Development Service Department
Planning Division
214 South C Street
Oxnard, CA 93030
805/385-7858 FAX 805/385-7417

INITIAL STUDY
MITIGATED NEGATIVE DECLARATION 17-03

Oxnard Costco Fuel Facility Relocation and Expansion
PZ 17-620-04 (General Plan Amendment), PZ 16-630-01 (Specific Plan Amendment),
PZ 17-500-15 (Special Use Permit), and PZ 17-310-06 (Lot Line Adjustment)

Auto Center Drive/Los Olivos & 2001 Ventura Blvd.
November 2, 2017

Introduction

This *Initial Study* has been prepared in accordance with relevant provisions of the *California Environmental Quality Act (CEQA) of 1970*, as amended, and the CEQA *Guidelines* as revised. *Section 15063(c)* of the CEQA *Guidelines* indicates that the purposes of an Initial Study are to:

1. Provide the Lead Agency (i.e., the City of Oxnard) with information to use as the basis for deciding whether to prepare an Environmental Impact Report (EIR) or Negative Declaration;

2. Enable an applicant or Lead Agency to modify a project, mitigating adverse impacts before an EIR is prepared, thereby enabling the project to quality for a Negative Declaration;

3. Assist the preparation of an EIR, if one is required, by:

   - Focusing the EIR on the effects determined to be significant;
   - Identifying the effects determined not to be significant;
   - Explaining the reasons why potentially significant effects would not be significant; and
   - Identifying whether a program EIR, tiering, or another appropriate process can be used for analysis of the project's environmental effects.

4. Facilitate environmental assessment early in the design of a project;

5. Provide documentation of the factual basis for the finding in a Negative Declaration that a project will not have a significant effect on the environment;

6. Eliminate unnecessary EIRs; and

7. Determine whether a previously prepared EIR could be used with the project.

The City of Oxnard *Threshold Guidelines - Initial Study Assessment* (2017) was used along with other pertinent information for preparing the *Initial Study* for this project. The purpose of the Threshold Guidelines is to inform the public, project applicants, consultants and City staff of the threshold criteria and standard methodology used in determining whether or not a project (individually or cumulatively) could have a significant effect on the environment. A project could have impacts below the significance threshold that do not require mitigation. The 2017 Threshold Guidelines provide instructions for completing the Initial Study and determining the type of environmental document required for individual projects.

Determining the significance of impacts is often controversial because the decision requires staff to use their judgment regarding a subject that is not clearly defined by the law. The State CEQA *Guidelines* define the term "significant impact on the environment" as a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project. However, there is no iron-clad definition of what constitutes a substantial change because the significance of an activity may vary according to location.

When other agencies have jurisdiction over a given site, the project proponent will have to meet the design, mitigation, and monitoring requirements imposed by those agencies, as well as any additional requirements established by the City of Oxnard.

CITY OF OXNARD
INITIAL STUDY ENVIRONMENTAL CHECKLIST FORM

1. Project Title: Oxnard Costco Fuel Facility Relocation and Expansion

2. Lead Agency Name and Address: City of Oxnard, Planning Division, 214 South C Street, Oxnard, CA 93030

3. Contact Person and Phone Number: Kathleen Mallory, Planning Manager, (805) 385-7878.

4. Project Location: Costco Warehouse at 2001 Ventura Blvd. and adjacent vacant lot (no address) (APNs: 144-0-143-055 and 144-0-150-095); Auto Center Drive /Los Olivos intersection.

5. Project Applicants: Costco Wholesale, c/o Sean Anderson, 18215 72nd Avenue South, Kent, WA 98032

6. General Plan Designation: APN No. 144-0-143-055, Commercial Regional (CR), and
APN No. 144-0-150-095: Industrial Limited (ILT); Rose Santa Clara Corridor Specific Plan (RSSCSP)

7. Zoning: Rose-Santa Clara Corridor Specific Plan (RSCCSP):
APN No. 144-0-143-055: Planning Area 3: Retail Commercial
APN No. 144-0-150-095: Planning Area 4: Commercial Manufacturing

Figure 1
Rose Santa Clara Corridor Specific Plan

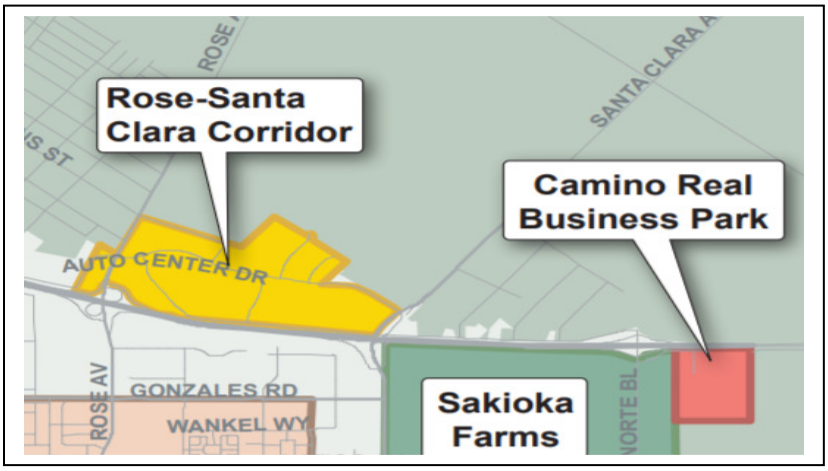


Figure 2
Costco Warehouse Location

Site 3
Traffic signal installation, restriping, median reconfiguration

Site 1
(approximate area)
Relocated and expanded membership fueling facility on both a 1.6 acre vacant parcel and a portion of the existing Costco parking lot.

Site 2
Existing fueling facility to be removed and reconstructed as parking. (approximate area.)

8. <u>Project Description</u>**:** PZ 17-620-04 (General Plan Amendment), PZ 16-630-01 (Specific Plan Amendment), PZ 17-500-15 (Special Use Permit), and PZ 17-310-06 (Lot Line Adjustment): Costco Wholesale, located at 2001 Ventura Blvd., proposes a General Plan Amendment (GPA), Rose Santa Clara Corridor Specific Plan Amendment (SPA), Lot Line Adjustment (LLA), and Special Use Permit (SUP) for the removal, relocation, and expansion of an existing membership-only 16-pump fueling facility (aka "fueling facility"). The fueling facility will be relocated from its current location on the 16.6 acre property off of Ventura Blvd. to a 1.6 acre vacant lot (Assessor's Parcel Number 144-0-150-095) which is adjacent and to the east of Costco, near Auto Center Drive opposite Los Olivos. With the relocation and expansion, a total of 24 pumps will be constructed on the new site (known as Site No. 1). The pumps which are currently located on Site No. 2, will be demolished, and the former fueling facility will be redesigned to accommodate additional parking. A traffic signal will be installed at the intersection of Auto Center Drive/Los Olivos with associated changes to the existing median and traffic lanes (known as Site No. 3).

   Filed by Costco Wholesale c/o Lloyd Wells, 17083 Old Coach Road, Poway, CA 92064 and Sean Anderson, Barghausen Consulting Engineers, Inc, 18215 72nd Avenue South, Kent, WA 98032.

Figure 3
Proposed General Plan land use designation change from Limited Industrial (ILT) to Regional Commercial (CR)

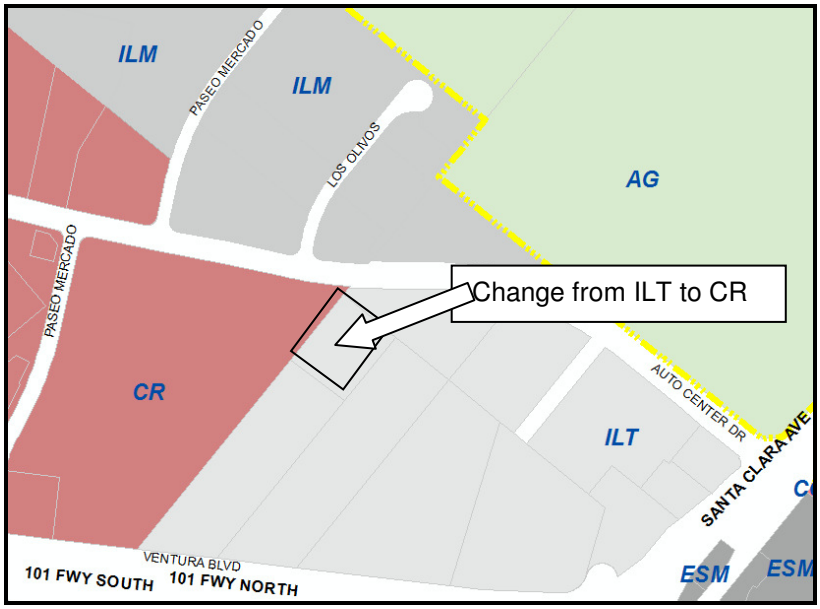


Figure 4
Proposed RSCCSP land use designation change in Exhibit 9 from Commercial Manufacturing ('4') to Retail Commercial ('3'), assigning the 1.6 acre area to Planning Area 3

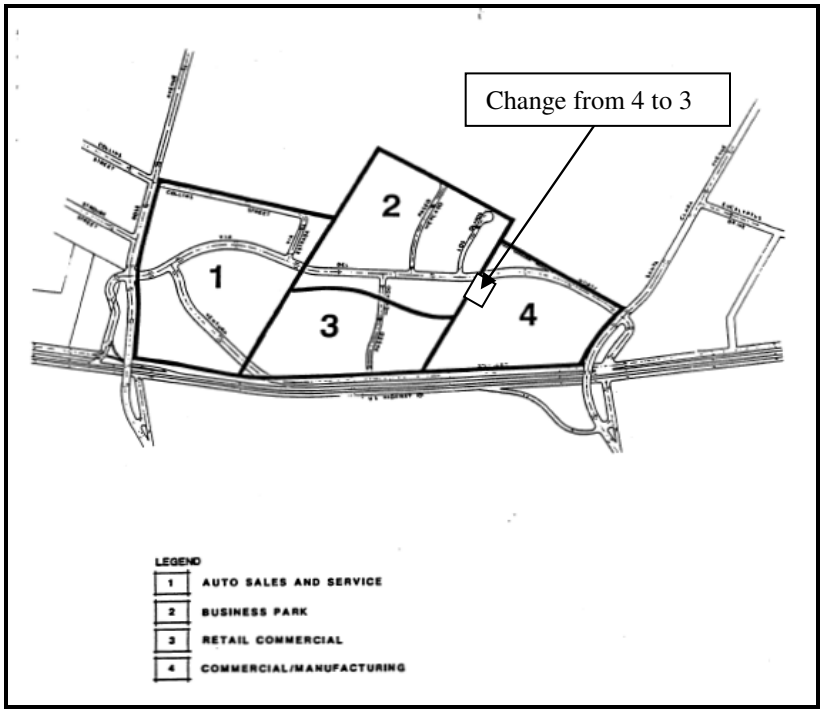
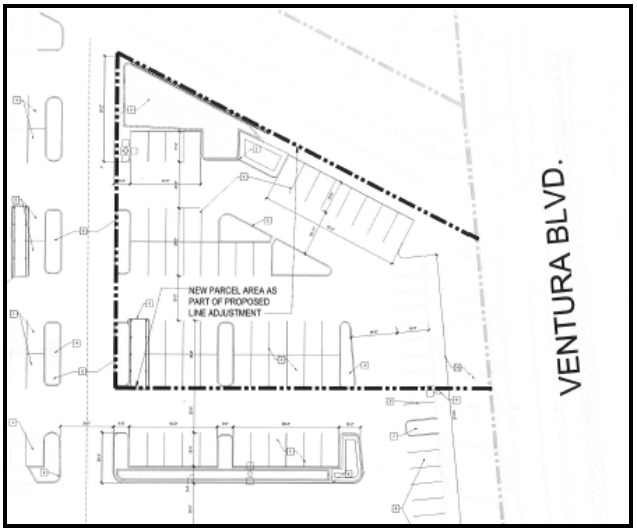


Figure 5
Proposed LLA to create a replacement parcel at the location of the existing fueling facility and converting to additional parking (Site 3)



SUP (PZ 17-500-15) would permit the existing Costco members-only fueling facility to relocate to the 1.6 acre area and adjoining existing Costco parking lot circulation system at Site 1. The Site 1 replacement fueling facility includes a 7,700 square foot canopy, three 30,000 gallon gasoline underground storage tanks (UST), one 20,000 gallon diesel UST, one 3,500 split fuel additive UST, and peripheral parking. After the new 24-dispenser fueling positions facility is completed, the existing 16- fueling positions facility would be demolished, UST and related equipment removed, soil remediated as needed, and the area repaved and restriped for additional Costco parking at Site 2. Fifty-one trees would be removed and replaced in and around Sites 1 and 2 complying with Oxnard mature tree replacement requirements. At Site 3, a new traffic signal at the Auto Center Drive/Los Olivos intersection would be installed by the applicant to City specifications. The project includes application of and compliance with uniformly-applied RSCCSP development standards and compliance with applicable State and City rules and regulations.

Figure 6
Costco Property and Sites 1, 2, and 3

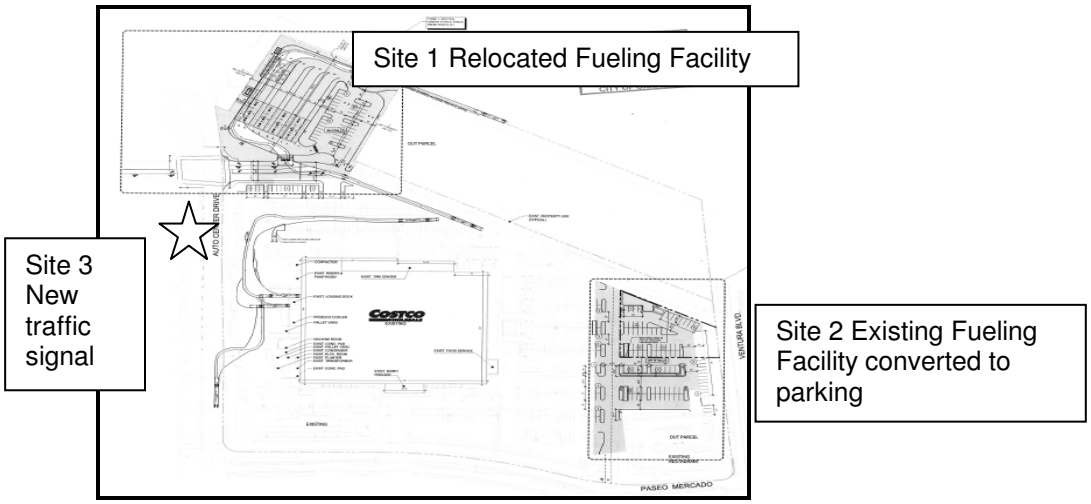


Figure 7
Costco Proposed Site 1 Plan for Relocated Fueling Facility

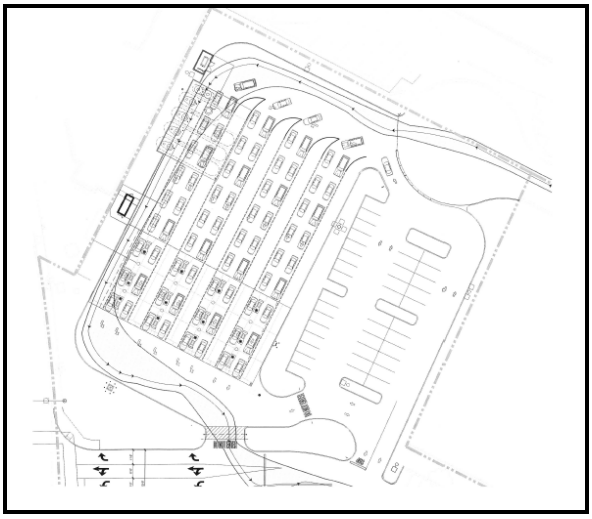


Figure 8
Costco Proposed Site 3 Signalized Intersection Plan

Surrounding Land Uses and Setting:

The project sites are within RSCCSP Planning Areas 3 and 4, surrounded by commercial development to the west, industrial development and agriculture to the north and east, and Ventura Blvd. and Highway 101 (Ventura Freeway) to the south.

Direction	Zoning	Land Use
North	Rose-Santa Clara Corridor Specific Plan (RSCCSP) Business Park	Gold Coast Transit administrative and operations facility (under construction in late 2017), Los Olivos/Paseo Mercado industrial business park, and agriculture (unincorporated Ventura County)
South	RSCCSP Retail, public roadway and freeway right-of-way	Burger King restaurant, Ventura Blvd. (two lanes), Highway 101 (six lanes and shoulders)
East	RSCCSP Commercial/ Manufacturing	Construction equipment storage and leasing and mini-warehouse self-storage.
West	RSCCSP Retail/ Commercial	Oxnard Center regional retail and restaurant uses.

SITE 1: Photo of Vacant 1.6 acre parcel looking west towards Costco.

SITE 2: Photo of existing fueling facility

Site 3: Photo of Auto Center Drive/Los Olivos Intersection

Required Entitlements:

The project requires the following discretionary approvals from the City of Oxnard:

- PZ 17-620-04: General Plan Amendment
- PZ 16-630-01: Specific Plan Amendment
- PZ No. 17-500-15: Special Use Permit
- PZ 17-310-06: Lot Line Adjustment

8. Cumulative Projects:

The "2030 General Plan buildout" approach is used as the cumulative project description for this project as the project is adjacent to and functionally integrated with the Oxnard Center and in the vicinity of three specific plan developments (Riverpark Specific Plan, Sakioka Farms Business Park Specific Plan, Camino Real Business Park Specific Plan) that collectively represent the majority of the City's planned growth in the north half of the City. There is no urban development that requires voter approval until 2050anticipated within the unincorporated Ventura County agricultural areas north of Auto Center Drive.

9. Previous CEQA:

The following CEQA review documents have included the project area:

- Gold Coast Transit Fleet Operation Center MND 2014-01 (2014)
- City of Oxnard 2030 General Plan Program EIR 09-01 (2009)
- Wallace Business Park MND 08-04 (2008)
- RSCCSP Adoption EIR 85-03 (1986)

The certified 2030 General Plan Program Environmental Impact Report (PEIR) found that buildout of the 2030 General Plan would result in five significant unavoidable adverse impacts at citywide buildout after implementation of policies and programs for which overriding considerations were adopted: 1) air quality, 2) greenhouse gas emissions, 3) agricultural land conversion, 4) noise from trains and along certain roadway segments, and 5) a Level of Service below Level of Service (LOS) 'C' at five intersections. The 2030 General Plan PEIR was certified in 2011 and is incorporated by reference.

10. Other agencies whose approval is required (e.g., permits, financing approval, or participating agreement):

Ventura County Air Pollution Control District (VCAPCD): to issue appropriate permit(s) for operation of the fueling facility and related equipment.

LA Regional Water Resources Control Board: UST installations and removals.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" or as indicated by the checklist on the following pages.

- ☒ Aesthetics and Urban Design
- ☐ Agricultural Resources
- ☒ Air Quality
- ☐ Biological Resources
- ☐ Climate Change and Greenhouse Gas Emissions
- ☐ Cultural Resources and Tribal Cultural Resources
- ☐ Geology and Soils
- ☐ Hazards and Hazardous Materials
- ☐ Hydrology and Water Quality
- ☐ Land Use and Planning
- ☐ Mineral Resources
- ☒ Noise
- ☐ Population, Education, and Housing
- ☐ Public Services and Recreation
- ☐ Transportation and Circulation
- ☐ Utilities and Energy
- ☐ Mandatory Findings of Significance

DETERMINATION: On the basis of this initial evaluation:

☐ I find the proposed project COULD NOT have a significant effect on the environment and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the project could have a significant effect on the environment there will not be a significant effect in this case because revisions in the project have been made or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature	Date
Kathleen Mallory	Planning Manager
Print Name	Title

EVALUATION OF ENVIRONMENTAL IMPACTS

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
4. "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analyses," cited in support of conclusions reached in other sections may be cross-referenced).
5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
   a. Earlier Analysis Used—Identify and state where they are available for review.
   b. Impacts Adequately Addressed—Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
   c. Mitigation Measures—For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
8. The explanation of each issue should identity: a) The significance criteria or threshold, if any, used to evaluate each question; and b) The mitigation measure identified, if any, to reduce the impact to less than significance.
9. Thresholds of Significance are determined by the 2017 City of Oxnard CEQA Guidelines (Guidelines), incorporated by reference. In all topic areas, the threshold is typically defined as an 'affirmative answer' to the questions within each topic section unless otherwise conditioned within the Guidelines.

A. AESTHETICS AND URBAN DESIGN	Potentially Significant Impact	Less Than Significant With Mitigation	Less than Significant Impact	No Impact
1. Would the project have a substantial adverse effect on a scenic vista such as an ocean or mountain view from an important view corridor or location as identified in the 2030 General Plan or other City planning documents?	☐	☐	☐	☒
2. Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway, or route identified as scenic by the County of Ventura or City of Oxnard?	☐	☐	☐	☒
3. Would the project substantially degrade the existing visual character or quality of the site or its surroundings such as by creating new development or other physical changes that are visually incompatible with surrounding areas or that conflict with visual resource policies contained in the 2030 General Plan or other City planning documents?	☐	☐	☐	☒
4. Would the project add to or compound an existing negative visual character associated with the project site?	☐	☐	☐	☒
5. Would the project create a source of substantial light or glare, which would adversely affect day or nighttime views in the area?	☐	☒	☐	☐

Discussion:

1, 4) Existing development and mature trees in and around the two project sites along Ventura Blvd. and Auto Center Drive largely block ground-level views of the Topatopa Mountains to the north, which is the only scenic vista in the vicinity of the project site. As this scenic vista is already interrupted or blocked, and Auto Center Drive is not a designated scenic highway, the project impact to a scenic vista from within the project area is not considered significant. Northward scenic views of the Topatopa Mountains from Auto Center Drive near Santa Clara Avenue looking over the agricultural fields would remain unchanged by the project. The project would have N**o Impact** on a scenic vista.

2-3) The 1.6 acre project Site 1 is vacant with intermittent weed vegetation. Previous environmental reviews and the 2030 General Plan Update Background Report (2006) stated that the site has no scenic resources or historical buildings. Proposed development would be a continuation of and consistent with the surrounding business park, auto dealerships, commercial and limited industrial development around the project site. The existing fueling area (Site 2) is fully developed with no scenic resources and would be converted to a continuation of the adjacent parking lots with Code-required landscaping. With application and compliance with uniformly applied landscaping requirements and signage regulations, the project would have **No Impact** on scenic resources or quality of existing visual character.

5) The project proposes under-canopy LED recessed fixtures at the fueling facility that will not project glare outside of the canopy footprint. The applicant's lighting plan indicates that peak lighting levels will be in the mid-50 foot candle range under the canopy, which is typical for a fueling facility and is the approximate amount

of under-canopy lighting at the existing fueling facility. The lighting is required to provide a safe light level for members fueling after dark. The under canopy lighting is also designed to cut off beyond the canopy area, and very quickly reduces to Oxnard Code-required levels. Planning Division will require review and approval of a photometric plan prepared by an electrical engineer certifying the exterior illumination intensities provided by light standards and/or any other exterior lighting devices such as wall mounted light fixtures and parking lot lighting are designed to limit lighting to within the property limits.

The 1986 RSCCSP EIR 85-3 found that nighttime lighting could have be a significant effect on surrounding land uses because of high-intensity display lighting. A mitigation was included in the RSCCSP adoption Ordinance No. 2085 that "…only high cutoff light fixtures that direct lighting downward will be allowed within the project area. The use of high cutoff lighting fixtures will eliminate or substantially reduce any nighttime light and glare impacts." The proposed lighting will comply with this mitigation and uniformly-applied standards and have a **Less Than Significant Impact**.

Mitigation:
The following mitigation measures shall apply to the proposed relocated and expanded Costco Fueling Facility:

AES-1 Only high cutoff light fixtures that direct lighting downward will be allowed within the project area. The use of high cutoff lighting fixtures will eliminate or substantially reduce any nighttime light and glare impacts. No additional mitigation measures are required (Incorporated by Reference from EIR 85-3 and in Ordinance No. 2085, page 8).

Monitoring: Planning staff will verify that complying lighting standards (AES-1) are included on plans and as conditions of approval on the Special Use Permit.

Result After Mitigation: Upon implementation of the above mitigation measures, the project will not result in any residual light and glare effects.

Cumulative Impact: The 2030 General Plan Program EIR evaluated the potential cumulative impact of development and infill redevelopment and found no cumulative significant unmitigated aesthetic impacts from proposed development consistent with the 2030 General Plan.

B. AGRICULTURAL RESOURCES

	Potentially Significant Impact	Less Than Significant With Mitigation	Less than Significant Impact	No Impact
1. Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use?	☐	☐	☐	☒
2. Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
3. Would the project involve other changes in the existing environment that, due to their location or nature, could result in conversion of off-site farmland to nonagricultural use?	☐	☐	☐	☒

Discussion:
1-3) The project sites are located in an urbanized area, within City limits, and are surrounded by industrial and commercial uses. The project vacant Site 1 is not zoned for agricultural use and is not included in a Williamson Act Contract. The nearest significant agricultural property is unincorporated farmland located north of the project area by approximately 1,000 feet. Development of the project site is not expected to affect use of existing agricultural land. **No Impact** to agricultural uses are expected**.**

Mitigation: No mitigation measures are required.

Cumulative Impact: The cumulative project area is defined as the entire City of Oxnard at its planned 2030 buildout which includes the proposed project. Agricultural impacts were analyzed by the 2030 General Plan PEIR and found to be significant for which an overriding consideration was adopted. The 2030 General Plan PEIR is incorporated by reference, specifically Chapter 5.5, Certified Final PEIR, October 2011, page 5-25.

C. AIR QUALITY	Potentially Significant Impact	Less Than Significant With Mitigation	Less than Significant Impact	No Impact
1. Would the project conflict with population or other growth forecasts contained in the Ventura County AQMP or otherwise obstruct implementation of the AQMP?	☐	☒	☐	☐
2. Would the project violate any federal or state air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☒	☐	☐
3. Would the project result in a net increase of any criteria air pollutant in excess of quantitative thresholds recommended by the VCAPCD?	☐	☒	☐	☐
4. Would the project expose sensitive receptors to pollutant concentrations exceeding state or federal standards or in excess of applicable health risk criteria for toxic air contaminants?	☐	☐	☐	☒
5. Would the project create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

Federal and state standards have been established for ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), lead, and particulates less than 10 microns in diameter (PM_{10}) and less than 2.5 microns in diameter ($PM_{2.5}$). California has also set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility reducing particles. Local air pollution control districts are required to monitor air pollutant levels to ensure that air quality standards are met and, if they are not met, to develop strategies to meet the standards.

The project sites are located in the City of Oxnard, which is in the South Central Coast Air Basin. The South Central Coast Air Basin comprises Ventura County, Santa Barbara County, and San Luis Obispo County. Oxnard is in the Ventura County Air Pollution Control District (VCAPCD) boundaries. Air basins in which air pollutant standards are exceeded are referred to as “non-attainment areas.” The Ventura County Air Basin is a non-

attainment area for both the federal and state standards for ozone and the state standard for PM_{10} (VCAPCD 2017b).

The 2016 Ventura County Air Quality Management Plan (AQMP), adopted by the VCAPCD on February 14, 2017, presents Ventura County's strategy for attaining the federal 8-hour ozone standard as required by the federal Clean Air Act Amendments of 1990 (VCAPCD 2017a).

Table 1 illustrates current federal and state air quality standards and the attainment status of the pollutants.

Table C-1 Federal and State Ambient Air Quality Standards

Pollutant	Averaging Time	Federal Primary Standards	Federal Attainment (Y/N)	California Standard	State Attainment (Y/N)
Ozone	8-Hour	0.070 ppm	N	0.070 ppm	N
	1-Hour	-	-	0.09 ppm	N
Carbon Monoxide	8-Hour	9.0 ppm	Y	9.0 ppm	Y
	1-Hour	35.0 ppm	Y	20.0 ppm	Y
Nitrogen Dioxide	Annual	0.053 ppm	Y	0.030 ppm	Y
	1-Hour	0.100 ppm	Y	0.18 ppm	Y
Sulfur Dioxide	Annual	–	–	–	–
	24-Hour	–	–	0.04 ppm	Y
	1-Hour	0.075 ppm	Y	0.25 ppm	Y
PM_{10}	Annual	–	–	20 $\mu g/m^3$	N
	24-Hour	150 $\mu g/m^3$	Y	50 $\mu g/m^3$	N
$PM_{2.5}$	Annual	12 $\mu g/m^3$	Y	12 $\mu g/m^3$	Y
	24-Hour	35 $\mu g/m^3$	Y	–	–
Lead	30-Day Average	–	–	1.5 $\mu g/m^3$	Y
	3-Month Average	0.15 $\mu g/m^3$	Y	–	–

Notes: Y = yes, N = no, ppm = parts per million, $\mu g/m^3$ = micrograms per cubic meter
Source: CARB 2017b and VCAPCD 2017b

The El Rio air quality monitoring station, located at Rio Mesa High School (545 Central Ave., El Rio, California, 93030) is the closest station the project site. This station measures ozone, NO_2, and PM_{10}. None of the monitoring stations in Ventura County record CO measurements. Table 2 summarizes the annual air quality data over the past three years of available data for the local airshed (data from 2016 is not yet available).

Table C-2Ambient Air Quality Data at the El Rio Monitoring Station

Pollutant	2013	2014	2015
Ozone, 8-Hour, ppm			
Number of days of State exceedances (> 0.09 ppm)	0	2	0
Number of days of Federal exceedances (> 0.07 ppm)	0	2	0
Nitrogen Dioxide, ppm – Worst Hour			
Number of days of State exceedances (> 0.25 ppm)	0	0	0
Particulate Matter, < 10 microns, $\mu g/m^3$			
Number of samples of state exceedances (> 50 $\mu g/m^3$)	0	7	6
Number of samples of federal exceedances (> 150 $\mu g/m^3$)	0	*	0

Particulate Matter, < 2.5 microns, µg/m^3			
Number of samples of federal exceedances (> 35 µg/m^3)	0	0	0

Notes: ppm = parts per million, µg/m^3 = micrograms per cubic meter
* insufficient data
Source: CARB 2017c

The pollutants of greatest concern in Ventura County are ozone and PM_{10}. Concentrations of PM_{10} have exceeded state standards on one or more days during each of the past three calendar years. The major sources of PM_{10} are road dust, construction, mobile sources, and farming operations. Locally, Santa Ana winds are responsible for entraining dust and occasionally causing elevated PM_{10} levels. Ozone is a secondary pollutant that is not produced directly by a source, but rather is formed by a reaction between NO_x and reactive organic gases (also described as volatile organic compounds) in the presence of sunlight. Reductions in ozone concentrations are dependent upon reducing emissions of these precursors. The major sources of ozone precursors in Ventura County are motor vehicles and other mobile equipment, solvent use, pesticide application, the petroleum industry, and electric utilities.

1, 2, 3) <u>Consistency with the 2007 Air Quality Management Plan (AQMP).</u> The Ventura County Air Basin is currently a non-attainment area for both the Federal and State standards for ozone, and the State standards for PM10. Exceeding the air quality standards is the result of past and ongoing urban and rural development that has caused emissions to exceed the air basin's capacity for dispersal and removal of air pollutants. It should be noted, however, that the goal of the Ventura County Air Quality Management Plan (AQMP), which was most recently revised in 2007, is to reduce ambient ozone concentrations below the National Ambient Air Quality Standards (NAAQS) through the implementation of air pollutant emissions controls. The plan predicts attainment of the Federal 8-hour ozone standard by the year 2013. Air quality in Ventura County has improved dramatically since 1990, the 1994 AQMP base year. In 1990, the air quality exceeded the now revoked federal 1-hour ozone standard 18 times. However, in 2003 there were only two days over the federal 1-hour standard, and none in 2004 and 2005. Likewise, all areas of the county have enjoyed similar reductions in federal 8-hour ozone levels. In 1990 there were 117 violations countywide of the federal 8-hour ozone standard, but only 25 in 2009, 13 in 2010, and 8 in 2011. These improvements have occurred despite 29 percent increase in Ventura County's population since 1990. Ventura County attained both the federal 1-hour and the 1997 8-hour ozone standards in 2003 and 2012, respectively. Consequently, on May 27, 2009 the U. S. Environmental Protection Agency issued an attainment finding officially recognizing that Ventura County had attained the federal 1-hour ozone standard, and has proposed a similar attainment finding for the 1997 federal 8-hour ozone standard. That finding was finalized on November 19, 2012. Cumulative air basin air quality impacts were analyzed by the 2030 General Plan PEIR and found to be significant for which an overriding consideration was adopted. The 2030 General Plan PEIR is incorporated by reference, specifically Chapter 5.7, Certified Final PEIR, October 2011, page 5-35.

Short-term Construction Impacts: Short-term impacts to air quality will likely result from grading and other construction activities associated with the project at both sites (e.g., earth-moving and heavy equipment vehicle operations). According to the Ventura County Air Pollution Control District (APCD), any combustion equipment on-site that is rated at 50 horsepower or greater must have either an APCD Permit to Operate (PTO), or be registered with the California Air Resources Board's (CARB) Portable Equipment Registration Program (PERP). The project's related Reactive Organic Gas (ROG) and Nitrogen Oxide (NOx) emissions for construction of the new fueling facility was evaluated using the California Emissions Estimator Model 2013.2.2 (CalEEMod) software. The report reflecting the impact of constructing the new 24 fueling position facility is available as Attachment A. The short-term emissions include 162.6 pounds per day (ppd) of ROG and 26.63 ppd NOx emissions. The VCAPCD's adopted threshold for ROG and NOx emissions is 25 ppd (VCAPCD, 2003). The VCAPCD's 25-pounds-per-day thresholds for ROG and NO_X do not apply to construction emissions since such emissions are temporary. Nevertheless, for construction impacts, the VCAPCD recommends minimizing fugitive

dust through uniformly-applied dust control measures that are incorporated as Special Use Permit conditions of approval. Fugitive dust control measures are required by VCAPCD Rule 55. Rule 55 includes fugitive dust reduction measures such as securing tarps over truck loads and watering to treat bulk material to minimize fugitive dust. Compliance with Rule 55 would ensure that construction emissions would not be generated in such quantities as to cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or that may endanger the comfort, repose, health, or safety of any such person or the public. Air quality impacts due to construction emissions would be less than significant.

***Long-term operational impacts*:** Operational emissions would consist primarily of exhaust from passenger vehicles traveling to and from the project site as well as idling in the line to get gasoline. The project's related Reactive Organic Gas (ROG) and Nitrogen Oxide (NOx) emissions were evaluated using the California Emissions Estimator Model 2013.2.2 (CalEEMod) software. The report reflecting the impact of only the additional 8 fueling positions is available as Attachment A as the relocation of the existing 16 fueling stations is not a new source of emissions. The long-term emissions from the 8 new pumps are 5.8 pounds per day (ppd) of ROG and 3.8 ppd NOx emissions (calculations are derived by subtracting 16 pumps emissions from 24 pumps emissions). The VCAPCD's adopted threshold for ROG and NOx emissions is 25 ppd (VCAPCD, 2003). Long-term operational air quality impacts would be **Less Than Significant**.

As stated in the project description and the Traffic Study, Costco is an established membership retail "big box" use and no expansion of retail space is proposed. On Site 1, the addition of 8 fueling stations, a 50 percent increase over the relocated existing 16 stations, does not also increase usage by 50% according to the August 2017 Traffic Study (Attachment B). Instead, the expected increase is 9.2% based on comparative expansion of similar Costco's on the West Coast (Appendix B, Traffic Study, pgs. 23-24). This increase is from existing Costco customers who now choose to fuel at the expanded Costco facility, now operating with less wait time, instead of fueling at another fuel service station in the area. Air quality emissions would be essentially the same. On Sites 1 and 2, the creation of approximately 53 net additional parking spaces is a 7.3 percent increase for a total of 781 spaces, or 5.3 per 1,000 gsf of commercial floor area. Instead, the additional parking will reduce peak period customer circulation within the parking lot looking for parking and/or overflowing into the neighboring retail center. In both cases, air quality impacts are somewhat reduced as the fueling and parking uses have more capacity relative to existing demand as on-site internal circulation is reduced, especially at peak periods. This amount of reduction is not estimated. The important conclusion is that there is a **Less Than Significant** impact from the small increase in trips and/or operational air quality impacts due to the project.

4) The sensitive receptors closest to the project sites that could potentially be affected by project emissions are residential developments located approximately 0.5 mile both east and west of the site. **No impact** to sensitive receptors would occur to these areas due to their distance from the project sites and the project's below-APCD Threshold emissions.

5) The project sites are surrounded by industrial, commercial, and agricultural uses. As discussed above, the nearest sensitive receptors are located approximately 0.5 mile to the east and west of the project sites. All 16 fueling pumps will be fitted with required vapor-recovery boots to collect potentially odorous vapors from escaping while cars are being filled. With application and compliance with uniformly applied development standards and air-quality regulations, the project would have a **less than significant** odor impact.

<u>Mitigation:</u>
The following mitigation measures shall apply to the proposed relocated and expanded Costco Fueling Facility:

AQ-1 All construction equipment shall be maintained and tuned to meet applicable California Environmental Protection Agency (Cal/EPA) and the California Air Resources Board (CARB) emissions requirements. At such time as new emission control devices or operational modifications are found to be effective, such devices or operational modifications shall be required on all construction equipment operating pursuant to City permits.

AQ-2 The following dust suppression measures shall be implemented at each project site:

a. Watering all excavated material to prevent wind erosion while it is on-site or being moved;
b. Periodic watering of construction sites or use of APCD approved dust suppression compounds that bind with the surface layers of soil and prevent soil particles from being eroded;
c. Controlling the number and activity of vehicles on site at any given time;
d. Seeding areas to be left inactive for a long enough period to secure the soil, limiting the area excavated at any given time;
e. Limiting on-site vehicle traffic to 15 miles per hour; and
f. Sweeping streets adjacent to the construction site to remove dust caused by the construction activities.

AQ-3 All clearing, grading, earth moving, or excavation activities shall cease during periods of high winds (i.e., greater than 15 miles per hour averaged over one hour) to prevent excessive amounts of fugitive dust.

AQ-4 All trucks hauling excavated or graded material off-site shall comply with State Vehicle Code Section 23114, with special attention to Sections 23114(b)(F), (e)(2) and (e)(4) as amended, regarding the prevention of such material spilling onto public streets and roads.

AQ-5 Prior to issuance of a grading permit, the applicant and/or contractors shall contact the VCAPCD for more specific guidelines as applicable to the project construction activities, and provide the Planning Manager, or designee, with a memorandum as to the date, contact person, and applicable provisions of Rule 55, which may include (but are not limited to) the following provisions: 1) visible dust from an applicable source is prohibited or limited, 2) Measures must be taken to reduce or prevent track-out onto paved public roadways, 3) track-out must be removed from roadways, 4) visible dust exceeding 100 feet in length from earth-moving equipment is prohibited, 5) outbound trucks with soil must either be tarped or a 6-inch freeboard below the truck rim, or be wetted to minimize loss of material due to wind or spillage.

AQ-6 Signs displaying the VCAPCD Complaint Line Telephone number for public complaints shall be posted in a prominent location visible off-site at Site 1.

AQ-7 Prior to issuance of demolition permits for any structure on the site, Developer shall provide evidence of notifying the Air Pollution Control District of such demolition. Demolition and/or renovation activities shall be conducted in compliance with VCAPCD regularities regarding Asbestos (Rule 63.7).

Monitoring: Planning staff will verify that all dust control measures (AQ1 through AQ-7) are included on grading plans and as conditions of approval on the Special Use Permit. Development Services staff will provide on-site monitoring during grading activities. Planning staff will verify that the Rule 74.2 architectural coating notes are including building permit plan submittals.

Result After Mitigation: Upon implementation of the above mitigation measures, the project will not result in any residual significant effects on the environment related to air quality emissions.

Cumulative Impact: The cumulative project area is defined as the entire City of Oxnard at its planned 2030 buildout which includes the proposed project. Air quality impacts were analyzed by the 2030 General Plan PEIR and found to be significant for which an overriding consideration was adopted. The 2030 General Plan PEIR is incorporated by reference, specifically Chapter 5.7, Certified Final PEIR, October 2011, page 5-35.

D. BIOLOGICAL RESOURCES	Potentially Significant Impact	Less Than Significant With Mitigation	Less than Significant Impact	No Impact
1. Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
2. Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
3. Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
4. Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒
5. Would the project conflict with any local policies or ordinances protecting biological resources?	☐	☐	☐	☒
6. Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

Discussion: 1-6) None of the three sites are located near a riparian habitat area, dune area or coastal beaches and wetlands. Site 1 is vacant and has not been actively farmed for at least 15 years. Site 2 is an existing fueling station. Site 3 is an existing public roadway. The project sites are surrounded by urban development on all sides, and by agricultural land a few hundred feet to the north. The project sites do not lie within an existing or proposed habitat or conservation plan area and does not contribute to regional wildlife movement. It is likely that field mice and other indigenous animals would migrate out of Site 1 once grading commences. These animals would likely go into the nearby agricultural fields. There are no trees or vegetation on Site 1 other than non-native grasses and weeds. There are 51 parking lot "island trees" of various species and maturity adjacent to Site 1 and near and within Site 2, collectively valued at $205,830, that would be removed (see Arborist Report, Attachment C). The project proposes 130 replacement trees of 24 and 36 inch box that are collectively valued at $207,240 in compliance with the City's tree replacement valuation policy. Therefore, **No Impact** to biological resources is anticipated.

Mitigation: No mitigation measures are required.

Cumulative Impact: The cumulative project area is defined as the entire 2030 buildout which includes the proposed project site. Biology impacts were analyzed by the 2030 General Plan PEIR and found not to be significant after implementation of uniformly applied development policies and regulations. The 2030 General Plan PEIR is incorporated by reference, specifically Chapter 5.2, Certified Final PEIR, October 2011, page 5-3.

E. CLIMATE CHANGE AND GREENHOUSE GAS EMISSIONS	Potentially Significant Impact	Less Than Significant With Mitigation	Less than Significant Impact	No Impact
1. Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
2. Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases or otherwise conflict with state goals for reducing GHG emissions in California?	☐	☐	☒	☐
3. Would the project contribute or be subject to potential secondary effects of climate change (e.g., sea level rise, increase fire hazard)?	☐	☐	☒	☐

Discussion
1- 3) Neither the Ventura County Air Pollution Control District (VCAPCD) nor the City have established project-level significance thresholds for GHGs emissions for vehicle emissions or HVAC operations within commercial buildings. Emissions of GHGs are quantified, but are not by themselves used to determine project-level significance under CEQA. In the absence of an adopted GHG emission-specific threshold, the GHG-emission impact is determined to be **Less Than Significant** at the project level because the operational air quality impacts were found to be less than significant as discussed in Section C, Air Quality. As the Air Quality and Traffic discussions note, the project enhances the efficiency of on-site parking lot and stacking for fuel service for existing Costco customers. Therefore, in the net, GHG emissions are unchanged and possibly somewhat lower compared to the existing facility and use intensity.

Monitoring: No mitigation measures are required.

Cumulative Impact: The cumulative project area is defined as the entire City of Oxnard at its planned 2030 buildout which includes the proposed project. GHG impacts were analyzed by the 2030 General Plan PEIR and found to be significant for which an overriding consideration was adopted. The 2030 General Plan PEIR is incorporated by reference, specifically Chapter 5.7, Draft PEIR, February 2009, page 5-35.

F. CULTURAL RESOURCES AND TRIBAL CULTURAL RESOURCES	Potentially Significant Impact	Less Than Significant With Mitigation	Less than Significant Impact	No Impact
1. Would the project cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☐	☒
2. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☒	☐
3. Would the project directly or indirectly destroy a unique paleontological resource or site or unique geological feature?	☐	☐	☒	☐
4. Would the project disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

Discussion

1) The City of Oxnard has two designated historic districts: The Henry T. Oxnard National Historic District and the Leonard Ranch Historic District. The project sites are not located near either of these locations and would therefore not cause a substantial adverse change in the significance of a historical resource. The project would have **No Impact**.

2-4) Based on the Cultural Resources Survey (see Attachment D), the project area does not contain any evidence of historical, archaeological, or paleontological resources. Records searches indicated no known resources within 0.5 mile of the property at APN No. 144-0-150-095 (no address) and 144-0-143-055 (2001 Ventura Boulevard). As part of the Development Services standard permitting procedure and uniformly applied development conditions, Costco and/or their contractors shall contract with a Native American monitor to be present during all subsurface grading, trenching or construction activities on both project sites. The monitor shall provide a report to the Planning Division summarizing the activities during the reporting period. A copy of the contract for these services shall be submitted to the Planning Division Manager for review and approval prior to issuance of any grading permits. The monitoring report(s) shall be provided to the Planning Division prior to approval of final building permit signature. In the event that an archeological site is identified during grading or construction, all construction activities in the vicinity of the site shall be halted and a qualified archaeologist shall be contacted at the expense of the applicant to document and evaluate the significance of the resource and shall determine when construction may resume, in consultation with the Planning Manager. Such evaluation may require site subsurface excavation and evaluation program. If remains prove to be significant, further investigations in the form of a data recovery program would be implemented to mitigate impacts to the identified resources. Therefore, with the application of uniformly applied development conditions and standards, the project would have a **Less Than Significant** impact on cultural resources.

Mitigation: No mitigation measures are required.

Cumulative Impact: The cumulative project area is defined as the entire City of Oxnard at its planned 2030 buildout which includes the proposed project. Cultural resources were analyzed by the 2030 General Plan PEIR and found not to be significant after implementation of uniformly applied development policies and regulations. The 2030 General Plan PEIR is incorporated by reference, specifically Chapter 5.4, Certified Final PEIR, October 2011, page 5-19.

G. GEOLOGY AND SOILS

	Potentially Significant Impact	Less Than Significant With Mitigation	Less than Significant Impact	No Impact
1. Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
a. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of known fault?	☐	☐	☒	☐
b. Strong seismic ground shaking that cannot be addressed through compliance with standard Code requirements?	☐	☐	☒	☐
2. Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse that cannot be addressed through compliance with standard Code requirements?	☐	☐	☒	☐
3. Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property that cannot be addressed through compliance with standard Code requirements?	☐	☐	☒	☐
4. Would the project expose people or structures to inundation by seiche or tsunami?	☐	☐	☐	☒
5. Would the project rely on dredging or other maintenance activity by another agency that is not guaranteed to continue?	☐	☐	☐	☒

1-3) The City of Oxnard is located in an area that has a high potential for seismic ground shaking (City of Oxnard, *2030 General Plan*). The *City of Oxnard 2030 General Plan, Background Report,* lists fault systems that are located within the vicinity of the City of Oxnard. Active and potentially active faults are present in the surrounding region and may extend into the subsurface beneath the City. In addition, the *City of Oxnard 2030 General Plan* identifies the proposed project site as being located in an area that is marked by both high to moderate and moderate to low potential for liquefaction. As these ground failure risks are considered to be potentially significant impacts, a geotechnical engineering evaluation of the proposed project site will be required as part of the construction plans in order to avoid creating any significant impacts to soils and geologic resources.

Based on California Department of Conservation (DOC) fault activity map of California, there are no known earthquake faults in the City of Oxnard. There are several active or potentially active faults that may affect Oxnard including the San Andreas Fault, northeast of the project area, and onshore and offshore segments of the Oak

Ridge Fault, which is the nearest potentially active fault to the site. The most likely active faults to seismically affect the city and the project site are the Oak Ridge, Ventura, Simi-Santa Rosa, Bailey, and San Andreas faults (DOC 2010a, DOC 2010b):

- **Oak Ridge Fault**, located approximately 6 miles to the northwest of the site, is considered active
- **Ventura Fault**, located approximately 8 miles northwest of the site, is considered active
- **Simi-Santa Rosa Fault**, located approximately 5 miles to the northeast, is considered active
- **Bailey Fault**, located approximately 5.5 miles east of the site, is considered active
- **San Andreas Fault**, located approximately 46 miles to the northeast of the city, is considered active.

As part of the Development Services standard permitting procedure and uniformly applied development conditions, Costco and/or their contractors shall submit a site-specific soils investigation prepared by a licensed geotechnical engineer. At a minimum, the study shall include liquefaction and compressible soils characteristics on-site and shall identify any necessary construction techniques or other mitigation measures to prevent significant liquefaction/compressible soils impacts on the proposed project. All recommendations of the report shall be incorporated into the project as conditions of approval. The report shall be submitted concurrently with plans submitted for review by the Building Official. Therefore, with the application of uniformly applied development conditions and standards, the project would have a **Less Than Significant** impact on the existing geological and soil conditions.

4-5) The project is located about 6.5 miles inland from the Pacific Ocean is not near any body of water subject to seiche. **No Impact.**

Mitigation: None required

Cumulative Impact: The cumulative project area is defined as the entire City of Oxnard at its planned 2030 buildout which includes the proposed project. Geology and soils were analyzed by the 2030 General Plan PEIR and found not to be significant after implementation of uniformly applied development policies and regulations. The 2030 General Plan PEIR is incorporated by reference, specifically Chapter 6.2, Certified Final PEIR, October 2011, page 6-2.

H. HAZARDS AND HAZARDOUS MATERIALS

	Potentially Significant Impact	Less Than Significant With Mitigation	Less than Significant Impact	No Impact
1. Would the project create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials that cannot be addressed through compliance with standard regulatory requirements?	☐	☐	☒	☐
2. Would the project create a significant hazard to the public or the environment through reasonably foreseeable up-set and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐

H. HAZARDS AND HAZARDOUS MATERIALS

	Potentially Significant Impact	Less Than Significant With Mitigation	Less than Significant Impact	No Impact
3. Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school, in quantities or a manner that would create a substantial hazard?	☐	☐	☒	☐
4. Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
5. Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒

Discussion:

1-3) The project includes demolition of an existing fuel service station and the construction of a replacement fuel service station in a nearby location. Operations will include a 12 pump fueling station (24 fueling positions), with an associated attendant office and parking in an area characterized by light industrial and commercial development. The nearest school, Rio Lindo Elementary School, is located approximately one mile west of the project site. The project would be required to meet City Code Standards and the California Building and Fire Codes. While transportation and storage of fuel would occur as part of project operation, these activities would not create a significant hazard given that no sensitive receptors (residences, schools) are located in the immediate site vicinity. Compliance with State and County regulations regarding the transport and storage of fuels would ensure that impacts would be **Less Than Significant**.

4) The project applicant has verified that the project site is not on the list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. Therefore, **No Impact** is anticipated.

5) The project site is located within an airport land use plan, in the vicinity of a private airstrip, or near any wildland fire hazard zones. The proposed development is within an urbanized area already designed with roadways to accommodate access for emergency and other service vehicles. As shown in the project description, the project would have six access points on Auto Center Drive and Paseo Mercado, as well as an emergency exit on the adjacent private drive. Therefore, **No Impact** is anticipated.

Mitigation: No mitigation measures are required.

Cumulative Impact: The cumulative project area is defined as the entire City of Oxnard at its planned 2030 buildout which includes the proposed project. Hazards and hazardous materials were analyzed by the 2030 General Plan PEIR and found not to be significant after implementation of uniformly applied development policies and regulations. The 2030 General Plan PEIR is incorporated by reference, specifically Chapter 6.5, Certified Final PEIR, October 2011, page 6-25.

I. HYDROLOGY AND WATER QUALITY	Potentially Significant Impact	Less Than Significant With Mitigation	Less than Significant Impact	No Impact
1. Would the project violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐
2. Would the project deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of preexisting nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☒	☐
3. Would the project alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner, which would result in on- or off-site flooding or exceed the capacity of existing or planned stormwater drainage systems?	☐	☐	☒	☐
4. Would the project place new structures within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☒	☐
5. Would the project impede or redirect flood flows such that it would increase on- or off-site flood potential?	☐	☐	☒	☐
6. Would the project expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
7. Would the project be exposed to a substantial risk related to inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

1) The City of Oxnard lies within the Oxnard Plain Basin and Oxnard Forebay Basin with small portions of the City in the Mound Basin. The overall water quality for the Oxnard Plain Basin and Oxnard Forebay Basin was rated "good" to "injurious" by the Regional Water Quality Control Board. There are no known active or abandoned water wells on site, which would cause threats to water quality. Costco would be required through uniformly applied conditions to meet the City's water quality standards. All wastewater would be treated by the City Wastewater system and to applicable standards. Impacts would be **Less Than Significant** and no mitigation is required.

2) Continued use of the project site was anticipated in the 2015 Urban Water Management Plan (UWMP) that provides for reliable water supply, primarily through the Groundwater Recovery Enhancement and Treatment (GREAT) Program. The GREAT Program EIR (available on City Planning Division webpage or on request) is incorporated by reference and available for review at the City of Oxnard's Planning Division office. The 2015

UWMP projects total potable water demand to 2040 of 38,225 acre-feet without the implementation of conservation programs, with an available water supply of 54,341 acre-feet (City of Oxnard 2016). Impacts would be **Less Than Significant** and no mitigation is required.

3, 5) Water quality and drainage impacts associated with the proposed use would primarily be those associated with motor vehicles and landscape maintenance. The primary source of contaminants would be oil, grease, and particulates emitted by motor vehicles. Underground gasoline storage on the site is kept in a closed containment system to prevent leaking into surrounding groundwater. There are no surface water bodies or wetlands within the vicinity of the proposed project; however existing absorption rates, drainage patterns, and runoff rates of the subject site and surrounding areas would be affected by an increase in impervious surfaces on-site. In order to comply with the National Pollution Discharge Elimination System (NPDES) requirements for a permit to discharge storm water and NPDES requirements for a construction permit. The subject lot would be required and would be subject to the review and approval of the City of Oxnard in order to verify compliance with NPDES requirements. Impacts to water quality are expected to be **Less Than Significant** as a result of this project.

4) In accordance with Federal Emergency Management Agency (FEMA) flood zone maps (#06111C0910E), the project site is located in Zone AH, which is within the 100-year flood zone (the area with a 1% chance per year of flooding). FEMA regulations require that habitable structures, such as the attendant booth, be elevated 2 feet above the flood elevation. If constructed to be above the flood level of a 100 year storm, the project would have a **Less Than Significant** impact.

6-7) The proposed project is not subject to flooding due to dam or levee failure, and would not increase exposure to risks associated with dam or levee failure. A tsunami is a tidal wave produced by off-shore seismic activity; seiches are seismically induced waves that occur in large bodies of water, such as lakes. The project site is not located within a tsunami hazard zone (California Department of Conservation, March 2009). Additionally, because the project site is not sufficiently close to a large body of water other than the ocean, seiches are not a significant concern. As described above in Section VI, *Geology and Soils*, the project site is not located within an area subject to potentially high landslide or debris and mud flows. Therefore, **No Impact** related to these hazards would occur.

Mitigation: No mitigation measures are required.

Cumulative Impact: The cumulative project area is defined as the entire City of Oxnard at its planned 2030 buildout which includes the proposed project. Hydrology and water quality were analyzed by the 2030 General Plan PEIR and found not to be significant after implementation of uniformly applied development policies and regulations. The 2030 General Plan PEIR is incorporated by reference, specifically Chapter 4.3, Certified Final PEIR, October 2011, page 4-25.

J. LAND USE AND PLANNING

	Potentially Significant Impact	Less Than Significant With Mitigation	Less than Significant Impact	No Impact
1. Would the project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
2. Would the project conflict involve land uses that are not compatible with an applicable airport land use compatibility plan?	☐	☐	☐	☒

J. LAND USE AND PLANNING

	Potentially Significant Impact	Less Than Significant With Mitigation	Less than Significant Impact	No Impact
3. Would the project conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒
4. Would the project physically divide an established community?	☐	☐	☐	☒

Discussion:
1) The project proposes a General Plan Amendments and RSSCSP to change the land use designation of Parcel No. 144-0-150-095 (Site 1) from RSSCSP Planning Area 4: Commercial Manufacturing, to Planning Area 3: Retail Commercial, the same designation as Parcel No 144-0-143-055 (the existing Costco site). Changing the zoning district will allow a Lot Line Adjustment to incorporate the 1.6 acre undeveloped Site 2 into the Costco parcel and create a replacement parcel around the existing fueling facility. The proposed relocated fueling facility use would then be an allowed accessory use to the Costco retail use and be fully consistent with the General Plan and RSCCSP. With these approvals, there is **No Impact**.

2-3) The project site is not located within an area that is subject to an adopted habitat conservation plan or natural community plan. **No Impact** would occur.

4) The proposed project does not include any components, such as a new road, that would physically divide an established residential community. The project occurs within and adjacent to an existing retail use. **No Impact** would occur.

Mitigation: No mitigation measures are required.

Cumulative Impact: The cumulative project area is defined as the entire City of Oxnard at its planned 2030 buildout which includes the proposed project. Land use and planning were analyzed by the 2030 General Plan PEIR and found not to be significant after implementation of uniformly applied development policies and regulations. The 2030 General Plan PEIR is incorporated by reference, specifically Chapter 3.2, Certified Final PEIR, October 2011, page 3-2.

K. MINERAL RESOURCES

	Potentially Significant Impact	Less Than Significant With Mitigation	Less than Significant Impact	No Impact
1. Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
2. Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan or other land use plan?	☐	☐	☐	☒

Discussion:
1-2) According to the 2030 General Plan, the City of Oxnard has mineral/sand/gravel deposits primarily along the Santa Clara River channel, along Highway 101 corridor and along the eastern edge of the City extending west to

Oxnard Boulevard. The project will not create a unique demand on available mineral resources in the City, since the project site is not located in an area of importance for mineral deposits. The project site lies within the MRZ-1 and MRZ-4 area and does not fall within any of the areas listed as having significant mineral deposits. Therefore, the project would have **No Impact** on any known mineral resources.

Mitigation: No mitigations required.

Cumulative Impact: The cumulative project area is defined as the entire City of Oxnard at its planned 2030 buildout which includes the proposed project. Mineral resources were analyzed by the 2030 General Plan PEIR and found not to be significant after implementation of uniformly applied development policies and regulations. The 2030 General Plan PEIR is incorporated by reference, specifically Chapter 5.6, Certified Final PEIR, October 2011, page 5-33.

L. NOISE	Potentially Significant Impact	Less Than Significant With Mitigation	Less than Significant Impact	No Impact
1. Would the project generate or expose persons to noise levels exceeding standards established in the Oxnard 2030 General Plan or Noise Ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
2. Would the project generate or expose persons to excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
3. Would the project generate a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☒	☐	☐
4. Would the project generate a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☒	☐	☐
5. For a project located within an airport land use plan for Oxnard Airport or within two miles of Naval Base Ventura County at Point Mugu, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
6. Would the project expose non-human species to excessive noise?	☐	☐	☐	☒

Discussion:
1–4) Noise is defined as unwanted sound that disturbs human activity. Environmental noise levels typically fluctuate over time, and different types of noise descriptors are used to account for this variability. Noise level measurements include intensity, frequency, and duration, as well as time of occurrence. Noise level (or volume) is generally measured in decibels (dB) using the A-weighted sound pressure level (dBA). The A-weighting scale is an adjustment to the actual sound power levels consistent with the human hearing response, which is most sensitive to frequencies around 4,000 Hertz (about the highest note on a piano) and less sensitive to low frequencies (below 100 Hertz). Sound pressure level is measured on a logarithmic scale with the 0 dB level based

on the lowest detectable sound pressure level that people can perceive (an audible sound that is not zero sound pressure level). Based on the logarithmic scale, a doubling of sound energy is equivalent to an increase of 3 dB, and a sound that is 10 dB less than the ambient sound level has no effect on ambient noise. Because of the nature of the human ear, a sound must be about 10 dB greater than the reference sound to be judged as twice as loud. In general, a 3 dB change in community noise levels is noticeable, while 1-2 dB changes generally are not perceived. Quiet suburban areas typically have noise levels in the range of 40-50 dBA, while those along arterial streets are in the 50-60+ dBA range. Normal conversational levels are in the 60-65 dBA range, and ambient noise levels greater than 65 dBA can interrupt conversations.

In addition to the instantaneous measurement of sound levels, the duration of sound is important since sounds that occur over a long period of time are more likely to be an annoyance or cause direct physical damage or environmental stress. One of the most frequently used noise metrics that considers both duration and sound power level is the equivalent noise level (Leq). The Leq is defined as the single steady A-weighted level that is equivalent to the same amount of energy as that contained in the actual fluctuating levels over a period of time (essentially, the average noise level). Typically, Leq is summed over a one-hour period. The time period in which noise occurs is also important since noise that occurs at night tends to be more disturbing than that which occurs during the daytime. Two commonly used noise metrics – the Day-Night average level (Ldn) and the Community Noise Equivalent Level (CNEL) recognize this fact by weighting hourly Leqs over a 24-hour period. The Ldn is a 24-hour average noise level that adds 10 dB to actual nighttime (10:00 PM to 7:00 AM) noise levels to account for the greater sensitivity to noise during that time period. The CNEL is identical to the Ldn, except it also adds a 5 dB penalty for noise occurring during the evening (7:00 PM to 10:00 PM). Vibration is sound radiated through the ground. The rumbling sound caused by the vibration of room surfaces is called ground borne noise. Ground borne vibration is almost exclusively a concern inside buildings and is rarely perceived as a problem outdoors. Ground-borne vibration related to human annoyance is generally related to velocity levels expressed in vibration decibels (VdB). However, construction-related ground borne vibration in relation to its potential for building damage can also be measured in inches per second (in/sec) peak particle velocity (PPV) (Federal Transit Administration, May 2006). Based on the FTA's *Transit Noise and Vibration Impact Assessment* and the California Department of Transportation's 1992 *Transportation-Related Earthborne Vibration, Technical Advisory*, vibration levels decrease by 6 VdB with every doubling of distance.

The State Noise/Land Use Compatibility Standards suggest a normally acceptable exterior noise exposure of up to 65 dBA CNEL for sensitive land uses such as residences and schools. Less sensitive commercial and industrial uses may be compatible with ambient noise levels up to 70 dBA, or even 75 dBA for industrial uses. The project is surrounded by agricultural, commercial, and industrial uses, which are not considered sensitive to noise increases. The project site is vacant and any new development would increase on-site and near-by ambient noise levels. Short-term noise generated by construction activities would occur. Average noise levels associated with the use of heavy equipment at construction sites can range from about 76 to 89 dBA at 50 feet from the source, depending upon the types of equipment in operation at any given time and phase of construction (FTA, May 2006).Typical noise levels of equipment provided by the Federal Transit Administration (FTA) are shown in the table below.

Typical Noise Levels Associated with Construction Equipment	
Equipment	**Typical Noise Level (dBA) 50 Feet from the Source**
Air Compressor	81
Backhoe	80
Concrete Mixer	85
Paver	89
Saw	76
Scraper	89
Truck	88
Source: FTA, May 2006	

As stated in Oxnard's 2030 General Plan, the State of California has identified acceptable noise levels for various land uses, including residential development. As for potential long term noise impacts, the Noise Element states that measurement results of industrial areas throughout the City indicate that noise levels due to stationary sources in Oxnard can be significant (in the 65-80 dB(A) range).

There are no noise sensitive land uses such as residential uses in the vicinity. Additionally, the project will be required, through uniformly applied standard Development Services conditions, to comply with the City Code and California noise regulations. The project is a relocation of an existing fueling facility from Site 2, which is relatively close to the Ventura (101) Freeway, to Site 2 along Auto Center Drive and, as a result, customers at Site 1 will be exposed to less ambient noise. There would be a transfer of facility operational noise from Site 2 to Site 1 resulting in an increase in ambient noise at Site 2 compared to its present vacant status, but not exceeding City noise standards and, therefore, less than significant. With implementation of the proposed two mitigation measures related to construction, the noise impacts are expected to be **Less Than Significant**.

5) The project site is not located near the Oxnard Airport and is outside the noise contours as depicted on Figure IX-2 in the 2030 General Plan. The nearest airport, Camarillo Airport, is located 2 miles east of the project site. **No Impact** related to airport noise would occur.

6) The project is located within a developed urban area. The 1.6 acre vacant lot is devoid of vegetation or visible based on a site inspection on October 19, 2017. **No Impact** related to exposure of non-human species to excessive noise would occur.

<u>Mitigation</u>: The following mitigation measures shall apply to the proposed project

Short Term Impacts:

NOISE -1 During all excavation and grading on site, the project contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturers' standards.

NOISE -2 Construction times shall be limited to 7 a.m. to 7 p.m. daily or in accordance with City Ordinances restricting construction times at the time of construction, whichever is more restrictive.

Monitoring: Development Services shall monitor these mitigation measures at the time of permit issuance and during construction. Result after mitigation: Upon implementation of the above mitigation measures, the project will not result in any residual significant adverse effects on the environment related to noise.

Cumulative Impact: The cumulative project area is defined as the entire City of Oxnard at its planned 2030 buildout which includes the proposed project. Noise impacts were analyzed by the 2030 General Plan PEIR and found to be significant for which an overriding consideration was adopted. The 2030 General Plan PEIR is incorporated by reference, specifically Chapter 6.4, Certified Final PEIR, October 2011, page 6-15.

M. POPULATION, EDUCATION, AND HOUSING	Potentially Significant Impact	Less Than Significant With Mitigation	Less than Significant Impact	No Impact
1. Would the project involve a General Plan amendment that could result in an increase in population beyond that projected in the adopted General Plan that may result in one or more significant physical environmental effects?	☐	☐	☐	☒
2. Would the project induce substantial growth on the project site or surrounding area, resulting in one or more significant physical environmental effects?	☐	☐	☐	☒
3. Would the project result in a substantial (15 single-family or 25 multi-family dwelling units – about one-half block) net loss of housing units through demolition, conversion, or other means that may necessitate the development of replacement housing?	☐	☐	☐	☒
4. Would the project result in a net loss of existing housing units affordable to very low- or low-income households (as defined by federal and/or City standards), through demolition, conversion, or other means that may necessitate the development of replacement housing?	☐	☐	☐	☒
5. Would the project cause an increase in enrollment at local public schools that would exceed capacity and necessitate the construction of new or expanded facilities?	☐	☐	☐	☒
6. Would the project directly or indirect interfere with the operation of an existing or planned school?	☐	☐	☐	☒

Discussion:
1) The project includes a General Plan Amendment that changes the land use designation from Limited Industrial to Regional Commercial for a 1.6 acre vacant parcel entirely surrounded by commercial development. The project involves no housing nor could foreseeable lead indirectly to additional housing and, therefore, no increase in the City's population or project 2030 population upon which the 2030 General Plan is based and for which policies to avoid and/or mitigate environmental impacts are based. Therefore, **No Impact** would occur.

2) The project is a relocation of an existing use within and adjacent to the existing location. Therefore, **No Impact** would occur.

3-6) The project has no housing component and does not increase employment significantly leading to an indirect impact on housing or schools. Therefore, **No Impact** would occur.

Mitigation**:** No mitigation measures are required.

Cumulative Impact: The cumulative project area is defined as the entire City of Oxnard at its planned 2030 buildout which includes the proposed project. Population and housing were analyzed by the 2030 General Plan PEIR and found not to be significant after implementation of uniformly applied development policies and regulations. The 2030 General Plan PEIR is incorporated by reference, specifically Chapters 3.2 and 3.4, Certified Final PEIR, October 2011, pages 3-2 and 3-17.

N. PUBLIC SERVICES AND RECREATION

	Potentially Significant Impact	Less Than Significant With Mitigation	Less than Significant Impact	No Impact
1. Would the project increase demand for fire protection service such that new or expanded facilities would be needed to maintain acceptable service levels, the construction of which may have significant environmental effects?	☐	☐	☒	☐
2. Would the project increase demand for law enforcement service such that new or expanded facilities would be needed to maintain acceptable service levels, the construction of which may have significant environmental effects?	☐	☐	☒	☐
3. Would the project increase the use of existing park facilities such that substantial physical deterioration of the facility would occur or be accelerated or that new or expanded park facilities would be needed to maintain acceptable service levels?	☐	☐	☐	☒
4. Would the project increase the need for or use of existing library or other community facilities such that substantial physical deterioration of the facilities would occur or be accelerated in order to maintain acceptable levels of service?	☐	☐	☐	☒

Discussion:
1-2) The Oxnard Fire Department (OFD) provides fire protection to the City of Oxnard. Eight fire stations and a staff of more 134 uniformed Fire Department personnel currently serve the City[1]. All stations are staffed with a total of 25 full time basis fire fighters. The basic unit is the engine company, which consists of a captain who supervises the crew, an engineer who is responsible for the safe operation of the equipment, and a firefighter who carries out the basic firefighting and medical tasks. The National Fire Protection Association's (NFPA) recommended standard for fire department staffing is one firefighter per 1,000 residents. The OFD is staffed by 134 uniformed members.[2] Based on a US Census estimated 2017 population of 207,772[3], Oxnard's 2016 ratio is

1 *City of Oxnard Fire Department, website: https://www.oxnard.org/fire-department/fire-station-locations-fire-department/,December 14, 2016*
2 *Sergio Martinez, Battalion Chief, Oxnard Fire Department, January, 2016.*

one firefighter per 1,546 residents. In addition, the NFPA recommends each fire station service approximately 15,000 residents. Oxnard's eight fire stations serve approximately 25,900 residents per station. Furthermore, the Fire Department can access additional manpower and equipment through an automatic aid agreement with Ventura County and a mutual aid agreement with the City of Ventura and Naval Base Ventura County.

The Oxnard Police Department provides police protection in this area. In addition to the Police Headquarters in downtown Oxnard, there are seven storefront police substations in use. According to California Dept. of Finance 2017 population is 207,772. As of July 2017, the Police Department staffing level was 249 sworn officers and 123 civilian employees. This is a ratio of 1.2 officers per 1,000 residents. The City will monitor the need for additional public facilities and/or personnel as part of the Five-Year Development Plan.

The project is the relocation and small expansion of an existing fueling facility within an existing retail area. Uniformly applied development policies that require adequate fire hydrants, OFD site access, emergency signage, fire alarms, addressable smoke detectors, and other requirements of the Uniform Fire Code will minimize potential impacts on Fire Department services. Uniformly applied development policies requested by the Police Department will minimize potential impacts on Police Department services. The impact of the expanded fuel facility on Site 1 and replacement parking lot on Site 2 on fire and police services will be **Less Than Significant.**

3-4) The proposed project does not propose to add any residential units and a small increase in employment would not create significant indirect demand on parks, libraries, and other community facilities and services. There would be **No Impact** on these services**.**

Mitigation: No mitigation measures are required.

Cumulative Impact: The cumulative project area is defined as the entire City of Oxnard at its planned 2030 buildout which includes the proposed project. Public services were analyzed by the 2030 General Plan PEIR and found not to be significant after implementation of uniformly applied development policies and regulations. The 2030 General Plan PEIR is incorporated by reference, specifically Chapter 4.4, Certified Final PEIR, October 2011, page 4-39.

O. TRANSPORTATION AND CIRCULATION	Potentially Significant Impact	Less Than Significant With Mitigation	Less than Significant Impact	No Impact
1. Would the project cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections) based on adopted City of Oxnard level of service (LOS) standards?	☐	☐	☒	☐
2. Would the project exceed, either individually or cumulatively, an LOS standard established by the Ventura County Congestion Management program (CMP) for designated roads or highways?	☐	☐	☒	☐

3 *California Department of Finance, http://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-5/*

O. TRANSPORTATION AND CIRCULATION

	Potentially Significant Impact	Less Than Significant With Mitigation	Less than Significant Impact	No Impact
3. Would the project result in a change in traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☒	☐
4. Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
5. Would the project result in inadequate emergency access?	☐	☐	☐	☒
6. Would the project conflict with adopted policies, plans or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☐	☐	☒

A traffic report was completed for the project by Kittleson & Associates, Inc. (K&A) in August, 2017. The report describes the existing conditions, project trip generation rates, and the impact of the project on existing conditions. It also includes an analysis of the proposed and two developing projects in the immediate auto center vicinity, the Gold Coast Transit operation facility and the Audi of Oxnard dealership. The project site is served by a circulation system comprising arterial and collector streets. Traffic flow on urban arterials is most constrained at intersections. Therefore, a detailed analysis of project impact, if any, on traffic flows must examine the operating conditions of critical intersections during peak travel periods. Peak traffic hours are defined as 7:00 – 9:00 am for the AM peak and 4:00 to 6:00 pm for the PM peak, on Monday through Friday. Levels of Service (LOS) A through F are used to rate intersection operations at morning and evening peak weekday periods with LOS A indicating free flow operations and LOS F indicating congested operations. In the city of Oxnard LOS C is the acceptable operating standard for intersections.

Discussion:
1-4) Based on the August 2017 K&A traffic study, the nearby intersections operate at or above:

Table O-1
Existing LOS at Study Intersections

Intersection	Traffic Control	AM Peak Hour V/C Ratio or Delay	PM Peak Hour V/C Ratio or Delay
N. Rose Ave./Auto Center Dr./E. Ventura Blvd.	Signal	0.66/LOS B	0.77/LOS C
Auto Center Dr. /E. Ventura Blvd.	Signal	0.48/LOS A	0.46/LOS A
Auto Center Dr. / Paseo Mercado	Signal	0.43/LOS A	0.44/LOS A
Auto Center Dr./Los Olivos/Costco Access	Two-way Stop-controlled	38.6 sec. delay LOS E	> 50.0 sec. delay LOS F
Rice Ave./Santa Clara Ave./Auto Center Dr./ US 101 Off-Ramp	Signal	0.36/LOS A	0.56/LOS A

Source: Oxnard Costco Gasoline Expansion T&A Traffic and Circulation Study, August 2017,pg. 18.

The existing fueling facility with 16 stations serves approximately 225 vehicles (450 total trips) during the weekday p.m. peak hour, derived from Costco sales. Midday sales are almost the same. As the fueling facility is limited to Costco members, A&K evaluated eight similar Costco's that expanded their fueling facilities in Washington, Oregon, California, Utah, and Hawaii to determine what percent of existing fueling facility customers were already at the Costco for shopping and, with that information, what amount of new vehicle trips would occur from increasing the number of fueling stations from 16 to 24, as proposed in the project (A&K study, pg. 23).

The data indicate that about 34 percent of customers left home and came to shop in the Costco warehouse, and then purchased fuel. The fueling trip in classified as 'internal' to the destination shopping trip. Another 34 percent were 'pass by' as the customers were already in the immediate area for another reason (commuting or shopping elsewhere) and were already using local streets and the freeway. The final 37 percent were 'diverted' trips of customers who were driving in the west Ventura County area and for another reason and rerouted themselves to Costco for fueling. Diverted trips may have an impact on local streets and intersections.

Based on this information, a total project trip generation estimate is shown below in Table O-2. The overall project would generate 44 additional new external trips during the weekday midday peak period and 43 additional new external trips during the weekday pm peak period (each customer is 2 trips, in and out). Of these new external trips, 16 would be pass by (already on Auto Center Drive) and 16 would be diverted (nearby on Rose or Rice Avenues) leaving only 11 and 12 additional new "Primary" external trips attributable to the expansion from 16 to 24 fueling stations. The A&K study notes that these estimates are conservative based on the best available data regarding Costco gasoline and diesel sales (A&K study, pg. 28). The relocation and small number of new primary trips would have a negligible impact on existing traffic patterns and service levels.

Table O-2
Oxnard Costco Project Trip Generation Estimates

	Weekday Midday Peak Hour Trip Ends	Weekday PM Peak Hour Trip Ends
Additional Trips from Fueling Position Expansion	*42*	*42*
Additional Trips from Diesel Addition	*25*	*24*
Total Trip Ends	67	66
Reduction for Internal Trips (34%)	*(23)*	*(23)*
Total External Trip Ends	44	43
Pass-by Trips (*37%*)	*(16)*	*(16)*
Diverted Trips (*37%*)	*(16)*	*(16)*
Net New Trip Ends	**12**	**11**

Source: A&K Traffic Study, August 2017, pg. 28

The project curb cuts, driveways, interior circulation and site access are designed to meet City engineering standards and City Fire Department standards to ensure fire apparatus can reach all parts of the site, and no safety issues have been identified. The proposed project includes reconfiguration of the existing parking lot areas and on-site circulation in accordance with the City Code. The project is providing more than code required parking of 1 space per 250 square feet of gross floor area (City Code Section16-622(F), shopping centers). The proposed development does not have any features that would create unusual demands for additional parking over that which is required by City Code.

As shown in Table O-3, the Auto Center Dr./Los Olivos/Costco Access intersection (Site 3) operates with an unacceptable LOS E. The project includes all A&K recommendations including the installation of a City-

approved traffic signal at this intersection, modifying Auto Center Drive medians to allow for turn lanes, modifying lane striping, and creating pedestrian crosswalks. The A&K study also factored in additional future traffic generated by the Gold Coast Transit facility (approved and in plan check as of October, 2017) at the corner of Paseo Mercado and a new Audi of Oxnard car dealership and recalculated LOS at the study intersections. The newly signalized intersection would operate at LOS A in all peak periods and the remaining intersections would operation at LOS C or better. Therefore, the project would have **Less Than Significant** traffic impacts on the street systems and intersection LOS's.

Table O-3
Oxnard Costco Weekday Midday Peak Hour Existing + Project
Existing LOS and LOS with New Signal at Auto Center Drive/Los Olivos Intersection

Intersection		Existing			Existing + Project			Change	Impact
		ICU V/C	Crit. Mov. Delay (s)	LOS	ICU V/C	Crit. Mov. Delay (s)	LOS		
1	North Rose Ave. /Auto Center Dr./East Ventura Blvd.	0.66	--	B	0.68	--	B	0.02	No
2	Auto Center Dr./ Ventura Blvd.	0.48	--	A	0.48	--	A	0.00	No
3	Auto Center Dr./ Paseo Mercado	0.43	--	A	0.42	--	A	-0.01	No
4	Auto Center Dr./ Los Olivos/Eastern Costco Access	--	38.6	E	--	47.4	E	--	Yes
5	Rice Ave./Santa Clara Ave./Auto Center Dr./US 101 Off-ramp	0.36	--	A	0.36	--	A	0.00	No

Intersection		Existing + Project			Existing + Project with Mitigation		
		ICU V/C	Crit. Mov. Delay (s)	LOS	ICU V/C	Crit. Mov. Delay (s)	LOS
4	Auto Center Dr./ Los Olivos/Eastern Costco Access	--	47.4	E	0.41	--	A

Table O-4
Oxnard Costco Weekday PM Peak Hour Existing + Project
Existing LOS and LOS with New Signal at Auto Center Drive/Los Olivos Intersection

Intersection		Existing			Existing + Project			Change	Impact
		ICU V/C	Crit. Mov. Delay (s)	LOS	ICU V/C	Crit. Mov. Delay (s)	LOS		
1	North Rose Ave. /Auto Center Dr./East Ventura Blvd.	0.77	--	C	0.77	--	C	0.00	No
2	Auto Center Dr./ Ventura Blvd.	0.46	--	A	0.46	--	A	0.00	No
3	Auto Center Dr./ Paseo Mercado	0.44	--	A	0.41	--	A	-0.03	No
4	Auto Center Dr./ Los Olivos/Eastern Costco Access	--	>50	F	--	>50	F	--	Yes
5	Rice Ave./Santa Clara Ave./Auto Center Dr./US 101 Off-ramp	0.56	--	A	0.56	--	A	0.00	No

Intersection		Existing + Project			Existing + Project with Mitigation		
		ICU V/C	Crit. Mov. Delay (s)	LOS	ICU V/C	Crit. Mov. Delay (s)	LOS
4	Auto Center Dr./ Los Olivos/Eastern Costco Access	--	>50	F	0.41	--	A

5) The project curb cuts, driveways, interior circulation and site access are designed to meet City engineering standards and City Fire Department standards to ensure fire apparatus can reach all parts of the site, and no safety issues have been identified. The proposed project includes reconfiguration of the existing parking lot areas and on-site circulation in accordance with the City Code. The project improves the Auto Center Dr./Los Olivos/Costco Access intersection by adding a traffic signal that can be changed by emergency vehicles, therefore the project would have **No Impact** on emergency access and response.

6) The project is a relocation and expansion of a fueling facility where bicycles and transit would not normally be present as opposed to cars and light trucks. The project does not inhibit existing Costco bicycle facilities and transit service and, by signalizing the Auto Center Dr./Los Olivos/Costco Access intersection, improves access by Gold Coast buses travelling between the future dispatch yard on Paseo Mercado and Rice/Santa Clara Avenue. **No Impact.**

Mitigation: **No mitigation measures are required.**

Cumulative Impact: The cumulative project area is defined as the entire City of Oxnard at its planned 2030 buildout which includes the proposed project. Traffic and Circulation were analyzed by the 2030 General Plan PEIR and found to be significant for which an overriding consideration was adopted. The 2030 General Plan PEIR is incorporated by reference, specifically Chapter 4.2, Certified Final PEIR, October 2011, page 4-2.

P. UTILITIES AND ENERGY	Potentially Significant Impact	Less Than Significant With Mitigation	Less than Significant Impact	No Impact
1. Would the project need new or expanded water supply entitlements that are not anticipated in the current Urban Water Management Plan?	☐	☐	☐	☒
2. Would additional wastewater conveyance or treatment capacity be required to serve project demand and existing commitments?	☐	☐	☐	☒
3. Would the project generate solid waste that would exceed the permitted capacity of a landfill serving the City?	☐	☐	☐	☒
4. Would the project conflict with federal, state, or local statutes and regulations related to solid waste?	☐	☐	☐	☒
5. Would the project involve wasteful, inefficient and unnecessary consumption of energy during project construction, operation, maintenance, and/or removal?	☐	☐	☐	☒
6. Would the project require additional energy facilities, the provision of which may have a significant effect on the environment?	☐	☐	☐	☒
7. Would the project be inconsistent with existing energy standards?	☐	☐	☐	☒
8. Would the project preempt future energy development or future energy conservation, or inhibit the future use of renewable energy or energy storage?	☐	☐	☐	☒

Discussion:
1-2) The project would increase water demand by a negligible amount for the peripheral landscaping on the vacant lot that would comply with State and City water conservation requirements. All other new landscaping is replacing removed landscaping and would not increase water demand except during the brief period of plant establishment. The development of the 1.6 acre vacant lot as an industrial use was anticipated in the water demand data used in the adopted 2015 Urban Water Management Plan (UWMP). The project's actual water demand for only landscaping will be less than the UWMP estimates as an industrial use. The proposed project would be required to comply with measures to treat storm water runoff by implementing Best Management Practices (BMPs) in accordance with National Pollutant Discharge Elimination System (NPDES) requirements. Therefore, **No Impact** to water supply demand or wastewater are anticipated.

3-4) Standard conditions of approval and application of uniformly applied development standards require compliance with the City's recycling programs, which require solid waste recycling and disposal plans and reporting during construction and operation of the facility. Therefore, impacts related to solid waste would have **No Impact**.

5-8) Standard conditions of approval and application of uniformly applied development standards require compliance with the California Green Building Code which includes energy efficiency standards. The project would use state-of-the-art LED fixtures that would not significantly, and may actually reduce, energy consumption compared to the older fixtures in the existing fueling canopy. A condition of approval requires the canopy to be solar-panel ready. Therefore, there would be **No Impact** related to energy.

Mitigation: No mitigation measures are required.

Cumulative Impact: The cumulative project area is defined as the entire City of Oxnard at its planned 2030 buildout which includes the proposed project. Utilities and services were analyzed by the 2030 General Plan PEIR and found not to be significant after implementation of uniformly applied development policies and regulations. The 2030 General Plan PEIR is incorporated by reference, specifically Chapter 4.3, Certified Final PEIR, October 2011, page 4-25.

Q. MANDATORY FINDINGS OF SIGNIFICANCE	Potentially Significant Impact	Less Than Significant With Mitigation	Less than Significant Impact	No Impact
1. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☐	☒

Q. MANDATORY FINDINGS OF SIGNIFICANCE	Potentially Significant Impact	Less Than Significant With Mitigation	Less than Significant Impact	No Impact
2. Does the project have impacts that are individually limited, but cumulatively considerable *("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)*?	☐	☐	☒	☐
3. Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly, particularly those living in disadvantaged communities?	☐	☐	☐	☒

No new significant adverse effects are expected to result from the proposed project with implementation of the mitigations listed herein. Many mitigation measures imposed on similar past projects are now treated as uniformly applied development standards and best practices and incorporated into the project description.

1) As discussed in Section E, *Cultural Resources*, the project site does not contain potentially historic structures that would be removed or altered by the proposed project. The project would also be required to comply with standard procedures for assessment and preservation of subsurface resources compliant with the State Health and Safety Code Section 7050.5 and Public Resources Code Section 5097.98, which regulate disturbance and disposition of cultural resources and human remains. Compliance with these regulations, which detail the appropriate actions necessary in the event human remains are encountered, would reduce impacts to these cultural resources to a **No Impact** level.

As discussed in Section D, *Biological Resources*, the project area is located within an existing urbanized area that has been previously disturbed. The site lacks significant native vegetation that would provide a habitat for any unique, rare, or endangered plant or animal species. The site does not contain and is not adjacent to wetlands. The area is urbanized and there is no potential for adverse effects to wildlife resources or their habitat either directly or indirectly. There would be **No Impact** related to biological resources.

2) The proposed project would result in **Less Than Significant Impacts with Implementation of Mitigation Measures** provided herein. The proposed project is an urban infill project in an area planned for development under the 2030 General Plan and the Rose-Santa Clara Corridor Specific Plan. Most of the surrounding properties are currently developed, and it is therefore expected that project implementation would result in less than significant cumulative impacts. Cumulative citywide significant impacts were documented in the 2030 General Plan Program EIR and overriding considerations were adopted in 2011.

3) The project improves the operation of a member-discount priced fueling facility that serves many Oxnard residents, many of whom qualify as members of an environmental justice population and is a community benefit. There are no residences impacted by the project, or population other than Costco employees and patrons.

REFERENCES

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16. Ventura County Airport Land Use Commission, *Oxnard Airport Master Land Use Plan*, 1990.
17. Ventura County Cultural Heritage Board, *Ventura County Historical Landmarks & Points of Interest–August 1991*, Ventura County Recreation Services.
18. Ventura County, Property Administration Agency, *Final Report: Cultural Heritage Survey, Phase I*, Oxnard and Santa Paula, 1981.
23. Penfield & Smith*, Vallarta Supermarket Project, Revised Traffic and Circulation Study,* May 21, 2012.
24. Kittelson & Associates, Oxnard Costco Gasoline Expansion Traffic Study, August 2017.

Environmental Impact Reports

19. City of Oxnard, *Rose Santa Clara Corridor Specific Plan EIR* , 1986
20. City of Oxnard*, 2030 General Plan Program EIR,* November 2011.

Specific Plans

21. City of Oxnard, *Rose Santa Clara Corridor Specific Plan*

Attachments:

A. Air Quality model ('CalEEMod') results
   a. Proposed Development, Summer (ROG, NOx)
   b. Proposed Development, Annual (CO2e)
   c. Existing Development, Summer (ROG, NOx)
   d. Existing Development, Annual (CO2e)

B. August 2017 Traffic Study

C. September 2017 Arborist Report

D. December 2016 Cultural Resources "Quick Check" Cal State Fullerton

City of Oxnard

Costco MND 17-3

Attachment A

CalEEMod

Costco Fuel Facility Relocation

Ventura County APCD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Gasoline/Service Station	16.00	Pump	0.05	2,258.80	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2017
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Set lot acreage and square feet of lot.

Construction Phase -

Sequestration -

Energy Mitigation -

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	OperationalYear	2014	2017

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	10.7668	10.9608														
Total	**10.7668**	**10.9608**														

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	10.7665	10.9508														
Total	**10.7665**	**10.9508**														

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	2.5077e-003	0.0917	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0628	2.0000e-005														
Energy	1.4400e-003	0.0131														
Mobile	7.8188	6.7226														
Total	**7.8831**	**6.7357**														

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0628	2.0000e-005														
Energy	1.4400e-003	0.0131														
Mobile	7.8188	6.7226														
Total	**7.8831**	**6.7357**														

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2018	1/12/2018	5	10	
2	Site Preparation	Site Preparation	1/13/2018	1/15/2018	5	1	
3	Grading	Grading	1/16/2018	1/17/2018	5	2	
4	Building Construction	Building Construction	1/18/2018	6/6/2018	5	100	
5	Paving	Paving	6/7/2018	6/13/2018	5	5	
6	Architectural Coating	Architectural Coating	6/14/2018	6/20/2018	5	5	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	1.00	255	0.40
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Site Preparation	Graders	1	8.00	174	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Rubber Tired Dozers	1	1.00	255	0.40
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Cranes	1	4.00	226	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	125	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	1.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2018

Unmitigated Construction On-Site

Acres of Grading: 0.5

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0530	9.3216														
Total	**1.0530**	**9.3216**														

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000														
Vendor	0.0000	0.0000														
Worker	0.1359	0.0305														
Total	**0.1359**	**0.0305**														

3.2 Demolition - 2018

Mitigated Construction On-Site

Acres of Grading: 0.5

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0520	9.3131														
Total	**1.0520**	**9.3131**														

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000														
Vendor	0.0000	0.0000														
Worker	0.1359	0.0305														
Total	**0.1359**	**0.0305**														

3.3 Site Preparation - 2018

Unmitigated Construction On-Site

Acres of Grading: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust																
Off-Road	1.0983	10.9398														
Total	**1.0983**	**10.9398**														

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000														
Vendor	0.0000	0.0000														
Worker	0.0680	0.0153														
Total	**0.0680**	**0.0153**														

3.3 Site Preparation - 2018

Mitigated Construction On-Site

Acres of Grading: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust																
Off-Road	1.0972	10.9298														
Total	**1.0972**	**10.9298**														

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000														
Vendor	0.0000	0.0000														
Worker	0.0680	0.0153														
Total	**0.0680**	**0.0153**														

3.4 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust																
Off-Road	1.0530	9.3216														
Total	**1.0530**	**9.3216**														

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000														
Vendor	0.0000	0.0000														
Worker	0.1359	0.0305														
Total	**0.1359**	**0.0305**														

3.4 Grading - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust																
Off-Road	1.0520	9.3131														
Total	**1.0520**	**9.3131**														

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000														
Vendor	0.0000	0.0000														
Worker	0.1359	0.0305														
Total	**0.1359**	**0.0305**														

3.5 Building Construction - 2018

Unmitigated Construction On-Site

Acres of Paving: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0786	10.9578														
Total	**1.0786**	**10.9578**														

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000														
Vendor	0.0000	0.0000														
Worker	0.0136	3.0500e-003														
Total	**0.0136**	**3.0500e-003**														

3.5 Building Construction - 2018

Mitigated Construction On-Site

Acres of Paving: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0776	10.9477														
Total	**1.0776**	**10.9477**														

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000														
Vendor	0.0000	0.0000														
Worker	0.0136	3.0500e-003														
Total	**0.0136**	**3.0500e-003**														

3.6 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9092	8.6233														
Paving	0.0000															
Total	**0.9092**	**8.6233**														

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000														
Vendor	0.0000	0.0000														
Worker	0.2447	0.0549														
Total	**0.2447**	**0.0549**														

3.6 Paving - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9084	8.6154														
Paving	0.0000															
Total	**0.9084**	**8.6154**														

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000														
Vendor	0.0000	0.0000														
Worker	0.2447	0.0549														
Total	**0.2447**	**0.0549**														

3.7 Architectural Coating - 2018

Unmitigated Construction On-Site

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 3,388; Non-Residential Outdoor: 1,129

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	10.4682															
Off-Road	0.2986	2.0058														
Total	**10.7668**	**2.0058**														

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000														
Vendor	0.0000	0.0000														
Worker	0.0000	0.0000														
Total	**0.0000**	**0.0000**														

3.7 Architectural Coating - 2018

Mitigated Construction On-Site

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 3,388; Non-Residential Outdoor: 1,129

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	10.4682															
Off-Road	0.2984	2.0039														
Total	**10.7665**	**2.0039**														

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000														
Vendor	0.0000	0.0000														
Worker	0.0000	0.0000														
Total	**0.0000**	**0.0000**														

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	7.8188	6.7226														
Unmitigated	7.8188	6.7226														

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Gasoline/Service Station	2,604.48	2,604.48	2604.48	1,500,619	1,500,619
Total	2,604.48	2,604.48	2,604.48	1,500,619	1,500,619

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Gasoline/Service Station	9.50	7.30	7.30	2.00	79.00	19.00	14	27	59

4.4 Fleet Mix

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.474465	0.063133	0.180505	0.158349	0.070139	0.010387	0.013452	0.017129	0.000779	0.000670	0.005599	0.000320	0.005072

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	1.4400e-003	0.0131														
NaturalGas Unmitigated	1.4400e-003	0.0131														

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Gasoline/Service Station	133.919	1.4400e-003	0.0131														
Total		**1.4400e-003**	**0.0131**														

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Gasoline/Service Station	0.133919	1.4400e-003	0.0131														
Total		**1.4400e-003**	**0.0131**														

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0628	2.0000e-005														
Unmitigated	0.0628	2.0000e-005														

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0143															
Consumer Products	0.0483															
Landscaping	1.6000e-004	2.0000e-005														
Total	**0.0628**	**2.0000e-005**														

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0143															
Consumer Products	0.0483															
Landscaping	1.6000e-004	2.0000e-005														
Total	**0.0628**	**2.0000e-005**														

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Costco Fuel Facility Relocation

Ventura County APCD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Gasoline/Service Station	24.00	Pump	1.60	70,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2017
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Set lot acreage and square feet of lot.

Construction Phase -

Sequestration -

Energy Mitigation -

Table Name	Column Name	Default Value	New Value
tblLandUse	LandUseSquareFeet	3,388.20	70,000.00
tblLandUse	LotAcreage	0.08	1.60
tblProjectCharacteristics	OperationalYear	2014	2017

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	162.6155	26.6292														
Total	162.6155	26.6292														

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	162.6152	26.6048														
Total	162.6152	26.6048														

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	1.9063e-004	0.0916	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.9427	2.0000e-005														
Energy	0.0448	0.4069														
Mobile	11.7282	10.0838														
Total	**13.7156**	**10.4907**														

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.9427	2.0000e-005														
Energy	0.0448	0.4069														
Mobile	11.7282	10.0838														
Total	**13.7156**	**10.4907**														

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2017	1/27/2017	5	20	
2	Site Preparation	Site Preparation	1/28/2017	1/31/2017	5	2	
3	Grading	Grading	2/1/2017	2/6/2017	5	4	
4	Building Construction	Building Construction	2/7/2017	11/13/2017	5	200	
5	Paving	Paving	11/14/2017	11/27/2017	5	10	
6	Architectural Coating	Architectural Coating	11/28/2017	12/11/2017	5	10	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	255	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Graders	1	8.00	174	0.41
Site Preparation	Rubber Tired Dozers	1	7.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	6.00	174	0.41
Grading	Rubber Tired Dozers	1	6.00	255	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Cranes	1	6.00	226	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	6.00	125	0.42
Paving	Paving Equipment	1	8.00	130	0.36
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	22.00	11.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	4.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2017

Unmitigated Construction On-Site

Acres of Grading: 1

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.7216	26.5855														
Total	**2.7216**	**26.5855**														

3.2 Demolition - 2017

Unmitigated Construction Off-Site

Acres of Grading: 1

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000														
Vendor	0.0000	0.0000														
Worker	0.1892	0.0437														
Total	**0.1892**	**0.0437**														

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.7191	26.5611														
Total	**2.7191**	**26.5611**														

3.2 Demolition - 2017

Mitigated Construction Off-Site

Acres of Grading: 1

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000														
Vendor	0.0000	0.0000														
Worker	0.1892	0.0437														
Total	**0.1892**	**0.0437**														

3.3 Site Preparation - 2017

Unmitigated Construction On-Site

Acres of Grading: 1.5

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust																
Off-Road	2.3109	24.2288														
Total	**2.3109**	**24.2288**														

3.3 Site Preparation - 2017

Unmitigated Construction Off-Site

Acres of Grading: 1.5

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000														
Vendor	0.0000	0.0000														
Worker	0.1164	0.0269														
Total	**0.1164**	**0.0269**														

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust																
Off-Road	2.3088	24.2065														
Total	**2.3088**	**24.2065**														

3.3 Site Preparation - 2017

Mitigated Construction Off-Site

Acres of Grading: 1.5

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000														
Vendor	0.0000	0.0000														
Worker	0.1164	0.0269														
Total	**0.1164**	**0.0269**														

3.4 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust																
Off-Road	1.8844	19.7889														
Total	**1.8844**	**19.7889**														

3.4 Grading - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000														
Vendor	0.0000	0.0000														
Worker	0.1164	0.0269														
Total	**0.1164**	**0.0269**														

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust																
Off-Road	1.8827	19.7707														
Total	**1.8827**	**19.7707**														

3.4 Grading - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000														
Vendor	0.0000	0.0000														
Worker	0.1164	0.0269														
Total	**0.1164**	**0.0269**														

3.5 Building Construction - 2017

Unmitigated Construction On-Site

Acres of Paving: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.9546	19.1088														
Total	**2.9546**	**19.1088**														

3.5 Building Construction - 2017

Unmitigated Construction Off-Site

Acres of Paving: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000														
Vendor	0.1588	0.9535														
Worker	0.3202	0.0740														
Total	**0.4790**	**1.0275**														

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.9519	19.0913														
Total	**2.9519**	**19.0913**														

3.5 Building Construction - 2017

Mitigated Construction Off-Site

Acres of Paving: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000														
Vendor	0.1588	0.9535														
Worker	0.3202	0.0740														
Total	**0.4790**	**1.0275**														

3.6 Paving - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1857	12.0981														
Paving	0.0000															
Total	**1.1857**	**12.0981**														

3.6 Paving - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000														
Vendor	0.0000	0.0000														
Worker	0.1892	0.0437														
Total	**0.1892**	**0.0437**														

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1846	12.0870														
Paving	0.0000															
Total	**1.1846**	**12.0870**														

3.6 Paving - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000														
Vendor	0.0000	0.0000														
Worker	0.1892	0.0437														
Total	**0.1892**	**0.0437**														

3.7 Architectural Coating - 2017

Unmitigated Construction On-Site

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 105,000; Non-Residential Outdoor: 35,000

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	162.2250															
Off-Road	0.3323	2.1850														
Total	**162.5573**	**2.1850**														

3.7 Architectural Coating - 2017

Unmitigated Construction Off-Site

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 105,000; Non-Residential Outdoor: 35,000

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000														
Vendor	0.0000	0.0000														
Worker	0.0582	0.0135														
Total	**0.0582**	**0.0135**														

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	162.2250															
Off-Road	0.3320	2.1830														
Total	**162.5570**	**2.1830**														

3.7 Architectural Coating - 2017

Mitigated Construction Off-Site

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 105,000; Non-Residential Outdoor: 35,000

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000														
Vendor	0.0000	0.0000														
Worker	0.0582	0.0135														
Total	**0.0582**	**0.0135**														

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	11.7282	10.0838														
Unmitigated	11.7282	10.0838														

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Gasoline/Service Station	3,906.72	3,906.72	3906.72	2,250,928	2,250,928
Total	3,906.72	3,906.72	3,906.72	2,250,928	2,250,928

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Gasoline/Service Station	9.50	7.30	7.30	2.00	79.00	19.00	14	27	59

4.4 Fleet Mix

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.474465	0.063133	0.180505	0.158349	0.070139	0.010387	0.013452	0.017129	0.000779	0.000670	0.005599	0.000320	0.005072

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0448	0.4069														
NaturalGas Unmitigated	0.0448	0.4069														

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Gasoline/Service Station	4150.14	0.0448	0.4069														
Total		**0.0448**	**0.4069**														

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Gasoline/Service Station	4.15014	0.0448	0.4069														
Total		**0.0448**	**0.4069**														

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.9427	2.0000e-005														
Unmitigated	1.9427	2.0000e-005														

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.4445															
Consumer Products	1.4980															
Landscaping	2.4000e-004	2.0000e-005														
Total	**1.9427**	**2.0000e-005**														

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.4445															
Consumer Products	1.4980															
Landscaping	2.4000e-004	2.0000e-005														
Total	**1.9427**	**2.0000e-005**														

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Traffic and Circulation Study

Oxnard Costco Gasoline Expansion

Oxnard, California

August 2017

Traffic and Circulation Study

Oxnard Costco Gasoline Expansion

Oxnard, California

Prepared For:
Costco Wholesale
Jenifer Murillo
9 Corporate Park, Suite 230
Irvine, California 92620
714.978.5027

Prepared By:
Kittelson & Associates, Inc.
155 Grand Avenue, Suite 900
Oakland, California 94612
510.839.1742

Project Manager: Lillian Tsang, P.E.
Project Principal: Chris Tiesler, P.E.

Project No. 18042

August 2017

TABLE OF CONTENTS

Executive Summary 2
Findings 2
Recommendations 5
Introduction 8
Project Description 8
Scope Of The Report 8
Existing Conditions 13
Site Conditions and Adjacent Land Uses 13
Transportation Facilities 13
Transit Facilities 14
Traffic Volumes And Peak Hour Operations 14
Transportation Impact Analysis 22
Impact Threshold Criteria 22
Project-Generated Traffic Volumes 22
Project Trip Distribution and Assignment 28
Project-Specific Analysis 35
Cumulative (Existing + Approved/Pending ProjectS) Conditions 43
Cumulative + Project Analysis 45
Site Access and Circulation 50
Ventura County General Plan Consistency 51
Ventura County Congestion Management Program 51
Conclusions and Recommendations 53
Findings 53
Recommendations 56
References 58

LIST OF FIGURES

Figure 1. Existing Street Network and Project Site Location 10
Figure 2. Project Site Plan 11
Figure 3. Existing Lane Configurations and Traffic Control Devices 16
Figure 4. Existing Traffic Volumes - Weekday Midday and PM Peak Hours 17
Figure 5. Existing Trips Rerouted Due to Fuel Station Relocation 30
Figure 6. Pass-by Trips Due to Fuel Station Expansion 31
Figure 7. Diverted Trips Due to Fuel Station Expansion 32
Figure 8. Project Trip Distribution and Assignment for Project Trips Due To Fuel Station Expansion 33
Figure 9. Existing + Project Traffic Volumes 34
Figure 10. Conceptual Auto Center Drive/Los Olivos/Eastern Costco Access Signal Layout 39
Figure 11. Cumulative No Project Traffic Volumes 44
Figure 12. Cumulative + Project Traffic Volumes 47

LIST OF TABLES

Table 1. Existing Transportation Facilities and Roadways in the Study Area 13

Table 2. Existing Peak Hour Levels of Service 18

Table 3. Anticipated Traffic Operations with Additional Northbound Right-Turn Lane at North Rose Avenue/Auto Center Drive/East Ventura Boulevard – Existing Traffic Volumes 20

Table 4. Average Weekday Fuel Transactions Before & After Data Summary 23

Table 5. Oxnard Costco Gasoline Expansion Trip Generation Estimate 24

Table 6. Oxnard Costco Diesel Trip Generation Estimate 25

Table 7. Costco Gasoline Trip Generation Characteristics (By Type) 26

Table 8. Oxnard Costco Gasoline Expansion & Relocation Trip Generation Estimate 28

Table 9. Existing + Project Weekday Midday Peak Hour Levels of Service 37

Table 10. Existing + Project Weekday PM Peak Hour Levels of Service 37

Table 11. Existing + Project with Mitigation Weekday Midday Peak Hour Levels of Service 38

Table 12. Existing + Project with Mitigation Weekday PM Peak Hour Levels of Service 38

Table 13. Forecast 95th Percentile Queue Length at Auto Center Drive/Los Olivos/Eastern Costco Access and Eastern Costco Access/Fuel Station Driveway Intersections, Existing + Project Traffic Volumes 40

Table 14. Anticipated Traffic Operations at North Rose Avenue/Auto Center Drive/East Ventura Boulevard – Existing + Project Traffic Volumes 42

Table 15. Anticipated Traffic Operations with Additional Northbound Right-Turn Lane at North Rose Avenue/Auto Center Drive/East Ventura Boulevard – Existing + Project Traffic Volumes 42

Table 16. Cumulative Peak Hour Levels of Service 45

Table 17. Cumulative + Project Weekday Midday Peak Hour Levels of Service 48

Table 18. Cumulative + Project Weekday PM Peak Hour Levels of Service 48

Table 19. Cumulative + Project with Mitigation Weekday Midday Peak Hour Levels of Service 49

Table 20. Cumulative + Project with Mitigation Weekday PM Peak Hour Levels of Service 49

Table 21. Forecast 95th Percentile Queue Length at Auto Center Drive/Los Olivos/Eastern Costco Access and Eastern Costco Access/Fuel Station Driveway Intersections, Cumulative + Project Traffic Volumes 50

APPENDICES

Appendix A Traffic Count Data

Appendix B Description of Level-of-Service Methods and Criteria

Appendix C Existing Conditions Level-of-Service Worksheets

Appendix D Existing Conditoins Alternative Lane Configuration Level-of-Service & Queuing Analysis Worksheets

Appendix E Existing + Project Conditions Level-of-Service Worksheets

Appendix G Existing + Project Conditions (Mitigated) Level-of-Service & Queuing Analysis Worksheets

Appendix H Existing + Project Conditions Alternative Lane Configuration Level-of-Service & Queuing Analysis Worksheets

Appendix I Cumulative Conditions Level-of-Service Worksheets

Appendix J Cumulative + Project Conditions Level-of-Service Worksheets

Appendix K Cumulative + Project Conditions (Mitigated) Level-of-Service & Queuing Analysis Worksheets

Section 1
Executive Summary

EXECUTIVE SUMMARY

Costco is proposing to relocate the existing fuel station to a different area on site and to expand from 16 fueling positions to 24 fueling positons. The fuel station relocation will provide better circulation, more queue stacking space, and to allow for a larger fuel station to be built. The fuel station will be relocated to the north-east corner of the Costco site. The new fuel station area will provide over 175 feet of usable queue storage area behind the first row of fuel islands. In addition to the relocation, the project will also include the provision of diesel fuel sales to provide that option to their members. As part of the project, the existing fuel station area will be decommissioned and replaced with additional parking for the Costco warehouse. The expansion will result in more efficient processing of vehicles, shorter wait times, shorter queues, and less idling.

The results of this study indicate that the proposed Oxnard Costco Gasoline Expansion can be constructed while maintaining acceptable traffic operations at the study intersections, assuming provision of the recommended mitigation measures.

FINDINGS

Year 2017 Existing Conditions

- The unsignalized Auto Center Drive/Los Olivos/Eastern Costco Access intersection currently operates at LOS “E” and LOS “F” during the weekday midday and p.m. peak hours, respectively. The remaining study intersections operate at LOS “C” or better during the weekday midday and p.m. peak hours.

Alternative Lane Configuration – North Rose Avenue/Auto Center Drive/East Ventura Boulevard

- The City of Oxnard is planning to resurface the Auto Center Drive neighborhood in the near future. One of the concepts the City is currently evaluating is to restripe northbound Rose Avenue at Auto Center Drive to provide a second northbound right-turn lane. At the request of City of Oxnard staff, the addition of a second northbound right-turn lane was evaluated, even though this improvement is not part of the Costco fuel station relocation project.
    - Through discussions with City staff, it was noted queues in the northbound right-turn lane at the North Rose Avenue/Auto Center Drive/East Ventura Boulevard intersection have been observed to spill back to the upstream US 101 Northbound Off-ramp/Rose Avenue intersection.
        - The addition of a second northbound right-turn lane would reduce queue lengths in the existing northbound right-turn lane by 198 and 250 feet during the weekday midday and p.m. peak hours, respectively.

        - Operations at the intersection would improve from LOS "B" to LOS "A" during the weekday midday peak hour; no noticeable change in operations would be anticipated during the weekday p.m. peak hour.
        - Queues on the eastbound approach of the Auto Center Drive/Ventura Boulevard intersection would not change noticeably during the weekday midday and p.m. peak hours. The existing storage lengths provided on the eastbound approach would be able to accommodate the changes in queue length.
    - The addition of a second northbound right-turn lane (not associated with Costco fuel station relocation) may introduce some additional weaving on the eastbound approach of the Auto Center Drive/Ventura Boulevard intersection.
        - Advance signage on the northbound approach of the North Rose Avenue/Auto Center Drive/East Ventura Boulevard intersection could help drivers pre-position in the correct turn-lane if they need to make a turning maneuver at the adjacent Auto Center Drive/Ventura Boulevard intersection.
        - Over time, as drivers become familiar with the proposed changes to lane configurations, the frequency of weaving maneuvers on the eastbound approach of the Auto Center Drive/Ventura Boulevard intersection would decrease.

Development Plan

- The expansion and relocation of the Oxnard Costco fuel station would generate approximately 44 and 43 additional external trip ends during the weekday midday and p.m. peak hours, respectively (or 22 total additional vehicles in each peak hour).
    - Of these external trips, 16 trips would be pass-by trips and 16 would be diverted trips. The remaining 12 external trip ends would be net new trips to the site using the surrounding transportation system.
- Existing fuel station trips were re-assigned to the transportation network to account for the relocation to the northeast portion of the site.
- The on-site relocation would create a new connection to the private (unnamed) easement road to the east but would only be accessible by fuel trucks by way of a chained fence.
- Costco proposes to install a traffic signal at the Auto Center Drive/Los Olivos/Eastern Costco Access intersection. Volume-based *Manual on Uniform Traffic Control Devices* (MUTCD) signal warrants would be met.

- The intersection would be reconfigured to accommodate the changes to the Auto Center Drive median and to align with the Los Olivos public street opposite to the Costco site access. The westbound left-turn pocket would be extended from 165 feet to 250 feet. The south leg of the intersection would be widened to provide additional redundancy and to serve peak period or seasonal needs. The new configuration would provide a 20-foot inbound lane, a 11-foot northbound left-turn lane, a 11 foot northbound thru/left-shared lane, and a 14-foot northbound right-turn lane. The 14-foot northbound right-turn lane could accommodate the turning radius of larger vehicles.

- A 60-foot long southbound left-turn lane at the eastern Costco drive aisle would be constructed to provide access to the relocated fuel station.

Existing + Project Traffic Conditions

- The unsignalized Auto Center Drive/Los Olivos/Eastern Costco Access intersection would to continue to operate at LOS "E" and LOS "F" during the weekday midday and p.m. peak hours, respectively. The remaining study intersections would operate at LOS "C" or better during the weekday midday and p.m. peak hours.
  - Analysis of signal control as mitigation demonstrates the intersection would operate at LOS "A" and at ICU volume-to-capacity ratio (V/C) of 0.41 during both the weekday midday and p.m. peak hours.
  - Forecast 95th percentile queues would be accommodated by the proposed design.

Alternative Lane Configuration – North Rose Avenue/Auto Center Drive/East Ventura Boulevard

- Provision of a second northbound right-turn lane was evaluated under Existing + Project conditions during both study time periods:
  - The northbound right-turn queues at the intersection would increase by approximately six feet and 74 feet during the weekday midday and p.m. peak periods, respectively, after project traffic were to be added to the roadway network. This improvement would prevent northbound queues from spilling back to the upstream North Rose Avenue/US 101 Northbound Off-ramp intersection.
  - Queues on the eastbound approach of the Auto Center Drive/Ventura Boulevard intersection would not change noticeably during the weekday midday and p.m. peak hours under Existing + Project traffic conditions. The existing storage lengths provided on the eastbound approach would be able to accommodate the changes in queue length.

Cumulative (Existing + Approved/Pending) Traffic Conditions

- Study intersections were analyzed with the addition of traffic generated by projects which have been approved or are pending within the project study area. At the direction of City staff, two projects were included in this analysis:
  - Gold Coast Transit
  - Audi of Oxnard
- The unsignalized Auto Center Drive/Los Olivos/Eastern Costco Access intersection would continue to operate at LOS "E" and LOS "F" during the weekday midday and p.m. peak hours, respectively. The remaining study intersections would operate at LOS "C" or better during the weekday midday and p.m. peak hours.

Cumulative + Project Traffic Conditions

- The unsignalized Auto Center Drive/Los Olivos/Eastern Costco Access intersection would continue to operate at LOS "E" and LOS "F" during the weekday midday and p.m. peak hours, respectively. The remaining study intersections would operate at LOS "C" or better during the weekday midday and p.m. peak hours.
  - Auto Center Drive/ Los Olivos/Eastern Costco Access: As proposed under the Existing + Project traffic conditions, the operations of the Auto Center Drive/ Los Olivos/Eastern Costco Access intersection would be improved by converting the control strategy from two-way stop-controlled to signalized control. Under the proposed intersection control and configuration, the intersection would operate at LOS "A" with an ICU V/C of 0.42 during both the weekday midday and p.m. peak hours. Forecast 95th percentile queues would be accommodated by the proposed design.

RECOMMENDATIONS

The following list provides a summary of the mitigation measures recommended as part of this proposed development:

- Auto Center Drive/Los Olivos/Eastern Costco Access Intersection:
  - Install a traffic signal
  - Modify the existing Auto Center Drive median on the west side of the intersection to accommodate the turning radius of larger vehicles exiting the site
  - Remove existing luminaires in the median on both sides of Auto Center Drive and replace them with signal pole illumination
  - Extend the westbound left-turn pocket from 165 feet to 250 feet

  - Adjust/improve the alignment of the Los Olivos public street opposite to the Costco site access and extend the southbound approach lane striping to 100 feet
  - Widen the south leg of the intersection to accommodate a 20-foot inbound lane, a 11-foot northbound left-turn lane, a 11 foot northbound thru/left-shared lane, and a 14-foot northbound right-turn lane. The 14-foot northbound right-turn lane could accommodate the turning radius of larger vehicles
- Eastern Costco Access / Fuel Station Driveway Intersection:
  - Develop a 60-foot long southbound left-turn lane at the Eastern Costco drive aisle to provide access to the relocated fuel station.

Additional details of the study methodology, findings, and recommendations are provided within this report.

Section 2
Introduction

INTRODUCTION

PROJECT DESCRIPTION

Costco is proposing to expand and relocate the existing Oxnard Costco Gasoline facility to improve the service provided to members at this location who currently experience long queues and wait times during the peak periods. The existing fuel station consists of four islands with a total of 16 vehicle fueling positions. It is currently located on the southern portion of the Costco site along Ventura Boulevard. The existing configuration provides three islands located together, each with approximately 80 feet of usable queue storage area behind the fuel pumps, plus a fourth island (separated from the other islands by landscaping and the fuel station controller enclosure) with approximately 120 feet of usable queue storage area behind the fuel pumps. **Figure 1** illustrates the existing street network and project site location.

Costco is proposing to relocate the fuel station to a different area on site to provide better circulation, more queue stacking space, and to allow for a larger 24 fueling position station to be built. The expansion will result in more efficient processing of vehicles, shorter wait times, shorter queues, and less idling. The fuel station will be relocated to the north-east corner of the Costco site. **Figure 2** illustrates the new proposed site plan. The new fuel station area will provide over 175 feet of usable queue storage area behind the first row of fuel islands. In addition to the relocation, the project will also include the provision of diesel fuel sales to provide that option to their members. As part of the project, the existing fuel station area will be decommissioned and replaced with additional parking for the Costco warehouse.

SCOPE OF THE REPORT

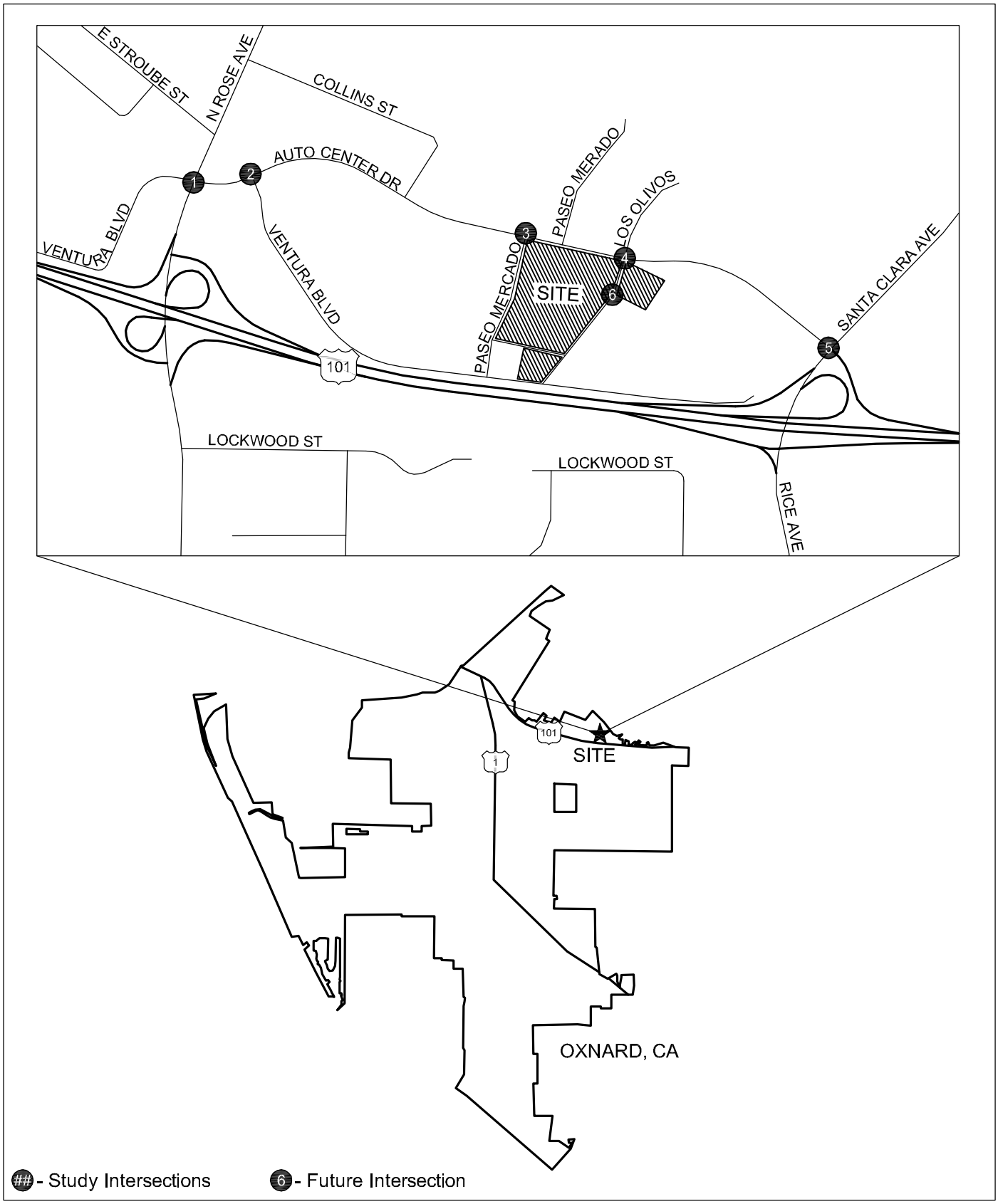
This analysis determines the transportation-related impacts associated with the proposed Oxnard Costco Gasoline Expansion and was prepared in accordance with the City of Oxnard's requirements for traffic impact studies. The study intersections and scope of this project were selected after City staff was consulted. The operational analyses were performed at these intersections:

1. North Rose Avenue/Auto Center Drive/East Ventura Boulevard
2. Auto Center Drive/Ventura Boulevard
3. Auto Center Drive/Paseo Mercado
4. Auto Center Drive/Los Olivos/Eastern Costco Access
5. Rice Avenue/Santa Clara Avenue/Auto Center Drive/US 101 Off-ramp

This report evaluates the traffic conditions under the following scenarios:

- Existing traffic volumes;
- Existing traffic volumes with projected site traffic added;
- Cumulative traffic volumes (existing traffic with traffic from approved/pending projects added); and,
- Cumulative traffic volumes with projected site traffic added (existing + approved/pending projects + proposed project).

Site access and circulation are also address as a part of this study.



Existing Street Network and Project Site Location
Oxnard, California

Figure
1

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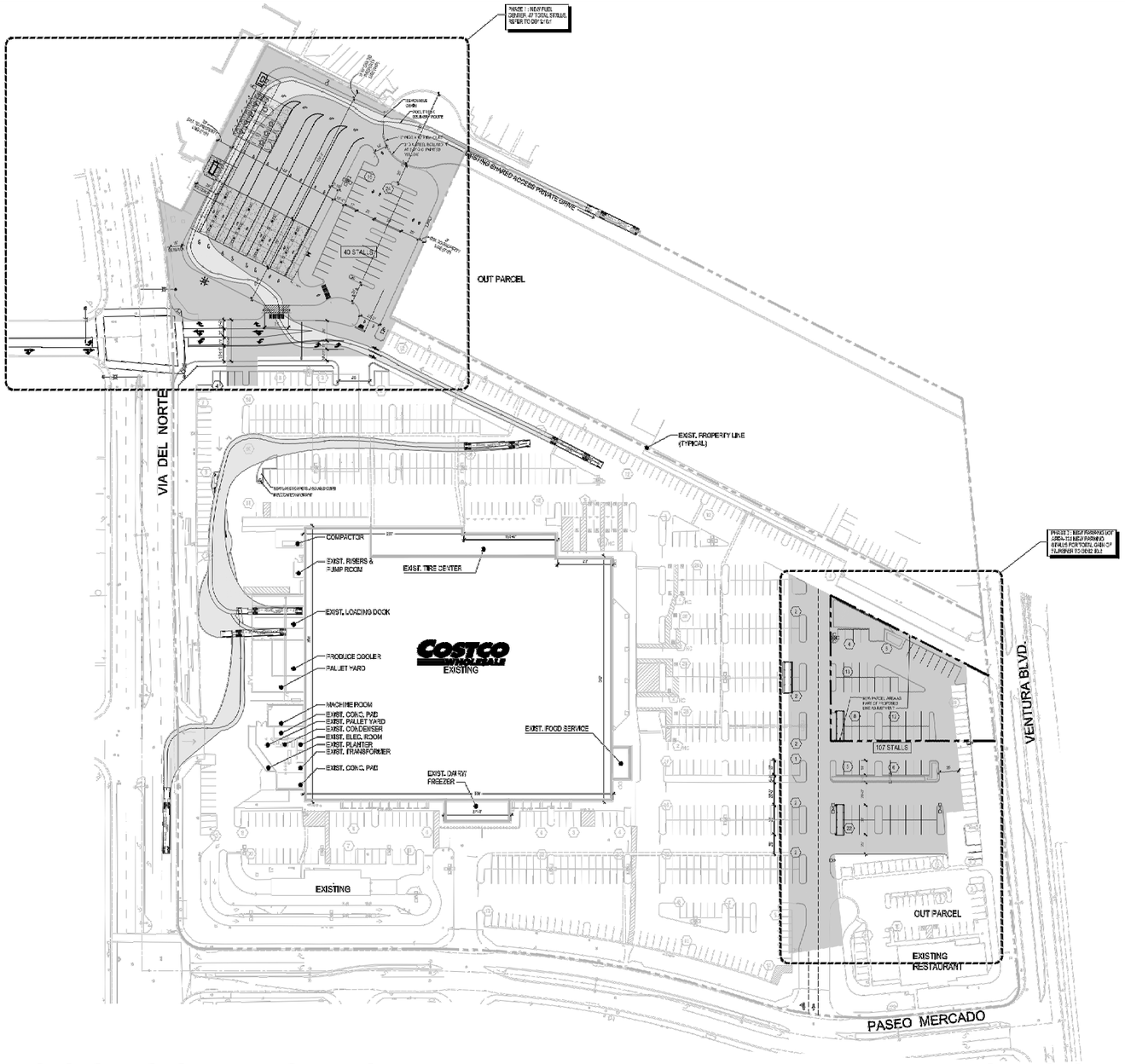
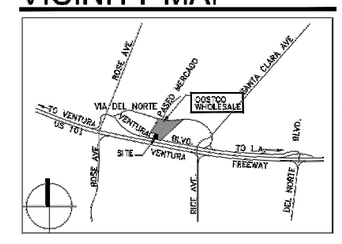


PROJECT DATA

CLIENT:	COSTCO WHOLESALE 999 LAKE DRIVE ISSAQUAH, WA 98027
PROJECT ADDRESS:	2001 E. VENTURA BLVD. OXNARD, CA 93030
ZONING:	COMMERCIAL / RETAIL
EXISTING SITE AREA:	16.61 ACRES (723,684 S.F.)
NEW SITE AREA:	1.68 ACRES (73,114 S.F.)
TOTAL SITE AREA:	18.29 ACRES (796,798 S.F.)
JURISDICTION:	CITY OF OXNARD
SETBACKS:	15
BOUNDARIES INFORMATION:	THIS PLAN HAS BEEN PREPARED BASED ON SURVEY PREPARED BY FUSCOE ENGINEERING DATED 9/26/2014

EXIST. BUILDING DATA:	
BUILDING AREA	130,183 S.F.
TIRE CENTER	8,405 S.F.
FOOD SERVICE	856 S.F.
EXIST. STORAGE FREEZER	1,348 S.F.
EXIST. MACHINE ROOM	1,247 S.F.
EXIST. ELEC. ROOMS	268 S.F.
EXIST. PRODUCE COOLER ADDITION	1,794 S.F.
EXIST. COOLER ADDITION	1,303 S.F.
EXIST. STORAGE FREEZER ADDITION	1,412 S.F.
TOTAL BUILDING	146,816 S.F.
EXISTING PARKING:	
9' EXISTING WIDE STALLS	724 STALLS
H-C ACCESSIBLE STALLS	16 STALLS
TOTAL EXIST. PARKING	740 STALLS
PROPOSED PARKING:	
9' WIDE STALLS	762 STALLS
H-C ACCESSIBLE STALLS	21 STALLS
TOTAL PROPOSED PARKING	783 STALLS
OF STALLS PER 1,000 S.F. OF BUILDING AREA	5.36

VICINITY MAP



0 25' 50' 100'
1" = 50'-0"

COSTCO WHOLESALE

OXNARD, CA
#420

2001 E. VENTURA BLVD.
OXNARD, CA

MG2

94-0190-33
JANUARY 26, 2017

PROPOSED
SITE PLAN

DD11.12

COSTCO WHOLESALE

OXNARD, CA

PROPOSED SITE PLAN

JANUARY 26 , 2017

Project Site Plan
Oxnard, California

Figure
2

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KITTELSON & ASSOCIATES

Section 3
Existing Conditions

EXISTING CONDITIONS

The existing conditions analysis identifies the site conditions and current operational and geometric characteristics of the roadways within the study area. These conditions will be compared with future conditions later in this report.

SITE CONDITIONS AND ADJACENT LAND USES

A Costco Wholesale warehouse, car wash, and gasoline fueling station are currently present on the site, located just south of Auto Center Drive. The parcel where the gasoline station is proposed to be relocated currently lies undeveloped to the east of the warehouse. In addition to providing access to the Costco site, Auto Center Drive contains driveway entrances to several automotive dealerships, as well as commercial shopping centers.

TRANSPORTATION FACILITIES

The project site is served by a circulation system comprised of highways, arterial streets, and collector streets. The major roadways serving the site are discussed in **Table 1**.

Table 1. Existing Transportation Facilities and Roadways in the Study Area

Roadway	Functional Classification[1]	Number of Lanes	Posted Speed (mph)	Sidewalks	Bicycle Lanes	On-Street Parking
US 101 (Ventura Freeway)	Other Freeway or Expressway	6 Lanes	65	No	No	No
Rice Avenue/Santa Clara Avenue	Other Principal Arterial	2 to 6 Lanes	35	Partial	No	No
North Rose Avenue	Minor Arterial	4 to 6 Lanes	40	Yes	Yes	No
Auto Center Drive	Minor Arterial	4 Lanes	40	Yes	No	No
Ventura Boulevard	Major Collector	2 to 4 Lanes	35	Yes	No	Yes

[1] Functional classification obtained from Caltrans California Road System (CRS) Maps.

Pedestrian and Bicycle Facilities

Given the commercial nature of the study area, sidewalks are prevalent along almost all street frontages, except for the north side of Auto Center Drive to the east of the project site where no sidewalk is provided along the frontage of the agricultural fields. In the study area, there are existing on-street bicycle facilities along:

- North Rose Avenue south of the North Rose Avenue/Auto Center Drive/East Ventura Boulevard intersection;
- Auto Center Drive between Ventura Boulevard and Rice Avenue /Santa Clara Avenue.

TRANSIT FACILITIES

Gold Coast Transit District operates three bus lines within the site vicinity:

- **Route 15**: Providing service between St. John's Hospital and Esplanade, the route travels along the site frontage and operates daily on 20 to 50 minute headways between 6:00 a.m. and 9:00 p.m. The closest stop to the project site is 0.5 miles west of the site along Auto Center Drive.
- **Route 17**: Providing service between Esplanade and Oxnard College, this route operates daily on 40 minute headways between 6:30 a.m. and 10:30 p.m. The closest stop to the project site is approximately 0.75 miles to the west near the North Rose Avenue/Auto Center Drive/East Ventura Boulevard intersection.
- **Route 22**: Providing service between the Wells Center and Nyeland Acres, this route runs on 40 minute headways between 6:00 a.m. and 7:30 p.m. during weekdays and approximately one hour headways between 7:00 a.m. and 8:00 p.m. on weekends. The closest stop to the project site is approximately 0.5 miles east of the site in the northwest quadrant of the Rice Avenue/Santa Clara Avenue/Auto Center Drive intersection.

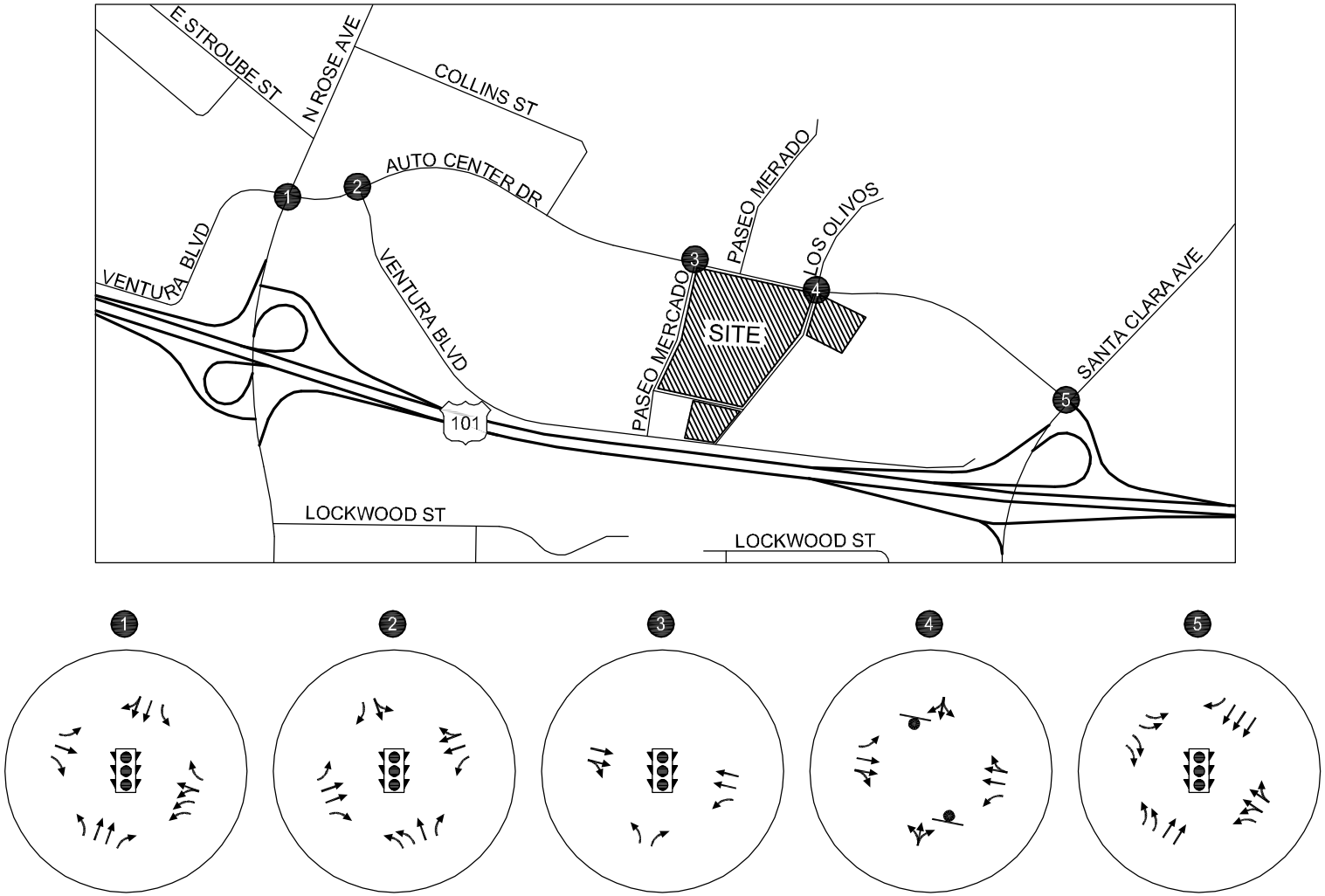
TRAFFIC VOLUMES AND PEAK HOUR OPERATIONS

Weekday midday peak period (11:00 a.m. to 1:00 p.m.) and weekday p.m. peak period (4:00 – 6:00 p.m.) turning movement counts were obtained at the Auto Center Drive/Los Olivos/Costco Site Driveway intersection on Tuesday, March 7, 2017 and Thursday, July 7, 2016, respectively. At the direction of City staff, traffic counts at the other four study intersections were obtained from the *Audi of Oxnard Traffic and Circulation Study* dated November 21, 2016. ***Appendix A*** contains the traffic count worksheets used in this study. The existing lane configurations and traffic control devices are illustrated in **Figure 3**. **Figure 4** shows the existing weekday midday and p.m. peak hour traffic volumes at the study intersections.

All level of service analyses described in this report were performed in accordance with the Intersection Capacity Utilization (ICU) methodologies for signalized intersections (using *Traffix* software) and HCM 2010 methodologies for unsignalized intersections (using *Synchro 9* software) required by the City of Oxnard. ***Appendix B*** contains a description of level of service and the criteria by which they are determined. ***Appendix B*** also indicates how level of service is measured and what

is generally considered the acceptable range of level of service. Intersection level of service (LOS) is analogous to the letter grades in a school report card. Motorists using an intersection that operates at LOS "A" experience very little delay, while those using an intersection that operates at LOS "F" will experience intolerably long delays.

All intersection level of service evaluations used the peak 15-minute flow rate during the weekday midday and p.m. peak hours. Using the peak 15-minute flow rate ensures that this analysis is based on a reasonable worst-case scenario. For this reason, the analysis reflects conditions that are only likely to occur for 15 minutes out of each average peak hour. The transportation system will likely operate under conditions better than those described in this report during all other time periods.



- STOP SIGN
- TRAFFIC SIGNAL

Existing Lane Configurations and Traffic Control Devices Oxnard, California

Figure **3**

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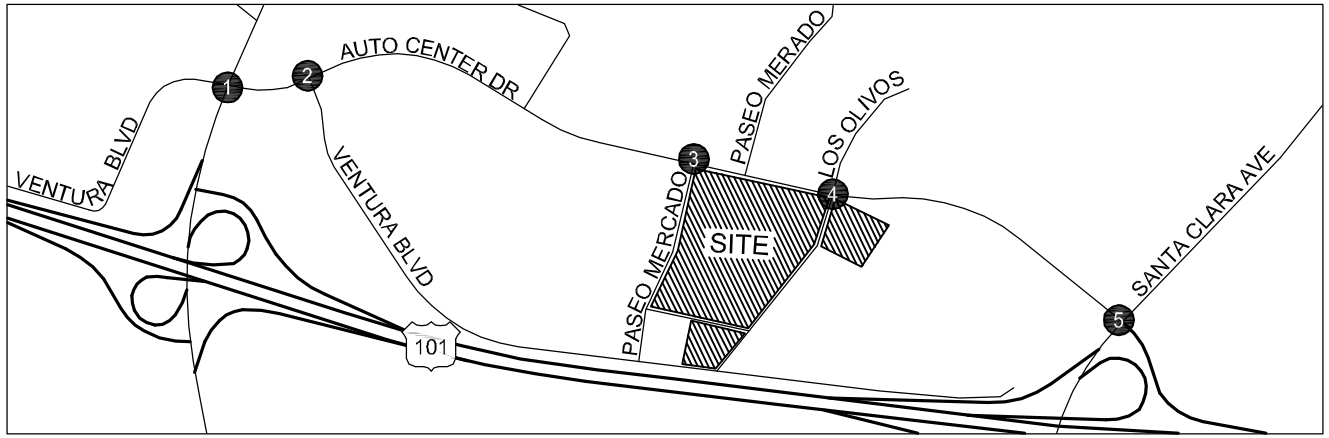

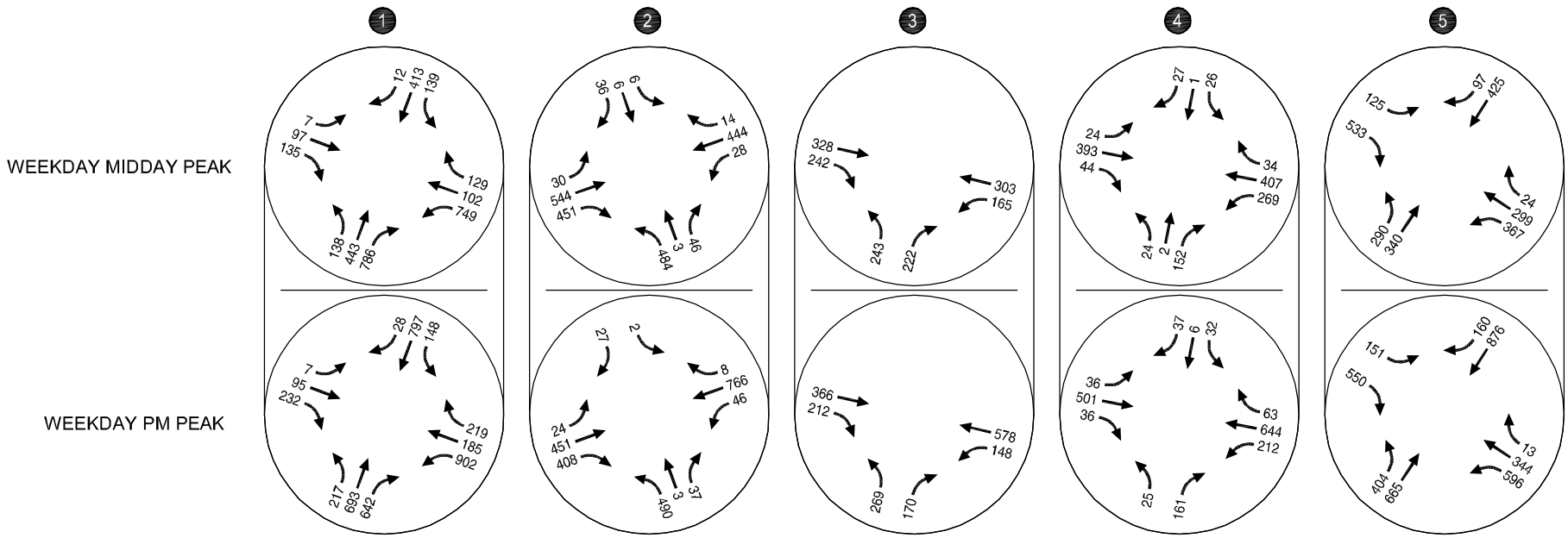

Existing Traffic Volumes
Weekday Midday and PM Peak Hours
Oxnard, California

Figure
4

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Table 2 summarizes the level-of-service analysis for the study intersections under the weekday midday and p.m. peak hour existing traffic conditions. ***Appendix C*** includes the level-of-service worksheets under existing traffic conditions.

As shown in **Table 2,** the unsignalized Auto Center Drive/Los Olivos/Eastern Costco Access intersection currently operate at LOS "E" and LOS "F" during the weekday midday and p.m. peak hours, respectively. The remaining study intersections operate at LOS "C" or better during the weekday midday and p.m. peak hours.

Table 2. Existing Peak Hour Levels of Service

Intersection		Traffic Control	Weekday Midday Peak Hour			Weekday PM Peak Hour		
			ICU V/C	Crit. Mov. Delay (s)	LOS	ICU V/C	Crit. Mov. Delay (s)	LOS
1	North Rose Ave. /Auto Center Dr./East Ventura Blvd.	Signalized	0.66	--	B	0.77	--	C
2	Auto Center Dr./ Ventura Blvd.	Signalized	0.48	--	A	0.46	--	A
3	Auto Center Dr./ Paseo Mercado	Signalized	0.43	--	A	0.44	--	A
4	Auto Center Dr./ Los Olivos/Eastern Costco Access	Two-way Stop-controlled	--	38.6	E	--	>50.0	F
5	Rice Ave./Santa Clara Ave./Auto Center Dr./US 101 Off-ramp	Signalized	0.36	--	A	0.56	--	A

Alternative Lane Configuration

The City of Oxnard is planning to resurface the Auto Center Drive neighborhood in the near future. One of the concepts the City is currently evaluating is to restripe northbound Rose Avenue at Auto Center Drive to provide a second northbound right-turn lane. At the request of City of Oxnard staff, the traffic operations intersection were also evaluated with the addition of a second northbound right-turn lane at the North Rose Avenue/Auto Center Drive/East Ventura Boulevard, even though this improvement is not part of the Costco fuel station relocation/expansion project. Through discussions with City staff, it was noted queues in the northbound right-turn lane at the North Rose Avenue/Auto Center Drive/East Ventura Boulevard intersection have been observed to spill back to the upstream North Rose Avenue/US 101 Northbound Off-ramp intersection.

The scope of this study does not include modeling the North Rose Avenue/US 101 Northbound Off-ramp intersection. As such, the models could not be fully calibrated to match field-observed queuing conditions. However, the relative comparison of queues with respect to assumed addition of a second northbound right-turn lane on North Rose Avenue at Auto Center Drive provides an appropriate proxy for evaluating the impacts.

The anticipated operations at the intersection and adjacent Auto Center Drive/Ventura Boulevard intersection under this alternative lane configuration scheme are shown in **Table 3**. Existing and anticipated 95th percentile queue lengths were obtained using *SimTraffic* software. ***Appendix D*** contains the queueing output reports from *SimTraffic*.

North Rose Avenue/Auto Center Drive/East Ventura Boulevard

As shown in Table 3, the addition of a second northbound right-turn lane would reduce queue lengths in the existing northbound right-turn lane by 198 and 208 feet during the weekday midday and p.m. peak hours, respectively. The anticipated reduction during the weekday midday peak hour would prevent the northbound queues from spilling back to the upstream North Rose Avenue/US 101 Northbound Off-ramp intersection. The queues on other approaches would not change noticeably with the addition of the northbound right-turn lane.

Operations at the intersection would improve from LOS “B” to LOS “A” during the weekday midday peak hour; the operations would not change noticeably during the weekday p.m. peak hour.

Auto Center Drive/Ventura Boulevard

With the addition of the northbound right-turn lane at the adjacent North Rose Avenue/Auto Center Drive/East Ventura Boulevard intersection, queues on the eastbound approach of the Auto Center Drive/Ventura Boulevard intersection would not change noticeably during the weekday midday and p.m. peak hours. The existing storage lengths provided on the eastbound approach would be able to accommodate the anticipated queues.

Table 3. Anticipated Traffic Operations with Additional Northbound Right-Turn Lane at North Rose Avenue/Auto Center Drive/East Ventura Boulevard – Existing Traffic Volumes

Intersection	Lane Group	Available Storage (feet)	Weekday Midday Peak Hour						Weekday PM Peak Hour					
			Existing			Alternative Lane Configuration			Existing			Alternative Lane Configuration		
			Queues (feet)	Average Intersection		Queues (feet)	Average Intersection		Queues (feet)	Average Intersection		Queues (feet)	Average Intersection	
				ICU V/C	LOS		ICU V/C	LOS		ICU V/C	LOS		ICU V/C	LOS
1. North Rose Avenue / Auto Center Drive / East Ventura Boulevard	NBR	500	340	0.66	B	142	0.49	A	345	0.77	C	137	0.77	C
2. Auto Center Drive / Ventura Boulevard	EBL	90	47	0.48	A	35	0.48	A	34	0.46	A	37	0.46	A
	EBT	Cont.	193			175			172			175		
	EBR	150	141			120			127			118		

Section 4
Transportation Impact Analysis

TRANSPORTATION IMPACT ANALYSIS

IMPACT THRESHOLD CRITERIA

The City of Oxnard's criteria for evaluating project impacts at intersections is based upon the change in ICU/LOS attributable to the project. The City has established LOS "C" as the threshold of significance for determining project impacts at both signalized and unsignalized intersections. If the addition of project traffic increases the ICU V/C by 0.02 or more at a signalized intersection operating at LOS "C" or worse, it should be mitigated to the ICU level identified without the project traffic. These criteria were used to determine the significance of the impacts generated by the project at the study intersections.

PROJECT-GENERATED TRAFFIC VOLUMES

In developing a trip generation estimate for fuel station relocation and expansion, it is important to recognize that a fuel station exists on site today and the proposed project is an expansion and relocation of this existing use, not the addition of a new use. Furthermore, the market area of the Oxnard Costco is already defined through existing membership and operations. As such, it's unlikely that trip generation of the fuel station will increase directly in proportion to the increased number of fueling positions. More likely is that the additional fueling positions will serve to more efficiently and effectively process the current peak demand at the fuel station, thus reducing wait times, vehicle queuing, and vehicle idling. Although the standard reference ITE *Trip Generation* (9th Edition – Reference 1) currently reports trip generation for gasoline stations based on the independent variable of fueling positions, more recent transportation studies indicate that other variables besides the specific number of fueling pumps have a much larger influence on trip generation. To confirm this approach, before and after data from other comparable Costco Gasoline fuel station expansion sites was reviewed to determine a more representative relationship between new trip generation and the addition of fueling positions to the existing station.

Before & After Fuel Expansion Data Summary

KAI worked with Costco to identify eight other Costco Gasoline locations that have expanded in size. There are several examples where Costco Gasoline fuel stations had been expanded from three islands (12 fueling positions) to four islands (16 fueling positions), one example of expanding from 16 to 20 positions, and one example of expanding from 12 to 20 positions. The comparable expansion sites identified were:

- Salem, Oregon
- Kona, Hawaii
- Orem, Utah
- Vancouver, Washington
- Concord, California
- Folsom, California
- Waipio, Hawaii
- Issaquah, Washington

To work with a representative sample size, Costco provided fuel transactions collected on an hourly basis for a period before and after the expansion at each of these locations. Only data that was collected during similar months of the year prior to and after the expansion was included in this summary (for example, fuel transactions for the months of March and April before the expansion were compared to fuel transactions for the months of March and April after the expansion). The results of this before and after comparison for the eight listed sites are provided in **Table 4**.

Table 4. Average Weekday Fuel Transactions Before & After Data Summary

Location	Average Weekday Daily Fuel Transactions		
	Before Expansion	After Expansion	% Difference
Salem, OR	1,911	2,223	16.3%
Kona, HI	2,336	2,406	3.0%
Orem, UT	2,239	2,390	6.7%
Concord, CA	2,502	2,578	3.0%
Folsom, CA	2,370	2,593	9.4%
Vancouver, WA	2,370	2,709	14.3%
Waipio, HI[1]	3,941	4,258	8.0%
Issaquah, WA[2]	2,800	3,150	12.5%
Average			9.2%

[1] Expansion from 16 fueling positions to 20 fueling positions
[2] Expansion from 12 fueling positions to 20 fueling positions

As shown in **Table 4**, each of the eight sites recorded an increase in the number of Average Weekday Daily Fuel Transactions. However, the increase found in all situations is significantly less than what would be calculated from a direct linear relationship to the number of vehicle fueling positions. Using a linear relationship, expanding the fuel station from 12 to 16 fueling positions would equate to an increase in activity or trip generation of 33%, expanding from 16 to 20 positions would equate to an increase of 25%, and expanding from 12 to 20 would equate to an increase of

67%. However, the actual before and after data only shows an average increase of 9.2% in daily fuel transactions.

This data demonstrates that increasing the number of fueling positions at the Oxnard Costco Gasoline facility will not result in a direct linear increase in trip generation. The before and after data captures the change in demand that results from reducing peak hour queues and wait times at the fuel stations due to the effect of latent demand and more efficient peak operations. In all cases, peak queues and wait times are significantly reduced and those members who previously chose not to purchase fuel because of the wait times will likely do so in either case once the operations are improved.

Fuel Station Expansion Trip Generation Estimate

From the traffic and transaction count data collected onsite, the Oxnard Costco Gasoline facility generates approximately 450 total trip ends (or 225 total vehicles) during the weekday p.m. peak hour under the existing conditions. The total trip ends generated at the gasoline facility during the weekday midday peak hour is derived from sales data obtained, which indicates that the weekday midday peak hour is nearly identical to weekday p.m. peak hour sales (weekday midday represents approximately 101 percent of the weekday p.m. peak hour sales). The data from **Table 4** and the observed increase in activity from other Costco Gasoline expansion sites was then applied to the existing trip generation to estimate the expected number of additional total trips that would result from the proposed expansion to the Oxnard Costco Gasoline facility. Applying the determined 9.2% increase in activity due to the proposed expansion, the new total trip generation estimate is summarized in **Table 5**.

Table 5. Oxnard Costco Gasoline Expansion Trip Generation Estimate

	Weekday Midday Peak Hour		Weekday PM Peak Hour	
	Existing Trip Ends	Expected Increase in Trip Ends	Existing Trip Ends	Expected Increase in Trip Ends
Total Trip Ends	455	42 (9.2% increase)	450	42 (9.2% increase)

As can be seen from **Table 5**, the proposed additional fueling positions would generate approximately 42 additional weekday midday peak hour and weekday p.m. peak hour total trip ends (or 21 total additional vehicles during each peak hour).

Diesel Addition Trip Generation Estimate

KAI also evaluated the trip generation impacts of adding diesel gasoline sales to the fuel station. At this time, the information related to diesel sales at Costco Gasoline facilities is limited due to the fact that only a small number of locations provide diesel (although several sites have been approved

to add diesel in the near future). Costco provided information to KAI related to the diesel sales at the five existing Costco Gasoline locations that provide diesel. The data from these locations shows that diesel sales make up a very small amount of the activity at the overall Costco Gasoline facilities at approximately 5.3% on average. In addition, on a daily basis, the five fuel stations with diesel did not generate any additional amount of traffic beyond what would be expected for a typical fuel station based on the information in the Costco trip generation database. As such, it appears that the provision of diesel does not significantly affect the number of trips generated by a Costco Gasoline fuel station. The proportion of vehicles on the roadway today that use diesel fuel is also a very small portion of the overall vehicles in circulation so these results are as expected and we do not estimate a measureable or noticeable increase in trips at the Oxnard Costco Gasoline facility due to the addition of diesel fuel sales.

However, in order to be conservative, a 5.3% increase in existing trip generation was assumed to account for the potential impact from the addition of diesel gasoline to the existing fuel station. **Table 6** summarizes the estimate for additional trips due to the diesel addition.

Table 6. Oxnard Costco Diesel Trip Generation Estimate

	Weekday PM Peak Hour		Weekday PM Peak Hour	
	Existing	Conservative Estimate for Increase (5.3%)	Existing	Conservative Estimate for Increase (5.3%)
Total Trip Ends	455	25	450	24

As can be seen from **Table 6**, the addition of diesel would generate approximately 25 additional weekday midday peak hour and 24 additional weekday p.m. peak hour total trip ends (or 13 and 12 total additional vehicles, respectively).

Overall Project Trip Generation Estimate

For the past 16 years, Kittelson and Associates, Inc. (KAI) has maintained a database of traffic data and travel characteristics for Costco Wholesale. The database contains transportation information such as trip rates, trip type percentages, and parking demand for Costco locations in the United States as well as Canada and Mexico. The database is updated and refined each time new Costco traffic counts or information become available to KAI and provides use-specific data that most accurately represents the anticipated traffic characteristics of the unique development type.

The Costco transportation data base maintained by KAI contains a large quantity of data related to Costco Gasoline fuel stations. Trip generation rates and trip type information for over 35 Costco Gasoline facilities located throughout the United States are included. Costco has invested significant effort into developing this use-specific trip generation database for both their warehouses and their fuel stations because of the unique characteristics of Costco customer travel that exist due to

membership requirements and the nature of Costco sales. These unique elements apply to the trip generation for Costco warehouses, Costco Gasoline fuel stations, and the interaction of trips between the two. **Table 7** summarizes the Costco Gasoline trip generation characteristics broken down by internal trips, pass-by trips, and diverted trips.

Table 7. Costco Gasoline Trip Generation Characteristics (By Type)

Trip Characteristic	PM Peak Hour
Internal Trip Percentage	34%
Pass-by Trip Percentage	37%
Diverted Trip Percentage	37%

As indicated in the **Table 7**, the unique nature of Costco operations and its membership requirements result in different trip characteristics than those observed at the standard fuel stations summarized in the standard reference, *Trip Generation*, published by the Institute of Transportation Engineers (ITE)[1]. The percentage of pass-by trips at Costco fuel stations is considerably lower than that quoted in the ITE manual for typical fuel stations. Correspondingly, membership requirements also have a significant effect on trip internalization (or sharing of trips) between the warehouse and the fuel station. Fewer people exclusively visit a Costco fuel station (in comparison to a typical standalone station) because they have another primary purpose for visiting the site (that being a trip to the warehouse).

Internal Trips

A key finding from the studies conducted at Costco facilities is the fact that approximately 34% of the weekday p.m. peak hour trips to and from Costco fuel stations are internal capture trips. Internal capture trips account for those members who patronize both the warehouse and the gasoline pumps during a single visit to the Costco site. As such, although they account for a trip to both the warehouse and the fuel station, they only account for one overall vehicle trip to the site and on the surrounding transportation system. **Table 7** shows that, based on studies including surveys at Costco fuel stations and membership card transaction data, on average 34% of the members buying gas during the weekday p.m. peak hour are members whose main purpose to the site is to visit the Costco warehouse. At some sites this number ranges as high as 75% but for the purposes of a conservative analysis the average estimate is used for this estimate.

[1] Institute of Transportation Engineers. *Trip Generation Handbook, 3rd Edition: An ITE Proposed Recommended Practice.* August 2014.

Pass-by Trips

Pass-by trips represent members (and trips) that are currently traveling on the immediate surrounding street network for some other primary purpose (such as a trip from work to home) and stop into the site during their normal travel. Pass-by trips do not result in a net increase in traffic on the surrounding transportation system. The only impact occurs at site access driveways where they become turning movements. Based on data collected through customer surveys at Costco fuel stations, on average 37% of members buying gas during the weekday p.m. peak hour can be classified as pass-by trip capture from the surrounding street system. This is lower than the average pass-by rate (42%) quoted in the ITE *Trip Generation Handbook*, 3rd Edition, for ITE land use code 944 (Gasoline/Service Center), attributable to the unique travel characteristics that result from Costco's membership requirements.

Diverted Trips

Diverted trips represent members (and trips) that are traveling nearby (but not directly adjacent to) the site for some other primary purpose, but reroute to the site for fuel during their normal travel. Diverted trips therefore have a slightly greater impact on the surrounding transportation system, but the impact is limited only to those one or two intersections along the route that lead to the site access driveways. Based on data collected through customer surveys at Costco fuel stations, on average 37% of the members buying gas during the weekday p.m. peak hour can be classified as diverted trip capture from the surrounding street system. This is roughly equal to the average diverted trip rate quoted in the ITE *Trip Generation Handbook*, 3rd Edition, for ITE Code 944 (35%).

Primary Trips

Remaining trips are classified as primary trips, whose sole purpose traveling to the site is to visit the fuel station and then return directly to their origin. After accounting for the other trip types discussed, primary trips represent less than 20% of the total trips that would be counted at the entrance to the fuel station. In other words, very few people make exclusive trips to Costco fuel stations during peak periods.

Based on the information outline above for the impacts of the additional fueling positions and the addition of diesel gasoline sales, a total project trip generation estimate was prepared as summarized in **Table 8**.

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Table 8. Oxnard Costco Gasoline Expansion & Relocation Trip Generation Estimate

	Weekday Midday Peak Hour Trip Ends	Weekday PM Peak Hour Trip Ends
Additional Trips from Fueling Position Expansion	*42*	*42*
Additional Trips from Diesel Addition	*25*	*24*
Total Trip Ends	67	66
Reduction for Internal Trips (34%)	*(23)*	*(23)*
Total External Trip Ends	44	43
Pass-by Trips (*37%*)	*(16)*	*(16)*
Diverted Trips (*37%*)	*(16)*	*(16)*
Net New Trip Ends	**12**	**11**

As shown in **Table 8**, the overall project would generate approximately 44 and 43 additional external trip ends during the weekday midday and p.m. peak hours, respectively (or 22 total additional vehicles in each peak hour). Of these external trips, 16 trips would be pass-by trips and 16 trips would be diverted trips. The remaining external trip ends (12 during the weekday midday peak hour and 11 during the weekday p.m. peak hour) would be net new trips to the site using the surrounding transportation system. Again, it should be noted that this represents a conservative estimate for the increase in trips based on the best available data regarding Costco Gasoline diesel sales.

PROJECT TRIP DISTRIBUTION AND ASSIGNMENT

This section discusses the anticipated shifts in traffic demand and internal circulation patterns once the fuel station is relocated from the south end of the site to the northeast corner.

Internal Trips

The on-site relocation of the fuel station would produce subtle changes in internal circulation patterns on the Costco Warehouse site itself, but would not impact site driveways or adjacent public roadways.

External Trips

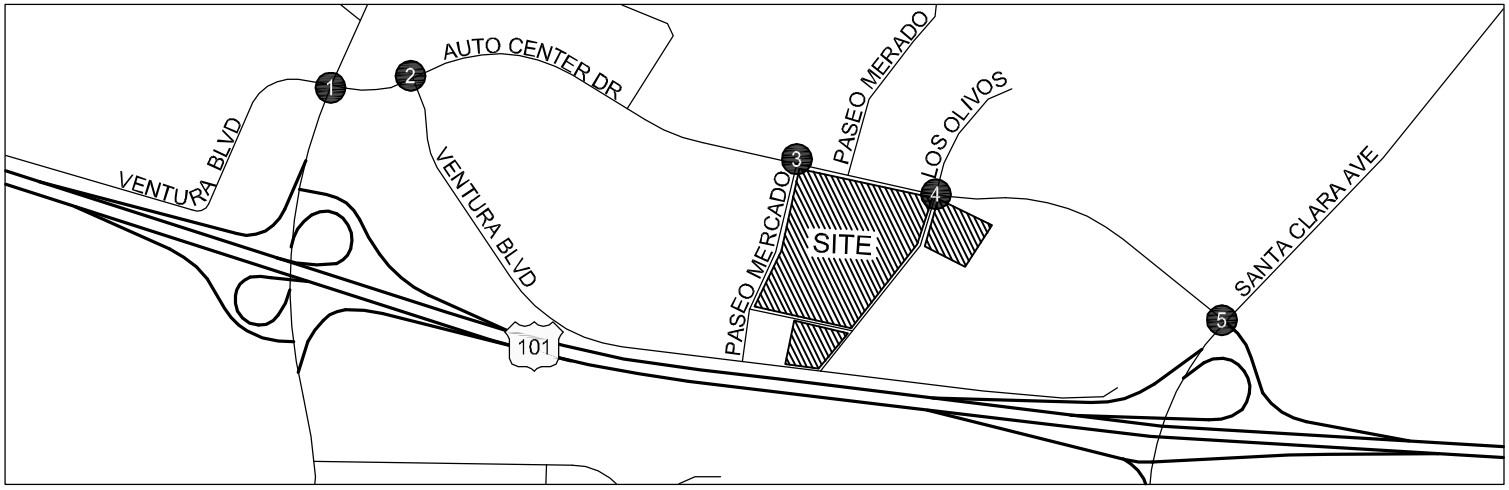
Possible shifts in overall travel patterns to the Costco Warehouse site due to remaining trip types (pass-by, diverted, primary) were also evaluated. Based on publicly available historical average daily traffic (ADT) volumes, the ratio of volume on Auto Center Drive (10,100 ADT) is approximately five times greater than Ventura Boulevard (2,500 ADT) in the immediate vicinity of the Costco site. Despite the somewhat dated nature of the available data, the overall proportion of volume on these two roadways is likely similar.

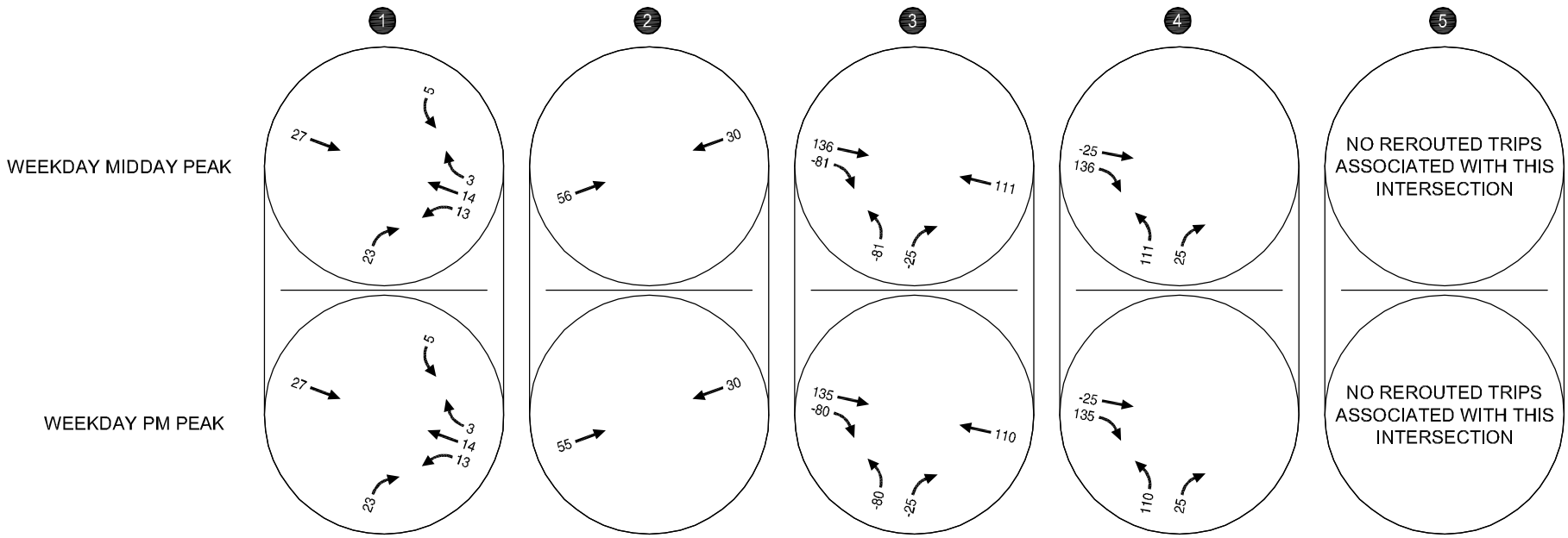
Therefore, it can be assumed that approximately 20% of all trips to/from the Costco site (including the fuel station) use Ventura Boulevard, while the remaining 80% use Auto Center Drive. This also makes intuitive sense, since the current transportation network already creates a natural disposition for a majority of Costco traffic to orient towards Auto Center Drive given that Ventura Boulevard terminates in a cul-de-sac just east of the site and ties back into Auto Center Drive to the west. Since 35% of fuel station trips are internal, and the remaining trip types (pass-by, diverted, primary) are already largely oriented toward Auto Center Drive, we would anticipate a minimal (5%) shift in traffic demand from Ventura Boulevard site driveways to Auto Center Drive once the on-site relocation of the Costco fuel station occurs. This shift would not have a meaningful impact on site driveway operations or internal circulation. **Figure 5** shows the existing, rerouted gasoline facility trips at the study intersections due to the relocation of the gasoline fuel pumps. **Figure 6** and **Figure 7** illustrate the pass-by and diverted trips generated from the fuel station expansion, respectively.

Figure 8 illustrates the trip distribution and assignment assumed for the project-generated trips due to the fuel station expansion. Figures 5, 6, 7, and 8 together are the total project-generated traffic volumes, taking into account both the fuel station relocation and the fuel station expansion. **Figure 9** illustrates the existing + project traffic volumes, which accounts for the existing traffic volumes on the roadway network (**Figure 4**), and the total project-generated traffic volumes (**Figures 5, 6, 7, and 8**).

Easement Road Connection

The on-site relocation of the Costco fuel station would also create a new connection to the private (unnamed) easement road to the east. However, the private easement road would only be accessible by fuel trucks by way of a chained fence, and would not be accessible to Costco members.





Note: Negative trips are trips rerouted away from the original turning movement due to the fuel station relocation; positive trips are trips being rerouted to a specific movement.

Rerouted Trip Due to Fuel Station Relocation
Weekday Midday and PM Peak Hours
Oxnard, California

Figure
5

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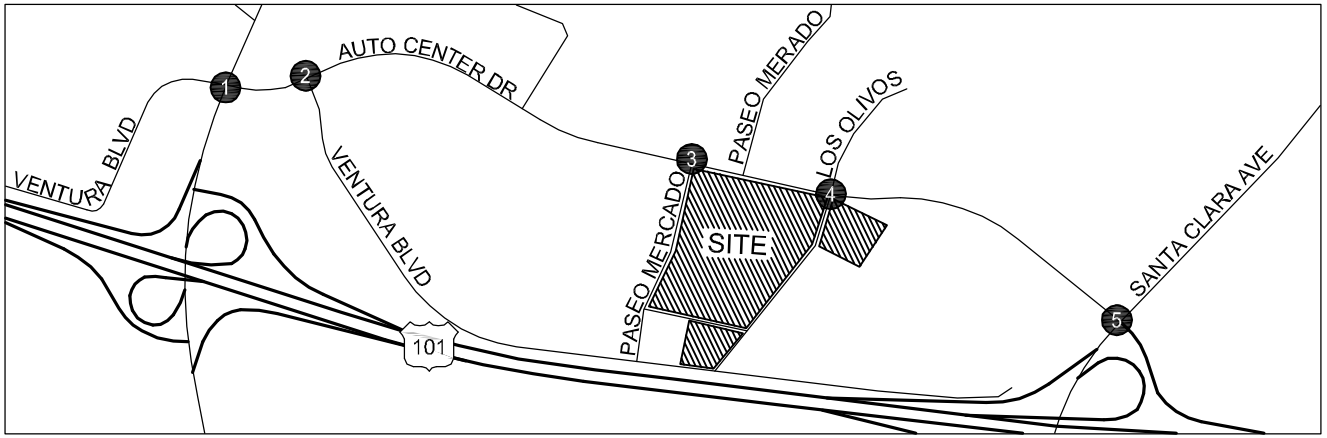

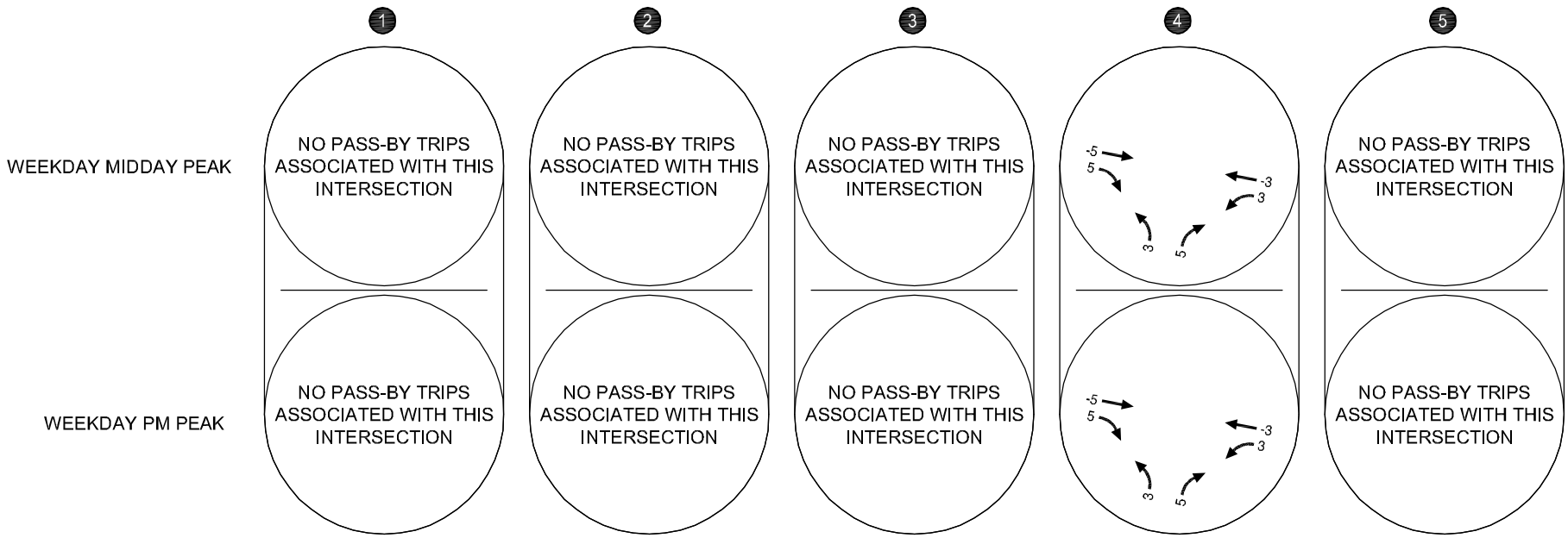

Note: Negative trips are pass-by trips diverted from the original movement due to the fuel station expansion; positive trips are pass-by trips added to a specific movement.

Pass-by Trips Due To Fuel Station Expansion
Weekday Midday and PM Peak Hours
Oxnard, California

Figure
6

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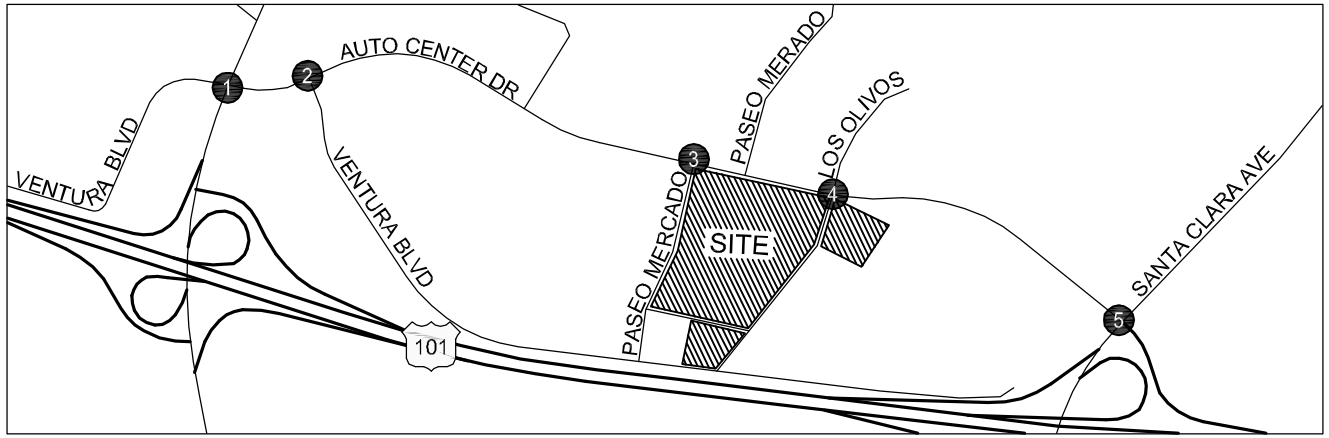

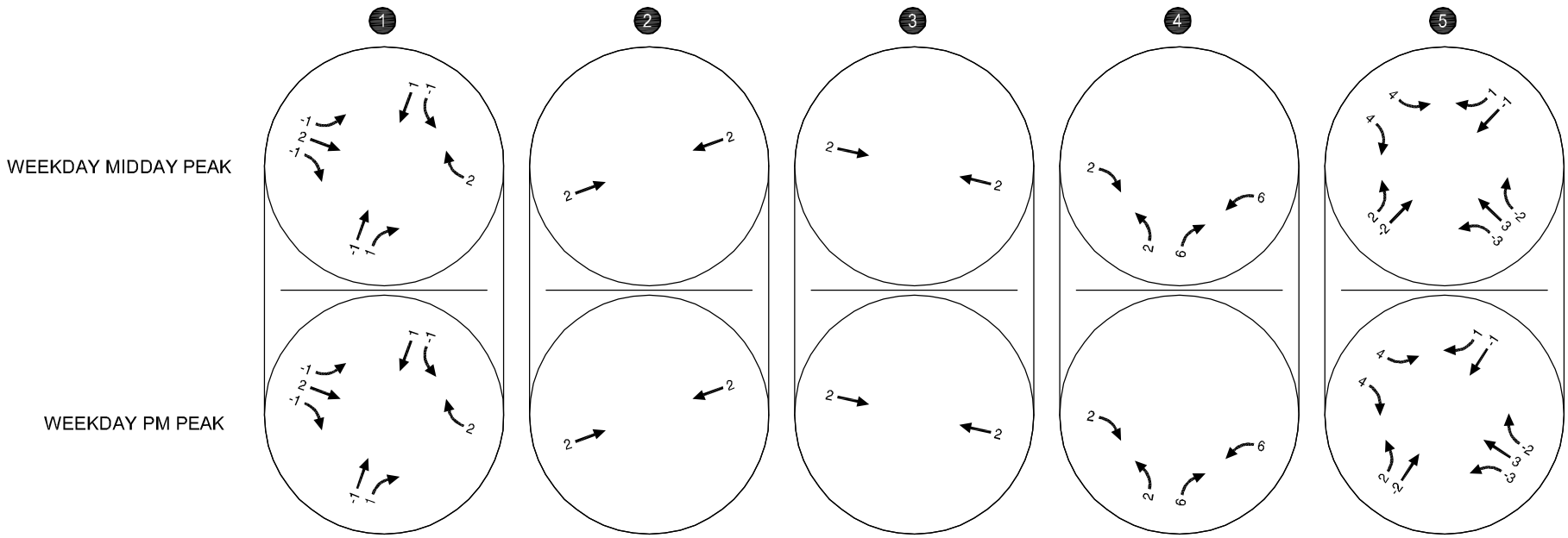

Note: Negative trips are trips diverted from the original movement due to the fuel station expansion; positive trips are diverted trips added to a specific movement.

Diverted Trips Due To Fuel Station Expansion
Weekday Midday and PM Peak Hours
Oxnard, California

Figure **7**

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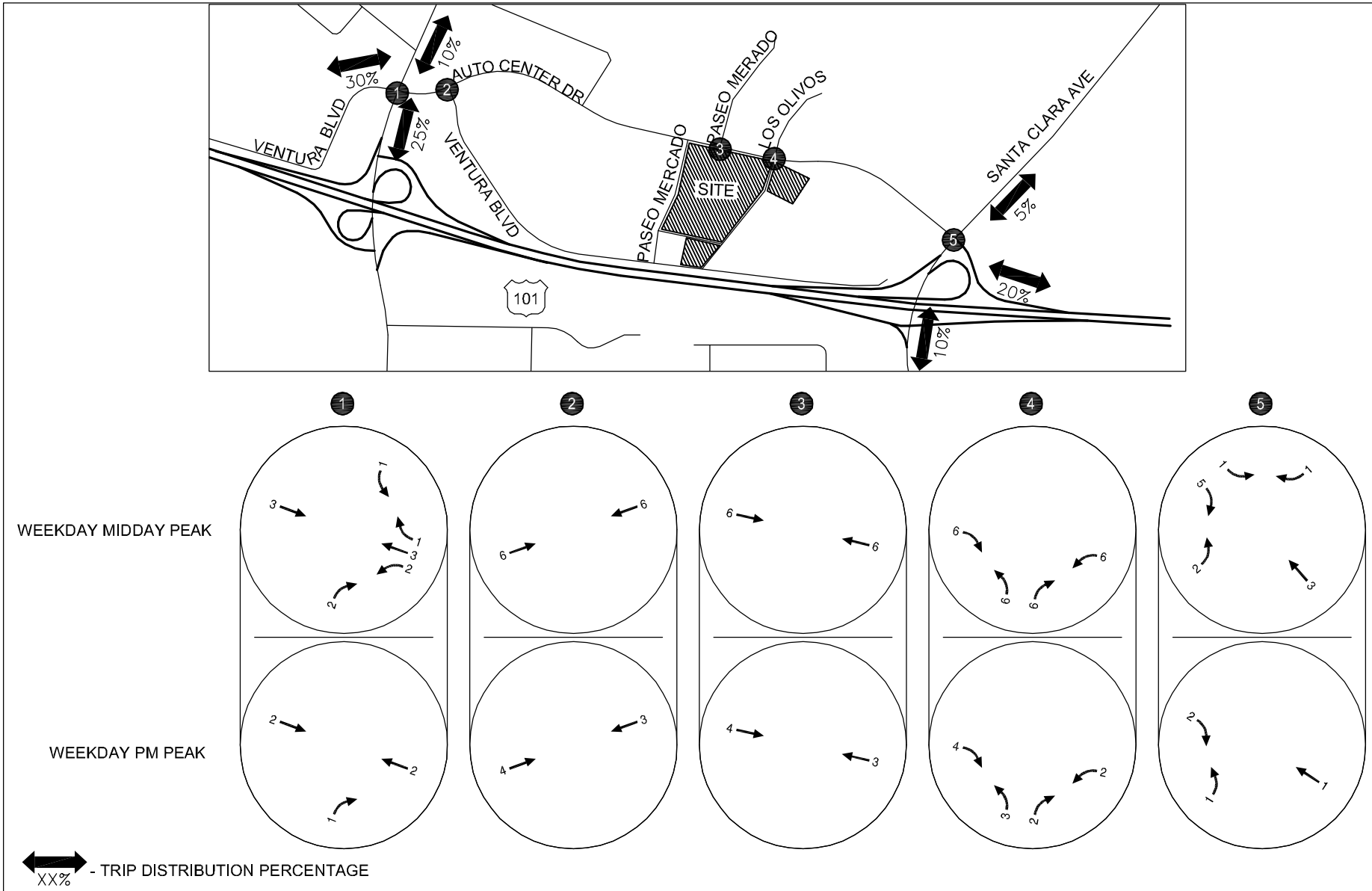

Trip Distribution and Assignment for Project Trips Due to Fuel Station Expansion
Weekday Midday and PM Peak Hours
Oxnard, California

Figure **8**

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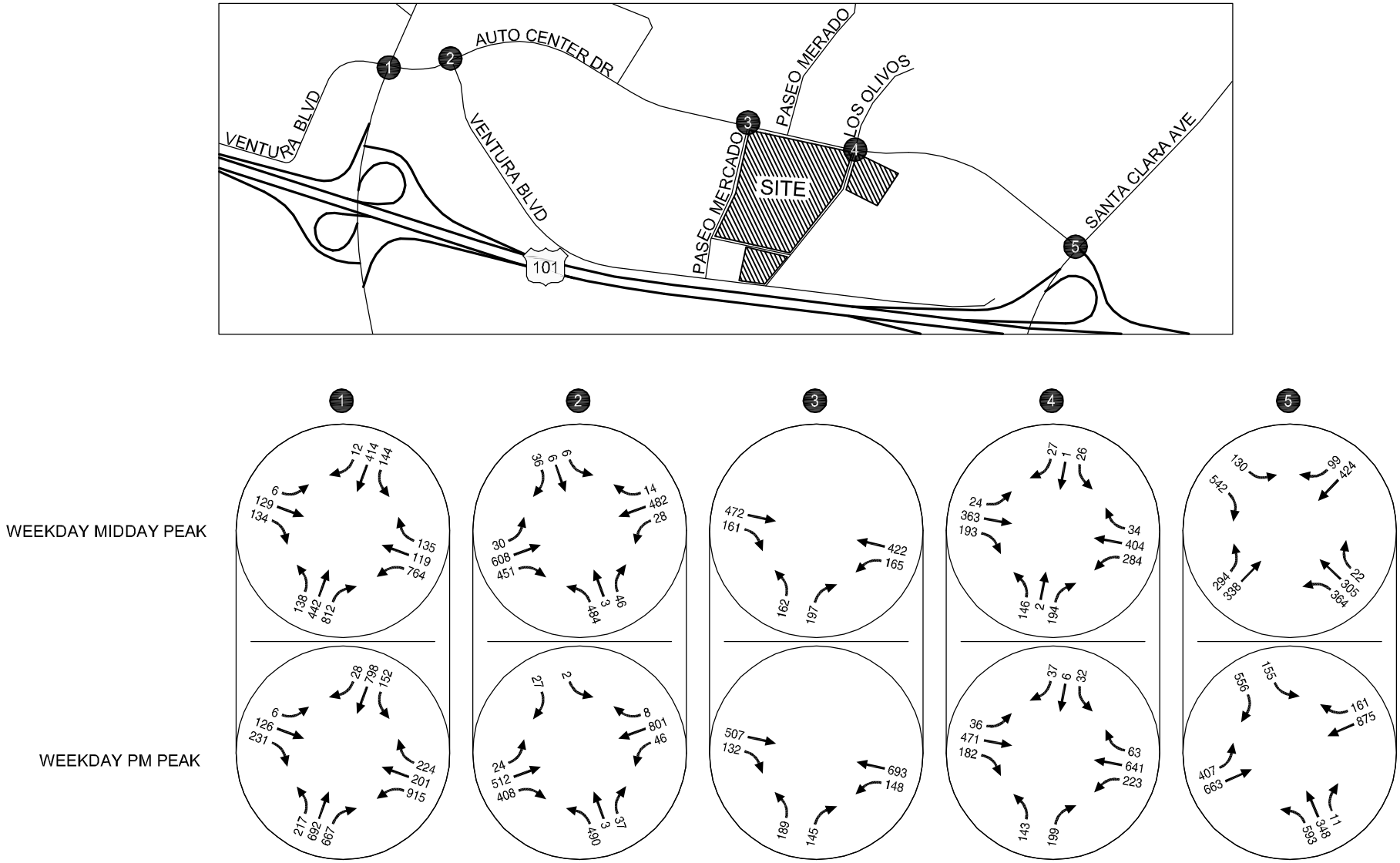

Existing + Project Traffic Volumes
Weekday Midday and PM Peak Hours
Oxnard, California

Figure
9

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PROJECT-SPECIFIC ANALYSIS

Levels of service for the study intersections were estimated using the existing + project peak hour volumes. **Table 9** and **Table 10** show the anticipated operations during the weekday midday and p.m. peak hours, respectively, and identify project-specific impacted intersections based on the City of Oxnard's impact thresholds. ***Appendix E*** contains the operational worksheets for existing + project traffic volumes.

As shown in **Table 9** and **Table 10**, the operations at the Auto Center Drive/Paseo Mercado intersection would improve, primarily due to the rerouting of existing trips utilizing the fuel station. All other intersections would not experience impacts as a result of the proposed fuel station relocation, with the exception noted below:

Auto Center Drive/Los Olivos/Eastern Costco Access

The critical southbound approach of unsignalized site access point would continue operate at LOS "E" and LOS "F" during the weekday midday and p.m. peak hours, respectively. The volume-to-capacity ratio of the critical southbound approach would increase by approximately 0.05 and 0.10 during the weekday midday and p.m. peak hours, primarily due to the rerouting of existing fuel station trips. While not modeled in this analysis, operations at the southern Costco access points along Paseo Mercado and Ventura Boulevard may also improve due to the reduction/rerouting of trips to the Auto Center Drive/Los Olivos/Eastern Costco Access intersection.

A signal warrant analysis was performed at this intersection using the *Manual on Uniform Traffic Control Devices* (MUTCD) signal warrant methodology, and this intersection would meet the signal warrant under the existing + project conditions. ***Appendix F*** contains the signal warrant analysis worksheets.

Mitigation

As shown in **Figure 5**, the redistribution of traffic volumes surrounding the Costco site is expected to be fairly substantial, particularly from the west as motorists detour from Paseo Mercado or Ventura Boulevard to use the easternmost Costco access on Auto Center Drive for outbound maneuvers or to access the fuel center. With this redistribution of trips, maintaining the existing unsignalized control would result in excessive delays and queuing at the access. Accordingly, Costco proposes to install a traffic signal at the easternmost Costco access on Auto Center Drive to serve these demands.

A conceptual layout of the intersection was prepared to assess the potential impacts to the Costco site, necessary changes to the Auto Center Drive median, and alignment with the Los

Olivos public street opposite to the Costco site access. Based on discussions and comments received from City staff this concept was revised to provide additional redundancy and serve peak period or seasonal needs. This included widening the south leg of the intersection to accommodate a 20-foot inbound lane, a 11-foot northbound left-turn lane, a 11 foot northbound thru/left-shared lane, and a 14-foot northbound right-turn lane. The 14-foot northbound right-turn lane could accommodate the turning radius of larger vehicles.

Figure 10 provides a conceptual design layout of the intersection as revised, with modified dimensions as shown. As the traffic signal would be turned over to the City of Oxnard following construction, specific aspects of the signal related to timing, phasing, detection type, and other hardware would be further discussed with City staff. Key geometric aspects are illustrated in **Figure 10**.

Table 11 and **Table 12** summarize the level of service under existing + project with mitigations conditions for the intersection of Auto Center Drive/Los Olivos/Eastern Costco Access.

Table 9. Existing + Project Weekday Midday Peak Hour Levels of Service

Intersection		Existing			Existing + Project			Change	Impact
		ICU V/C	Crit. Mov. Delay (s)	LOS	ICU V/C	Crit. Mov. Delay (s)	LOS		
1	North Rose Ave. /Auto Center Dr./East Ventura Blvd.	0.66	--	B	0.68	--	B	0.02	No
2	Auto Center Dr./ Ventura Blvd.	0.48	--	A	0.48	--	A	0.00	No
3	Auto Center Dr./ Paseo Mercado	0.43	--	A	0.42	--	A	-0.01	No
4	Auto Center Dr./ Los Olivos/Eastern Costco Access	--	38.6	E	--	47.4	E	--	Yes
5	Rice Ave./Santa Clara Ave./Auto Center Dr./US 101 Off-ramp	0.36	--	A	0.36	--	A	0.00	No

Table 10. Existing + Project Weekday PM Peak Hour Levels of Service

Intersection		Existing			Existing + Project			Change	Impact
		ICU V/C	Crit. Mov. Delay (s)	LOS	ICU V/C	Crit. Mov. Delay (s)	LOS		
1	North Rose Ave. /Auto Center Dr./East Ventura Blvd.	0.77	--	C	0.77	--	C	0.00	No
2	Auto Center Dr./ Ventura Blvd.	0.46	--	A	0.46	--	A	0.00	No
3	Auto Center Dr./ Paseo Mercado	0.44	--	A	0.41	--	A	-0.03	No
4	Auto Center Dr./ Los Olivos/Eastern Costco Access	--	>50	F	--	>50	F	--	Yes
5	Rice Ave./Santa Clara Ave./Auto Center Dr./US 101 Off-ramp	0.56	--	A	0.56	--	A	0.00	No

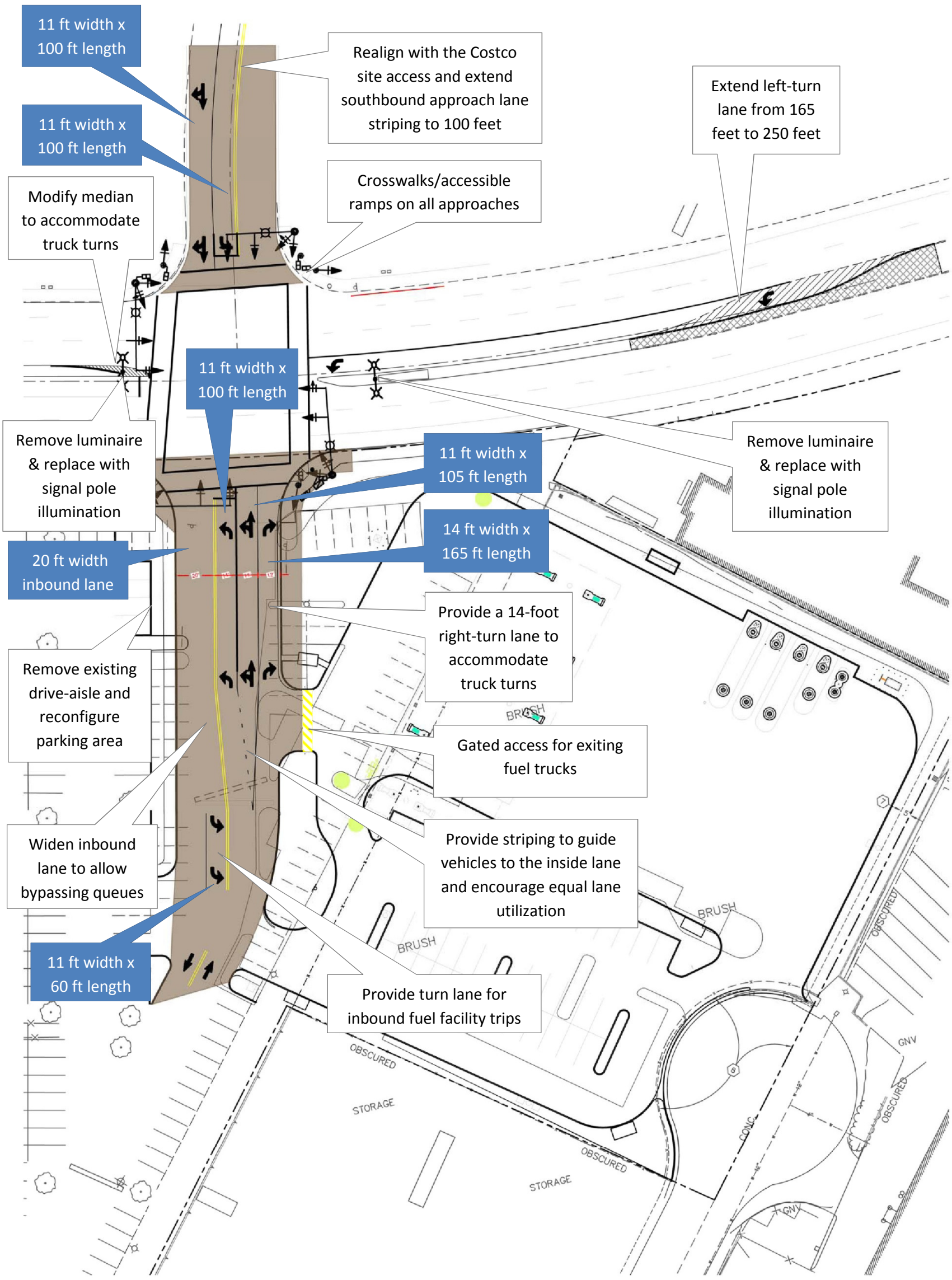
Table 11. Existing + Project with Mitigation Weekday Midday Peak Hour Levels of Service

Intersection		Existing + Project			Existing + Project with Mitigation		
		ICU V/C	Crit. Mov. Delay (s)	LOS	ICU V/C	Crit. Mov. Delay (s)	LOS
4	Auto Center Dr./ Los Olivos/Eastern Costco Access	--	47.4	E	0.41	--	A

Table 12. Existing + Project with Mitigation Weekday PM Peak Hour Levels of Service

Intersection		Existing + Project			Existing + Project with Mitigation		
		ICU V/C	Crit. Mov. Delay (s)	LOS	ICU V/C	Crit. Mov. Delay (s)	LOS
4	Auto Center Dr./ Los Olivos/Eastern Costco Access	--	>50	F	0.41	--	A

Figure 10. Conceptual Auto Center Drive/Los Olivos/Eastern Costco Access Signal Layout



Signalized Intersection Operations and Queuing

An operational analysis of the proposed traffic signal and internal driveway to the relocated fuel station (Intersection #6) was conducted. This analysis was based on the estimated rerouting of trips anticipated with the fuel center expansion and on-site relocation. This analysis was prepared to ensure that the number of storage lanes, length of available storage, and signal phasing could accommodate the anticipated demands and avoid internal congestion.

With the installation of a traffic signal, the operational analysis at the intersection of Auto Center Drive/Los Olivos/Eastern Costco Access shows that the intersection would operate at LOS "A" and at ICU volume-to-capacity ratio (V/C) of 0.41 during both the weekday midday and p.m. peak hours. Anticipated 95th percentile queues were estimated in *SimTraffic* and are shown in **Table 13**. All queues would be accommodated within the storage bays shown in the conceptual layout and within the existing left-turn bays on Auto Center Drive, except for the following location:

- **Westbound left turn approach at the intersection of Auto Center Drive / Los Olivos / Eastern Costco Access**: The anticipated 95th percentile queue would be 179 feet (or approximately eight vehicles) during the weekday midday peak hour under the Existing plus Project conditions. The existing turn pocket length of 165 feet would not be able to accommodate this anticipated queue. Therefore, Costco proposes to extend the westbound left-turn pocket from the existing length of 165 feet to 250 feet, which would be able to accommodate the anticipated queue of 179 feet at this location.

Table 13. Forecast 95th Percentile Queue Length at Auto Center Drive/Los Olivos/Eastern Costco Access and Eastern Costco Access/Fuel Station Driveway Intersections, Existing + Project Traffic Volumes

Intersection	Lane Group	Existing/Proposed* Storage (feet)	95th-Percentile Queues (feet)	
			Weekday Midday Peak Hour	Weekday PM Peak Hour
4. Auto Center Drive / Los Olivos / Eastern Costco Access	EBL	155/145*	44	61
	EBTR	-	283	287
	WBL	165/250*	179	156
	WBTR	-	132	179
	NBL	100*	71	72
	NBTL	105*	93	103
	NBR	165*	74	88
	SBL	100*	48	51
	SBTR	-	48	56
6. Eastern Costco Access / Fuel Station Driveway	SBL	60*	51	51

Within the parking lot, traffic control measures shall be implemented, which include signs (STOP, DO NOT ENTER, etc.) that provide clear directional messaging to drivers. The signing and striping plans for the access points shall be coordinated with the traffic signal design to ensure consistent driver messaging and right-of-way for northbound and southbound motorists within the Costco site. ***Appendix G*** contains the operational worksheets for the existing + project with mitigation conditions.

As provided within **Figure 10**, a short southbound left-turn lane is also proposed for inbound traffic into the fuel station. This left-turn lane was designed to accommodate three vehicles, which would be the anticipated maximum queue length at this internal uncontrolled intersection; this is consistent with the results from the SimTraffic queuing results as shown for Intersection 6 Eastern Costco Access/ Fuel Station Driveway in **Table 13**. However, with the proximity to the traffic signal, a platoon of vehicles could be simultaneously entering the site from the westbound left-turn bay on Auto Center Drive. To ensure the forecast westbound left-turn queue on Auto Center Drive (anticipated to be eight vehicles during peak hour signal cycles) could be accommodated without creating internal congestion, the inbound drive aisle is proposed to be widened to 20-feet, which would allow following motorists to bypass vehicles waiting to turn into the fuel center if a queue were present.

Alternative Lane Configuration

At the request of City of Oxnard staff, the traffic operations were also evaluated with the addition of a second northbound right-turn lane at the North Rose Avenue/Auto Center Drive/East Ventura Boulevard. **Table 14** provides a comparison of queue lengths between existing and existing + project conditions under the current lane configuration, while **Table 15** provides a comparison of anticipated queue lengths under the alternative lane configuration scheme. The anticipated 95th percentile queue lengths were obtained from the *SimTraffic* analysis. ***Appendix H*** contains the level-of-service analysis worksheets and *SimTraffic* queuing analysis output for existing + project with alternative lane configuration traffic conditions.

North Rose Avenue/Auto Center Drive/East Ventura Boulevard

As shown in **Table 14**, during the p.m. peak hour, the existing + project conditions would have a shorter northbound right-turn 95th percentile queue length at the intersection of North Rose Avenue/Auto Center Drive/East Ventura Boulevard than the existing conditions, even though the Project is adding traffic to this approach. This is because the signal timing at this intersection is actuated and that when there are more vehicles arriving at the intersection, the green time would adjust slightly based on the actuation by the platoon of arriving vehicles. When there are more vehicles arriving at the intersection, green time would be extended up to the maximum split. The longer green time under the existing + project conditions would result in a shorter queue length for the northbound right-turn approach as compared to the existing conditions.

Table 14. Anticipated Traffic Operations at North Rose Avenue/Auto Center Drive/East Ventura Boulevard – Existing + Project Traffic Volumes

Intersection	Lane Group	Available Storage (feet)	Weekday Midday Peak Hour						Weekday PM Peak Hour					
			Existing			Existing + Project			Existing			Existing + Project		
			95th %-tile Queue (feet	Average Intersection		95th %-tile Queue (feet	Average Intersection		95th %-tile Queue (feet	Average Intersection		95th %-tile Queue (feet	Average Intersection	
				ICU V/C	LOS		ICU V/C	LOS		ICU V/C	LOS		ICU V/C	LOS
1. North Rose Avenue / Auto Center Drive / East Ventura Boulevard	NBR	500	340	0.66	B	348	0.68	B	345	0.77	C	342	0.77	C
2. Auto Center Drive / Ventura Boulevard	EBL	90	47	0.48	A	56	0.48	A	34	0.46	A	38	0.46	A
	EBT	Cont.	193			245			172			196		
	EBR	150	141			151			127			137		

Table 15. Anticipated Traffic Operations with Additional Northbound Right-Turn Lane at North Rose Avenue/Auto Center Drive/East Ventura Boulevard – Existing + Project Traffic Volumes

Intersection	Lane Group	Available Storage (feet)	Weekday Midday Peak Hour						Weekday PM Peak Hour					
			Existing + Alternative Lane Configuration			Existing + Project Alternative Lane Configuration			Existing + Alternative Lane Configuration			Existing + Project Alternative Lane Configuration		
			95th %-tile Queue (feet)	Average Intersection		95th %-tile Queue (feet	Average Intersection		95th %-tile Queue (feet	Average Intersection		95th %-tile Queue (feet	Average Intersection	
				ICU V/C	LOS		ICU V/C	LOS		ICU V/C	LOS		ICU V/C	LOS
1. North Rose Avenue / Auto Center Drive / East Ventura Boulevard	NBR	500	142	0.49	A	148	0.49	A	137	0.77	C	211	0.77	C
2. Auto Center Drive / Ventura Boulevard	EBL	90	35	0.48	A	67	0.48	A	37	0.46	A	41	0.46	A
	EBT	Cont.	175			220			175			189		
	EBR	150	120			144			118			137		

Relative to the queues forecast under existing traffic volumes with the alternative lane configuration, the northbound right-turn queues at the intersection would increase by approximately six feet and 74 feet during the weekday midday and p.m. peak periods, respectively, after project traffic is added to the roadway network. The addition of a second northbound right-turn lane would prevent the northbound queues from spilling back to the upstream North Rose Avenue/US 101 Northbound Off-ramp intersection. The queues for the other approaches would not change noticeably with the addition of the northbound right-turn lane.

Auto Center Drive/Ventura Boulevard

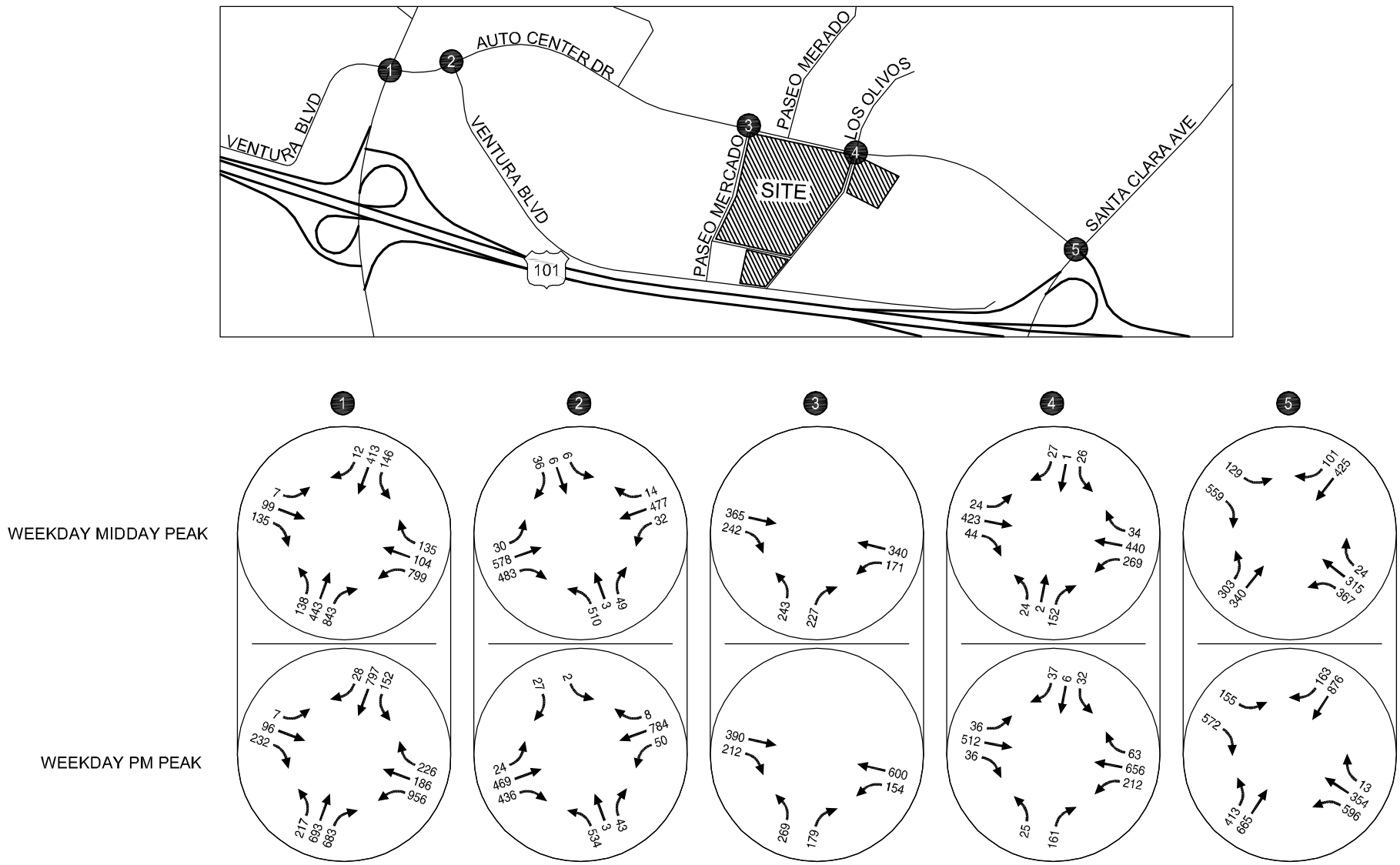
With the addition of the northbound right-turn lane at the adjacent North Rose Avenue/Auto Center Drive/East Ventura Boulevard intersection, queues on the eastbound approach of the Auto Center Drive/Ventura Boulevard intersection would not change noticeably during the weekday midday and p.m. peak hours relative to existing conditions with the alternative lane configurations. The existing storage lengths provided on the eastbound approach would be able to accommodate the forecast 95th percentile queues.

CUMULATIVE (EXISTING + APPROVED/PENDING PROJECTS) CONDITIONS

The City of Oxnard requires study intersections to be analyzed with the addition of traffic generated by projects which have been approved or are pending within the project study area. At the direction of City staff, two approved/pending projects were included in this analysis:

- Gold Coast Transit
- Audi of Oxnard

The volumes added at each study intersection by the Gold Coast Transit development were obtained from the Gold Coast Transit Traffic and Circulation Study (dated June 4, 2014), while the volumes added by the proposed Audi dealership were obtained from the Audi of Oxnard Traffic and Circulation Study (dated November 21, 2016). **Figure 11** illustrates the cumulative no project peak hour traffic volumes at the study intersections, which accounts for the existing traffic volumes (**Figure 4**) + trips generated by the two approved/pending projects.



Cumulative No Project Traffic Volumes
Weekday Midday and PM Peak Hours
Oxnard, California

Figure
11

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Cumulative Volumes and Intersection Levels of Service

Levels of service for the cumulative scenario peak hour traffic volumes were estimated at each of the study intersections. **Table 16** shows the anticipated operations during the weekday midday and p.m. peak hours. ***Appendix I*** contains the operational worksheets for cumulative conditions.

Table 16. Cumulative Peak Hour Levels of Service

Intersection		Traffic Control	Weekday Midday Peak Hour			Weekday PM Peak Hour		
			ICU V/C	Crit. Mov. Delay (s)	LOS	ICU V/C	Crit. Mov. Delay (s)	LOS
1	North Rose Ave. /Auto Center Dr./East Ventura Blvd.	Signalized	0.70	--	C	0.78	--	C
2	Auto Center Dr./ Ventura Blvd.	Signalized	0.49	--	A	0.49	--	A
3	Auto Center Dr./ Paseo Mercado	Signalized	0.45	--	A	0.45	--	A
4	Auto Center Dr./ Los Olivos/Eastern Costco Access	Two-way Stop-controlled	--	43.9	E	--	>50.0	F
5	Rice Ave./Santa Clara Ave./Auto Center Dr./US 101 Off-ramp	Signalized	0.37	--	A	0.56	--	A

As shown in **Table 16**, the intersection of Auto Center Drive/Los Olivos/Eastern Costco Access would continue to operate at LOS "E" and LOS "F" during the weekday midday and p.m. peak hours, respectively. All the other study intersections would operate at LOS "C" or better during the weekday midday and p.m. peak hours.

CUMULATIVE + PROJECT ANALYSIS

Cumulative + Project Volumes and Intersection Levels of Service

Levels of service for the study intersections were estimated using the cumulative + project peak hour volumes.

Figure 12 illustrates the anticipated cumulative + project peak hour traffic volumes at the study intersections, which accounts for the cumulative no project traffic volumes (**Figure 11**) + the total project-generated traffic volumes (**Figures 5, 6, 7, and 8**). **Table 17** and **Table 18** show the anticipated operations during the weekday midday and p.m. peak hours, respectively, and identify project-specific impacted intersections based on the City of Oxnard's impact thresholds. ***Appendix J*** contains the operational worksheets for cumulative + project traffic volumes.

As shown in **Table 17** and **Table 18,** the project would not have a substantial impact at any of the study intersections with the following exception:

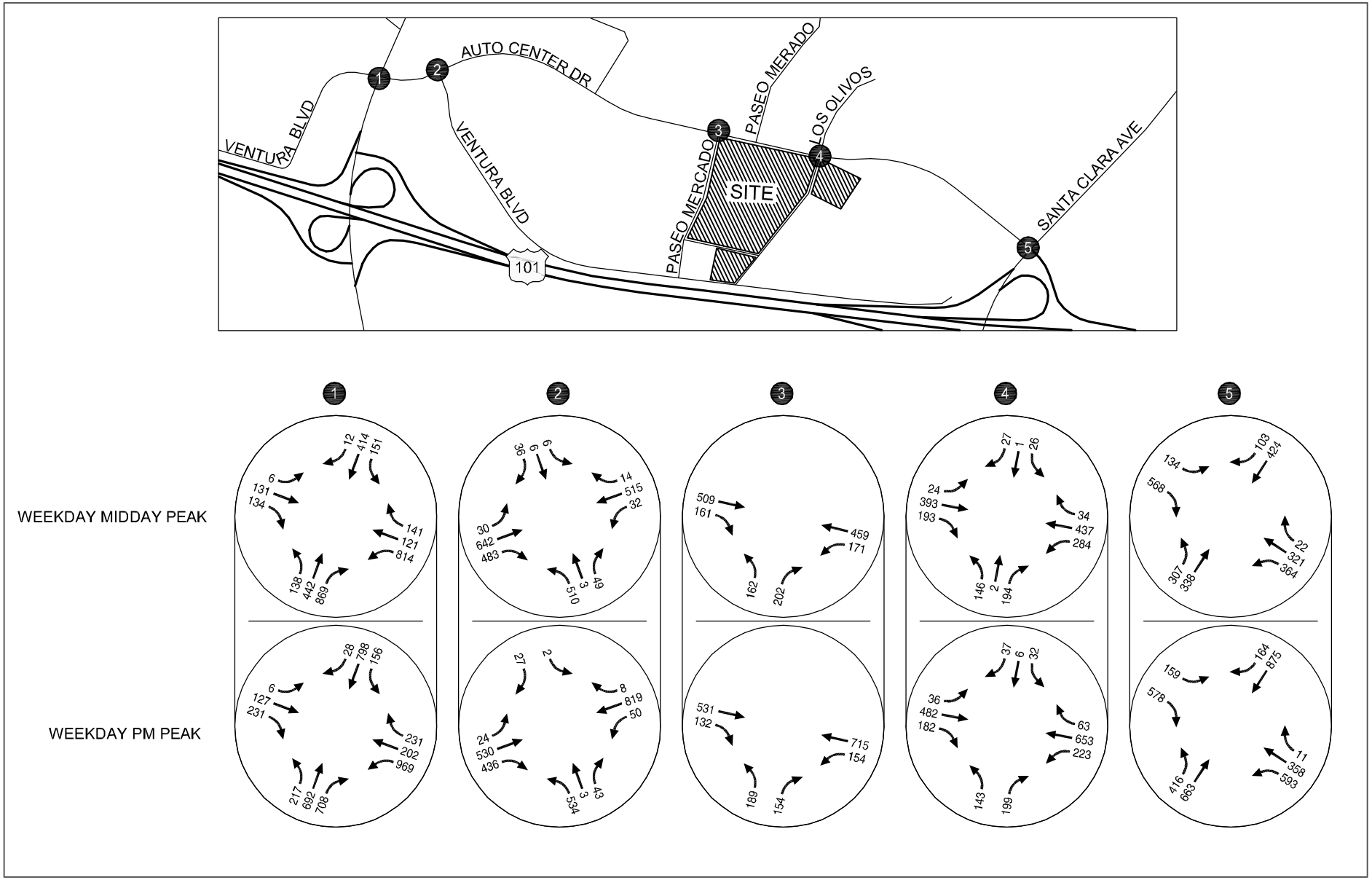
Auto Center Drive/Los Olivos/Eastern Costco Access

The critical southbound approach of unsignalized site access point would operate at LOS "F" during both the weekday midday and p.m. peak hours. The volume-to-capacity ratio of the critical southbound approach would increase by approximately 0.04 and 0.08 during the weekday midday and p.m. peak hours, respectively, primarily due to the rerouting of existing fuel station trips. While not modeled in this analysis, operations at the southern Costco access points along Paseo Mercado and Ventura Boulevard may also improve due to the reduction/rerouting of trips to the Auto Center Drive/Los Olivos/Eastern Costco Access intersection.

Mitigation

As proposed under the existing + project traffic conditions, the operations at the Auto Center Drive/Los Olivos/Eastern Costco Access intersection could be improved by converting the control strategy from two-way stop-controlled to signalized control. If the lane configurations previously proposed were implemented, the intersection would operate at LOS "A" with an ICU V/C of 0.42 during both the weekday midday and p.m. peak hours under cumulative + project traffic conditions.

Table 19 and **Table 20** summarize the level of service under cumulative + project weekday midday and p.m. peak hours with mitigations for the intersection of Auto Center Drive/Los Olivos/Eastern Costco Access. **Table 21** summarizes the results of the SimTraffic queuing analysis at the Auto Center Drive/Los Olivos/Eastern Costco Access and Eastern Costco Access/Fuel Station Driveway intersections during the weekday midday and p.m. peak hours under cumulative + project traffic conditions. ***Appendix K*** contains the operational worksheets for the cumulative + project with mitigation conditions.



Cumulative + Project Traffic Volumes
Weekday Midday and PM Peak Hours
Oxnard, California

Figure
12

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KITTELSON & ASSOCIATES

Table 17. Cumulative + Project Weekday Midday Peak Hour Levels of Service

Intersection		Cumulative			Cumulative + Project			Change	Significant Impact
		ICU V/C	Crit. Mov. Delay (s)	LOS	ICU V/C	Crit. Mov. Delay (s)	LOS		
1	North Rose Ave. /Auto Center Dr./East Ventura Blvd.	0.70	--	C	0.72	--	C	0.02	No*
2	Auto Center Dr./ Ventura Blvd.	0.49	--	A	0.51	--	A	0.02	No
3	Auto Center Dr./ Paseo Mercado	0.45	--	A	0.44	--	A	-0.01	No
4	Auto Center Dr./ Los Olivos/Eastern Costco Access	--	43.9	E	--	**>50**	**F**		**Yes**
5	Rice Ave./Santa Clara Ave./Auto Center Dr./US 101 Off-ramp	0.37	--	A	0.37	--	A	0.00	No

*Under the cumulative weekday midday peak hour conditions, the intersection of North Rose Ave./Auto Center Dr./East Ventura Blvd. would operate at LOS C with ICU V/C of 0.702; under the cumulative + project weekday midday peak hour conditions, the intersection would operate at LOS C with ICU V/C of 0.718. The increase in ICU V/C with the project would be 0.016, which is less than the City's Impact Threshold Criteria of 0.02.

Table 18. Cumulative + Project Weekday PM Peak Hour Levels of Service

Intersection		Cumulative			Cumulative + Project			Change	Significant Impact
		ICU V/C	Crit. Mov. Delay (s)	LOS	ICU V/C	Crit. Mov. Delay (s)	LOS		
1	North Rose Ave. /Auto Center Dr./East Ventura Blvd.	0.78	--	C	0.78	--	C	0.00	No
2	Auto Center Dr./ Ventura Blvd.	0.49	--	A	0.49	--	A	0.00	No
3	Auto Center Dr./ Paseo Mercado	0.45	--	A	0.42	--	A	-0.03	No
4	Auto Center Dr./ Los Olivos/Eastern Costco Access	--	>50	F	--	**>50**	**F**	--	**Yes**
5	Rice Ave./Santa Clara Ave./Auto Center Dr./US 101 Off-ramp	0.56	--	A	0.56	--	A	0.00	No

Table 19. Cumulative + Project with Mitigation Weekday Midday Peak Hour Levels of Service

Intersection		Cumulative + Project			Cumulative + Project with Mitigation		
		ICU V/C	Crit. Mov. Delay (s)	LOS	ICU V/C	Crit. Mov. Delay (s)	LOS
4	Auto Center Dr./ Los Olivos/Eastern Costco Access	--	>50	F	0.42	--	A

Table 20. Cumulative + Project with Mitigation Weekday PM Peak Hour Levels of Service

Intersection		Cumulative + Project			Cumulative + Project with Mitigation		
		ICU V/C	Crit. Mov. Delay (s)	LOS	ICU V/C	Crit. Mov. Delay (s)	LOS
4	Auto Center Dr./ Los Olivos/Eastern Costco Access	--	>50	F	0.42	--	A

Table 21. Forecast 95th Percentile Queue Length at Auto Center Drive/Los Olivos/Eastern Costco Access and Eastern Costco Access/Fuel Station Driveway Intersections, Cumulative + Project Traffic Volumes

Intersection	Lane Group	Existing/Proposed* Storage (feet)	95th-Percentile Queues (feet)	
			Weekday Midday Peak Hour	Weekday PM Peak Hour
4. Auto Center Drive / Los Olivos / Eastern Costco Access	EBL	155/145*	46	67
	EBTR	-	269	317
	WBL	165/250*	178	157
	WBTR	-	131	191
	NBL	100*	80	66
	NBTL	105*	100	101
	NBR	165*	80	85
	SBL	100*	48	54
	SBTR	-	48	62
6. Eastern Costco Access / Fuel Station Driveway	SBL	60*	55	55

As shown in **Table 21**, all queues would be accommodated within the storage bays shown in the conceptual layout (**Figure 10**) and within the existing left-turn bays on Auto Center Drive, except for the following location:

- **Westbound left turn approach at the intersection of Auto Center Drive / Los Olivos / Eastern Costco Access**: The anticipated 95th percentile queue would be 178 feet (or approximately eight vehicles) during the weekday midday peak hour under the Cumulative plus Project conditions. The existing turn pocket length of 165 feet would not be able to accommodate this anticipated queue. Therefore, Costco proposes to extend the westbound left-turn pocket from the existing length of 165 feet to 250 feet, which would be able to accommodate the anticipated queue of 178 feet at this location.

Southbound left-turn queue length at the internal driveway to the fuel station would be approximately three vehicles, which is the same as the existing plus project conditions.

SITE ACCESS AND CIRCULATION

As shown in **Figure 2**, access to the site would be provided by five existing driveways:

- Two full-movement driveways on Auto Center Drive (one of which would become signalized)
- Two full-movement driveways on Paseo Mercado
- One full-movement driveway on Ventura Boulevard

The on-site relocation of the Costco fuel station would also create a new connection to the private (unnamed) easement road to the east. However, the private easement road would only be accessible by fuel trucks by way of a chained fence, and would not be accessible to Costco members.

VENTURA COUNTY GENERAL PLAN CONSISTENCY

The City of Oxnard and Ventura County implemented the "Reciprocal Traffic Mitigation Agreement" wherein the City and County agree a pro-rata share of the cost of mitigations will be collected by each agency for identified traffic impacts in the other jurisdiction. The project would be consistent with the Ventura County General Plan by complying with the terms of the "Reciprocal Traffic Mitigation Agreement" between the City and County approved on February 2, 1993.

VENTURA COUNTY CONGESTION MANAGEMENT PROGRAM

According to the County's Congestion Management Program (CMP), the minimum acceptable standard for traffic operations is LOS "E". To ensure local jurisdictions are not unfairly penalized for existing congestion, the CMP locations operating in the LOS "F" range during 1993 are considered acceptable.

Intersection Operations

Two of the study intersections are contained in the County's CMP Monitoring Report: both the North Rose Avenue/Auto Center Drive/East Ventura Boulevard and Rice Avenue/Santa Clara Avenue/Auto Center Drive intersections would operate better than LOS "E" under cumulative + project peak hour traffic conditions.

Section 5
Conclusions and Recommendations

CONCLUSIONS AND RECOMMENDATIONS

FINDINGS

Year 2017 Existing Conditions

- The unsignalized Auto Center Drive/Los Olivos/Eastern Costco Access intersection currently operates at LOS "E" and LOS "F" during the weekday midday and p.m. peak hours, respectively. The remaining study intersections operate at LOS "C" or better during the weekday midday and p.m. peak hours.

Alternative Lane Configuration – North Rose Avenue/Auto Center Drive/East Ventura Boulevard

- The City of Oxnard is planning to resurface the Auto Center Drive neighborhood in the near future. One of the concepts the City is currently evaluating is to restripe northbound Rose Avenue at Auto Center Drive to provide a second northbound right-turn lane. At the request of City of Oxnard staff, the addition of a second northbound right-turn lane was evaluated, even though this improvement is not part of the Costco fuel station relocation project.
    - Through discussions with City staff, it was noted queues in the northbound right-turn lane at the North Rose Avenue/Auto Center Drive/East Ventura Boulevard intersection have been observed to spill back to the upstream US 101 Northbound Off-ramp/Rose Avenue intersection.
        - The addition of a second northbound right-turn lane would reduce queue lengths in the existing northbound right-turn lane by 198 and 250 feet during the weekday midday and p.m. peak hours, respectively.
        - Operations at the intersection would improve from LOS "B" to LOS "A" during the weekday midday peak hour; no noticeable change in operations would be anticipated during the weekday p.m. peak hour.
        - Queues on the eastbound approach of the Auto Center Drive/Ventura Boulevard intersection would not change noticeably during the weekday midday and p.m. peak hours. The existing storage lengths provided on the eastbound approach would be able to accommodate the changes in queue length.
    - The addition of a second northbound right-turn lane (not associated with Costco fuel station relocation) may introduce some additional weaving on the eastbound approach of the Auto Center Drive/Ventura Boulevard intersection.

- Advance signage on the northbound approach of the North Rose Avenue/Auto Center Drive/East Ventura Boulevard intersection could help drivers pre-position in the correct turn-lane if they need to make a turning maneuver at the adjacent Auto Center Drive/Ventura Boulevard intersection.
- Over time, as drivers become familiar with the proposed changes to lane configurations, the frequency of weaving maneuvers on the eastbound approach of the Auto Center Drive/Ventura Boulevard intersection would decrease.

Development Plan

- The expansion and relocation of the Oxnard Costco fuel station would generate approximately 44 and 43 additional external trip ends during the weekday midday and p.m. peak hours, respectively (or 22 total additional vehicles in each peak hour).
  - Of these external trips, 16 trips would be pass-by trips and 16 would be diverted trips. The remaining 12 external trip ends would be net new trips to the site using the surrounding transportation system.
- Existing fuel station trips were re-assigned to the transportation network to account for the relocation to the northeast portion of the site.
- The on-site relocation would create a new connection to the private (unnamed) easement road to the east but would only be accessible by fuel trucks by way of a chained fence.
- Costco proposes to install a traffic signal at the Auto Center Drive/Los Olivos/Eastern Costco Access intersection. Volume-based *Manual on Uniform Traffic Control Devices* (MUTCD) signal warrants would be met.
  - The intersection would be reconfigured to accommodate the changes to the Auto Center Drive median and to align with the Los Olivos public street opposite to the Costco site access. The westbound left-turn pocket would be extended from 165 feet to 250 feet. The south leg of the intersection would be widened to provide additional redundancy and to serve peak period or seasonal needs. The new configuration would provide a 20-foot inbound lane, a 11-foot northbound left-turn lane, a 11 foot northbound thru/left-shared lane, and a 14-foot northbound right-turn lane. The 14-foot northbound right-turn lane could accommodate the turning radius of larger vehicles.
  - A 60-foot long southbound left-turn lane at the eastern Costco drive aisle would be constructed to provide access to the relocated fuel station.

Existing + Project Traffic Conditions

- The unsignalized Auto Center Drive/Los Olivos/Eastern Costco Access intersection would continue to operate at LOS "E" and LOS "F" during the weekday midday and p.m. peak hours, respectively. The remaining study intersections would operate at LOS "C" or better during the weekday midday and p.m. peak hours.
    - Analysis of signal control as mitigation demonstrates the intersection would operate at LOS "A" and at ICU volume-to-capacity ratio (V/C) of 0.41 during both the weekday midday and p.m. peak hours.
    - Forecast 95th percentile queues would be accommodated by the proposed design.

Alternative Lane Configuration – North Rose Avenue/Auto Center Drive/East Ventura Boulevard

- Provision of a second northbound right-turn lane was evaluated under Existing + Project conditions during both study time periods:
    - The northbound right-turn queues at the intersection would increase by approximately six feet and 74 feet during the weekday midday and p.m. peak periods, respectively, after project traffic is added to the roadway network. This improvement would prevent northbound queues from spilling back to the upstream North Rose Avenue/US 101 Northbound Off-ramp intersection.
    - Queues on the eastbound approach of the Auto Center Drive/Ventura Boulevard intersection would not change noticeably during the weekday midday and p.m. peak hours under Existing + Project traffic conditions. The existing storage lengths provided on the eastbound approach would be able to accommodate the changes in queue length.

Cumulative (Existing + Approved/Pending) Traffic Conditions

- Study intersections were analyzed with the addition of traffic generated by projects which have been approved or are pending within the project study area. At the direction of City staff, two projects were included in this analysis:
    - Gold Coast Transit
    - Audi of Oxnard
- The unsignalized Auto Center Drive/Los Olivos/Eastern Costco Access intersection would continue to operate at LOS "E" and LOS "F" during the weekday midday and p.m. peak hours, respectively. The remaining study intersections would operate at LOS "C" or better during the weekday midday and p.m. peak hours.

Cumulative + Project Traffic Conditions

- The unsignalized Auto Center Drive/Los Olivos/Eastern Costco Access intersection would continue to operate at LOS "E" and LOS "F" during the weekday midday and p.m. peak hours, respectively. The remaining study intersections would operate at LOS "C" or better during the weekday midday and p.m. peak hours.
    - Auto Center Drive/ Los Olivos/Eastern Costco Access: As proposed under the Existing + Project traffic conditions, the operations of the Auto Center Drive/ Los Olivos/Eastern Costco Access intersection could be improved by converting the control strategy from two-way stop-controlled to signalized control. Under the proposed intersection control and configuration, the intersection would operate at LOS "A" with an ICU V/C of 0.42 during both the weekday midday and p.m. peak hours. Forecast 95th percentile queues would be accommodated by the proposed design.

RECOMMENDATIONS

The following list provides a summary of the mitigation measures recommended as part of this proposed development:

- Auto Center Drive/Los Olivos/Eastern Costco Access Intersection:
    - Install a traffic signal
    - Modify the existing Auto Center Drive median on the west side of the intersection to accommodate the turning radius of larger vehicles exiting the site
    - Remove existing luminaires in the median on both sides of Auto Center Drive and replace them with signal pole illumination
    - Extend the westbound left-turn pocket from 165 feet to 250 feet
    - Adjust/improve the alignment of the Los Olivos public street opposite to the Costco site access and extend the southbound approach lane striping to 100 feet
    - Widen the south leg of the intersection to accommodate a 20-foot inbound lane, a 11-foot northbound left-turn lane, a 11 foot northbound thru/left-shared lane, and a 14-foot northbound right-turn lane. The 14-foot northbound right-turn lane could accommodate the turning radius of larger vehicles
- Eastern Costco Access / Fuel Station Driveway Intersection:
    - Develop a 60-foot long southbound left-turn lane at the Eastern Costco drive aisle to provide access to the relocated fuel station

Section 6
References

REFERENCES

1. Institute of Transportation Engineers. *Trip Generation,* 9th *Edition*. 2012.

Appendix A
Traffic Count Data

ITM Peak Hour Summary

Prepared by:

NDS

National Data & Surveying Services

Rose Ave and Auto Center Dr , Oxnard

Date: 10/18/2016

Day: Tuesday

Project #: 16-5676-001

City: Oxnard

AM Peak Hour	
NOON Peak Hour	1200 PM
PM Peak Hour	445 PM

Peak Hour Summary

Southbound Approach (Rose Ave)

Lanes	0	2	1		
AM	0	0	0	0	AM
NOON	12	413	139	579	NOON
PM	28	797	148	919	PM

Eastbound Approach (Auto Center Dr)

	AM	NOON	PM
	0	252	430
1	0	7	7
1	0	97	95
1	0	135	232
Lanes	AM	NOON	PM

Westbound Approach

AM	NOON	PM	Lanes
0	129	219	1
0	102	185	0.5
0	749	902	2.5
0	1022	885	
AM	NOON	PM	

CONTROL: Signalized

Northbound Approach

AM	0	0	0	0	AM
NOON	1297	138	443	786	NOON
PM	1931	217	693	642	PM
		1	2	1	Lanes

Count Periods	Start	End
AM	NONE	NONE
NOON	11:00 AM	1:00 PM
PM	4:00 PM	6:00 PM

Total Ins & Outs

	North Leg		
	0	0	AM
	564	579	NOON
	973	919	PM

West Leg			East Leg		
AM	NOON	PM			
0	252	430	0	980	1306
0	239	334	0	1022	885
			AM	NOON	PM

	South Leg	
AM	0	0
NOON	1297	1367
PM	1931	1552

Total Volume Per Leg

	North Leg
	0
	1143
	1892

West Leg			East Leg		
AM	NOON	PM			
0	491	764	0	2002	2191
			AM	NOON	PM

	South Leg
AM	0
NOON	2664
PM	3483

ITM Peak Hour Summary

Prepared by:

NDS

National Data & Surveying Services

Ventura Blvd and Auto Center Dr , Oxnard

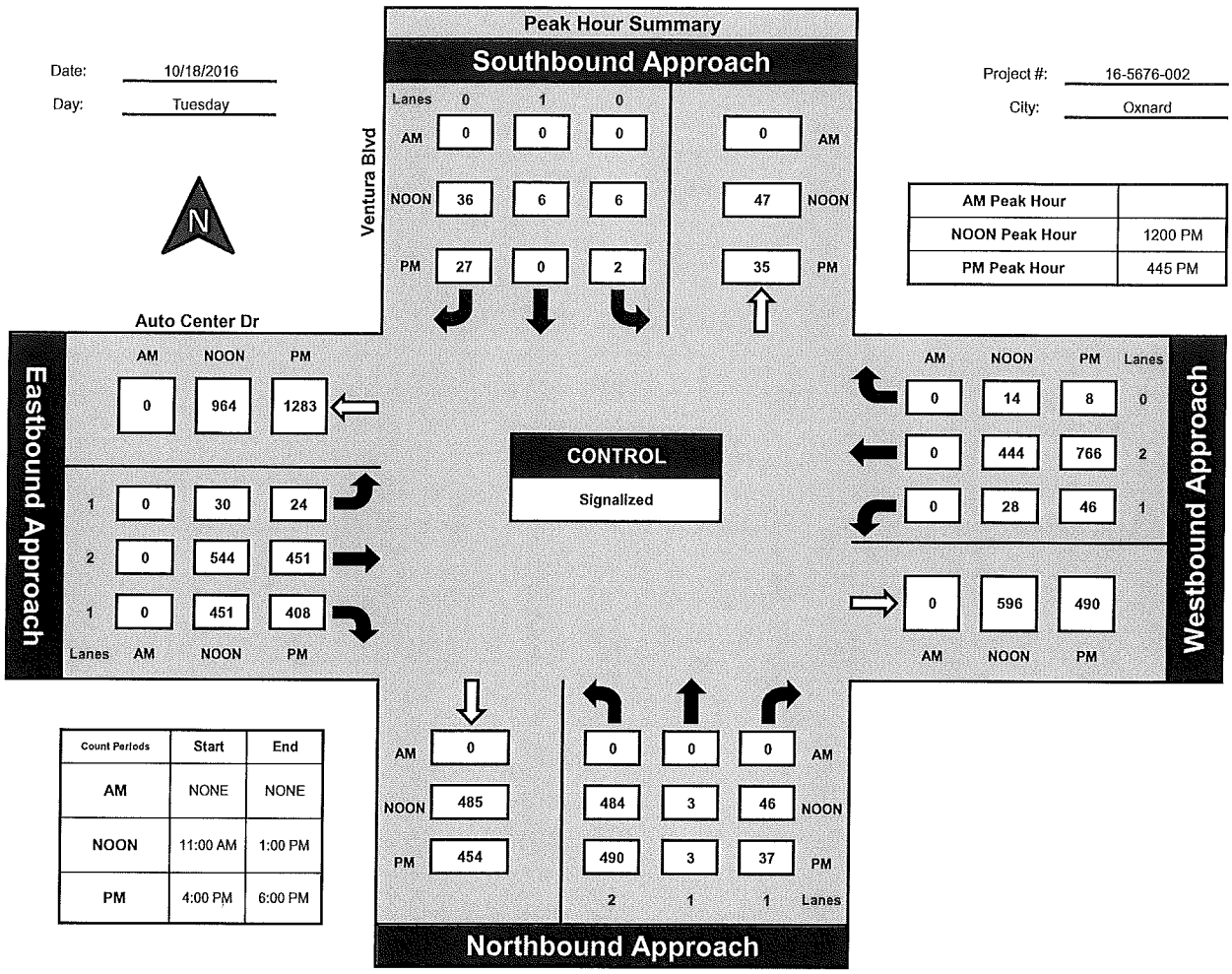
Date: 10/18/2016

Day: Tuesday

Project #: 16-5676-002

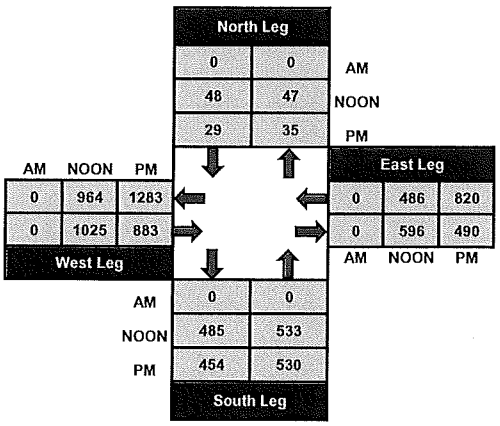
City: Oxnard

AM Peak Hour	
NOON Peak Hour	1200 PM
PM Peak Hour	445 PM

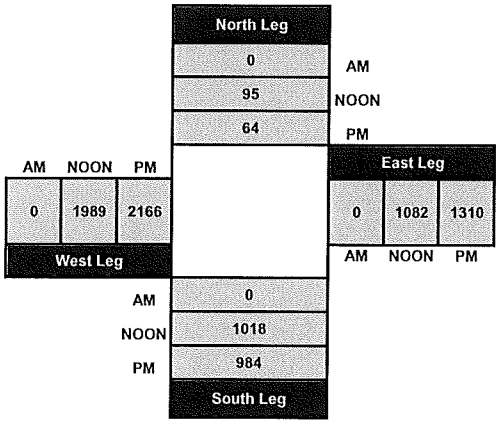


Count Periods	Start	End
AM	NONE	NONE
NOON	11:00 AM	1:00 PM
PM	4:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Paseo Mercado South and Auto Center Dr , Oxnard

Date: 10/18/2016

Day: Tuesday

Project #: 16-5676-003

City: Oxnard

AM Peak Hour	
NOON Peak Hour	1200 PM
PM Peak Hour	445 PM

Peak Hour Summary

Southbound Approach (Paseo Mercado South)

Lanes	0	0	0		0	
AM	0	0	0		0	AM
NOON	0	0	0		1	NOON
PM	0	0	0		0	PM

Eastbound Approach (Auto Center Dr)

	AM	NOON	PM
	0	546	847
0	0	1	0
2	0	328	366
0	0	242	212
Lanes	AM	NOON	PM

Westbound Approach

	AM	NOON	PM	Lanes
	0	0	0	0
	0	303	578	2
	0	165	148	1
	0	550	536	
	AM	NOON	PM	

CONTROL: Signalized

Northbound Approach

AM	0	0	0	0	AM
NOON	407	243	0	222	NOON
PM	360	269	0	170	PM
		1	0	1	Lanes

Count Periods	Start	End
AM	NONE	NONE
NOON	11:00 AM	1:00 PM
PM	4:00 PM	6:00 PM

Total Ins & Outs

	North Leg		
	0	0	AM
	0	1	NOON
	0	0	PM

West Leg			East Leg		
AM	NOON	PM			
0	546	847	0	468	726
0	571	578	0	550	536
			AM	NOON	PM

	South Leg	
AM	0	0
NOON	407	465
PM	360	439

Total Volume Per Leg

	North Leg
	0
	1
	0

West Leg			East Leg		
AM	NOON	PM			
0	1117	1425	0	1018	1262
			AM	NOON	PM

	South Leg
AM	0
NOON	872
PM	799

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Rice Ave and Auto Center Dr , Oxnard

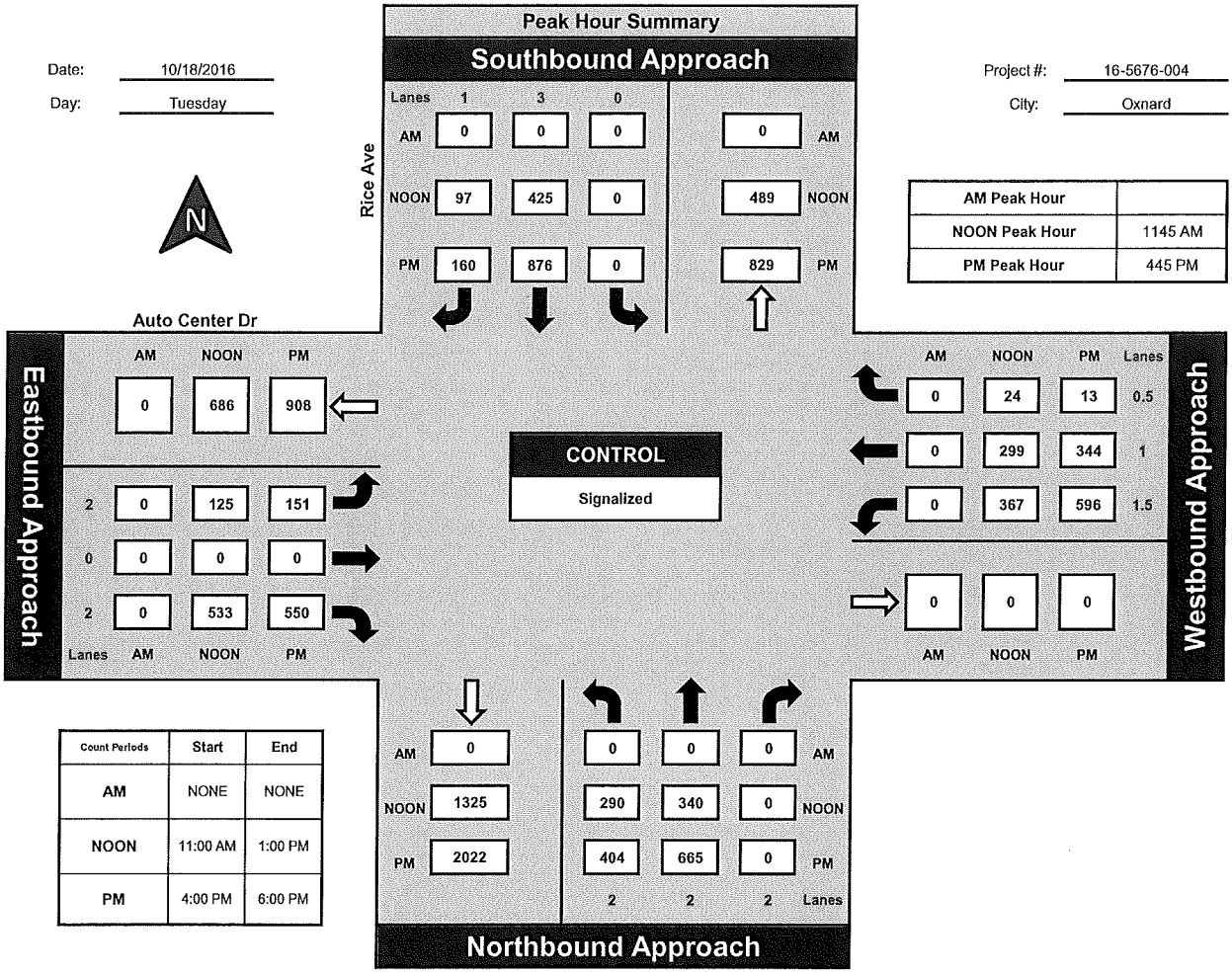
Date: 10/18/2016

Day: Tuesday

Project #: 16-5676-004

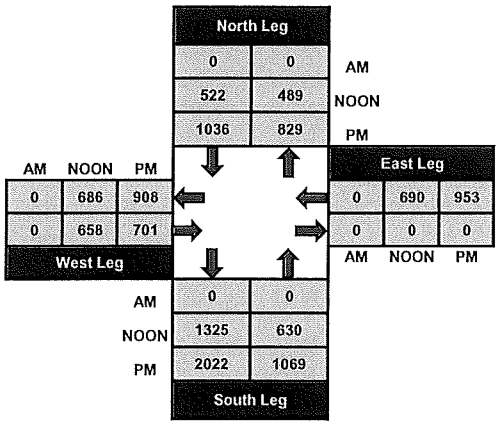
City: Oxnard

AM Peak Hour	
NOON Peak Hour	1145 AM
PM Peak Hour	445 PM

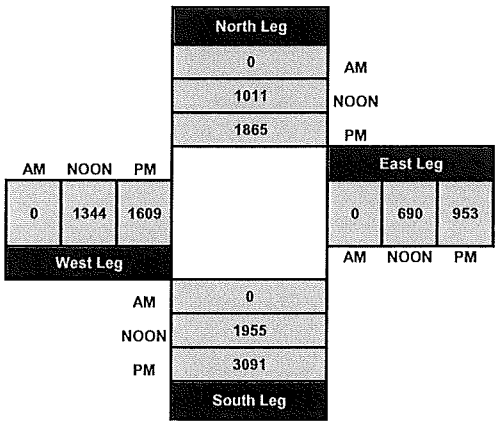


Count Periods	Start	End
AM	NONE	NONE
NOON	11:00 AM	1:00 PM
PM	4:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



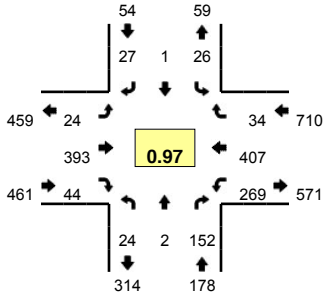
Type of peak hour being reported: Intersection Peak

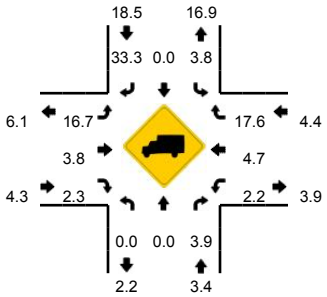
Method for determining peak hour: Total Entering Volume

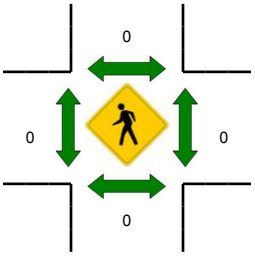
LOCATION: Los Olivos -- Auto Center Dr
CITY/STATE: Oxnard, CA

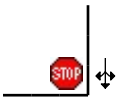
QC JOB #: 14246201
DATE: Tue, Mar 07 2017

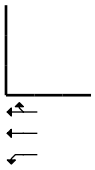
Peak-Hour: 11:15 AM -- 12:15 PM
Peak 15-Min: 12:00 PM -- 12:15 PM

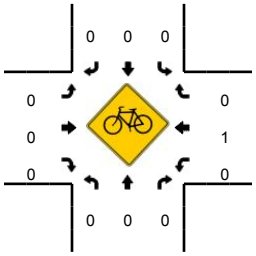


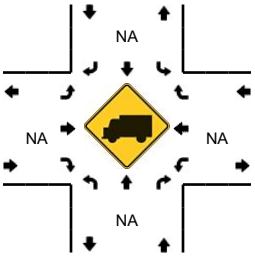


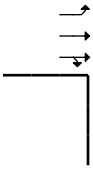


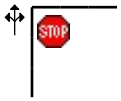


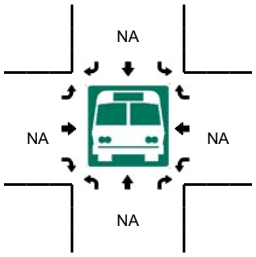












15-Min Count Period Beginning At	Los Olivos (Northbound)				Los Olivos (Southbound)				Auto Center Dr (Eastbound)				Auto Center Dr (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
11:00 AM	4	0	29	0	6	2	10	0	4	84	10	1	60	77	12	0	299	
11:15 AM	5	0	34	0	5	0	8	0	6	95	13	1	71	116	8	0	362	
11:30 AM	5	1	36	0	5	1	8	0	6	93	10	0	62	89	10	0	326	
11:45 AM	6	0	42	0	10	0	7	0	6	96	12	0	75	90	8	0	352	1339
12:00 PM	8	1	40	0	6	0	4	0	5	109	9	0	61	112	8	0	363	1403
12:15 PM	6	1	41	0	8	0	9	0	7	103	10	0	59	78	7	1	330	1371
12:30 PM	7	0	46	0	7	1	6	0	2	118	8	2	54	66	4	1	322	1367
12:45 PM	6	0	32	0	1	1	6	0	7	100	7	1	57	111	7	1	337	1352

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	32	4	160	0	24	0	16	0	20	436	36	0	244	448	32	0	1452
Heavy Trucks	0	0	4		0	0	8		0	12	0		4	20	4		52
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 3/13/2017 10:59 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

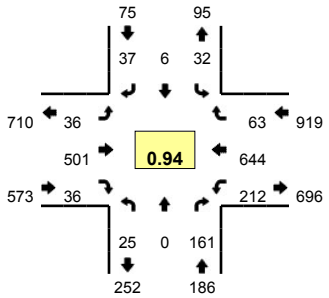
Type of peak hour being reported: Intersection Peak

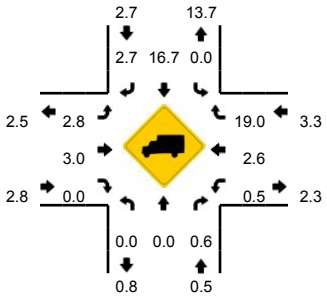
Method for determining peak hour: Total Entering Volume

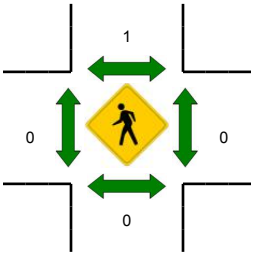
LOCATION: Costco Dwy (East) -- Auto Center Dr
CITY/STATE: Oxnard, CA

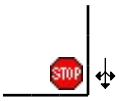
QC JOB #: 13842514
DATE: Thu, Jul 07 2016

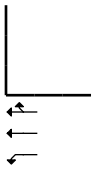
Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 4:45 PM -- 5:00 PM

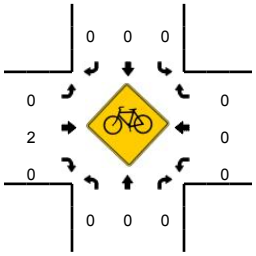


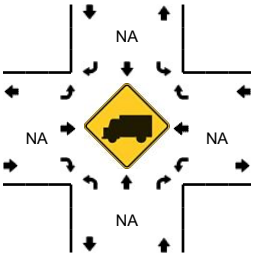


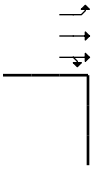


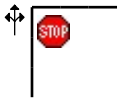


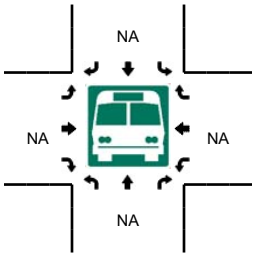












15-Min Count Period Beginning At	Costco Dwy (East) (Northbound)				Costco Dwy (East) (Southbound)				Auto Center Dr (Eastbound)				Auto Center Dr (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	9	0	52	0	3	0	8	0	7	128	6	0	76	129	9	0	427	
4:15 PM	6	1	40	0	3	0	5	0	6	111	10	0	52	134	5	0	373	
4:30 PM	8	0	41	0	9	1	7	0	10	130	8	2	55	137	19	1	428	
4:45 PM	5	0	33	0	14	2	15	0	10	127	7	0	59	173	22	1	468	1696
5:00 PM	4	0	43	0	7	2	10	0	5	131	12	1	43	183	13	0	454	1723
5:15 PM	8	0	44	0	2	1	5	0	7	113	9	1	53	151	9	0	403	1753
5:30 PM	5	1	40	0	5	0	6	0	8	123	10	0	48	158	5	0	409	1734
5:45 PM	7	0	35	0	2	0	13	0	8	110	7	3	63	144	20	2	414	1680
6:00 PM	8	0	39	0	6	0	12	0	4	136	10	0	60	106	5	0	386	1612
6:15 PM	5	1	38	0	2	2	7	0	3	101	6	2	63	110	5	1	346	1555
6:30 PM	2	1	45	0	8	2	9	0	3	102	9	1	43	96	8	0	329	1475
6:45 PM	7	1	26	0	9	2	12	0	6	91	1	0	40	63	7	1	266	1327

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	20	0	132	0	56	8	60	0	40	508	28	0	236	692	88	4	1872
Heavy Trucks	0	0	0		0	4	4		4	16	0		4	12	20		64
Pedestrians		0				4				0				0			4
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 7/20/2016 12:04 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Appendix B
Description of Level-of-Service Methods and Criteria

APPENDIX B LEVEL OF SERVICE CONCEPT

Level of service (LOS) is a concept developed to quantify the degree of comfort (including such elements as travel time, number of stops, total amount of stopped delay, and impediments caused by other vehicles) afforded to drivers as they travel through an intersection or roadway segment. Six grades are used to denote the various level of service from "A" to "F".

Signalized Intersections

Table B-1 identifies the relationship between level of service and ICU volume-over-capacity ratio (V/C). Control delay is defined to include initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. Using this definition, Level of Service "C" is generally considered to represent the minimum acceptable design standard by the City of Oxnard.

Table B-1: Level of Service Criteria for Signalized Intersections

Level of Service	ICU V/C	Description
A	0.00-0.60	Conditions of free unobstructed flow, no delays, and all signal phases sufficient in duration to clear all approaching vehicles.
B	0.61-0.70	Conditions of stable flow, very little delay, a few phases are unable to handle all approaching vehicles.
C	0.71-0.80	Conditions of stable flow, delays are low to moderate, full use of peak direction signal phase(s) is experienced.
D	0.81-0.90	Conditions approaching unstable flow, delays are moderate to heavy, significant signal time deficiencies are experienced for short durations during the peak traffic period.
E	0.91-1.00	Conditions of unstable flow, delays are significant, signal phase timing is generally insufficient, congestion exists for extended duration throughout the peak period.
F	>1.01	Conditions of forced flow, travel speeds are low, and volumes are well-above capacity. This condition is often caused when vehicles released by an upstream signal are unable to proceed because of back-ups from a downstream signal.

Unsignalized Intersections

Unsignalized intersections include two-way stop-controlled (TWSC) and all-way stop-controlled (AWSC) intersections. A qualitative description of the various service levels associated with an unsignalized intersection is presented in Table B-2. A quantitative definition of level of service for unsignalized intersections is presented in Table B-3. Using this definition, Level of Service "E" is generally considered to represent the minimum acceptable design standard.

Table B-2: Level of Service Criteria for Unsignalized Intersections

Level of Service	Average Delay per Vehicle to Minor Street
A	Nearly all drivers find freedom of operation. Very seldom is there more than one vehicle in queue.
B	Some drivers begin to consider the delay an inconvenience. Occasionally there is more than one vehicle in queue.
C	Many times there is more than one vehicle in queue. Most drivers feel restricted, but not objectionably so.
D	Often there is more than one vehicle in queue. Drivers feel quite restricted.
E	Represents a condition in which the demand is near or equal to the probable maximum number of vehicles that can be accommodated by the movement. There is almost always more than one vehicle in queue. Drivers find the delays approaching intolerable levels.
F	Forced flow. Represents an intersection failure condition that is caused by geometric and/or operational constraints external to the intersection.

Table B-3: Level of Service Criteria for Unsignalized Intersections

Level of Service	Average Control Delay per Vehicle (Seconds)
A	<10.0
B	>10.0 and ≤ 15.0
C	>15.0 and ≤ 25.0
D	>25.0 and ≤ 35.0
E	>35.0 and ≤ 50.0
F	>50.0

It should be noted that the level-of-service criteria for unsignalized intersections are somewhat different than the criteria used for signalized intersections. The primary reason for this difference is that drivers expect different levels of performance from different kinds of transportation facilities. The expectation is that a signalized intersection is designed to carry higher traffic volumes than an unsignalized intersection. Additionally, there are a number of driver behavior considerations that combine to make delays at signalized intersections less galling than at unsignalized intersections. For example, drivers at signalized intersections are able to relax during the red interval, while drivers on the minor street approaches to TWSC intersections must remain attentive to the task of identifying acceptable gaps and vehicle conflicts. Also, there is often much more variability in the amount of delay experienced by individual drivers at unsignalized intersections than signalized

intersections. For these reasons, it is considered that the control delay threshold for any given level of service is less for an unsignalized intersection than for a signalized intersection. While overall intersection level of service is calculated for AWSC intersections, level of service is only calculated for the minor approaches and the major street left turn movements at TWSC intersections. No delay is assumed to the major street through movements. For TWSC intersections, the overall intersection level of service remains undefined: level of service is only calculated for each minor street lane.

In the performance evaluation of TWSC intersections, it is important to consider other measures of effectiveness (MOEs) in addition to delay, such as v/c ratios for individual movements, average queue lengths, and 95th-percentile queue lengths. By focusing on a single MOE for the worst movement only, such as delay for the minor-street left turn, users may make inappropriate traffic control decisions. The potential for making such inappropriate decisions is likely to be particularly pronounced when the HCM level-of-service thresholds are adopted as legal standards, as is the case in many public agencies.

Appendix C
Existing Conditions
Level-of-Service Worksheets

18042 Oxnard Costco Gasoline Expansion
Existing Midday

Scenario Report

Scenario:	Existing Midday
Command:	Existing Midday
Volume:	Existing Midday
Geometry:	Default Geometry
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

18042 Oxnard Costco Gasoline Expansion
Existing Midday

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #1 N Rose Ave / Auto Center Dr / E Ventura Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.663
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	68	Level Of Service:	B

Street Name:	North Rose Avenue						Auto Center Drive / East Ventura											
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	- T	- R	L	- T	- R	L	- T	- R	L	- T	- R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	1 1	0	1 0	1 0	1	2 1	0 0	1
Volume Module:												
Base Vol:	138	443	786	139	413	12	7	97	135	749	102	129
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:	138	443	786	139	413	12	7	97	135	749	102	129
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:	138	443	786	139	413	12	7	97	135	749	102	129
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	138	443	786	139	413	12	7	97	135	749	102	129
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	138	443	786	139	413	12	7	97	135	749	102	129
OvlAdjVol:			502									
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.94	0.06	1.00	1.00	1.00	2.64	0.36	1.00
Final Sat.:	1600	3200	1600	1600	3110	90	1600	1600	1600	4225	575	1600
Capacity Analysis Module:												
Vol/Sat:	0.09	0.14	0.49	0.09	0.13	0.13	0.00	0.06	0.08	0.18	0.18	0.08
OvlAdjV/S:			0.31									
Crit Moves:			****	****					****	****		

18042 Oxnard Costco Gasoline Expansion
Existing Midday

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #2 Ventura Blvd / Auto Center Dr

Cycle (sec): 130 Critical Vol./Cap.(X): 0.481
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 50 Level Of Service: A

Street Name:	Ventura Boulevard						Auto Center Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Split Phase			Split Phase			Permit+Prot			Permit+Prot		
Rights:	Include			Include			Include			Include		
Min. Green:	5	5	5	5	5	5	5	20	20	20	20	5
Y+R:	5.0	5.0	5.0	4.0	4.0	4.0	4.0	6.0	6.0	4.0	6.0	6.0
Lanes:	2 0	1 0	1	0 0	1! 0	0	1 0	2 0	1	1 0	1 1	0
Volume Module:												
Base Vol:	484	3	46	6	6	36	30	544	451	28	444	14
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:	484	3	46	6	6	36	30	544	451	28	444	14
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:	484	3	46	6	6	36	30	544	451	28	444	14
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	484	3	46	6	6	36	30	544	451	28	444	14
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	484	3	46	6	6	36	30	544	451	28	444	14
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.00	1.00	0.12	0.12	0.76	1.00	2.00	1.00	1.00	1.94	0.06
Final Sat.:	3200	1600	1600	200	200	1200	1600	3200	1600	1600	3102	98
Capacity Analysis Module:												
Vol/Sat:	0.15	0.00	0.03	0.03	0.03	0.03	0.02	0.17	0.28	0.02	0.14	0.14
Crit Moves:	****				****				****	****		

18042 Oxnard Costco Gasoline Expansion
Existing Midday

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #3 Paseo Mercado / Auto Center Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 0.433
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 40 Level Of Service: A

Street Name:	Paseo Mercado						Auto Center Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Permit+Prot		
Rights:	Include			Include			Include			Include		
Min. Green:	5	0	5	0	0	0	0	15	15	5	15	0
Y+R:	5.0	4.0	5.0	4.0	4.0	4.0	4.0	6.0	6.0	4.0	6.0	4.0
Lanes:	1 0	0 0	1	0 0	0 0	0	0 0	1 1	0	1 0	2 0	0
Volume Module:												
Base Vol:	243	0	222	0	0	0	0	328	242	165	303	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:	243	0	222	0	0	0	0	328	242	165	303	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:	243	0	222	0	0	0	0	328	242	165	303	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	243	0	222	0	0	0	0	328	242	165	303	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	243	0	222	0	0	0	0	328	242	165	303	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.15	0.85	1.00	2.00	0.00
Final Sat.:	1600	0	1600	0	0	0	0	1841	1359	1600	3200	0
Capacity Analysis Module:												
Vol/Sat:	0.15	0.00	0.14	0.00	0.00	0.00	0.00	0.18	0.18	0.10	0.09	0.00
Crit Moves:	****							****		****		

18042 Oxnard Costco Gasoline Expansion
Existing Midday

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #5 Rice Ave / Santa Clara Ave / Auto Center Dr

Cycle (sec):	105	Critical Vol./Cap.(X):	0.362
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	31	Level Of Service:	A

Street Name:	Rice Avenue / Santa Clara Avenue								Auto Center Drive							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Protected				Permitted				Protected				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	5	10	0	0	10	10			6	6	6		10	10	10	
Y+R:	4.8	5.0	4.0		5.0	5.0	5.0		4.8	4.8	4.8		5.0	5.0	5.0	
Lanes:	2	0	2	0 0	0	0	3	0 1	2	0	0	0 2	1	1	0	1 0
Volume Module:																
Base Vol:	290	340	0	0	425	97	125	0	533	367	299	24				
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:	290	340	0	0	425	97	125	0	533	367	299	24				
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Adj:	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:	290	340	0	0	425	97	125	0	533	367	299	24				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
Reduced Vol:	290	340	0	0	425	97	125	0	533	367	299	24				
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
FinalVolume:	290	340	0	0	425	97	125	0	533	367	299	24				
Saturation Flow Module:																
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600				
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Lanes:	2.00	2.00	0.00	0.00	3.00	1.00	2.00	0.00	2.00	1.60	1.30	0.10				
Final Sat.:	3200	3200	0	0	4800	1600	3200	0	3200	2555	2079	167				
Capacity Analysis Module:																
Vol/Sat:	0.09	0.11	0.00	0.00	0.09	0.06	0.04	0.00	0.17	0.14	0.14	0.14				
Crit Moves:	****				****		****				****					

Intersection	
Int Delay, s/veh	6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	24	393	44	269	407	34	24	2	152	26	1	27
Future Vol, veh/h	24	393	44	269	407	34	24	2	152	26	1	27
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	205	-	-	200	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	393	44	269	407	34	24	2	152	26	1	27

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	441	0	0	437	0	0	1205	1442	219	1208	1447	221
Stage 1	-	-	-	-	-	-	463	463	-	962	962	-
Stage 2	-	-	-	-	-	-	742	979	-	246	485	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1115	-	-	1119	-	-	140	131	785	139	130	783
Stage 1	-	-	-	-	-	-	548	562	-	275	332	-
Stage 2	-	-	-	-	-	-	374	326	-	736	550	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1115	-	-	1119	-	-	108	97	785	89	97	783
Mov Cap-2 Maneuver	-	-	-	-	-	-	108	97	-	89	97	-
Stage 1	-	-	-	-	-	-	536	550	-	269	252	-
Stage 2	-	-	-	-	-	-	273	248	-	579	538	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	3.5	20.5	38.6
HCM LOS			C	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	408	1115	-	-	1119	-	-	160
HCM Lane V/C Ratio	0.436	0.022	-	-	0.24	-	-	0.338
HCM Control Delay (s)	20.5	8.3	-	-	9.2	-	-	38.6
HCM Lane LOS	C	A	-	-	A	-	-	E
HCM 95th %tile Q(veh)	2.2	0.1	-	-	0.9	-	-	1.4

18042 Oxnard Costco Gasoline Expansion
Existing PM

Scenario Report

Scenario:	Existing PM
Command:	Existing PM
Volume:	Existing PM
Geometry:	Default Geometry
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

18042 Oxnard Costco Gasoline Expansion
Existing PM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #1 N Rose Ave / Auto Center Dr / E Ventura Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.765
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	97	Level Of Service:	C

Street Name:	North Rose Avenue						Auto Center Drive / East Ventura					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	1 1	0	1 0	1 0	1	2 1	0 0	1
Volume Module:												
Base Vol:	217	693	642	148	797	28	7	95	232	902	185	219
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:	217	693	642	148	797	28	7	95	232	902	185	219
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:	217	693	642	148	797	28	7	95	232	902	185	219
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	217	693	642	148	797	28	7	95	232	902	185	219
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	217	693	642	148	797	28	7	95	232	902	185	219
OvlAdjVol:			280									
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.93	0.07	1.00	1.00	1.00	2.49	0.51	1.00
Final Sat.:	1600	3200	1600	1600	3091	109	1600	1600	1600	3983	817	1600
Capacity Analysis Module:												
Vol/Sat:	0.14	0.22	0.40	0.09	0.26	0.26	0.00	0.06	0.15	0.23	0.23	0.14
OvlAdjV/S:			0.17									
Crit Moves:	****				****				****	****		

18042 Oxnard Costco Gasoline Expansion
Existing PM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #2 Ventura Blvd / Auto Center Dr

Cycle (sec): 130 Critical Vol./Cap.(X): 0.455
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 50 Level Of Service: A

Street Name:	Ventura Boulevard						Auto Center Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Split Phase			Split Phase			Permit+Prot			Permit+Prot		
Rights:	Include			Include			Include			Include		
Min. Green:	5	5	5	5	5	5	5	20	20	20	20	5
Y+R:	5.0	5.0	5.0	4.0	4.0	4.0	4.0	6.0	6.0	4.0	6.0	6.0
Lanes:	2 0	1 0	1	0 0	1! 0	0	1 0	2 0	1	1 0	1 1	0
Volume Module:												
Base Vol:	490	3	37	2	0	27	24	451	408	46	766	8
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:	490	3	37	2	0	27	24	451	408	46	766	8
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	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:	490	3	37	2	0	27	24	451	408	46	766	8
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	490	3	37	2	0	27	24	451	408	46	766	8
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	490	3	37	2	0	27	24	451	408	46	766	8
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.00	1.00	0.07	0.00	0.93	1.00	2.00	1.00	1.00	1.98	0.02
Final Sat.:	3200	1600	1600	110	0	1490	1600	3200	1600	1600	3167	33
Capacity Analysis Module:												
Vol/Sat:	0.15	0.00	0.02	0.02	0.00	0.02	0.02	0.14	0.26	0.03	0.24	0.24
Crit Moves:	****			****					****	****		

18042 Oxnard Costco Gasoline Expansion
Existing PM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #3 Paseo Mercado / Auto Center Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 0.441
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 41 Level Of Service: A

Street Name:	Paseo Mercado						Auto Center Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Permit+Prot		
Rights:	Include			Include			Include			Include		
Min. Green:	5	0	5	0	0	0	0	15	15	5	15	0
Y+R:	5.0	4.0	5.0	4.0	4.0	4.0	4.0	6.0	6.0	4.0	6.0	4.0
Lanes:	1 0	0 0	1	0 0	0 0	0	0 0	1 1	0	1 0	2 0	0
Volume Module:												
Base Vol:	269	0	170	0	0	0	0	366	212	148	578	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:	269	0	170	0	0	0	0	366	212	148	578	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:	269	0	170	0	0	0	0	366	212	148	578	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	269	0	170	0	0	0	0	366	212	148	578	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	269	0	170	0	0	0	0	366	212	148	578	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.27	0.73	1.00	2.00	0.00
Final Sat.:	1600	0	1600	0	0	0	0	2026	1174	1600	3200	0
Capacity Analysis Module:												
Vol/Sat:	0.17	0.00	0.11	0.00	0.00	0.00	0.00	0.18	0.18	0.09	0.18	0.00
Crit Moves:	****							****		****		

18042 Oxnard Costco Gasoline Expansion
Existing PM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #5 Rice Ave / Santa Clara Ave / Auto Center Dr

Cycle (sec):	105	Critical Vol./Cap.(X):	0.555
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	42	Level Of Service:	A

Street Name:	Rice Avenue / Santa Clara Avenue								Auto Center Drive							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Protected				Permitted				Protected				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	5	10	0	0	10	10			6	6	6		10	10	10	
Y+R:	4.8	5.0	4.0		5.0	5.0	5.0		4.8	4.8	4.8		5.0	5.0	5.0	
Lanes:	2	0	2	0 0	0	0	3	0 1	2	0	0	0 2	1	1	0	1 0
Volume Module:																
Base Vol:	404	665	0	0	876	160	151	0	550	596	344	13				
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:	404	665	0	0	876	160	151	0	550	596	344	13				
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:	404	665	0	0	876	160	151	0	550	596	344	13				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
Reduced Vol:	404	665	0	0	876	160	151	0	550	596	344	13				
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
FinalVolume:	404	665	0	0	876	160	151	0	550	596	344	13				
Saturation Flow Module:																
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600				
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Lanes:	2.00	2.00	0.00	0.00	3.00	1.00	2.00	0.00	2.00	1.88	1.08	0.04				
Final Sat.:	3200	3200	0	0	4800	1600	3200	0	3200	3009	1726	65				
Capacity Analysis Module:																
Vol/Sat:	0.13	0.21	0.00	0.00	0.18	0.10	0.05	0.00	0.17	0.20	0.20	0.20				
Crit Moves:	****				****		****				****					

Intersection	
Int Delay, s/veh	7.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	36	501	36	212	644	63	25	0	161	32	6	37
Future Vol, veh/h	36	501	36	212	644	63	25	0	161	32	6	37
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	205	-	-	200	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	36	501	36	212	644	63	25	0	161	32	6	37

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	707	0	0	537	0	0	1340	1722	269	1423	1709	354
Stage 1	-	-	-	-	-	-	591	591	-	1100	1100	-
Stage 2	-	-	-	-	-	-	749	1131	-	323	609	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	887	-	-	1027	-	-	111	88	729	96	90	642
Stage 1	-	-	-	-	-	-	460	493	-	226	286	-
Stage 2	-	-	-	-	-	-	370	277	-	663	484	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	887	-	-	1027	-	-	80	67	729	61	69	642
Mov Cap-2 Maneuver	-	-	-	-	-	-	80	67	-	61	69	-
Stage 1	-	-	-	-	-	-	441	473	-	217	227	-
Stage 2	-	-	-	-	-	-	269	220	-	496	464	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	2.2	26.5	86.1
HCM LOS			D	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	349	887	-	-	1027	-	-	112
HCM Lane V/C Ratio	0.533	0.041	-	-	0.206	-	-	0.67
HCM Control Delay (s)	26.5	9.2	-	-	9.4	-	-	86.1
HCM Lane LOS	D	A	-	-	A	-	-	F
HCM 95th %tile Q(veh)	3	0.1	-	-	0.8	-	-	3.5

Appendix D
Existing Conditions
Alternative Lane Configuration
Level-of-Service &
Queuing Analysis Worksheets

18042 Oxnard Costco Gasoline Expansion
Existing Midday
With Additional NBR lane at North Rose Ave./Auto Center Dr./E. Ventura Blvd.

Scenario Report

Scenario:	Existing Midday
Command:	Existing Midday
Volume:	Existing Midday
Geometry:	Default Geometry
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

18042 Oxnard Costco Gasoline Expansion
Existing Midday
With Additional NBR lane at North Rose Ave./Auto Center Dr./E. Ventura Blvd.

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #1 N Rose Ave / Auto Center Dr / E Ventura Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.487
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	44	Level Of Service:	A

Street Name:	North Rose Avenue						Auto Center Drive / East Ventura					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	2	1 0	1 1	0	1 0	1 0	1	2 1	0 0	1
Volume Module:												
Base Vol:	138	443	786	139	413	12	7	97	135	749	102	129
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:	138	443	786	139	413	12	7	97	135	749	102	129
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:	138	443	786	139	413	12	7	97	135	749	102	129
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	138	443	786	139	413	12	7	97	135	749	102	129
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	138	443	786	139	413	12	7	97	135	749	102	129
OvlAdjVol:			219									
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	2.00	1.00	1.94	0.06	1.00	1.00	1.00	2.64	0.36	1.00
Final Sat.:	1600	3200	3200	1600	3110	90	1600	1600	1600	4225	575	1600
Capacity Analysis Module:												
Vol/Sat:	0.09	0.14	0.25	0.09	0.13	0.13	0.00	0.06	0.08	0.18	0.18	0.08
OvlAdjV/S:			0.07									
Crit Moves:		****		****					****	****		

18042 Oxnard Costco Gasoline Expansion
Existing Midday
With Additional NBR lane at North Rose Ave./Auto Center Dr./E. Ventura Blvd.

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #2 Ventura Blvd / Auto Center Dr

Cycle (sec):	130	Critical Vol./Cap.(X):	0.481
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	50	Level Of Service:	A

Street Name:	Ventura Boulevard						Auto Center Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Split Phase			Split Phase			Permit+Prot			Permit+Prot		
Rights:	Include			Include			Include			Include		
Min. Green:	5	5	5	5	5	5	5	20	20	20	20	5
Y+R:	5.0	5.0	5.0	4.0	4.0	4.0	4.0	6.0	6.0	4.0	6.0	6.0
Lanes:	2 0	1 0	1	0 0	1! 0	0	1 0	2 0	1	1 0	1 1	0
Volume Module:												
Base Vol:	484	3	46	6	6	36	30	544	451	28	444	14
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:	484	3	46	6	6	36	30	544	451	28	444	14
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:	484	3	46	6	6	36	30	544	451	28	444	14
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	484	3	46	6	6	36	30	544	451	28	444	14
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	484	3	46	6	6	36	30	544	451	28	444	14
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.00	1.00	0.12	0.12	0.76	1.00	2.00	1.00	1.00	1.94	0.06
Final Sat.:	3200	1600	1600	200	200	1200	1600	3200	1600	1600	3102	98
Capacity Analysis Module:												
Vol/Sat:	0.15	0.00	0.03	0.03	0.03	0.03	0.02	0.17	0.28	0.02	0.14	0.14
Crit Moves:	****				****				****	****		

Intersection: 1: N. Rose Ave & Ventura Blvd/Auto Center Dr

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	R	L	L	LT	R	L	T	T	R	L
Maximum Queue (ft)	32	172	148	260	371	381	255	247	338	268	411	219
Average Queue (ft)	5	78	49	184	247	276	134	116	144	98	155	124
95th Queue (ft)	21	147	96	280	370	394	312	222	276	227	340	214
Link Distance (ft)		427			348	348			700	700	700	
Upstream Blk Time (%)					3	7					0	
Queuing Penalty (veh)					13	32					0	
Storage Bay Dist (ft)	140		165	235			230	250				195
Storage Blk Time (%)		2	0	2	10	25	0	3	0			6
Queuing Penalty (veh)		3	0	6	24	32	0	6	0			12

Intersection: 1: N. Rose Ave & Ventura Blvd/Auto Center Dr

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (ft)	319	263
Average Queue (ft)	146	102
95th Queue (ft)	280	221
Link Distance (ft)	339	339
Upstream Blk Time (%)	1	0
Queuing Penalty (veh)	0	0
Storage Bay Dist (ft)		
Storage Blk Time (%)	3	
Queuing Penalty (veh)	4	

Intersection: 2: Ventura Boulevard/Ford Dwy & Auto Center Dr

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	TR	L	L	T	R	LTR
Maximum Queue (ft)	72	218	256	135	68	186	186	225	407	18	49	86
Average Queue (ft)	15	75	98	76	16	73	82	180	274	1	11	33
95th Queue (ft)	47	156	193	141	49	153	166	267	394	9	30	72
Link Distance (ft)		348	348			740	740		396	396		151
Upstream Blk Time (%)			0						1			
Queuing Penalty (veh)			0						0			
Storage Bay Dist (ft)	110			110	175			200			175	
Storage Blk Time (%)		3	5	0		1		1	25			
Queuing Penalty (veh)		1	21	1		0		2	60			

Zone Summary

Zone wide Queuing Penalty: 219

18042 Oxnard Costco Gasoline Expansion
Existing PM
With Additional NBR lane at North Rose Ave./Auto Center Dr./E. Ventura Blvd.

Scenario Report

Scenario:	Existing PM
Command:	Existing PM
Volume:	Existing PM
Geometry:	Default Geometry
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

18042 Oxnard Costco Gasoline Expansion
Existing PM
With Additional NBR lane at North Rose Ave./Auto Center Dr./E. Ventura Blvd.

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #1 N Rose Ave / Auto Center Dr / E Ventura Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.765
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	97	Level Of Service:	C

Street Name:	North Rose Avenue						Auto Center Drive / East Ventura					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	2	1 0	1 1	0	1 0	1 0	1	2 1	0 0	1
Volume Module:												
Base Vol:	217	693	642	148	797	28	7	95	232	902	185	219
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:	217	693	642	148	797	28	7	95	232	902	185	219
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:	217	693	642	148	797	28	7	95	232	902	185	219
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	217	693	642	148	797	28	7	95	232	902	185	219
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	217	693	642	148	797	28	7	95	232	902	185	219
OvlAdjVol:			0									
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	2.00	1.00	1.93	0.07	1.00	1.00	1.00	2.49	0.51	1.00
Final Sat.:	1600	3200	3200	1600	3091	109	1600	1600	1600	3983	817	1600
Capacity Analysis Module:												
Vol/Sat:	0.14	0.22	0.20	0.09	0.26	0.26	0.00	0.06	0.15	0.23	0.23	0.14
OvlAdjV/S:			0.00									
Crit Moves:	****				****				****	****		

18042 Oxnard Costco Gasoline Expansion
Existing PM
With Additional NBR lane at North Rose Ave./Auto Center Dr./E. Ventura Blvd.

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #2 Ventura Blvd / Auto Center Dr

Cycle (sec):	130	Critical Vol./Cap.(X):	0.455
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	50	Level Of Service:	A

Street Name:	Ventura Boulevard						Auto Center Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Split Phase			Split Phase			Permit+Prot			Permit+Prot		
Rights:	Include			Include			Include			Include		
Min. Green:	5	5	5	5	5	5	5	20	20	20	20	5
Y+R:	5.0	5.0	5.0	4.0	4.0	4.0	4.0	6.0	6.0	4.0	6.0	6.0
Lanes:	2 0	1 0	1	0 0	1! 0	0	1 0	2 0	1	1 0	1 1	0
Volume Module:												
Base Vol:	490	3	37	2	0	27	24	451	408	46	766	8
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:	490	3	37	2	0	27	24	451	408	46	766	8
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	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:	490	3	37	2	0	27	24	451	408	46	766	8
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	490	3	37	2	0	27	24	451	408	46	766	8
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	490	3	37	2	0	27	24	451	408	46	766	8
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.00	1.00	0.07	0.00	0.93	1.00	2.00	1.00	1.00	1.98	0.02
Final Sat.:	3200	1600	1600	110	0	1490	1600	3200	1600	1600	3167	33
Capacity Analysis Module:												
Vol/Sat:	0.15	0.00	0.02	0.02	0.00	0.02	0.02	0.14	0.26	0.03	0.24	0.24
Crit Moves:	****			****					****	****		

Intersection: 1: N. Rose Ave & Ventura Blvd/Auto Center Dr

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	R	L	L	LT	R	L	T	T	R	L
Maximum Queue (ft)	35	301	189	260	383	394	255	275	707	675	459	220
Average Queue (ft)	4	98	87	239	329	351	187	238	472	405	124	180
95th Queue (ft)	23	216	165	298	420	418	354	336	830	763	345	268
Link Distance (ft)		427			348	348			700	700	700	
Upstream Blk Time (%)					20	32			15	1	1	
Queuing Penalty (veh)					131	205			0	0	0	
Storage Bay Dist (ft)	140		165	235			230	250				195
Storage Blk Time (%)		6	1	14	33	50	0	53	4			16
Queuing Penalty (veh)		14	1	42	98	110	1	182	8			64

Intersection: 1: N. Rose Ave & Ventura Blvd/Auto Center Dr

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (ft)	363	361
Average Queue (ft)	295	254
95th Queue (ft)	436	405
Link Distance (ft)	339	339
Upstream Blk Time (%)	16	5
Queuing Penalty (veh)	0	0
Storage Bay Dist (ft)		
Storage Blk Time (%)	24	
Queuing Penalty (veh)	36	

Intersection: 2: Ventura Boulevard/Ford Dwy & Auto Center Dr

Movement	EB	EB	EB	EB	WB	WB	WB	B6	B6	B20	B20	B7
Directions Served	L	T	T	R	L	T	TR	T	T	T	T	T
Maximum Queue (ft)	79	184	244	135	188	654	679	101	124	36	34	29
Average Queue (ft)	12	67	93	74	59	311	341	27	31	11	11	5
95th Queue (ft)	47	143	191	142	182	716	741	206	216	108	108	61
Link Distance (ft)		348	348			740	740	445	445	271	271	626
Upstream Blk Time (%)			0			7	8	3	4	2	2	
Queuing Penalty (veh)			0			31	36	14	16	8	10	
Storage Bay Dist (ft)	110			110	175							
Storage Blk Time (%)		2	4	1	0	34						
Queuing Penalty (veh)		1	16	1	0	15						

Intersection: 2: Ventura Boulevard/Ford Dwy & Auto Center Dr

Movement	B7	NB	NB	NB	NB	SB
Directions Served	T	L	L	T	R	LTR
Maximum Queue (ft)	32	225	419	210	39	80
Average Queue (ft)	5	191	314	14	10	25
95th Queue (ft)	65	272	454	129	28	63
Link Distance (ft)	626		396	396		151
Upstream Blk Time (%)			14	1		0
Queuing Penalty (veh)			0	0		0
Storage Bay Dist (ft)		200			175	
Storage Blk Time (%)		3	40			
Queuing Penalty (veh)		8	98			

Zone Summary

Zone wide Queuing Penalty: 1148

Appendix E
Existing + Project Conditions
Level-of-Service Worksheets

18042 Oxnard Costco Gasoline Expansion
Existing + Project Midday

Scenario Report

Scenario:	Existing + Project Midday
Command:	Existing + Project Midday
Volume:	Existing + Project Midday
Geometry:	Default Geometry
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

18042 Oxnard Costco Gasoline Expansion
Existing + Project Midday

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #1 N Rose Ave / Auto Center Dr / E Ventura Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.678
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	71	Level Of Service:	B

Street Name:	North Rose Avenue						Auto Center Drive / East Ventura					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	1 1	0	1 0	1 0	1	2 1	0 0	1
Volume Module:												
Base Vol:	138	442	812	144	414	12	6	129	134	764	119	135
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:	138	442	812	144	414	12	6	129	134	764	119	135
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:	138	442	812	144	414	12	6	129	134	764	119	135
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	138	442	812	144	414	12	6	129	134	764	119	135
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	138	442	812	144	414	12	6	129	134	764	119	135
OvlAdjVol:			518									
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.94	0.06	1.00	1.00	1.00	2.60	0.40	1.00
Final Sat.:	1600	3200	1600	1600	3110	90	1600	1600	1600	4153	647	1600
Capacity Analysis Module:												
Vol/Sat:	0.09	0.14	0.51	0.09	0.13	0.13	0.00	0.08	0.08	0.18	0.18	0.08
OvlAdjV/S:			0.32									
Crit Moves:			****	****				****		****		

18042 Oxnard Costco Gasoline Expansion
Existing + Project Midday

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #2 Ventura Blvd / Auto Center Dr

Cycle (sec): 130 Critical Vol./Cap.(X): 0.481
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 50 Level Of Service: A

Street Name:	Ventura Boulevard						Auto Center Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Split Phase			Split Phase			Permit+Prot			Permit+Prot		
Rights:	Include			Include			Include			Include		
Min. Green:	5	5	5	5	5	5	5	20	20	20	20	5
Y+R:	5.0	5.0	5.0	4.0	4.0	4.0	4.0	6.0	6.0	4.0	6.0	6.0
Lanes:	2 0	1 0	1	0 0	1! 0	0	1 0	2 0	1	1 0	1 1	0
Volume Module:												
Base Vol:	484	3	46	6	6	36	30	608	451	28	482	14
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:	484	3	46	6	6	36	30	608	451	28	482	14
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:	484	3	46	6	6	36	30	608	451	28	482	14
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	484	3	46	6	6	36	30	608	451	28	482	14
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	484	3	46	6	6	36	30	608	451	28	482	14
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.00	1.00	0.12	0.12	0.76	1.00	2.00	1.00	1.00	1.94	0.06
Final Sat.:	3200	1600	1600	200	200	1200	1600	3200	1600	1600	3110	90
Capacity Analysis Module:												
Vol/Sat:	0.15	0.00	0.03	0.03	0.03	0.03	0.02	0.19	0.28	0.02	0.15	0.16
Crit Moves:	****				****				****	****		

18042 Oxnard Costco Gasoline Expansion
Existing + Project Midday

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #3 Paseo Mercado / Auto Center Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 0.424
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 40 Level Of Service: A

Street Name:	Paseo Mercado						Auto Center Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Permit+Prot		
Rights:	Include			Include			Include			Include		
Min. Green:	5	0	5	0	0	0	0	15	15	5	15	0
Y+R:	5.0	4.0	5.0	4.0	4.0	4.0	4.0	6.0	6.0	4.0	6.0	4.0
Lanes:	1 0	0	0 1	0 0	0 0	0	0 0	1	1 0	1 0	2 0	0
Volume Module:												
Base Vol:	162	0	197	0	0	0	0	472	161	165	422	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:	162	0	197	0	0	0	0	472	161	165	422	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:	162	0	197	0	0	0	0	472	161	165	422	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	162	0	197	0	0	0	0	472	161	165	422	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	162	0	197	0	0	0	0	472	161	165	422	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.49	0.51	1.00	2.00	0.00
Final Sat.:	1600	0	1600	0	0	0	0	2386	814	1600	3200	0
Capacity Analysis Module:												
Vol/Sat:	0.10	0.00	0.12	0.00	0.00	0.00	0.00	0.20	0.20	0.10	0.13	0.00
Crit Moves:			****					****		****		

18042 Oxnard Costco Gasoline Expansion
Existing + Project Midday

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #5 Rice Ave / Santa Clara Ave / Auto Center Dr

Cycle (sec):	105	Critical Vol./Cap.(X):	0.364
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	31	Level Of Service:	A

Street Name:	Rice Avenue / Santa Clara Avenue								Auto Center Drive							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Protected				Permitted				Protected				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	5	10	0	0	10	10			6	6	6		10	10	10	
Y+R:	4.8	5.0	4.0		5.0	5.0	5.0		4.8	4.8	4.8		5.0	5.0	5.0	
Lanes:	2	0	2	0 0	0	0	3	0 1	2	0	0	0 2	1	1	0	1 0
Volume Module:																
Base Vol:	294	338	0	0	424	99	130		0	542	364	305	22			
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:	294	338	0	0	424	99	130		0	542	364	305	22			
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:	294	338	0	0	424	99	130		0	542	364	305	22			
Reduct Vol:	0	0	0	0	0	0	0		0	0	0	0	0			
Reduced Vol:	294	338	0	0	424	99	130		0	542	364	305	22			
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00			
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00			
FinalVolume:	294	338	0	0	424	99	130		0	542	364	305	22			
Saturation Flow Module:																
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600		1600	1600	1600	1600	1600			
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00			
Lanes:	2.00	2.00	0.00	0.00	3.00	1.00	2.00		0.00	2.00	1.58	1.33	0.09			
Final Sat.:	3200	3200	0	0	4800	1600	3200		0	3200	2523	2123	153			
Capacity Analysis Module:																
Vol/Sat:	0.09	0.11	0.00	0.00	0.09	0.06	0.04		0.00	0.17	0.14	0.14	0.14			
Crit Moves:	****				****		****					****				

Intersection	
Int Delay, s/veh	97.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	24	363	193	284	404	34	146	2	194	26	1	27
Future Vol, veh/h	24	363	193	284	404	34	146	2	194	26	1	27
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	205	-	-	200	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	363	193	284	404	34	146	2	194	26	1	27

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	438	0	0	556	0	0	1279	1514	278	1220	1593	219
Stage 1	-	-	-	-	-	-	508	508	-	989	989	-
Stage 2	-	-	-	-	-	-	771	1006	-	231	604	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1118	-	-	1011	-	-	~ 123	119	719	136	106	785
Stage 1	-	-	-	-	-	-	516	537	-	265	323	-
Stage 2	-	-	-	-	-	-	359	317	-	751	486	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1118	-	-	1011	-	-	~ 91	84	719	75	75	785
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 91	84	-	75	75	-
Stage 1	-	-	-	-	-	-	505	525	-	259	232	-
Stage 2	-	-	-	-	-	-	248	228	-	535	476	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	3.9	$ 468.6	47.4
HCM LOS			F	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	180	1118	-	-	1011	-	-	137
HCM Lane V/C Ratio	1.9	0.021	-	-	0.281	-	-	0.394
HCM Control Delay (s)	$ 468.6	8.3	-	-	9.9	-	-	47.4
HCM Lane LOS	F	A	-	-	A	-	-	E
HCM 95th %tile Q(veh)	25.3	0.1	-	-	1.2	-	-	1.7

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

18042 Oxnard Costco Gasoline Expansion
Existing + Project PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #2 Ventura Blvd / Auto Center Dr

Cycle (sec):	130	Critical Vol./Cap.(X):	0.455
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	50	Level Of Service:	A

Street Name:	Ventura Boulevard						Auto Center Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Split Phase			Split Phase			Permit+Prot			Permit+Prot		
Rights:	Include			Include			Include			Include		
Min. Green:	5	5	5	5	5	5	5	20	20	20	20	5
Y+R:	5.0	5.0	5.0	4.0	4.0	4.0	4.0	6.0	6.0	4.0	6.0	6.0
Lanes:	2 0	1 0	1	0 0	1! 0	0	1 0	2 0	1	1 0	1 1	0
Volume Module:												
Base Vol:	490	3	37	2	0	27	24	512	408	46	801	8
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:	490	3	37	2	0	27	24	512	408	46	801	8
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	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:	490	3	37	2	0	27	24	512	408	46	801	8
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	490	3	37	2	0	27	24	512	408	46	801	8
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	490	3	37	2	0	27	24	512	408	46	801	8
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.00	1.00	0.07	0.00	0.93	1.00	2.00	1.00	1.00	1.98	0.02
Final Sat.:	3200	1600	1600	110	0	1490	1600	3200	1600	1600	3168	32
Capacity Analysis Module:												
Vol/Sat:	0.15	0.00	0.02	0.02	0.00	0.02	0.02	0.16	0.26	0.03	0.25	0.25
Crit Moves:	****			****					****	****		

18042 Oxnard Costco Gasoline Expansion
Existing + Project PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #3 Paseo Mercado / Auto Center Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.410
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	39	Level Of Service:	A

Street Name:	Paseo Mercado						Auto Center Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Permit+Prot		
Rights:	Include			Include			Include			Include		
Min. Green:	5	0	5	0	0	0	0	15	15	5	15	0
Y+R:	5.0	4.0	5.0	4.0	4.0	4.0	4.0	6.0	6.0	4.0	6.0	4.0
Lanes:	1 0	0	0 1	0 0	0 0	0 0	0 0	1	1 0	1 0	2 0	0
Volume Module:												
Base Vol:	189	0	145	0	0	0	0	507	132	148	693	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:	189	0	145	0	0	0	0	507	132	148	693	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:	189	0	145	0	0	0	0	507	132	148	693	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	189	0	145	0	0	0	0	507	132	148	693	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	189	0	145	0	0	0	0	507	132	148	693	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.59	0.41	1.00	2.00	0.00
Final Sat.:	1600	0	1600	0	0	0	0	2539	661	1600	3200	0
Capacity Analysis Module:												
Vol/Sat:	0.12	0.00	0.09	0.00	0.00	0.00	0.00	0.20	0.20	0.09	0.22	0.00
Crit Moves:	****							****		****		

18042 Oxnard Costco Gasoline Expansion
Existing + Project PM Peak Hour

Scenario Report

Scenario:	Existing + Project PM
Command:	Existing + Project PM
Volume:	Existing + Project PM
Geometry:	Default Geometry
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

18042 Oxnard Costco Gasoline Expansion
Existing + Project PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #1 N Rose Ave / Auto Center Dr / E Ventura Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.771
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	99	Level Of Service:	C

Street Name:	North Rose Avenue						Auto Center Drive / East Ventura											
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	1 1	0	1 0	1 0	1	2 1	0 0	1
Volume Module:												
Base Vol:	217	692	667	152	798	28	6	126	231	915	201	224
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:	217	692	667	152	798	28	6	126	231	915	201	224
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:	217	692	667	152	798	28	6	126	231	915	201	224
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	217	692	667	152	798	28	6	126	231	915	201	224
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	217	692	667	152	798	28	6	126	231	915	201	224
OvlAdjVol:			295									
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.93	0.07	1.00	1.00	1.00	2.46	0.54	1.00
Final Sat.:	1600	3200	1600	1600	3092	108	1600	1600	1600	3935	865	1600
Capacity Analysis Module:												
Vol/Sat:	0.14	0.22	0.42	0.10	0.26	0.26	0.00	0.08	0.14	0.23	0.23	0.14
OvlAdjV/S:			0.18									
Crit Moves:	****				****				****	****		

18042 Oxnard Costco Gasoline Expansion
Existing + Project PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #5 Rice Ave / Santa Clara Ave / Auto Cetter Dr

Cycle (sec):	105	Critical Vol./Cap.(X):	0.556
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	42	Level Of Service:	A

Street Name: Rice Avenue / Santa Clara Avenue Auto Center Drive

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Protected				Permitted				Protected				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	5	10	0	0	10	10			6	6	6		10	10	10	
Y+R:	4.8	5.0	4.0		5.0	5.0	5.0		4.8	4.8	4.8		5.0	5.0	5.0	
Lanes:	2	0	2	0 0	0	0	3	0 1	2	0	0	0 2	1	1	0	1 0
Volume Module:																
Base Vol:	407	663	0	0	875	161	155	0	556	593	348	11				
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:	407	663	0	0	875	161	155	0	556	593	348	11				
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:	407	663	0	0	875	161	155	0	556	593	348	11				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
Reduced Vol:	407	663	0	0	875	161	155	0	556	593	348	11				
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
FinalVolume:	407	663	0	0	875	161	155	0	556	593	348	11				
Saturation Flow Module:																
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600				
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Lanes:	2.00	2.00	0.00	0.00	3.00	1.00	2.00	0.00	2.00	1.87	1.10	0.03				
Final Sat.:	3200	3200	0	0	4800	1600	3200	0	3200	2989	1755	55				
Capacity Analysis Module:																
Vol/Sat:	0.13	0.21	0.00	0.00	0.18	0.10	0.05	0.00	0.17	0.20	0.20	0.20				
Crit Moves:	****				****		****				****					

Intersection	
Int Delay, s/veh	124.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	36	471	182	223	641	63	143	0	199	32	6	37
Future Vol, veh/h	36	471	182	223	641	63	143	0	199	32	6	37
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	205	-	-	200	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	36	471	182	223	641	63	143	0	199	32	6	37

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	704	0	0	653	0	0	1404	1784	327	1427	1844	352
Stage 1	-	-	-	-	-	-	634	634	-	1119	1119	-
Stage 2	-	-	-	-	-	-	770	1150	-	308	725	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	890	-	-	930	-	-	~ 99	81	669	96	74	644
Stage 1	-	-	-	-	-	-	434	471	-	220	280	-
Stage 2	-	-	-	-	-	-	359	271	-	677	428	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	890	-	-	930	-	-	~ 68	59	669	53	54	644
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 68	59	-	53	54	-
Stage 1	-	-	-	-	-	-	416	452	-	211	213	-
Stage 2	-	-	-	-	-	-	250	206	-	456	411	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	2.4	$ 704.9	115.7
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	142	890	-	-	930	-	-	97
HCM Lane V/C Ratio	2.408	0.04	-	-	0.24	-	-	0.773
HCM Control Delay (s)	$ 704.9	9.2	-	-	10.1	-	-	115.7
HCM Lane LOS	F	A	-	-	B	-	-	F
HCM 95th %tile Q(veh)	29.4	0.1	-	-	0.9	-	-	4.1

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Appendix F
MUTCD Volume-Based Signal Warrant Evaluation

Signal Warrant Assessment

Based on 2009 Edition of the MUTCD

Project #:	18042
Project Name:	Oxnard Costco Preliminary Warrant Review
Analyst:	JWB
Date:	4/18/2017
Intersection:	Auto Center Drive/Eastern Costco Access
Scenario:	Existing Plus Project Conditions

Volume Adjustment Factor =	1.0
North-South Approach =	Minor
East-West Approach =	Major
Major Street Thru Lanes =	2
Minor Street Thru Lanes =	1
Speed > 40 mph?	No
Population < 10,000?	No
Warrant Factor	100%
Peak Hour or Daily Count?	Peak Hour

Note: Add'l data input on sheet "Warrant 3".

Warrant Summary

Warrant	Name	Analyzed?	Met?
#1	Eight-Highest	Yes	Yes
#2	Four-Hour	Yes	Yes
#3	Peak Hour	Yes	Yes

**This signal warrant shall be applied only in unusual cases, such as office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time.*

Select Type Of Major Street Approach From Dropdown Menu	Urban Minor Arterial
Select Type Of Minor Street Approach From Dropdown Menu	Urban Minor Arterial

Note: traffic volume profile for weekday (if weekend is desired, tab "vol profile" needs to be adjusted)

Traffic Volumes

Hour		Major Street		Minor Street		Major St.	Minor St.
Begin	End	EB	WB	NB	SB	Adj. Factor	Adj. Factor
5:00 PM	6:00 PM	702	952	375	75	1.00	1.00
2nd Highest Hour		665	901	355	71	0.95	0.95
3rd Highest Hour		655	889	350	70	0.93	0.93
4th Highest Hour		627	850	335	67	0.89	0.89
5th Highest Hour		618	838	330	66	0.88	0.88
6th Highest Hour		618	838	330	66	0.88	0.88
7th Highest Hour		590	800	315	63	0.84	0.84
8th Highest Hour		580	787	310	62	0.83	0.83
9th Highest Hour		562	762	300	60	0.80	0.80
10th Highest Hour		524	711	280	56	0.75	0.75
11th Highest Hour		505	685	270	54	0.72	0.72
12th Highest Hour		496	673	265	53	0.71	0.71
13th Highest Hour		477	647	255	51	0.68	0.68
14th Highest Hour		412	559	220	44	0.59	0.59
15th Highest Hour		328	444	175	35	0.47	0.47
16th Highest Hour		309	419	165	33	0.44	0.44
17th Highest Hour		215	292	115	23	0.31	0.31
18th Highest Hour		178	241	95	19	0.25	0.25
19th Highest Hour		94	127	50	10	0.13	0.13
20th Highest Hour		66	89	35	7	0.09	0.09
21st Highest Hour		56	76	30	6	0.08	0.08
22nd Highest Hour		37	51	20	4	0.05	0.05
23rd Highest Hour		19	25	10	2	0.03	0.03
24th Highest Hour		19	25	10	2	0.03	0.03

Data Input

KITTELSON & ASSOCIATES, INC.
610 SW Alder, Suite 700
Portland, Oregon 97205
(503) 228-5230

Project #: 18042
Project Name: Oxnard Costco Preliminary Warrant Review
Analyst: JWB
Date: 4/18/2017
File: K:\H_Bend\projfile\18042 - Oxnard Costco Gasoline Expansion\Excel\[Signal Warrant Analysis 9.15.2016.xlsm]Data Input
Intersection: Auto Center Drive/Eastern Costco Access
Scenario: Existing Plus Project Conditions

Analysis Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	EB	WB	NB	SB
5:00 PM	6:00 PM	702	952	375	75
2nd Highest Hour		665	901	355	71
3rd Highest Hour		655	889	350	70
4th Highest Hour		627	850	335	67
5th Highest Hour		618	838	330	66
6th Highest Hour		618	838	330	66
7th Highest Hour		590	800	315	63
8th Highest Hour		580	787	310	62
9th Highest Hour		562	762	300	60
10th Highest Hour		524	711	280	56
11th Highest Hour		505	685	270	54
12th Highest Hour		496	673	265	53
13th Highest Hour		477	647	255	51
14th Highest Hour		412	559	220	44
15th Highest Hour		328	444	175	35
16th Highest Hour		309	419	165	33
17th Highest Hour		215	292	115	23
18th Highest Hour		178	241	95	19
19th Highest Hour		94	127	50	10
20th Highest Hour		66	89	35	7
21st Highest Hour		56	76	30	6
22nd Highest Hour		37	51	20	4
23rd Highest Hour		19	25	10	2
24th Highest Hour		19	25	10	2

Warrant Summary

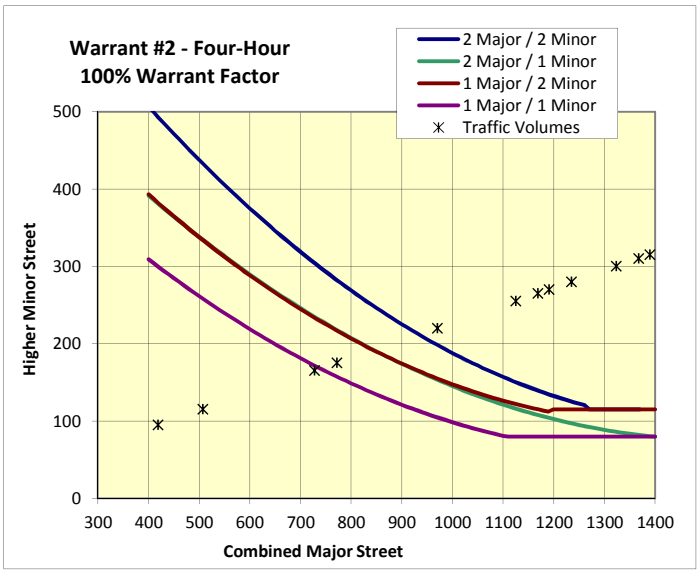
Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	Yes
#2	Four-Hour Vehicular volume	Yes	Yes
#3	Peak Hour	Yes	Yes
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	No	-
#8	Roadway Network	No	-
#9	Intersection Near a Grade Crossing	No	-

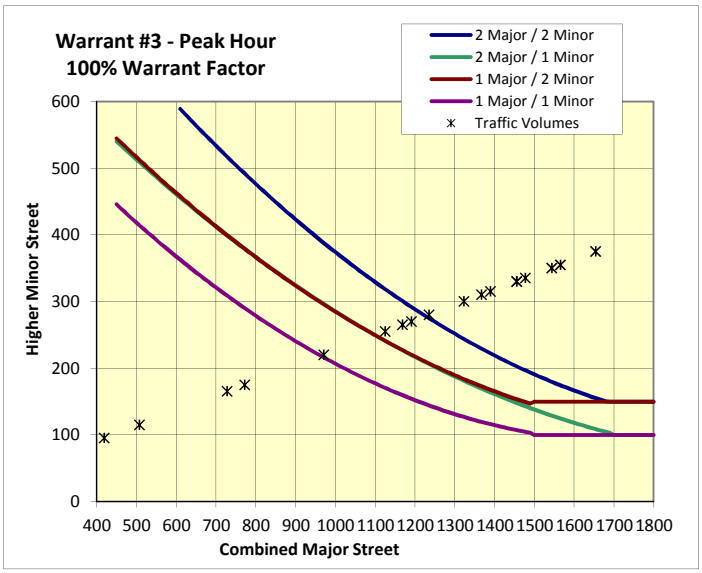
Input Parameters

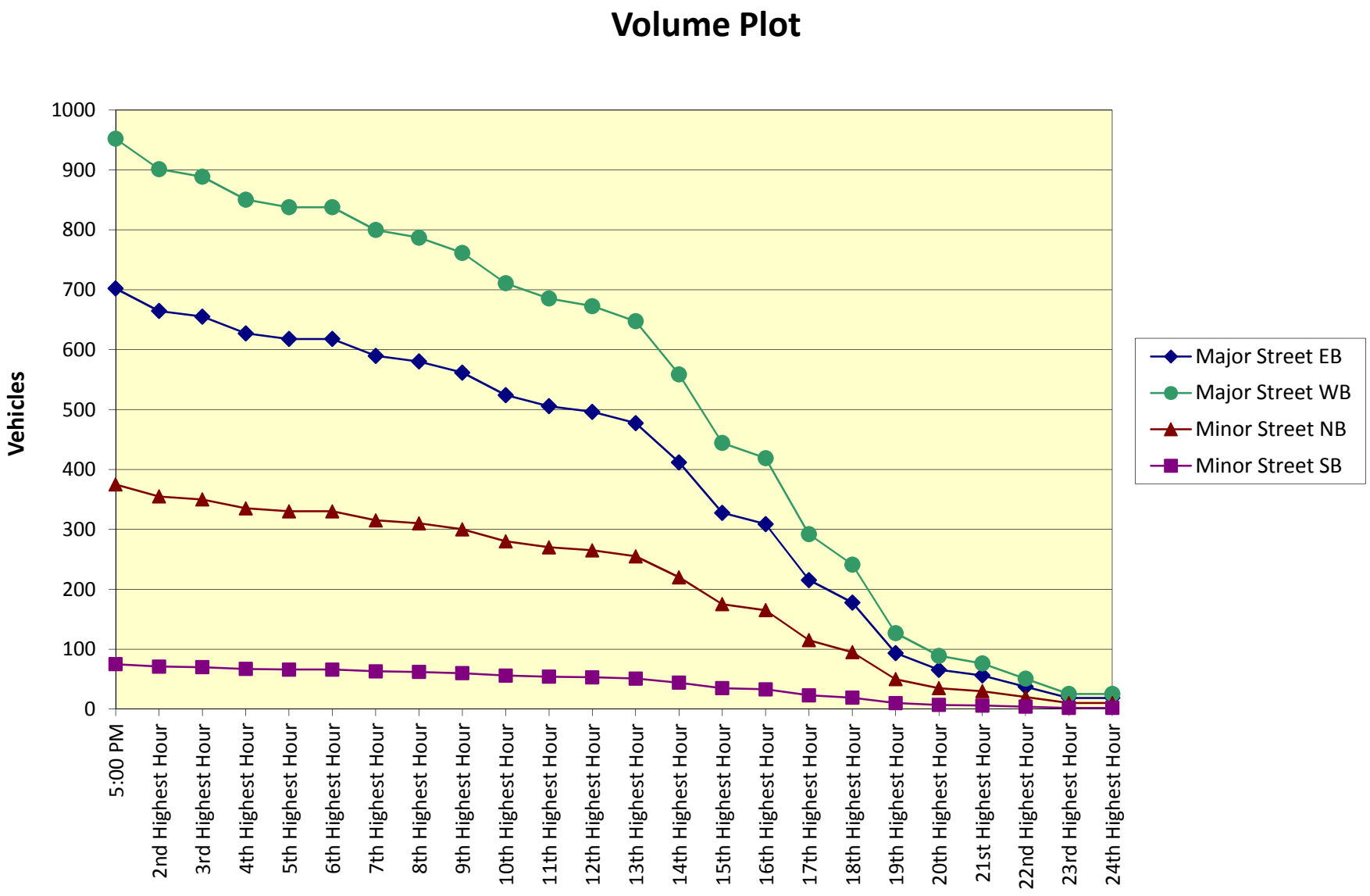
Volume Adjustment Factor =	1.0
North-South Approach =	Minor
East-West Approach =	Major
Major Street Thru Lanes =	2
Minor Street Thru Lanes =	1
Speed > 40 mph?	No
Population < 10,000?	No
Warrant Factor	100%
Peak Hour or Daily Count?	Peak Hour
Major Street: 4th-Highest Hour / Peak Hour	89%
Major Street: 8th-Highest Hour / Peak Hour	83%
Minor Street: 4th-Highest Hour / Peak Hour	89%
Minor Street: 8th-Highest Hour / Peak Hour	83%

Warrant #1 - Eight Hour

Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	600	150	16	Yes	**Yes**
	B	900	75	14	Yes	
80%	A	480	120	16	Yes	**Yes**
	B	720	60	16	Yes	
70%	A	420	105	17	Yes	**Yes**
	B	630	53	16	Yes	






Volume Plot
Vehicles
1000
900
800
700
600
500
400
300
200
100
0
5:00 PM
2nd Highest Hour
3rd Highest Hour
4th Highest Hour
5th Highest Hour
6th Highest Hour
7th Highest Hour
8th Highest Hour
9th Highest Hour
10th Highest Hour
11th Highest Hour
12th Highest Hour
13th Highest Hour
14th Highest Hour
15th Highest Hour
16th Highest Hour
17th Highest Hour
18th Highest Hour
19th Highest Hour
20th Highest Hour
21st Highest Hour
22nd Highest Hour
23rd Highest Hour
24th Highest Hour
Major Street EB
Major Street WB
Minor Street NB
Minor Street SB

Volume Plot

Appendix G
Existing + Project Conditions (Mitigated) Level-of-Service & Queuing Analysis Worksheets

18042 Oxnard Costco Gas Expansion
Existing + Project Midday Peak Hour - with Mitigation

Scenario Report

Scenario:	Existing + Project Midday
Command:	Existing + Project Midday
Volume:	Existing + Project Midday
Geometry:	Default Geometry
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

18042 Oxnard Costco Gas Expansion
Existing + Project Midday Peak Hour - with Mitigation

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #4 E Costco Dwy / Auto Center Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.414
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	39	Level Of Service:	A

Street Name:	Eastern Costco Driveway						Auto Center Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Split Phase			Split Phase			Prot+Permit			Prot+Permit		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 1	0	0 1	0 1	0	0 1	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	146	2	194	26	1	27	24	363	193	284	404	34
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:	146	2	194	26	1	27	24	363	193	284	404	34
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:	146	2	194	26	1	27	24	363	193	284	404	34
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	146	2	194	26	1	27	24	363	193	284	404	34
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	146	2	194	26	1	27	24	363	193	284	404	34
OvlAdjVol:			0									
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.97	0.03	1.00	0.96	0.04	1.00	1.00	1.31	0.69	1.00	1.84	0.16
Final Sat.:	3157	43	1600	1541	59	1600	1600	2089	1111	1600	2952	248
Capacity Analysis Module:												
Vol/Sat:	0.05	0.05	0.12	0.02	0.02	0.02	0.02	0.17	0.17	0.18	0.14	0.14
OvlAdjV/S:			0.00									
Crit Moves:	****			****				****		****		

Intersection: 4: E. Costco Dwy/Los Olivos & Auto Center Dr

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	LT	R	L	TR
Maximum Queue (ft)	58	274	312	191	183	129	85	113	90	55	58
Average Queue (ft)	15	112	172	103	57	50	34	54	45	16	19
95th Queue (ft)	44	212	274	174	127	103	71	94	75	44	48
Link Distance (ft)		757	757		997	997		218			335
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	200			190			100		165	100	
Storage Blk Time (%)		0		0	0		0	1			
Queuing Penalty (veh)		0		1	0		0	2			

Intersection: 6: E. Costco Dwy

Movement	EB	WB	NB	SB	SB
Directions Served	LTR	LTR	LTR	L	TR
Maximum Queue (ft)	70	125	20	57	7
Average Queue (ft)	25	53	1	21	0
95th Queue (ft)	56	93	9	51	8
Link Distance (ft)	111	201	409		218
Upstream Blk Time (%)	0	0			
Queuing Penalty (veh)	0	0			
Storage Bay Dist (ft)				40	
Storage Blk Time (%)				1	0
Queuing Penalty (veh)				4	0

Zone Summary

Zone wide Queuing Penalty: 7

18042 Oxnard Costco Gas Expansion
Existing + Project PM Peak Hour - with Mitigation

Scenario Report

Scenario:	Existing + Project PM
Command:	Existing + Project PM
Volume:	Existing + Project PM
Geometry:	Default Geometry
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

18042 Oxnard Costco Gas Expansion
Existing + Project PM Peak Hour - with Mitigation

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #4 E Costco Dwy / Auto Center Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.412
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	39	Level Of Service:	A

Street Name:	Eastern Costco Driveway						Auto Center Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Split Phase			Split Phase			Prot+Permit			Prot+Permit		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 1	0 0	1	0 1	0 0	1	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	143	0	199	32	6	37	36	471	182	223	641	63
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:	143	0	199	32	6	37	36	471	182	223	641	63
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:	143	0	199	32	6	37	36	471	182	223	641	63
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	143	0	199	32	6	37	36	471	182	223	641	63
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	143	0	199	32	6	37	36	471	182	223	641	63
OvlAdjVol:			0									
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	0.00	1.00	0.84	0.16	1.00	1.00	1.44	0.56	1.00	1.82	0.18
Final Sat.:	3200	0	1600	1347	253	1600	1600	2308	892	1600	2914	286
Capacity Analysis Module:												
Vol/Sat:	0.04	0.00	0.12	0.02	0.02	0.02	0.02	0.20	0.20	0.14	0.22	0.22
OvlAdjV/S:			0.00									
Crit Moves:	****			****				****		****		

Intersection: 4: E. Costco Dwy/Los Olivos & Auto Center Dr

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	LT	R	L	TR
Maximum Queue (ft)	93	280	326	186	226	221	97	127	112	59	69
Average Queue (ft)	24	116	178	90	89	98	31	58	48	20	27
95th Queue (ft)	61	219	287	156	175	179	72	103	88	51	56
Link Distance (ft)		757	757		996	996		208			335
Upstream Blk Time (%)								0			
Queuing Penalty (veh)								0			
Storage Bay Dist (ft)	200			190			100		165	100	
Storage Blk Time (%)		0		0	0		0	1	0		0
Queuing Penalty (veh)		0		1	1		0	4	0		0

Intersection: 6: E. Costco Dwy

Movement	EB	WB	NB	SB	SB
Directions Served	LTR	LTR	LTR	L	TR
Maximum Queue (ft)	57	98	11	56	7
Average Queue (ft)	22	47	0	22	0
95th Queue (ft)	47	79	6	51	7
Link Distance (ft)	118	200	315		208
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)				40	
Storage Blk Time (%)				1	
Queuing Penalty (veh)				3	

Zone Summary

Zone wide Queuing Penalty: 9

Appendix H
Existing + Project Conditions
Alternative Lane Configuration
Level-of-Service &
Queuing Analysis Worksheets

18042 Oxnard Costco Gas Expansion
Existing + Project Midday Peak Hour
With Additional NBR lane at North Rose Ave./Auto Center Dr./E. Ventura Blvd.

Scenario Report

Scenario:	Existing + Project Midday
Command:	Existing + Project Midday
Volume:	Existing + Project Midday
Geometry:	Default Geometry
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

18042 Oxnard Costco Gas Expansion
Existing + Project Midday Peak Hour
With Additional NBR lane at North Rose Ave./Auto Center Dr./E. Ventura Blvd.

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #1 N Rose Ave / Auto Center Dr / E Ventura Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.493
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	45	Level Of Service:	A

Street Name:	North Rose Avenue						Auto Center Drive / East Ventura					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	2	1 0	1 1	0	1 0	1 0	1	2 1	0 0	1
Volume Module:												
Base Vol:	138	442	812	144	414	12	6	129	134	764	119	135
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:	138	442	812	144	414	12	6	129	134	764	119	135
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:	138	442	812	144	414	12	6	129	134	764	119	135
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	138	442	812	144	414	12	6	129	134	764	119	135
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	138	442	812	144	414	12	6	129	134	764	119	135
OvlAdjVol:			223									
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	2.00	1.00	1.94	0.06	1.00	1.00	1.00	2.60	0.40	1.00
Final Sat.:	1600	3200	3200	1600	3110	90	1600	1600	1600	4153	647	1600
Capacity Analysis Module:												
Vol/Sat:	0.09	0.14	0.25	0.09	0.13	0.13	0.00	0.08	0.08	0.18	0.18	0.08
OvlAdjV/S:			0.07									
Crit Moves:		****		****				****		****		

18042 Oxnard Costco Gas Expansion
Existing + Project Midday Peak Hour
With Additional NBR lane at North Rose Ave./Auto Center Dr./E. Ventura Blvd.

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #2 Ventura Blvd / Auto Center Dr

Cycle (sec):	130	Critical Vol./Cap.(X):	0.481
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	50	Level Of Service:	A

Street Name:	Ventura Boulevard						Auto Center Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Split Phase			Split Phase			Permit+Prot			Permit+Prot		
Rights:	Include			Include			Include			Include		
Min. Green:	5	5	5	5	5	5	5	20	20	20	20	5
Y+R:	5.0	5.0	5.0	4.0	4.0	4.0	4.0	6.0	6.0	4.0	6.0	6.0
Lanes:	2 0	1 0	1	0 0	1! 0	0	1 0	2 0	1	1 0	1 1	0
Volume Module:												
Base Vol:	484	3	46	6	6	36	30	608	451	28	482	14
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:	484	3	46	6	6	36	30	608	451	28	482	14
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:	484	3	46	6	6	36	30	608	451	28	482	14
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	484	3	46	6	6	36	30	608	451	28	482	14
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	484	3	46	6	6	36	30	608	451	28	482	14
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.00	1.00	0.12	0.12	0.76	1.00	2.00	1.00	1.00	1.94	0.06
Final Sat.:	3200	1600	1600	200	200	1200	1600	3200	1600	1600	3110	90
Capacity Analysis Module:												
Vol/Sat:	0.15	0.00	0.03	0.03	0.03	0.03	0.02	0.19	0.28	0.02	0.15	0.16
Crit Moves:	****				****				****	****		

Intersection: 1: N. Rose Ave & Ventura Blvd/Auto Center Dr

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	T	R	L	L	LT	R	L	T	T	R	R
Maximum Queue (ft)	58	271	170	260	361	371	255	222	291	250	185	168
Average Queue (ft)	6	106	50	190	244	280	130	109	131	90	73	58
95th Queue (ft)	33	205	109	275	349	384	315	203	233	196	148	129
Link Distance (ft)		427			335	335			700	700	700	
Upstream Blk Time (%)		0			3	8						
Queuing Penalty (veh)		0			16	40						
Storage Bay Dist (ft)	140		165	235			230	250				275
Storage Blk Time (%)		6	0	3	10	29	0	2	0			
Queuing Penalty (veh)		8	0	6	26	39	0	4	0			

Intersection: 1: N. Rose Ave & Ventura Blvd/Auto Center Dr

Movement	SB	SB	SB
Directions Served	L	T	TR
Maximum Queue (ft)	218	296	257
Average Queue (ft)	124	142	95
95th Queue (ft)	208	268	213
Link Distance (ft)		339	339
Upstream Blk Time (%)		1	0
Queuing Penalty (veh)		0	0
Storage Bay Dist (ft)	195		
Storage Blk Time (%)	4	2	
Queuing Penalty (veh)	9	3	

Intersection: 2: Ventura Boulevard/Ford Dwy & Auto Center Dr

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	TR	L	L	T	R	LTR
Maximum Queue (ft)	104	277	296	135	104	203	219	225	417	103	47	86
Average Queue (ft)	18	99	97	71	19	76	89	179	277	4	10	32
95th Queue (ft)	67	204	220	144	63	159	178	267	406	63	27	72
Link Distance (ft)		335	335			740	740		396	396		151
Upstream Blk Time (%)		0	0						3	0		
Queuing Penalty (veh)		0	0						0	0		
Storage Bay Dist (ft)	110			110	175			200			175	
Storage Blk Time (%)	0	5	4	1		1		1	24			
Queuing Penalty (veh)	0	2	17	2		0		2	59			

Zone Summary

Zone wide Queuing Penalty: 235

18042 Oxnard Costco Gas Expansion
Existing + Project PM Peak Hour
With Additional NBR lane at North Rose Ave./Auto Center Dr./E. Ventura Blvd.

Scenario Report

Scenario:	Existing + Project PM
Command:	Existing + Project PM
Volume:	Existing + Project PM
Geometry:	Default Geometry
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

18042 Oxnard Costco Gas Expansion
Existing + Project PM Peak Hour
With Additional NBR lane at North Rose Ave./Auto Center Dr./E. Ventura Blvd.

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #1 N Rose Ave / Auto Center Dr / E Ventura Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.771
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	99	Level Of Service:	C

Street Name:	North Rose Avenue						Auto Center Drive / East Ventura					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	2	1 0	1 1	0	1 0	1 0	1	2 1	0 0	1
Volume Module:												
Base Vol:	217	692	667	152	798	28	6	126	231	915	201	224
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:	217	692	667	152	798	28	6	126	231	915	201	224
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:	217	692	667	152	798	28	6	126	231	915	201	224
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	217	692	667	152	798	28	6	126	231	915	201	224
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	217	692	667	152	798	28	6	126	231	915	201	224
OvlAdjVol:			0									
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	2.00	1.00	1.93	0.07	1.00	1.00	1.00	2.46	0.54	1.00
Final Sat.:	1600	3200	3200	1600	3092	108	1600	1600	1600	3935	865	1600
Capacity Analysis Module:												
Vol/Sat:	0.14	0.22	0.21	0.10	0.26	0.26	0.00	0.08	0.14	0.23	0.23	0.14
OvlAdjV/S:			0.00									
Crit Moves:	****				****				****	****		

18042 Oxnard Costco Gas Expansion
Existing + Project PM Peak Hour
With Additional NBR lane at North Rose Ave./Auto Center Dr./E. Ventura Blvd.

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #2 Ventura Blvd / Auto Center Dr

Cycle (sec):	130	Critical Vol./Cap.(X):	0.455
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	50	Level Of Service:	A

Street Name:	Ventura Boulevard						Auto Center Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Split Phase			Split Phase			Permit+Prot			Permit+Prot		
Rights:	Include			Include			Include			Include		
Min. Green:	5	5	5	5	5	5	5	20	20	20	20	5
Y+R:	5.0	5.0	5.0	4.0	4.0	4.0	4.0	6.0	6.0	4.0	6.0	6.0
Lanes:	2 0	1 0	1	0 0	1! 0	0	1 0	2 0	1	1 0	1 1	0
Volume Module:												
Base Vol:	490	3	37	2	0	27	24	512	408	46	801	8
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:	490	3	37	2	0	27	24	512	408	46	801	8
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	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:	490	3	37	2	0	27	24	512	408	46	801	8
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	490	3	37	2	0	27	24	512	408	46	801	8
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	490	3	37	2	0	27	24	512	408	46	801	8
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.00	1.00	0.07	0.00	0.93	1.00	2.00	1.00	1.00	1.98	0.02
Final Sat.:	3200	1600	1600	110	0	1490	1600	3200	1600	1600	3168	32
Capacity Analysis Module:												
Vol/Sat:	0.15	0.00	0.02	0.02	0.00	0.02	0.02	0.16	0.26	0.03	0.25	0.25
Crit Moves:	****			****					****	****		

Intersection: 1: N. Rose Ave & Ventura Blvd/Auto Center Dr

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	T	R	L	L	LT	R	L	T	T	R	R
Maximum Queue (ft)	60	382	190	260	376	376	255	275	698	662	326	174
Average Queue (ft)	6	139	99	241	328	346	188	234	420	357	69	54
95th Queue (ft)	37	299	190	293	402	394	358	328	782	702	211	124
Link Distance (ft)		427			338	338			700	700	700	
Upstream Blk Time (%)		2			21	33			11	0	0	
Queuing Penalty (veh)		0			139	215			0	0	0	
Storage Bay Dist (ft)	140		165	235			230	250				275
Storage Blk Time (%)		13	1	13	34	49	0	44	2			
Queuing Penalty (veh)		31	2	39	103	110	1	153	4			

Intersection: 1: N. Rose Ave & Ventura Blvd/Auto Center Dr

Movement	SB	SB	SB
Directions Served	L	T	TR
Maximum Queue (ft)	220	373	359
Average Queue (ft)	179	307	262
95th Queue (ft)	270	435	406
Link Distance (ft)		339	339
Upstream Blk Time (%)		18	5
Queuing Penalty (veh)		0	0
Storage Bay Dist (ft)	195		
Storage Blk Time (%)	19	26	
Queuing Penalty (veh)	76	39	

Intersection: 2: Ventura Boulevard/Ford Dwy & Auto Center Dr

Movement	EB	EB	EB	EB	WB	WB	WB	B6	B6	B20	B20	B7
Directions Served	L	T	T	R	L	T	TR	T	T	T	T	T
Maximum Queue (ft)	66	202	239	135	200	721	729	177	184	74	71	64
Average Queue (ft)	12	86	83	68	54	364	386	69	72	33	34	13
95th Queue (ft)	41	162	189	137	169	833	845	347	350	192	195	102
Link Distance (ft)		338	338			740	740	445	445	271	271	626
Upstream Blk Time (%)			0			15	18	10	11	6	7	
Queuing Penalty (veh)			0			68	80	45	49	28	31	
Storage Bay Dist (ft)	110			110	175							
Storage Blk Time (%)		4	3	1		38						
Queuing Penalty (veh)		1	11	2		17						

Intersection: 2: Ventura Boulevard/Ford Dwy & Auto Center Dr

Movement	B7	NB	NB	NB	NB	SB
Directions Served	T	L	L	T	R	LTR
Maximum Queue (ft)	67	225	432	286	38	82
Average Queue (ft)	15	191	321	20	8	25
95th Queue (ft)	113	274	455	156	25	62
Link Distance (ft)	626		396	396		151
Upstream Blk Time (%)			14	1		
Queuing Penalty (veh)			0	0		
Storage Bay Dist (ft)		200			175	
Storage Blk Time (%)		3	40			
Queuing Penalty (veh)		7	99			

Zone Summary

Zone wide Queuing Penalty: 1349

Appendix I
Cumulative Conditions
Level-of-Service Worksheets

18042 Oxnard Costco Gasoline Expansion
Cumulative Midday

Scenario Report

Scenario:	Cumulative Midday
Command:	Cumulative Midday
Volume:	Cumulative Midday
Geometry:	Default Geometry
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

18042 Oxnard Costco Gasoline Expansion
Cumulative Midday

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #1 N Rose Ave / Auto Center Dr / E Ventura Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.702
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	77	Level Of Service:	C

Street Name:	North Rose Avenue						Auto Center Drive / East Ventura					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	1 1	0	1 0	1 0	1	2 1	0 0	1
Volume Module:												
Base Vol:	138	443	843	146	413	12	7	99	135	799	104	135
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:	138	443	843	146	413	12	7	99	135	799	104	135
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:	138	443	843	146	413	12	7	99	135	799	104	135
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	138	443	843	146	413	12	7	99	135	799	104	135
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	138	443	843	146	413	12	7	99	135	799	104	135
OvlAdjVol:			542									
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.94	0.06	1.00	1.00	1.00	2.65	0.35	1.00
Final Sat.:	1600	3200	1600	1600	3110	90	1600	1600	1600	4247	553	1600
Capacity Analysis Module:												
Vol/Sat:	0.09	0.14	0.53	0.09	0.13	0.13	0.00	0.06	0.08	0.19	0.19	0.08
OvlAdjV/S:			0.34									
Crit Moves:			****	****					****	****		

18042 Oxnard Costco Gasoline Expansion
Cumulative Midday

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #2 Ventura Blvd / Auto Center Dr

Cycle (sec):	130	Critical Vol./Cap.(X):	0.493
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	50	Level Of Service:	A

Street Name:	Ventura Boulevard						Auto Center Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Split Phase			Split Phase			Permit+Prot			Permit+Prot		
Rights:	Include			Include			Include			Include		
Min. Green:	5	5	5	5	5	5	5	20	20	20	20	5
Y+R:	5.0	5.0	5.0	4.0	4.0	4.0	4.0	6.0	6.0	4.0	6.0	6.0
Lanes:	2 0	1 0	1	0 0	1! 0	0	1 0	2 0	1	1 0	1 1	0
Volume Module:												
Base Vol:	510	3	49	6	6	6	30	578	483	32	477	14
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:	510	3	49	6	6	6	30	578	483	32	477	14
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:	510	3	49	6	6	6	30	578	483	32	477	14
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	510	3	49	6	6	6	30	578	483	32	477	14
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	510	3	49	6	6	6	30	578	483	32	477	14
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.00	1.00	0.34	0.33	0.33	1.00	2.00	1.00	1.00	1.94	0.06
Final Sat.:	3200	1600	1600	533	533	533	1600	3200	1600	1600	3109	91
Capacity Analysis Module:												
Vol/Sat:	0.16	0.00	0.03	0.01	0.01	0.01	0.02	0.18	0.30	0.02	0.15	0.15
Crit Moves:	****				****				****	****		

18042 Oxnard Costco Gasoline Expansion
Cumulative Midday

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #3 Paseo Mercado / Auto Center Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.448
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	41	Level Of Service:	A

Street Name:	Paseo Mercado						Auto Center Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Permit+Prot		
Rights:	Include			Include			Include			Include		
Min. Green:	5	0	5	0	0	0	0	15	15	5	15	0
Y+R:	5.0	4.0	5.0	4.0	4.0	4.0	4.0	6.0	6.0	4.0	6.0	4.0
Lanes:	1 0	0 0	1	0 0	0 0	0	0 0	1 1	0	1 0	2 0	0
Volume Module:												
Base Vol:	243	0	227	0	0	0	0	365	242	171	340	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:	243	0	227	0	0	0	0	365	242	171	340	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:	243	0	227	0	0	0	0	365	242	171	340	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	243	0	227	0	0	0	0	365	242	171	340	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	243	0	227	0	0	0	0	365	242	171	340	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.20	0.80	1.00	2.00	0.00
Final Sat.:	1600	0	1600	0	0	0	0	1924	1276	1600	3200	0
Capacity Analysis Module:												
Vol/Sat:	0.15	0.00	0.14	0.00	0.00	0.00	0.00	0.19	0.19	0.11	0.11	0.00
Crit Moves:	****							****		****		

18042 Oxnard Costco Gasoline Expansion
Cumulative Midday

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #5 Rice Ave / Santa Clara Ave / Auto Cetter Dr

Cycle (sec):	105	Critical Vol./Cap.(X):	0.371
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	31	Level Of Service:	A

Street Name: Rice Avenue / Santa Clara Avenue Auto Center Drive

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Permitted			Protected			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	5	10	0	0	10	10	6	6	6	10	10	10
Y+R:	4.8	5.0	4.0	5.0	5.0	5.0	4.8	4.8	4.8	5.0	5.0	5.0
Lanes:	2 0	2 0	0	0 0	3 0	1	2 0	0 0	2	1 1	0 1	0
Volume Module:												
Base Vol:	303	340	0	0	425	101	129	0	559	367	315	24
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:	303	340	0	0	425	101	129	0	559	367	315	24
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	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:	303	340	0	0	425	101	129	0	559	367	315	24
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	303	340	0	0	425	101	129	0	559	367	315	24
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	303	340	0	0	425	101	129	0	559	367	315	24
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	0.00	0.00	3.00	1.00	2.00	0.00	2.00	1.56	1.34	0.10
Final Sat.:	3200	3200	0	0	4800	1600	3200	0	3200	2494	2143	163
Capacity Analysis Module:												
Vol/Sat:	0.09	0.11	0.00	0.00	0.09	0.06	0.04	0.00	0.17	0.15	0.15	0.15
Crit Moves:	****				****		****				****	

Intersection	
Int Delay, s/veh	6.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	24	423	44	269	440	34	24	2	152	26	1	27
Future Vol, veh/h	24	423	44	269	440	34	24	2	152	26	1	27
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	205	-	-	200	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	423	44	269	440	34	24	2	152	26	1	27

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	474	0	0	467	0	0	1252	1505	234	1256	1510	237
Stage 1	-	-	-	-	-	-	493	493	-	995	995	-
Stage 2	-	-	-	-	-	-	759	1012	-	261	515	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1084	-	-	1091	-	-	129	120	768	128	119	764
Stage 1	-	-	-	-	-	-	526	545	-	262	321	-
Stage 2	-	-	-	-	-	-	365	315	-	721	533	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1084	-	-	1091	-	-	98	88	768	80	88	764
Mov Cap-2 Maneuver	-	-	-	-	-	-	98	88	-	80	88	-
Stage 1	-	-	-	-	-	-	514	533	-	256	242	-
Stage 2	-	-	-	-	-	-	264	237	-	563	521	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	3.4	22.4	43.9
HCM LOS			C	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	382	1084	-	-	1091	-	-	145
HCM Lane V/C Ratio	0.466	0.022	-	-	0.247	-	-	0.372
HCM Control Delay (s)	22.4	8.4	-	-	9.4	-	-	43.9
HCM Lane LOS	C	A	-	-	A	-	-	E
HCM 95th %tile Q(veh)	2.4	0.1	-	-	1	-	-	1.6

18042 Oxnard Costco Gasoline Expansion
Cumulative PM Peak Hour

Scenario Report

Scenario:	Cumulative PM
Command:	Cumulative PM
Volume:	Cumulative PM
Geometry:	Default Geometry
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

18042 Oxnard Costco Gasoline Expansion
Cumulative PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #1 N Rose Ave / Auto Center Dr / E Ventura Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.776
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	102	Level Of Service:	C

Street Name:	North Rose Avenue						Auto Center Drive / East Ventura					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	1 1	0	1 0	1 0	1	2 1	0 0	1
Volume Module:												
Base Vol:	217	693	683	152	797	28	7	96	232	956	186	226
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:	217	693	683	152	797	28	7	96	232	956	186	226
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:	217	693	683	152	797	28	7	96	232	956	186	226
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	217	693	683	152	797	28	7	96	232	956	186	226
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	217	693	683	152	797	28	7	96	232	956	186	226
OvlAdjVol:			302									
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.93	0.07	1.00	1.00	1.00	2.51	0.49	1.00
Final Sat.:	1600	3200	1600	1600	3091	109	1600	1600	1600	4018	782	1600
Capacity Analysis Module:												
Vol/Sat:	0.14	0.22	0.43	0.10	0.26	0.26	0.00	0.06	0.15	0.24	0.24	0.14
OvlAdjV/S:			0.19									
Crit Moves:	****				****				****	****		

18042 Oxnard Costco Gasoline Expansion
Cumulative PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #2 Ventura Blvd / Auto Center Dr

Cycle (sec):	130	Critical Vol./Cap.(X):	0.489
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	50	Level Of Service:	A

Street Name:	Ventura Boulevard						Auto Center Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Split Phase			Split Phase			Permit+Prot			Permit+Prot		
Rights:	Include			Include			Include			Include		
Min. Green:	5	5	5	5	5	5	5	20	20	20	20	5
Y+R:	5.0	5.0	5.0	4.0	4.0	4.0	4.0	6.0	6.0	4.0	6.0	6.0
Lanes:	2 0	1 0	1	0 0	1! 0	0	1 0	2 0	1	1 0	1 1	0
Volume Module:												
Base Vol:	534	3	43	2	0	27	24	469	436	50	784	8
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:	534	3	43	2	0	27	24	469	436	50	784	8
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	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:	534	3	43	2	0	27	24	469	436	50	784	8
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	534	3	43	2	0	27	24	469	436	50	784	8
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	534	3	43	2	0	27	24	469	436	50	784	8
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.00	1.00	0.07	0.00	0.93	1.00	2.00	1.00	1.00	1.98	0.02
Final Sat.:	3200	1600	1600	110	0	1490	1600	3200	1600	1600	3168	32
Capacity Analysis Module:												
Vol/Sat:	0.17	0.00	0.03	0.02	0.00	0.02	0.02	0.15	0.27	0.03	0.25	0.25
Crit Moves:	****			****					****	****		

18042 Oxnard Costco Gasoline Expansion
Cumulative PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #3 Paseo Mercado / Auto Center Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.453
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	42	Level Of Service:	A

Street Name:	Paseo Mercado						Auto Center Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Permit+Prot		
Rights:	Include			Include			Include			Include		
Min. Green:	5	0	5	0	0	0	0	15	15	5	15	0
Y+R:	5.0	4.0	5.0	4.0	4.0	4.0	4.0	6.0	6.0	4.0	6.0	4.0
Lanes:	1 0	0	1	0 0	0 0	0	0 0	1	1 0	1 0	2	0 0
Volume Module:												
Base Vol:	269	0	179	0	0	0	0	390	212	154	600	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:	269	0	179	0	0	0	0	390	212	154	600	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:	269	0	179	0	0	0	0	390	212	154	600	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	269	0	179	0	0	0	0	390	212	154	600	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	269	0	179	0	0	0	0	390	212	154	600	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.30	0.70	1.00	2.00	0.00
Final Sat.:	1600	0	1600	0	0	0	0	2073	1127	1600	3200	0
Capacity Analysis Module:												
Vol/Sat:	0.17	0.00	0.11	0.00	0.00	0.00	0.00	0.19	0.19	0.10	0.19	0.00
Crit Moves:	****							****		****		

18042 Oxnard Costco Gasoline Expansion
Cumulative PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #5 Rice Ave / Santa Clara Ave / Auto Cetter Dr

Cycle (sec):	105	Critical Vol./Cap.(X):	0.561
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	42	Level Of Service:	A

Street Name: Rice Avenue / Santa Clara Avenue Auto Center Drive

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Protected				Permitted				Protected				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	5	10	0	0	10	10			6	6	6		10	10	10	
Y+R:	4.8	5.0	4.0		5.0	5.0	5.0		4.8	4.8	4.8		5.0	5.0	5.0	
Lanes:	2	0	2	0 0	0	0	3	0 1	2	0	0	0 2	1	1	0	1 0
Volume Module:																
Base Vol:	413	665	0	0	876	163	155	0	572	596	354	13				
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:	413	665	0	0	876	163	155	0	572	596	354	13				
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:	413	665	0	0	876	163	155	0	572	596	354	13				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
Reduced Vol:	413	665	0	0	876	163	155	0	572	596	354	13				
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
FinalVolume:	413	665	0	0	876	163	155	0	572	596	354	13				
Saturation Flow Module:																
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600				
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Lanes:	2.00	2.00	0.00	0.00	3.00	1.00	2.00	0.00	2.00	1.86	1.10	0.04				
Final Sat.:	3200	3200	0	0	4800	1600	3200	0	3200	2971	1765	65				
Capacity Analysis Module:																
Vol/Sat:	0.13	0.21	0.00	0.00	0.18	0.10	0.05	0.00	0.18	0.20	0.20	0.20				
Crit Moves:	****				****		****				****					

Intersection	
Int Delay, s/veh	8.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	36	512	36	212	656	63	25	0	161	32	6	37
Future Vol, veh/h	36	512	36	212	656	63	25	0	161	32	6	37
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	205	-	-	200	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	36	512	36	212	656	63	25	0	161	32	6	37

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	719	0	0	548	0	0	1357	1745	274	1440	1732	360
Stage 1	-	-	-	-	-	-	602	602	-	1112	1112	-
Stage 2	-	-	-	-	-	-	755	1143	-	328	620	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	878	-	-	1018	-	-	108	85	724	93	87	637
Stage 1	-	-	-	-	-	-	453	487	-	223	282	-
Stage 2	-	-	-	-	-	-	367	273	-	659	478	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	878	-	-	1018	-	-	77	65	724	59	66	637
Mov Cap-2 Maneuver	-	-	-	-	-	-	77	65	-	59	66	-
Stage 1	-	-	-	-	-	-	434	467	-	214	223	-
Stage 2	-	-	-	-	-	-	266	216	-	491	458	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	2.2	27.7	92.6
HCM LOS			D	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	340	878	-	-	1018	-	-	108
HCM Lane V/C Ratio	0.547	0.041	-	-	0.208	-	-	0.694
HCM Control Delay (s)	27.7	9.3	-	-	9.5	-	-	92.6
HCM Lane LOS	D	A	-	-	A	-	-	F
HCM 95th %tile Q(veh)	3.1	0.1	-	-	0.8	-	-	3.6

Appendix J
Cumulative + Project Conditions Level-of-Service Worksheets

18042 Oxnard Costco Gasoline Expansion
Cumulative + Project Midday

Scenario Report

Scenario:	Cumulative + Project Midday
Command:	Cumulative + Project Midday
Volume:	Cumulative + Project Midday
Geometry:	Default Geometry
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

18042 Oxnard Costco Gasoline Expansion
Cumulative + Project Midday

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #1 N Rose Ave / Auto Center Dr / E Ventura Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.719
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	81	Level Of Service:	C

Street Name:	North Rose Avenue						Auto Center Drive / East Ventura					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	1 1	0	1 0	1 0	1	2 1	0 0	1
Volume Module:												
Base Vol:	138	442	869	151	414	12	6	131	134	814	121	141
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:	138	442	869	151	414	12	6	131	134	814	121	141
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:	138	442	869	151	414	12	6	131	134	814	121	141
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	138	442	869	151	414	12	6	131	134	814	121	141
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	138	442	869	151	414	12	6	131	134	814	121	141
OvlAdjVol:			557									
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.94	0.06	1.00	1.00	1.00	2.61	0.39	1.00
Final Sat.:	1600	3200	1600	1600	3110	90	1600	1600	1600	4179	621	1600
Capacity Analysis Module:												
Vol/Sat:	0.09	0.14	0.54	0.09	0.13	0.13	0.00	0.08	0.08	0.19	0.19	0.09
OvlAdjV/S:			0.35									
Crit Moves:			****	****				****		****		

18042 Oxnard Costco Gasoline Expansion
Cumulative + Project Midday

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #2 Ventura Blvd / Auto Center Dr

Cycle (sec):	130	Critical Vol./Cap.(X):	0.511
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	50	Level Of Service:	A

Street Name:	Ventura Boulevard						Auto Center Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Split Phase			Split Phase			Permit+Prot			Permit+Prot		
Rights:	Include			Include			Include			Include		
Min. Green:	5	5	5	5	5	5	5	20	20	20	20	5
Y+R:	5.0	5.0	5.0	4.0	4.0	4.0	4.0	6.0	6.0	4.0	6.0	6.0
Lanes:	2 0	1 0	1	0 0	1! 0	0	1 0	2 0	1	1 0	1 1	0
Volume Module:												
Base Vol:	510	3	49	6	6	36	30	642	483	32	515	14
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:	510	3	49	6	6	36	30	642	483	32	515	14
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:	510	3	49	6	6	36	30	642	483	32	515	14
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	510	3	49	6	6	36	30	642	483	32	515	14
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	510	3	49	6	6	36	30	642	483	32	515	14
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.00	1.00	0.12	0.12	0.76	1.00	2.00	1.00	1.00	1.95	0.05
Final Sat.:	3200	1600	1600	200	200	1200	1600	3200	1600	1600	3115	85
Capacity Analysis Module:												
Vol/Sat:	0.16	0.00	0.03	0.03	0.03	0.03	0.02	0.20	0.30	0.02	0.17	0.17
Crit Moves:	****				****				****	****		

18042 Oxnard Costco Gasoline Expansion
Cumulative + Project Midday

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #3 Paseo Mercado / Auto Center Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.442
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	41	Level Of Service:	A

Street Name:	Paseo Mercado						Auto Center Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Permit+Prot		
Rights:	Include			Include			Include			Include		
Min. Green:	5	0	5	0	0	0	0	15	15	5	15	0
Y+R:	5.0	4.0	5.0	4.0	4.0	4.0	4.0	6.0	6.0	4.0	6.0	4.0
Lanes:	1 0	0	1	0 0	0 0	0	0 0	1	1 0	1 0	2 0	0
Volume Module:												
Base Vol:	162	0	202	0	0	0	0	509	161	171	459	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:	162	0	202	0	0	0	0	509	161	171	459	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:	162	0	202	0	0	0	0	509	161	171	459	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	162	0	202	0	0	0	0	509	161	171	459	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	162	0	202	0	0	0	0	509	161	171	459	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.52	0.48	1.00	2.00	0.00
Final Sat.:	1600	0	1600	0	0	0	0	2431	769	1600	3200	0
Capacity Analysis Module:												
Vol/Sat:	0.10	0.00	0.13	0.00	0.00	0.00	0.00	0.21	0.21	0.11	0.14	0.00
Crit Moves:			****					****		****		

18042 Oxnard Costco Gasoline Expansion
Cumulative + Project Midday

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #5 Rice Ave / Santa Clara Ave / Auto Cetter Dr

Cycle (sec):	105	Critical Vol./Cap.(X):	0.374
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	31	Level Of Service:	A

Street Name: Rice Avenue / Santa Clara Avenue Auto Center Drive

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Protected				Permitted				Protected				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	5	10	0	0	10	10			6	6	6		10	10	10	
Y+R:	4.8	5.0	4.0		5.0	5.0	5.0		4.8	4.8	4.8		5.0	5.0	5.0	
Lanes:	2	0	2	0 0	0	0	3	0 1	2	0	0	0 2	1	1	0	1 0
Volume Module:																
Base Vol:	307	338	0	0	424	103	134	0	568	364	321	22				
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:	307	338	0	0	424	103	134	0	568	364	321	22				
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:	307	338	0	0	424	103	134	0	568	364	321	22				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
Reduced Vol:	307	338	0	0	424	103	134	0	568	364	321	22				
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
FinalVolume:	307	338	0	0	424	103	134	0	568	364	321	22				
Saturation Flow Module:																
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600				
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Lanes:	2.00	2.00	0.00	0.00	3.00	1.00	2.00	0.00	2.00	1.55	1.36	0.09				
Final Sat.:	3200	3200	0	0	4800	1600	3200	0	3200	2479	2173	148				
Capacity Analysis Module:																
Vol/Sat:	0.10	0.11	0.00	0.00	0.09	0.06	0.04	0.00	0.18	0.15	0.15	0.15				
Crit Moves:	****				****		****				****					

Intersection	
Int Delay, s/veh	108.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	24	393	193	284	437	34	146	2	194	26	1	27
Future Vol, veh/h	24	393	193	284	437	34	146	2	194	26	1	27
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	205	-	-	200	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	393	193	284	437	34	146	2	194	26	1	27

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	471	0	0	586	0	0	1325	1577	293	1268	1656	236
Stage 1	-	-	-	-	-	-	538	538	-	1022	1022	-
Stage 2	-	-	-	-	-	-	787	1039	-	246	634	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1087	-	-	985	-	-	~ 114	109	703	125	97	766
Stage 1	-	-	-	-	-	-	495	521	-	253	312	-
Stage 2	-	-	-	-	-	-	351	306	-	736	471	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1087	-	-	985	-	-	~ 83	76	703	68	68	766
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 83	76	-	68	68	-
Stage 1	-	-	-	-	-	-	484	509	-	247	222	-
Stage 2	-	-	-	-	-	-	240	218	-	519	461	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	3.8	$ 542.8	54.1
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	166	1087	-	-	985	-	-	125
HCM Lane V/C Ratio	2.06	0.022	-	-	0.288	-	-	0.432
HCM Control Delay (s)	$ 542.8	8.4	-	-	10.1	-	-	54.1
HCM Lane LOS	F	A	-	-	B	-	-	F
HCM 95th %tile Q(veh)	26.8	0.1	-	-	1.2	-	-	1.9

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

18042 Oxnard Costco Gasoline Expansion
Cumulative + Project PM Peak Hour

Scenario Report

Scenario:	Cumulative + Project PM
Command:	Cumulative + Project PM
Volume:	Cumulative + Project PM
Geometry:	Default Geometry
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

18042 Oxnard Costco Gasoline Expansion
Cumulative + Project PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #1 N Rose Ave / Auto Center Dr / E Ventura Blvd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.782
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	105	Level Of Service:	C

Street Name:	North Rose Avenue						Auto Center Drive / East Ventura					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	1 1	0	1 0	1 0	1	2 1	0 0	1
Volume Module:												
Base Vol:	217	692	708	156	798	28	6	127	231	969	202	231
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:	217	692	708	156	798	28	6	127	231	969	202	231
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:	217	692	708	156	798	28	6	127	231	969	202	231
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	217	692	708	156	798	28	6	127	231	969	202	231
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	217	692	708	156	798	28	6	127	231	969	202	231
OvlAdjVol:			318									
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.93	0.07	1.00	1.00	1.00	2.48	0.52	1.00
Final Sat.:	1600	3200	1600	1600	3092	108	1600	1600	1600	3972	828	1600
Capacity Analysis Module:												
Vol/Sat:	0.14	0.22	0.44	0.10	0.26	0.26	0.00	0.08	0.14	0.24	0.24	0.14
OvlAdjV/S:			0.20									
Crit Moves:	****				****				****	****		

18042 Oxnard Costco Gasoline Expansion
Cumulative + Project PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #2 Ventura Blvd / Auto Center Dr

Cycle (sec):	130	Critical Vol./Cap.(X):	0.489
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	50	Level Of Service:	A

Street Name:	Ventura Boulevard						Auto Center Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Split Phase			Split Phase			Permit+Prot			Permit+Prot		
Rights:	Include			Include			Include			Include		
Min. Green:	5	5	5	5	5	5	5	20	20	20	20	5
Y+R:	5.0	5.0	5.0	4.0	4.0	4.0	4.0	6.0	6.0	4.0	6.0	6.0
Lanes:	2 0	1 0	1	0 0	1! 0	0	1 0	2 0	1	1 0	1 1	0
Volume Module:												
Base Vol:	534	3	43	2	0	27	24	530	436	50	819	8
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:	534	3	43	2	0	27	24	530	436	50	819	8
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	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:	534	3	43	2	0	27	24	530	436	50	819	8
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	534	3	43	2	0	27	24	530	436	50	819	8
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	534	3	43	2	0	27	24	530	436	50	819	8
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.00	1.00	0.07	0.00	0.93	1.00	2.00	1.00	1.00	1.98	0.02
Final Sat.:	3200	1600	1600	110	0	1490	1600	3200	1600	1600	3169	31
Capacity Analysis Module:												
Vol/Sat:	0.17	0.00	0.03	0.02	0.00	0.02	0.02	0.17	0.27	0.03	0.26	0.26
Crit Moves:	****			****					****	****		

18042 Oxnard Costco Gasoline Expansion
Cumulative + Project PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #3 Paseo Mercado / Auto Center Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.422
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	39	Level Of Service:	A

Street Name:	Paseo Mercado						Auto Center Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Permit+Prot		
Rights:	Include			Include			Include			Include		
Min. Green:	5	0	5	0	0	0	0	15	15	5	15	0
Y+R:	5.0	4.0	5.0	4.0	4.0	4.0	4.0	6.0	6.0	4.0	6.0	4.0
Lanes:	1 0	0	1	0 0	0 0	0	0 0	1	1 0	1 0	2 0	0
Volume Module:												
Base Vol:	189	0	154	0	0	0	0	531	132	154	715	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:	189	0	154	0	0	0	0	531	132	154	715	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:	189	0	154	0	0	0	0	531	132	154	715	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	189	0	154	0	0	0	0	531	132	154	715	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	189	0	154	0	0	0	0	531	132	154	715	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.60	0.40	1.00	2.00	0.00
Final Sat.:	1600	0	1600	0	0	0	0	2563	637	1600	3200	0
Capacity Analysis Module:												
Vol/Sat:	0.12	0.00	0.10	0.00	0.00	0.00	0.00	0.21	0.21	0.10	0.22	0.00
Crit Moves:	****							****		****		

18042 Oxnard Costco Gasoline Expansion
Cumulative + Project PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #5 Rice Ave / Santa Clara Ave / Auto Cetter Dr

Cycle (sec):	105	Critical Vol./Cap.(X):	0.563
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	43	Level Of Service:	A

Street Name:	Rice Avenue / Santa Clara Avenue								Auto Center Drive							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Protected				Permitted				Protected				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	5	10	0	0	10	10			6	6	6		10	10	10	
Y+R:	4.8	5.0	4.0		5.0	5.0	5.0		4.8	4.8	4.8		5.0	5.0	5.0	
Lanes:	2	0	2	0 0	0	0	3	0 1	2	0	0	0 2	1	1	0	1 0
Volume Module:																
Base Vol:	416	663	0	0	875	164	159	0	578	593	358	11				
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:	416	663	0	0	875	164	159	0	578	593	358	11				
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:	416	663	0	0	875	164	159	0	578	593	358	11				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
Reduced Vol:	416	663	0	0	875	164	159	0	578	593	358	11				
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
FinalVolume:	416	663	0	0	875	164	159	0	578	593	358	11				
Saturation Flow Module:																
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600				
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Lanes:	2.00	2.00	0.00	0.00	3.00	1.00	2.00	0.00	2.00	1.86	1.11	0.03				
Final Sat.:	3200	3200	0	0	4800	1600	3200	0	3200	2967	1778	55				
Capacity Analysis Module:																
Vol/Sat:	0.13	0.21	0.00	0.00	0.18	0.10	0.05	0.00	0.18	0.20	0.20	0.20				
Crit Moves:	****				****		****				****					

Intersection	
Int Delay, s/veh	127.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	36	482	182	223	653	63	143	0	199	32	6	37
Future Vol, veh/h	36	482	182	223	653	63	143	0	199	32	6	37
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	205	-	-	200	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	36	482	182	223	653	63	143	0	199	32	6	37

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	716	0	0	664	0	0	1421	1807	332	1444	1867	358
Stage 1	-	-	-	-	-	-	645	645	-	1131	1131	-
Stage 2	-	-	-	-	-	-	776	1162	-	313	736	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	880	-	-	921	-	-	~ 97	78	664	93	72	638
Stage 1	-	-	-	-	-	-	427	466	-	217	277	-
Stage 2	-	-	-	-	-	-	356	267	-	672	423	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	880	-	-	921	-	-	~ 66	57	664	51	52	638
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 66	57	-	51	52	-
Stage 1	-	-	-	-	-	-	410	447	-	208	210	-
Stage 2	-	-	-	-	-	-	247	202	-	451	406	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	2.4	$ 729.2	123.6
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	139	880	-	-	921	-	-	94
HCM Lane V/C Ratio	2.46	0.041	-	-	0.242	-	-	0.798
HCM Control Delay (s)	$ 729.2	9.3	-	-	10.2	-	-	123.6
HCM Lane LOS	F	A	-	-	B	-	-	F
HCM 95th %tile Q(veh)	29.7	0.1	-	-	0.9	-	-	4.2

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Appendix K
Cumulative + Project Conditions (Mitigated) Level-of-Service & Queuing Analysis Worksheets

18042 Oxnard Costco Gas Expansion
Cumulative + Project Midday Peak Hour - with Mitigation

Scenario Report

Scenario:	Cumulative + Project Midday
Command:	Cumulative + Project Midday
Volume:	Cumulative + Project Midday
Geometry:	Default Geometry
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

18042 Oxnard Costco Gas Expansion
Cumulative + Project Midday Peak Hour - with Mitigation

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #4 E Costco Dwy / Auto Center Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.424
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	40	Level Of Service:	A

Street Name:	Eastern Costco Driveway						Auto Center Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Split Phase			Split Phase			Prot+Permit			Prot+Permit		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 1	0 0	1	0 1	0 0	1	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	146	2	194	26	1	27	24	393	193	284	437	34
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:	146	2	194	26	1	27	24	393	193	284	437	34
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:	146	2	194	26	1	27	24	393	193	284	437	34
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	146	2	194	26	1	27	24	393	193	284	437	34
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	146	2	194	26	1	27	24	393	193	284	437	34
OvlAdjVol:			0									
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.97	0.03	1.00	0.96	0.04	1.00	1.00	1.34	0.66	1.00	1.86	0.14
Final Sat.:	3157	43	1600	1541	59	1600	1600	2146	1054	1600	2969	231
Capacity Analysis Module:												
Vol/Sat:	0.05	0.05	0.12	0.02	0.02	0.02	0.02	0.18	0.18	0.18	0.15	0.15
OvlAdjV/S:			0.00									
Crit Moves:	****			****				****		****		

Intersection: 4: E. Costco Dwy/Los Olivos & Auto Center Dr

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	LT	R	L	TR
Maximum Queue (ft)	54	257	298	210	191	157	99	122	104	63	57
Average Queue (ft)	17	104	165	101	60	59	36	54	46	18	20
95th Queue (ft)	46	204	269	178	131	126	80	100	80	48	48
Link Distance (ft)		757	757		997	997		218			335
Upstream Blk Time (%)								0			
Queuing Penalty (veh)								0			
Storage Bay Dist (ft)	205			200			100		165	100	
Storage Blk Time (%)		0		0	0		0	1		0	
Queuing Penalty (veh)		0		1	0		1	3		0	

Intersection: 6: E. Costco Dwy

Movement	EB	WB	NB	SB	SB
Directions Served	LTR	LTR	LTR	L	TR
Maximum Queue (ft)	66	114	28	60	53
Average Queue (ft)	23	53	2	25	2
95th Queue (ft)	52	93	15	55	29
Link Distance (ft)	111	201	409		218
Upstream Blk Time (%)					0
Queuing Penalty (veh)					0
Storage Bay Dist (ft)				40	
Storage Blk Time (%)				2	
Queuing Penalty (veh)				5	

Zone Summary

Zone wide Queuing Penalty: 10

18042 Oxnard Costco Gas Expansion
Cumulative + Project PM Peak Hour - with Mitigation

Scenario Report

Scenario:	Cumulative + Project PM
Command:	Cumulative + Project PM
Volume:	Cumulative + Project PM
Geometry:	Default Geometry
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

18042 Oxnard Costco Gas Expansion
Cumulative + Project PM Peak Hour - with Mitigation

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #4 E Costco Dwy / Auto Center Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.415
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	39	Level Of Service:	A

Street Name:	Eastern Costco Driveway						Auto Center Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Prot+Permit			Prot+Permit		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 1	0 0	1	0 1	0 0	1	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	143	0	199	32	6	37	36	482	182	223	653	63
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:	143	0	199	32	6	37	36	482	182	223	653	63
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:	143	0	199	32	6	37	36	482	182	223	653	63
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	143	0	199	32	6	37	36	482	182	223	653	63
PCE Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
MLF Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
FinalVolume:	143	0	199	32	6	37	36	482	182	223	653	63
OvlAdjVol:			0									
Saturation Flow Module:												
Sat/Lane:	1600 1600		1600	1600 1600		1600	1600 1600		1600	1600 1600		1600
Adjustment:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
Lanes:	2.00 0.00		1.00	0.84 0.16		1.00	1.00 1.45		0.55	1.00 1.82		0.18
Final Sat.:	3200	0	1600	1347	253	1600	1600 2323		877	1600 2918		282
Capacity Analysis Module:												
Vol/Sat:	0.04 0.00		0.12	0.02 0.02		0.02	0.02 0.21		0.21	0.14 0.22		0.22
OvlAdjV/S:			0.00									
Crit Moves:	****			****			****			****		

Intersection: 4: E. Costco Dwy/Los Olivos & Auto Center Dr

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	LT	R	L	TR
Maximum Queue (ft)	92	313	385	195	212	225	88	124	103	67	79
Average Queue (ft)	25	130	187	84	87	103	27	58	48	22	27
95th Queue (ft)	67	252	317	157	166	191	66	101	85	54	62
Link Distance (ft)		759	759		998	998		224			335
Upstream Blk Time (%)								0			
Queuing Penalty (veh)								0			
Storage Bay Dist (ft)	205			200			100		165	100	
Storage Blk Time (%)	0	1		0	0		0	1	0	0	0
Queuing Penalty (veh)	0	0		1	0		0	3	0	0	0

Intersection: 6: E. Costco Dwy

Movement	EB	WB	NB	SB	SB
Directions Served	LTR	LTR	LTR	L	TR
Maximum Queue (ft)	58	99	16	60	43
Average Queue (ft)	22	47	1	23	2
95th Queue (ft)	48	78	8	55	23
Link Distance (ft)	161	176	304		224
Upstream Blk Time (%)		0			
Queuing Penalty (veh)		0			
Storage Bay Dist (ft)				40	
Storage Blk Time (%)				2	0
Queuing Penalty (veh)				4	0

Zone Summary

Zone wide Queuing Penalty: 9

City of Oxnard

Costco MND 17-3

Attachment C

Arborist Report

Carlberg ASSOCIATES

Horticulturists and
Registered Consulting
ARBORISTS

UPDATED TREE REPORT (REV. 3)
GAS STATION RELOCATION
COSTCO WHOLESALE
2001 EAST VENTURA BOULEVARD
OXNARD, CALIFORNIA

SUBMITTED TO:

COSTCO WHOLESALE
C/O TERRY ODLE
MULVANNYG2 ARCHITECTURE
18200 VON KARMAN AVENUE, SUITE 910
IRVINE, CALIFORNIA 92612

PREPARED BY:

CHRISTY CUBA
ASCA REGISTERED CONSULTING ARBORIST #502
ISA CERTIFIED ARBORIST #WE 1982A
ISA QUALIFIED TREE RISK ASSESSOR

CY CARLBERG
ASCA REGISTERED CONSULTING ARBORIST #405
ISA CERTIFIED ARBORIST #WE 0575A
ISA QUALIFIED TREE RISK ASSESSOR
CERTIFIED URBAN FORESTER #013

Santa Monica Office
828 Fifth Street, Suite 3
Santa Monica, California 90403
Office: 310.451.4804

Sierra Madre Office
80 West Sierra Madre Boulevard, #241
Sierra Madre, California 91024
Office: 626.428.5072

www.cycarlberg.com

SEPTEMBER 8, 2017

TABLE OF CONTENTS

EXECUTIVE SUMMARY 1

BACKGROUND AND ASSIGNMENT 1

OBSERVATIONS 2

DISCUSSION 9

CONCLUSIONS AND RECOMMENDATIONS 9

LIST OF TABLES

TABLE 1 – SUMMARY OF IMPACTS 2

TABLE 2 - APPRAISAL VALUES FOR REMOVAL TREES 7

LIST OF EXHIBITS

EXHIBIT 1 – AERIAL VIEW OF INVENTORY BOUNDARIES 10

EXHIBIT 2 – CLOSE-UP AERIAL OF GAS STATION DEMOLITION AREA 11

EXHIBIT 3 – CLOSE-UP AERIAL OF NEW GAS STATION AREA 12

EXHIBIT 4 – REDUCED LANDSCAPE CONCEPT PLAN 13

EXHIBIT 5 – REDUCED DEMOLITION PLAN – CURRENT GAS STATION 14

EXHIBIT 6 – REDUCED DEMOLITION PLAN – NEW GAS STATION AREA 15

EXHIBIT 7 – TREE LOCATION EXHIBIT – CURRENT GAS STATION AREA 16

EXHIBIT 8 – TREE LOCATION EXHIBIT – PROPOSED GAS STATION AREA 17

PHOTOGRAPHS OF TREES 19

CERTIFICATE OF PERFORMANCE 40

HEALTH AND STRUCTURE GRADE DEFINITIONS 41

ARBORIST DISCLOSURE STATEMENT 43

RESUMES 44

Carlberg ASSOCIATES
Horticulturists and
Registered Consulting
ARBORISTS

September 8, 2017

Costco Wholesale
c/o MulvannyG2 Architecture
18200 Von Karman Ave., Suite 910
Irvine, California 92612
Attention: Terry Odle

RE: UPDATED TREE REPORT – GAS STATION RELOCATION (REV. 3)
COSTCO WHOLESALE – 2001 E. VENTURA BOULEVARD, OXNARD, CALIFORNIA

EXECUTIVE SUMMARY

Proposed is the demolition of the current gas station and construction of a new gas station at the Costco Wholesale property located at 2001 East Ventura Boulevard in Oxnard, California. Adjacent parking lots will be reconfigured in association with the gas station changes. Demolition, construction, and new landscape configurations will result in removal of 51 landscape trees. Forty-nine (49) other ornamental trees in the area identified for potential impact will remain unaffected by construction. Protective fencing is recommended for trees to remain in the immediate vicinity of the work and construction as it pertains to encroachment trees should be monitored by a professional consulting arborist.

BACKGROUND AND ASSIGNMENT

Costco Wholesale is in the design phase for the relocation of the gas station on their property located at 2001 East Ventura Boulevard in Oxnard, California. The existing gas station and associated parking areas will be demolished, along with a number of landscape islands. The new gas station, parking, and landscape planters will be constructed on an adjacent parcel of land located to the northeast of the current store. New parking areas and landscape planters will be constructed in the old gas station footprint.

Carlberg Associates (Carlberg) was retained to prepare a tree report and value assessments in accordance with guidelines set forth by the City of Oxnard. This report is based on our site visit of September 21, 2016 and supersedes our previous report dated July 26, 2017.

Santa Monica Office
828 Fifth Street, Suite 3
Santa Monica, California 90403
Office: 310.451.4804

Sierra Madre Office
80 West Sierra Madre Boulevard, #241
Sierra Madre, California 91024
Office: 626.428.5072

www.cycarlberg.com

Tree numbers, common names, and approximate tree locations are graphically represented on the enclosed 'Tree Location Exhibits'. Photographs accompanying this report illustrate site context, branch architecture, and tree vigor. Appraisal values for the proposed removal trees are required by the city. Appraisals are based on Trunk Formula Method outlined in the International Society of Arboriculture's Guide for Plant Appraisal, 9th Edition.

OBSERVATIONS

The site is currently occupied by a Costco Wholesale store, Costco gas station, and a fast food restaurant. A vacant parcel of land to the northeast of the current Costco property has been acquired for the purpose of relocating the gas station. Relocation of the station will allow for reconfiguration of those portions of the parking lot adjacent the to the new gas station and increased parking near the front entrance to the store. The limits of the tree inventory are illustrated on the enclosed aerial and plan-view exhibits. The areas of potential impact are located in the southern portion of the site near the Costco gas station, immediately north of Ventura Boulevard, and at the northeast end of the parking lot adjacent to Via Del Norte.

We located 103[1] trees within the landscaped planters arranged around the existing gas station, adjacent parking areas, and the main driveways. All 103 trees were mapped and inventoried. The tree numbers correspond to the approximate locations on the enclosed exhibits. We used Site Plan and Demolition Plans, dated 10.29.15, provided by MG2 to locate the trees. The trees were generally mapped based on field landmarks and configuration of the existing parking lots and planters.

All of the inventoried trees are ornamental species common to Southern California landscapes. The majority of the trees are in good to very good health. A few, especially the eucalyptus trees, are suffering from transient pests, improper pruning, sunburn, or weed-whipping around their trunk bases. Several trees that were noted as diseased in our 2013 inventory have been removed (Trees 37, 55 and 56). Those trees are noted in Table 1.

Table 1 lists the trees and their dispositions based on the 'Proposed Landscape Concept Plan' by Cummings Curley and Associates, Inc., dated August 8, 2017. A reduced copy of that plan is enclosed. Table 2 summarizes the trees proposed for removal and lists their appraisal values.

TABLE 1 – TREE INVENTORY AND SUMMARY OF IMPACTS

Tree No.	Common Name	Botanical Name	Diameter at 4.5 feet (dbh) In inches	Height (in feet)	Spread (in diameter feet)	Physio-logical Condition (A-F)	Structural Condition (A-F)	Comments	Disposition
1	American sweetgum	*Liquidambar styraciflua*	12.6" @ 3'	35	25	A	B		remain
2	American sweetgum	*Liquidambar styraciflua*	10.7" @ 4'	25	18	B	C		remain
3	American sweetgum	*Liquidambar styraciflua*	15" @ 3.5'	20	20	A-	B		remain
4	Tulip tree	*Liriodendron tulipifera*	5 & 6	22	18	D	C-	90% dieback	remain
5	Tulip tree	*Liriodendron tulipifera*	11.4	25	20	B-	C-	20% top-down dieback	remain

[1] That number includes both the 2013 and 2016 inventories. Three trees have been removed due to poor health since 2013.

Tree No.	Common Name	Botanical Name	Diameter at 4.5 feet (dbh) In inches	Height (in feet)	Spread (in diameter feet)	Physio-logical Condition (A-F)	Structural Condition (A-F)	Comments	Disposition
6	Fern pine	*Afrocarpus gracilior*	13	18	15	A	A		remove
7	Fern pine	*Afrocarpus gracilior*	13" @ 4'	22	20	A	B	old tear @ multiple branch attachments	remove
8	Fern pine	*Afrocarpus gracilior*	19	25	25	A	A	girdling root on west	remove
9	Fern pine	*Afrocarpus gracilior*	13.7	24	20	A	B		remain
10	Fern pine	*Afrocarpus gracilior*	11.7	18	18	A-	B+	history of breakage; good callus	remain
11	Fern pine	*Afrocarpus gracilior*	13.7	16	18	A	B+		remain
12	Fern pine	*Afrocarpus gracilior*	9.8	16	16	A	B+	history of breakage; cracked limb over parking (N side) should be pruned	remove
13	Carrotwood	*Cupaniopsis anacardioides*	8	18	16	B	B	multiple branch attachments/history of breakage	remove
14	Carrotwood	*Cupaniopsis anacardioides*	6.8	14	12	B-	B-		remove
15	Carrotwood	*Cupaniopsis anacardioides*	11.2 @ 4'	22	22	A	B		remove
16	Carrotwood	*Cupaniopsis anacardioides*	3.6	13	6	C	B	declining	remove
17	Carrotwood	*Cupaniopsis anacardioides*	6.3	12	10	B	B	multiple branch attachments	remove
18	Fern pine	*Afrocarpus gracilior*	18" @ 4'	22	18	A	A	Multiple pruning events; good vigor	remain
19	Fern pine	*Afrocarpus gracilior*	15	22	18	A	A	Multiple pruning events, good vigor	remove
20	Fern pine	*Afrocarpus gracilior*	8.1	10	10	A	B		remain
21	Fern pine	*Afrocarpus gracilior*	11.5	16	12	A	B+		remain
22	Fern pine	*Afrocarpus gracilior*	9.7	12	10	A	B+		remove
23	Fern pine	*Afrocarpus gracilior*	9.5	15	8	A	A		remove
24	Carrotwood	*Cupaniopsis anacardioides*	11.1	16	14	A	A		remove
25	Flooded gum	*Eucalyptus rudis*	24	25	20	B-	B	Lerp psyllid	remain
26	Fern pine	*Afrocarpus gracilior*	13.7	16	18	A	B	root pruned (N side)	remove
27	Flooded gum	*Eucalyptus rudis*	~22	28	22	C-	C-	Lerp psyllid	remove

Tree No.	Common Name	Botanical Name	Diameter at 4.5 feet (dbh) In inches	Height (in feet)	Spread (in diameter feet)	Physio-logical Condition (A-F)	Structural Condition (A-F)	Comments	Disposition
28	Flooded gum	*Eucalyptus rudis*	~20	28	20	C-	D	Lerp psyllid; significant deadwood; unbalanced	remove
29	Flooded gum	*Eucalyptus rudis*	8.5	14	10	C	B	Lerp psyllid	remove
30	Queen palm	*Syagrus romanzoffiana*	7' BT	12	8	A-	A		remove
31	Flooded gum	*Eucalyptus rudis*	21	30	20	A-	B	Multiple branch attachments, heavy, over extended to N	remove
32	Queen palm	*Syagrus romanzoffiana*	5' BT	8	6	B	B	outside API	remain
33	Queen palm	*Syagrus romanzoffiana*	7' BT	10	6	B	B	outside API	remain
34	Fern pine	*Afrocarpus gracilior*	10.2	16	12	A-	A	outside API	remain
35	Queen palm	*Syagrus romanzoffiana*	8' BT	16	12	A	A	outside API	remain
36	Fern pine	*Afrocarpus gracilior*	10.5	16	16	A	A	outside API	remain
37	Queen palm	*Syagrus romanzoffiana*						outside API	gone
38	Queen palm	*Syagrus romanzoffiana*	13' BT	25	20	A	A	outside API	remain
39	Flooded gum	*Eucalyptus rudis*	~13	30	20	B	B	outside API	remain
40	Flooded gum	*Eucalyptus rudis*	~17	40	25	B	B	outside API	remain
41	Flooded gum	*Eucalyptus rudis*	~14	40	25	B	C-	outside API	remain
42	Flooded gum	*Eucalyptus rudis*	19	35	22	B	B	outside API	remain
43	Callery pear	*Pyrus calleryana*	12.8	30	22	A	C+	outside API	remain
44	Callery pear	*Pyrus calleryana*	12.9	25	25	A	C+	outside API	remain
45	Callery pear	*Pyrus calleryana*	12	25	20	A	C+	outside API	remain
46	Mexican fan palm	*Washingtonia robusta*	40' BT	48	10	A	A	outside API	remain
47	Mexican fan palm	*Washingtonia robusta*	45' BT	53	10	A	A	outside API	remain
48	Mexican fan palm	*Washingtonia robusta*	32' BT	40	10	A	B	outside API	remain
49	Mexican fan palm	*Washingtonia robusta*	35' BT	43	10	A	B	outside API	remain
50	Mexican fan palm	*Washingtonia robusta*	35' BT	43	10	A	B	outside API	remain

Tree No.	Common Name	Botanical Name	Diameter at 4.5 feet (dbh) In inches	Height (in feet)	Spread (in diameter feet)	Physio-logical Condition (A-F)	Structural Condition (A-F)	Comments	Disposition
51	Mexican fan palm	*Washingtonia robusta*	28' BT	36	10	A	D	outside API	remain
52	Mexican fan palm	*Washingtonia robusta*	35' BT	43	10	A	B	outside API	remain
53	London plane tree	*Platanus x acerifolia*	5	15	12	C-	B	outside API	remain
54	London plane tree	*Platanus x acerifolia*	6.5	15	15	C-	B	outside API	remain
55	London plane tree	*Platanus x acerifolia*						outside API	gone
56	London plane tree	*Platanus x acerifolia*						outside API	gone
57	London plane tree	*Platanus x acerifolia*	16.5" @ 3.5'	30	30	A	A-	outside API	remain
58	London plane tree	*Platanus x acerifolia*	7.7	18	30	B+	A-	outside API	remain
59	London plane tree	*Platanus x acerifolia*	17.4	35	30	A	A-	outside API	remain
60	London plane tree	*Platanus x acerifolia*	2.5	22	18	B	A-	outside API	remain
61	Fern pine	*Afrocarpus gracilior*	14.3	25	20	A	B	Multiple branch attachments, recently pruned	remain
62	Fern pine	*Afrocarpus gracilior*	10.5	25	15	A	B	Multiple branch attachments, recently pruned	remain
63	Fern pine	*Afrocarpus gracilior*	18.5 @ 4'	25	20	A	B	Multiple branch attachments, recently pruned	remain
64	Fern pine	*Afrocarpus gracilior*	18.7 @ 4'	25	20	A	B	Multiple branch attachments, recently pruned	remove
65	Fern pine	*Afrocarpus gracilior*	14.8	25	20	A	B	Multiple branch attachments, recently pruned	remove
66	Fern pine	*Afrocarpus gracilior*	2	10	5	A	A	new planting	remove
67	Fern pine	*Afrocarpus gracilior*	16.4	20	20	A	B	recent pruning	remove
68	Fern pine	*Afrocarpus gracilior*	15.6 @ 4'	20	15	A	B		remove
69	Fern pine	*Afrocarpus gracilior*	12.8	15	15	A	B		remove
70	Flooded gum	*Eucalyptus rudis*	13.6	35	35	B	B-	old topping cuts; epicormic growth	remove
71	Flooded gum	*Eucalyptus rudis*	14.8	35	25	B	B	Leans SE, codominant stems	remove
72	Flooded gum	*Eucalyptus rudis*	15.8	35	40	C	C	tear on trunk; history of breakage (S side), leans S	remove

Tree No.	Common Name	Botanical Name	Diameter at 4.5 feet (dbh) In inches	Height (in feet)	Spread (in diameter feet)	Physio-logical Condition (A-F)	Structural Condition (A-F)	Comments	Disposition
73	Flooded gum	*Eucalyptus rudis*	17.3	35	40	C	C	beetles, lerp psyllid, codominant stems	remove
74	Flooded gum	*Eucalyptus rudis*	18.3	30	35	B-	B-	old topping cuts, beetles, lerp psyllid, codominant stems	remove
75	Flooded gum	*Eucalyptus rudis*	24	30	30	B-	B-	old topping cuts, beetles, lerp psyllid, codominant stems	remove
76	Flooded gum	*Eucalyptus rudis*	14	30	25	B-	B-	codominant stems; lerp psyllid	remain
77	Flooded gum	*Eucalyptus rudis*	19.5	30	30	B	B	codominant stems; lerp psyllid	remain
78	Flooded gum	*Eucalyptus rudis*	12	30	25	B-	B	codominant stems; lerp psyllid	remain
79	Flooded gum	*Eucalyptus rudis*	11.8	25	20	C	C	unbalanced	remain
80	Flooded gum	*Eucalyptus rudis*	16.8	30	20	D	D	significant dieback	remain
81	Bradford pear	*Pyrus calleryana*	9	15	15	A	B	multiple pruning events, multiple branch attachments	remain
82	Bradford pear	*Pyrus calleryana*	11.2	20	20	A	B	multiple pruning events, multiple branch attachments	remain
83	Bradford pear	*Pyrus calleryana*	15.4	20	20	A	B	multiple pruning events, multiple branch attachments	remain
84	Tulip tree	*Liriodendron tulipifera*	3	10	6	B	B	broken top; dieback at top	remove
85	Tulip tree	*Liriodendron tulipifera*	17	40	30	B	B	aphids, sooty mold, codominants w. included bark	remove
86	Tulip tree	*Liriodendron tulipifera*	9	25	30	B	B+	small codominant stems	remove
87	Tulip tree	*Liriodendron tulipifera*	6.7	15	15	B	B	unbalanced to SE	remove
88	American sweetgum	*Liquidambar styraciflua*	7.1	25	20	A	B	History of breakage, Multiple branch attachments	remove
89	Tulip tree	*Liriodendron tulipifera*	12.5	30	25	A-	B	multiple branch attachments; included bark	remove
90	Tulip tree	*Liriodendron tulipifera*	3	15	8	C	D	unbalanced, top dieback	remove
91	Tulip tree	*Liriodendron tulipifera*	11	25	20	A-	B	minor pests; multiple branch attachments	remove
92	Bradford pear	*Pyrus calleryana*	8.2	15	12	A	B	recently pruned; multiple branch attachments	remove
93	Bradford pear	*Pyrus calleryana*	9.9	15	15	A	B	recently pruned; multiple branch attachments	remove
94	Bradford pear	*Pyrus calleryana*	9.6	20	15	A	B	recently pruned; multiple branch attachments	remove

Tree No.	Common Name	Botanical Name	Diameter at 4.5 feet (dbh) In inches	Height (in feet)	Spread (in diameter feet)	Physio-logical Condition (A-F)	Structural Condition (A-F)	Comments	Disposition
95	Fern pine	*Afrocarpus gracilior*	1.5	7	4	A	B	young tree, mech. damaged trunk	remove
96	Fern pine	*Afrocarpus gracilior*	11	20	20	A	B	multiple branch attachments, history of breakage	remove
97	Carrotwood	*Cupaniopsis anacardioides*	10.5	25	25	A	B	Multiple branch attachments	remove
98	Carrotwood	*Cupaniopsis anacardioides*	11	25	25	A	B	Multiple branch attachments	remove
99	Fern pine	*Afrocarpus gracilior*	9.6	20	15	A	B	multiple branch attachments, history of breakage	remove
100	Fern pine	*Afrocarpus gracilior*	11	25	20	A	A		remove
101	Fern pine	*Afrocarpus gracilior*	14 @ 3'	25	25	A	B		remove
102	Bradford pear	*Pyrus calleryana*	9.3	15	25	A	B		remove
103	Bradford pear	*Pyrus calleryana*	12.8	20	25	A	B		remove

TABLE 2 – APPRAISAL VALUES FOR 51 REMOVAL TREES

Tree No.	Common Name	Individual Trunk diameter	Species Rating (Per Guide)	Condition Factor	Location Factor	Rounded Appraisal Value
6	Fern pine	13	0.9	0.9	0.9	$9,200
7	Fern pine	13	0.9	0.9	0.9	$9,200
8	Fern pine	19	0.9	0.5	0.68	$7,700
12	Fern pine	9.8	0.9	0.7	0.77	$3,800
13	Carrotwood	8	0.5	0.7	0.77	$1,250
14	Carrotwood	6.8	0.5	0.7	0.77	$1,010
15	Carrotwood	11.2	0.5	0.8	0.87	$2,650
16	Carrotwood	3.6	0.5	0.25	0.6	$160
17	Carrotwood	6.3	0.5	0.8	0.87	$1,200
19	Fern pine	15	0.9	0.9	0.9	$11,900
22	Fern pine	9.7	0.9	0.9	0.9	$5,600
23	Fern pine	9.5	0.9	0.9	0.9	$5,400
24	Carrotwood	11.1	0.5	0.9	0.9	$3,040
26	Fern pine	13.7	0.9	0.7	0.9	$7,900
27	Flooded gum	22	0.01	0.5	0.6	$100
28	Flooded gum	20	0.01	0.01	0.6	$0

Tree No.	Common Name	Individual Trunk diameter	Species Rating (Per Guide)	Condition Factor	Location Factor	Rounded Appraisal Value
29	Flooded gum	8.5	0.01	0.01	0.6	$0
30	Queen palm	7' BT				$600
31	Flooded gum	21	0.01	0.8	0.87	$210
64	Fern pine	18.7	0.9	0.9	0.9	$17,900
65	Fern pine	14.8	0.9	0.9	0.9	$11,600
66	Fern pine	2	0.9	0.9	0.9	$1,280
67	Fern pine	16.4	0.9	0.9	0.9	$14,000
68	Fern pine	15.6	0.9	0.9	0.9	$12,800
69	Fern pine	12.8	0.9	0.9	0.9	$9,000
70	Flooded gum	13.6	0.01	0.7	0.83	$80
71	Flooded gum	14.8	0.01	0.7	0.83	$90
72	Flooded gum	15.8	0.01	0.1	0.6	$10
73	Flooded gum	17.3	0.01	0.1	0.6	$10
74	Flooded gum	18.3	0.01	0.7	0.83	$130
75	Flooded gum	24	0.01	0.7	0.83	$230
84	Tulip tree	3	0.7	0.75	0.83	$690
85	Tulip tree	17	0.7	0.75	0.83	$8,700
86	Tulip tree	9	0.7	0.75	0.83	$2,760
87	Tulip tree	6.7	0.7	0.75	0.83	$1,720
88	American sweetgum	7.1	0.7	0.8	0.87	$2,100
89	Tulip tree	12.5	0.7	0.8	0.87	$5,500
90	Tulip tree	3	0.7	0.1	0.6	$70
91	Tulip tree	11	0.7	0.8	0.87	$4,370
92	Bradford pear	8.2	0.5	0.8	0.87	$2,060
93	Bradford pear	9.9	0.5	0.8	0.87	$2,770
94	Bradford pear	9.6	0.5	0.8	0.87	$2,630
95	Fern pine	1.5	0.9	0.8	0.87	$1,030
96	Fern pine	11	0.9	0.8	0.87	$5,900
97	Carrotwood	10.5	0.5	0.8	0.87	$2,390
98	Carrotwood	11	0.5	0.8	0.87	$2,570
99	Fern pine	9.6	0.9	0.8	0.87	$4,740
100	Fern pine	11	0.9	0.9	0.9	$5,500
101	Fern pine	14	0.9	0.9	0.9	$5,500
102	Bradford pear	9.3	0.5	0.8	0.87	$2,500
103	Bradford pear	12.8	0.5	0.8	0.87	$4,280
					Total	$205,830

DISCUSSION

The landscape plan illustrates the reconfiguration of existing landscape islands in the northern and southern parking areas of the site. Proposed demolition and reconstruction of the landscape islands will result in removal of 51 of the remaining 100 ornamental trees that are located in the areas of potential impact. Other landscape trees in the non-impacted areas of the parking lot will not be effected. Minor twigs and branches, and some roots may need to be pruned for equipment access, fine grading, trenching, or other work associated with the demolition and reconstruction process in areas where trees are to remain in the areas of impact.

CONCLUSION AND RECOMMENDATIONS

In my professional opinion the project may proceed if the following conditions are met:

- Any demolition, digging, excavating, trenching, compaction, or placement of greater than six inches of fill material within the *Tree Protection Zones*[2] of any tree to remain is monitored by a qualified arborist.
- If canopy pruning is found to be necessary for trees to remain, it should only be performed by a qualified ISA Certified Arborist or ISA Certified Tree Worker.
- Equipment, materials, and vehicles shall not be stored, parked, or operated within the protected zone of trees to remain.
- Equipment with overhead exhaust shall not be placed in such a manner as to scorch overhanging branches or foliage. Smaller equipment shall be used in such areas as deemed necessary by the monitoring arborist.
- Protective fencing should be installed for the trees to remain immediately adjacent to the area of impact prior to commencement of demolition or construction activities.
- All fencing should remain in place until the City approves its removal.
- A 'Warning' sign is prominently displayed on each protective enclosure. The sign will be a minimum of 8.5 inches x 11 inches and clearly state the following:

TREE PROTECTION ZONE THIS FENCE SHALL NOT BE REMOVED

[2] In this case, the outer edge of a tree's natural dripline (canopy).

EXHIBIT 1 - Approximate boundaries of the tree inventory update from 2013 to 2016 as designated by MG2. (Source – Bing Maps, Not to Scale)

EXHIBIT 2 - Close-up of approximate boundaries of the tree inventory area for the gas station demo and new parking lot area as designated by MG2 and CCA.
(Source – Bing Maps, Not to Scale)

EXHIBIT 3 - Close-up of approximate boundaries of the tree inventory area for the parking lot demo, new gas station, and new parking lot area as designated by MG2 and CCA.
(Source – Bing Maps, Not to Scale)

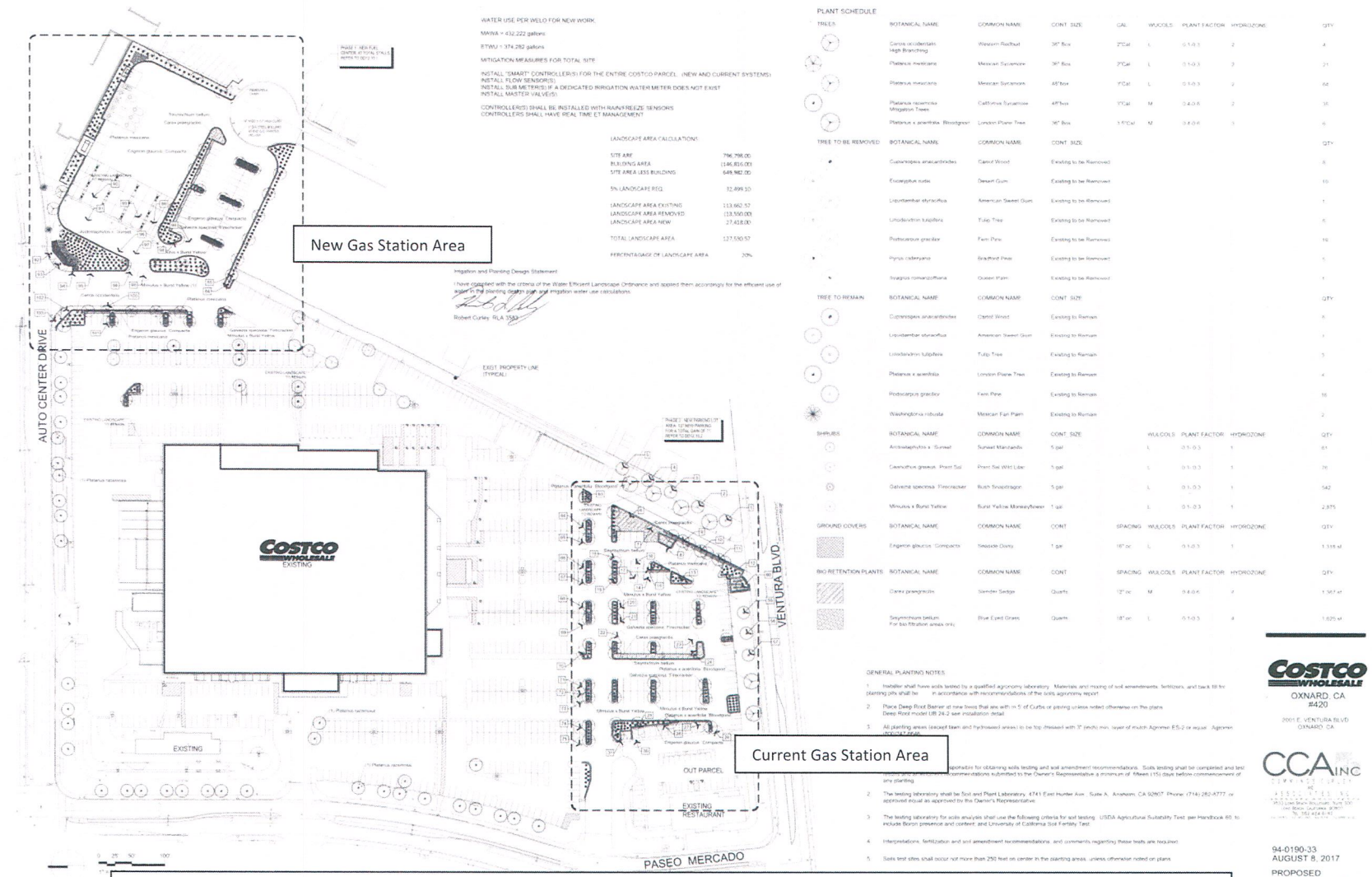
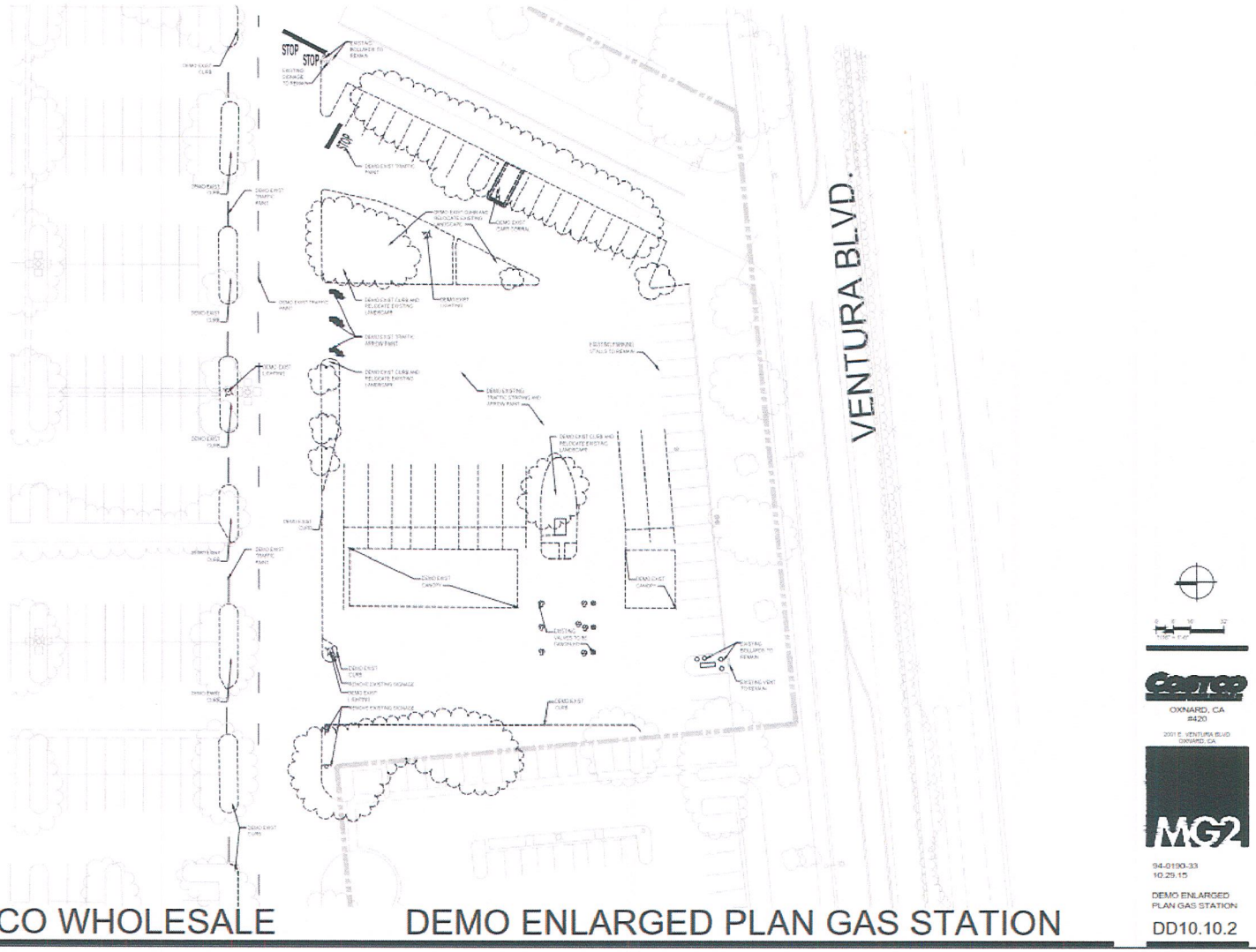


EXHIBIT 4 - Reduced Landscape Plan Illustrating Areas of Potential Impacts (Not to Scale)



COSTCO WHOLESALE DEMO ENLARGED PLAN GAS STATION

EXHIBIT 5 - Reduced Copy of Demo Plan Illustrating Areas of Potential Impacts at Current Gas Station Area (Not to Scale)

EXHIBIT 6 - Reduced Copy of Demo Plan Illustrating Areas of Potential Impacts at Proposed Gas Station and Parking Area (Not to Scale)

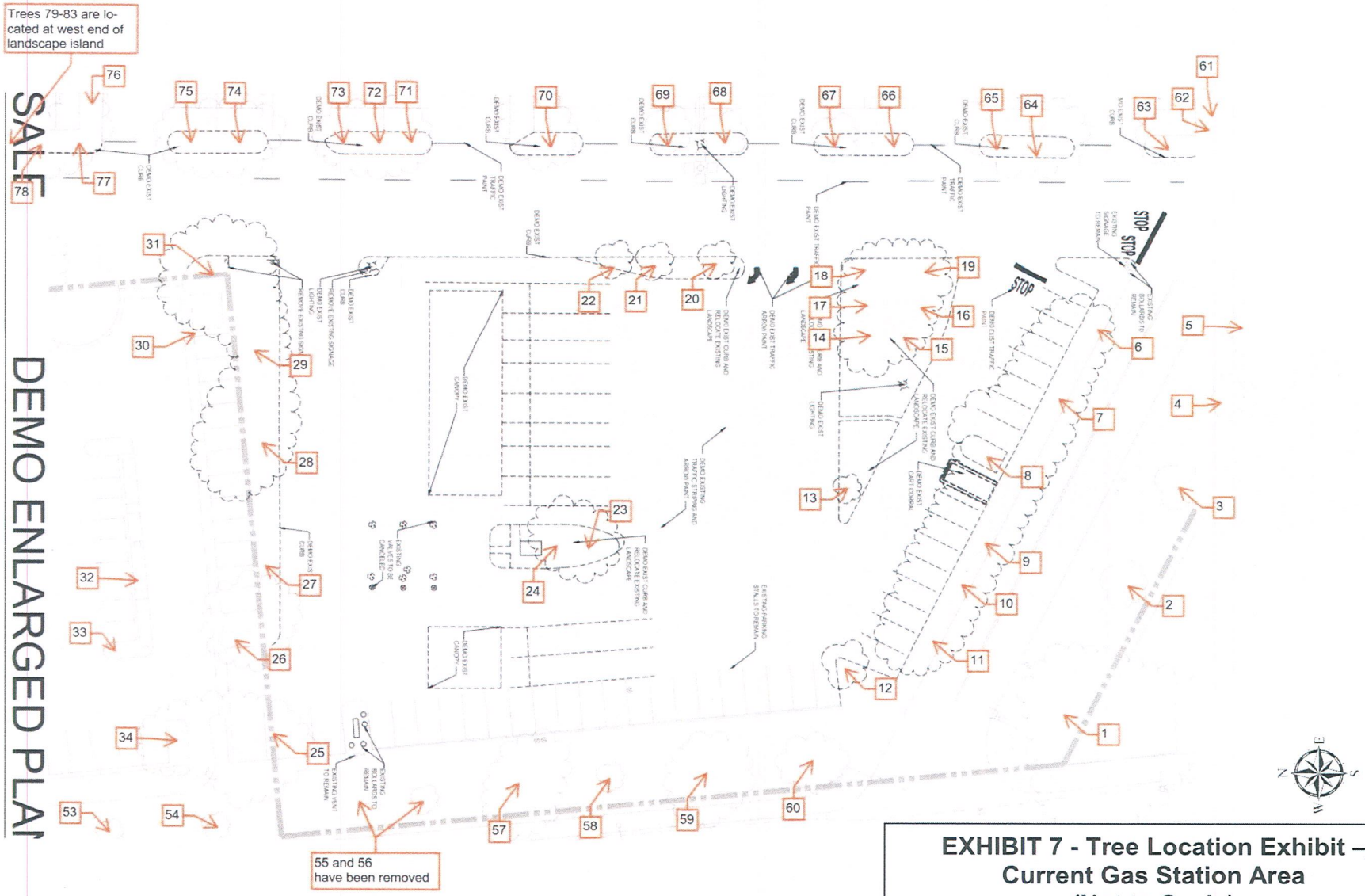
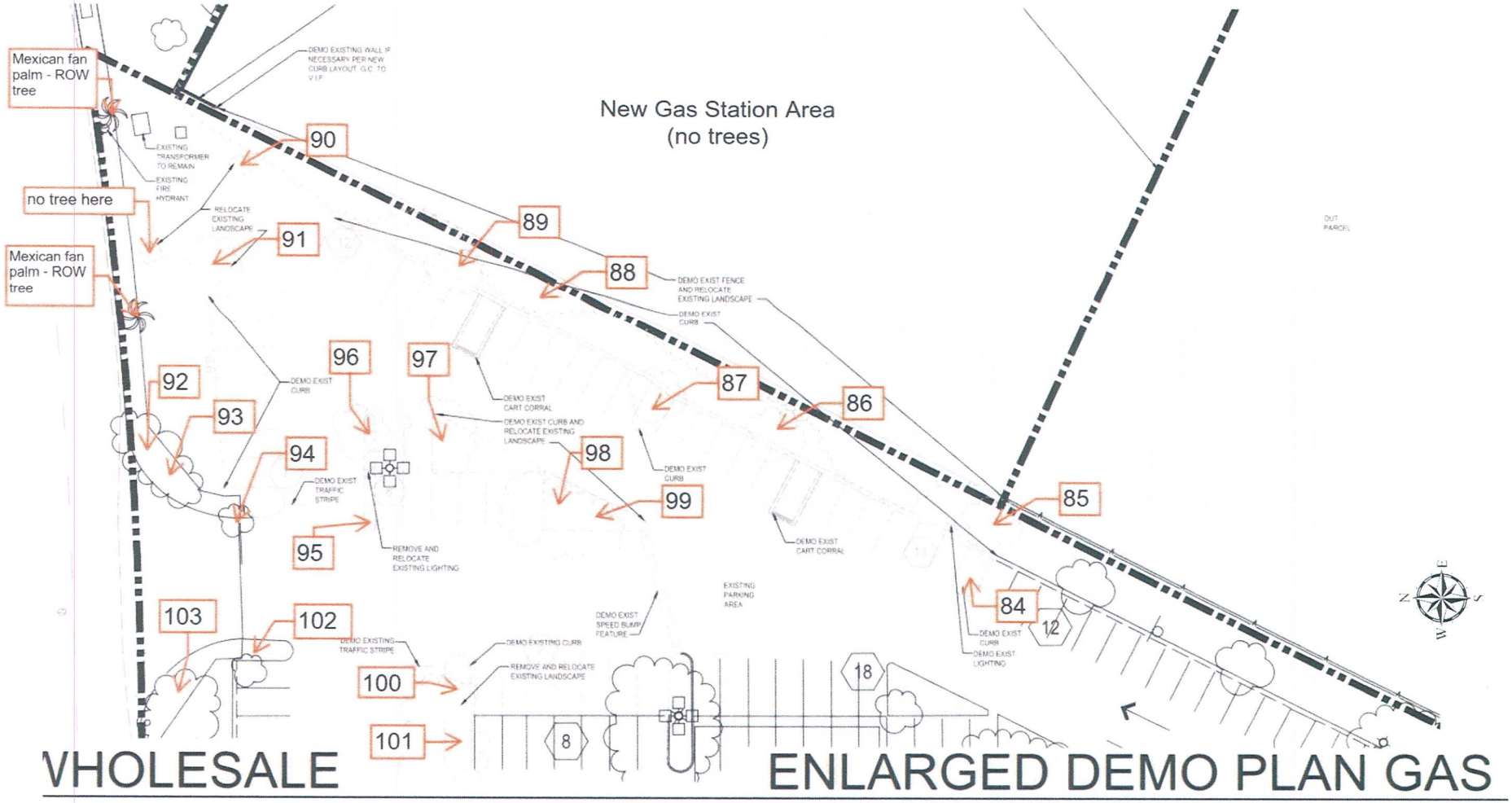


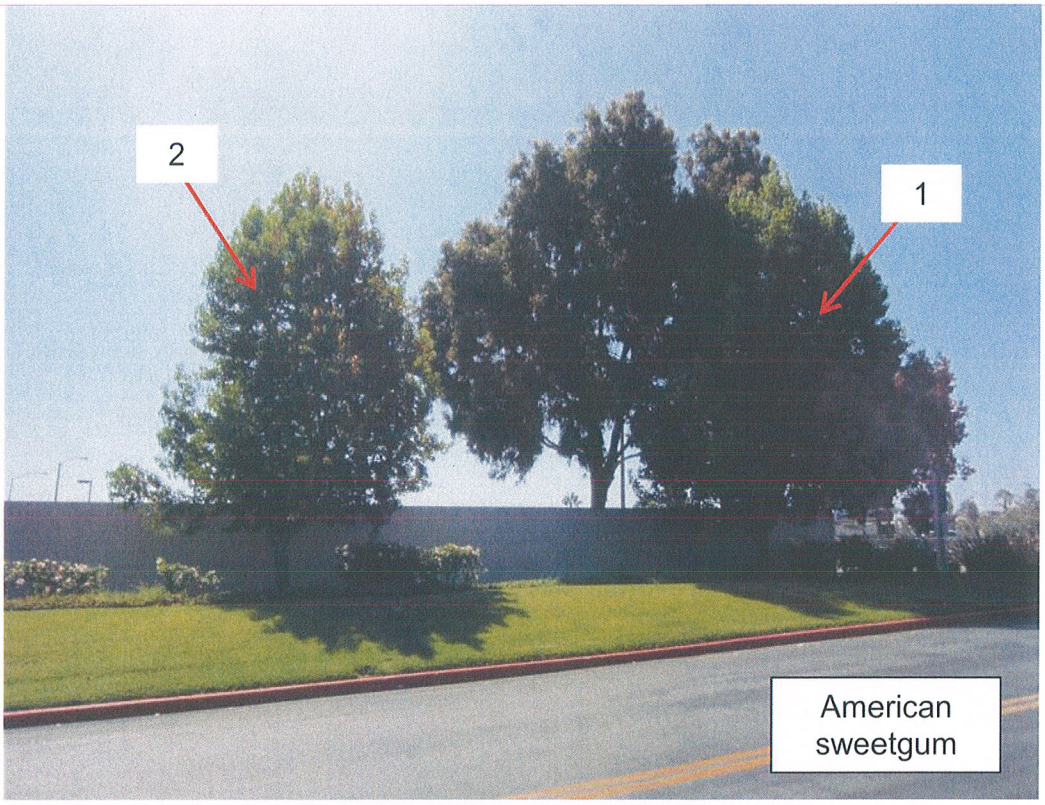
EXHIBIT 7 - Tree Location Exhibit – Current Gas Station Area (Not to Scale)

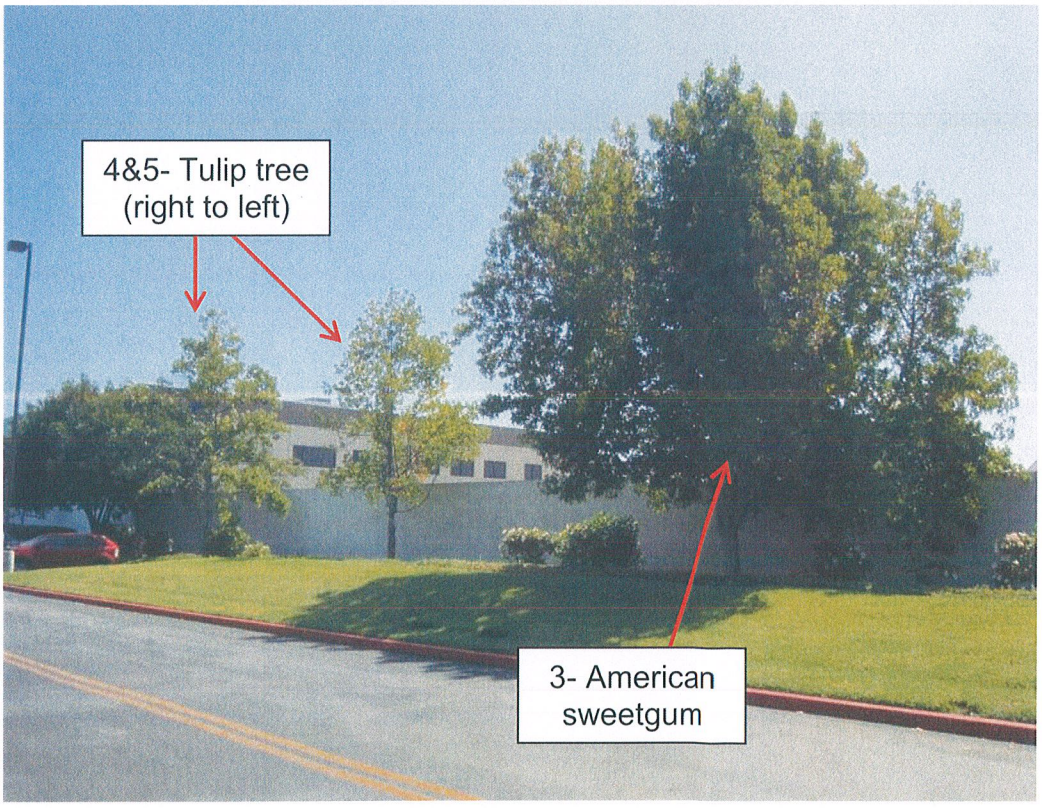
Note: Previously inventoried trees #35-52 are outside of the current area of potential impact and are not illustrated here. Tree #37 has been removed.

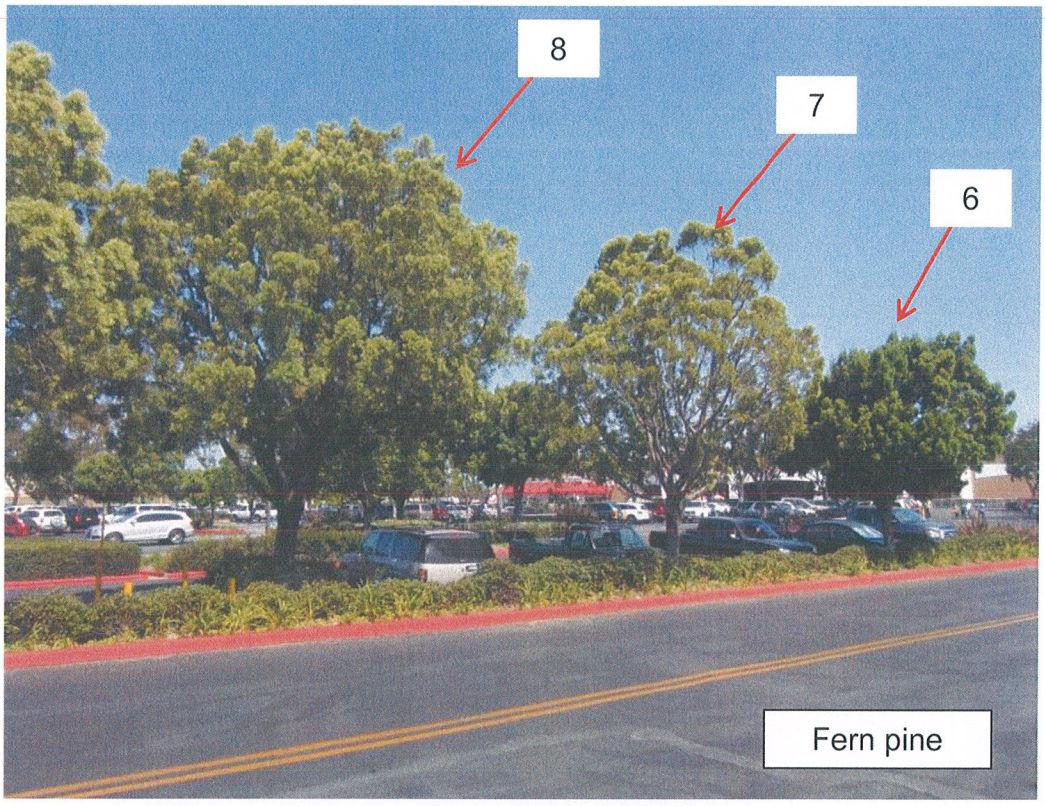


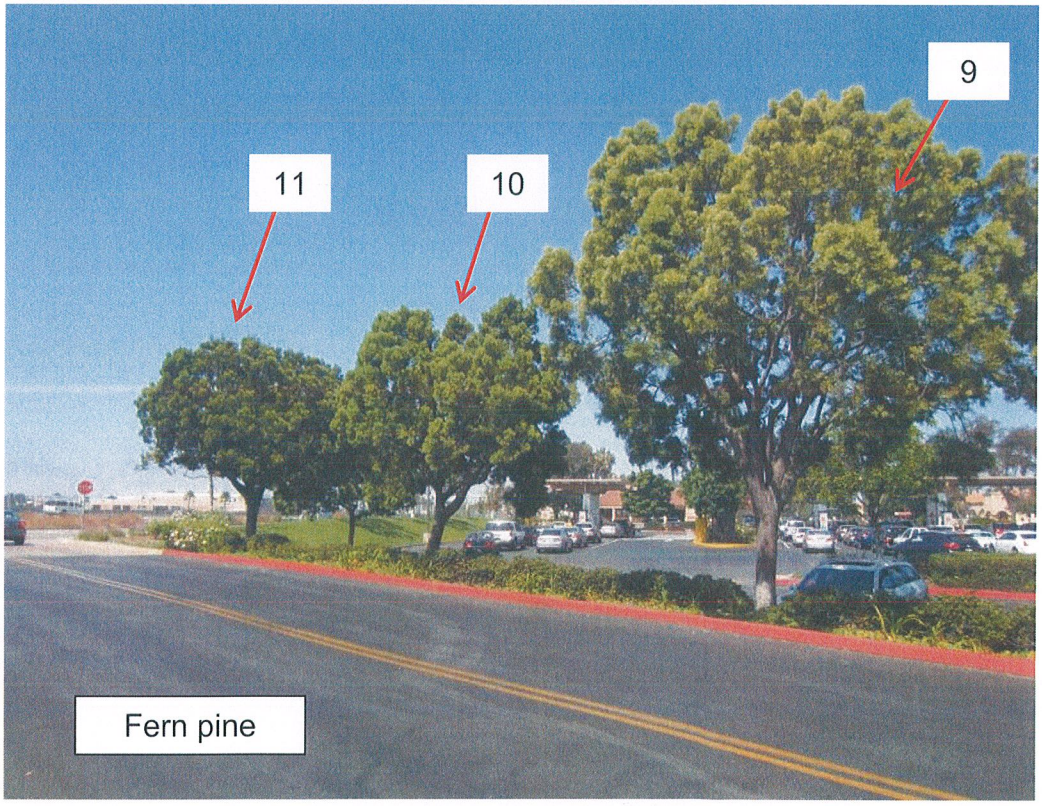
VHOLESALE ENLARGED DEMO PLAN GAS

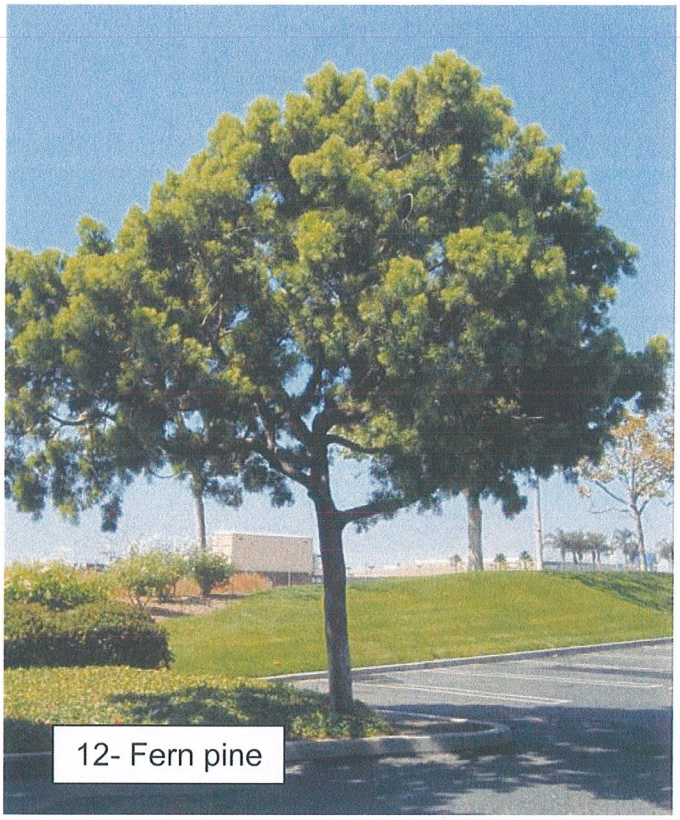
EXHIBIT 8 - Tree Location Exhibit – Proposed Gas Station and Reconfigured Parking Area (Not to Scale)


2
1
American sweetgum

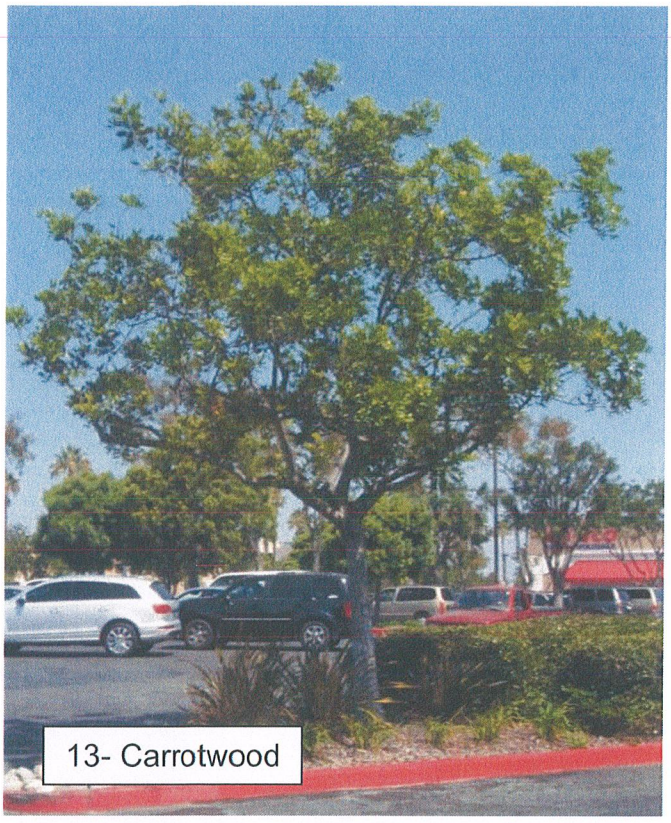

4&5- Tulip tree (right to left)
3- American sweetgum


8
7
6
Fern pine

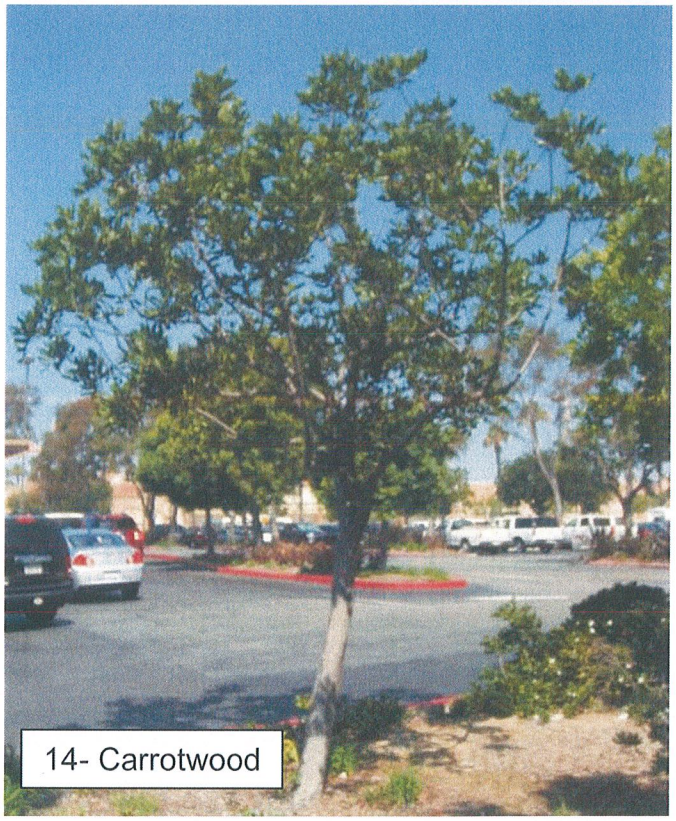

9
11
10
Fern pine



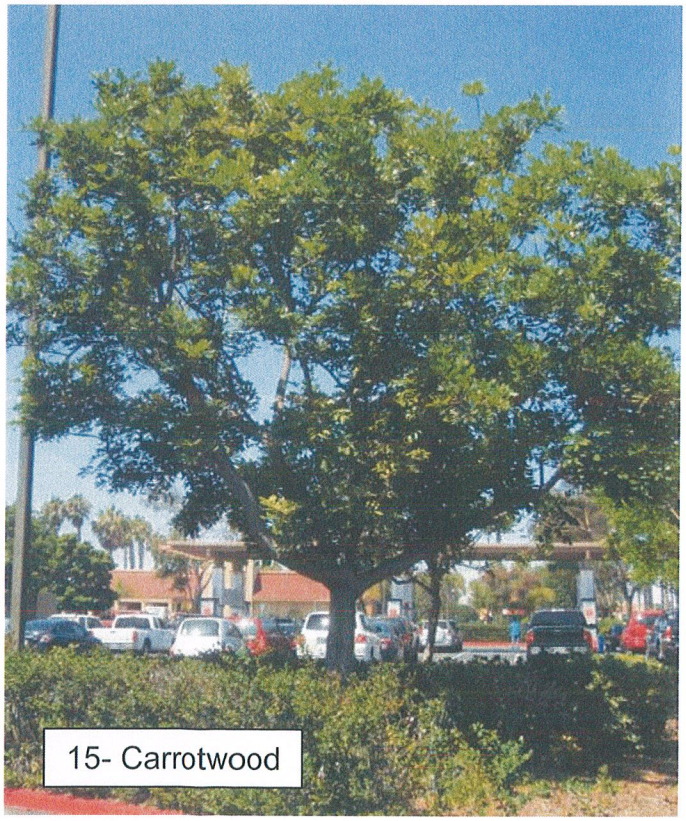
12- Fern pine



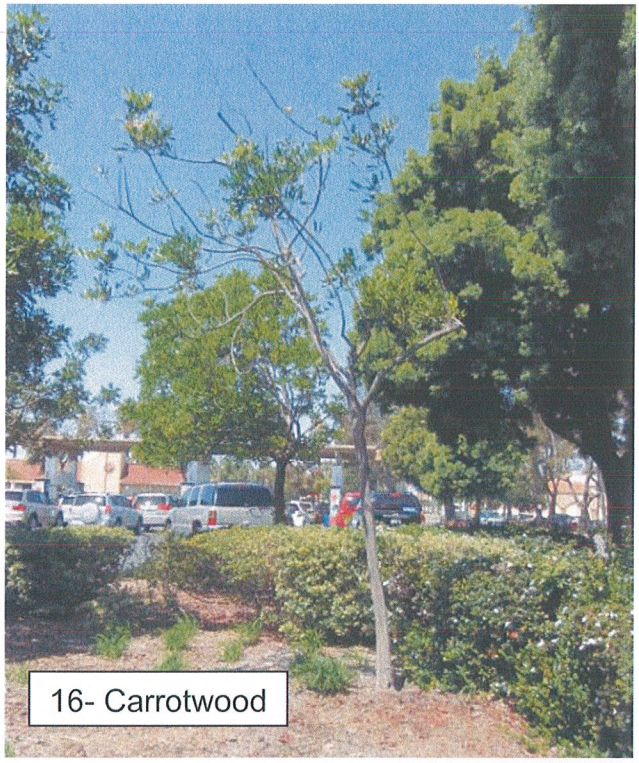
13- Carrotwood

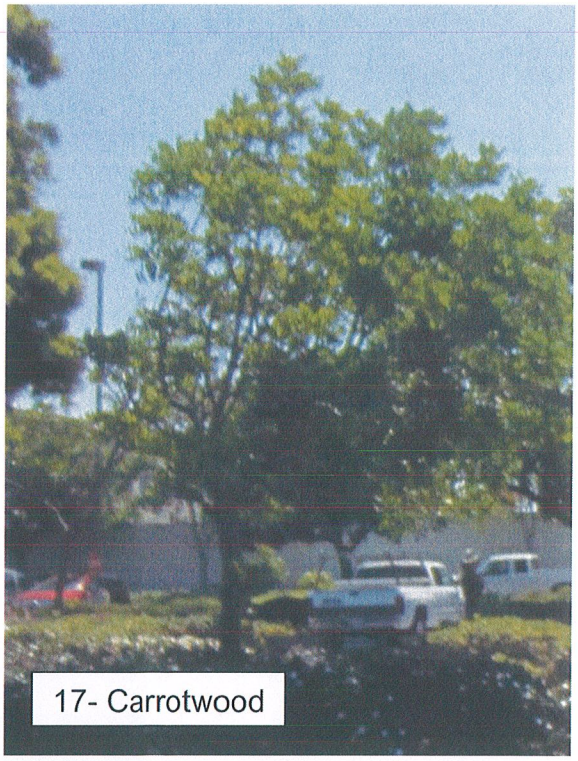


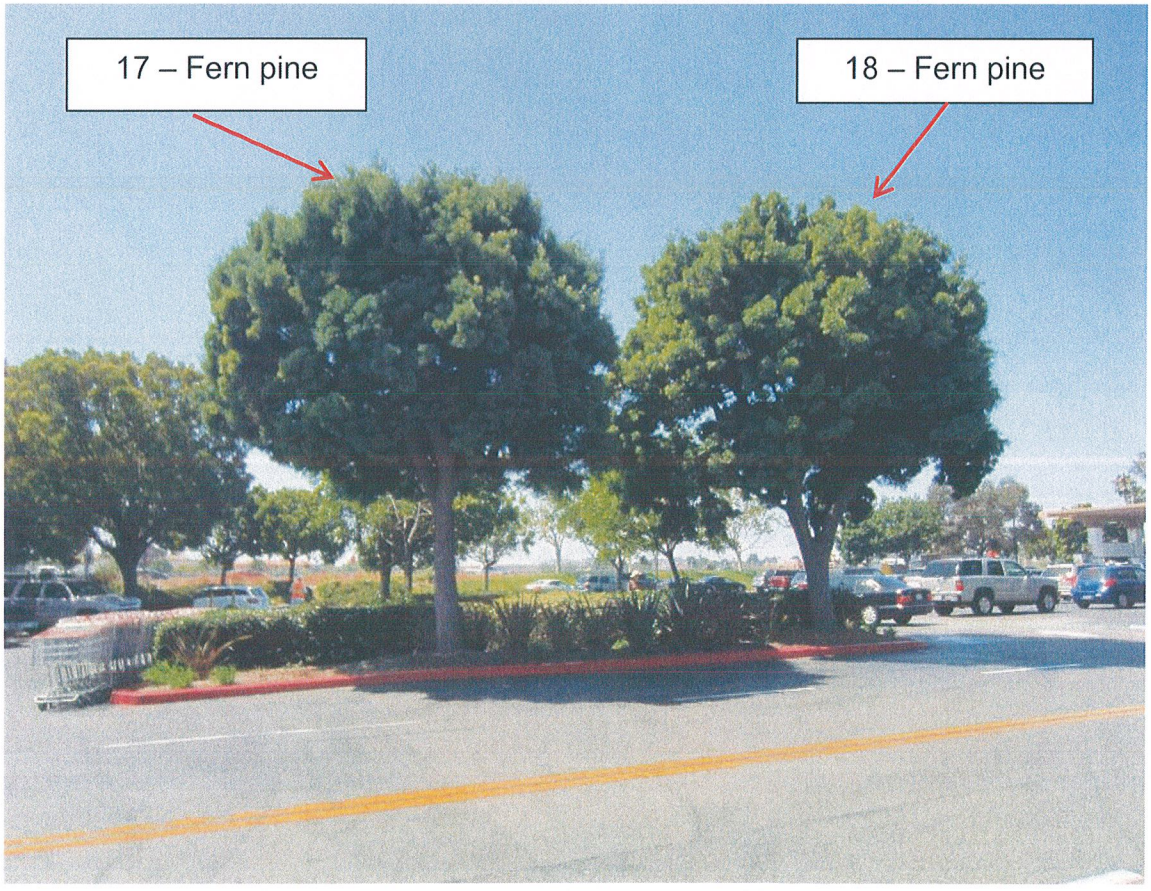
14- Carrotwood

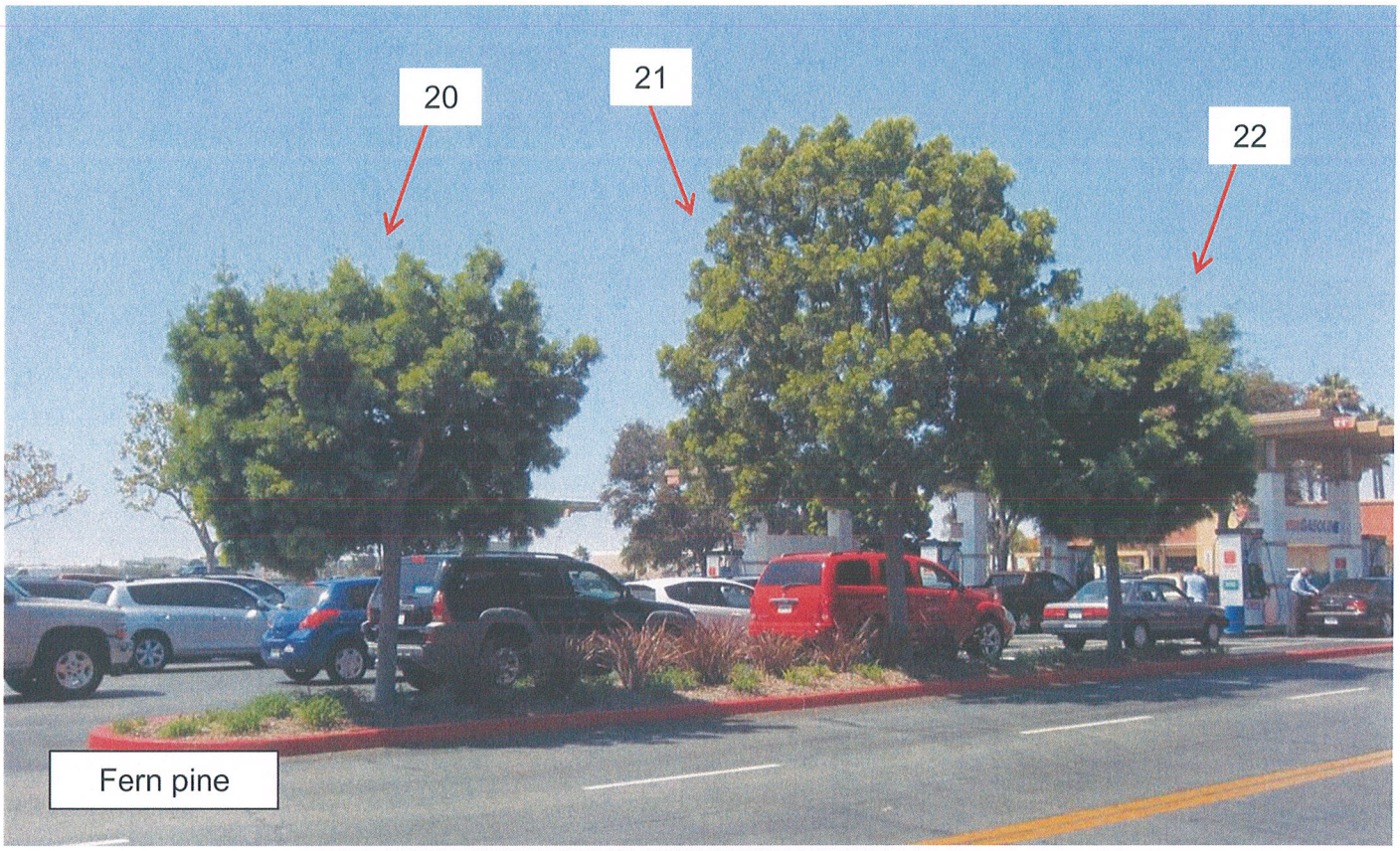


15- Carrotwood

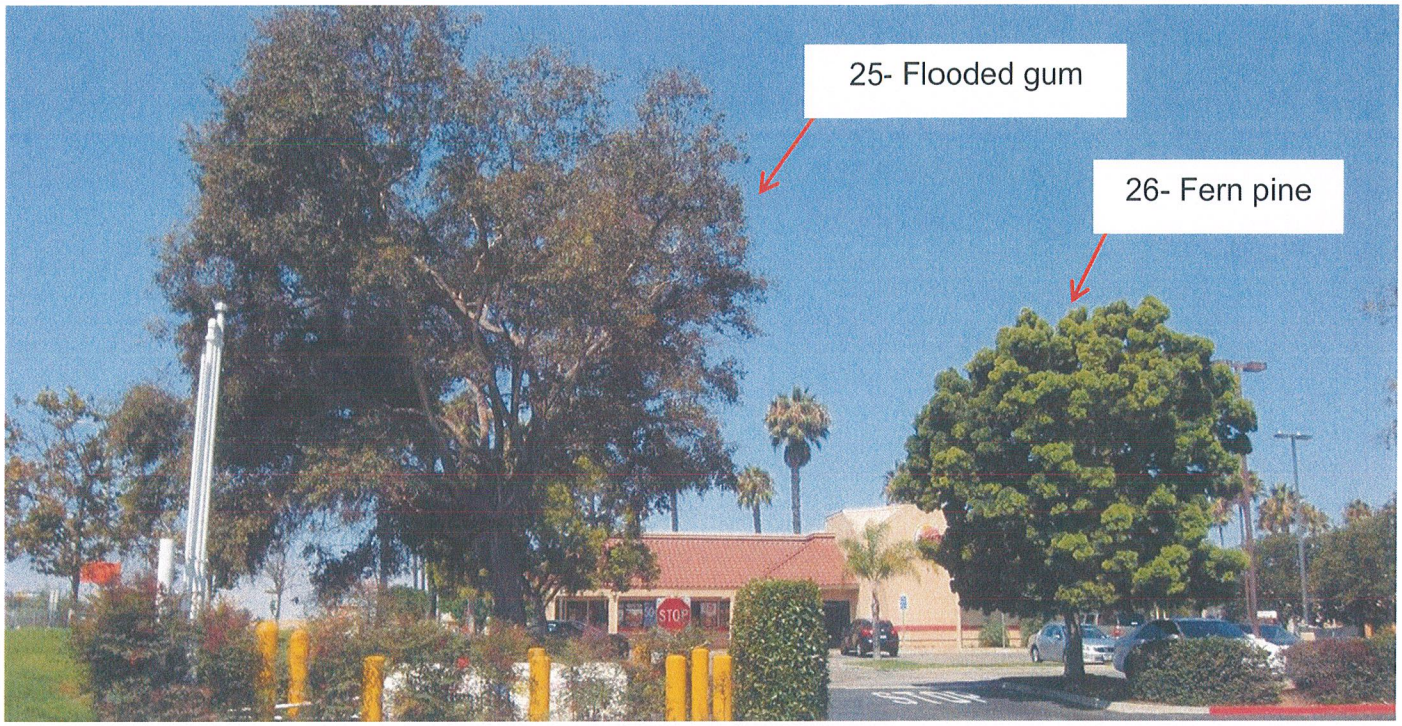

16- Carrotwood

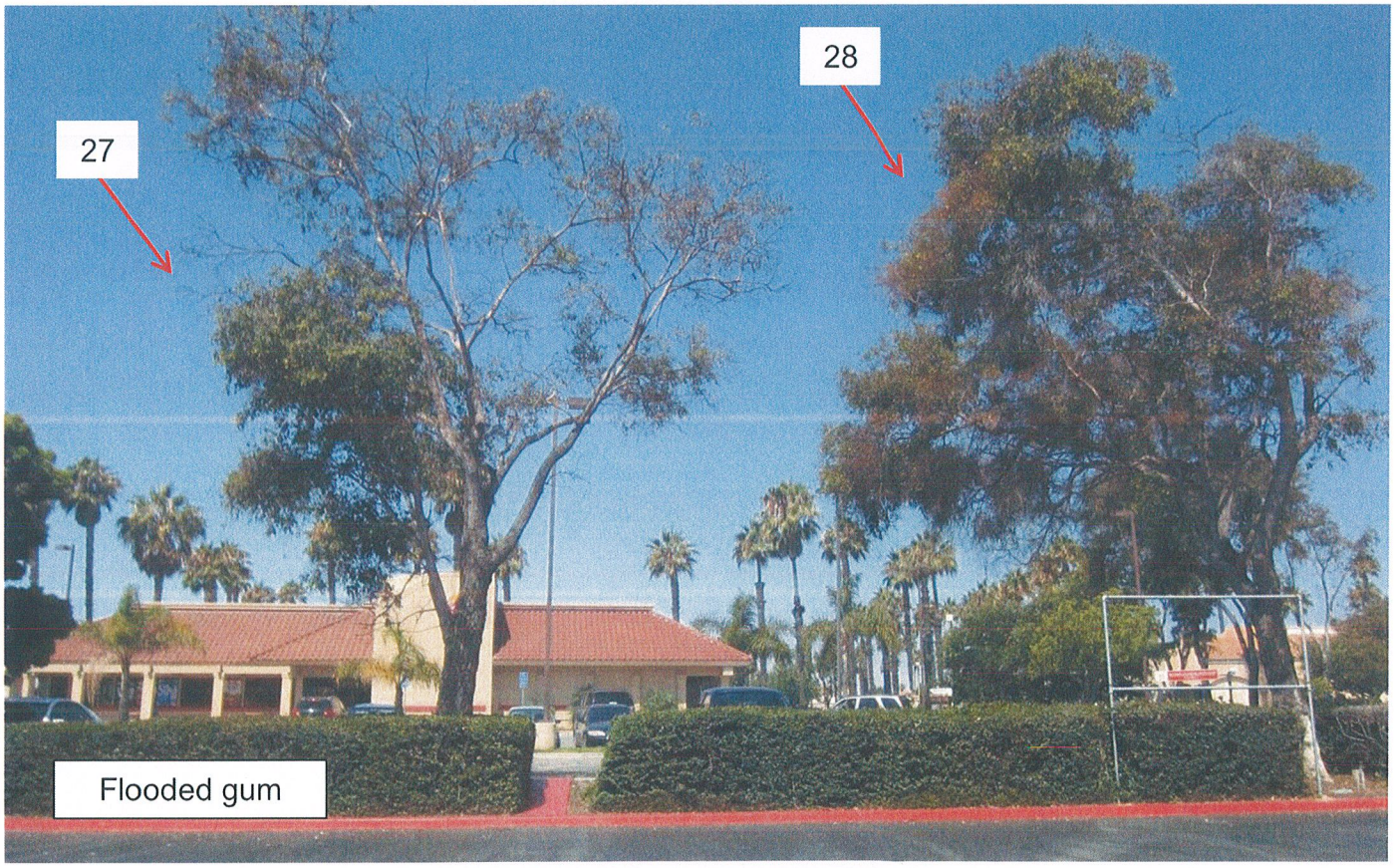

17- Carrotwood


17 – Fern pine
18 – Fern pine


20
21
22
Fern pine

23- Fern pine
24- Carrotwood


25- Flooded gum
26- Fern pine

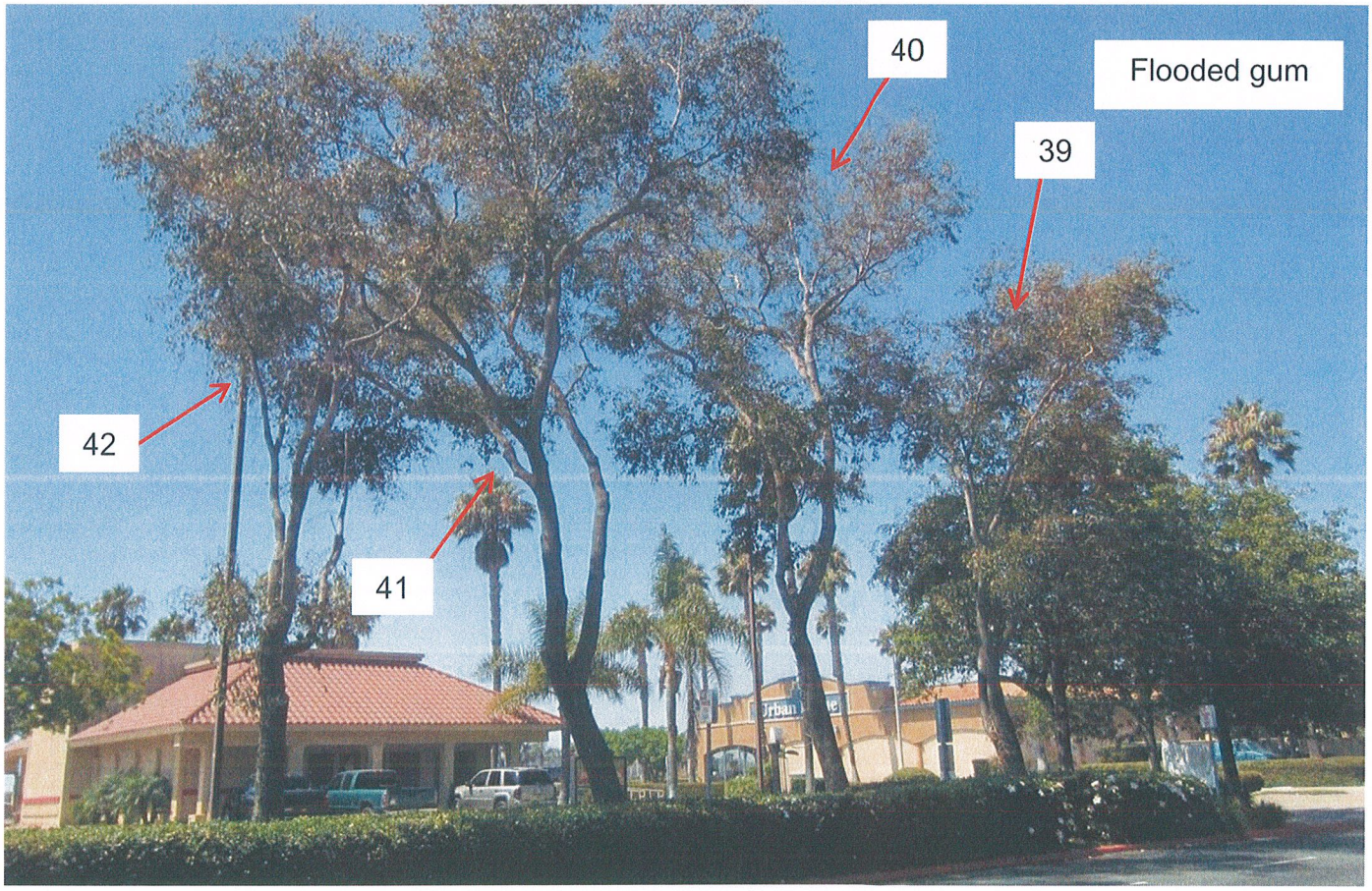

28
27
Flooded gum

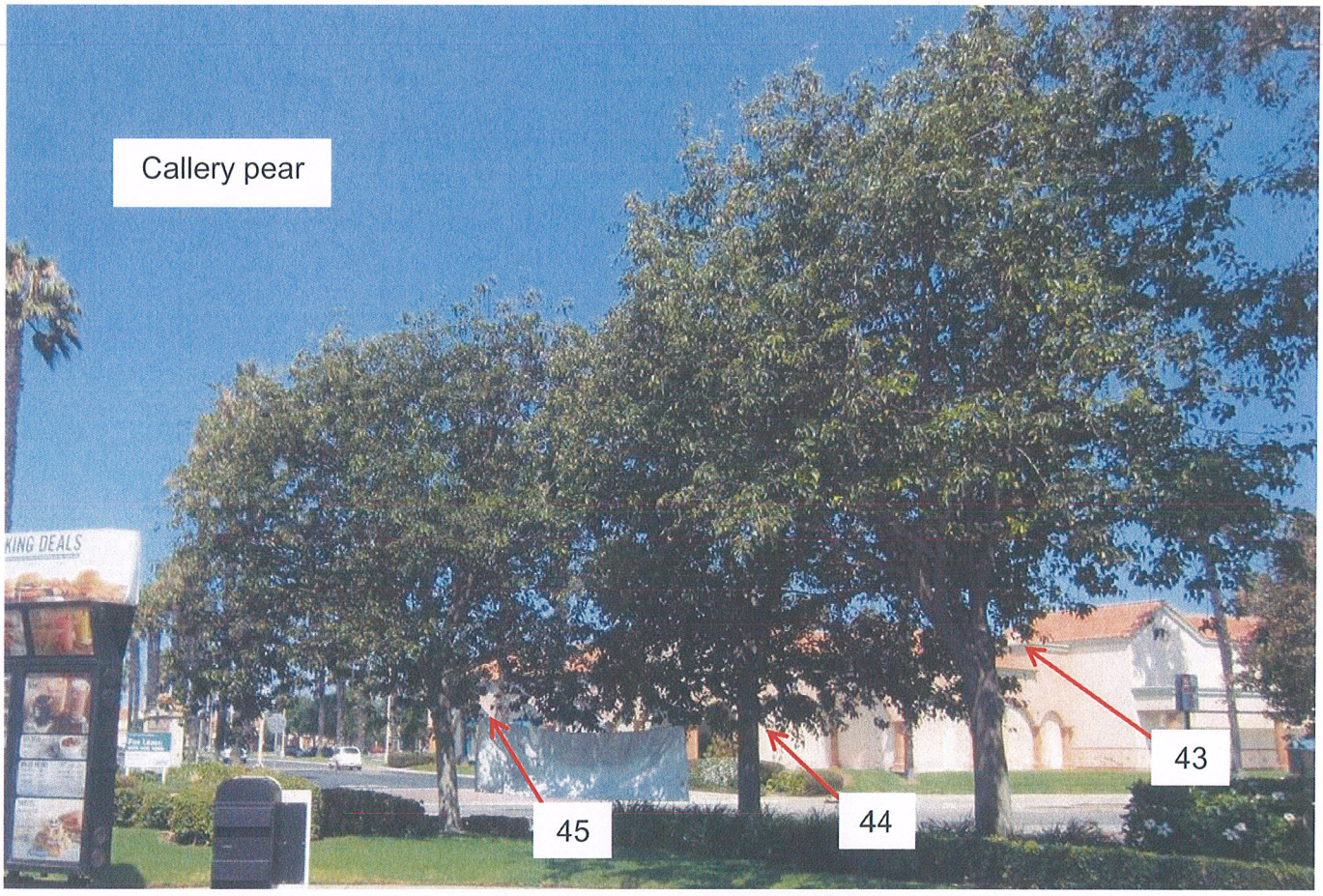
31- Flooded gum
29- Flooded gum
30- Queen palm
STOP

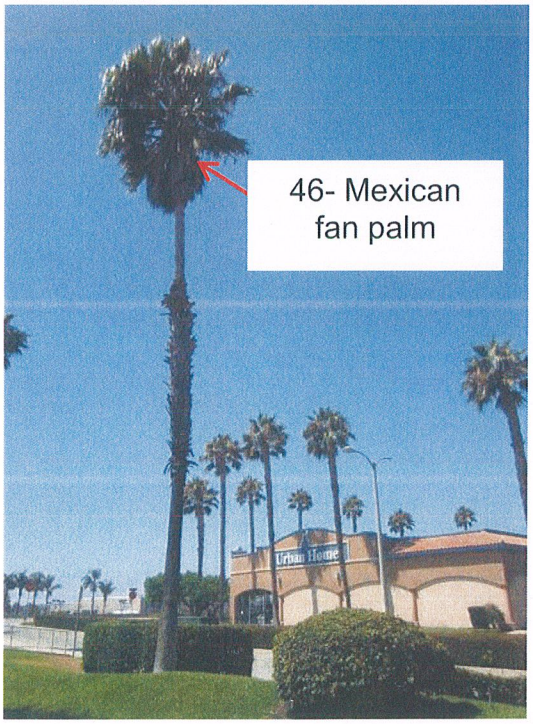
4.13

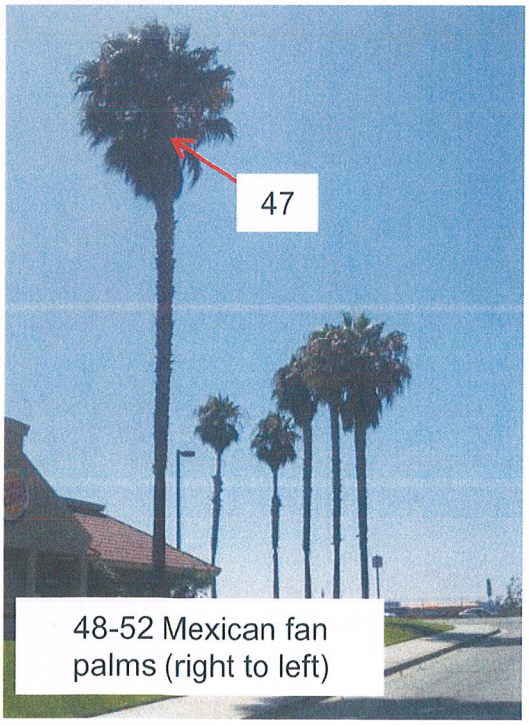
36- Fern pine

Queen palm
37
(was diseased
and has been
removed)
38


40
Flooded gum
39
42
41


Callery pear
KING DEALS
45
44
43

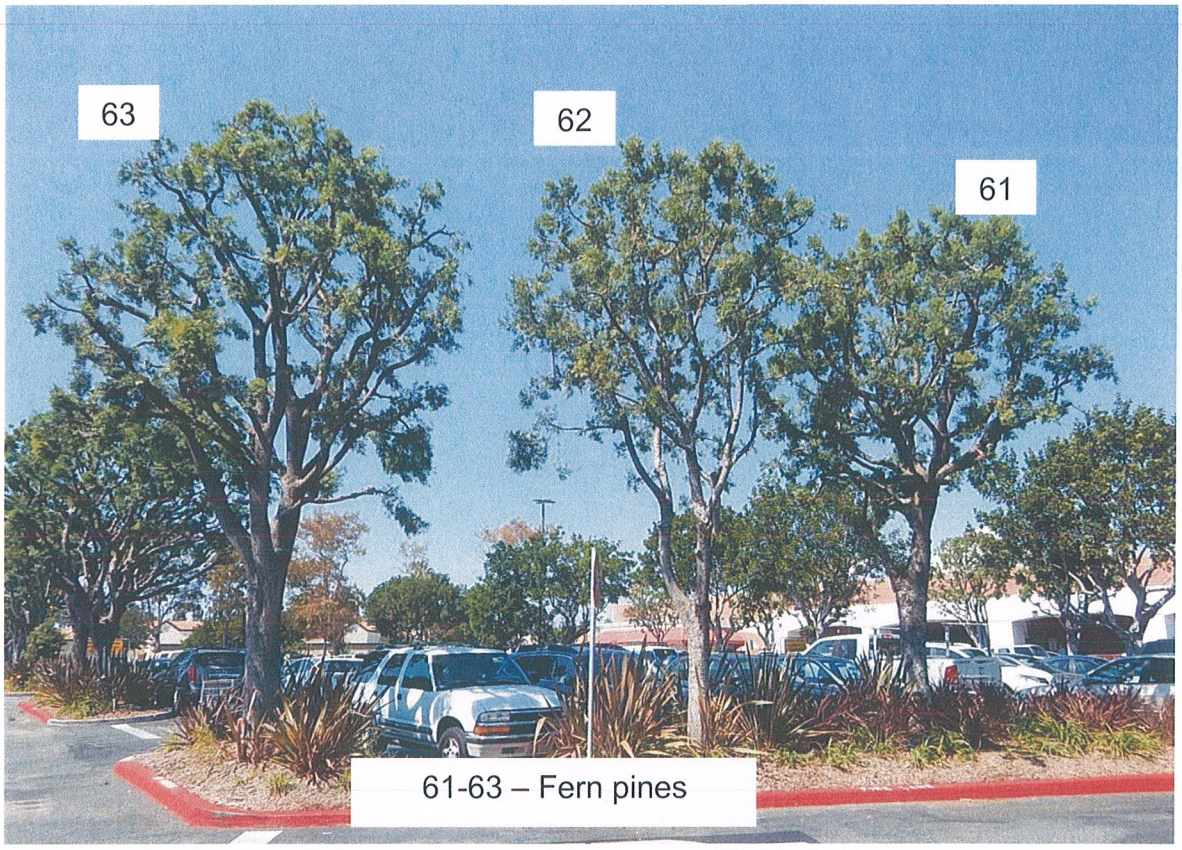

46- Mexican fan palm
Urban Home


47
48-52 Mexican fan palms (right to left)

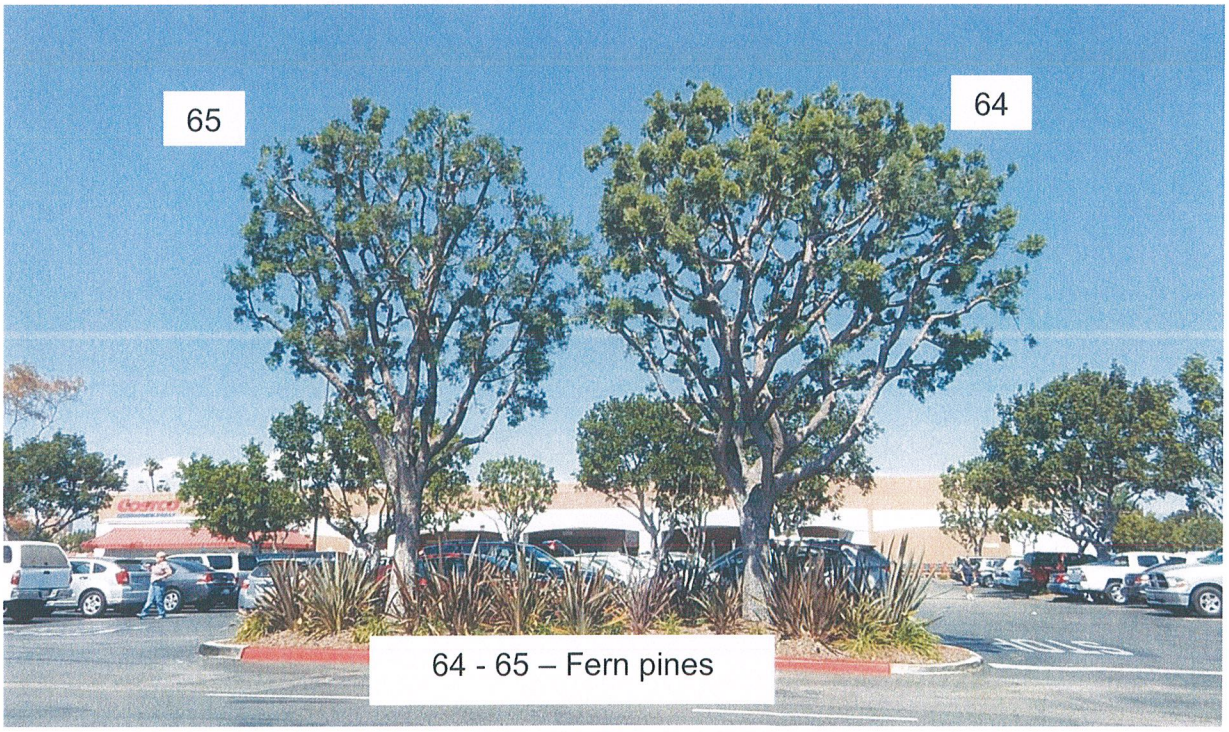
London plane tree
54
53

55- London plane tree
(Has been removed)

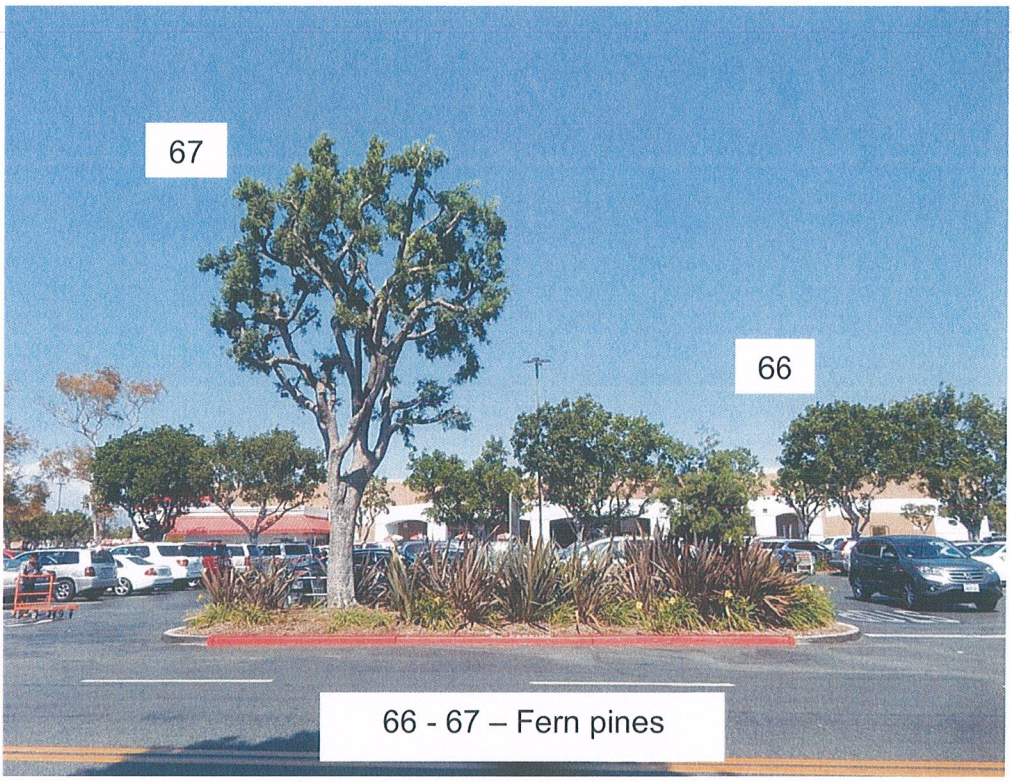
60
59
58
57
56
(Has been
removed)
56-60- London plane



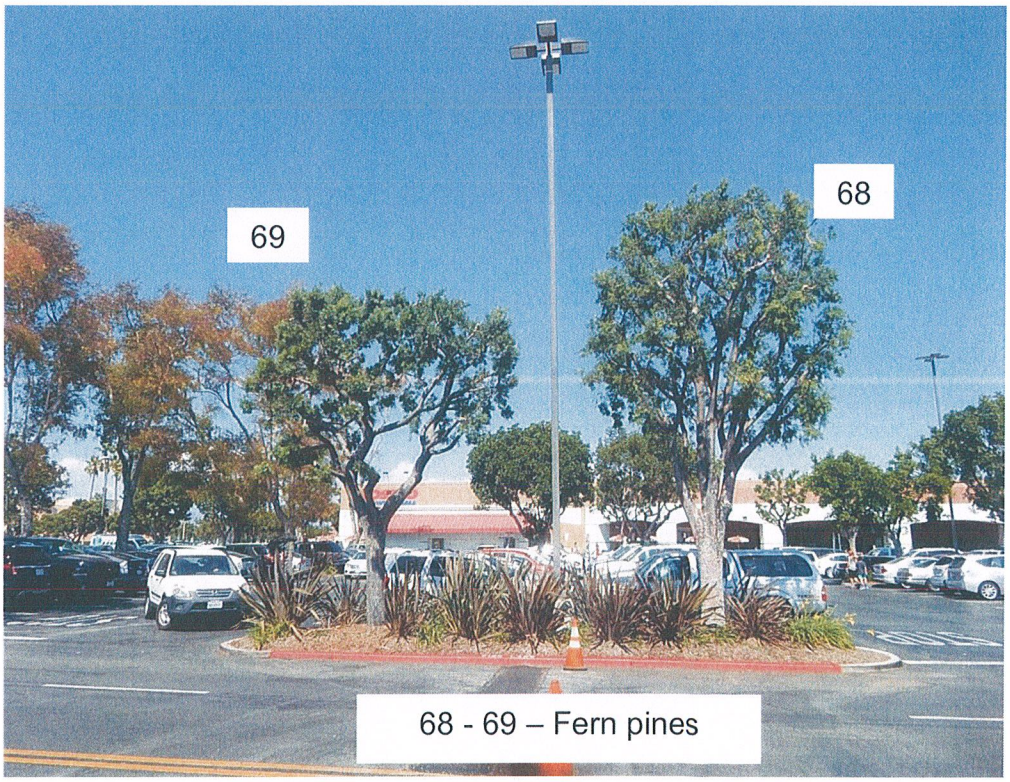
61-63 – Fern pines



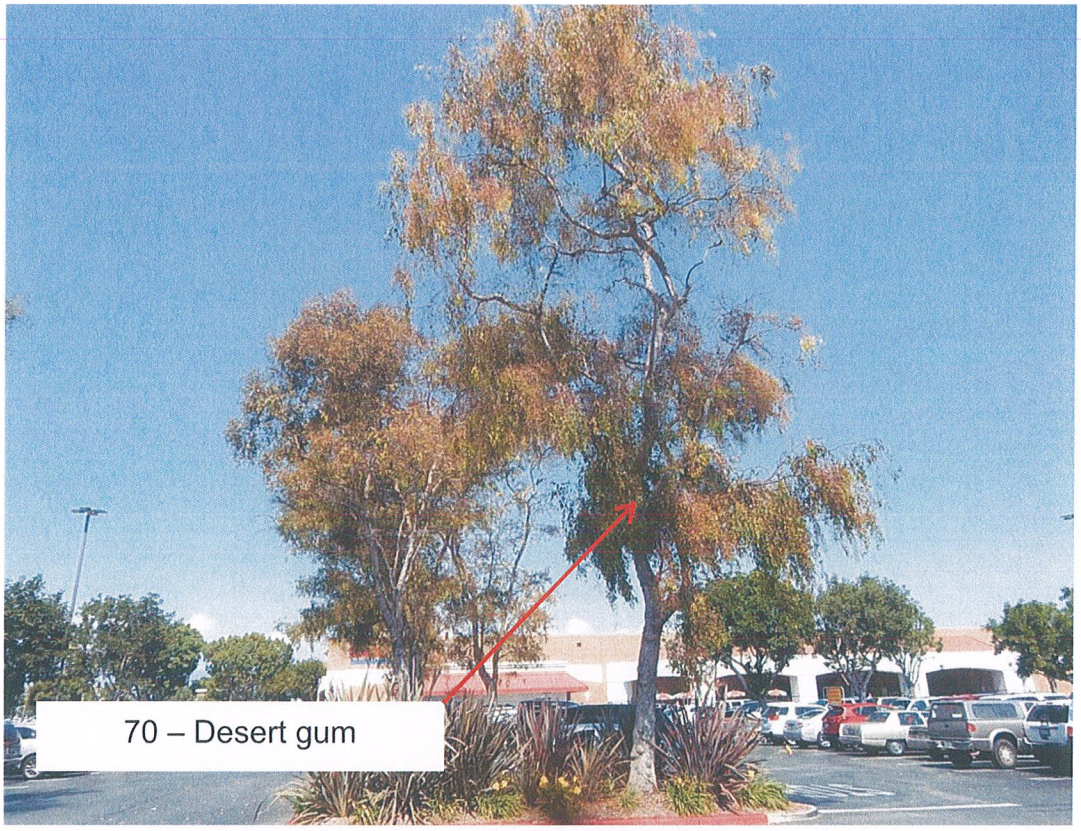
64 - 65 – Fern pines

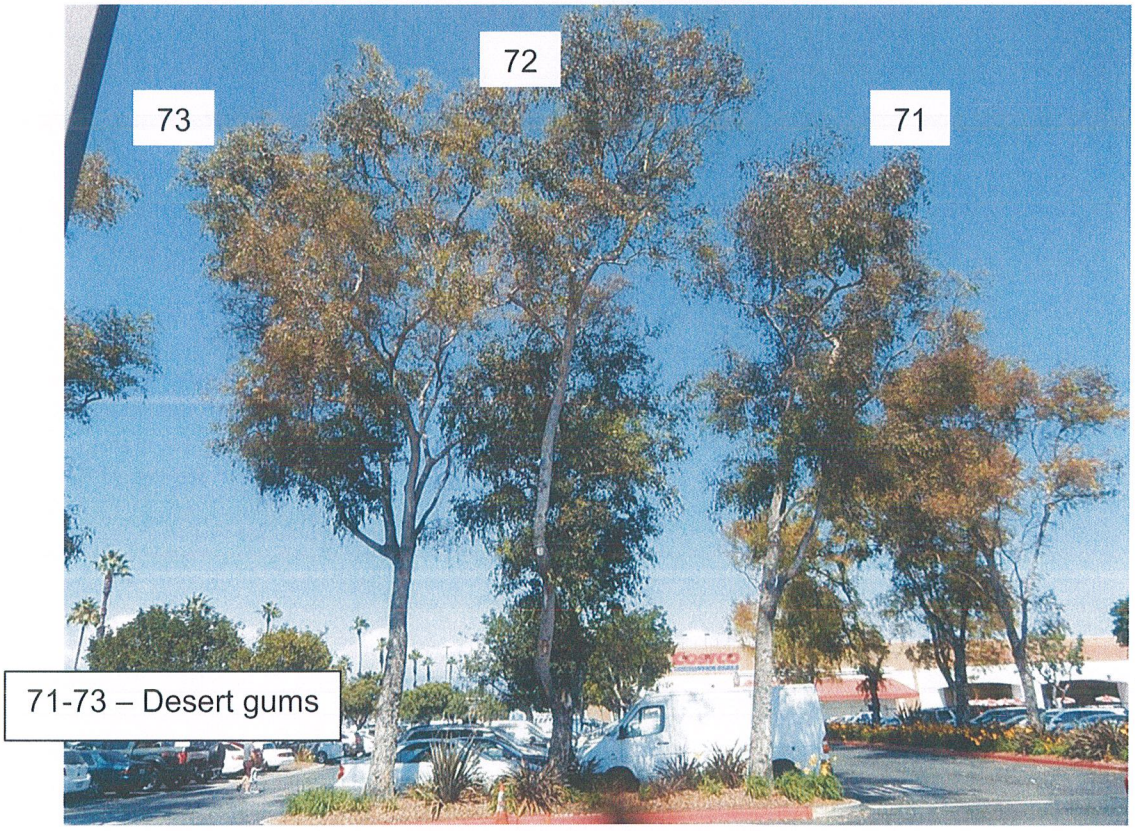


66 - 67 – Fern pines

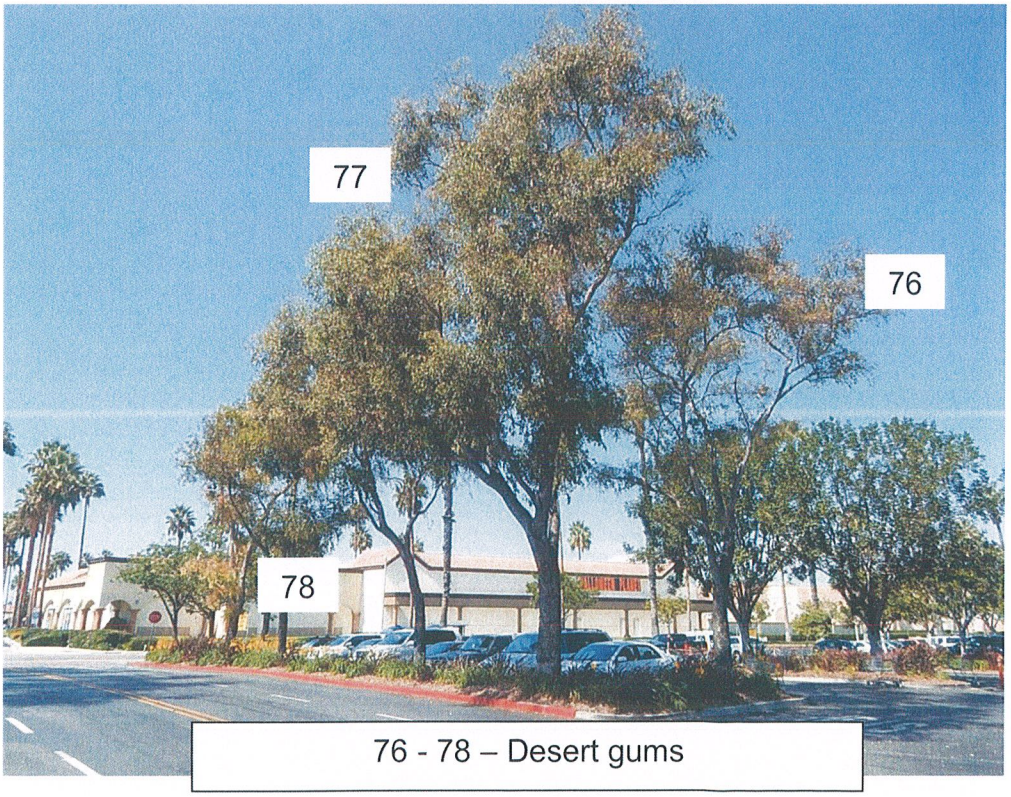


68 - 69 – Fern pines

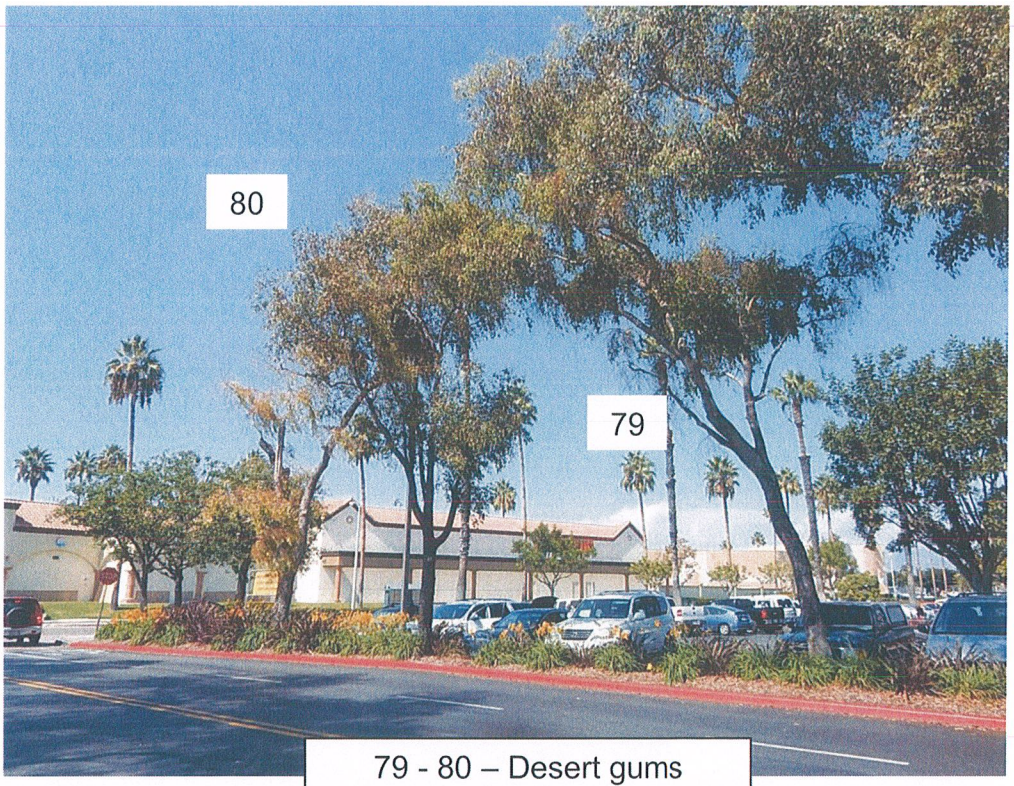

70 – Desert gum


72
73
71
71-73 – Desert gums

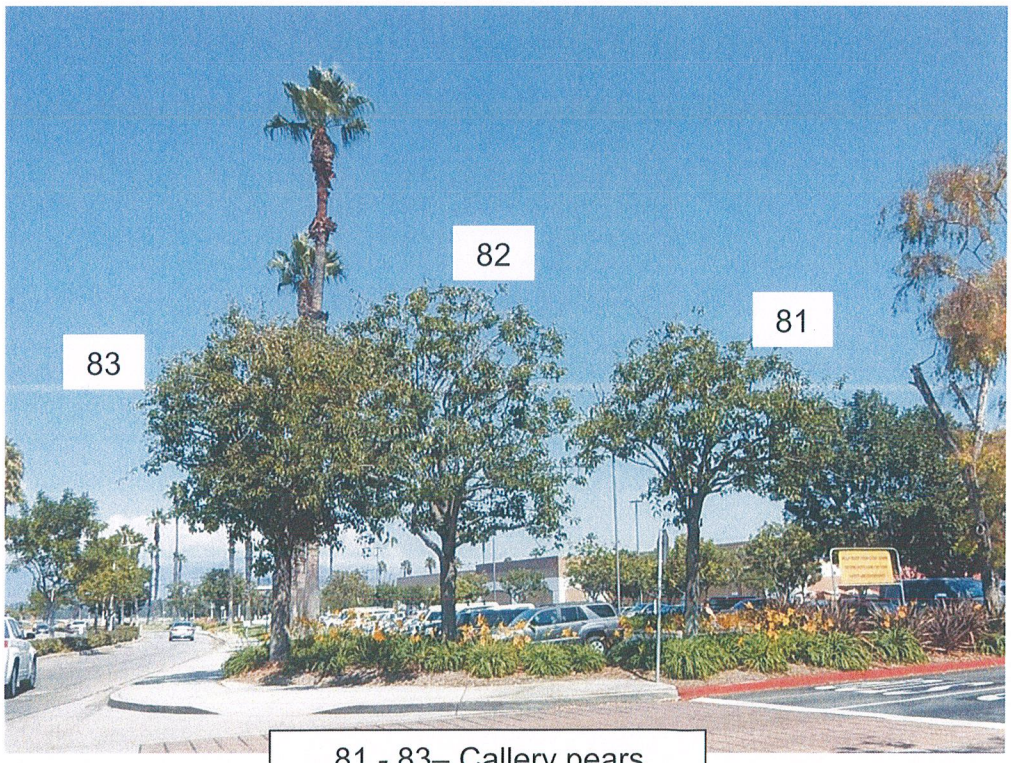
74 - 75 – Desert gums



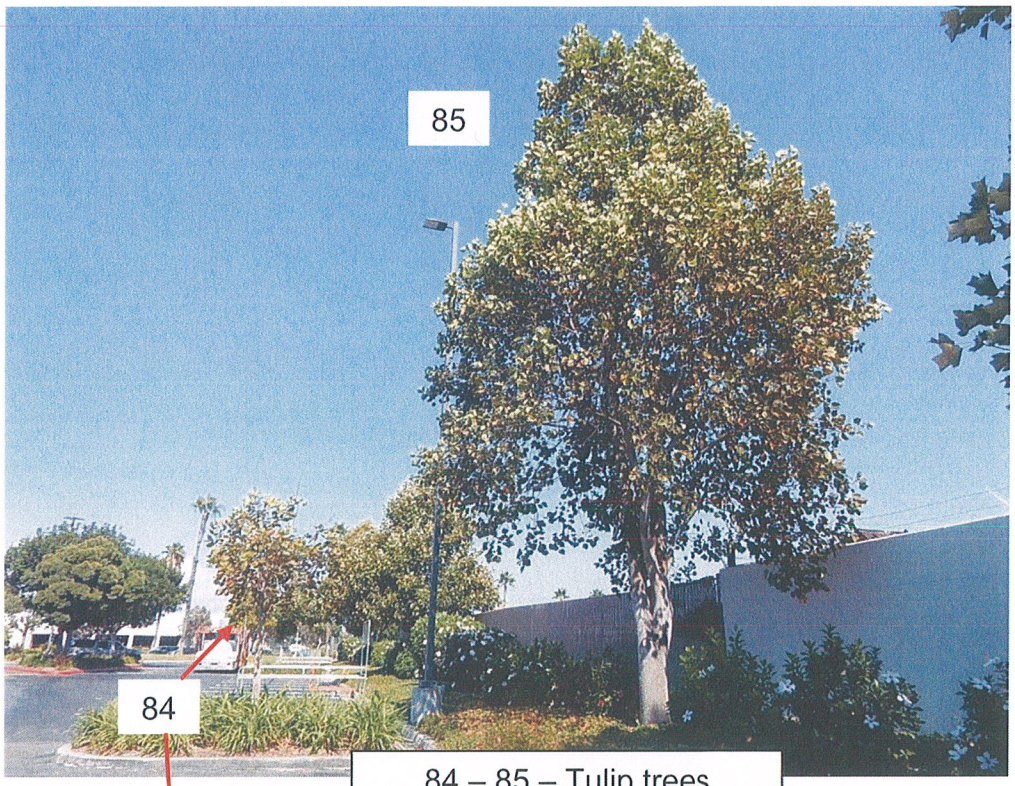
76 - 78 – Desert gums



79 - 80 – Desert gums

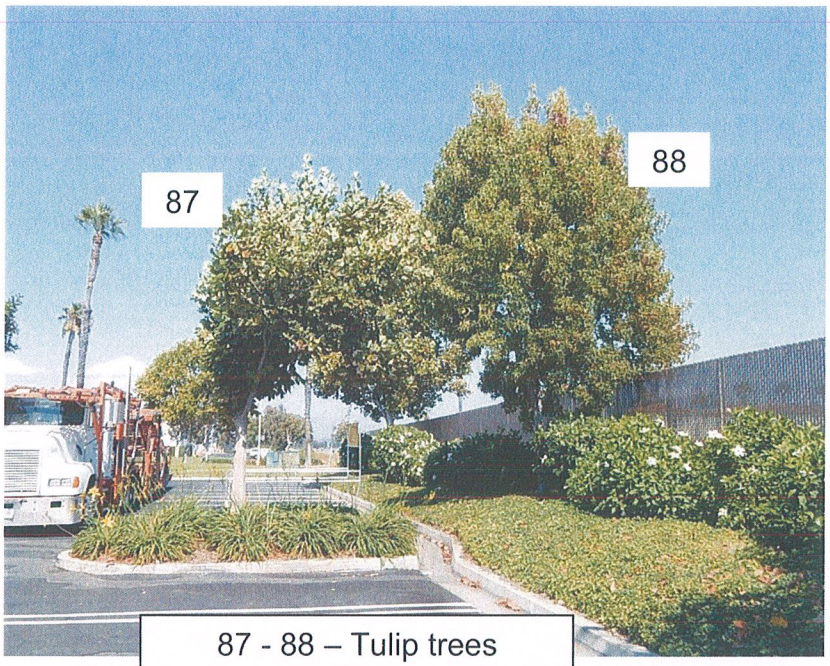


81 - 83– Callery pears



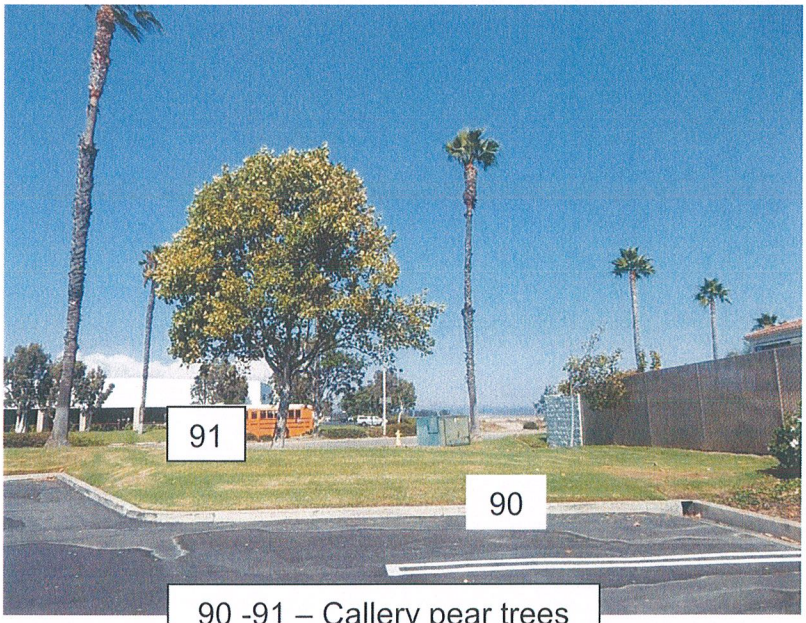
84 – 85 – Tulip trees

86 – Tulip tree



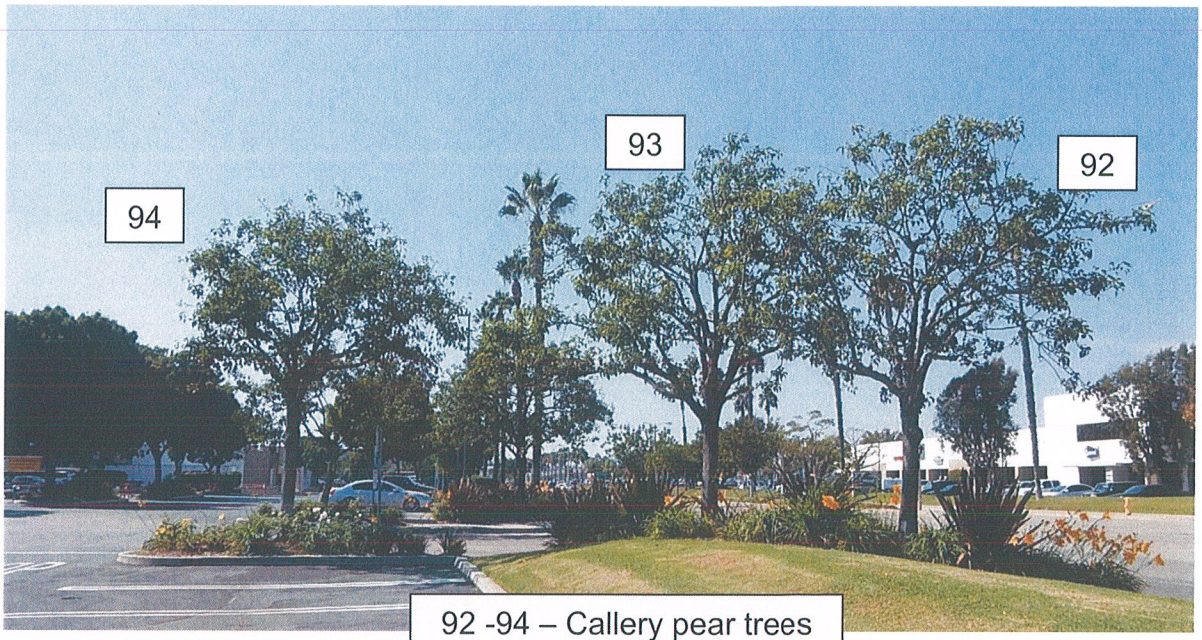
87 - 88 – Tulip trees

89 – Tulip tree



90 -91 – Callery pear trees

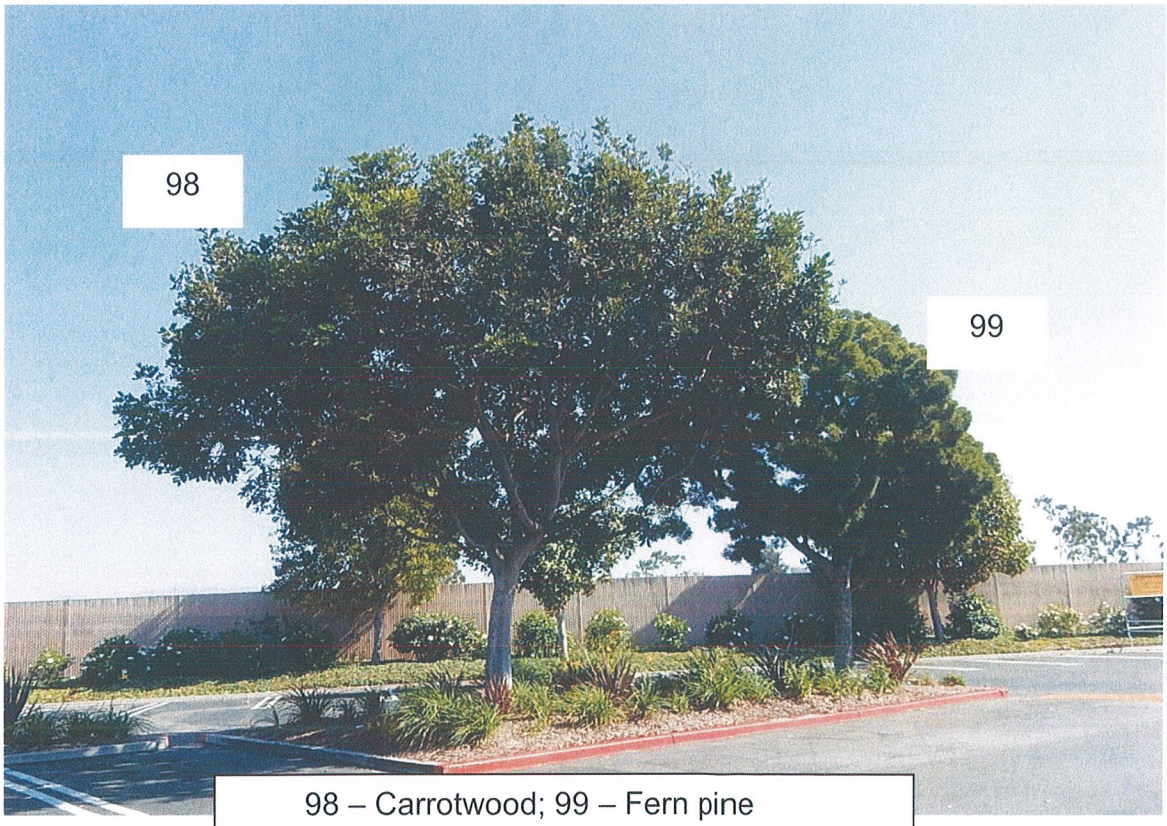
90 – Tulip tree



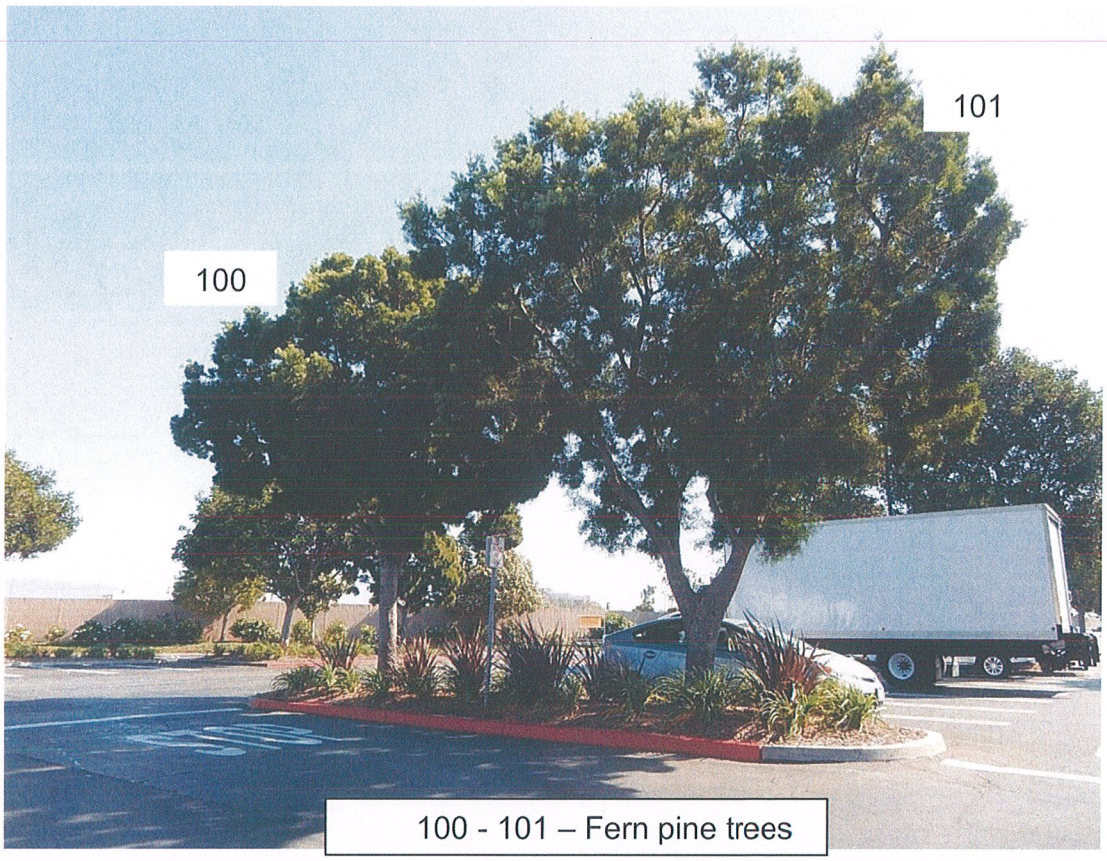
92 -94 – Callery pear trees

95 - 96 – Fern pine trees

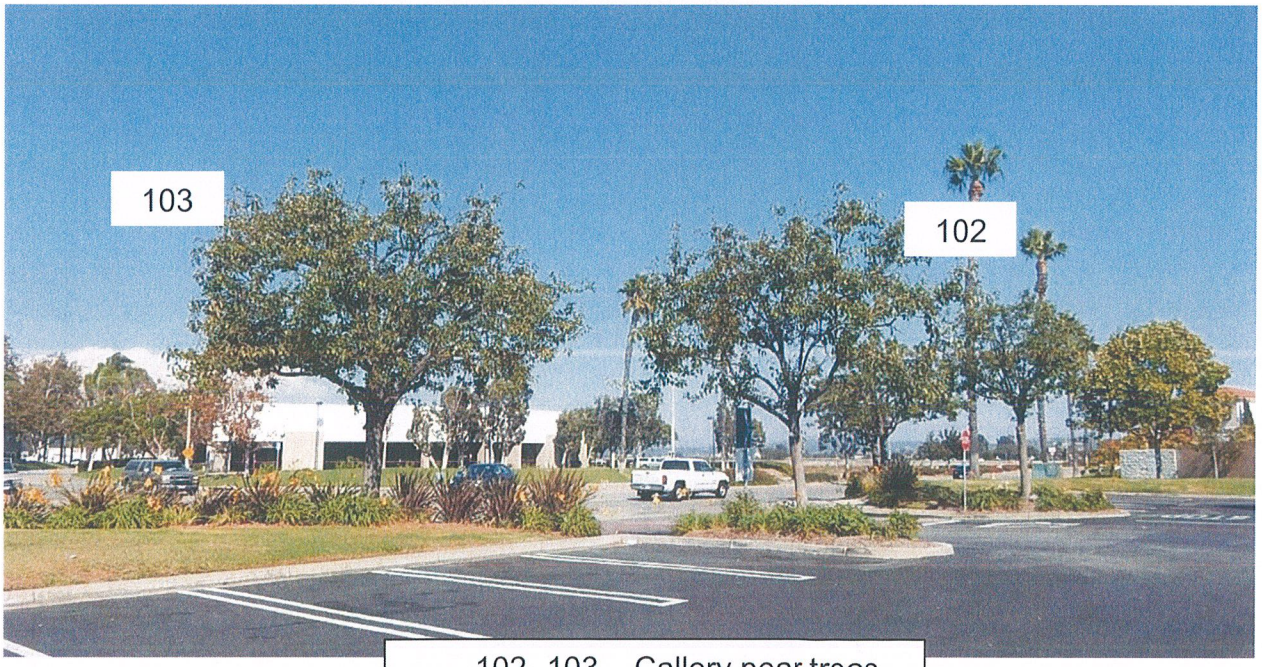
97 – Carrotwood tree



98 – Carrotwood; 99 – Fern pine



100 - 101 – Fern pine trees



102 -103 – Callery pear trees

CERTIFICATION OF PERFORMANCE

I, Christine Cuba, certify:

- That I have personally inspected the tree(s) and/or the property referred to in this report, and have stated my findings accurately. The extent of the evaluation and appraisal is stated in the attached report and the Terms of Assignment;
- That I have no current or prospective interest in the vegetation or the property that is the subject of this report and have no personal interest or bias with respect to the parties involved;
- That the analysis, opinions, and conclusions stated herein are my own;
- That my analysis, opinions, and conclusions were developed and this report has been prepared according to commonly accepted arboricultural practices;
- That no one provided significant professional assistance to the consultant, except as indicated within the report;
- That my compensation is not contingent upon the reporting of a predetermined conclusion that favors the cause of the client or any other party.

I further certify that I am a member of the American Society of Consulting Arborists, and that I acknowledge, accept, and adhere to the ASCA Standards of Professional Practice. I am an International Society of Arboriculture Certified Arborist and Qualified Tree Risk Assessor, and have been involved in the practice of arboriculture and the study of trees for over twenty-five years.

Signed:
Christine Cuba

Date: September 8, 2017

Christy Cuba
Registered Consulting Arborist, #502
Certified Arborist, WE-1982A
Qualified Tree Risk Assessor

Sierra Madre Office
christy@cycarlberg.com

HEALTH AND STRUCTURE GRADE DEFINITIONS

Health and structure ratings of the trees are based on the archetype tree of the same species through a subjective evaluation of its physiological health, aesthetic quality, and structural integrity.

Overall physiological condition (health) and structural condition were rated A-F:

Health

A) Outstanding – Exceptional trees of good growth form and vigor for their age class; exhibiting very good to excellent health as evidenced by normal to exceptional shoot growth during current season, good bud development and leaf color, lack of leaf, twig or branch dieback throughout the crown, and the absence of decay, bleeding, or cankers. Common leaf and/or twig pests may be noted at very minor levels.

B) Above average – Good to very good trees that exhibit minor necrotic or physiological symptoms of stress and/or disease; shoot growth is less than reasonably expected, leaf color is less than optimal in some areas, the crown may be thinning, minor levels of leaf, twig, and branch dieback may be present, and minor areas of decay, bleeding, or cankers may be manifesting. Minor amounts of epicormic growth may be present. Minor amounts of fire damage or mechanical damage may be present. Still healthy, but with moderately diminished vigor and vitality. No significant decline noted.

C) Average – Average, moderately good trees whose growth habit and physiological or fire-induced symptoms indicate an equal chance to either decline or continue with good health into the near future. Most of these trees exhibit moderate to significant small deadwood in outer crown areas, decreased shoot growth and diminished leaf color and mass. Some stem and branch dieback is usually present and epicormic growth may be moderate to extensive. Cavities, pockets of decay, relatively significant fire damage, bark exfoliation, or cracks may be present. Moderate to significant amounts of insect or disease symptoms may be present; the tree may be shaded or crowded in such a way that it is expected to negatively impact the lifespan of the tree. Tree may be in early decline.

D) Below Average/Poor - trees whose growth habit and physiological or fire-induced symptoms indicate significant, irreversible decline. Most of these trees exhibit significant dieback of wood in the crown, possibly accompanied by significant epicormic sprouting. Shoot growth and leaf color and mass is either significantly diminished or nonexistent throughout the crown. Cavities, pockets of decay, significant fire damage, bark exfoliation, and/or cracks may be present. Significant amounts of insect or disease symptoms may be present; the tree may be shaded or crowded in such a way that it has negatively impacted the lifespan of the tree. Tree appears to be in irreversible decline.

F) Dead or in spiral of decline – this tree exhibits very little to no signs of life.

Structure

A) Outstanding – Trees with outstanding structure for their species exhibit trunk and branch arrangement and orientation that result in a sturdy form or architecture that resists failure under normal circumstances. The spacing, orientation, and size of the branches relative to the trunk are quintessential for the species and free from defects. No outward sign of decay or pathological disease is present. Some trees exhibit naturally inherent branching defects, like multiple, narrow points of attachment from one point on the trunk, which would preclude them from achieving an "A" grade.

B) Above average - Trees with good to very good structure for their species. They exhibit trunk and branch arrangement and orientation that result in a relatively sturdy form or architecture that resists failure under normal circumstances, but may have some mechanical damage, over-pruning, or other minor structural defects. The spacing, orientation, and size of the branches relative to the trunk are still in the normal range for the species, but they exhibit a minor degree of defects. Minor, sub-critical levels of decay or pathological disease may be present, but the degree of damage is not yet structurally significant. Trees that exhibit naturally inherent branching defects, like multiple, narrow points of attachment from one point on the trunk, would generally fall in to this category. A small percentage of the canopy may be shaded or crowded, but not in such a way that it is expected to negatively impact the structural integrity or lifespan of the tree.

C) Average - Trees with moderately good structure for their species, but with obvious defects. They exhibit trunk and branch arrangement and orientation that result in a less than sturdy form or architecture, which reduces their resistance to failure under normal circumstances. Moderate levels of mechanical damage, over-pruning, or other structural defects may be present. The spacing, orientation, and size of some of the branches relative to the trunk are not in the normal range for the species. Moderate to significant levels of decay or pathological disease may be present that increase the likelihood of structural instability. Influences such as an excessive trunk lean, slope erosion, root pruning, or other growth-inhibiting factors may be present. A moderate to significant percentage of the canopy may be shaded or crowded in such a way that it is expected to negatively impact the structural integrity or lifespan of the tree. Risk of full or partial failure in the near future appears to be moderately elevated.

D) Well Below Average/Poor - Trees poor structure for their species and with obvious defects. They exhibit trunk and branch arrangement and orientation that result in a significantly less than sturdy form or architecture, significantly reducing their resistance to failure under normal circumstances. Significant levels of mechanical damage, over-pruning, or other structural defects may be present. The spacing, orientation, and size of many of the branches relative to the trunk are not in the normal range for the species. Significant levels of decay or pathological disease may be present that increase the likelihood of structural instability. Influences such as an excessive trunk lean, slope erosion, root pruning, or other growth-inhibiting factors may be present. A significant percentage of the canopy may be shaded or crowded in such a way that it is expected to negatively impact the structural integrity or lifespan of the tree. Risk of full or partial failure in the near future appears to be advanced.

F) Severely Compromised – trees with very poor structure and numerous or severe defects due to growing conditions, historical or recent pruning, mechanical damage, history of limb or trunk failures, advanced and irreparable decay, disease, or severe fire damage. Trees with this rating are in severe, irreparable decline, or are barely alive. Risk of full or partial failures in the near future may be severe.

Arborist Disclosure Statement

Arborists are tree specialists who use their education, knowledge, training and experience to examine trees, recommend measures to enhance the beauty and health of trees, and attempt to reduce the risk of living near trees. Clients may choose to accept or disregard the recommendations of the arborist, or to seek additional advice.

Arborists cannot detect every condition that could possibly lead to the structural failure of a tree. Trees are living organisms that fail in ways we do not fully understand. Conditions are often hidden within trees and below ground. Arborists cannot guarantee that a tree will be healthy or safe under all circumstances, or for a specified period of time. Likewise, remedial treatments, like any medicine, cannot be guaranteed.

Treatment, pruning and removal of trees may involve considerations beyond the scope of the arborist's services such as property boundaries, property ownership, site lines, disputes between neighbors, and other issues. Arborists cannot take such considerations into account unless complete and accurate information is disclosed to the arborist. An arborist should then be expected to reasonably rely upon the completeness and accuracy of the information provided.

Trees contribute greatly to our enjoyment and appreciation of life. Nonetheless, they are subject to the laws of gravity and physiological decline. Therefore, neither arborists nor tree owners can be reasonably expected to warrant unfailing predictability or elimination of risk.

Trees can be managed, but they cannot be controlled. To live near trees is to accept some degree of risk. The only way to eliminate all risk associated with trees is to eliminate all trees.

Risk assessments were not requested nor performed on the trees in this report.

CHRISTINE CUBA

CARLBERG ASSOCIATES
Satellite Office – 80 W. Sierra Madre Blvd., #241 • Sierra Madre • California • 91024
828 Fifth Street, Ste. 3 • Santa Monica • California • 90403
christy@cycarlberg.com • o/m: 626.428.5072

Education
B.A., Environmental Analysis & Design, University of California, Irvine, 1993
Graduate, International Society of Arboriculture Certification Study Program, April 1998
Graduate, Consulting Academy, American Society of Consulting Arborists, February 2008

Experience
Director of Environmental Services & Senior Arborist, Land Design Consultants, Inc.
Pasadena, 1994 – 2011
Park Specialist/Naturalist, City of Monrovia, 1988-1996

Certificates
Certified Arborist, WE-1982A, International Society of Arboriculture, 1998
Registered Consulting Arborist, #502, American Society of Consulting Arborists, 2011
Certified Tree Risk Assessor, #1529

AREAS OF EXPERTISE

Ms. Cuba is experienced in the following areas of tree management and preservation:

- Tree health & risk assessments
- Inventories & reports for native and non-native trees
- Master planning
- Evaluation of trees for preservation, encroachment, relocation, restoration, and hazards
- Value assessments (appraisals) for native and non-native trees
- Post-fire inventories, assessments, and valuations for native and non-native trees
- Guidelines for tree preservation, planting, pruning and maintenance specifications
- Pest and disease identification
- Tree and landscape resource mapping – GPS, GIS, and AutoCAD
- Planning Commission, City Council, and community meetings representation
- Review of landscape plans for mitigation compliance & fire fuel modification planning
- Preparation of native habitat and woodland management plans
- Performance of long-term mitigation compliance monitoring & reporting
- Expert testimony

PREVIOUS CONSULTING EXPERIENCE

Ms. Cuba has performed hundreds of tree inventories, health evaluations, impact analyses, hazard, and value assessments for counties, cities, sanitation districts, and water districts, as well as private developers, architects, engineers, and homeowners. She has over 23 of experience in arboriculture and is trained in environmental planning, state and federal regulatory permitting, preparation of CEQA analyses, and habitat mitigation planning and implementation. Representative clients include:

City of Pasadena
City of Monrovia
City of Santa Clarita
City of Glendora
Los Angeles County Fire Department
Los Angeles County Sanitation Districts
Newhall County Water District
Pulte/Centex Homes
Newhall Land and Farming
San Diego Gas & Electric
Quinn, Emanuel, Urquhart and Sullivan (attorneys at law)
Figure 8 Group
City of South Gate
City of Sierra Madre
D2 Development
Burrtec, Inc.
City of West Hollywood
Corky McMillin Companies

AFFILIATIONS

Ms. Cuba serves with the following national and regional professional organizations:

- Member, American Society of Consulting Arborists
- Member, International Society of Arboriculture, Western Chapter
- Member, ASCA Education Task Force
- Member, Los Angeles Oak Woodland Habitat Conservation Strategic Alliance
- Past President, Street Tree Seminar, Inc.

CY CARLBERG

CARLBERG ASSOCIATES
828 Fifth Street, Ste. 3 • Santa Monica • California • 90403
cy@cycarlberg.com • o: 310.451.4804

Education
B.S., Landscape Architecture, California State Polytechnic University, Pomona, 1985
Graduate, Arboricultural Consulting Academy, American Society of Consulting Arborists, Chicago, Illinois, February 2002
Graduate, Municipal Forestry Institute, Lied, Nebraska, 2012

Experience
Consulting Arborist, Carlberg Associates, 1998-present
Manager of Grounds Services, California Institute of Technology, Pasadena, 1992-1998
Director of Grounds, Scripps College, Claremont, 1988-1992

Certificates
Certified Arborist (#WE-0575A), International Society of Arboriculture, 1990
Registered Consulting Arborist (#405), American Society of Consulting Arborists, 2002
Certified Urban Forester (#013), California Urban Forests Council, 2004
Certified Tree Risk Assessor (#1028), International Society of Arboriculture, 2011

Areas of Expertise

Ms. Carlberg is experienced in the following areas of tree management and preservation:

- Tree health and risk assessment
- Master Planning
- Tree inventories and reports to satisfy jurisdictional requirements
- Expert Testimony
- Post-fire assessment, valuation, and mitigation for trees and native plant communities
- Value assessments for native and non-native trees
- Pest and disease identification
- Guidelines for oak preservation
- Selection of appropriate tree species
- Planting, pruning, and maintenance specifications
- Tree and landscape resource mapping – GPS, GIS, and AutoCAD
- Planning Commission, City Council, and community meetings representation

Previous Consulting Experience

Ms. Carlberg has overseen residential and commercial construction projects to prevent damage to protected and specimen trees. She has thirty-five years of experience in arboriculture and horticulture and has performed tree health evaluation, value and risk assessment, and expert testimony for private clients, government agencies, cities, school districts, and colleges. Representative clients include:

The Huntington Library and Botanical Gardens
The Los Angeles Zoo and Botanical Gardens
The Rose Bowl and Brookside Golf Course, Pasadena
Walt Disney Concert Hall and Gardens
The Art Center College of Design, Pasadena
Pepperdine University
Loyola Marymount University
The Claremont Colleges (Pomona, Scripps, CMC, Harvey Mudd, Claremont Graduate University, Pitzer, Claremont University Center)
Quinn, Emanuel, Urquhart and Sullivan (attorneys at law)
The City of Claremont
The City of Beverly Hills
The City of Pasadena
The City of Los Angeles
The City of Santa Monica
Santa Monica/Malibu Unified School District
San Diego Gas & Electric
Los Angeles Department of Water and Power
Rancho Santa Ana Botanic Garden, Claremont
Latham & Watkins, LLP (attorneys at law)

Ms. Carlberg serves with the following national, state, and community professional organizations:

- California Urban Forests Council, Board Member, 1995-2006
- Street Tree Seminar, Past President, 2000-present
- American Society of Consulting Arborists Academy, Faculty Member, 2003-2005
- Member, Los Angeles Oak Woodland Habitat Conservation Strategic Alliance, 2010-present

City of Oxnard

Costco MND 17-3

Attachment D

CSU Fullerton

Quick-Check

South Central Coastal Information Center
California State University, Fullerton - Department of Anthropology MH-426
800 North State College Boulevard
Fullerton, CA 92834-6846
(657) 278-5395 / FAX (657) 278-5542
sccic@fullerton.edu
California Historical Resources Information System
Serving Los Angeles, Orange, San Bernardino and Ventura Counties

Project Review / Quick Check** Date: December 22, 2016

Lead Agency (Name & billing address): City of Oxnard, 214 South C Street, Oxnard, Calif. 93030

Case Planner: James Combs, Assistant Planner Phone (805) 385-7952

Email address to send results and invoice: james.combs@oxnard.org

USGS 7.5' Quad: Oxnard Quadrangle 1967, Permit/Project #: PZ Nos. 16-630-01, 16-310-01, 16-140-01

Project Address: 2001 Ventura Boulevard, Oxnard Calif. 93036

Always attach a map (either a 7.5' USGS Topographic Quadrangle or similar map) that clearly indicates project area location. APN and aerial maps may be added in addition to – but not in place of - a required map. Please describe the current project area conditions in addition to providing a brief project description. If any buildings or structures (45 years and older) are within the project area, please note the age of the resource and how it will be affected. How has the project area been utilized in the past? If more space is needed, add an additional sheet. Please do not delete any of the information or instructions from this form.

A specific plan amendment for a change of zone and lot merger to allow construction of a new fuel facility at a site adjacent to the existing Costco Wholesale site. The new fuel facility consists of a 7,700 square foot canopy and installation of 12 dispensers, three 30,000 gallon gasoline underground storage tanks (UST) one 20,000 gallon diesel UST, one 3,500 split fuel additive UST and associated parking and landscaping on a parcel to be merged with the existing Costco parcel located to the northeast of the existing driveway from Auto Center Drive. The existing fuel facility at the Costco site will be demolished and converted to parking. All USTs at the existing fuel facility will be removed.

There are no building permits or other records available to indicate that any structures or uses have ever been permitted at the proposed site. The southern corner of the lot is paved with a portion of a cul-de-sac and private road providing access to the subject lot and neighboring industrial uses.

Project Review / Quick Check Summary 17231.3261

/ / The project area has been surveyed by a qualified cultural resource consultant and cultural resources were found / were not found.

/ / The project area was last surveyed in_____.

X The project area has not been surveyed by a qualified cultural resource consultant.

X The archaeological sensitivity of the project site is known / unknown.

X No Based upon the known archaeological sensitivity of the surrounding area, prehistoric or historic cultural resources may be present within the project site.

/ / Current surface conditions appear / do not appear to allow for an adequate survey of potential surface or sub-surface cultural artifacts.

/ / The project area appears to contain built-environment resources that are 45 years old or older.

/ / Other findings:

RECOMMENDATIONS for Permit/Project # _____

/ / A Phase I * archaeological survey should be done by a professional archaeologist prior to approval of project plans.

/ / An architectural historian should evaluate the built-environment of the project site for local, state, or national significance prior to the approval of project plans.

/ / The effects of this project on recorded resources needs to be further evaluated by a qualified cultural resource consultant prior to the approval of project plans.

/ / A professional archaeologist should be retained to monitor* any ground disturbing activities.

X No archaeological work is needed prior to approval of the project plans. However, customary caution and a halt-work condition should be in place for all ground disturbing activities. In the event that cultural resources are encountered, all work within the vicinity of the find should stop until a professional archaeologist can be retained to assess such finds and make recommendations. Project personnel should not attempt to excavate any finds.

/ / Other recommendation (see below)

ADDITIONAL RECOMMENDATIONS OR COMMENTS:

_____

_____

_____

_____

* Phase I survey, and archaeological monitoring should include a complete records search, field evaluation, and a final report with results and recommendations.
** Quick Checks do not review built-environment resources adjacent to the project site or in the area-of-potential-effect (APE). Only a complete records search would satisfy this requirement and is billed at a different rate. Call the office for a current rate schedule.

Date completed: 1.31.17

Signature: Stacy St. James, Coordinator

Invoice # 17831.3261

PROJECT REVIEWS / QUICK CHECKS

By Memorandum of Agreement (MOU) only

These reviews were developed as a way for **city** and **county planners** to assess the potential for cultural resources in their preliminary planning or permit process while providing land-owners and/or developers with the earliest possible notice of the potential presence of cultural remains that may have special considerations as required by local, state, and federal laws. **These reviews were never intended to replace a complete Records Search where the cultural resource sensitivity of the project site and the area of potential effect is reviewed**. Projects directed by cities or counties that require Federal permits or Federal funding by other government agencies (such as HUD, FHA, OHP, Army Corps of Engineers, etc.) **are not included in the Quick Check review process and require a full records search**. The fee for the Quick Check is $75.00. The review is limited to the project boundaries only and does not provide information or recommendations for any property beyond the boundaries of the area being reviewed. Projects with non-contiguous boundaries or multiple locations may result in separate summaries and recommendations and may be processed and billed as separate searches. Failure to pay for services rendered under this agreement may result in denial of service for this and all other services provided by this office.