), Rights (Include), Min. Green, Y+R, and Lanes.

Volume Module: >> Count Date: 1 Feb 2018 <<
Table with 13 columns representing different volume categories and their counts.

Saturation Flow Module:
Table with 13 columns representing saturation flow values for different lanes and adjustments.

Capacity Analysis Module:
Table with 13 columns representing capacity analysis metrics like Vol/Sat, Crit Volume, and Crit Moves.

EX PLUS APPROVED PROJECTS
1136-01 BRENTWOOD DEVELOPMENT: THE RESIDENCES AT WEST OAKS

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

Intersection #2 West oaks / West Access

Average Delay (sec/veh): 0.0 Worst Case Level Of Service: A[0.0]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module:

Table with 13 columns representing traffic volumes and adjustment factors for Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Volume.

Critical Gap Module:

Table with 13 columns showing critical gap and follow-up time values for different movements.

Capacity Module:

Table with 13 columns showing capacity metrics: Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap.

Level Of Service Module:

Table with 13 columns showing Level of Service (LOS) metrics: 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, Approach Del, and Approach LOS.

Note: Queue reported is the number of cars per lane.

EX PLUS APPROVED PROJECTS
1136-01 BRENTWOOD DEVELOPMENT: THE RESIDENCES AT WEST OAKS

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

Intersection #2 West oaks / West Access

Average Delay (sec/veh): 0.0 Worst Case Level Of Service: A[0.0]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module: Table with 13 columns for volume components like Base Vol, Growth Adj, Initial Bse, etc.

Critical Gap Module: Table with 13 columns for gap metrics like Critical Gp, FollowUpTim.

Capacity Module: Table with 13 columns for capacity metrics like Cnflct Vol, Potent Cap., Move Cap., etc.

Level Of Service Module: Table with 13 columns for LOS metrics like 2Way95thQ, Control Del, Shared Queue, etc.

Note: Queue reported is the number of cars per lane.

EX PLUS APPROVED PROJECTS
1136-01 BRENTWOOD DEVELOPMENT: THE RESIDENCES AT WEST OAKS

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

Intersection #3 west Oaks / East Access

Average Delay (sec/veh): 3.7 Worst Case Level Of Service: B[11.7]

Table with 4 columns: Approach (North Bound, South Bound, East Bound, West Bound) and Movement (L, T, R). Rows include Control, Rights, and Lanes.

Volume Module: Table with 13 columns for volume and adjustment factors (Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, Final Volume).

Critical Gap Module: Table with 13 columns for gap and follow-up time values.

Capacity Module: Table with 13 columns for conflict volume, potential capacity, move capacity, and volume/capacity.

Level Of Service Module: Table with 13 columns for service metrics (2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS).

Note: Queue reported is the number of cars per lane.

EX PLUS APPROVED PROJECTS
1136-01 BRENTWOOD DEVELOPMENT: THE RESIDENCES AT WEST OAKS

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

Intersection #3 west Oaks / East Access

Average Delay (sec/veh): 3.5 Worst Case Level Of Service: B[12.5]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module: Table with 13 columns for traffic volume metrics across four approaches.

Critical Gap Module: Table with 13 columns for critical gap and follow-up time metrics.

Capacity Module: Table with 13 columns for capacity and volume/capacity metrics.

Level Of Service Module: Table with 13 columns for LOS metrics and approach delays.

Note: Queue reported is the number of cars per lane.

EX PLUS APPROVED PROJECTS
1136-01 BRENTWOOD DEVELOPMENT: THE RESIDENCES AT WEST OAKS

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #4 WEST OAKS BLVD . SUNSET BLVD

Cycle (sec): 100 Critical Vol./Cap.(X): 0.508
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 46 Level Of Service: A

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control (Protected), Rights (Include), Min. Green, Y+R, and Lanes.

Volume Module: Table with 13 columns representing different volume components like Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and Final Volume.

Saturation Flow Module: Table with 13 columns for Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module: Table with 13 columns for Vol/Sat, Crit Volume, and Crit Moves.

EX PLUS APPROVED PROJECTS
1136-01 BRENTWOOD DEVELOPMENT: THE RESIDENCES AT WEST OAKS

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #4 WEST OAKS BLVD . SUNSET BLVD

Cycle (sec): 100 Critical Vol./Cap.(X): 0.560
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 52 Level Of Service: A

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, Min. Green, Y+R, and Lanes.

Volume Module: Table with 13 columns representing different volume components and their values.

Saturation Flow Module: Table with 13 columns representing saturation flow values and adjustments.

Capacity Analysis Module: Table with 13 columns representing capacity analysis metrics.

EPAP PLUS PROJECT
1136-01 BRENTWOOD DEVELOPMENT: THE RESIDENCES AT WEST OAKS

Scenario Report

Scenario: EPAP PM
Command: Default Command
Volume: PM APRIL 2016
Geometry: EXISTING
Impact Fee: Default Impact Fee
Trip Generation: PM PEAK HOUR
Trip Distribution: CURRENT
Paths: Default Path
Routes: Default Route
Configuration: Default Configuration

EPAP PLUS PROJECT
 1136-01 BRENTWOOD DEVELOPMENT: THE RESIDENCES AT WEST OAKS

Trip Generation Report

Forecast for PM PEAK HOUR

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
1	NOBLE LEARNI	0.00	PHARMACY	2.53	2.53	0	0	0	0.0
1	NOBLE LEARNI	0.00	BUSINESS PARK	0.00	0.00	0	0	0	0.0
1	NOBLE LEARNI	196.00	DAY CARE	0.38	0.00	74	0	74	7.0
Zone 1 Subtotal						74	0	74	7.0
4	approved mix	12.00	TRITON TOWERS	0.35	0.17	4	2	6	0.6
4	approved mix	9.90	TRITON TOWES O	1.00	2.72	10	27	37	3.5
Zone 4 Subtotal						14	29	43	4.1
5	APPROVED NON	69.50	STANFORD RACNH	0.25	1.24	17	86	103	9.7
5	APPROVED NON	55.93	UNFI EXPANSION	0.08	0.24	4	13	17	1.6
Zone 5 Subtotal						21	99	120	11.4
7	Stanford ran	119.00	stanford terra	0.34	0.18	40	21	61	5.8
7	Stanford ran	1.00	retail	47.00	84.00	47	84	131	12.4
Zone 7 Subtotal						87	105	192	18.2
8	SUNSET HILLS	148.00	TOWNHOMES	0.38	0.18	56	27	83	7.9
Zone 8 Subtotal						56	27	83	7.9
9	so whitney -	20.00	RESIDENCES	0.54	0.26	11	5	16	1.5
Zone 9 Subtotal						11	5	16	1.5
10	so whitney m	7.90	OFFICE KSF	1.00	2.57	8	20	28	2.6
Zone 10 Subtotal						8	20	28	2.6
11	st anton apa	185.00	APARTMENTS	0.40	0.22	74	41	115	10.9
11	st anton apa	45.00	SFR	0.63	0.37	28	17	45	4.3
11	st anton apa	1.00	retail / fast	37.00	36.00	37	36	73	6.9
Zone 11 Subtotal						139	94	233	22.0
18	E church	23.90	gracepointe ch	0.26	0.29	6	7	13	1.2
Zone 18 Subtotal						6	7	13	1.2
19	noble outbou	196.00	day care	0.00	0.43	0	84	84	7.9
Zone 19 Subtotal						0	84	84	7.9
21	Sunset at St	47.00	SFR	0.64	0.36	30	17	47	4.4
Zone 21 Subtotal						30	17	47	4.4
22	residences a	20.00	townhomes	0.30	0.15	6	3	9	0.9
Zone 22 Subtotal						6	3	9	0.9
23	parcel 2 apa	186.00	MFR	0.40	0.22	74	41	115	10.9

EPAP PLUS PROJECT
1136-01 BRENTWOOD DEVELOPMENT: THE RESIDENCES AT WEST OAKS

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
						74	41	115	10.9
Zone 23 Subtotal						74	41	115	10.9
TOTAL						526	531	1057	100.0

EPAP PLUS PROJECT
 1136-01 BRENTWOOD DEVELOPMENT: THE RESIDENCES AT WEST OAKS

Trip Distribution Report

Percent Of Trips CURRENT

Zone	To Gates										
	1	2	3	4	5	6	7	8	9	10	11
1	0.0	10.0	2.0	0.0	0.0	0.0	2.0	2.0	0.0	5.0	35.0
4	28.0	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	0.0	15.0
5	18.0	4.0	2.0	0.0	2.0	1.0	5.0	0.0	0.0	0.0	19.0
7	15.0	0.0	0.0	0.0	0.0	0.0	25.0	0.0	0.0	0.0	50.0
8	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0
9	5.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0
10	5.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0
11	13.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	15.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0
19	0.0	10.0	5.0	2.5	2.5	5.0	15.0	15.0	5.0	0.0	5.0
21	0.0	5.0	5.0	0.0	10.0	0.0	5.0	5.0	0.0	5.0	35.0
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	0.0	0.0	0.0
23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	0.0	0.0	0.0

Zone	To Gates										
	12	14	15	16	17	18	19	20	21	22	23
1	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	17.0	0.0	0.0
4	2.0	0.0	0.0	2.0	2.0	2.0	2.0	35.0	0.0	0.0	0.0
5	4.0	0.0	0.0	1.0	1.0	1.0	0.0	7.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	5.0	0.0
8	0.0	0.0	0.0	20.0	20.0	2.0	5.0	10.0	15.0	15.0	1.0
9	0.0	0.0	0.0	20.0	20.0	2.0	5.0	10.0	15.0	15.0	1.0
10	0.0	0.0	0.0	35.0	10.0	0.0	0.0	5.0	5.0	5.0	0.0
11	0.0	0.0	0.0	0.0	0.0	1.0	1.0	9.0	33.0	15.0	1.0
18	0.0	0.0	0.0	0.0	0.0	5.0	8.0	10.0	15.0	15.0	0.0
19	5.0	2.0	5.0	3.0	5.0	2.0	3.0	0.0	0.0	0.0	0.0
21	0.0	0.0	0.0	0.0	0.0	0.0	5.0	10.0	0.0	5.0	0.0
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Zone	To Gates						
	24	25	26	27	30	31	32
1	10.0	0.0	0.0	0.0	0.0	10.0	5.0
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	0.0	0.0	0.0	0.0	0.0	30.0	5.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	2.0	0.0	5.0	0.0
9	0.0	0.0	0.0	2.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0	25.0	5.0
11	1.0	3.0	0.0	3.0	0.0	20.0	0.0
18	1.0	2.0	2.0	2.0	0.0	15.0	5.0

 EPAP PLUS PROJECT
 1136-01 BRENTWOOD DEVELOPMENT: THE RESIDENCES AT WEST OAKS

Zone	To Gates						
	24	25	26	27	30	31	32
19	5.0	0.0	0.0	0.0	0.0	5.0	0.0
21	0.0	0.0	0.0	0.0	0.0	10.0	0.0
22	30.0	0.0	0.0	0.0	0.0	40.0	20.0
23	30.0	0.0	0.0	0.0	0.0	40.0	20.0

 EPAP PLUS PROJECT
 1136-01 BRENTWOOD DEVELOPMENT: THE RESIDENCES AT WEST OAKS

Turning Movement Report
 PM PEAK HOUR

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#1 EST OAKS BLVD / LONE TREE BLVD													
Base	28	418	123	17	610	5	4	7	13	236	9	40	1510
Added	7	5	18	0	10	15	8	8	4	27	15	0	117
Total	35	423	141	17	620	20	12	15	17	263	24	40	1627
#2 West oaks / West Access													
Base	0	0	0	0	0	0	0	191	0	0	210	0	401
Added	0	0	1	0	0	0	0	26	1	0	41	0	69
Total	0	0	1	0	0	0	0	217	1	0	251	0	470
#3 west Oaks / East Access													
Base	0	0	0	118	0	46	2	189	0	0	164	2	521
Added	1	0	1	0	0	0	0	27	1	5	41	0	76
Total	1	0	1	118	0	46	2	216	1	5	205	2	597
#4 WEST OAKS BLVD . SUNSET BLVD													
Base	139	606	124	35	916	14	57	86	134	158	88	49	2406
Added	25	43	14	0	100	12	6	4	18	2	8	0	232
Total	164	649	138	35	1016	26	63	90	152	160	96	49	2638

 EPAP PLUS PROJECT
 1136-01 BRENTWOOD DEVELOPMENT: THE RESIDENCES AT WEST OAKS

Impact Analysis Report
 Level Of Service

Intersection	Base		Future		Change in
	Del/ LOS	V/ Veh C	Del/ LOS	V/ Veh C	
# 1 EST OAKS BLVD / LONE TREE BLVD	A	xxxxxx 0.401	A	xxxxxx 0.431	+ 0.030 V/C
# 2 West oaks / West Access	A	0.0 0.000	A	9.4 0.001	+ 9.357 D/V
# 3 west Oaks / East Access	B	11.7 0.183	B	13.4 0.222	+ 1.656 D/V
# 4 WEST OAKS BLVD . SUNSET BLVD	A	xxxxxx 0.508	A	xxxxxx 0.562	+ 0.054 V/C

EPAP PLUS PROJECT
1136-01 BRENTWOOD DEVELOPMENT: THE RESIDENCES AT WEST OAKS

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #1 EST OAKS BLVD / LONE TREE BLVD

Cycle (sec): 100 Critical Vol./Cap.(X): 0.431
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 40 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

Table with columns for Control, Rights, Min. Green, Y+R, and Lanes across four approaches (North, South, East, West Bound).

Volume Module: >> Count Date: 1 Feb 2018 <<

Table with columns for various volume and adjustment factors like Base Vol, Growth Adj, Initial Bse, Added Vol, etc.

Saturation Flow Module:

Table with columns for Sat/Lane, Adjustment, Lanes, and Final Sat. across four approaches.

Capacity Analysis Module:

Table with columns for Vol/Sat, Crit Volume, and Crit Moves across four approaches.

EPAP PLUS PROJECT
1136-01 BRENTWOOD DEVELOPMENT: THE RESIDENCES AT WEST OAKS

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

Intersection #2 West oaks / West Access

Average Delay (sec/veh): 0.0 Worst Case Level Of Service: A[9.4]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module: Table with 13 columns for volume components like Base Vol, Growth Adj, Initial Bse, etc.

Critical Gap Module: Table with 13 columns for gap metrics like Critical Gp, FollowUpTim.

Capacity Module: Table with 13 columns for capacity metrics like Cnflct Vol, Potent Cap., Move Cap., Volume/Cap.

Level Of Service Module: Table with 13 columns for LOS metrics like 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS.

Note: Queue reported is the number of cars per lane.

EPAP PLUS PROJECT
1136-01 BRENTWOOD DEVELOPMENT: THE RESIDENCES AT WEST OAKS

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

Intersection #3 west Oaks / East Access

Average Delay (sec/veh): 3.8 Worst Case Level Of Service: B[13.4]

Table with 4 columns: Approach (North Bound, South Bound, East Bound, West Bound) and 3 sub-columns for Movement (L, T, R). Rows include Control, Rights, and Lanes.

Volume Module:

Table showing traffic volume data for Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Volume across four approaches.

Critical Gap Module:

Table showing critical gap and follow-up time data for four approaches.

Capacity Module:

Table showing capacity data including Conflict Vol, Potent Cap., Move Cap., and Volume/Cap. for four approaches.

Level Of Service Module:

Table showing level of service data including 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS for four approaches.

Note: Queue reported is the number of cars per lane.

EPAP PLUS PROJECT
1136-01 BRENTWOOD DEVELOPMENT: THE RESIDENCES AT WEST OAKS

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #4 WEST OAKS BLVD . SUNSET BLVD

Cycle (sec): 100 Critical Vol./Cap.(X): 0.562
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 52 Level Of Service: A

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control (Protected), Rights (Include), Min. Green, Y+R, and Lanes.

Volume Module: Table with 13 columns for volume and adjustment factors. Rows include Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and FinalVolume.

Saturation Flow Module: Table with 13 columns for saturation flow. Rows include Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module: Table with 13 columns for capacity analysis. Rows include Vol/Sat, Crit Volume, and Crit Moves.

EPAP PLUS PROJECT
1136-01 BRENTWOOD DEVELOPMENT: THE RESIDENCES AT WEST OAKS

Scenario Report

Scenario: CUMULATIVE

Command: Default Command
Volume: GENERAL PLAN PM
Geometry: GENERAL PLAN
Impact Fee: Default Impact Fee
Trip Generation: project only pm
Trip Distribution: CURRENT
Paths: Default Path
Routes: Default Route
Configuration: Default Configuration

 EPAP PLUS PROJECT
 1136-01 BRENTWOOD DEVELOPMENT: THE RESIDENCES AT WEST OAKS

Trip Generation Report

Forecast for project only pm

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
1	NOBLE LEARNI	196.00	DAY CARE	0.00	0.00	0	0	0	0.0
19	noble outbou	196.00	day care	0.00	0.00	0	0	0	0.0
22	residences a	20.00	townhomes	0.30	0.15	6	3	9	100.0
	Zone 22 Subtotal				6	3	9	100.0
TOTAL						6	3	9	100.0

EPAP PLUS PROJECT
 1136-01 BRENTWOOD DEVELOPMENT: THE RESIDENCES AT WEST OAKS

Trip Distribution Report

Percent Of Trips CURRENT

Zone	To Gates										
	1	2	3	4	5	6	7	8	9	10	11
1	0.0	10.0	2.0	0.0	0.0	0.0	2.0	2.0	0.0	5.0	35.0
4	28.0	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	0.0	15.0
5	18.0	4.0	2.0	0.0	2.0	1.0	5.0	0.0	0.0	0.0	19.0
7	15.0	0.0	0.0	0.0	0.0	0.0	25.0	0.0	0.0	0.0	50.0
8	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0
9	5.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0
10	5.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0
11	13.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	15.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0
19	0.0	10.0	5.0	2.5	2.5	5.0	15.0	15.0	5.0	0.0	5.0
21	0.0	5.0	5.0	0.0	10.0	0.0	5.0	5.0	0.0	5.0	35.0
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	0.0	0.0	0.0
23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	0.0	0.0	0.0

Zone	To Gates										
	12	14	15	16	17	18	19	20	21	22	23
1	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	17.0	0.0	0.0
4	2.0	0.0	0.0	2.0	2.0	2.0	2.0	35.0	0.0	0.0	0.0
5	4.0	0.0	0.0	1.0	1.0	1.0	0.0	7.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	5.0	0.0
8	0.0	0.0	0.0	20.0	20.0	2.0	5.0	10.0	15.0	15.0	1.0
9	0.0	0.0	0.0	20.0	20.0	2.0	5.0	10.0	15.0	15.0	1.0
10	0.0	0.0	0.0	35.0	10.0	0.0	0.0	5.0	5.0	5.0	0.0
11	0.0	0.0	0.0	0.0	0.0	1.0	1.0	9.0	33.0	15.0	1.0
18	0.0	0.0	0.0	0.0	0.0	5.0	8.0	10.0	15.0	15.0	0.0
19	5.0	2.0	5.0	3.0	5.0	2.0	3.0	0.0	0.0	0.0	0.0
21	0.0	0.0	0.0	0.0	0.0	0.0	5.0	10.0	0.0	5.0	0.0
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Zone	To Gates						
	24	25	26	27	30	31	32
1	10.0	0.0	0.0	0.0	0.0	10.0	5.0
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	0.0	0.0	0.0	0.0	0.0	30.0	5.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	2.0	0.0	5.0	0.0
9	0.0	0.0	0.0	2.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0	25.0	5.0
11	1.0	3.0	0.0	3.0	0.0	20.0	0.0
18	1.0	2.0	2.0	2.0	0.0	15.0	5.0

EPAP PLUS PROJECT
1136-01 BRENTWOOD DEVELOPMENT: THE RESIDENCES AT WEST OAKS

Zone	To Gates						
	24	25	26	27	30	31	32
19	5.0	0.0	0.0	0.0	0.0	5.0	0.0
21	0.0	0.0	0.0	0.0	0.0	10.0	0.0
22	30.0	0.0	0.0	0.0	0.0	40.0	20.0
23	30.0	0.0	0.0	0.0	0.0	40.0	20.0

EPAP PLUS PROJECT
 1136-01 BRENTWOOD DEVELOPMENT: THE RESIDENCES AT WEST OAKS

Turning Movement Report
 project only pm

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#1 EST OAKS BLVD / LONE TREE BLVD													
Base	35	685	247	30	1053	20	15	15	15	265	25	45	2450
Added	0	0	1	0	0	0	0	0	0	1	0	0	2
Total	35	685	248	30	1053	20	15	15	15	266	25	45	2452
#2 West oaks / West Access													
Base	0	0	0	0	0	0	0	416	0	0	349	0	765
Added	0	0	1	0	0	0	0	1	1	0	1	0	4
Total	0	0	1	0	0	0	0	417	1	0	350	0	769
#3 west Oaks / East Access													
Base	0	0	0	120	0	50	2	414	0	0	299	2	887
Added	1	0	1	0	0	0	0	1	1	5	0	0	9
Total	1	0	1	120	0	50	2	415	1	5	299	2	896
#4 WEST OAKS BLVD , SUNSET BLVD													
Base	193	1290	564	68	1025	30	47	226	230	760	153	123	4709
Added	2	0	0	0	0	2	1	0	1	0	1	0	7
Total	195	1290	564	68	1025	32	48	226	231	760	154	123	4716

EPAP PLUS PROJECT
1136-01 BRENTWOOD DEVELOPMENT: THE RESIDENCES AT WEST OAKS

Impact Analysis Report
Level Of Service

Intersection	Base		Future		Change in
	Del/ LOS	V/ Veh C	Del/ LOS	V/ Veh C	
# 1 EST OAKS BLVD / LONE TREE BLVD	A	xxxxx 0.580	A	xxxxx 0.581	+ 0.001 V/C
# 2 West oaks / West Access	A	0.0 0.000	B	10.6 0.002	+10.636 D/V
# 3 west Oaks / East Access	C	17.3 0.301	C	20.3 0.355	+ 3.009 D/V
# 4 WEST OAKS BLVD . SUNSET BLVD	F	xxxxx 1.051	F	xxxxx 1.054	+ 0.002 V/C

EPAP PLUS PROJECT
1136-01 BRENTWOOD DEVELOPMENT: THE RESIDENCES AT WEST OAKS

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #1 EST OAKS BLVD / LONE TREE BLVD

Cycle (sec): 100 Critical Vol./Cap.(X): 0.581
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 54 Level Of Service: A

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Approach, Movement, Control, Rights, Min. Green, Y+R, and Lanes.

Volume Module: Table with 13 columns representing different volume and adjustment factors like Base Vol, Growth Adj, Initial Bse, etc.

Saturation Flow Module: Table with 13 columns representing saturation flow and adjustment factors like Sat/Lane, Adjustment, Lanes, Final Sat.

Capacity Analysis Module: Table with 13 columns representing capacity analysis factors like Vol/Sat, Crit Volume, Crit Moves.

EPAP PLUS PROJECT
1136-01 BRENTWOOD DEVELOPMENT: THE RESIDENCES AT WEST OAKS

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

Intersection #2 West oaks / West Access

Average Delay (sec/veh): 0.0 Worst Case Level Of Service: B[10.6]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module: Table with 13 columns for different volume types (Base Vol, Growth Adj, etc.) and 4 rows for North, South, East, and West bounds.

Critical Gap Module: Table with 13 columns and 2 rows showing critical gap and follow-up time values.

Capacity Module: Table with 13 columns and 4 rows showing conflict volume, potent capacity, move capacity, and volume/capacity.

Level Of Service Module: Table with 13 columns and 10 rows showing LOS values for various movement and control scenarios.

Note: Queue reported is the number of cars per lane.

EPAP PLUS PROJECT
1136-01 BRENTWOOD DEVELOPMENT: THE RESIDENCES AT WEST OAKS

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

Intersection #3 west Oaks / East Access

Average Delay (sec/veh): 3.9 Worst Case Level Of Service: C [20.3]

Table with columns: Approach (North Bound, South Bound, East Bound, West Bound), Movement (L-T-R), Control (Stop Sign, Uncontrolled), Rights (Include), Lanes (0 0 1! 0 0).

Volume Module: Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume.

Critical Gap Module: Critical Gp, FollowUpTim.

Capacity Module: Cnflct Vol, Potent Cap., Move Cap., Volume/Cap.

Level Of Service Module: 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS.

Note: Queue reported is the number of cars per lane.

EPAP PLUS PROJECT
1136-01 BRENTWOOD DEVELOPMENT: THE RESIDENCES AT WEST OAKS

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #4 WEST OAKS BLVD . SUNSET BLVD

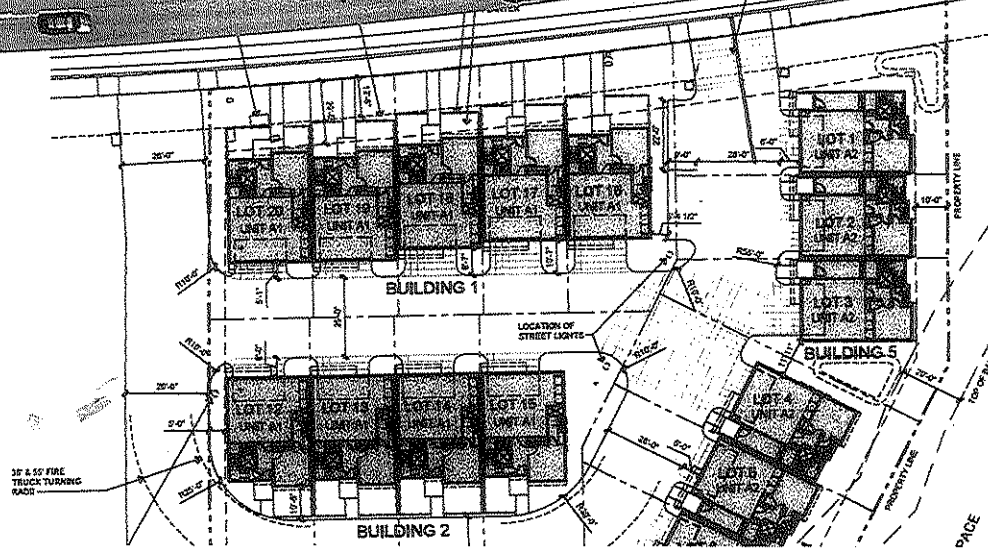
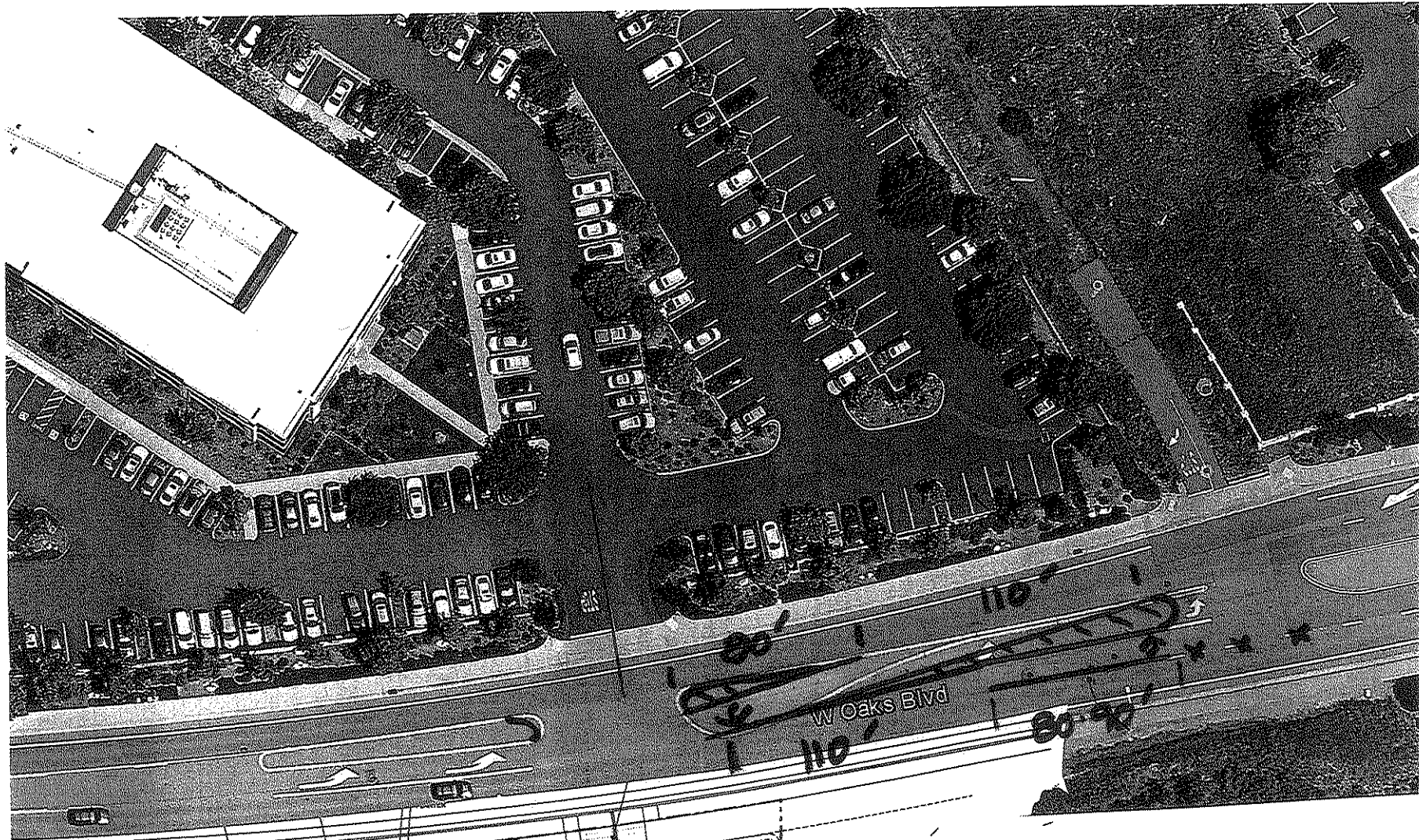
Cycle (sec): 100 Critical Vol./Cap.(X): 1.054
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 180 Level Of Service: F

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control, Rights, Min. Green, Y+R, and Lanes.

Volume Module: Table with 12 columns representing different volume categories and 12 rows of adjustment factors.

Saturation Flow Module: Table with 12 columns representing saturation flow values and 4 rows of adjustment factors.

Capacity Analysis Module: Table with 12 columns representing capacity analysis values and 3 rows of critical volume and moves.



THE RESIDENCES
AT WEST OAKS
WEST BOUND LEFT TURN

KNA 6.11.18